



Forth Road Bridge

Marine License Application – May 2015

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1 Introduction

In December 2014, Transport Scotland awarded Amey the 1st Generation Term Maintenance Contract for the new Forth Bridges Unit.

The operating company contract will include the management and maintenance of the new Queensferry Crossing and the existing Forth Road Bridge. It will also include the management and maintenance of the connecting roads from M90 Junction 3 Halbeath in the north through to M9 Junction 1A Kirkliston in the South.

A general view showing the extent of the contract is shown below.



Figure 1 - Forth Bridges Operating Contract

The term maintenance and management contract is scheduled to commence from 1st June 2015 and is for an initial term of 5 years, with the option for an additional 5 one year extensions. The estimated overall contract value over the 5 years is £50million.

2 Background

As part of the planning for the maintenance of the Forth Road Bridge, our Client, Transport Scotland, has asked Amey to begin consultation with Mae

As part of consultation with Marine Scotland, Amey have discussed the possibility of obtaining a Marine License for the full period of the Operating Contract, to cover all schemes which will be carried out as part of the contract.

Further to recommendations from Marine Scotland, Amey have prepared the following report which acts to outline the maintenance works currently planned on the Forth Road Bridge along with routine maintenance activities which will be completed throughout the period of the contract.

3 Marine License Application

The completed Marine License Application Form is included within Appendix A of this report.

4 Programme of Works

4.1 Scheme Works Programme

Below is a breakdown of the schemes currently identified in the future works programme for the Forth Road Bridge. All schemes have been provided with an estimate of the construction period and value of the works, along with a brief outline description of the works.

Truss End Link Strengthening	
Construction Period:	April 2015 to July 2015
Construction Value:	£450,000
Description of the Works:	The works are located within the main towers of the bridge and involve all permanent and temporary construction associated with the structural modification of the existing link brackets of the main towers. The purpose of which is to increase the capacity of the existing link brackets. This is to be achieved by strengthening the welds which connect the existing bracket to the plates of the main towers and the introduction of a top flanges to the bracket. During the works the bridge will remain open to vehicular and pedestrian traffic. Should closure of the footway be required these will need to be agreed in advance.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Strengthening and partial removal of the existing stiffeners to gain an access of the inner face of the main tower plate. 2. Welding of the support brackets to the inner face of the main tower plate. 3. Welding of the support brackets to the back stiffeners. 4. Installation of a new stiffening plate (top flange) to the support bracket. 5. Filling holes in the diaphragm plates around the existing stiffeners.
Suspended Span Gantry Motorisation	
Construction Period:	June 2015 – August 2015
Construction Value:	£350,000
Description of the Works:	The replacement of the drive system and access towers on the under deck access gantries (located on the suspended spans of the bridge) is necessary as the existing drive systems and access towers have come to the end of their safe useable life and need to

	be replaced to ensure safety standards are met for all users of the gantry.
Outline Method Statement:	<ol style="list-style-type: none"> 1. The supply, manufacture, corrosion protection, assembly, factory test, delivery to site, installation, testing, commissioning and training in the use of a new electrically powered replacement drive system on two existing suspended span access gantries mounted on the Forth Road Bridge. 2. The supply, manufacture, corrosion protection, assembly, test, and the installation and commissioning on the gantries at site of new local access ladders and platforms on the gantries, which shall provide access to the suspended span bottom chords. 3. The design, supply, manufacture, assembly, test, installation and commissioning on the gantries at site of an electrical system incorporating a control system and power distribution system for the electrically driven drive system, including diesel driven generators, hardware and software and the integration with existing electrically powered elevating work platforms fitted to the gantries. 4. The removal from the gantries and disposal of the existing drive trolleys, hydraulic power packs and associated pipework and equipment. 5. The removal and disposal from the gantries of existing access towers and ladders fitted to the gantries. 6. Design, supply, manufacture, installation, test and certification of test equipment and appropriate temporary access and lifting equipment to facilitate execution of the works. 7. Supply and install replacement storm rigging.
Additional Suspended Span Gantry & Underdeck Staging Board Trial	
Construction Period:	June 2015 – August 2015
Construction Value:	£1,150,000
Description of the Works:	The Forth Road Bridge currently has two permanent underdeck access gantries located on the suspended span of the bridge, situated on the North side span and the main span. These gantries are predominantly used for maintenance and inspection purposes. No gantry is provided for the South side span and this works contract will involve the fabrication of a new gantry for this area. The new gantry will take the form of the existing gantries, with some minor improvements. Construction of the gantries will be carried out off-site before being transported to site for assembly and erection on the bridge.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Fabrication and manufacture of gantry components off site 2. Transport of gantry components to site for assembly. In order to erect the gantry on the bridge, a barge/pontoon will be required to maneuver the gantry beneath the structure for lifting 3. Lifting of the gantry on to the bridge, using hydraulic lifting blocks suspended from the existing bridge structure 4. Connection of new gantry to the existing runway beams and removal of lifting equipment 5. Removal of barge/pontoon from waterway.
Suspended Span Under Deck Access (SSUDA)	
Construction Period:	2016/2017
Construction Value:	£ 400,000
Description of the Works:	Suspended Span Under Deck Access (SSUDA) system comprises five primary longitudinal walkways, each travel the full length of the bridge. The walkways comprise of aluminium mesh flooring supported on steel angle sections which are suspended from the main bridge structure. As both the permanent under deck access walkways and the

	temporary staging boards are now approaching the end of their theoretical design life an investigation into the remaining design life and future use of the existing platforms has been undertaken.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Installation of temporary access 2. Remove existing boarding 3. Install new boarding 4. Paint 5. Remove scaffolding
Main Bridge Expansion Joint Replacement	
Construction Period:	2017/2018
Construction Value:	£7.2 million
Description of the Works:	There are currently 8 no sets of joint units, 4 no sets in each carriageway. Previous inspections have noted several condition issues, which highlighted the need for replacement of the existing roller shutter joints. These works will be procured as a works contract.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Full traffic management closure of Northbound / Southbound carriageway 2. Crane out existing steel roller joints and remove for disposal 3. Removal of existing bridge expansion joint steelwork 4. Installation of new bridge expansion joint steelwork 5. Crane in new steel roller joints and installation of new anti-slip surfacing
Viaduct and North Approach Resurfacing	
Construction Period:	2017/2018
Construction Value:	£3.5 million
Description of the Works:	The existing surfacing system on the Forth Road Bridge is coming to the end of its working life. The existing surfacing system on the suspended span is a thin layer epoxy asphalt system, approximately 40mm thick. These works will require the alternate full closure of either the Northbound and Southbound carriageway.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Removal of existing surfacing system by mechanical means, i.e. road planer etc. 2. Surface preparation of exposed concrete deck and undertake necessary concrete repairs using rapid repair mortar 3. Application of proprietary spray applied waterproofing system 4. Laying new epoxy asphalt system
Main Cable Intrusive Investigation	
Construction Period:	2017/2018
Construction Value:	£3.0 million
Description of the Works:	The main cables of the Forth Road Bridge are the primary load carrying members and are regularly inspected externally and have also been subject to internal intrusive inspection to determine the condition of the individual wires. The first internal inspection was carried out in 2004, prior to a dehumidification system being implemented to arrest the development of corrosion. Further internal inspections have been undertaken in 2008 and 2012, with further inspections planned in future.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Installation of cable access gantry, using temporary traffic management closure and hoisting of platform on to the main cable 2. Removal of localised area of cable wrapping material and driving of wedges between strands to inspect internal locations of cable

	<ol style="list-style-type: none"> 3. Removal of test sections of cable strand and installation of replacement sections 4. Application of protective paint system and installation of cable wrapping 5. Removal of platform from main cable, either to next inspection location or to storage if works are completed.
Viaduct Span Painting Contract	
Construction Period:	March to October, 2017 to 2020
Construction Value:	£3.75 million
Description of the Works:	The existing paint system on the viaduct spans of the Forth Road Bridge is coming to the end of its working life. Regular routine maintenance painting is carried out on localised areas based on the findings of bridge inspections. A full painting contract is now scheduled to replace the existing paint system. These works are likely to be undertaken over 3 painting seasons.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Provision of temporary suspended work platform, to provide full encapsulation to the work area 2. Removal of existing paint system, by a method to be chosen through further investigation (chemical, grit blasting for example) 3. Surface preparation of exposed steel deck plate 4. Application of new paint system as per manufacturers guidelines 5. Once paint system fully applied, full encapsulation and suspended platform to be removed / moved for further painting works
Suspended Span Painting Contract	
Construction Period:	March to October, 2017 to 2020
Construction Value:	£11.2 million
Description of the Works:	Similar to the viaduct painting contract above, the paint system on the suspended span is coming to the end of its working life. A full painting contract is now planned to replace the existing paint system – this is likely to be undertaken over 3 to 4 summer seasons.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Provision of temporary suspended work platform, to provide full encapsulation to the work area 2. Removal of existing paint system, by a method to be chosen through further investigation (chemical, grit blasting for example) 3. Surface preparation of exposed steel members 4. Application of new paint system as per manufacturers guidelines 5. Removal of encapsulation and suspended platform
Suspended Span Strengthening Contract	
Construction Period:	2017 to 2020
Construction Value:	£1.0 million
Description of the Works:	Through recent inspections / investigations it has been noted that strengthening works are required to the suspended span truss arrangement. It is likely that these works will be undertaken in conjunction with the Suspended Span Painting Contract.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Identification area requiring strengthening and provision of temporary suspended platform, with full encapsulation 2. Removal of existing paint system, locally to the area to be strengthened by means to be determined through further investigation (chemical removal, grit blasting for example) 3. Installation of strengthening steelwork by either bolting or welding new steelwork

	4. Application of protective paint system 5. Removal of encapsulation and suspended platform
Suspended Span Resurfacing	
Construction Period:	2018/2019
Construction Value:	£4.0 million
Description of the Works:	The existing surfacing system on the Forth Road Bridge is coming to the end of its working life. The existing surfacing system on the suspended span is a thin layer epoxy asphalt system, approximately 40mm thick. These works will require the alternate full closure of either the Northbound and Southbound carriageway.
Outline Method Statement:	1. Removal of existing surfacing system by mechanical means, i.e. road planer etc. 2. Surface preparation of exposed steel deck plate and edge trimmer repairs / strengthening 3. Application of proprietary spray applied waterproofing system 4. Laying new epoxy asphalt system

4.2 Routine Maintenance Activities

As well as the maintenance schemes to be taken forward on the Forth Road Bridge, there are also a number of smaller routine maintenance activities which can be carried out on a regular basis, mainly by the operating company themselves. In addition some of these routine maintenance activities may also be encompassed within the overall schemes as outlined in Section 4.1.

Below is a breakdown of some of the routine maintenance activities which may be carried out throughout the duration of the contract along with a description of the proposed works.

Use of Bridge Access Systems	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	<p>Due to the nature of the bridge construction, various access systems have been developed throughout the years in order to provide full access to the bridge. These include:</p> <ul style="list-style-type: none"> • Hanger Access Cradles • Tower Access Platforms • Fixed underdeck access gantries (suspended span and viaducts) • Top Chord Access Platform • Main cable access gantries • Upper front access staging <p>These systems can be deployed at any time for use during periodic inspection, routine maintenance or for emergency works. All of these systems involve rigging from the bridge itself with the use of electrically powered drive motors for hoisting the platforms into place. All platform systems are fitted with the necessary toe-boards and handrails to prevent the dropping of tools and materials during works.</p>
Outline Method Statement:	<ol style="list-style-type: none"> 1. Transport of access platform on to bridge, either under temporary carriageway closure or by use of footway/cycle track areas 2. Installation of rigging components and access platform in appropriate work location. 3. Completion of inspection/work activity using access platform <p>Removal and movement of access cradle to next work location or back to storage.</p>
Weld Repairs	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	<p>The main elements in the construction of the Forth Road Bridge are steel. Throughout the duration of the contract, the bridge is subject to inspections of each element, which in turn produces a programme of defects which would require repair, including defective welds. Weld repairs will involve a number of different processes including paint removal, weld testing, weld removal and re-welding.</p>
Outline Method Statement:	<ol style="list-style-type: none"> 1. Provision of access to area of defective weld to be repaired 2. Removal of paint system surrounding the defective weld, using chemical removal or grinding 3. NDT testing of existing weld to mark out the extent of defective area to be

	<p>removed.</p> <ol style="list-style-type: none"> Cutting out of existing weld material and preparation of steel substrate before reinstatement of the weld NDT testing of new weld to ensure no defects are present Re-application of paint system over new welded area Removal of access system.
Bolt Replacement	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	As well as welded connections, as noted above, there are a similar number of bolted connections on the Forth Road Bridge which at some times may require replacement due to corrosion or damage which is affecting the adequacy of the connection.
Outline Method Statement:	<ol style="list-style-type: none"> Provision of access to area of bolt replacement Removal of damaged bolt and preparation of painted area locally around the existing bolt Installation of new bolt and tightened to manufacturers specification Re-application of protective paint system over the new bolt Removal of access system
Kingpost Replacement (Bottom Lateral Supports)	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	The main suspended span of the Forth Road Bridge is of truss construction. On the underside of the truss arrangement, large cross members are linked to the cross girder by a single slender steel section, known as the kingpost. Due to the vibrations on the bridge, the connections between the kingpost and cross members fail and this leads to a replacement of the kingpost. Kingposts are replaced using either rope access techniques or by use of the bridges underdeck access gantries.
Outline Method Statement:	<ol style="list-style-type: none"> Riggers access the location of the failed kingpost using rope access techniques or via bridge underdeck access gantries The failed kingpost is removed using rope access methods Slings / chain blocks are slung round the cross girder and used to raise the cross bracing into position The new kingpost is lowered into position using rope access techniques, and secured in place via bolted connections
Pier Defences Painting	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	The existing paint system is coming to the end of its working life. Regular routine maintenance painting is carried out on localised areas based on the findings of bridge inspections. A full painting contract is now scheduled to replace the existing paint system.
Outline Method Statement:	<ol style="list-style-type: none"> Provision of temporary suspended work platform, to provide full encapsulation to the work area Removal of existing paint system, by a method to be chosen through further investigation (chemical, grit blasting for example)

	3. Surface preparation of exposed steel members 4. Application of new paint system as per manufacturers guidelines Removal of encapsulation and suspended platform when painting works are completed
Billet Repair (Half Joint Repairs)	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	<p>The Works involve all permanent and temporary construction associated with the trial replacement of the existing steel deck half joints including the levelling of the deck panels on the Forth Road Bridge. The works consist of the removal of the existing joints and the installation of two replacement assemblies at defined locations on the suspended structure. The works also include the replacement of the drainage boxes and the associated pipes installed at the outer stringers, alterations to the existing access walkways and installation of the expansion joints between the deck panels at the level of the running surface. During the Works the Forth Road Bridge will remain open to vehicular and pedestrian traffic.</p>
Outline Method Statement:	1. Removal and replacement of existing under deck walkways 2. Installation of supporting frames 3. Removal of existing half joints 4. Levelling of deck panels 5. Installation of replacement joints assembly
Edge Trimmer Replacement / Strengthening (Viaduct Spans)	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	<p>Due to a possible failure of the edge trimmer or concrete finish, at the North Side Tower (South West edge detail at carriageway level) it is proposed that an investigation is carried out to determine the extent of the problem and possibly carry out repairs at the same time. This will involve breaking out of existing road surface and concrete, installing new support brackets, reinstating concrete using Deck Repair Rapid by Nuffins and applying temporary road surface (Note road surface will be permanently repaired by Tarmac during viaduct resurfacing). All work will be carried out overnight utilising carriageway closures for resurfacing of the viaducts, the work is programmed whilst Tarmac are working at the South viaduct so access to both Northbound lanes should be available.</p>
Outline Method Statement:	1. Ensure work area is clearly defined and lit and that Tarmac supervisors are aware of FRB area of work. 2. Mark the affected area for repair and cut the edges using a stihl saw to a depth of 100mm minimum, (depth of the repair will be determined by the state of the existing concrete) break out material within the cut edges using kango hammers or similar. 3. Mark position of 2 No new support L 75 x 75 x 10 x 305 lg, place the angle in position and drill 2 No 16 diameter x 90 deep holes in the concrete. 4. Install 2 No M12 x 130 lg Hilti rods using hilti hit resin, fix angles onto the rods and weld onto the existing trimmer. 5. Mix the required quantity of deck repair rapid with water, 3 litres of water per 25 kg bag, water should be placed in the mixer with the deck repair rapid being added as required. 6. Ensure the affected area is clean and free from loose material, thoroughly moisten

	<p>the surface but ensure no free water remains.</p> <p>7. Once the deck repair rapid has been mixed immediately place in the area as required.</p> <p>8. Finish the road surface with cold applied bitumous road repair.</p>
Edge Trimmer Replacement / Strengthening (Suspended Span)	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	<p>Due to a possible failure of the edge trimmer or concrete finish, at the North Side Tower (South West edge detail at carriageway level) it is proposed that an investigation is carried out to determine the extent of the problem and possibly carry out repairs at the same time. This will involve breaking out of existing road surface and concrete, installing new support brackets, reinstating concrete using Deck Repair Rapid by Nuffins and applying temporary road surface (Note road surface will be permanently repaired by Tarmac during viaduct resurfacing). All work will be carried out overnight utilising carriageway closures for resurfacing of the viaducts, the work is programmed whilst Tarmac are working at the South viaduct so access to both Northbound lanes should be available.</p>
Outline Method Statement:	<ol style="list-style-type: none"> 1. Ensure work area is clearly defined and lit and that Tarmac supervisors are aware of FRB area of work. 2. Mark the affected area for repair and cut the edges using a stihl saw to a depth of 100mm minimum, (depth of the repair will be determined by the state of the existing concrete) break out material within the cut edges using kango hammers or similar. 3. Mark position of 2 No new support L 75 x 75 x 10 x 305 lg, place the angle in position and drill 2 No 16 diameter x 90 deep holes in the concrete. 4. Install 2 No M12 x 130 lg Hilti rods using hilti hit resin, fix angles onto the rods and weld onto the existing trimmer. 5. Mix the required quantity of deck repair rapid with water, 3 litres of water per 25 kg bag, water should be placed in the mixer with the deck repair rapid being added as required. 6. Ensure the affected area is clean and free from loose material, thoroughly moisten the surface but ensure no free water remains. 7. Once the deck repair rapid has been mixed immediately place in the area as required. 8. Finish the road surface with cold applied bitumous road repair.
Upper Front Staging Installation (Underdeck Access Staging)	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	<p>The walkways and access system to the underside of the suspended span decks and steelwork are located just below deck level. This system allowed effective safe access for inspection and maintenance, especially painting. The access system is made up of aluminum boards which span across and are supported by the main structural members of the walkways. These boards are moved from one location to another on the bridge by a combination of manual handling and lifting equipment.</p>
Outline Method Statement:	<ol style="list-style-type: none"> 1. Staging boards transported on to the bridge using a pickup van via the footway/cycle track area 2. Rope access riggers install hangers to the permanent line walkways on the bridge below deck level 3. Staging boards lowered below deck level using manual handling methods with

	<p>board tethered to prevent objects falling beneath the bridge</p> <ol style="list-style-type: none"> 4. Staging boards fitted into position supported on temporary hangers and fixed line walkways 5. Handrails and toe boards secured around the perimeter of the temporary staging 6. Once works are completed, staging boards are removed in reverse to the installation procedure outlined above.
Removal of Lead Based Paint	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	At the time of construction of the bridge, all steelwork would have been painted with a protective paint system. Due to the period this was undertaken it is likely that much of the original paint system is lead based. This means that during periods of paint removal for current maintenance activities, further precautions and safety measures have to be put in place to minimise the risk of exposure to operatives and also contamination of surrounding areas.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Method for removal of paint system to be agreed (i.e. chemical removal / grit blasting etc.) 2. Access to be provided to works area and full encapsulation of the work area to be provided. 3. Paint removed (either from grit blasting or chemical removal) to be placed in reinforced bags and marked for disposal as special waste 4. Upon completion of paint removal encapsulated area to be cleaned thoroughly of all contaminated material and disposed of as special waste. 5. Encapsulation to be removed
Maintenance Painting	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	Maintenance painting to be carried out as and when required. The existing paint system is coming to the end of its working life. Regular routine maintenance painting is carried out on localised areas based on the findings of bridge inspections. A full painting contract is now scheduled to replace the existing paint system.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Provision of temporary suspended work platform, to provide full encapsulation to the work area 2. Removal of existing paint system, by a method to be chosen through further investigation (chemical, grit blasting for example) 3. Surface preparation of exposed steel members 4. Application of new paint system as per manufacturers guidelines 5. Removal of encapsulation and temporary access system
Grit Blasting	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	As outlined previously, for the purposes of paint removal or steelwork preparation, it may be necessary to undertake grit blasting. This involves blasting the steelwork area to be cleaned with shot material at using high pressure compressed air. Due to the pressure and nature of the works, encapsulation of each works area is important in order to eliminate contamination of surrounding areas.

Outline Method Statement:	<ol style="list-style-type: none"> 1. Installation of temporary access system and full encapsulation of the works area 2. Encapsulation surrounding the work area, to be checked to ensure no excessive gaps are present which would allow grit blasting material to spread into surrounding areas. 3. Area of steelwork to be cleaned using grit blasting, with good housekeeping maintained at regular intervals by cleaning spent shot material and placing in reinforced bags 4. Upon completion of the blasting operation, full area within encapsulation to be fully cleaned to ensure that all grit blasting material has been collected 5. Removal of encapsulation and temporary access system
Chemical Removal of Paint System	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	Another method of paint removal is to apply a chemical solution which acts to strip of the existing paint system. This is often a cleaner and more manageable form of paint removal as compared to that of grit blasting etc. The use of chemical methods currently on the bridge involves application of a paste along with a paper backing which is left to set and when removed takes of layers of previous paint. These can then be bagged and removed from the bridge for disposal.
Outline Method Statement:	<ol style="list-style-type: none"> 1. Access system to be provided to works area 2. Application of paste system and paper backing to area of paint to be removed. 3. Paste to be left to cure as per manufacturers guidelines 4. Once cured, remove paste by peeling backing paper, removing layers of existing paint system 5. Steps to be repeated until sufficient paint layers have been removed. 6. All materials to be placed in reinforced bags and disposed of as appropriate

APPENDIX A - Marine License Application

**Application for Marine Construction Projects in the Territorial Sea and UK
Controlled Waters Adjacent to Scotland**
(ML-001)

Marine (Scotland) Act 2010
Marine and Coastal Access Act 2009

**It is the responsibility of the applicant to obtain any other consents or authorisations that
may be required.**

**Under Part 4, Section 54 of the Marine (Scotland) Act 2010 and Section 101 of the Marine and Coastal
Access Act 2009 all information contained within or provided in support of this application will be
placed on the Public Register. There is no national security grounds for application information not
going on the Register under the 2010 Act. Under the 2009 Act, application information goes on the
Register unless the Secretary of State determines that it's disclosure in the Register would be contrary
to the interests of national security.**

Public Register

Is there any information contained within or provided in support of this application that you consider
should not be included on the Public Register on the grounds that its disclosure

(a) would be contrary to the interests of national security; or YES ☐ NO ☒

(b) would adversely affect the confidentiality of commercial or industrial information where such
confidentiality is provided by law to protect a legitimate commercial interest? YES ☐ NO ☒

If **YES**, to either (a) or (b), please provide full justification as to why all or part of the information you have
provided should be withheld.

N/A

1. Project Title and Payment Details

Please give a brief identifiable description, including the location, of the project.

**1st Generation Term Maintenance Contract for the management and maintenance of the A90
Forth Road Bridge**

Payment: Enclosed payment ☐ BACS ☐ **OR** Invoice ☒

2. Applicant Details

Title	Initials	Surname
Trading Title (if appropriate)	Transport Scotland	
Address	Buchanan House 58 Port Dundas Road Glasgow, G4 0HF	
Name of contact (if different)	Christopher Fraser	
Position within Company (if appropriate)	Major Bridges Manager – South	
Telephone No. (inc. dialing code)	0141 272 7271	Fax No. (inc. dialing code) Not applicable
Company Registration No.		Email Christopher.Fraser@transportscotland.gsi.gov.uk

3. Agent Details (if any)

Title	Initials	Surname
Trading Title (if appropriate)	Amey Highways Ltd.	
Address	Precision House McNeil Drive Eurocentral Motherwell ML1 4UR	
Name of contact (if different)	Graeme Shepherd	
Position within Company (if appropriate)	Civil Engineer (Structures)	
Telephone No. (inc. dialing code)	01698 730 338	Fax No. (inc. dialing code) Not applicable
Company Registration No.	6600609	Email Graeme.Shepherd@amey.co.uk

4. Duration of Project

Start date	1st June 2015	Expected completion date	31st March 2020
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5. Description and Cost of the Proposed Project

(a) Estimated gross cost of the works proposed seawards of the tidal limit of MHWS

£50 million

(b) Give a detailed description of the proposed schedule of work.

The term maintenance contract is scheduled for an initial period of 5 years, with the option for 5 additional 1 year extensions. Throughout this period a variety of maintenance projects are planned for completion on the Forth Road Bridge along with a variety of routine maintenance works. In order to give a more detailed representation of the works to be undertaken, please see the supporting information to this application.

(c) Types of Work Proposed

General Marine Project (e.g. outfall pipe, dock wall, coast protection, pier, slipway):

Bridge maintenance works, incorporating various schemes as outlined in the supporting information.

6. Location of Project (including temporary deposits)

This should include either National Grid References (NGR) or Latitude and Longitude co-ordinates defining the extent of the project.

NT 12471 78208

NT 12589 80763

7. Method Statement

General method statements relating to the proposed schemes included within supporting information

8. Permanent Deposits

(a) Quantity of permanent materials to be deposited below MHWS:

Type of Deposit	Nature of Deposit	Deposit Quantity
Steel/Iron	NOT APPLICABLE	Tonnes No. (if applicable)
Timber	NOT APPLICABLE	m ³ /tonnes
Plastic/Synthetic	NOT APPLICABLE	m ²
Concrete	NOT APPLICABLE	m ³
Silt	NOT APPLICABLE	m ³
Sand	NOT APPLICABLE	m ³
Stone/Rock/Gravel	NOT APPLICABLE	Size range (mm) Total m ³
Concrete bags/mattresses	NOT APPLICABLE	No. Dimensions Total m ³
Pipe	NOT APPLICABLE	Length (m)
Other (please describe below):		
NONE		

(b) Method of delivery of material.
(see Guidance Notes)

All materials will be delivered to site from the trunk road network

(c) For work involving salt marsh feeding, beach replenishment or land reclamation please provide the following information relating to the material to be deposited:

Quantity (tonnes):

NOT APPLICABLE

Nature of Material:
(e.g. sand, silt, gravel etc.)

NOT APPLICABLE

Source:
(if sea dredged state
location of origin)

NOT APPLICABLE

Particle size:

NOT APPLICABLE

Has the material been chemically analysed?

YES ☐ NO ☐

If **YES**, please include the analysis data with your application.

9. Temporary Deposits

Will there be a need to make any temporary deposits of material below MHWS during the works? If **YES** complete the table below.

Type of Deposit	Nature of Deposit	Deposit Quantity
Steel/Iron	NOT APPLICABLE	Tonnes No. (if applicable)
Timber	NOT APPLICABLE	m ³ /tonnes
Plastic/Synthetic	NOT APPLICABLE	m ²
Concrete	NOT APPLICABLE	m ³
Silt	NOT APPLICABLE	m ³
Sand	NOT APPLICABLE	m ³
Stone/Rock/Gravel	NOT APPLICABLE	Size range (mm) Total m ³
Concrete bags/mattresses	NOT APPLICABLE	No. Dimensions Total m ³
Pipe	NOT APPLICABLE	Length (m)

If 'other' please describe below:

NONE

10. Disposal of Material at Sea

Do you intend to apply for a licence to DISPOSE AT SEA material dredged as part of the project?
If **YES**, please indicate:

Nature of material (sand, gravel, silt, clay, rock etc.):

N/A

Quantity of material (tonnes):

N/A

11. Other Consents

Please detail below all consents you have applied for or received

Type of Consent	(Tick appropriate box)		Reference No.	Date of Issue of Consent
	Applied for	Not Applied for		
1. Local Planning Authority (LPA) (e.g. Town and Country Planning Act)	NA	NA	NA	NA
Name and address of LPA for Location of proposed works:				
2. Land Owner e.g. The Crown Estate	NA	NA	NA	NA

3. Local Port or Harbour Authority e.g. local work licence	NA	NA	NA	NA
4. Scottish Environment Protection Agency (SEPA)	NA	NA	NA	NA
5. Others	NA	NA	NA	NA

12. Statutory Consenting Powers

Do you, or (if appropriate) your client, have statutory powers to consent any aspect of this project?

YES. Works being undertaken as part of the “4th Generation Term Contract for the Management and Maintenance of the Scottish Trunk Road Network – South East Unit. (Contract between the Scottish Ministers and Amey Highways Ltd).

13. Advertising and Consultation

- (a) Have these proposals been advertised to the public? YES ☐ NO ☒
If YES, how and where?

- (b) Have the public been invited to submit comments? YES ☐ NO ☒
If YES, to whom and by what closing date?

- (c) Have any consultation meetings with the public been arranged? YES ☐ NO ☒
If YES, where and when are these to be held?

14. Consultation with Conservation Bodies

Provide details of any consultation that has taken place with Scottish Natural Heritage (SNH) and, if appropriate, include copies of any correspondence with your application.

Consultation with the appropriate Conservation Bodies, will be carried out on a scheme by scheme basis throughout the duration of the operating contract.

15. Designated Conservation Areas

Are any parts of the proposed project located within the boundaries of a designated conservation area?

If yes, please indicate approximate distance of project from the boundary of the nearest conservation area(s)

Works over designated area of conservation (River Forth)

16. Environmental Assessment

Has an Environmental Impact Assessment (EIA)/Environmental Statement (ES) been undertaken to

support any application in respect of the project, your own statutory powers (if applicable) or any other reason? YES ☐ NO ☒

If **YES**, is a copy of the EIA/ES included with this application? YES ☐ NO ☐

If the EIA/ES has been undertaken but has not been included with this application, please provide an explanation below.

Is the EIA/ES available for public inspection? YES ☐ NO ☒

If **YES**, at what locations:

Not applicable

Declaration

I declare to the best of my knowledge and belief that the information given in this form and related papers is true.

WARNING

It is an offence under the Act under which this application is made to fail to disclose information or to provide false or misleading information.

[Redacted]

Signature

Date

21 May 2015

Name in BLOCK LETTERS

GRAEME SHEPHERD

Position within company
(if appropriate)

Civil Engineer (Structures)

Please check carefully the information you have given and that all the enclosures (including copies) have been included.

Application Check List

- Completed application form **x 1**
- Project drawings **x 1**
- Method Statement **x 1**
- Maps/Charts **x 1**
 - Additional environmental information, e.g. Photographs, Environmental Impact Assessment etc (if required) **x 1**
- Payment

✓
✓
✓
✓
✓
✓

APPENDIX B – Environmental Review

Contents

- Assessment of Implication on European Sites (AIES)
- FBUnit – Environmental Risk Assessment



Assessment of Implications on European Sites (AIES) **Forth Road Bridge Marine Licence Application**

15/FB/1203/009/001 Rev. 1

May 2015



Document Control Sheet

Project Name:	Forth Road Bridge Marine Licence Application
Project Number:	15/FB/1203/009
Report Title:	Assessment of Implications on European Sites (AIES)
Report Number:	15/FB/1203/009/001

Issue Status/Amendment	Prepared	Reviewed	Approved
Rev 1 – Consultation Draft	Name: Rhiannon Ferguson Signature: Date: 04/05/15	Name: Melanie Roxburgh Signature: Date: 07/05/15	Name: Jennifer Craig Signature: Date: 11/05/15
	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:
	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:
	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:

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Appendix A Drawing no. 15/FB/2013/009/100

1 Introduction

1.1 Marine licence

From 1 June 2015, as the operating company for the Forth Road Bridges Unit contract, Amey shall be responsible for the management and maintenance of the Forth Road Bridge. As the maintenance works will be undertaken over the Forth Estuary, a marine licence is required under Part 4 of the Marine (Scotland) Act 2010 and Part 4 of the Marine and Coastal Access Act 2009.

1.2 Natura 2000 sites

Natura 2000 sites are part of an EU wide network of nature protection areas established under the 1992 Habitats Directive. The network is in place to assure the long-term survival of Europe's most valuable and threatened species and habitats through maintaining and safeguarding the integrity of a European ecological network of designated sites. Natura 2000 sites consist of Special Areas of Conservation (SAC) designated by Member States under the Habitats Directive, and also incorporates Special Protection Areas (SPAs) which they designate under the 1979 Birds Directive. Ramsar sites are wetlands of international importance designated under the Ramsar Convention; however as all Ramsar **Sites in Scotland are also SPA's or SAC's they become part of the** Natura 2000 network.

1.3 Habitats regulations assessment

When considering marine licence applications, Marine Scotland has a duty under regulation 48 of the Conservation (Natural Habitats, &c) Regulations 1994 to consider the implications of the activity in relation to Natura 2000 sites.

Deciding whether an aspect of a plan or project is likely to have a significant effect on a Natura 2000 site, acts as a screening stage in an HRA. Any plan or project which has the potential to affect a Natura 2000 site should be considered in order to determine whether an Appropriate Assessment is required. This Assessment of Implications on European Sites (AIES) provides a screening assessment of the likely impacts of the maintenance activities on Natura 2000 sites within the Forth Estuary.

1.4 Legal requirements and guidance

The relevant information is set out in the following legislation: the European Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (also known as “the Habitats Directive”) which is transposed into Scottish law via the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

‘Competent Authorities’ are required to ensure that an Appropriate Assessment is undertaken ‘before deciding to undertake, or give any consent, permission or other authorisation of the implications for the site’s conservation objectives’ where a project: is likely to have a significant effect on a European Site in Great Britain (either alone or in combination with other plans or projects), and is not directly connected with or necessary to the management of the site.

In relation to the marine licence the **‘competent authority’ is Marine Scotland.**

The Design Manual for Roads and Bridges (DMRB) was introduced in 1992 and provides a comprehensive manual for the design and assessment of trunk road schemes. Section 4 of Volume 11 of the DBMR sets out the process for carrying out Habitats Regulations Assessments (HRA), and uses the term **‘Assessment of Implications on European Sites’** rather than HRA. The process set out in the DMRB has been followed in this report.

2 Site location and background

2.1 Forth Road Bridge

The A90 Forth Road Bridge stretches approximately 2.5km across the Forth estuary between Queensferry and North Queensferry. The Forth estuary is a complex estuarine system and supports European designated sites including Special Protection Areas (SPA) and Wetlands of International Importance (Ramsar Site). Figure 1 illustrates the location of the bridge and Figure 2 shows a view of the bridge.



Figure 1: Location of Forth Road Bridge

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Figure 2: View of Forth Road Bridge

3 Site designations

The following Natura 2000 sites are located within 2 km (in accordance with DMRB) of the Forth Road Bridge. Details of their qualifying features and conservation objectives are stated in sections 3.1 – 3.3. The location of the designated sites is highlighted on Drawing no. 15/FB/2013/009/100 in Appendix B.

3.1 Firth of Forth Special Protection Area (SPA)

The Firth of Forth SPA is a complex of estuarine and coastal habitats in south east Scotland stretching east from Alloa to the coasts of Fife and East Lothian. The site includes extensive invertebrate-rich intertidal flats and rocky shores, areas of saltmarsh, lagoons and sand dune. The site is underpinned by the Firth of Forth Site of Special Scientific Interest (SSSI).

3.1.1 Qualifying interest

The Firth of Forth SPA qualifies under Article 4.1 of the Birds Directive (79/409/EEC) by regularly supporting wintering populations of European importance of the Annex 1 species: red-throated diver *Gavia stellata*, Slavonian grebe *Podiceps auritus*, golden plover *Pluvialis apricaria* and bar-tailed godwit *Limosa lapponica*.

The site further qualifies under Article 4.1 by regularly supporting a post-breeding (passage) population of European importance of the Annex 1 species sandwich tern *Sterna sandvicensis*.

The Firth of Forth SPA qualifies under Article 4.2 Directive (79/409/EEC) by regularly supporting wintering populations of both European and international importance of the migratory species pink-footed goose *Anser brachyrhynchus*, shelduck *Tadorna tadorna*, knot *Calidris canutus*, redshank *Tringa totanus* and turnstone *Arenaria interpres*.

The Firth of Forth SPA further qualifies under Article 4.2 Directive (79/409/EEC) by regularly supporting a wintering waterfowl assemblage of European importance. This assemblage includes nationally important numbers of numerous migratory species including: great crested grebe *Podiceps cristatus*, cormorant *Phalacrocorax carbo*, scaup *Aythya marila*, eider *Somateria mollissima*, long-tailed duck *Clangula hyemalis*, common scoter *Melanitta nigra*, velvet scoter *M. fusca*, goldeneye *Bucephala clangula*, red-breasted merganser *Mergus serrator*, oystercatcher *Haematopus ostralegus*, ringed plover *Charadrius hiaticula*, grey plover *Pluvialis squatarola*, dunlin *Calidris alpina*, and

curlew *Numenius arquata*. The assemblage also includes large numbers of the following species: wigeon *Anas Penelope*, mallard *A. platyrhynchos* and lapwing *Vanellus vanellus*.

3.1.2 Conservation Objectives

The SPA aims to avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species.

3.1.3 Vulnerability

The Standard Natura 2000 Data Form produced by JNCC on 05/05/05 notes the following vulnerabilities:

'While the major factor potentially affecting the site is coastal industrial development, such development is subject to detailed planning control, ensuring that the site is not significantly affected. Oil and other industrial developments concentrated along the shore line do pose a threat, however rigorous emergency contingency plans are in place to minimise the impact of any incident. Localised tipping is an ongoing problem but consists mainly of inert building waste and is mostly controlled by the relevant licensing authority. Implementation of the Habitats Regulations will tighten control on these operations. Recreational pressures, including small-scale bait digging, are not currently considered to be a problem, while commercial bait digging is being monitored. The potential for rising sea levels to remove important habitats is recognised, and a number of coastal realignment schemes (planned retreat) are planned for these areas which will go some way to offsetting any habitat loss.'

3.2 Forth Islands SPA

The Firth of Forth Islands are located in or near to the Firth of Forth on the east coast of central Scotland. The SPA comprises a number of separate islands or island groups, principally Inchmickery off Edinburgh, Fidra, Lamb and Craigleith together with the Bass Rock off North Berwick, and the much larger Isle of May in the outer part of the Firth.

3.2.1 Qualifying interest

This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive during the breeding season; Arctic tern *Sterna paradisaea*, common tern *Sterna hirundo*, roseate tern *Sterna dougallii*, sandwich tern *Sterna sandvicensis*. This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species during the breeding season; gannet *Morus bassanus*, lesser black-backed gull *Larus fuscus*, puffin *Fratercula arctica*, shag *Phalacrocorax aristotellus*.

The site also has an assemblage qualification: A seabird assemblage of International importance. The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 seabirds.

During the breeding season, the area regularly supports 90,000 individual seabirds including: razorbill *Alca torda*, guillemot *Uria aalge*, kittiwake *Rissa tridactyla*, herring gull *Larus argentatus*, cormorant *Phalacrocorax carbo*, Fulmar *Fulmarus glacialis*, Puffin, lesser black-backed gull *Larus fuscus*, shag *Phalacrocorax aristotellus*, gannet *Morus bassanus*, Arctic tern, common tern, roseate tern, sandwich tern.

3.2.2 Conservation Objectives

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species.

3.2.3 Vulnerability

The Standard Natura 2000 Data Form produced by JNCC on 04/12/09 notes the following vulnerabilities:

'There are few threats to the interest of the site. The Isle of May is a National Nature Reserve managed for its nature conservation interest by Scottish Natural Heritage. Fidra, The Lamb and Inchmickery are managed for their nature conservation interest by the Royal Society for the Protection of Birds while Long Craig Island is managed by the Fife Bird Club and the Scottish Wildlife Trust. The tern population has declined, probably because of the expansion in gull numbers combined with the natural mobility of tern colonies. SNH and RSPB are undertaking management initiatives to encourage a recovery in the tern population. The Scottish Seabird Centre has raised awareness of the colonies on the East Lothian islands. Measures to prevent disturbance to breeding birds by increased visitor numbers have been taken, e.g. remotely-operated cameras give close-up views of birds without causing disturbance.'

3.3 Firth of Forth Wetlands of International Importance (Ramsar Site)

The Firth of Forth Ramsar Site is a large coastal area comprising a complex of estuaries, mudflats, rocky shorelines, beaches and saltmarshes. It stretches from Alloa Inches in the River Forth to Fife Ness and Dunbar in the east. It is considered to act as a single ecological unit. There are several large urban areas including Edinburgh adjacent to the site, which also incorporate areas of heavy industry. The site is important for a large number of wintering waders and wildfowl, many in nationally and internationally important numbers.

3.3.1 Factors adversely affecting the site character

The information sheet on Ramsar wetlands produced by JNCC on 13/06/2008 does not identify any factors adversely affecting the site's ecological character.

4 Assessment Methodology

This assessment uses the screening methodology stated within the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and subsequent guidance from Scottish Natural Heritage. This assessment considers the qualifying features and conservation objectives of the Natura 2000 sites.

The purpose of the screening stage is to:

- identify all aspects of the plan or project which would have no effect on a European site, to allow them to be eliminated from further consideration in respect of this and other plans;
- identify all aspects of the plan or project which would not be likely to have a significant effect on a European site, either alone or in combination with other aspects of the same plan or other plans or projects, which therefore do not **require 'Appropriate Assessment'; and**
- identify those aspects of the plan where it is not possible to rule out the risk of significant effects on a European site, either alone or in combination with other plans or projects. This provides a clear scope for the parts of the plan or project that will require Appropriate Assessment.

An effect that could undermine the conservation objectives of the European site is classed as a significant effect and the likelihood of it occurring is a case-by-case judgment, taking account of the precautionary principle and the local circumstances of **the site. The judgment of 'likelihood'** should be conducted in a precautionary manner, taking account of the ecological circumstances of the European site.

5 Screening Assessment of Implications on European Sites (AIES)

Table 1 sets out the AIES for the Firth of Forth SPA, Forth Islands SPA and the Firth of Forth Ramsar site.

Table 1: AIES for Firth of Forth SPA, Forth Islands SPA and Firth of Forth Ramsar Site

Project Name: Forth Bridge maintenance works	
Location:	The Forth Road Bridge spans approximately 2.5km between coordinates 312480, 678727 and 312582, 680510. All works will be undertaken within the bridge footprint.
Natura 2000 sites under consideration:	<ul style="list-style-type: none"> • Special Protection Area (SPA): Firth of Forth • SPA: Forth Islands • Wetlands of International Importance (Ramsar) site: Firth of Forth
Section 1: Description of likely effects of maintenance activities Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the European site by virtue the following maintenance activities to be carried out on the bridge: <ul style="list-style-type: none"> • Welding • Painting (Brush, spray applied) • Paint preparation (grinding, grit blasting, chemical removal) • Rope access (lifting / lowering of plant, materials and people) • Surfacing removal and disposal • Cutting out welds (grinding, arc air gouging) • Bolt removal / replacement • Concrete repairs • Washing salts from bridge steelwork • Weld inspection (magnetic particle inspection (MPI) / dye penetration / ultrasonic) • Removal of lead based paint (grinding, grit blasting, chemical removal) • Cranage of materials • Use of hand tools • Use of jacking equipment • Drilling of steelwork • Bridge waterproofing • Replacement of bridge expansion joints • Removal / disposal of bridge steelwork • Cleaning of expansion joints (removal of bird faeces, removal of silt / road salts etc) 	
Land-take:	There will be no land take required as part of the maintenance works.
Distance from the European site	<u>Southern bridge extents</u> : the Firth of Forth SPA and Ramsar are

or key features of the site <i>(from edge of the project assessment corridor)</i> :	<p>directly under and adjacent to the bridge at coordinates 312480, 678727.</p> <p><u>Northern bridge extents</u>: the Firth of Forth SPA and Ramsar sites are directly under and adjacent to the bridge at coordinates 312582, 680510.</p> <p>The Forth Islands SPA is directly underneath and adjacent to the bridge at coordinates 312569, 680280.</p>
Resource requirements <i>(from the European site or from areas in proximity to the site, where of relevance to consideration of impacts)</i> :	<p>None of the maintenance activities will require any resources from the Natura 2000 sites.</p>
Emissions <i>(e.g. polluted surface water runoff-both soluble and insoluble pollutants, atmospheric pollution)</i> :	<p>It is likely that certain activities (such as resurfacing) will result in an increase in atmospheric particulate levels from plant vehicle emissions and dust production.</p> <p>There is the potential for liquid discharges to be produced in relation to dust suppression.</p> <p>There is potential for noise emissions from some of the maintenance activities.</p> <p>The impact is unlikely to be significant with the appropriate mitigation measures in place (outlined below).</p>
Excavation requirements <i>(e.g. impacts of local hydrogeology)</i> :	<p>There will be shallow excavations undertaken on the bridge deck throughout the contract, however no excavations will take place outwith the bridge footprint.</p>
Transportation requirements:	<p>Works vehicles, plant and various materials (see maintenance activities) will need to be transported to and from the site. They will use the existing transport network.</p>
Duration of construction, operation, etc:	<p>Maintenance activities will be undertaken throughout the five year contract period.</p>
<p>Section 2: Description of avoidance and/or mitigation measures</p> <p><i>Describe any assumed (plainly established and uncontroversial) mitigation measures, including information on:</i></p>	
Nature of proposals:	<p>All conditions stated within the marine licence shall be adhered to.</p> <p>Noise emissions:</p> <ul style="list-style-type: none"> • All works should comply with BS5228: BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. • Appropriate mufflers and silences should be fitted to machinery. All exhaust silences should be checked at regular intervals to ensure efficiency. • Operatives should receive training to effectively employ techniques to reduce noise. • Activities that cause high noise / vibration levels should be timed out with the breeding bird season where possible (March to August inclusive). Works should also be undertaken out with peak activity times (early morning and evening). Birds will be particularly sensitive during these periods; therefore the works program should be modified in advance to avoid the risk of disturbance.

	<p>Air quality and dust emissions:</p> <ul style="list-style-type: none"> • Restrict use of vehicles, plant and machinery to only necessary operation in order to reduce needless emissions. • Prohibit idling vehicles plant and machinery. • Ensure excavated material is stored in accordance with current guidelines on dust suppression, in order to reduce the risk creating airborne dust. <p>Ecology:</p> <ul style="list-style-type: none"> • Any required ornithological surveys must be undertaken by an ecologist prior to construction works. • If any nesting birds are identified within and/or within close proximity to the bridge, works must be suspended and an Amey ecologist should be contacted. • Where works are taking place at night any lights used should be hooded and/or directed away from the surrounding area to avoid disturbing bird species. • Toolbox talks will be provided to the construction team in relation to birds, to increase awareness of legislation. <p>Emissions to water bodies and drainage:</p> <ul style="list-style-type: none"> • Fuel, oil and chemicals stored on site can impact greatly on the water environment, therefore proper storage is required to minimise pollution risk. • Spill kits should be available on site and site teams should be trained in their use. • The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) must be adhered to. • The following Pollution Prevention Guidelines must be followed: <ul style="list-style-type: none"> • Pollution Prevention Guidance (PPG) PPG8-Safe storage and disposal of used oil. • Managing fire water and major spillages: PPG18 • Dealing with spills: PPG 22 • Works and maintenance in or near water: PPG5 should be adhered to. • Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution. Concrete and cement mixing and washing areas should: <ul style="list-style-type: none"> o be sited 10m from any watercourse or surface water drain to minimise the risk of run off entering a watercourse o have settlement and re-circulation systems for water reuse, to minimise the risk of pollution and reduce water usage o have a contained area for washing out and cleaning of concrete batching plant or ready mix lorries; o collect wash waters and, where necessary, discharge to the foul sewer (you must have permission from the local sewerage undertaker for this), or contain wash water for authorised disposal off site o Wash waters from concrete and cement works should never be discharged in to the water environment. • A suitable pollution containment method should be used to reduce the risk of pollutants entering the water environment.
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	<ul style="list-style-type: none"> Best practice will be applied by referring to method statements and risk assessments for substances and materials used during construction. <p>Waste:</p> <ul style="list-style-type: none"> No vegetation or spoil waste should be dumped into the estuary.
Evidence for effectiveness:	All mitigation measures described above are tried and tested, and are in accordance with best practice guidance to ensure pollutants do not enter the river course. These measures will also ensure that disturbance to species using the Firth of Forth is minimised as far as possible and there would be no significant impact on them.
Mechanisms for delivery (<i>legal conditions, restrictions or other legally enforceable obligations</i>):	The following measures would be implemented: construction method statements, toolbox talks to contractor and engineers.
Section 3: Firth of Forth SPA	
Initial Assessment The key characteristics (stated in section 3.1) of the site and the details of the European site are considered in identifying potential impacts.	
Reduction of habitat areas	Parts of the SPA lie directly underneath the north and south ends of the bridge. All maintenance works will take place on the bridge and no works will take place within the designated site, therefore there will be no reduction in habitat area.
Disturbance to key species	Maintenance activities that generate noise or produce dust that are undertaken between November and February have the potential to disturb wintering birds.
Habitat or species fragmentation	No impacts predicted as all of the maintenance activities will take place on the bridge.
Reduction in species density	Activities that cause disturbance may make wintering sites less attractive, which could reduce species density.
Changes in key indicators of conservation value (water quality, etc)	There is the potential for pollutants to enter the estuary, however this is unlikely with the appropriate mitigation measures.
Climate change	No impacts predicted.
Describe any likely impacts on the European Site as a whole in terms of:	
Interference with the key relationships that define the structure of the site	No significant impacts predicted.
Interference with key relationships that define the function of the site	No significant impacts predicted.
Indicate the significance as a result of the identification of impacts set out above in terms of:	

Reduction of habitat area	Insignificant
Disturbance to key species	Insignificant with mitigation measures outlined above
Habitat or species fragmentation	Insignificant
Loss	Insignificant
Fragmentation	Insignificant
Disruption	Insignificant with mitigation measures outlined above
Disturbance	Insignificant with mitigation measures outlined above
Change to key elements of the site (<i>e.g. water quality, hydrological regime etc</i>)	Insignificant with mitigation measures outlined above
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	
The various maintenance activities especially arc air gouging or surfacing removal will increase local noise and vibrations levels over short periods of time, which may disturb wintering/migratory birds in the surrounding area. Noise mitigation measures may be required for individual maintenance schemes, along with noise monitoring.	
Outcome of screening stage:	The impacts are unlikely to undermine the conservation objectives of the site and with the application of mitigation measures are not considered to be significant.
<i>Are the appropriate statutory environmental bodies in agreement with this conclusion (delete as appropriate and attach relevant correspondence)</i>	SNH to complete
Section 4: Forth Islands SPA	
Initial Assessment	
The key characteristics (stated in section 3.2) of the site and the details of the European site are considered in identifying potential impacts.	
Reduction of habitat areas	The northern edge of the bridge lies above the SPA boundary, however no works will be undertaken out with the bridge footprint. There will be no reduction in habitat area.
Disturbance to key species	There may be disturbance to breeding birds if noise intensive maintenance activities are undertaken within the bird nesting season.
Habitat or species fragmentation	No impacts predicted.
Reduction in species density	Maintenance works during the breeding season could disturb nesting birds and cause a reduction in species number.
Changes in key indicators of conservation value (water quality,	There is the potential for pollutants to enter the estuary, however this is unlikely with mitigation in place.

etc)	
Climate change	No impacts predicted.
Describe any likely impacts on the European Site as a whole in terms of:	
Interference with the key relationships that define the structure of the site	No impacts predicted.
Interference with key relationships that define the function of the site	No impacts predicted.
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	Insignificant
Disturbance to key species	Insignificant with mitigation measures outlined above
Habitat or species fragmentation	Insignificant
Loss	Insignificant
Fragmentation	Insignificant
Disruption	Insignificant with mitigation measures outlined above
Disturbance	Insignificant with mitigation measures outlined above
Change to key elements of the site (<i>e.g. water quality, hydrological regime etc</i>)	Insignificant with mitigation measures outlined above
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
The various maintenance activities especially arc air gouging or surfacing removal will increase local noise and vibrations levels over short periods of time, which may disturb breeding birds within the SPA. Noise mitigation measures may be required for individual maintenance schemes, along with noise monitoring.	
Outcome of screening stage:	The impacts are unlikely to undermine the conservation objectives of the site and with the application of mitigation measures are not considered to be significant.
<i>Are the appropriate statutory environmental bodies in agreement with this conclusion (delete as appropriate and attach relevant correspondence)</i>	SNH to complete
Section 5: Firth of Forth Ramsar Site	
Initial Assessment The key characteristics (stated in section 3.3) of the site and the details of the European site are considered in identifying potential impacts.	

Reduction of habitat areas	Parts of the Ramsar site lie directly underneath the north and south ends of the bridge. All maintenance works will take place on the bridge and no works will take place within the designated site, therefore there will be no reduction in habitat area.
Disturbance to key species	Maintenance activities that generate noise or produce dust that are undertaken between November and February have the potential to disturb bird species within the wetland habitat.
Habitat or species fragmentation	No impacts predicted.
Reduction in species density	Disturbance due to noise may result in a decrease in species numbers.
Changes in key indicators of conservation value (water quality, etc)	There is the potential for pollutants to enter the estuary, however this is unlikely with mitigation in place.
Climate change	No impacts predicted.
Describe any likely impacts on the European site as a whole in terms of:	
Interference with the key relationships that define the structure of the site	No impacts predicted
Interference with key relationships that define the function of the site	No impacts predicted
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	Insignificant
Disturbance to key species	Insignificant with mitigation measures outlined above
Habitat or species fragmentation	Insignificant
Loss	Insignificant
Fragmentation	Insignificant
Disruption	Insignificant with mitigation measures outlined above
Disturbance	Insignificant with mitigation measures outlined above
Change to key elements of the site (<i>e.g. water quality, hydrological regime etc</i>)	Insignificant with mitigation measures outlined above
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	

The various maintenance activities especially arc air gouging or surfacing removal will increase local noise and vibrations levels over short periods of time, which may disturb bird species within the wetland habitat. Noise mitigation measures may be required for individual maintenance schemes, along with noise monitoring.

There is potential for pollutants to enter the estuary, which may have a negative impact on the wetland ecosystem. Mitigation measures will be applied to control emissions.

Outcome of screening stage	The impacts are unlikely to undermine the conservation objectives of the site and with the application of mitigation measures are not considered to be significant.
<i>Are the appropriate statutory environmental bodies in agreement with this conclusion (delete as appropriate and attach relevant correspondence)</i>	<i>SNH to enter response</i>

6 References

Design Manual for Roads and Bridge, Volume 11, Section 4. Available at
<http://www.standardsforhighways.co.uk/dmrb/vol11/section4/hd4409.pdf>

MAGIC Multi Agency Geographic Information for the Countryside. Available at
<http://magic.defra.gov.uk>

Scottish Natural Heritage, 2015. Habitats regulations appraisal of plans, Guidance for plan-making bodies in Scotland. Available at <http://www.snh.gov.uk/docs/A1500925.pdf>

Scottish Environment Protection Agency website: <http://sepa.org.uk/>

Joint Nature Conservation Committee Website. Available at
<http://jncc.defra.gov.uk/page-4>

DRAFT

Appendix A Drawing no. 15/FB/2013/009/100

DRAFT

Title:	Environmental Risk Assessment- Forth Bridges Unit													
Amey Division:	Consulting and Strategic Infrastructure		This register: Revision: 1			Date: 11/05/2015								
	This register should be used with reference to Pollution Prevention Guidelines and other associated documents within the Amey and Local IMS													
Activity or Service	Ref	Brief Description - <u>Aspect</u>	Potential <u>Impact</u>	Normal/ abnormal/ emergency	<u>Element Affected</u> Social, Air, Land, Water	<u>Part A</u> Score	<u>Part B</u> Score	Automatically Critical Y/N	<u>Significance Score</u>	<u>Relevant legislation</u>	RA G	Control Measures	Controlling Documents	
Traffic management	1.01	Erection of signs and placing of cones	Use of finite resources	Normal	LA	3	2	N	6			Material with recycled content considered. Appropriate amounts to be used for safety without being wasteful. Recycle batteries from cones at depot	ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices	
	1.02	Operation of traffic lights	Use of energy	Normal	ALW	2	3	N	6			Electricity usage minimisation measures to be adopted; e.g.: turn off lights when not in use, lights should be LED is possible.	ENVT-Carbon-PR-01 Carbon Footprint , ENVT-PolicyStatement-PO-01	
	1.03		Use of diesel fuel		ALW	2	3	N	6	The Water Environment (Oil Storage) (Scotland) Regulations 2006		Appropriately banded tank in good condition Plant to be parked on Hard standing, Spill kit available, trained staff	ENVT-PP-GD-01 Storage of Oil and Fuel, ENVT-PPG-GD-07 Refuelling Facilities.	
	1.04		Poential for noise/vibration to disturb nearby population and wildlife		SA	1	4	N	4	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration	
	1.05	Delays to travelling public	Traffic Congestion and increased local air pollution	Normal/ abnormal/ emergency	SA	2	4	N	8	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002		Work at off peak times on main traffic routes, place advance warning signs. Consider the site and whether there will be any affects on surrounding wildlife	ENVT-EnvtAssess-PR-01 Environmental Assessment Planning and Design	
	1.06		Delays to 'business as usual', potential economic impact	Normal/ abnormal/ emergency	S	3	3	N	9			Inform local businesses and residents of the extent and duration of work. Liaise, and where possible, consult with businesses and residents. Maximise safe access for deliveries and customers.	ENVT-EnvtAssess-PR-01 Environmental Assessment Planning and Design	
	1.07	Removal of traffic management	Material left as litter	Normal	L	2	5	Y	10	Environmental Protection Act 1990		All litter and waste materials to be collected up, brought to the depot and waste type classified and disposed of appropriately.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices	
Sign/fence erection, replacement, repair or cleaning	2.01	Placing of concrete	Contamination of surface water from waste or washing of equipment	Abnormal/ emergency	W	3	5	Y	15	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Do not wash equipment on site or where run off can contaminate land or water courses	ENVT-PPG-GD-05 Works and Maintenance in or Near Water	
	2.02		Use of finite resources in concrete mixing	Normal	LA	4	2	N	8			Material with recycle content considered. Keep resource use to a minimum. If concrete is being used consider a wash area.	ENVT-PolicyStatement-PO-01	
	2.03	Fixing/erection of sign/fences	Use of finite resources in manufacture of signs	Normal	L	4	2	N	8					
	2.04		Nuisance/disturbance in terms of noise/vibration and dust from plant	Normal/ abnormal	A	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration	
	2.05	Cleaning of sign faces	Potential pollution of land and water courses	Abnormal	LW	1	5	N	5	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Keep use of soapy water to a minimum, use damp cloths as opposed to dripping cloths. Use biodegradable detergents.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices	
	2.06	Disposal of old sign plates, posts, vegetation etc.	Waste disposal	Normal	L	5	5	Y	25	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care to be followed as applicable. Arisings to be taken direct to approved location where possible. Otherwise, to be brought back to depot and placed in waste bay, to be correctly classified and disposed of by authorised registered waste carrier etc.	ENVT-SWMP-PR-01 Site Waste Management Plans, ENVT-Waste-PR-01 Waste Management,	
Electrical works including erection and removal of street lighting columns	3.01	Laying of ducts and cables/ erection of columns	Use of finite resources	Normal	LA	4	2	N	8			Where ever possible, sustainable sourced material will be used. Keep resource use to a minimum	ENVT-PolicyStatement-PO-01	
	3.02	Backfilling of excavations/placing of concrete	Contamination of surface water from waste or washing of equipment	Normal	W	1	5	Y	5	Groundwater Regulations 2009; Environmental Protection Act 1990, Environmental Liability (Scotland) Regulations 2009		Do not wash equipment on site or where run off can contaminate land or water courses	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-05 Works and Maintenance in or Near Water	
	3.03	Painting of columns	Contamination of surface water from spillages waste or washing or equipment	Abnormal/ emergency	W	1	5	Y	5	Environmental Protection Act 1990		Spill kit to be in place at all times. No washing of equipment on site or where run off can contaminate land or water courses	ENVT-Emergency-PR-01	
	3.04		Release of organic vapours	Normal/ abnormal	A	1	3	N	3			Non vaporous paints to be used where possible; paint lids to be covered when not in use	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices	
	3.05	Connections and wiring/fixing lamps	Use of finite resources	Normal	ALW	4	3	N	12			Where ever possible, sustainably sourced material to be used. Keep resource use to a minimum	ENVT-PolicyStatement-PO-01	
	3.06	Disposal of waste including lamps and columns	Resource depletion, pollution potential	Normal/ abnormal	L	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004, Waste Electrical and Electronic Equipment Regulations (2013)		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management	
Painting of Road Studs & Line Painting	4.01	Removal of white lines	Use of hot lance	Normal	A	4	2	N	8			Assess site before works. Use kept to a minimum	ENVT-PolicyStatement-PO-01	
	4.02		Waste disposal	Normal	LW	4	5	Y	20	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management	
	4.03	Painting white lines	Poential for noise/vibration to disturb nearby population and wildlife	Normal/ abnormal	SA	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration	
	4.04		Release of organic vapours	Normal	A	3	3	N	9			Release kept to a minimum and controlled on site, paints enclosed when not in use. Any chemicals or materials to be stored away from water courses and surface water gullies at all times	ENVT-PolicyStatement-PO-01	

E	4.05	Laying of anti skid material and removal of studs	Nuisance/disturbance in terms of odours and noise/vibration	Normal	SA	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994	Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
	4.06	Fixing new road studs	Use of finite resources for new materials	Normal	A	4	2	N	8		Where ever possible, sustainable sourced material will be used and resource use kept to a minimum	ENVT-PolicyStatement-PO-01
Resurfacing or patching of carriageway	5.01	Disposal of planings and other waste material	Potential for contamination of land and water courses	Abnormal	LW	3	5	Y	15	Environmental Protection Act 1990	Spill kit to be in place at all times. No washing of equipment on site or where run off can contaminate land or water courses	ENVT-PPG-GD-01 Prevention of pollution, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
	5.02		Transportation / disposal of waste	Normal	ALW	4	5	Y	20	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004,	Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	5.03	Laying of bitumen	Use of finite resources	Normal	LA	4	2	N	8		Use of recycled materials, products to meet certificate of conformity	ENVT-PolicyStatement-PO-01
	5.04	Bridge waterproofing	Contamination of watercourse through spillage/runoff	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011	Ensure waterproofing is not applied during wet weather.	ENVT-PPG-GD-01 Prevention of pollution, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
			Poential for noise to disturb nearby population and wildlife	Normal	S	3	3	N	9	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994	Ensure equipment is only used when necessary and is well maintained, oolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO)
			Temporary reduction in air quality	Normal	A	2	2	N	4	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002	Ensure equipment is only used when necessary and is well maintained. Machinery/vehicles should not be left idling.	ENVT-EnvtAssess-PR-01 Environmental Assessment Planning and Design, ENVT-PPG-GD-01 Prevention of pollution
	5.05	Rolling of bitumen (with water)	Odour, vibration and noise/vibration during works	Normal	SA	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994	Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
	5.06	Planing of carriageway	Poential for noise/vibration to disturb nearby population and wildlife	Normal/ abnormal	SA	2	3	N	6		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
	5.07	Hand removal of road surface	Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO)
	6.01	Welding	Reduction in air quality	Normal	A	2	2	Y	4	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002	Ensure equipment is only used when necessary and is well maintained.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PolicyStatement-PO-01
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994	Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
			Potential for contamination of watercourse with molten metal.	Abnormal	W	1	5	N	5	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011	Take care when carrying out tasks and ensure any residue resulting from the work is collected and prevented from entering the watercourse.	ENVT-PPG-GD-01 Prevention of pollution, ENVT-Emergency-PL-01 Pollution Incident Response Plan, ENVT-PPG-GD-05 Works and Maintenance in or Near Water.
			Use of finite resources	Normal	SALW	2	3	N	6		Ensure equipment is switched off when not in use.	ENVT-PolicyStatement-PO-01
	6.02	Painting (brush)	Contamination of watercourse through spillage/runoff	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011	Ensure spill kits and appropriate clear up materials are available. Do not carry out work in wet weather. Ensure paint lids are covered when not in use.	ENVT-PPG-GD-01 Prevention of pollution, ENVT-Emergency-PL-01 Pollution Incident Response Plan, ENVT-PPG-GD-05 Works and Maintenance in or Near Water.
	6.03	Painting (spray)	Contamination of watercourses through spillage/runoff/ application in inappropriate weather conditions	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011	Ensure spill kits and appropriate clear up materials are available. Do not carry out work in wet weather. Ensure spray gun is appropriately calibrated, application instructions are followed, and user is trained in appropriate use.	ENVT-PPG-GD-01 Prevention of pollution, ENVT-Emergency-PL-01 Pollution Incident Response Plan, ENVT-PPG-GD-05 Works and Maintenance in or Near Water.
	6.04	Paint preparation (grinding)	Contamination of watercourse through dust/paint/metallic particles suspended in air or water	Abnormal	AW	3	5	Y	15	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002	Use dust screens and appropriate dampening techniques in order to reduce airborne dust particles. Ensure residue is collected and disposed of promptly and appropriately.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994	Ensure equipment is only used when necessary and is well maintained. Ensure nearby residents are informed in advance of works. Work during off-peak times where possible.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004	Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.05	Paint preparation (grit blasting)	Contamination of watercourse through shot/sand particles suspended in air/water	Abnormal	AW	2	5	N	10	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002	Use dust screens, dust extraction and appropriate dampening techniques in order to reduce airborne dust particles. Ensure residue is collected and disposed of appropriately and regularly.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994	Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004	Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.06	Paint preparation (chemical removal)	Contamination of watercourse through spillage or application in inappropriate weather conditions	Abnormal	W	2	3	N	6	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011	Ensure spill kits and appropriate clear up materials are available. Do not carry out work in wet weather. Ensure usage instructions on chemical data sheets are adhered to and if relevant, adhere to COSHH regulations.	ENVT-Emergency-PR-01 Preparation for Environmental Incidents & Response, HS-Coshh-PR-01 (series) Chemicals and Other Hazardous Materials (COSHH)
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004	Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.07	Rope access - Lifting/lowering of plant, materials, personnel	Potential for leakage/spillage from plant/materials into watercourse.	Abnormal	W	2	5	Y	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011	Ensure thorough checks are carried out on all forms of equipment/materials in order to guarantee their integrity before suspension over watercourse. Where relevant, containers should be banded.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO)
	6.08	Removal of welds (grinding)	Contamination of watercourse through dust/paint/metallic particles suspended in air or water	Abnormal	W	2	5	N	10	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002	Ensure appropriate dust suppression/extraction/dampening measures and appropriate spark guards are in place to prevent material from entering the watercourse. Ensure residue is removed regularly and work area is kept clean and tidy.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004	Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.09	Removal of welds (air gouging)	Contamination of watercourse through ejection of molten metal from weld	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011	Ensure appropriate safety guards are in place to sufficiently prevent gouged material from entering watercourse.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01
			Temporary reduction in air quality	Normal	A	2	2	N	4	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002	Ensure equipment is only used when necessary and is well maintained.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994	Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration

Bridge Structure Maintenance			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.10	Bolt replacement	Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.11	Concrete Repair	Contamination of watercourse resulting from in-situ mixing of concrete in inappropriate weather conditions/within 10m of surface water drain	Abnormal/Emergency	LW	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Ensure concrete is mixed at least 10m from any drains. Consider use of a wash area. Do not mix concrete in wet conditions.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
			Contamination of watercourse through suspended cement particles associated with concrete mixing	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Ensure all drains within 10m of where concrete is to be mixed are covered. Make use of settlement/re-circulation systems where appropriate.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
			Reduction in air quality associated with suspended dust particles.	Normal	A	2	2	N	4	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002		Ensure appropriate dust suppression/extraction/dampening measures and appropriate spark guards are in place to prevent material from entering the watercourse. Ensure residue is removed regularly and work area is kept clean and tidy.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
	6.12	Removal of salt residue from bridge steelwork	Contamination of watercourse with salt residue	Normal	W	4	5	Y	20	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Ensure maximum quantity of water is used in order to maximise dilution potential.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.13	Weld inspection (Magnetic Particle Inspection)	Contamination of watercourse with aerosol-applied oil-based magnetic particle carriers	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Use appropriate quantity of material. Ensure absorbent materials are close to hand in order to prevent any excess liquid entering the watercourse.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
	6.14	Weld inspection (dye penetration testing)	Contamination of watercourse with contrast paint/dye	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Use appropriate quantity of material. Ensure absorbent materials are close to hand in order to prevent any excess liquid entering the watercourse. Ensure spill kits are available	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
	6.15	Weld inspection (ultrasonic)	Potential to disturb marine mammals	Abnormal	W	1	5	N	5	The Conservation (Natural Habitats, &c.) Regulations 1994		Ensure equipment is only used when necessary and is well maintained. Consult with appropriate bodies in order to establish intensity threshold.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
	6.16	Removal of lead based paint (grinding)	Contamination of watercourse through dust/paint/metallic particles suspended in air or water	Abnormal	AW	3	5	Y	15	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002		Ensure appropriate dust suppression/extraction/dampening measures and appropriate spark guards are in place to prevent material from entering the watercourse. Ensure residue is removed regularly and work area is kept clean and tidy.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water, SD-H&S-HFM-RA-24 Lead Work
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Ensure equipment is only used when necessary and is well maintained. Ensure nearby residents are informed in advance of works. Use low decibel plant where practicable. Work during off-peak times where possible.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO)
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management, SD-H&S-HFM-RA-24 Lead Work
	6.17	Removal of lead based paint (grit blasting)	Contamination of watercourse through dust/paint/metallic particles suspended in air or water	Abnormal	AW	3	5	Y	15	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002		Ensure appropriate dust suppression/extraction/dampening measures and appropriate spark guards are in place to prevent material from entering the watercourse. Ensure residue is removed regularly and work area is kept clean and tidy.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 Working at construction and Demolition Sites, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water, SD-H&S-HFM-RA-24 Lead Work
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Ensure equipment is only used when necessary and is well maintained. Ensure nearby residents are informed in advance of works. Use low decibel plant where practicable. Work during off-peak times where possible.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO)
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.18	Removal of lead based paint (chemical removal)	Contamination of watercourse through spillage or application in inappropriate weather conditions	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Ensure spill kits and appropriate clear up materials are available. Do not carry out work in wet weather. Ensure usage instructions on chemical data sheets are adhered to and if relevant, adhere to COSHH regulations.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06 ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water, SD-H&S-HFM-RA-24 Lead Work
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
	6.19	Crannage of Materials	Potential for leakage/spillage from plant/materials into watercourse.	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Ensure thorough checks are carried out on all forms of equipment/materials in order to guarantee their integrity before suspension over watercourse. Where relevant, containers should be banded.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-05 Works and Maintenance in or Near Water
	6.20	Use of hand tools	Poential for noise to disturb nearby population and wildlife	Normal	S	1	5	N	5	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PolicyStatement-PO-01
	6.21	Use of jacking equipment	Potential for leakage/spillage of hydraulic fluid	Abnormal	W	1	5	N	5	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Ensure appropriate equipment checks take place prior to use. Ensure equipment/fleet renewal takes place over appropriate time period to ensure reliability. Ensure that all stationary plant is fitted with drip trays (emptied regularly).	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-05 Works and Maintenance in or Near Water
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PolicyStatement-PO-01
	6.22	Drilling of steelwork	Contamination of watercourse through dust/paint/metallic particles suspended in air or water	Abnormal	AW	2	5	N	10	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002		Ensure appropriate dust suppression/extraction/ dampening measures are in place. Ensure residue is removed regularly and work area is kept clean.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PolicyStatement-PO-01
	6.23	Replacement of expansion joints	Potential for contaminants to fall from bridge into watercourse during removal process	Abnormal	W	1	5	N	5	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Use netting or alternative material in order to catch falling contaminants.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water,
			Appropriate waste disposal	Normal	LW	2	5	N	10	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
			Emissions from plant/machinery	Normal	A	2	2	N	4	Environmental Protection Act 1990 Part III, Air Quality (Scotland) Amendment Regulations 2002		Turn off vehicles when not in use, no excessive engine idling, no unnecessary revving of engines	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices , LOG-ENV-T&T-001 Transport & Travel: Reducing Our Carbon Footprint. A Review
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
	6.24	Removal/replacement of steelwork	Potential for contaminants to fall from bridge into watercourse during removal process	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Use netting or alternative material in order to catch falling contaminants.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water,
			Poential for noise/vibration to disturb nearby population and wildlife	Normal	S	2	3	N	6	Environmental Protection Act 1990, Control of Pollution Act 1974, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works.	Fleet and Plant inspection sheets (FP-WKSP-Inspection-FO), ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management

	6.25	Cleaning of expansion joints	Potential for residue to enter/contaminate watercourse	Abnormal	W	2	5	N	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Use netting or alternative material in order to catch falling contaminants.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices, ENVT-PPG-GD-06, ENVT-PolicyStatement-PO-01, ENVT-PPG-GD-05 Works and Maintenance in or Near Water,
			Appropriate waste disposal	Normal	LW	3	5	Y	15	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Duty of Care for all waste types to be followed, recycling wherever possible	ENVT-Waste-PR01 Waste Management
Bridgework	7.01	General works	Use of finite resources	Normal	AL	4	2	N	8			Where ever possible, sustainable sourced material will be used. Keep resource use to a minimum	ENVT-PolicyStatement-PO-01
	7.02		Requirement for permit to work on or near a watercourse	Normal	W	4	5	Y	20	Water Environment (Controlled Activities) Regulations 2011		Permission to work on/near rivers must be gained from SEPA. Or general binding rules (if applicable) must be followed.	ENVT-EnvtAssess-PR-01 Environmental Assessment Planning and Design; Environmental Scoping Assessment (ENVT-EnvtAssess-PL-01), ENVT-NaturalBuilt-GD-03 Works near Water Courses
	7.03		Nuisance/disturbance in terms of noise/vibration & dust from plant	Normal/ abnormal	SA	2	3	N	6	Environmental Protection Act 1990, Air Quality (Scotland) Amendment Regulations 2002, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance, appropriate timing of works, dust suppression utilised on site	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
	7.04	Impact on natural environment	Disturbance from works on habitats	Normal/ abnormal	WL	3	3	N	9	Water Environment (Controlled Activities) Regulations 2011, Environmental Protection Act 1990, The Conservation (Natural Habitats, &c.) Regulations 1994		Consult relevant parties (SEPA, Marine Scotland, SNH), obtain relevant licence (Marine licence, CAR licence etc.). Ensure method statements in place to prevent material falling into water.	ENVT-NaturalBuilt-GD-03 Works near Water Courses, ENVT-NaturalBuilt-GD-09 Protected species and designated sites
	7.05	Impact on historic bridges	Potential damage	Abnormal	SL	3	3	N	9	Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997		Specific method statement and risk assessment to be followed for bridge works, site controls to be identified and implemented. Consult with Historic Scotland and Local Authority to ensure works on historic structures are compliant and acceptable.	ENVT-EnvtAssess-PR-01 Environmental Assessment Planning and Design, ENVT-NaturalBuilt-GD-05 Listed Buildings SAMs and Conservation Areas, ENVT-NaturalBuilt-Pr-01 Natural and Built Heritage Management
	7.06	Production of debris and waste arising's	Transportation / disposal of waste	Normal	ALW	4	5	Y	20	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004,		Duty of Care for waste to be followed	ENVT-Waste-PR01 Waste Management
Construction, repairs of or removal of brickwork, stonework or concrete, including roadways, pavements & kerbs	8.01	Removal of debris and site arising's from work activities	Nuisance/disturbance in terms of dust and noise/vibration	Normal/ abnormal	SA	2	3	N	6	Environmental Protection Act 1990, The Conservation (Natural Habitats, &c.) Regulations 1994		Use low noise decibel plant, use backfill material of correct moisture content, use water damping to keep dust levels low. Work during off-peak times where possible, ehicles well maintained, noise kept to a minimum, use of low-noise plant, local authority and residents informed of works, minimise disturbance to protected and breeding species of wildlife, toolbox talks in relation to wildlife susceptible to disturbance.	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
	8.02		Waste disposal	Normal	L	5	5	Y	25	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004,		Duty of Care to be followed	ENVT-Waste-PR01 Waste Management
	8.03	Transport of materials	Air pollution from emissions	Normal/ abnormal	A	2	3	N	6	Environmental Protection Act 1990, Air Quality (Scotland) Amendment Regulations 2002, Road Traffic (Vehicle Emissions Scotland) Regulations 2003		Turn off vehicles when not in use, no excessive engine idling, no unnecessary revving of engines	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices
	8.04	Placing of concrete, kerbing, bedding, pointing etc.	Contamination of surface water from waste or washing of equipment	Abnormal	W	1	5	Y	5	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Do not wash equipment on site or where run off can contaminate land or water courses, spill kits on site and trained operatives.	ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices: PPG1, ENVT-PPG-GD-05 Works and Maintenance in or Near Water
	8.05		Use of finite resources	Normal	LA	4	2	N	8			Keep resource use to a minimum and source sustainably	ENVT-PolicyStatement-PO-01
	8.06	Removal/disposal of vegetation	Disturbance of wild animals	Normal	L	2	3	Y	6	Wildlife and Countryside Act 1981, Environmental Protection Act 1990		Bird surveys to be carried out during the breeding season March and September (inclusive), surveys for other protected species	ENVT-NaturalBuilt-GD-09 Protected Species and Designated Areas
	8.07		Invasive species	Normal	LW	4	5	Y	20	Weeds Act 1959, Wildlife and Countryside Act 1981		Protocols to be followed to ensure invasive species are not spread, and contained.	ENVT-NaturalBuilt-GD-04 Invasive non-native species
	8.08		Waste disposal	Normal	L	5	5	Y	25	Waste Regulations 2011; Food & Environment Protection Act 1985 (Control of Pesticides Regulations 1986, as amended)		Duty of Care to be followed.	ENVT-Waste-PR01 Waste Management

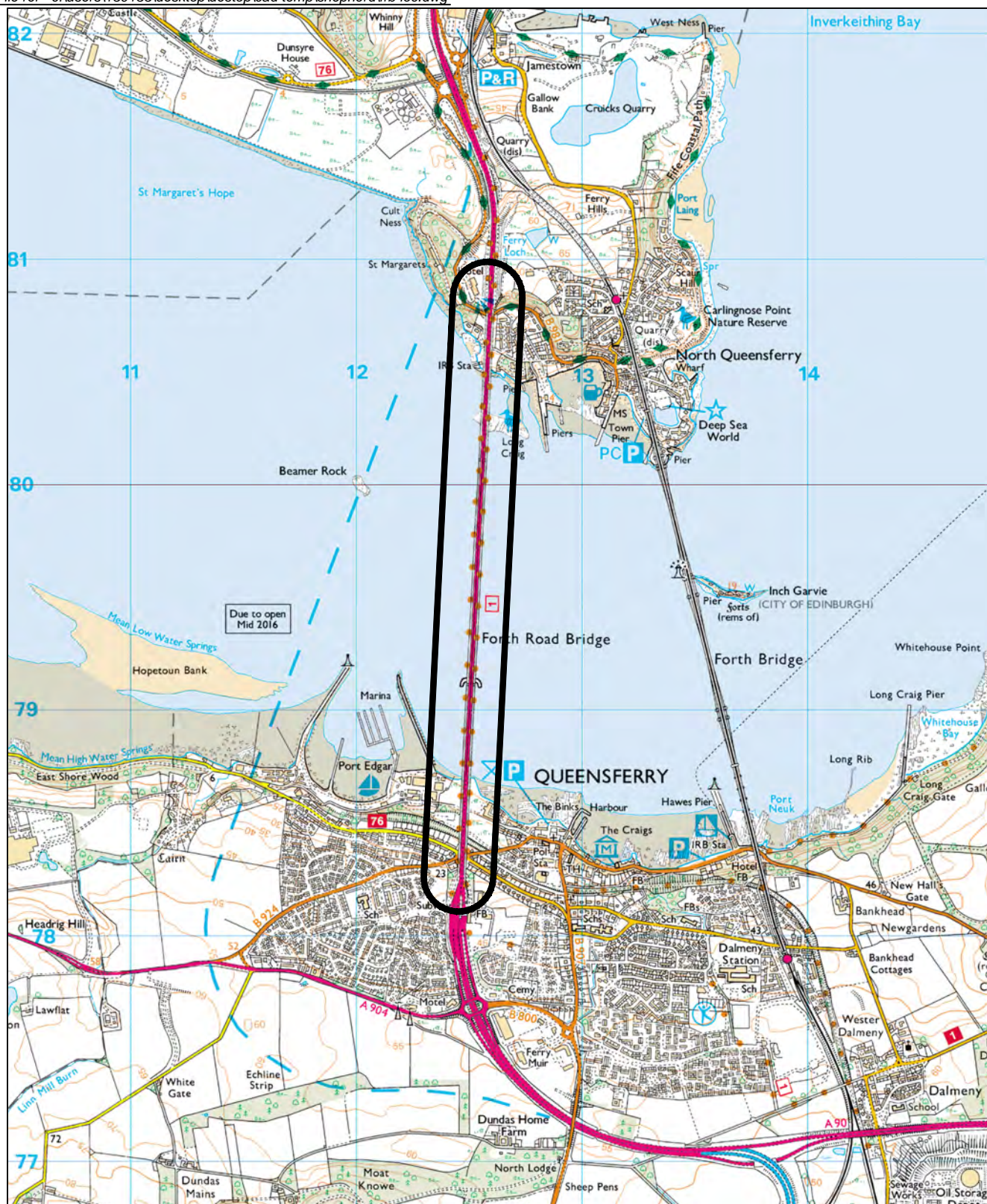
Winter Maintenance	9.01	Spreading of salt and ploughing	Escape of salt to land or water, increasing salinity	Normal/ abnormal/ emergency	LW	3	5	Y	15	Environmental Protection Act 1990		Salt to be spread on designated routes; No unnecessary salt spreading, spreading to be kept to road/pavement surface. Minimise salt fall on verges	ENVT-PPG-GD-01 Prevention of pollution
	9.02		Air pollution from vehicle emissions		A	3	3	N	9	Road Traffic (Vehicle Emissions Scotland) Regulations 2003, Air Quality (Scotland) Amendment Regulations 2002		Vehicles well maintained, turned off when not in use or idling.	ENVT-PolicyStatement-PO-01
	9.03		Poential for noise/vibration to disturb nearby population and wildlife		SA	2	3	N	6	Environmental Protection Act 1990, The Conservation (Natural Habitats, &c.) Regulations 1994		Vehicles well maintained, noise kept to a minimum	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration
	9.04		Excessive use of salt		LW	3	3	N	9			Vehicles regularly serviced and maintained. Staff training	PLC-ENV-PPG-10 Highways Depots, ENVT-PPG-GD-01 Understanding Your Environmental Responsibilities - Good Environmental Practices
Potential Emergency Situations	10.01	Fire run-off	Pollution potential	Abnormal/ emergency	ALW	4	3	Y	12	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Management procedure in place covering fire. Where practicable, ensure measures are in place to prevent pollution to water from fire run-off.	ENVT-PPG-GD-18 Managing Fires and Major Spillages, HS-FireHot Works-PR-01 Fire and Hot Works Procedure
	10.02	Spill of fuel or chemical on the network	Pollution of surface water drainage, controlled waters or land	Abnormal/ emergency	WL	2	5	Y	10	Environmental Protection Act 1990, Water Environment (Controlled Activities) Regulations 2011		Follow spill response procedure and prevent pollution wherever possible. Ensure waste is disposed of correctly, including as the appropriate hazardous material if applicable	ENVT-PPG-GD-21 Pollution Incident Response Planning, ENV-Emergency-PR-01 Emergency PreparednessENVT-Waste-PR-01 Waste Management
	10.03		Potential harm to public	Abnormal/ emergency	SA	2	5	N	10			Follow spill response procedure. Liaise with SEPA and public health bodies in the event of an emergency. Report incident on AIRSWEB	ENVT-PPG-GD-18 Managing fires and major spillages, ENVT-PPG-GD-21 Pollution Incident Response Planning, ENV-Emergency-PR-01 Emergency Preparedness, HS-REPORT INCIDENT -002 Reporting GSI's, Incidents, Close Calls/Near Misses and Contact by Regulatory Authorities
	10.04		Disturbance due to evacuation of homes and businesses	Abnormal/ emergency	SA	2	5	N	10			Follow spill response procedure. Liaise with SEPA and public health bodies in the event of an emergency, report incident on AIRSWEB	ENVT-PPG-GD-18 Managing fires and major spillages, ENVT-PPG-GD-21 Pollution Incident Response Planning, ENV-Emergency-PR-01 Emergency Preparedness, HS-REPORT INCIDENT -002 Reporting GSI's, Incidents, Close Calls/Near Misses and Contact by Regulatory Authorities
	10.05		Disposal of waste as part of emergency response	Emergency	WL	1	5	Y	5	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004		Liquid spillages as a result of emergency response to be reported to emergency services for clear up and disposal.	ENVT-Waste-PR01 Waste Management
	10.06	Accident on the network	Disposal of accident debris	Abnormal/ emergency	WL	4	5	Y	20	Waste (Scotland) Regulations (2011), Special Waste Amendment (Scotland) Regulations 2004,		Duty of Care to be followed as applicable	ENVT-Waste-PR01 Waste Management
	10.07		Disruption due to temporary road closures	Abnormal/ emergency	S	1	1	N	1			Liaise with emergency services and LA in the event of an accident	ENVT-PPG-GD-21 Pollution Incident Response Planning, ENV-Emergency-PR-01 Emergency Preparedness
	10.08	Temporary repairs to road signs	Nuisance/disturbance in terms of noise/vibration and dust from plant	Normal/ abnormal/ emergency	SA	2	4	N	8	Environmental Protection Act 1990, The Conservation (Natural Habitats, &c.) Regulations 1994		Use low noise decibel plant, use backfill material of correct moisture content, use water damping to keep dust levels low.	ENVT-PPG-GD-33 Prevention of Pollution: Noise and Vibration

APPENDIX C – Drawings

Contents

- 15/FB/1203/008 Location Plan

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Rev	Revision details	Chkd	Appd	Date
Drawn: .	Preliminary			
Design: .	For comment			
Chkd: .	For tender			
Appd: .	For construction			
Date: .	As constructed			
	Other			

Project Name

Forth Road Bridge

Drawing Title

Location Plan

Original Drg Size : A4

Dimensions : -

Scale : As Shown

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Client



Drawing No

Rev

APPENDIX D – Purchase Order

PURCHASE ORDER

Amey Highways Ltd,
The Sherard Building,
Edmund Halley Road,
Oxford,
OX4 4DQ



	Information
Scottish Government Treasury & Banking Section Mail Point 5 3a North Victoria Quay Edinburgh EH6 6QQ	PO Number 4701001881 PO Date 20.05.2015 Vendor/C.Code 127380 / 5650 Curr/Plant-Loc GBP / 5653-0001 Payment Terms 30 days from invoice date

--

<u>Deliver To:</u>	<u>Invoice To:</u>	<u>Enquiries To(Buyer):</u>
Amey Highways Ltd FAO GRAEME SHEPHERD PRECISION HOUSE EUROCENTRAL MOTHERWELL ML1 4UR	Amey Highways Ltd The Sherard Building Edmund Halley Road Oxford Oxfordshire OX4 4DQ Tel: 01865 719 700 Fax: 0845 365 1389	For any enquiries please contact: Grace McNamara Tel: 01698 730236 Fax:
** Please quote purchase order number on all correspondence **		

Item Line	Item Code	Description	Quantity	Net Price	Unit	Net Amount	Delivery Due
		SUPPLY OF MARINE LICENSE FOR CONSTRUCTION WORKS WITHIN MARINE ENVIRONMENT RELATING TO FORTH ROAD BRIDGE					
		AMEY CONTACT IS GRAEME SHEPHERD - TEL: 01698 730338					
0010		MARINE LICENSE - FORTH ROAD BRIDGE	1.00	21,635.00	EA	21,635.00	20/05/15
					Total	21,635.00	
					Ex.VAT		

INSTRUCTIONS TO VENDOR:

This order together with the Amey Standard Terms and Conditions of Purchase (together with other terms and conditions expressly agreed in writing between the Vendor and the Purchaser) constitute the contract between them and override any other conditions or pre-printed standard terms which the Vendor may purport to apply, whether or not expressly contained or referred to in the Vendors offer, acceptance, acknowledgment or delivery. Despatch of the articles, materials, goods or services to be supplied under this order shall be deemed to be conclusive evidence of acceptance of the Amey Standard Terms and Conditions of Purchase.

SIGNATURE _____ DATE _____