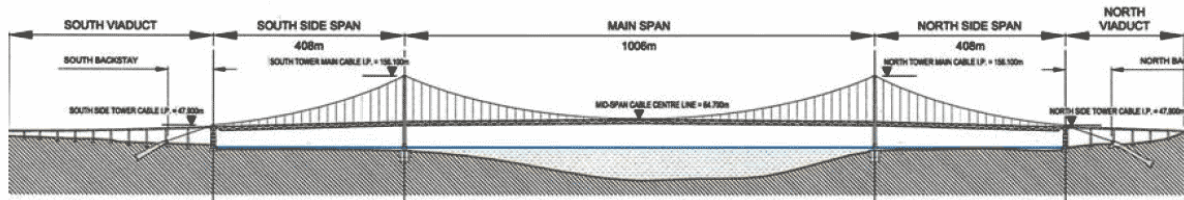


## Programme of Works

### 4.1. Schemes to be Undertaken on the Forth Road Bridge During April – September 2021

Below is a breakdown of the schemes currently identified in the works programme for the Forth Road Bridge within the proposed extension period. All schemes have been provided with an estimate of the construction period and value of the works to be carried out within the proposed extension period, along with a brief outline description of the works, outline method statement and proposed mitigation measures associated with the protection of the Marine Environment.

The first scheme described (Main Bridge Expansion Joint Replacement) is a 'live' so-called works contract where BEAR Scotland act as Engineer on behalf of Transport Scotland who are the Client. All other schemes described are procured and managed directly by BEAR Scotland.



<b>Main Bridge Expansion Joint Replacement</b> (Includes elements of work within 400m of Long Craig Island)	
Construction Period:	April 2021 – September 2021
Construction Value:	£2 million
Location on Structure:	Northbound Carriageway – South Side Tower, South Main Tower, North Main Tower, North Side Tower
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 (and original) roller shutter joints. These works were procured as a works contract. Southbound joint replacements were completed in phase 1 in 2020. The joints in the northbound carriageway will be replaced in phase 2 commencing in April 2021 to ensure that FRB is available for use of both carriageways as a resilience measure in time for Winter 2021/22. Phase 2 cannot commence any earlier due to a corresponding resilience requirement to ensure that FRB is similarly available for use of both carriageways this Winter.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Full traffic management closure of Northbound carriageway</li> <li>2. Install temporary works including boarding and sheeting of access platforms</li> <li>3. Crane out existing steel roller joints and remove for disposal</li> <li>4. Removal of existing bridge expansion joint steelwork</li> <li>5. Installation of new bridge expansion joint steelwork</li> <li>6. Crane in new steel roller joints and installation of new anti-slip surfacing</li> <li>7. Repeat as necessary at each joint location</li> </ol>

Proposed Mitigations:	<ul style="list-style-type: none"> <li>• ECoW to periodically monitor the site and working practices – works to be halted if breaches of approved method statements or best practice occur</li> <li>• Observation of noise monitoring equipment installed at the base of the north main and side towers – activities to be halted if noise limits are reached</li> <li>• Observation of nesting Terns to be undertaken periodically throughout nesting season and numbers recorded</li> <li>• Access platforms shall be boarded, sheeted and netting installed as necessary to prevent loss of material</li> <li>• Tool tethers to be used where there is potential of dropping from the works area or access platform</li> </ul>
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### **Suspended Span Under Deck Access (SSUDA) Phases 6 & 7**

(All works located in excess of 400m from Long Craig Island)

Construction Period:	January 2021 – November 2021
Construction Value:	£2.25 million
Location on Structure:	Centre Main Span
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. The under-deck access platforms and temporary staging boards have come to the end of their theoretical design life and will be replaced in phases. Phases 6 and 7 will be located on the main span and will be undertaken consecutively.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Installation of temporary access platforms</li> <li>2. Remove existing walkways and dispose of in a suitably licensed facility</li> <li>3. Install new walkways from temporary access platform</li> <li>4. Remove access platforms</li> </ol>
Proposed Mitigations:	<ul style="list-style-type: none"> <li>• Tool tethers to be used during installation of temporary access platforms and permanent walkways</li> <li>• Access platforms to be boarded and debris netting installed to prevent loss of materials during the removal and installation of platforms</li> <li>• Notice to Mariners &amp; consultation with ports to prevent private vessels from sailing beneath the works area</li> </ul>

### **Side Tower Lateral Thrust Bearing Refurbishment**

(All works located in excess of 400m from Long Craig Island)

Construction Period:	July 2021 – September 2021
Construction Value:	£0.75 million
Location on Structure:	North and South Side Towers
Description of the Works:	Strengthening works to improve the transverse load path for the lateral thrust bearings at the north and south side towers of the Forth Road Bridge. Replacement of the preloaded bars, a key component of the lateral thrust bearing, will also be carried out as part of this work and an additional bearing plate installed on the inside face of the Side Tower.

Outline Method Statement:	<p><b>Replacement of existing prestressed bars:</b></p> <ol style="list-style-type: none"> <li>1. Install temporary jacking frame</li> <li>2. Insert additional bearing plate behind existing internal bearing plate</li> <li>3. Stress bars against bearing plates, on at a time</li> <li>4. Remove temporary jacking frame</li> </ol> <p><b>Steel Reaction Block:</b></p> <ol style="list-style-type: none"> <li>1. Prepare external tower face to receive reaction block</li> <li>2. Erect temporary structure to support internal spreader plates</li> <li>3. Prepare internal tower face to receive internal spreader plate</li> <li>4. Raise internal bearing plates to correct position</li> <li>5. Lower external reaction blocks from roadway level</li> <li>6. Install Macalloy bars and stress to installation loads</li> <li>7. Install new bearing element</li> <li>8. Remove temporary support structures</li> </ol>
Proposed Mitigations:	<ul style="list-style-type: none"> <li>• Tool tethers to be used during installation of temporary access platforms and jacking frames</li> <li>• Access platforms to be sheeted and netted as appropriate to prevent loss of materials from the works area</li> <li>• Works at the north side tower to be programmed to be completed outside of the Tern breeding season</li> </ul>
<p><b>Hanger Painting</b>  (These works are weather dependent and as such can only be undertaken in the period April to September; whilst the work-front will commence within 400m of Long Craig Island, it will move progressively away and out-with the 400m zone)</p>	
Construction Period:	April 2021 – September 2021
Construction Value:	£ 0.15 million
Location on Structure:	Main Span
Description of the Works:	<p>The main span hanger cables are spiral strands and made up of 7 cables, each consisting of 19 wires. The steel hanger cables require to be painted periodically to protect them from corrosion and deterioration and a continuous system of maintenance work is ongoing. This comprises of washing the hanger cables with white spirit to prepare them and then applying the new paint system by hand. High hangers are accessed using a suspended cradle system and lower hangers are accessed using a MEWP.</p>
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Access the hangers using suspended cradle system secured by the riggers to the main cable and top chord or MEWP.</li> <li>2. Cradle / MEWP to be sheeted with drip screens in place</li> <li>3. Wires to be washed / degreased prior to paint application using white spirit</li> <li>4. Hangers painted from top to bottom by hand</li> <li>5. Remove cradle from hanger and secure upon completion</li> </ol>
Proposed Mitigations:	<ul style="list-style-type: none"> <li>• Cradles and MEWP will be sheeted and have drip screens in place to prevent against loss of paint</li> <li>• Painting will not be undertaken during high winds for the safety of operatives and to prevent loss of paint from the hangers during the drying period</li> </ul>

**Additional Suspended Span Gantry**

(All works located in excess of 400m from Long Craig Island)

Construction Period:	July 2021 – September 2021
Construction Value:	£0.75 million
Location on Structure:	South Side Span
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"><li>1. Fabrication and manufacture of gantry components off site</li><li>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 manoeuvre the gantry beneath the structure for lifting</li><li>3. Lifting of the gantry on to the bridge using mobile cranes positioned on both sides of the carriageway</li><li>4. Connection of new gantry to the existing runway beams and removal of lifting equipment</li><li>5. Removal of barge/pontoon from waterway.</li></ol>
Proposed Mitigations:	<ul style="list-style-type: none"><li>• Notice to Mariners &amp; consultation with ports to prevent private vessels from sailing within the works area</li><li>• Tool tethers to be used during installation of the gantries to prevent loss of equipment or materials from the work site</li></ul>

**Temporary Hanger Trial**

(All works located in excess of 400m from Long Craig Island)

Construction Period:	July 2021 – September 2021
Construction Value:	£0.1 million
Location on Structure:	Main Span
Description of the Works:	In the event of hanger failure due to vehicular collision and/or defective strands etc. It is imperative that there is an emergency working methodology for hanger replacement. BEAR Scotland intend to check the equipment and access required for replacing low and high hangers is practical and fit for purpose by undertaking a trial at two locations on the bridge.
Outline Method Statement:	<ol style="list-style-type: none"><li>1. Erection of access platform</li><li>2. Temporary cable bands lifted into position using main cable hand strand and secured to top chord</li><li>3. Temporary cable bands installed onto main cable</li><li>4. De-tension existing hanger</li><li>5. Re-tension existing hanger</li><li>6. Removal of temporary cable bands</li></ol>

	7. Demobilisation of access equipment
Proposed Mitigations:	<ul style="list-style-type: none"> <li>• Notice to Mariners &amp; consultation with ports to prevent private vessels from sailing below the works area</li> <li>• Tool tethers to be used during installation of the access platforms and installation of cable bands to prevent loss of equipment or materials from the work site</li> </ul>
<b>Footpath Elastomeric Pads Replacement</b> (Work restricted to areas in excess of 400m from Long Craig Island)	
Construction Period:	April 2021 – September 2021
Construction Value:	£0.15 million
Location on Structure:	West Footpath
Description of the Works:	Inspection of the elastomeric bearing pads supporting the footpath deck panels has identified that the pads have become cracked and distorted and require replacement. This scheme will involve the repetitive jacking of each footpath panel, removal of the existing pad and installation of the new elastomerics before returning the deck panel to its original position.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Install temporary access and jacking systems beneath the footpath</li> <li>2. Jack up footpath panels</li> <li>3. Remove worn elastomeric pads and dispose of to a suitably licensed facility</li> <li>4. Install new elastomeric pads</li> <li>5. Lower footpath panel back into position</li> <li>6. Remove jacks and temporary access</li> <li>7. Repeat as necessary along the length of the west footpath</li> </ol>
Proposed Mitigations:	<ul style="list-style-type: none"> <li>• Notice to Mariners &amp; consultation with Forth Ports and Coastguard to prevent private vessels from sailing below the works area</li> <li>• Tool tethers to be used during installation of the access platforms and installation of elastomeric pads to prevent loss of equipment or materials from the work site</li> </ul>
<b>Footpath Resurfacing</b> (Work restricted to areas in excess of 400m from Long Craig Island)	
Construction Period:	April 2021 – September 2021
Construction Value:	£0.2 million
Location on Structure:	West Footpath – All Spans
Description of the Works:	Inspection of the footpath waterproofing membrane and surfacing has identified that they have come to the end of their usable life and require replacement. The works will involve removal of the existing waterproofing and surfacing, concrete / steel repairs as necessary and replacement of the waterproofing and surfacing materials.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Removal of the existing surfacing material using floor scraping machine</li> <li>2. Identify extent of concrete and steel repairs required</li> <li>3. Undertake concrete and steel repairs as necessary</li> </ol>

	4. Re-apply surfacing material to the footpaths
Proposed Mitigations:	<ul style="list-style-type: none"> <li>• Temporary boards and/or sheeting to be installed at the base of the pedestrian balustrades to prevent loss of material during removal of the existing surfacing, concrete repairs and re-application of surfacing materials</li> </ul>
<b>Suspended Span Access Trial</b> (All works located in excess of 400m from Long Craig Island)	
Construction Period:	April 2021 – September 2021
Construction Value:	£0.5 million
Location on Structure:	Main Span
Description of the Works:	Recent inspection of the suspended span elements of the bridge have identified that both strengthening and painting works are required to prevent further deterioration. It is anticipated that these works will be undertaken at the same time. A scheme has been developed to trial different moveable access systems to determine the most suitable system for use.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Installation of suspended access system within trial area</li> <li>2. Fully encapsulate the scaffold / access system using shrink wrap or similar</li> <li>3. Undertake trial to re-locate access system</li> <li>4. Removal of encapsulation and suspended platform</li> <li>5. Repeat as necessary for selected access systems</li> </ol>
Proposed Mitigations:	<ul style="list-style-type: none"> <li>• Tool tethers to be used during installation of temporary access platforms</li> <li>• Access platforms will be fully encapsulated upon construction</li> <li>• Notice to Mariners &amp; consultation with ports to prevent private vessels from sailing beneath the works area</li> <li>• Trial to be undertaken at a location well away from Long Craig Island</li> </ul>

## 4.2. Routine Maintenance Activities

In addition to the maintenance schemes to be taken forward on the Forth Road Bridge, there are a number of smaller routine maintenance activities which can be carried out on a regular basis. 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 examples of routine maintenance activities which may be carried out throughout the duration of the proposed extension along with a description of the proposed works. These works are typically reactive and vary in nature therefore it is not possible to provide an estimate construction value. These works may be required at any location on the structure and as such may by necessity need to take place within 400m of Long Craig Island at any time. However, environmental mitigation measures appropriate to the task, as outlined in the method statements, will be employed at all times.

This list is not exhaustive and there may be other low-risk routine maintenance activities carried out on the structure on a like-for-like basis. Any unidentified routine maintenance activities will be subject to the terms and conditions of the Forth Road Bridge Marine License.

<b>Use of Bridge Access Systems</b>	
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"> <li>• Hanger Access Cradles</li> <li>• Tower Access Platforms</li> <li>• Fixed underdeck access gantries (suspended span and viaducts)</li> <li>• Top Chord Access Platform</li> <li>• Main cable access gantries</li> </ul> <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"> <li>1. Transport of access platform on to bridge, either under temporary carriageway closure or by use of footway/cycle track areas</li> <li>2. Installation of rigging components and access platform in appropriate work location.</li> <li>3. Completion of inspection/work activity using access platform</li> <li>4. Removal and movement of access cradle to next work location of back to storage.</li> </ol>

<b>Weld Repairs</b>	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	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.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Provision of access to area of defective weld to be repaired</li> <li>2. Removal of paint system surrounding the defective weld, using chemical removal or grinding</li> <li>3. NDT testing of existing weld to mark out the extent of defective area to be removed.</li> <li>4. Cutting out of existing weld material and preparation of steel substrate before reinstatement of the weld</li> <li>5. NDT testing of new weld to ensure no defects are present</li> <li>6. Re-application of paint system over new welded area</li> <li>7. Removal of access system.</li> </ol>
<b>Bolt Replacement</b>	
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"> <li>1. Provision of access to area of bolt replacement</li> <li>2. Removal of damaged bolt and preparation of painted area locally around the existing bolt</li> <li>3. Installation of new bolt and tightened to manufacturers specification</li> <li>4. Re-application of protective paint system over the new bolt</li> <li>5. Removal of access system</li> </ol>
<b>Kingpost Replacement (Bottom Lateral Supports)</b>	
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 bridge's underdeck access gantries.



Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Riggers access the location of the failed kingpost using rope access techniques or via bridge underdeck access gantries</li> <li>2. The failed kingpost is removed using rope access methods</li> <li>3. Slings / chain blocks are slung round the cross girder and used to raise the cross bracing into position</li> <li>4. The new kingpost is lowered into position using rope access techniques, and secured in place via bolted connections</li> </ol>
<b>Pier Defences Painting</b>	
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"> <li>1. Provision of temporary suspended work platform, to provide full encapsulation to the work area</li> <li>2. Removal of existing paint system, by a method to be chosen through further investigation (chemical, grit blasting for example)</li> <li>3. Surface preparation of exposed steel members</li> <li>4. Application of new paint system as per manufacturers guidelines</li> <li>5. Removal of encapsulation and suspended platform when painting works are completed</li> </ol>
<b>Billet Repair (Half Joint Repairs)</b>	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	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.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Removal and replacement of existing under deck walkways</li> <li>2. Installation of supporting frames</li> <li>3. Removal of existing half joints</li> <li>4. Levelling of deck panels</li> <li>5. Installation of replacement joints assembly</li> </ol>

### Edge Trimmer Replacement / Strengthening

Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	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.
Outline Method Statement:	<ol style="list-style-type: none"><li>1. Ensure work area is clearly defined and lit and that Tarmac supervisors are aware of FRB area of work.</li><li>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.</li><li>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.</li><li>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.</li><li>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.</li><li>6. Ensure the affected area is clean and free from loose material, thoroughly moisten the surface but ensure no free water remains.</li><li>7. Once the deck repair rapid has been mixed immediately place in the area as required.</li><li>8. Finish the road surface with cold applied bituminous road repair.</li></ol>

### Upper Front Staging Installation (Underdeck Access Staging)

Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	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 aluminium 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.
Outline Method Statement:	<ol style="list-style-type: none"><li>1. Staging boards transported on to the bridge using a pickup van via the footway/cycle track area</li><li>2. Rope access riggers install hangers to the permanent line walkways on the bridge below deck level</li><li>3. Staging boards lowered below deck level using manual handling methods with board tethered to prevent objects falling beneath the bridge</li><li>4. Staging boards fitted into position supported on temporary hangers and fixed line walkways</li><li>5. Handrails and toe boards secured around the perimeter of the temporary staging</li><li>6. Once works are completed, staging boards are removed in reverse to the installation procedure outlined above.</li></ol>

<b>Removal of Lead Based Paint</b>	
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"> <li>1. Method for removal of paint system to be agreed (i.e. chemical removal / grit blasting etc.)</li> <li>2. Access to be provided to works area and full encapsulation of the work area to be provided.</li> <li>3. Paint removed (either from grit blasting or chemical removal) to be placed in reinforced bags and marked for disposal as special waste</li> <li>4. Upon completion of paint removal encapsulated area to be cleaned thoroughly of all contaminated material and disposed of as special waste.</li> <li>5. Encapsulation to be removed</li> </ol>
<b>Maintenance Painting</b>	
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"> <li>1. Provision of temporary suspended work platform, to provide full encapsulation to the work area</li> <li>2. Removal of existing paint system, by a method to be chosen through further investigation (chemical, grit blasting for example)</li> <li>3. Surface preparation of exposed steel members</li> <li>4. Application of new paint system as per manufacturers guidelines</li> <li>5. Removal of encapsulation and temporary access system</li> </ol>
<b>Grit Blasting</b>	
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"> <li>1. Installation of temporary access system and full encapsulation of the works area</li> <li>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.</li> <li>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</li> <li>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</li> <li>5. Removal of encapsulation and temporary access system</li> </ol>
<b>Chemical Removal of Paint System</b>	
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"> <li>1. Access system to be provided to works area</li> <li>2. Application of paste system and paper backing to area of paint to be removed.</li> <li>3. Paste to be left to cure as per manufacturers guidelines</li> <li>4. Once cured, remove paste by peeling backing paper, removing layers of existing paint system</li> <li>5. Steps to be repeated until sufficient paint layers have been removed.</li> <li>6. All materials to be placed in reinforced bags and disposed of as appropriate</li> </ol>
<b>Repair of Cathodic Protection Systems</b>	
Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	Cathodic protection is used on some of the reinforced concrete elements of the structure to protect the steel reinforcement from corrosion. Routine maintenance of the CP systems may be required and may involve replacement of faulty electrical equipment, replacement of sacrificial anodes, replacement of cabling and replacement of faulty cathodes or installation of new cathodes.
Outline Method Statement:	<ol style="list-style-type: none"> <li>1. Install access systems and debris netting if required</li> <li>2. Remove and replace faulty electrical equipment and cabling if applicable</li> <li>3. Minor breakout of concrete or drilling of concrete using hand tools to access faulty components</li> <li>4. Remove and replace faulty components</li> <li>5. Install new cabling if required</li> <li>6. Repairs using cementitious repair mortar</li> <li>7. Remove access systems</li> </ol>

## Replacement of SHM Sensors

Construction Period:	Routine Maintenance
Construction Value:	£ unknown
Description of the Works:	There are a number of sensors attached to various elements of the bridge as part of the ongoing structural health monitoring. Occasionally, these sensors will require maintenance or replacement due to a fault
Outline Method Statement:	<ol style="list-style-type: none"><li>1. Identify faulty sensors</li><li>2. Install access systems if required</li><li>3. Remove faulty sensor</li><li>4. Replace repaired sensor or install new sensor if required</li><li>5. Install new cabling if required</li><li>6. Remove access systems</li></ol>