National Asset Delivery
Technical Surveys and Testing

Works Information for 570135 A303 67.0 B3092 Underbridge – Safety Barrier Survey Rev 1

CONTENTS AMENDMENT SHEET

Amend. No.	Revision No.	Amendments	Initials	Date
0	0	Original version issued with tender	ET	21/2/20

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1 DESCRIPTION OF THE WORKS

1.1 Project objectives

1.1.1 The full deck re-waterproofing, re-surfacing and joint replacement works are proposed to A303 67.0 B3092 Underbridge. There is a steel type double sided Open Box Beam (OBB) VRS at the central reserve of the Section of A303 dual carriageway over the bridge. There are Expansion Joint Anchorages (E.J.A.) to the double sided OBB VRS at the transverse bridge expansion joint locations. The proposed refurbishment works will require the existing VRS at the central reserve to be temporarily dismantled and it will need to be reinstated after the completion of works.

1.1.2 The principle objective of this project is to undertake an VRS survey at the bridge and the crossover locations stated in drawing **HE570135-KIER-GEN-A303_MP67.0-DR-CB-0000 01** and provide subsequent report in accordance with the requirements detailed in the specification.

1.1.3 The specification that applies to the *works* is included in Section 6

1.2 Scope of works

1.2.1 The *works* to be provided under this contract are:

(1) To ensure the reinstatement of the barrier to the requirements by the Highways England, inspection and survey shall be carried on the central reserve VRS by an approved safety barrier specialist. The information to be collected from the VRS inspection shall include:

- Verifying the current the condition of the VRS over and near the bridge including the Expansion Joint Anchorages, and the VRS at the proposed crossover locations;
- Dimensional survey on the VRS to determine the dimensions of the components of double sided OBB VRS (incl the Expansion Joint Anchorages), the spacing of the posts etc. The set-back and the level of OBB shall also be verified onsite;
- Determining the depth of the plinth supporting the VRS over the bridge, the sizes & layout of the reinforcement, and whether plinth was anchored to the deck. If so, the anchorage details shall be recorded;
- Determining the sizes of the foundation of the VRS at the proposed crossover locations

(2) Inspection of central reserve details at the bridge location will require local break-out of the concrete plinth up to exposing the waterproofing (only the western half which carries the VRS). Survey Sketch **HE570135-KIER-VGN-A303_MP67.0-SK-CB-0100 01** shows

the indicative sizes and location of the concrete breakout in the central reserve. The Contractor (VRS) shall agree with the Employer on the exact sizes and location of the breakout prior to starting to dig. Ferroscan shall be carried out prior to concrete break to avoid damaging the reinforcing steel.

(3) The Contractor shall avoid damaging the waterproofing during the concrete breakout. The concrete breakout shall be fully reinstated with compatible concrete material and finish by the Contractor.

(4) Inspection of central reserve details at the proposed crossover locations will require local excavation of trial pits as shown in the Survey Sketches **HE570135-KIER-VGN-A303_MP67.0-SK-CB-0100 05 & 0100 06.** Exact locations of the trial pits need to be agreed on site with the Employer and they will subject to the ql - b1 survey.

1.3 Deliverables

1.3.1 The *Contractor* is required to produce the following deliverables:

(1) The dimensions of the VRS and its foundations, unexpected construction detailed, and defects and their locations shall be recorded on drawings with enough annotations. A factual report shall be submitted summarising the results of the VRS inspection including condition of the VRS. Photo evidences shall be provided for the inspection.

(2) The Contractor shall verify if the existing VRS was installed to the standard and the requirements by Highways England. If the existing VRS is found to be sub-standard, the Contractor shall also recommend on the most appreciate option/method of reinstating the VRS.

2 EXISTING INFORMATION

2.1.1 B3092 Underbridge carries the A303 over an unnamed road at marker post 67.0 ('ArcGIS' indicates the Umbridge is located between MP172.3 and MP172.4 instead). The structure is at Ordnance Survey Grid Reference 378138 / 130681.

2.1.2 C2 Stats enquiry confirmed that Virgin Media, INSTALCOM and BT ducts running in the verge of the A303 westbound. There are 33kV overhead cables cross the A303 at the proposed crossover locations.

2.1.3 There are linear drainage pipeworks with filter drain in the central reserve and verges of A303 carriageway on either end of the bridge. There are also linear drainage pipeworks with filter drain in the central reserve and verges of A303 carriageway at the two proposed crossover points.

2.1.4 The current speed limit of the A303 is 70MPH.

2.1.5 The As-built Drawing 208/21/B5/2 recorded the VRS post was at max.1200mm centres and its base plates were surface-mounted using 4no. M20 anchors. The as-built shows that the bottom side of concrete plinth at central reserve (only western half of central reserve which carries the VRS) was reinforced transversely using B785 steel mesh. It is also recorded in the as-built that the set-back of the VRS to the chainage line of the eastbound carriageway was 600mm and the level of the centreline of the OBB to the adjacent carriageway level was 610mm.

2.1.6 The Drawings listed below apply to this contract. Refer to the site information for details of existing site conditions including ground conditions, limitation on access, position of existing structures etc.

Drawing Number	Title	Revision / Date
HE570135-KIER-GEN-A303_MP67.0-DR-CB-000001	TSTC SURVEY LOCATION PLAN	C1
HE570135-KIER-VGN-A303_MP67.0-SK-CB-010001	TECHNICAL SURVEY PLAN	C1
HE570135-KIER-VGN-A303_MP67.0-SK-CB-010002	TECHNICAL SURVEYS - TRIAL HOLE CROSS SECTIONS	C1
HE570135-KIER-VGN-A303_MP67.0-SK-CB-010006	TECHNICAL SURVEY PLAN – TRIAL PITS AT SOUTH CROSSOVER LOCATION (MP 173/0 - 172/6)	C1
HE570135-KIER-VGN-A303_MP67.0-SK-CB-010007	TECHNICAL SURVEY PLAN – TRIAL PITS AT NORTH CROSSOVER LOCATION (MP 172/2 - 171/8)	C1
AS BUILT 208/21/B5/1	SITE PLAN	-

AS BUILT 208/21/B5/2	GENERAL ARRANGEMENT	2
AS BUILT 208/21/B5/6	DECK REINFORCEMENT	1

3 CONSTRAINTS ON HOW THE CONTRACTOR PROVIDES THE WORKS

3.1 General

3.1.1 The *Contractor* Provides the Works in such manner as to minimise the risk of damage or disturbance to or destruction of third party property.

3.1.2 The *Contractor* complies with the constraints and meets with the requirements outlined in Appendix 1.

3.1.3 The *Contractor* submits information detailing how the *Contractor* will provide the Works to the *Employer* prior to the *works* commencing. This information will include any lifting plans, risk assessments, method statements, the *Contractor's* staff training information and any other relevant Health and Safety requirements.

3.2 Working hours & site specific constraints

3.2.1 The *Contractor's* working hours for site works shall be between the hours of 2200 and 0600. Monday to Friday. The working hours will vary subject to traffic flows and weather conditions and the stated hours include the time for the traffic management to be set out and picked up.

3.2.2 All plant and equipment will be removed from site at the end of each shift.

3.3 Health, Safety and Environment & Risk Management

Health and Safety requirements

3.3.1 In Providing the Works the *Contractor* meets the requirements of Annex 2 of the supplementary constraints relation to health and safety duties.

3.3.2 The *Contractor* shall comply with the requirements of Highways England's safety passport scheme and ensure that all of his employees, and any of his subcontractor's, are registered in accordance with the implementation of the scheme. Details on the scheme can be found here: http://www.highwayssafetyhub.com/safety-passport.html

3.3.3 For details of the CDM duty holders, refer to the pre-construction information which is issued as part of the tender package.

3.3.4 Before commencing the construction phase of the *works*, the *Contractor* confirms to the *Employer* that adequate welfare facilities are in place. Where the facilities detailed in section 5 are not deemed adequate, the *Contractor* provides all necessary facilities to Provide the Works and to comply with the minimum requirements set out in HSE guidance document L153.

Environmental requirements

3.3.5 In Providing the Works the *Contractor* meets the requirements of Annex 2 of the supplementary constraints in relation to environmental duties.

Risk Management

3.3.6 The *Contractor* identifies, manages and mitigates risks in accordance with the principles of ISO31000.

3.3.7 The *Contractor* submits a risk register, which captures all risks associated with the delivery of the *works* including those identified by the *Employer*, with his tender and maintains it for the contract period.

4 REQUIREMENTS FOR THE PROGRAMME

4.1.1 The *Contractor* submits programme to the *Employer* with his tender.

4.1.2 The *Contractor* Provides the Works taking into account the following programme constraints:

(i) the *starting date* and *completion date* and any post site works, reporting and review period

(ii) The services and other things provided by *Employer* (see Section 5)

(iii) Further constraints on the sequence and timing that work that is to be undertaken will be discussed after award.

4.1.3 The programme and be in the form of an activity and time related bar chart produced as a result of a critical path analysis.

4.1.4 The programme must be provided in a PDF or MS Project or MS Excel format and cover the full contract period including post site activities. All activities should be clearly defined and named and the following shall be shown on the programme:

(i) the *starting date*, *completion date* & *Contractor's* planned completion
(ii) for each activity, the proposed resources (plant & labour) expected to deliver each activity should be shown on the programme
(iii) review periods for any reporting requirements
(iv) key dates for the Employer to provide 'services and other things'
(v) key dates for co-ordination with Others

4.1.5 The *Contractor* updates the programme every week. The *Contractor* submits an updated programme to the *Employer* upon request.

5 SERVICES AND OTHER THINGS PROVIDED BY THE *EMPLOYER*

5.1.1 The following temporary traffic management will be provided by the *Employer* to allow the *Contractor* to Provide the Works:

(1) Traffic management will comprise either lane closures of A303 carriageway or a full closure of the section of A303 between B3081 and B3092 Castle Street subject to any discussions with Dorset County Council (North Dorset)

5.1.2 The other things that will be provided by the *Employer* are as follows:

(1) The welfare facilities will be provided by the Principle Contractor.

(2) If full closure is required, a TTRO will be in place to allow the night closure of the A303 for the duration of the investigation.

6 SPECIFICATION FOR THE WORKS

6.1.1 The *Contractor* shall undertake the investigation works in accordance with the requirements of Special Inspection specified in the DMRB Volume 3 Section 1 Part 4 BD 63/17 ‘Inspection of Highway Structures’ published by Highways England.

6.1.2 The scope and the deliverables of the VRS survey is summarised in Sections 1.2 and 1.3 of this Works Information respectively.

6.1.3 The existing VRS at the central reserve shall be inspected in accordance with the requirements in TD27/05 ‘Cross-sections and Headrooms’ and TD19/06 ‘Requirement for Road Restraint Systems.

6.1.4 The double sided OBB, the expansion joint anchorages, the surface mounted post and its anchors shall be checked against Non-Proprietary Safety Barrier Systems (NPSBS Revision 1).

6.1.5 Up on completion of the investigation, the location of the concrete breakout shall be reinstated using compatible concrete repair material with a compressive strength of 30MPa and a concrete finish U1.

6.1.6 1No. Electronic copy of the report shall be provided from the Contractor. As a minimum, the reports shall include the following information:

- Introduction
- Background and reasons for the inspection
- Scope & Description of Inspection and Testing
- Results of Inspection and Testing
- Relevant drawings and plans
- Result interpretation/Discussion
- Recommendations
- Photographs