National Asset Delivery
Technical Surveys and Testing

Works Information for
614147 – A1033 Lighting Columns Non-Destructive Test (NDT)

CONTENTS AMENDMENT SHEET

Amend. No.	Revision No.	Amendments	Initials	Date
0	0	Original version issued with tender	LY	03/08/22

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LIST OF ANNEXES

1 DESCRIPTION OF THE WORKS

1.1 Project objectives

1.1.1 The principle objective of this project is non-destructive testing survey on A1033 at locations stated in drawings; 614147-HE-SGN-A1033-SU-CB-GA01-01, 614147-HE-SGN-A1033-SU-CB-GA02-01, 614147-HE-SGN-A1033-SU-CB-GA03-01, 614147-HE-SGN-A1033-SU-CB-GA04-01, 614147-HE-SGN-A1033-SU-CB-GA05-01, to assess the structural integrity of existing lighting columns and provide subsequent report in accordance with the requirements detailed in the specification.

1.1.2 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) Undertake Structural Stability – dynamic push & pull testing, Ultrasonic testing to Passively Safe columns and steel columns where it is not possible to perform the dynamic push & pull test.

1.3 Deliverable

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

(1) Full report detailing the structural stability of all lighting columns on MS Excel as specified in National Highways GG101 TS501/ Asset Management Toolkit: Minor Structures (ATOMS), not more than 10 days on completion of the survey.

2 EXISTING INFORMATION

2.1.1 Any lighting columns found/ or missing on site to be recorded accordingly.

2.1.2 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
GA01	Site Location Plan of columns to test – Sheet 1 of 5	01
GA02	Site Location Plan of columns to test – Sheet 2 of 5	01
GA03	Site Location Plan of columns to test – Sheet 3 of 5	01
GA04	Site Location Plan of columns to test – Sheet 4 of 5	01
GA05	Site Location Plan of columns to test – Sheet 5 of 5	01

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 20:00 to 06:00 Monday to Friday working only.

3.2.2 Lighting columns inspection and testing close to electricity overhead line – 400kV

3.2.3 N/A

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 in relation to health and safety duties.

3.3.2 When implemented, the *Contractor* shall comply with the requirements of National Highways' 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.

3.3.3 For details of the CDM duty holders, refer to the pre-construction information – A1033 Lighting Columns Non-Destructive Test.

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) Programme of works is subject to TM availability are as follows:

24th of October to 11th of November.

4.1.3 The programme should 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 should preferably be provided in either a PDF or MS Excel format and cover the full contract period including post site activities. Activities should be clearly defined and named and the programme should detail the following:

(i) dates and times associated with the project, including the *starting date*, *completion date* & *Contractor's* planned completion, and any other dates or times that will specifically impact the delivery of the project
(ii) activities associated with delivering the project

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:

- Lane 1 of 2, lane 2 of 2, rear of footway and RAB outer ring closure of the mainline carriageway depending upon the location, which shall incorporate adequate room for parking of vehicles and welfare facilities.
- Adequate safety zones as specified in TSM Chapter 8 is to be provided
- SDF contractor to provide the temporary traffic management

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

(1) Welfare facilities will be provided by the principle contractor.

6 SPECIFICATION FOR THE WORKS

6.1.1 The *Contractor* shall undertake the works in accordance with: GN22: Asset Management Toolkit: Minor Structures (AToMs)

6.1.2 The test system shall apply a static load accurately simulating the bending moments induced by wind and dead load forces to allow defects and flaws in both the foundations and critical areas of the column to be detected and shall be tested in accordance with the Institutional of Lighting Professionals GN22: Asset Management Toolkit, Minor Structures (AToMs).

6.1.3 The test system shall be valid for steel and aluminium columns.

6.1.4 The test system shall be capable of analysing the effect on the structural stability of the column caused by in situ attachments.

6.1.5 The test system shall be capable of analysing the effect on the structural stability of the column caused by proposed seasonal attachments such as hanging baskets, banners, CCTV cameras, festive decorations etc.

6.1.6 A pre-test survey and risk assessment shall be carried out to ensure disruption is minimised to highway users and operatives and Health & Safety issues are addressed.

6.1.7 The measurement procedure shall begin with a visual inspection to determine geometrical and geographical properties such as ground conditions, exposure, column type, base, shaft, diameters, wall thickness, bracket, lantern type, door size and position etc.

6.1.8 Information from the visual inspection shall be loaded into the testing software and the structural integrity of the column, foundation overturning moments, and maximum bending moments shall be calculated in accordance with BS EN 40.

6.1.9 An increasing force shall be applied to the column in a controlled manner until the test is load is achieved and the condition of the lighting column assessed from the variation in its deflection as the load is increased.

6.1.10 The force and column deflection/ reaction shall be carefully monitored and the test halted should ground movement / material defects be detected prior to the test load being reached.

6.1.11 Should the column be found to be in danger of imminent failure/ collapse or suffer catastrophic failure during testing during the test, the column shall be secured to safeguard operatives and members of the public.

6.1.12 Test results shall classify if a column is structurally sound, if ground movement was detected, if material defects were detected, and if any significant visual defects were observed together with recommended remedial action.

6.1.13 Testing shall be carried out by fully trained technicians/ operatives. Bidders shall provide details of technicians/ operatives and their qualifications with due regard to the testing equipment, testing procedures, health & safety, working on the highway etc.

6.1.14 Only Ultrasonic Testing to be performed Passively Safe Lighting Columns.