

**National Asset Delivery  
Technical Surveys and Testing**

**609248-P-01**

**AD14**

**CS 228 Skidding Resistance  
Detailed Site Investigations**

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**CONTENTS AMENDMENT SHEET**

Amend. No.	Revision No.	Amendments	Initials	Date
0	0	Original version issued with tender	LPM	23/03/20 21

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## 1 PURPOSE OF THE SERVICES

### 1.1 Project objectives

1.1.1 The principle objective of this project is to undertake detailed site investigations in accordance with Section 6 of CS 228 of the Design Manual for Roads and Bridges to support the development of the forward programme of pavement renewal schemes.

1.1.2 The specification that applies to the *services* is included in Section 6

### 1.2 Scope of services

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

General scope of the works to be provided	
Category	Survey Description
Pavement	Pavement visual conditions survey

### 1.3 Deliverables

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

- 1) Provide electronic records of the individual detailed site investigation reports in line with the template provided as Appendix B of CS 228 for each of the sites investigated.
- 2) Provide a schedule in XML format of all sites HAPMS chart section referenced, showing the key data items such as site ID and IL / deficiency / accidents / 'Site Investigation Outcome' (see below) / requirement for slippery road signs etc.
- 3) The 'Site Investigation Outcome' of the detailed investigations are to be recorded for each site under the column heading on the XML schedule, and is restricted to being one of four options only to be entered onto the HAPMS. The options are 'No maintenance', 'Maintain next year', 'Monitor', 'and 'Review the Investigatory Level'.
- 4) Provide an AutoCAD 2017 compatible drawing and shape file in ESRI format of the sites requiring slippery road warning signs.

## 2 EXISTING INFORMATION

- (1) Highways England AD14 network shape files
- (2) Highways England AD14 network chart plans (36 drawings showing the Area 14 chart network and HAPMS sections overlaid on an OS Mastermap background).

- (3) Excel record and shape files of 709 sites as exported from the CS228 Crash model

- 2.1.1 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
	None	

### 3 CONSTRAINTS ON HOW THE CONSULTANT PROVIDES THE SERVICES

#### 3.1 General

- 3.1.1 The *Consultant* Provides the Services in such manner as to minimise the risk of damage or disturbance to or destruction of third party property.
- 3.1.2 The *Consultant* complies with the constraints and meets with the requirements outlined in Appendix 1.
- 3.1.3 The *Consultant* submits information detailing how the *Consultant* will provide the Services to the *Client* prior to the services commencing. This information will include any lifting plans, risk assessments, method statements, the *Consultant's* staff training information and any other relevant Health and Safety requirements.

#### 3.2 Working hours & site specific constraints

- 3.2.1 The *Consultant's* working hours for site works shall be determined by the Contractor, in line with their policies and H&S governance for safe working, and HSE guidance.
- 3.2.2 There are no restriction working hours. The contractor is to review each location to determine safe and suitable programme considering location, access and peak/off-peak traffic flows. Traffic volume information is available on the Highways England Webtris information page <http://webtris.highwaysengland.co.uk/>
- 3.2.3 The survey programme has been developed in conjunction with the Client's construction delivery programme as to avoid loss of coverage due to planned / cyclic works. The order of survey, or dates maybe subject to change should the need arise due to delivery of the forward programme or incident/maintenance response.

#### 3.3 Health, Safety and Environment & Risk Management

### Health and Safety requirements

- 3.3.1 In Providing the Services the *Consultant* meets the requirements of Annex 2 of the supplementary constraints relation to health and safety duties.
- 3.3.2 The *Consultant* 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 Not used.
- 3.3.4 Before commencing the construction phase of the services, the *Consultant* confirms to the *Client* that adequate welfare facilities are in place. Where the facilities detailed in section 5 are not deemed adequate, the *Consultant* provides all necessary facilities to Provide the Services and to comply with the minimum requirements set out in HSE guidance document L153.

### Environmental requirements

- 3.3.5 In Providing the Services the *Consultant* meets the requirements of Annex 2 of the supplementary constraints in relation to environmental duties.

### Risk Management

- 3.3.6 The *Consultant* identifies, manages and mitigates risks in accordance with the principles of ISO31000.
- 3.3.7 The *Consultant* submits a risk register, which captures all risks associated with the delivery of the services including those identified by the *Client*, with his tender and maintains it for the contract period.

## **4 REQUIREMENTS FOR THE PROGRAMME**

- 4.1.1 The *Consultant* submits programme to the *Client* with his tender.
- 4.1.2 The *Consultant* Provides the Services 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 *Client* (see Section 5)
  - (iii) *The starting date of the site survey to be 6<sup>th</sup> April 2021.*
  - (iv) The individual site surveys are expected to be completed within 4 working weeks days from start date.
  - (v) The processed and digitised data and management system is to be provided within 2 working weeks days of the completion of site activity.
  - (vi) The survey contractor is expected to call in the start and end location of the survey for each day, by midday of the preceding day. An email should be sent to the Highways England survey coordinator [REDACTED] and the Network Occupancy management Team at [REDACTED]
  - (vii) The survey contractor shall make note of the Operational Control Centre telephone number for the reporting of defects/incidents whilst operating on the network.
  - (viii) Weather and other factors that may affect the quality and efficiency of the survey.
- 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* & *Consultant'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 *Consultant* should provide details of the proposed resources (plant, labour, subcontractors etc.) expected to deliver each activity. This information can either be shown on the programme itself or provided in an associated resource statement included in the Proposal for Providing the Services.
- 4.1.6 The *Consultant* updates the programme every week. The *Consultant* submits an updated programme to the *Client* upon request.



## **5 SERVICES AND OTHER THINGS PROVIDED BY THE *CLIENT***

5.1.1 The Client does not provide anything.

5.1.2 Not used

## **6 SPECIFICATION FOR THE *SERVICES***

6.1.1 The *Consultant* shall Provide the Services in accordance with Section 6 'Detailed Site Investigation and Prioritisation' of CS 228 Skidding Resistance of the Design Manual for Roads and Bridges.

- a. Skid resistance data shall be obtained with the correct intervals in accordance with CS 228.
- b. Greater priority shall be given to completing investigations for sites that are substantially below the IL or where the crash history indicates that there is a risk of wet skidding crashes occurring.
- c. As a result of the detailed site investigation, a clear recommendation shall be recorded of the actions to be taken (including if no immediate action is required). An example template of a site investigation form is given in Appendix B, CS 228.
- d. If the site investigation identifies any characteristic of the site or road-user behaviour that suggests other road safety engineering measures could be appropriate, then persons with relevant local experience, such as the person locally responsible for crash investigation and prevention, shall be notified.
- e. If the site investigation identifies requirements for additional routine highway maintenance, such as sweeping, renewal of markings etc. then persons with relevant local experience, such as the person locally responsible for routine maintenance shall be notified.
- f. The full carriageway width should be included in the investigation, that is all lanes of a dual carriageway and both directions of a single carriageway.
- g. All junction approaches within the site should also be investigated to determine whether the advance signing/alignment is appropriate or could be improved. The investigation should determine if the skid resistance is likely to be representative for the site.
- h. The results of the detailed site investigation shall be documented and retained together with the identity of the assessor and other parties consulted. The survey machine operator shall produce a survey coverage report detailing the network that was to be surveyed, lengths with missing or invalid data, and an explanation for the missing or invalid data.
- i. The data collected at the start of a detailed investigation shall include skid resistance, texture depth and the most recent three years of crash data available.
- j. For each site, the relevant data shall be collated to show the location of lengths with poor surface condition relative to the location of previous crashes and

features such as bends and junctions. This relevant data may be collated as strip maps, GIS mapping or spreadsheets.

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