

**National Asset Delivery
Technical Surveys and Testing**

**Works Information for 570124 A40
Hinders Lane EB MP181.7 Culvert
Principal Inspection**

CONTENTS AMENDMENT SHEET

Amend. No.	Revision No.	Amendments	Initials	Date
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LIST OF ANNEXES

Appendix 1 Supplementary Constraints

1 DESCRIPTION OF THE WORKS

1.1 Project objectives

1.1.1 The principle objective of this project is to undertake a Principal Inspection of the A40 eastbound culvert which shall comprise a close examination, within touching distance, of all accessible parts of the culvert and provide a 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 a Principal Inspection of the culvert with a view to providing information on the physical condition of all accessible parts of the structure. The findings of the Principal Inspection are to be presented in a Principal Inspection Report. Requirements for the Principal Inspection and the subsequent report are provided in Section 6.

1.3 Deliverables

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

- (1) Programme of works.
- (2) Risk Assessments and Method Statements.
- (3) Principal Inspection Report as described in section 6.1.8.

The output should be produced and submitted within 6 weeks of completion of all site activities.

2 EXISTING INFORMATION

2.1.1 Location

The culvert carries the A40 over an unnamed watercourse next to an old reservoir to the west of Huntley village near Hinders Lane at MP 181.7. Grid Reference: 370810; 219628. See Figure 1, below.

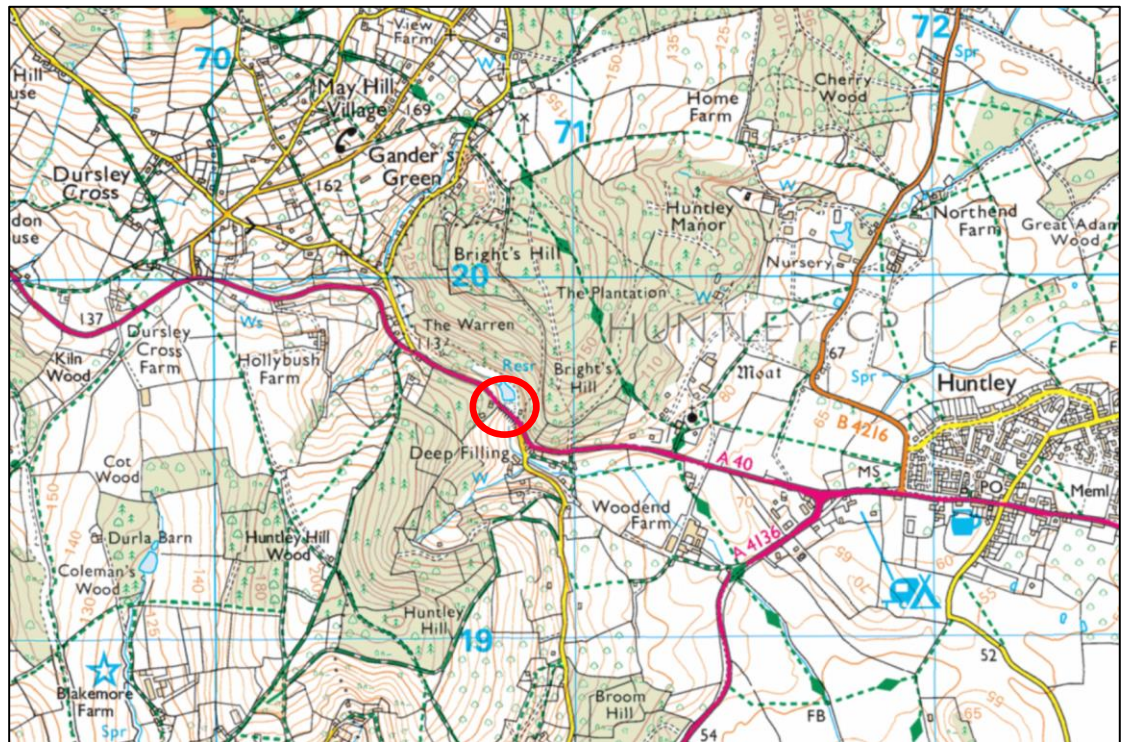


Figure 1: A40 Hinders Lane Culvert MP 181.70

2.1.2 The Drawings and previous Principal Inspection Report 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
HE570124L-KIER-HDG-A40_MP181.7-DR-CD-0000_01	A40 Hinders Lane EB MP 181.7 Culvert – Location Plan	P1
HE570124L-KIER-SMN-A40_MP181.7-DR-S-0001	A40 Hinders Lane EB MP 181.7 Culvert – Extent of Principal Inspection	P1
TOPO1250_A40-003-03495	C2 STATS Service Locations	-

Report Reference	Title	Revision / Date
1053-Hinders Lane-R-01	Principal Inspection Report Hinders Lane Culvert, A40	A Dated: 05/02/13

2.1.3 Photographs

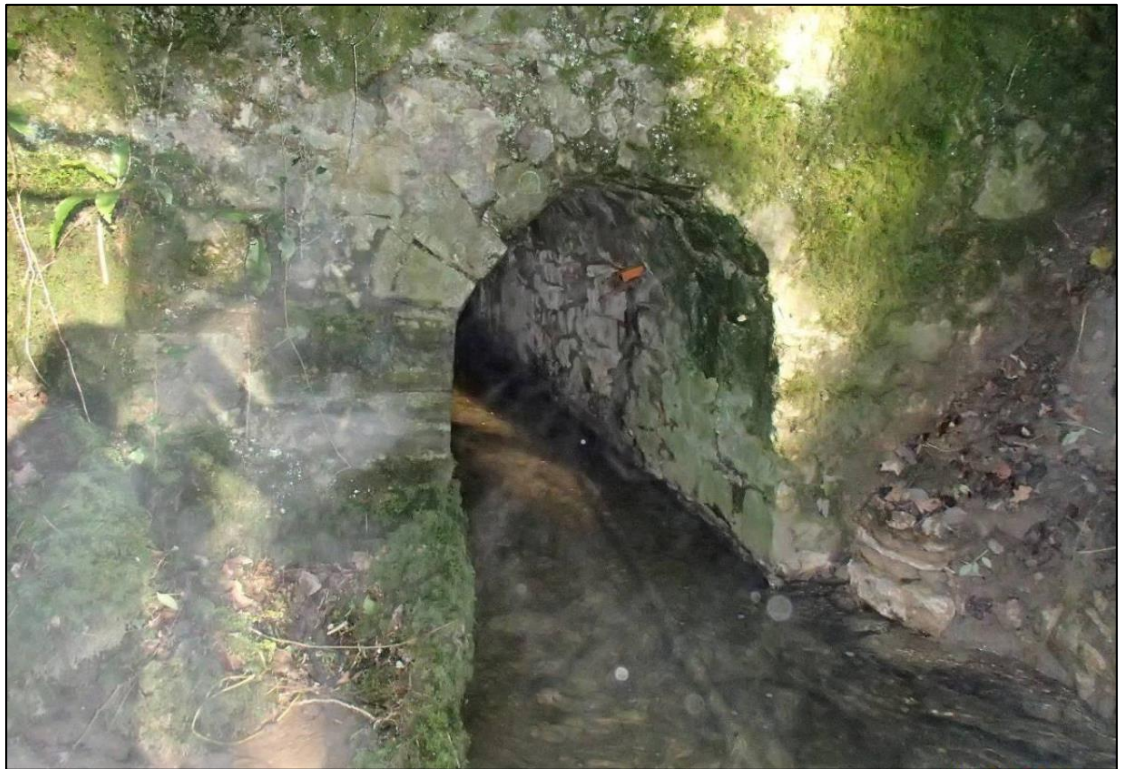


Figure 2: Elevation of the structure

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 during daytime working hours between the hours of 09:00 and 17:00, Monday to Friday.
- 3.2.2 The Contractor is to undertake a visual and tactile inspection of the visible areas of the structure, the inspection is to be carried out using confined space access techniques.
- 3.2.3 The Contractor is to provide personnel and equipment utilising operating procedures that incorporate relevant health and safety legislation to obtain safe confined space access operations.
- 3.2.4 Contractor to remain within the Highways Boundaries for the duration of the works, except where agreed with both the Employer and the land owner in advance, as per clause 3.1.3.
- 3.2.5 Agreement will be required from the landowner in advance, as assets are within third party land.

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 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.

- 3.3.3 For details of the CDM duty holders, refer to the pre-construction information which can be found here: included in 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) Completion of the Principal Inspection and subsequent Report submitted to Highways England in accordance with the requirements stated in Section 6.
 - (iv) The Principal Inspection Report should be produced and submitted within 6 weeks of completion of all site activities.
- 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
 - (iii) review periods for any reporting requirements
 - (iv) key dates for the Client 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*

The *Employer* does not provide anything.

FOR INFORMATION ONLY

6 SPECIFICATION FOR THE WORKS

6.1.1 The *Contractor* shall undertake the works as described in this section.

A Principal Inspection of the Hinders Lane Culvert which carries the A40 over an unnamed watercourse between Dursely Cross and Huntley is required. The Principal Inspection shall comprise a close examination, within touching distance, of all accessible parts of the structure with a view to providing information on the physical condition of all accessible parts of the culvert. The Principal Inspection shall be carried out in accordance with the requirements described in CS 450: Inspection of Highway Structures, along with the items listed below:

1. The Principal Inspection shall include adjacent earthworks and waterways where they could affect the behaviour or stability of the structure.
2. The Principal Inspection shall include removal of inspection covers and opening of hatches and enclosures to access hidden components.
3. The Principal Inspection shall utilise suitable inspection techniques including hammer tapping to detect loose masonry and to determine whether the masonry elements are solid or voided.

6.1.2 The Principal Inspection shall utilise suitable means of safe access and using confined space access techniques. The Contractor is to provide personnel and equipment in accordance with operating procedures that incorporate relevant health and safety legislation to obtain safe confined space access operations.

6.1.3 The Contractor can propose, for the agreement of the Client, the use of alternative means of access for areas of difficult or dangerous access.

6.1.4 The inspection of the masonry culvert shall include:

- (1) Nature and condition of the stonework including the location and extent of any spalling or areas of microcracking induced by high compressive stresses.
- (2) Thickness of the arch barrel
- (3) Thickness of the joints and depth of missing mortar
- (4) Condition of the mortar
- (5) Widths, lengths, position and number of cracks
- (6) Location of displaced stonework
- (7) Identification of arch ring separation
- (8) Deformation of the arch barrel from its original shape

- 6.1.5 The inspection of the headwall shall record the element geometry and evidence of defects and their extent, including:
- (1) Tilting, bulging or sagging
 - (2) Lateral movement relative to the arch barrel
 - (3) Weathering and lack of pointing
 - (4) Evidence of impact damage
 - (5) Cracking, splitting and spalling
 - (6) Loosening of coping stones
- 6.1.6 All accessible parts of buried structures, sub-structures and foundations shall be examined and any defects noted.
- 6.1.7 The exterior of all masonry components shall be inspected.
- 6.1.8 **Survey Deliverables**
- 1 No. electronic copy of the Principal Inspection Report shall be provided. The Principal Inspection Report shall include the condition of all of the elements inspected and as a minimum, the Principal Inspection Report shall include the following information:
- (1) The location, severity, extent and type of all defects on the structure, including detailed descriptions, photographs and sketches of the defects that clearly identify their location and illustrate the severity/ extent of damage;
 - (2) Any significant change (e.g. works carried out or deterioration) since the last Principal inspection;
 - (3) Any information relevant to the integrity and stability of the structure;
 - (4) The scope and timing of any remedial or other actions recommended to maintain the integrity and stability of the structure;
 - (5) The need for a follow up Special Inspection, additional investigations and/ or monitoring;
 - (6) A description of any testing that was undertaken, details of the information collected and an interpretation of the information;
 - (7) A list of visible elements or regions that have not been inspected;
 - (8) The Principal Inspection Report shall include a review of the completeness and accuracy of the inventory records. A statement confirming the records reviewed shall form part of the report. Any deficiencies in the records should be corrected during the Principal Inspection.