

# Cloddach Bridge

## Temporary Solutions

## Scope



Version	Detail	Prepared By & Date	Checked By & Date	Authorised For Issue By & Date
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## 1 Purpose of the Service

The purpose of this Service is to provide technical support on possible temporary solutions to Cloddach Bridge to allow it to be opened to support 3.5T vehicles only. The following are the key outputs from this scope:-

- Report setting out possible temporary solutions
- Approximate costs for each solution
- Advantages and Dis-advantages for each solution
- Recommendations

## 2 Description of the Service

Cloddach Bridge was built in 1905 with an estimated design-life of between 100 and 120 years, after which it would require significant refurbishment or replacement. This bridge is located on the C2E road and a traffic survey undertaken in 2020 showed the average number of vehicles crossing the bridge each day was less than 800. Figure 1 shows the site location. The Grid Reference for the centre of the site is NJ 21136 64788.

Principal Inspections were undertaken on the bridge in 1995, 1997 and 2019. In 2001 a weight restriction of 7.5 Tonnes was applied to the bridge and following the Principal Inspection and Structural Assessment undertaken in 2019, the allowable weight was reduced to 3 Tonnes.

A Special Inspection undertaken in February 2022 indicated significant deterioration and a load bearing capacity of less than 3 Tonnes. Based on this assessment Cloddach Bridge was temporarily closed to motor vehicles in the interest of public safety. The maximum length of diversion required because of this closure is 6 miles.

A Principal Inspection and Structural Assessment was undertaken mid-February 2022, with the Structural Analysis completed by the end of March. This independent Structural Assessment used more complex analysis techniques that provide more detail on the structural condition of the bridge.

The Service is to provide an assessment of a temporary solution to allow the bridge to be reopened to vehicular traffic. The assessment is to be based on the following criteria:-

- Anticipated life span greater than 10 years
- Cost less than £2m
- Minimum load capacity of 3.5t with FOS
- Load capacity of 7.5t with FOS
- Minimum width 2.4m
- N1 Parapet restraint

The Options to be considered are:-

1. Reduction in the width to allow running on in-beams only (or minor upgrades)
2. Repairs to existing structural elements
3. Installation of temporary bridge over existing using existing piers and abutments
4. Installation of temporary bridge using existing abutments only
5. Installation of temporary propping to support structure

As part of the review process, a meeting should be held with the relevant sections within Moray council to discuss what ancillary works will be required for options which have made it past screening. This meeting will be approximately 4 hours.

Task	Detail	Required by
Screening Report of Proposed Temporary Options.	Produce a Screening Report to determine which temporary repair solutions proposed meet the baseline criteria. There is no weighting to be applied. If the Option fails a Screening Question it is to be rejected. For each Option that is rejected the reason for its rejection is to be detailed in the report. The following are the screening questions to be used:- <ul style="list-style-type: none"> <li>• Likely design life of greater than 10 years</li> <li>• Provide minimum width of 2.4m</li> <li>• Initial cost estimate less than £2m</li> <li>• Load capacity 3.5t or greater</li> </ul>	27 <sup>th</sup> March 2023
Temporary Options Report	Produce an Options Assessment Report for the listed Options. The report must show how each Option performs against the assessment criteria. Each Option must have: <ul style="list-style-type: none"> <li>• an indicative cost, including whole life costing;</li> <li>• the anticipated servable life;</li> <li>• Advantages and Disadvantage; and</li> <li>• financial risks.</li> </ul> <p>The Report should include the do minimum and do nothing Options.</p> <p>The Report should identify the preferred option, based on value for money.</p>	28 <sup>th</sup> April 2023

Table 1: Scope to be undertaken

The *Consultant* delivers the *Service* in accordance with the framework information; the *work package conditions* NEC3 Professional Services Short Contract, April 2013 as amended by the Data to be applied to a *package order* and the individual Work Package Scope.

The *Consultant* acts as *Lead Consultant* liaising with all other members of the *Project Team* as directed by the *Client* through all stages appropriate to the appointment.

The *Client* has appointed Will Burnish as *Client's Agent* and *Client Project Manager* the *Consultant* liaises with relevant person as instructed by the *Client* and in accordance with clause Z38 "Working with Others" of the *work package conditions* NEC3 Professional Services Short Contract April 2013.

The *Consultant* ensures that all information and assistance is timeously provided to enable other members of the *Project Team* to provide the *Service* required of them by the *Client*.

The *Consultant* prepares all designs, specifications, schedules and calculations in accordance with the relevant standards and codes of practice for the relevant discipline.

The *Consultant* liaises with all external statutory authority parties and public utility bodies as necessary to obtain and ensure all consents are granted and are in place as required in relation to the agreed programme throughout the stages of the project. The *Consultant* advises the *Client* of all potential issues arising from the design development which effects the obtainment of such consents. The *Consultant* advises the *Client* of any anticipated changes in legislation known at the time of design development which may affect such consents.

### 3 Existing information

See Section 7

If there is existing information available on the site, including topographical survey, site investigation report and existing site Services, the *Consultant* takes full responsibility for developing this information as a basis for design proposals, verifying if the information is current and ensuring changes are updated. The *Client* makes no representation to the accuracy or completeness of any such information and it shall always be for the *Consultant* to satisfy themselves as to the accuracy or completeness of such information.

## **4 Specifications and Standards**

The list is not exhaustive and the *Consultant* must ensure that they apply all relevant standards and best practice:-

- Design Manual for Roads and Bridges
- Specification for Highway Works

The *Consultant* proposes and utilises suitably qualified personnel to deliver each Work Package. The *Consultant* has due regard to the *Client's* commitment to provide high quality service which give value for money. The *Consultant* gives particular attention to and is required to achieve a high standard of quality, achievable within budget, in every aspect of the Service including the design, function and operational standards, the capital, maintenance and running costs, the overall control and management of the works, compliance with the programmes, achieving cost targets and the effect on the environment.

The *Client* specifies the specific Service to be provided and the specific Scope for each Work Package at the time of issue of a Package Order. The *Consultant* carries out the Work Package in accordance with relevant technical standards including:

- British standards;
- EU standards;
- Statutory requirements;
- Relevant Client procedural standing orders and financial regulations;
- Good Industry Practice;
- Health and safety legislation;
- any *Client* policies or guidance relating to the work, and
- any other requirements specified by the *Client* in the Scope for each Work Package.

If the *Consultant* considers it necessary to depart from any technical standard, he notifies the *Client* of the proposed departure and the reasons for such departure.

The *Consultant* may be required to perform the Services while based:

- at the *Consultant's* offices,
- at the *Client* offices, or
- at a relevant site.

If Service is being provided while based at the *Client* offices, the *Consultant* and the *Consultant's* staff comply with all policies, procedures and instructions given to him by the *Client* in relation to access, conduct, health and safety and use of any facilities.

If Service is being provided at a relevant site, the *Consultant* and the *Consultant's* staff comply with all policies, procedures and instructions relevant to working at the site in relation to access, conduct, health and safety and use of any facilities. Prior to the commencement of the Service at a relevant site, the *Consultant* ensures that his staff receive adequate training in health and safety procedures and the use of the necessary personal safety equipment.

The *Consultant* may be required to provide site accommodation and/or welfare facilities for his staff working at a relevant site where these are not provided by the *Client* or Others.

The *Consultant* will be responsible for gaining any permissions or approvals required from others necessary to carry out the Service.

The *Consultant* complies with all legislative and statutory requirements relating to the type of Services undertaken in any Work Package.

Data and file transfer between the *Consultant* and the *Client* may be undertaken electronically, with the appropriate information and specific arrangements stated within the Scope for each particular Work Package.

All records, correspondence, data files, documents and drawings relating to specific Work Packages under the Framework Contract shall be archived to CD. All files must be verified before archiving.

## 5 Constraints on how the *Consultant* is to provide the Service

The following are the key constraints on how the project is to be delivered:-

- Initial Screen Report to be complete within 3 (Three) weeks of contact award
- Full Report issued within 8 (Eight) weeks on contact award

## 6 Requirements for the programme

A Programme for the works is to be issued within 2 (Two) weeks of contract award. The Programme must contain as a minimum the following key milestone:-

- Start of Contract
- Completion of Initial Assessment Memo
- Draft Issues of Initial Assessment Memo
- Issue of Final Initial Assessment Memo
- Completion of Options Report
- Draft Issues of Options Report
- Issue of Final Options Report

Programme is to be updated every 2(Two) weeks following 1<sup>st</sup> issue of the Programme.

The *Consultant* will be responsible for arranging regular meetings with the *Client* to review progress on each Work Package including progress against the Accepted Programme, a review of any risks, early warnings and compensation events and review of any cost estimates. These will normally be on a monthly basis, or such other period as agreed for a specific Work Package.

The Accepted Programme for a Work Package should be produced and maintained using Microsoft Project. The *Consultant* ensures that the Programme and status for each activity to be carried out under the Work Package is up to date prior to any meeting. The Programme shall detail the baseline programme as well as the current Accepted Programme, in order that progress against each activity and the completion date can be evaluated.

## 7 Information and other things provided by the *Client*

The following information will be provided as part of this Scope:-

- |  |                                   |
|--|-----------------------------------|
| 1. Cloddach Bridge Inspection Report           | - 27 Sep 1995                     |
| 2. Cloddach Bridge Assessment Calculations     | - 06 Feb 1996                     |
| 3. Cloddach Bridge Inspection Report           | - 17 July 1997                    |
| 4. Cloddach Bridge Assessment Calculations     | - 26 July 2000                    |
| 5. Cloddach Bridge Principal Inspection Report | - 26 Sep 2019                     |
| 6. Cloddach Bridge PI Defect Sketch (.dwg)     | - 26 Sep 2019                     |
| 7. Cloddach Bridge Load Review Calculations    | - 17 Oct 2019 (Check 11 Mar 2020) |
| 8. Cloddach Bridge Special Inspection Report   | - 28 Jan 2022                     |
| 9. Cloddach Bridge Inspection Report           | - Mar 2022                        |
| 10. Cloddach Bridge Assessment Calculations    | - Mar 2022                        |