

1 Introduction

1.1 Overview

1.1.1 This Environmental Impact Assessment (EIA) Report presents the findings of an EIA undertaken for the A985 Kincardine Bridge Refurbishment: Piled Viaduct Replacement scheme (hereafter referred to as the proposed scheme). The proposed scheme is required to maintain the long-term use of the Kincardine Bridge.

1.1.2 The following figures and appendices support this chapter and are cross referenced where relevant:

- Figure 1.1 (Site Location Overview);
- Figure 1.2 (Main Environmental Constraints);
- Figure 3.1 (The Proposed Scheme)
- Appendix A1.1 (Record of Determination (RoD));
- Appendix A1.2 (Notice of Determination); and
- Appendix A1.3 (Statement of Competency).

1.2 Site Location Overview

1.2.1 The proposed scheme is located at the southern end of the Kincardine Bridge within Falkirk Council area. The Kincardine Bridge crosses the Firth of Forth between Higgins Neuk in Falkirk Council area and the town of Kincardine in Fife Council area. The Kincardine Bridge is used to carry the A985 Kincardine – Rosyth Trunk Road (A985) over the Firth of Forth as illustrated on Image 1.1, via a two-lane single carriageway road. The A985 connects to the A876 at the Higgins Neuk Roundabout which lies to the south-west of the Kincardine Bridge. The A876 extends north from the Higgins Neuk Roundabout and crosses the Firth of Forth on the Clackmannanshire Bridge.



Image 1.1: A985 Kincardine Bridge Refurbishment: Piled Viaduct Replacement - Site Location and Context

©Google Maps, April 2020.

- 1.2.2 The proposed scheme is located partially within the area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS), adjacent to the Firth of Forth.
- 1.2.3 The proposed scheme is located partially within the following designated sites:
 - Firth of Forth Special Protection Area (SPA);
 - Firth of Forth Site of Special Scientific Interest (SSSI);
 - Firth of Forth Ramsar site; and
 - Pow Burn and Estuary Wildlife Site.
- 1.2.4 The Kincardine Bridge is designated a Category A Listed Building and is located at an historic crossing point of the River Forth. There are undesignated cultural heritage assets of known interest within 300m of the proposed scheme. A number of these are archaeological remains associated with the Kincardine Ship Graveyard and comprise the approximate locations of wooden hulks and vessels, revetments, and other marine remains on the Firth of Forth.
- 1.2.5 The Kincardine Bridge has segregated footways either side of the carriageway. The Right of Way CF97 passes through the proposed scheme extents to the south of the Higgins Neuk Roundabout. Core Path 010/100 (Higgins Neuk to Clackmannanshire Bridge) passes through the proposed scheme extents to the east of the Higgins Neuk Roundabout. At the northern end of the Kincardine Bridge, both footways connect into Core Path P746/06 (Old Kincardine Power Station loop) and National Cycle Network (NCN) Route 76, leading to the beginning of the Fife Coastal Path. NCN Route 76 crosses the A876 south-west of the Higgins Neuk Roundabout.
- 1.2.6 There are no residential, commercial or industrial properties located immediately adjacent to the proposed scheme. The closest residential properties are two dwellings located directly adjacent to the

Higgins Neuk Roundabout approximately 40m from the proposed temporary site access from the north side, 110m north-west of the proposed temporary bridge structure and 150m north west of the existing piled viaduct. The nearest commercial and industrial properties are located within the town of Kincardine, which is situated across Kincardine Bridge, approximately 800m east of the proposed scheme. There are no community facilities within close proximity to the proposed scheme. Kincardine is the closest settlement to the proposed scheme and contains several community facilities including Tulliallan Primary School and Kincardine Library. The land immediately surrounding the proposed scheme comprises non-prime agricultural land that is not currently utilised as productive agricultural land.

1.2.7 The location of the proposed scheme in relation to the local area and key environmental constraints is shown on Figure 1.2 a-b.

1.3 The Proposed Scheme

1.3.1 The proposed scheme would incorporate:

- the demolition of the existing piled viaduct at the southern end of the Kincardine Bridge;
- replacement of the existing piled viaduct with a new five span structure of similar appearance to the adjacent spans of the Kincardine Bridge; and
- temporary construction works.

1.3.2 Further details of the proposed scheme are provided in Chapter 3 (The Proposed Scheme) and shown on Figure 3.1.

1.4 Statutory Context for EIA

1.4.1 EIAs have been required for certain projects in the United Kingdom (UK) since the implementation of the European Commission Directive 85/337/EEC in 1985. Directive 85/337/EEC was subsequently amended by Directive 97/11/EC (to consider transboundary effects and other changes), Directive 2003/35/EC (regarding public participation), and Directive 2009/31/EC (amended Annex I and II by adding projects). In 2011, Directive 2011/92/EU consolidated the initial Directive of 1985 and its three amendments into one Directive. Directive 2011/92/EU was subsequently amended by Directive 2014/52/EU which came into force in May 2014 and required to be transposed into European Union (EU) Member States domestic legislation by 16 May 2017.

1.4.2 In Scotland there are a number of EIA regulations that implement the requirements of Directive 2011/92/EU as amended by Directive 2014/52/EU (hereafter referred to as the EIA Directive). The Roads (Scotland) Act 1984 as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the Roads EIA Regulations) applies to the EIA of trunk road improvement and maintenance projects in Scotland.

1.4.3 As described in Section 1.5 (Marine Licence), Transport Scotland has submitted an application to Marine Scotland – Licencing Operations Team (MS-LOT) for a Marine Licence for the licensable activities associated with the proposed scheme. MS-LOT has confirmed that it is the intention of MS-LOT, acting on behalf of the Scottish Ministers, to direct under Regulation 8(4) of The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (hereafter referred to as the Marine Works EIA Regulations) that the Marine Works EIA Regulations do not apply to the proposed scheme, on the basis that assessment of any effects on the environment is to be carried out by Transport Scotland, acting on behalf of the Scottish Ministers, in accordance with the requirements of the Roads EIA Regulations.

1.4.4 The EIA Directive and EIA Regulations categorise developments according to their requirement for an EIA; Annex I lists large-scale or potentially high impact developments for which an EIA is always required

and Annex II lists developments that may or may not require an EIA depending on the characteristics and location of the development, and the significance of potential effects.

- 1.4.5 The proposed scheme is considered to constitute a relevant project falling within Annex II as referred to in Section 55A of the Roads EIA Regulations, as the proposed scheme is situated partially within a ‘...sensitive area...’, the Firth of Forth SPA and Firth of Forth SSSI.
- 1.4.6 The project has been subject to screening using the Annex III criteria of the EIA Directive to determine whether a formal EIA is required. Screening using these criteria has identified a need for an EIA on the basis that the proposed scheme is likely to have a significant effect on the environment by virtue of factors such as:
 - the proposed scheme is partially located within the Firth of Forth SPA, SSSI and Ramsar sites, and there is potential for impacts on these designated areas; and
 - the proposed scheme has potential to result in significant effects on the Category A listed Kincardine Bridge.
- 1.4.7 Based on the above screening outcome, it was necessary to carry out an EIA and to publish an EIA Report as stipulated under the Roads EIA Regulations. The determination by Transport Scotland as the competent authority for the screening process is formally recorded by a Record of Determination (RoD), which is provided in Appendix A1.1 (Record of Determination (RoD)). The Notice of Determination which was published in accordance with the Roads EIA Regulations on 21 February 2020 is provided in Appendix A1.2 (Notice of Determination).

1.5 Marine Licence

- 1.5.1 In accordance with the Marine (Scotland) Act 2010, the Scottish Ministers have responsibility for marine licensing from MHWS out to 12 nautical miles. A Marine Licence is required to carry out certain activities within the marine environment. These activities include marine construction works, including bridge repair and construction as required for the proposed scheme. MS-LOT determine marine licence applications on behalf of the Scottish Ministers. An application for the marine licensable activities associated with the proposed scheme has been submitted to MS-LOT by Transport Scotland.
- 1.5.2 Details of the involvement of MS-LOT in the EIA process are provided in Chapter 5 (Consultation and Scoping).

1.6 Environmental Impact Assessment Report (EIA Report)

- 1.6.1 This EIA Report reports the findings of the EIA process undertaken for the proposed scheme. Table 1.1 sets out the structure of the EIA Report and provides a summary of what is included in each chapter, as defined by Schedule 1A of the Roads EIA Regulations. As far as is practicable, the chapters are written in a non-technical style to make the EIA Report accessible to a wide, non-specialist audience. Where technical terminology is used, an explanation is provided in the text, and/or in the glossary which is provided at the front of Volume 1 (Main Report) of the EIA Report. A list of abbreviations is also provided at the front of Volume 1 (Main Report).

Table 1.1: Structure of the EIA Report

EIA Report Component	Description
Non-Technical Summary (NTS)	
Preface	Summary of the EIA Report in non-technical language. This is also available as a separate document.
Volume 1: Main Report	
Chapter 1 (Introduction)	These chapters provide the project background, details of the proposed scheme, including the need for the proposed scheme, the alternatives considered and the

EIA Report Component	Description
Chapter 2 (Need for the Scheme and Consideration of Alternatives) Chapter 3 (The Proposed Scheme)	main reasons for the selection of the proposed scheme whilst taking into account the environmental effects.
Chapter 4 (Overview of Assessment Process)	Provides an overview of the EIA assessment process, setting out the environmental parameters considered, and explaining how the assessment of environmental effects was undertaken.
Chapter 5 (Consultation and Scoping)	Summarises the EIA consultation and scoping process and provides a summary of the key issues raised and how these have been taken into account.
Chapter 6 (Geology, Soils and Groundwater) Chapter 7 (Road Drainage and the Water Environment) Chapter 8 (Marine Ecology) Chapter 9 (Terrestrial Ecology) Chapter 10 (Cultural Heritage) Chapter 11 (Air Quality) Chapter 12 (Noise and Vibration) Chapter 13 (Material Assets and Waste) Chapter 14 (Human Health) Chapter 15 (Climate)	Chapters 6 to 15 report the specialist environmental parameters/factors assessed. These chapters are structured to include an introduction to the subject area, approach and methods, baseline conditions, assessment of impacts, mitigation measures and residual effects. They include consideration of relevant plans and policies as well as compliance with national, regional and local planning policy. Each chapter also includes an indication of any difficulties encountered in compiling the assessment.
Chapter 16 (Assessment of Cumulative Effects)	Provides details of the overall (cumulative) impacts of the proposed scheme in relation to receptors affected by impacts from multiple disciplines and potential cumulative effects with other developments in the area.
Chapter 17 (Schedule of Environmental Commitments) Chapter 18 (Summary of Significant Residual Effects)	Chapter 17 (Schedule of Environmental Commitments) lists the measures envisaged to prevent, reduce, and where possible offset any significant adverse effects on the environment, as identified in each of the environmental topic chapters (Chapters 6 to 15). Chapter 18 (Summary of Significant Residual Effects) lists the likely significant effects of the proposed scheme on the environment, including direct impacts and any direct, secondary, cumulative, short, medium and long-term, permanent and temporary, beneficial and adverse effects, as identified in each of the environmental topic chapters. (Chapters 6 to 15).
Volume 2: Appendices – Specialist Technical Reports	
Appendices	Technical reference information supporting the EIA Report chapters, such as calculations and detailed background data. Appendix number corresponds to the relevant EIA Report chapter (e.g. Appendix A6.1 relates to Chapter 6).
Volume 3: Figures	
Figures	Graphics supporting the EIA Report chapters, illustrating the proposed scheme and environmental information. Figure reference corresponds to the relevant EIA Report chapter (e.g. Figure 6.1 relates to Chapter 6).

- 1.6.2 This EIA Report presents the assessment of the proposed scheme as described in Chapter 3 (The Proposed Scheme). Where the design of the proposed scheme may be subject to further refinement, it would still be deemed to comply with this EIA Report provided that such refinements are subject to environmental review and approval by Scottish Ministers. Should design refinements be significantly different to the design assessed or introduce new significant adverse effects or the significance levels of residual significant effects are greater than those reported in this EIA Report, an addendum or new EIA Report would require to be published for public consultation and comment to fully comply with the Roads EIA Regulations.
- 1.6.3 Some detailed aspects of the proposed scheme design, such as temporary construction works, construction methods and traffic management, depend on the approved construction proposals of the appointed Contractor, details of which are not available until the appointment of the Contractor. Assumptions have been made using professional judgement and experience where required to inform the assessments in this EIA Report, as described in Chapter 3 (The Proposed Scheme) and in individual chapters of the EIA Report where relevant.

- 1.6.4 An independent audit of the assessments has been undertaken to ensure a robust EIA that complies with the requirements of the Roads EIA Regulations. Furthermore, consultation has taken place with regard to the scope, approach and results of the assessment, as described in further detail in Chapter 5 (Consultation and Scoping).

1.7 The Assessment Team

- 1.7.1 The EIA was undertaken, managed and compiled by Jacobs, an Institute of Environmental Management and Assessment (IEMA) Registered EIA Quality Mark Company. Additional specialist input was also provided to some technical components where appropriate, as identified within the relevant EIA Report chapters. Relevant expertise and qualifications of the assessment team are provided in Appendix A1.3 (Statement of Competency).

1.8 Review and Comments

- 1.8.1 Due to restrictions posed by the Coronavirus pandemic, paper copies of the EIA Report have not been made available for inspection in the public domain. In accordance with the Coronavirus (Scotland) Act 2020 the EIA Report (including NTS) may be viewed online on the Transport Scotland website:

<https://www.transport.gov.scot/transport-network/roads/bridges-and-structures/a985-kincardine-bridge/#61983>

- 1.8.2 A bound paper copy of the EIA Report (including the NTS) may be purchased at a cost of £150, and the EIA Report is also available in USB format at a cost of £10 by writing to Transport Scotland at the address shown below or by email to info@transport.gov.scot.

Transport Scotland
Roads Directorate - Bridges Branch
Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF

- 1.8.3 Any persons wishing to make representations on the EIA Report should write to Transport Scotland at the above postal or email address. Representations must be received within 42 days of the advertised date of the publication of the EIA Report.

1.9 References

Reports and Documents

Jacobs (2009). Kincardine Bridge Refurbishment: Environmental Review.

Scottish Executive (2003). Upper Forth Crossing at Kincardine: Environmental Statement.

EU Directives and National Legislation

The Coronavirus (Scotland) Act 2020

European Parliament (2014). Directive 2014/52/EU of the European Parliament and of the Council on 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

Marine (Scotland) Act 2010.

Roads (Scotland Act) 1984.

The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017.

The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.