1 Introduction

1.1 Background to the Scheme

The A68 trunk road extends from the outskirts of Edinburgh to Darlington passing through Midlothian, Scottish Borders, Northumberland, Durham and Newcastle Upon Tyne. The length of the A68 within Scotland is approximately 95km.

In 1997 Borders Regional Council and Lothian Regional Council undertook a Route Action Plan (RAP) study and produced a Firm Strategy Report for the A68 trunk road between Dalkeith and the Melrose bypass on behalf of the then Scottish Office. One of the objectives of the study was to examine the potential for improvement of the A68 through a programme of local enhancement schemes to provide appropriate overtaking opportunities, thereby reducing platoons of traffic, driver frustration and accidents. The RAP included a preliminary environmental assessment of the A68 based on guidance and subject headings contained within Volume 11 of the Design Manual for Roads and Bridges (DMRB).

The Scottish Executive undertook a review of all Route Action Plans for the trunk road network in Scotland. As a result of this review an announcement was made in March 2003 that ten new road improvement schemes would be developed across Scotland. There were two schemes arising out of the A68 Route Action Plan, which were included on the list of schemes. The A68 Pathhead to Tynehead Junction Improvement was one of these two schemes and the A68 Soutra South to Oxton Improvement was the other.

In August 2003, Mouchel Parkman (MP; now 'Mouchel'), in association with Scottish Borders Council (SBC), SIAS and Young Associates (Environmental Consultants) Ltd (YA; now 'AMEC Earth & Environment' [AMEC E&E]), were commissioned by the Scottish Executive Enterprise, Transport and Lifelong Learning Department (SE; now 'Transport Scotland' [TS]), as part of the Multiple Framework Agreement (MFA), to take forward the A68 Pathhead to Tynehead improvement scheme. The commission comprises the investigation, assessment and design of road improvement options to allow the preferred scheme to be selected, followed by contract preparation, assistance with the tender process and supervision during construction works.

1.2 Existing Road Network

The A68 trunk road is largely a two-lane single carriageway providing the main link for the Central Borders to Edinburgh, the Central Belt and the North of Scotland. The route carries long distance traffic from the North East of England through the Scottish Borders to Edinburgh as an alternative to the A1. Various communities along the route rely on the facility provided by this link to service their communication and transport needs.

Within the area of the proposed scheme, the A68 is the only route for through traffic. There is a network of minor roads to either side of the A68 but this only carries local traffic. There are four public side roads, which form a junction with the trunk road within the scheme extents. Travelling south from Hope, the first of these is the U60 Longfaugh road, a simple T-junction, situated on the northbound lane of the A68. It gives direct access onto the A68 for vehicles from Longfaugh farm and associated cottages. This narrow unclassified road continues on for some 2.5km in a westerly direction till it meets the B6367 close to Crichton.

The U77 to Fala Dam forms a simple Y-junction, situated on the southbound lane of the A68. It provides access to the A68 for residents of Fala Dam and the various cottages, which are situated along this unclassified road. The junction with the A68 is at an acute angle, which means that vehicles exiting the junction have limited visibility and vehicles entering the side road do so at speed.

The last two public side roads are situated about 250 metres apart in a preferred right/left stagger arrangement. The first of these is the B6458 Tynehead road, which in conjunction with the B6367 connects the A68 with the A7 and is a popular route. The second side road is the unclassified U78 Costerton road which is a short link road onto the U77 and thus Fala Dam. Visibility from these junctions is restricted as the U78 falls away quickly from the A68 and the B6458 is situated near the apex of a below desirable minimum crest curve.

There are ten field gates with direct access onto the trunk road. Seven of these field gates are located at the back of the road verge with no set back. This means that any vehicles wanting to access the fields have to stop on the carriageway to open or close the field gate. The remaining three accesses have field gates that are set back 8 - 18m from the road channel line. There are three field accesses which are located on the U60 side road within the limits of the scheme and two which are located on the U78 side road within the limits of the scheme.

There is an access to Magazine Wood, located south of the disused loop lay-by on the southbound lane of the A68. There is also an access to a residential property known as Marldene direct from the U77 side road.

There are two lay-bys on the A68 trunk road within the limits of the scheme. One lay-by located approximately 160m north of the U60 junction and is adjacent to the southbound lane of the A68 carriageway. This lay-by has been created by utilising a disused loop of the old road and is quite large. The second lay-by is non-standard and is located approximately 250m north of the B6458 Tynehead junction, adjacent to the northbound lane of the carriageway. This is a service lay-by, which allows Scottish Water to access the pumping station at this location.

Due to physical limitations in terms of existing topography, infrastructure and the presence of several watercourses, the A68 is an undulating route with many bends. Drivers therefore experience limited overtaking opportunities along much of the A68,

which leads to the formation of platoons of traffic and creates driving conditions that lower average speeds and increase driver frustration and the potential for accidents.

As detailed in the Stage 3 Engineering, Traffic and Economic Assessment Report (Mouchel Parkman/SBC/SiAS, December 2006), the existing two-way flow on the A68 south of Pathhead is around 9,200 (2004 Annual Average Daily Traffic flow (AADT)) with 8% of this traffic comprising heavy goods vehicles. The corresponding 2009 opening year low and high growth traffic forecasts are around 9,800 (AADT) and 10,100 (AADT) respectively.

1.3 Scheme Location

The A68 Pathhead to Tynehead Junction Improvement Scheme is located within Midlothian and is the existing road is currently maintained by BEAR Highways on behalf of TS. As shown on Figure 1.1, the proposed scheme covers a length of approximately 2.5km, extending from just north of the U60 Longfaugh junction to Fala Tunnel.

The section of A68 trunk road is a 7.3 metre wide single carriageway with half battered kerbs on both sides with raised verges and no hardstrips. A 1.4 – 1.8 metre wide footway runs the entire length of the scheme adjacent to the southbound carriageway. This footway is directly adjacent to the carriageway over the majority of its length.

1.4 Development of a Preferred Scheme

Due to the completion of the RAP study, the SE agreed that a full DMRB Stage 1 Environmental Assessment would not be required. However, a Stage 1 Environmental Update Report was prepared in June 2004. This report provided environmental information to update and supplement that provided in the 1996 RAP, based on a broadly defined route corridor. The report considered each of the twelve DMRB environmental parameters, providing a summary of existing baseline information, an indication of key environmental issues associated with improvement options and recommendations for further investigation at Stage 2.

The SE instructed MP to proceed with the Stage 2 Scheme Assessment for the project in May 2004. Stage 2 identifies the factors to be taken into account in choosing alternative routes or improvement schemes and thus identifies the environmental, engineering, economic and traffic advantages, disadvantages and constraints associated with those routes or schemes.

Three main options were prepared for the assessment although several modifications of each were investigated. A presentation review of these options, named 1, 2 and 3 was made to the SE in July 2004. Following on from this review, it was intended that the Stage 2 options considered appropriate would be taken forward to full consultation in accordance with TD 37/93 ‘Scheme Assessment Reporting’.

After the presentation it was decided that of the three possible options only one option was feasible and on that basis it was considered inappropriate to undertake a full Stage 2 Assessment. A shortened Stage 2 Assessment Report was prepared to document the above process and it recommended that Option 1 'Side Roads Retained at Junctions/Changeover' should be taken forward and be subjected to a full Stage 3 Assessment option.

Work on the Stage 3 Assessment process began and as part of the process a Senior Management Presentation of the preferred option was held in March 2005. During subsequent discussions it was decided that the estimated total scheme cost made this option unviable. Consequently the SE requested that work on the Stage 3 Assessment of Option 1 be stopped and that alternative, more economically viable, options sought.

Six new options for the proposed scheme were developed, the majority of which consisted of a shorter scheme which had been moved around 1km south along the A68 Trunk Road to avoid the high pressure gas main and the abandoned underground limestone workings near to Hope. In April 2005 the SE gave their approval for assessment work to re-commence at the Stage 2 level on two of the above six options, namely Options 12 and 14.

Following discussions within the Standards Section at the Scottish Executive a further option was developed as a hybrid of option 14 and it was called Option 14A. The Scottish Executive confirmed in August 2005 that all three options should be subjected to the Stage 2 Assessment process.

The three scheme options were subject to a full DMRB Stage 2 assessment in terms of environmental, engineering and traffic/economic criteria (YA 2006, SBC 2006 and SIAS 2005) and a report produced in September 2006. As a result, option 12 was selected as the preferred improvement and has been taken forward to DMRB Stage 3 assessment (further details on the three options assessed and the subsequent preferred route are provided within Chapter 2).

1.5 Stage 3 Environmental Assessment

1.5.1 Purpose of the Environmental Assessment

The DMRB Environmental Assessment process (Highways Agency *et al*, 1993), is an integral part of road scheme design/construction/operation and is used as a means of informing the decision making process throughout the design of the scheme so that potentially significant environmental impacts can be alleviated by, where practicable, incorporating measures to avoid, reduce, remedy or offset any predicted adverse effects.

The purpose of the Stage 3 Environmental Assessment (EA) is to provide an evaluation of the preferred scheme through a systematic investigation of the likely impacts on the biological, physical, geomorphological and historical environment as well as on human welfare and current or future use of the environment. The Stage 3

EA helps to ensure that the importance of predicted environmental effects, and the scope for reducing them, is properly understood and fully incorporated into the engineering and economics of a scheme.

In summary, The Roads (Scotland) Act, 1984 (as amended by Part III of the Environmental Impact Assessment (Scotland) Regulations 1999 ('EIA Regs')) requires that certain road development projects (as listed within Annex I and II of Directive 85/337/EEC and amended by Directive 97/11/EC) are subjected to a full environmental impact assessment (EIA) and that an Environmental Statement (ES) is produced. A screening exercise can be completed and associated determination produced/published if it is unclear whether a particular development is considered EIA development or not, while a scoping exercise for EIA development is completed with the relevant planning authority in order to obtain an opinion as to the information to be included within an ES. An ES is then produced and submitted, to the relevant planning authority and other statutory/non-statutory consultees, as part of the planning application process for the development.

Part III, section 49(7) of the EIA Regs requires certain information to be included in an ES for EIA development. Annex IV of the Directive and Part III of the EIA Regs detail these requirements. Parts 1 – 7 of the Annex identify the following information:

- Description of the development, including in particular:
  - a description of the physical characteristics of the whole project and the land-use requirements during the construction and operational phases;
  - a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;
  - an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation etc.) resulting from the operation of the proposed project.
- An outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects.
- A description of the aspects of the environment likely to be significantly affected by the proposed project, including in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.
- A description of the likely significant effects of the proposed project on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, beneficial and adverse effects of the development resulting from:
  - the existence of the project;
  - the use of natural resources;

  - the emission of pollutants, the creation of nuisances and the elimination of waste; and
  - description by the developer of the forecasting methods used to assess the effects on the environment.

- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
- A non-technical summary of the information provided under the above bullet points.
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the developer in compiling the required information.

Part III, section 49 of the EIA Regs also identifies the following information requirements:

- A description of the project comprising information on the site, design and size of the project.
- A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects.
- The data required to identify and assess the main effects, which the project is likely to have on the environment.
- An outline of the main alternatives studied by the Scottish Ministers and an indication of the main reason for their choice, taking into account the environmental effects.
- A non-technical summary of the information mentioned above.

The EA and ES for the proposed scheme have been prepared in accordance with the requirements of Part III of the EIA Regs.

Planning Circular 8 2007, which supersedes Circular 15/1999 (Scottish Government, 2007), states within Annex E ('Trunk Roads – Part III of the Regulations') that the information in the ES must be summarised in a non-technical summary. The non-technical summary is important for ensuring that the contents of the ES are fully understood by the general public. The ES may contain technical data and analysis in a form, which is not readily understandable by the layperson. The non-technical summary therefore sets out the main findings of the ES in non-technical language.

1.5.2 The Need for an Environmental Statement

In accordance with Part III of the EIA Regs, a determination ('Record of Determination' [ROD]) was carried out to assess whether a formal ES would be required for the proposed road improvement scheme, which falls within Annex II criteria. The proposed scheme exceeds the relevant threshold for EIA development stated in Annex II / Annex E guidance, i.e. greater than 1 hectare (ha) in area or 2km in length (comprises 11.9

ha, of which 4.23 ha is within the existing highway boundary, and that leaves 7.67 ha of additional agricultural land and woodland). TS confirmed that a formal ES was required.

1.5.3 The Assessment Team

This ES has been prepared by AMEC E&E, as MFA Environmental Co-ordinators, with specific specialist chapters provided by AMEC E&E (Ecology, Cultural Heritage and Policies and Plans) SBC (Land Use; Pedestrians, Cyclists, Equestrians and Community Effects; Vehicle Travellers; Water Quality and Drainage; Geology and Soils and Landscape) and Wardell Armstrong (Traffic Noise and Vibration and Air Quality). All specialists have then provided input to Disruption due to Construction, with document co-ordination completed by AMEC E&E.

1.6 Report Structure

This ES comprises of three parts in accordance with DMRB Volume 11, Section 4, Part 3. These are:

Volume 1 - a comprehensive document drawing together all the relevant information about the scheme and providing an assessment of significant environmental impacts;

Volume 2 – supporting information/graphics referred to during the detailed assessment of significant environmental impacts; and

Non-technical Summary (NTS) - outlining the findings of Volume 1 in simplistic terms for easy understanding by members of the public.

The main text (Volume 1) is presented in 19 chapters. Chapters 1 and 2 comprise the introduction and background to the scheme, the scheme objectives, a detailed scheme description and a review of the alternative scheme options considered during the DMRB Stage 2 assessment process. Chapter 3 contains a summary of the general approach and methods used for the EIA and Chapter 4 provides the results of the consultation exercises undertaken with key statutory and non-statutory consultees (during all DMRB environmental assessment stages). The environmental assessment of the relevant DMRB subject areas is contained within Chapters 5 through to 16 (with subsections on assessment methods, baseline conditions, predicted impacts, mitigation measures and residual impacts). Chapter 17 considers cumulative environmental impacts. Chapter 18 summarises the main environmental impacts identified from the overall EA process and considers potential combination effects with other proposed development in the vicinity of the scheme. Lastly, Chapter 19 lists the references used throughout the report.

For Volume 2, figures are numbered in accordance with the relevant chapter number, while the appendices are numbered sequentially and do not relate to the chapter headings.

A NTS is provided at the front of the ES and this presents a concise overview of the contents of the ES and the key issues associated with the proposed scheme. The NTS is also available as a separate report.

The ES, together with the draft Road Orders, has been made available by TS. Copies of this ES and/or the NTS can be obtained from:

Chief Roads Engineer
Transport Scotland
TR : IPS 7th Floor
Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF

Tel: (0131) 244 5400

Electronic copies of the ES and the NTS are available for download at http://www.transportscotland.gov.uk. Printed copies of the ES will be available following publication at a cost of £50.00 from the above address. The ES will also be available in CD format at a cost of £10.00 each.