RVR/W5/1

Rother Valley Railway Track Reinstatement Project

Public Inquiry: **Proof of evidence of Robert Slatcher *BSc(Hons) MA MIEMA CEnv***

On behalf of: Rother Valley Railway Limited

Evidence relating to: Environmental Assessment, excluding ecology, flood risk and traffic.

Document version control

Version	Date	Author	Reviewed by	Reviewed and approved by
1	24/04/2020	Robert Slatcher	Carmen Pennisi	Andrew Mayes
2	29/04/2021	Robert Slatcher		
3	28/05/2021	Robert Slatcher		Victoria Hoskins

Contents

1.0 Introduction

1.1 Personal and company details

1.1.1 I am a Director with Temple Group Ltd (Temple), who undertook the Environmental Impact Assessment (EIA) and the production of an Environmental Statement (ES) on behalf of Rother Valley Railway Limited (RVR) to support consent applications for the proposed Rother Valley Railway Track Reinstatement Project (the Scheme).

1.1.2 Temple is an independent infrastructure and property consultancy, specialising in environment, planning and sustainability. We work with a large and trusted associate network to complement the skills and experience of our in-house team. Temple is highly experienced in addressing many of the issues associated with developing and delivering rail infrastructure schemes, having been involved in most, if not all, the major rail projects in the UK since our inception.

1.1.3 I am an Environmental Consultant with 15 years' experience of environmental appraisal and EIA co-ordination, predominantly in relation to the environmental assessment of major infrastructure projects and in particular railway schemes. I have a BSc (Hons) in Geography and Geology and an MA in Environmental Consultancy. I am a full member of the Institute of Environmental Management and Assessment (IEMA) and a chartered environmentalist. Some of my relevant rail experience includes:

- Lead ES author and EIA co-ordinator for two Nationally Significant Infrastructure Projects on behalf of Network Rail (Ipswich Chord – 2009-2011 and Norton Bridge – 2011-2013);
- Environmental Lead for elements of Thameslink (London Bridge GRIP 5, 2009-2011), Crossrail (Stockley Airport Junction and ONW Bridges GRIP 4 and 5, 2010-2011), Reading Depot (GRIP 4 and 5, 2010-2011) and the North London Railway Infrastructure Project (GRIP 2-5, 2007-2008); and
- Route Window Manager on the High Speed 2 (HS2) Phase 1 and Phase 2b schemes acting as the interface between the engineering design and environment teams as well being a member of the ES authorship team.

1.1.4 I was Project Manager for the 2014 ES (RVR/24, RVR/25, RVR/26 and RVR/27), providing overall project management and direction. I provided day-to-day coordination, liaison with the client team and management of the assessment outputs. I have subsequently co-ordinated the 2021 ES Update (RVR/70-01 to -09).

1.2 Scope of evidence

1.2.1 My evidence will address the following points:

- impact of the scheme on air quality, water and noise (SoM. para 3(a));
- impact on heritage assets and the High Weald Area of Outstanding Natural Beauty (SoM, para 3(d));
- measures proposed by RVR to mitigate adverse environmental impacts of the scheme (SoM, para 4);

- the extent to which the proposals are consistent with the National Planning Policy Framework (NPPF) and local environmental policies (SoM, para 5); and
- the adequacy of the Environmental Statement (SoM, para 6).

1.2.2 My evidence includes a description of the timeline of environmental appraisal work undertaken in support of the scheme development. I then provide an overview of the findings in the 2014 ES (RVR/24, RVR/25, RVR/26 and RVR/27) and subsequent Addendums by topic, including:

- competency of specialists who undertook the assessment;
- assessment approach;
- mitigation measures; and
- any residual environmental effects post-mitigation.

1.2.3 I then summarise the findings of the ES 2021 Update (Temple, March 2021) (RVR/70-01 to -09), where specialists reviewed the ES and subsequent addenda in relation to current policy, regulations, methodology, best practice, baseline data and changes to the scheme design and construction. By topic, each specialist provided comment on the continued validity of the assessment and identified if any new or different significant effects would be generated as a consequence of the passage of time. The ES 2021 Update also addresses specific requests for additional information made in the Rule 17 direction from the Department for Transport (June 2020).

1.2.4 My evidence then addresses objections made to the Transport and Works Act Order (TWAO) that relate to environmental topics covered within my remit.

1.2.5 The ES topics covered by my evidence include:

- Noise and Vibration;
- Air Quality;
- Landscape and Visual;
- Water Quality, Hydrology and Hydrogeology;
- Archaeology and Cultural Heritage;
- Transport and Access (This evidence relates to the information for the purposes of the EIA, however it is noted that separate evidence also addresses traffic);
- Socio-economics;
- Land-use and Agriculture,
- Human Health;
- Major Accident Hazards and Disasters; and
- Climate Change.

1.2.6 It should be noted that the following topics are addressed in separate witness proofs:

- Ecology and Nature Conservation is addressed in evidence by Giles Cole;
- Flood risk is addressed in evidence by Suzanne Callaway;
- Land-use and agriculture in evidence by Peter Hodges;
- Economics in evidence by Tom Higbee; and
- Transport and access in evidence by Phil Hamshaw.

1.3 Project overview

1.3.1 The Scheme comprises the reconstruction of a section of the Rother Valley Railway in order to reinstate the historic link between the main line railway network and the currently restored and operating Kent & East Sussex Railway ("KESR"). The section is approximately 3.4km of single-track railway line on the alignment of the former railway between Northbridge Street, Robertsbridge and the B2244 Junction Road near Bodiam.

1.3.2 The section of track is the "missing link" that will enable trains on the KESR to run the full distance between Tenterden in Kent to Robertsbridge in East Sussex. Approximately 2km of the former railway corridor in this area is still largely intact, with the remainder of the route having been reclaimed as agricultural land.

1.4 EIA Background

1.4.1 EIA is a structured framework which allows for the systematic appraisal of a range of potential environmental effects together through a single process, with a final means of communicating the findings through the production of an ES.

1.4.2 The Proposed Scheme is relatively unusual in the context of EIA and planning in so much that it has already been granted full planning permission (RR/2014/1608/P dated 22 March 2017) through the Town and Country Planning Act 1990 ("the 1990 Act"). That planning application was supported by an ES (RVR/24, RVR/25, RVR/26 and RVR/27). Subsequent to achieving that consent further documentation has been prepared to augment the 2014 ES to address stakeholder responses, minor revisions to the scheme design and to ensure the environmental assessments and the data upon which it is based remains fit for purpose.

1.4.3 For the Town and Country planning application (RR/2014/1608/P) the Scheme was identified to be a development that requires EIA as it falls under Schedule 2 Category 10d (Infrastructure projects: Construction of Railways) of the *Town and Country Planning (Environmental Impact Assessment) Regulations 2011* and is likely to have significant effects on the environment due to its location, characteristics and size.

1.4.4 For the TWAO application, Rule 7 of the Applications Rules requires the submission of an ES with an application for a TWAO in relation to any proposed works which constitute a project of a type mentioned in either Annex I of Annex II to Directive 2011/92/EU ("the EIA Directive") unless, in the case of an Annex II project, the Secretary of State has determined that no environmental impact assessment is required. The re-instatement of the historic RVR is an Annex II project and no screening decision was sought, meaning that the application had to be accompanied by an ES.

Timeline

- **October 2013:** A formal EIA scoping request (RVR/26) was submitted to Rother District Council (RDC). The scoping request sought a formal written opinion from the Council on the proposed scope of the EIA and contents of the ES based on the description of the proposals contained within the Scope and Methodology Report in order to support the Town and Country Planning application.
- **January 2014:** A formal Scoping Opinion was published by RDC (RVR/26). The Scoping Opinion provided guidance on the content of the ES based on the consultation undertaken by RDC with statutory consultees and the opinion of the Council.
- **June 2014:** RVR submitted a Town and Country planning application to RDC, which was accompanied by an ES (RVR/24, RVR/25, RVR/26 and RVR/27). The ES reported the findings of the detailed EIA undertaken and was prepared based on the topic assessments agreed with RDC during the scoping stage and subsequently confirmed in their formal Scoping Opinion.
- **November 2016:** Following submission of the Town and County planning application, but prior to its determination, minor changes to the Scheme design were proposed and supplementary ecology information was made available at the request of the East Sussex County Council (ESCC) ecologist. As a result, an ES Addendum (RVR/28) was finalised in November 2016, providing further explanation and information in relation to the assessment of impacts on the ecology within and adjacent to the project site following consultation with the ESCC ecologist. It also sets out the proposed changes to the Scheme and considers whether these changes have any material effect on the findings of the EIA as set out in the original 2014 ES.
- **March 2017:** The Scheme was granted planning permission by RDC, subject to a number of conditions.
- **May - June 2017:** As part of the TWAO application process, RVR sought a scoping opinion from the Secretary of State (SoS) on 12 May 2017 in accordance with Rule 8 of the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006. That Scoping Opinion was received on 22 June 2017 (RVR/64) and confirmed that the environmental information submitted as part of the scoping request (2014 ES and the 2016 ES Addendum) would provide an ES of sufficient scope for the purposes of a TWAO application, subject to the provision of additional assessment of the Scheme against the High Weald AONB Management Plan.
- **October 2017**: A further addendum to the ES (RVR/28) was prepared which addressed the June 2017 Scoping Opinion request for consideration of the Scheme in the context of the High Weald AONB Management Plan.
- **April 2018**: To support the TWAO application the following documents were submitted:
    - Track Reinstatement between Northbridge Street and Junction Road, ES June 2014 (RVR/24, RVR/25, RVR/26 and RVR/27);
    - Track Reinstatement between Northbridge Street and Junction Road, ES Addendum November 2016 (RVR/28); and

- Track Reinstatement between Northbridge Street and Junction Road, ES Addendum October 2017 (RVR/28).

- **October 2018:** A further report (Track Reinstatement between Northbridge Street and Junction Road. Air Quality Statement-Level Crossings and Rolling Stock Emissions) (RVR/60) was produced which focussed on air quality impacts from the operation of trains within the Scheme, and as a consequence of vehicle traffic changes associated with the operation of the proposed level-crossings. The report was produced to address stakeholder responses.

- **March 2021:** In order to revalidate the findings of the environmental information provided to date and in response to a Rule 17 direction for further environmental information, an ES Update Report (ES 2021 Update) (RVR/70-01 to -09) was prepared. The report addresses the points raised in the direction and reviewed the findings of the 2014 ES (RVR/24, RVR/25, RVR/26 and RVR/27), and subsequent addenda, in the context of any changes to the baseline that may have occurred in the intervening period. This revalidation reviewed changes to the receiving environment, updates in available environmental data, changes to planning policy and plans and changes to discipline specific assessment methodologies. The purpose of the exercise was to revalidate the original ES findings in order to give continued confidence in the assessment conclusions for the purposes of determining the application. The ES 2021 Update also included assessment of three new topics areas: human health, major accident hazards and disasters and climate change. These topics were introduced by the Environmental Impact Assessment (Miscellaneous Amendments Relating to Harbours, Highways and Transport) Regulations 2017/1070 ("the 2017 Regulations") to transpose the requirements of the 2014 EIA Directive into UK law. The Scoping Opinion for the TWAO application was made prior to the commencement of the 2017 Regulations and as such did not need to be include these topics as set out in transitional provisions under Schedule 6 of the 2017 Regulations. However, their inclusion in the ES 2021 Update was made in response to the Rule 17 direction.

Overview of supporting consultants and data

1.4.5 Table 1 outlines the contributing specialists into the ES and accompanying data (surveys and reports) utilised to inform the ES.

Table 1: Summary of contributing consultants and data inputs into the ES

ES Topic	ES version	Contributing specialists	Comments, Survey/Reports
Noise and Vibration	2014 ES	Camilo Castro, Llach (Temple Group)	Monitoring was undertaken in Nov 2013.
	2016 ES Addendum	-	No changes to predicted significance anticipated in the ES from either construction or operational activities.
	2017 ES Addendum	N/A	Topic not related to this Addendum.
	2021 ES Update	John Fisk (Temple Group)	Reviewed and found the existing assessment to be adequate and the original findings to remain valid
Air Quality	2014 ES	Enan Keogh (Temple Group)	Potential air quality impacts associated with the Scheme were assessed in 2014 for nearby sensitive receptors.

ES Topic	ES version	Contributing specialists	Comments, Survey/Reports
	2016 ES Addendum	-	No changes to predicted significance anticipated in the ES from either construction or operational activities.
	2017 ES Addendum	N/A	Topic not related to this Addendum.
	Air Quality Statement (Oct 2018)	Alaric Lester (Temple Group)	Report prepared in response to stakeholder concerns in relation to air quality impacts from queuing vehicles at level-crossings and from the operation of rolling stock.
	2021 ES Update	Alaric Lester (Temple Group)	Reviewed and found the existing assessment to be adequate and assessment findings to remain valid.
Landscape and Visual	2014 ES	Chris Britton (Fira Landscape)	Landscape assessment was undertaken in 2014.
	2016 ES Addendum	-	No changes to predicted significance anticipated in the ES from either construction or operational activities.
	2017 ES Addendum	Chris Britton (Fira Landscape)	Addendum addressed stakeholder response from AONB.
	2021 ES Update	Carly Tinkler (Landscape, Environmental and Colour Consultancy)	Site visit undertaken in April 2021. Revalidation assessment found that the findings carried out between 2013 and 2017 can be relied on for decision making purposes.
Ecology and Nature Conservation	2014 ES	Complete Land Management (CLM)	Ecology Phase 1 Habitat Survey, prepared by CLM. Date of report: October 2013. Site was visited on 19 July 2013 by Alexander Macdonald of CLM.
	2016 ES Addendum	Giles Coe and Tom McArthur (The Ecology Consultancy)	Further explanation and information in relation to the assessment of impacts on the ecology within and adjacent to the project site following consultation with the ESCC ecologist.
	2017 ES Addendum	N/A	Topic not related to this Addendum.
	2021 ES Update	Giles Coe (formerly of The Ecology Consultancy)	The mitigation provisions established in the ES and conditioned by the existing planning consent, alongside licencing requirements of Natural England have been proven to be robust in the delivery of ecological works on site to date.
Water Quality, Hydrology and Hydrogeology	2014 ES	Guy Laister (Water Environment Ltd)	Flood Risk Assessment (FRA), undertaken by Capita. Date of report: December 2013 Water Framework Directive (WFD) Report prepared by Temple Group. Water Environment Ltd as the main contributor. Date of report: 15 April 2014
	2016 ES Addendum	Capita	Updated Flood Risk Assessment (FRA) undertaken by Capita. Date of report: June 2016
	2017 ES Addendum	N/A	Topic not related to this Addendum.
	2021 ES Update	Guy Laister/ Claire Burroughs (Water Environment Ltd)	FRA Addendum, undertaken by Capita. Date of Report: March 2021 Water Framework Directive (WFD) Report prepared by Temple Group. Water Environment Ltd as the main contributor. Date of report: 26 February 2021

ES Topic	ES version	Contributing specialists	Comments, Survey/Reports
			Updated assessment concluded no significant effects
Land Quality	2014 ES	SLR Global Environmental Solutions	Preliminary Land Quality Risk Assessment, prepared by SLR. Date of report: November 2013. Land Quality was scoped out of the EIA.
	2016 ES Addendum	N/A	Topic scoped out.
	2017 ES Addendum	N/A	Topic scoped out.
	2021 ES Update	N/A	Topic scoped out.
Archaeology and Cultural Heritage	2014 ES	Chris Place (Place Consulting)	A site walkover from public rights of way was undertaken in addition to consulting desk-based sources.
	2016 ES Addendum	-	It was considered unlikely that there would be any material changes to archaeology and cultural heritage as a result of the Scheme design changes.
	2017 ES Addendum	-	The landscape and visual impacts were assessed for the Robertsbridge Abbey and setting
	2021 ES Update	Rebecca Haslam and Guy Thompson (Pre-construct Archaeology)	Reviewed and found the existing archaeological assessment to be adequate and the assessment findings to remain valid.
Transport and Access	2014 ES	David Hampton (Integrated Transport Planning)	Baseline informed by the following reports: • Traffic Impact Assessment. Mott MacDonald (2011) • Highways & Traffic Assessment Report, A21 Assessment of Delays. Mott MacDonald (2013) • Non-motorised User Audit- Context Report. Mott MacDonald (2013) • Non-motorised User Audit Report. Mott MacDonald (2013)
	2016 ES Addendum	-	No changes to predicted significant anticipated in the ES from either construction or operational activities.
	2017 ES Addendum	N/A	Topic not related to this Addendum.
	2021 ES Update	Mott MacDonald	Rother Valley Railway. Review of Traffic and Transport Chapter. Mott MacDonald. March 2021. Review concluded that the assessment findings of the original ES in relation to construction and operational impacts are valid.
Socio-economics	2014 ES	Martin Shenfield (Berkley Hannover Consulting)	The ES Chapter drew directly upon the findings of two studies undertaken by the International Centre for Research and Consultancy, Manchester Metropolitan University (MMU). The first MMU study was completed in 2007 and the second (update and expansion of coverage) was completed in late 2013.

ES Topic	ES version	Contributing specialists	Comments, Survey/Reports
			The studies provided a wide-ranging assessment of the socio-economic impacts of the Scheme having been based on impact modelling, desk research of similar projects, fieldwork and an analysis of local economic data.
	2016 ES Addendum	-	Unlikely to be material changes to socio-economic assessment findings as a result of the changes to the Scheme design.
	2017 ES Addendum	N/A	Topic not related to this Addendum.
	2021 ES Update	Mark Teasdale (Temple Group)	Review identified that the methodology was robust but overly cautious in choice of a spatially limited baseline area. Review concluded that operation could provide a beneficial effect that is significant.
Land Use and Agriculture	2014 ES	David Slack (RVR Ltd) Peter George (Temple Group) Peter Williams (Reading Agricultural Consultants)	There were no specific guidelines on how EIA should consider and assess the effects of development proposals on agriculture. The general approach adopted for this assessment was derived from the planning advice from central and local government on the treatment of agricultural issues in development affecting farmland.
	2016 ES Addendum	-	No changes to original assessment as no additional permanent land take was proposed.
	2017 ES Addendum	N/A	Topic not related to this Addendum.
	2021 ES Update	Peter Williams (Reading Agricultural Consultants)	Reviewed and found the existing assessment to be adequate.
Human Health	2021 ES Update	Ellie Holderness (Temple Group)	The assessment concluded that the Proposed Scheme would result in minor negative effects associated with air quality, noise, neighbourhood amenity and resource use. It also concluded that there would be positive effects associated with access to open space and nature, accessibility and active travel and social cohesion and cohesive design.
Climate Change	2021 ES Update	Andrew Curry (Temple Group)	The assessment identified a minor adverse impact associated with emissions associated with construction and that operational impacts would be negligible.
Major Accident Hazards and Disasters	2021 ES Update	Stephen Price (Temple Group)	The assessment concluded that there would be no significant effects related to this topic.

2.0 ES Findings and review

2.1.1 The **2014 ES** for the Scheme comprises of four volumes:

- **Volume 1 – Non-technical summary** (RVR/24) which provided a broad overview of the Scheme proposal and the key findings of the EIA using non-technical language
- **Volume 2 – Main report** (RVR/25) which provided a description of the EIA process and the likely effects of the Scheme, including:
    - details of the Scheme proposal;
    - alternatives considered;
    - construction methodology;
    - operational regime;
    - summary of the likely environmental effects for each discipline;
    - proposed mitigation and residual effects of the Scheme for each discipline; and
    - description of cumulative effects.
- **Volume 3 – Technical and Supporting Reports** (RVR/26) which comprised reports that supplement the assessment contained within Volume 2.
- **Volume 4 – Supporting Figures** (RVR/27) which contained the figures used to support the Main Report.

2.1.2 The **2016 ES Addendum** (RVR/28) provided a description of the minor changes to the Scheme design since the submission of the original ES, further explanation and information in relation to the assessment of ecology within and adjacent to the project site and a review of changes to individual topic assessments in the context of the Scheme design changes. An updated Flood Risk Assessment Report produced by Capita was included in Appendix A of this document.

2.1.3 The **2017 ES Addendum** (RVR/28) provided further explanation and clarification of the impacts of the Scheme against the key landscape components and objectives described in the High Weald AONB Management Plan in response to the TWAO scoping consultation response from the High Weald AONB Unit.

2.1.4 Separate to the ES and Addendums, Temple carried out a further air quality assessment in light of objector concerns about air quality, particularly the potential effect on air quality of queuing traffic at the level crossings and any effects on the countryside or in the vicinity of Northbridge Street arising from the operation of the railway. The report, Air Quality Statement, September 2018 (RVR/60) concluded that there are no likely significant effects on air quality arising from the operation of the railway or from traffic waiting at level crossings associated with it.

2.1.5 An ES 2021 Update (RVR/70-01 to -09) has been prepared to update and revalidate the environmental information in advance of the inquiry. This report was commenced prior to the 2020 postponement and following the postponement and subsequent issue of the Rule 17 direction, it has been updated further to incorporate matters raised in the Rule 17 direction. The ES Update has reviewed the findings of the environmental assessments to

date and provided additional information and assessment in order to give continued confidence in the assessment conclusions for the purposes of determining the application.

2.1.6 The following sections summarise the findings by ES topic of the environmental assessment to date and ES 2021 Update.

2.2 Noise and vibration

Competency of specialists

2.2.1 The 2014 ES assessment work was undertaken by Camilo Castro-Llach of Temple Group Ltd. At the time of the assessment Camilo had a BA (Hons) in Sound Technology, a Diploma in Acoustics and Noise Control and an MSc in Environmental and Architectural Acoustics. He was an Associate Member of IEMA and a Member of the Institute of Acoustics. His previous experience of the assessment of construction and operational rail noise included: Docklands Light Railway Extension, Heathrow BAA Airtrack, Thameslink, HS2, London Overground Capacity Improvement Programme, Crossrail and Norton Bridge.

Approach to assessment

2.2.2 The assessment standards and guidance used in the 2014 ES noise and vibration assessment are listed in sections 6.2.17 to 6.2.23 of Volume 2 (RVR/25). Section 6.3, Volume 2 of the 2014 ES, then describes the baseline data collection and assessment methodologies undertaken.

2.2.3 The construction and operational noise and vibration assessment methodology was described in the EIA Scope and Methodology Report and no specific comments on the approach were made in the RDC Scoping Opinion. Consultation was undertaken with the Environmental Health Practitioner (EHP) at RDC to agree the assessment methodology and the locations for baseline data collection.

2.2.4 The methodology identified two assessment limitations (2014 ES Volume 2, 6.3.39 – 6.3.40). Firstly, the lack of agreed access precluded baseline data collection at three of the locations requested by the RDC EHP. In lieu of survey information at these locations, data was collected from a comparable proxy site as detailed in Table 6.9 of the 2014 ES. The second limitation, a common limitation for EIA generally, is the level of detail available in relation to the construction methodology and programme. It was determined that the level of information available about the construction phase was sufficient for the purposes of undertaking a robust assessment.

Mitigation

Construction

2.2.5 Mitigation described in the 2014 ES would be incorporated and implemented through a Construction Environmental Management Plan (CEMP).

2.2.6 The 2014 ES identifies a range of Best Practicable Means (BPM) from the British Standard 5228 document ‘Noise and Vibration Control on Construction and Open Sites’ that would be incorporated to the construction methodology. The 2014 ES acknowledges that without the final construction methodology detail it would not be possible to quantify the benefit the implementation of these measures would achieve. As such the residual

construction noise effects described in the 2014 ES represent an unmitigated scenario and therefore a very worst-case impact.

Operation

2.2.7 No adverse operational noise and vibration effects were identified in the assessment and as such no mitigation was proposed.

Residual effects

2.2.8 The 2014 ES concluded that residual noise effects from construction of the Scheme were between Minor and Moderate during peak construction activities. The effect would be reduced when works are occurring at locations away from the receptor locations. Residual construction vibration effects were assessed to give rise to Negligible effects at the nearest receptors. Operational noise and vibration were assessed to have a Negligible effect at all receptors and therefore no residual effects were predicted.

2.2.9 The 2016 ES Addendum found that the predicted significant effects from the construction noise levels identified in the 2014 ES would remain due to the use of similar construction activities, work locations and operational times. It also found that there were unlikely to be any changes to this assessment as part of the operational noise and vibration effects.

Continued validity of assessment

2.2.10 The ES 2021 Update assessment was undertaken by John Fisk from Temple Group. John has fifteen years' experience in acoustics consultancy, is a member of the Institute of Acoustics (MIOA) and has an MSc in Acoustics from the University of Surrey as well as a BSc (Hons) in Physics from Imperial College London.

2.2.11 The review undertaken as part of the ES 2021 Update found that the noise and vibration assessment is still considered to be adequate.

2.2.12 While there have been some updates and changes to standards, guidance and policy since the original assessments, none were found to be likely to affect the assessment method or findings. Overall the methodologies employed were also found to represent current practice.

2.2.13 The baseline noise levels, the dominant source of which was recorded to be road traffic noise, are likely to have increased since the original assessment due to growth in road traffic. However, the increase in road traffic was considered to result in negligible change in the baseline conditions. No nearby new noise generating developments were identified that might contribute to a change to the baseline, nor were any contributing noise sources likely to have been removed. It was therefore considered that the baseline data was robust and sufficient for the purposes of the assessment.

2.2.14 Changes to the Scheme design and construction were reviewed. With the proposed mitigation measures in place, the adverse effects are likely to be the same as those reported in the original assessment.

2.3 Air Quality

Competency of specialists

2.3.1 The 2014 ES assessment work was undertaken by Enan Keogh of Temple Group. At the time of the assessment Enan had a BSc (Hons) in Earth Science and an MSc in Integrated Pollution Control. He was an Associate Member of IEMA, a Member of the Institute of Acoustics and a chartered environmentalist. His previous experience of the assessment of construction and operational air quality impacts included: Heathrow BAA Airtrack, HS2, Crossrail and Norton Bridge.

2.3.2 The 2018 Air Quality Statement was written by Alaric Lester of Temple Group. At the time of the assessment Alaric had a BSc (Hons) in Physics and an MSc in Environmental Sciences. He was a Member of the Institution of Environmental Sciences, the Institute of Air Quality Management and the Environmental Protection UK Air Quality Committee. He was Chairman of the Investigation of Air Pollution Standing Conference Committee. Alaric had over 20 years' experience as a recognised expert in air quality and odour assessment, dispersion modelling, vehicle emissions, transport environmental policy and relevant aspects of development planning.

Approach to assessment

2.3.3 The assessment methodology is described in section 7.3, Volume 2 of the 2014 ES (RVR/25). The construction and operational air quality assessment methodology was described in the EIA Scope and Methodology Report. Consultation was undertaken with the Environmental Health Practitioner (EHP) at RDC to agree the assessment methodology.

2.3.4 The agreed EIA assessment considered air quality impacts related to construction traffic and construction activity (specifically dust emissions) and operational impacts related to changes in vehicle traffic numbers and the operation of the trains.

2.3.5 The construction and operational road traffic air quality assessment utilised the Design Manual for Roads and Bridges (DMRB) methodology. The DMRB methodology adopts four assessment levels, each requiring a more detailed and in depth approach. If a source or the potential change in traffic volumes can be deemed to be insignificant at any level, no further assessment is required.

2.3.6 The dust appraisal utilised the Greater London Authority Best Practice Guidance: The Control of Dust Emissions from Construction and Demolition (2006) and the Institute of Air Quality Management, Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance (2012).

2.3.7 The key criteria utilised for the assessment of air pollution levels were the objectives set out in the Air Quality Strategy (AQS) for England, Scotland, Wales and Northern Ireland, as these represent the statutory limits for the protection of human health as defined by the European Union and UK Governments. Significant criteria were derived from those objective levels.

2.3.8 In addition to the AQS objectives, other commonly used criteria for assessing significance were applied. These relate to the magnitude of change, which could create a significant effect without exceeding the AQS objectives. For the purposes of the assessment,

descriptors for impact magnitude definitions and impact descriptors developed by Environmental Protection UK (Environmental Protection UK (2010), Development Control: Planning for Air Quality) were used, primarily because they consider effects in terms of the magnitude of change from existing concentrations and also relative to the AQS objectives. These are outlined in Table 7.3 of the 2014 ES (RVR/25).

2.3.9 Magnitude of change and related impact descriptors utilised in the assessment were taken from Environmental Protection UK (2010), Development Control: Planning for Air Quality and are outlined in Table 7.2 of the 2014 ES (RVR/25).

2.3.10 The 2018 Air Quality Statement (RVR/60) was written to address specific air quality concerns raised by stakeholders. The Statement specifically focussed on operational air quality impacts related to traffic generation associated with the level-crossings and emissions associated with the operation of steam and diesel engines on the route. The methodology for the assessment of change in road vehicle emissions is included in Appendix B of the Statement.

Mitigation

Construction

2.3.11 Mitigation described in the 2014 ES would be incorporated and implemented through a CEMP. Measures identified related to the minimisation of fugitive dust creation associated with earthworks and the movement of construction vehicle movements.

Operation

2.3.12 No adverse operational air quality effects were identified in the assessment and as such no mitigation was proposed.

Significant residual effects

2.3.13 The number of predicted construction vehicles did not exceed the DMRB assessment criteria of 200 HGV vehicles (Annual Average Daily Traffic - AADT) and in line with the assessment methodology was therefore determined to be insignificant.

2.3.14 Following the deployment of fugitive dust mitigation, no significant residual dust effect was identified.

2.3.15 The operational vehicle traffic generation was anticipated to be below the DMRB assessment criteria threshold of 1,000 vehicles (AADT) and in line with the assessment methodology was therefore determined to be insignificant.

2.3.16 Given the low baseline pollutant background concentrations in the area and the limited maximum number of train journeys during the operational phase, it was determined that the air quality effects from the operation of the steam locomotives was negligible.

2.3.17 The 2018 Air Quality Statement (RVR/60) concluded in relation to air quality impacts from stationary traffic at the proposed level-crossings that:

The assessment of potential air quality impacts from the proposed level crossings has shown that increases in NOx emissions will be a maximum of 5.6 % close to the proposed A21 level crossing and less elsewhere. Increases in PM10 emissions will be a maximum of 2.3 %, close to the proposed A21 level crossing and lower elsewhere. Potential

changes in pollution levels at receptors close to the A21, Northbridge Street and B224 are likely to be negligible in all cases.

2.3.18 The 2018 Air Quality Statement (RVR/60) also concluded that in relation to emissions from the operation of the trains that:

Given the quantum of emissions and location of receptors, it is considered that the additional emissions from engines will be well below the level at which significant effects might occur.

Continued validity of assessment

2.3.19 The ES 2021 Update assessment was undertaken by Alaric Lester, an Associate at Temple Group with 25 years' experience in air quality assessment, management and policy (see 2.3.2).

2.3.20 The revalidation work updated baseline air quality data for the assessments and assessed air quality impacts associated with traffic from the construction and operation of the railway, impacts associated with queuing vehicle traffic at level-crossings, impacts associated with the operation of steam and diesel trains and impacts associated with the operation of the engine shed.

2.3.21 Baseline air quality data has been reviewed and updated. The review identified that for both local monitoring data and pollutant background concentrations, concentrations remained well below the air quality objectives, which was consistent with the conclusion of the baseline assessment of the 2014 ES.

2.3.22 Changes to the Scheme since the previous assessment in relation to temporary land for construction access would not affect the 2014 ES findings as implementation of a Construction Environmental Management Plan would continue to effectively deliver best practice construction phase mitigation.

2.3.23 The 2014 ES stated that the scheme would not result in significant air quality impacts in relation to construction and operational phase vehicle traffic and that a detailed air quality assessment was not required, as the Scheme did not exceed the DMRB screening criteria. Updated traffic data confirms that the Scheme continues to not exceed the updated DMRB screening criteria during either the construction or operational phases. The conclusions of the previous assessment regarding air quality impacts associated with construction and operational traffic therefore remain valid.

2.3.24 Updated traffic data has been utilised to reappraise the level-crossing air quality assessment that was originally undertaken in 2018. Data for the A21 was utilised and showed an increase in NO_x emissions of 11.8%, while the increase in PM_{10} emissions is 6.2% as a consequence of traffic queuing at the level-crossing. Air quality impacts as a consequence of the estimated change in NO_x and PM_{10} was assessed to be negligible for the A21, Northbridge Street and Junction Road and consistent with the previous assessment.

2.3.25 A review of the potential air quality impacts from heritage rail steam and diesel engines concluded that the findings of the 2018 assessment, which concluded negligible impacts also remained valid.

2.3.26 In response to the Rule 17 direction, air quality effects associated with the operation of the engine shed were addressed. The assessment concluded that: *'air quality impacts from the engine shed will be negligible and of negligible significance'*.

2.4 Landscape and Visual

2.4.1 The landscape and visual assessment concluded that the construction phase of the Scheme would have a significant effect on several viewpoints along the dismantled railway. However, these would be temporary in nature.

2.4.2 Visual effects during operation of the railway would be more notable at the western end of the route where there are more residential properties (in Robertsbridge, Northbridge Street and Salehurst). Mitigation planting and new hedgerows will be incorporated within the landscape to mitigate these effects.

2.4.3 However, it is predicted that landscape impacts will remain, although the level of impact will reduce over time as new planting becomes established and the Scheme blends into the landscape.

Competency of specialists

2.4.4 The 2014 ES and October 2017 ES addendum assessment work was undertaken by Christopher Britton of Fira. At the time of the assessment Christopher had a BSc (Hons) in Geography and a Masters in Landscape Architecture and was a Member of the Landscape Institute. At the time of his assessment work Christopher had over 25 years' experience in Landscape Planning, Landscape and Townscape Character Assessments and Landscape and Visual Impact Assessments.

Approach to assessment

2.4.5 The assessment methodology is described in section 8.3, Volume 2 of the 2014 ES (RVR/25). The 2014 ES assessment methodology was developed in accordance with the Guidelines for Landscape and Visual Impact Assessment (GVLIA) (Third Edition), published jointly by the Landscape Institute and the Institute of Environmental Management & Assessment in April 2013.

2.4.6 In addition to following the GVLIA consideration was given to the following:

- Photography and Photomontage in Landscape and Visual Impact Assessment (Landscape Institute Advice Note 01/11); and
- Landscape Character Assessment – Guidelines for England and Scotland (The Countryside Agency and Scottish National Heritage, 2002).

2.4.7 The assessment identified three limitations in paragraph 8.3.30 of the 2014 ES, which relate to restriction of access to private land, restriction of access to private residential viewpoints and the timing of the winter site survey in relation to full leaf fall.

2.4.8 However, by slightly amending the assessment methodology and taking a worst-case or precautionary approach to the baseline data, it was determined that is was possible to ensure that the findings of the assessment were sufficiently robust so as not to be adversely affected by the identified limitations. Consequently, it is not anticipated that the identified limitations would significantly influence the overall conclusions reached by the assessment.

Mitigation

2.4.9 In accordance with best practice, mitigation measures were incorporated into the Scheme in order to reduce or remedy the any significant effects identified by the assessment. Consequently, it was found that the residual effects of the Scheme would not result in any significant adverse impacts. The potential for some of the impacts to progressively change from adverse to beneficial as the mitigation measures mature and become fully established was identified. Mitigation measures are outlined in section 8.7 of the 2014 ES.

Significant residual effects

2.4.10 The 2014 ES identified moderately significant residual effects at the following assessment locations:

- Assessment Viewpoint E (looking south east from Church Lane);
- Assessment Viewpoint F (looking south from field gateway on Church Lane, just west of Salehurst);
- Assessment Viewpoint G (looking south east from Public Footpath No.34c on eastern edge of Salehurst); and
- Assessment Viewpoint K (looking west from Public Footpath No.9 above Udiam Cottages).

2.4.11 The 2016 Addendum found that whilst there were likely to be changes to landscape views as a result of the amendments to Scheme design, with the addition of four bridges (Bridge 5A, Bridge 15, Bridge 16 and Bridge 17), these were not likely to result in any material changes to the significance of predicted landscape and visual impacts reported in the 2014 ES.

2.4.12 The 2016 Addendum also found that there were unlikely to be any changes to the landscape character assessment reported in the 2014 ES as a result of the changes to Scheme design. The 2014 ES concluded that the landscape would not be degraded as a result of the Scheme due to the existing high level of woodland cover, and the ability of the proposals to retain the visually significant vegetation within the permanent land take of the Scheme.

Continued validity of assessment

2.4.13 The ES 2021 Update assessment (RVR/70-02) was undertaken by Carly Tinkler. Carly Tinkler is a Chartered Member of the Landscape Institute (CMLI), a Fellow of the Royal Society of Arts (FRSA), and a Member of the International Association for Landscape Ecology (MIALE). She has specialised in landscape, environmental and colour assessment / planning, masterplanning and design for over 35 years.

2.4.14 The review concluded that overall, the findings of the landscape and visual studies carried out between 2013 and 2017 can be relied upon for decision-making purposes. The Scheme would not give rise to significant effects (positive or negative) on landscape character.

2.4.15 There is the potential for the Scheme to give rise to significant negative visual effects. These would probably only be experienced along Church Lane looking south at certain points, and only by the highest sensitivity receptors.

2.4.16 Although the assessments of effects assume the worst-case-scenario, there is a relatively high degree of consensus that the heritage steam railway is recognised for the positive contribution it makes / can potentially make to landscape character and visual amenity.

2.4.17 The Scheme could be in slight conflict with Objectives W1 (temporary), and FH1 (permanent) of the 2019-24 High Weald AONB Management Plan (please refer to paragraphs 3.6.3 and 3.6.4 for more detail); otherwise, the Scheme meets all the other relevant objectives. In certain aspects, the Scheme demonstrates a high degree of compliance with the objectives of the High Weald AONB Management Plan.

2.4.18 Due to travel restrictions a site visit was not undertaken during the preparation of the ES 2021 Update. However, a site visit was subsequently undertaken between 27th and 29th April 2021 to validate the review reported in the ES 2021 Update. The visit identified that the restoration of the railway and associated features, would not significantly adversely affect any views (i.e. those previously identified along Church Lane) and where existing vegetation is eroded or in poor health it could deliver small benefits. However, there was considered to be the potential for adverse visual and sensory effects associated with the movement of trains. It was acknowledged that there is a degree of subjectivity on how people experience the train movements, some not liking the experience and others enjoying the experience of watching trains moving through the landscape. A copy of Ms Tinkler's report is appended to my proof at **[RVR/W5/2-1]**.

2.5 Water Quality, Hydrology and Hydrogeology

2.5.1 The 2014 ES found that through the use of best practice construction methods, outlined in the Environment Agency Pollution Prevention Guidelines, potential impacts due to the accidental pollution of watercourses and groundwater would be minimised. Therefore, there were not predicted to be any significant effects on river water quality and flood risk during construction of the Scheme.

Competency of specialists

2.5.2 The 2014 ES assessment work was undertaken by Guy Laister, Director of Water Environment. At the time of the assessment Guy had a BSc Eng and MSc Eng in Civil Engineering. He was a Member of the Institute of Water and Environmental Management. His previous experience of the assessment of construction and operational impacts upon hydrology from rail infrastructure schemes include HS2 Appraisal of Sustainability, where he acted as the lead hydrologist, and Norton Bridge Development Consent Order (DCO).

Approach to assessment

2.5.3 The assessment considers the risk and potential effects of the proposed Scheme on tidal, fluvial, overland flow, surface water and groundwater flood risk, as well as drainage and water resource implications and the potential effect on water quality.

2.5.4 The assessment methodology is described in section 10.2, Volume 2 of the 2014 ES (RVR/25). Effect criteria used in the assessment were derived from legislation, guidelines and other published standards, together with any statutory or non-statutory designations. The reporting of potential effects is based on the system presented in the DMRB, Volume 11, Section 3: Road Drainage and the Water Environment.

2.5.5 The assessment methodology reflects the Environment Agency formal response (25th November 2013) to the RDC Scoping Request.

2.5.6 Appraisal of flood risk within the ES was reliant upon the data presented in the Flood Risk Assessment Report produced by Capita (December 2013), which was provided in Volume 3 of the 2014 ES (RVR/26) and the subsequent revision (Capita-Flood Risk Assessment Report, June 2016) which was included as Appendix A of the 2016 ES Addendum (RVR/28).

Mitigation

Construction

2.5.7 Construction phase mitigation was to be delivered through a CEMP.

2.5.8 Mitigation for the maintenance of water quality would rely upon Environment Agency Pollution Prevention Guidelines, including: guidance for preventing pollution, working in or near water and pollution incident response planning.

Operation

2.5.9 For the purposes of the 2014 ES, no operational mitigation was considered in the assessment. At the time of the assessment, funding and firm commitments to improve flood defence infrastructure between RVR and the Environment Agency had not been reached. As such, the mitigation benefits of enhanced flood defence infrastructure were

not appraised in the EIA and the ES reports on an unmitigated operational scheme in relation to flood risk.

Significant residual effects

2.5.10 For construction, the 2014 ES assessment concluded that the implementation of relevant best practice guidance to minimise the potential effects of construction and to reduce the risks of pollution to groundwater and surface water bodies, would result in no predicted significant effects on the water environment.

2.5.11 For operation, the 2014 ES concluded that the Scheme without any improvement to the flood defences would increase the risk of fluvial flooding to receptors in Robertsbridge, though this effect was small compared with the effect of climate change. Significant adverse effects were identified in relation to an increase in flood risk to an electrical substation and pumping station/electrical substation. All other receptors identified in the assessment were identified as having a heightened risk of flooding post development of the railway in the absence of mitigation; however, none of the effects were considered Significant.

Continued validity of assessment

2.5.12 The ES 2021 Update assessment was undertaken by Claire Burroughs and Guy Laister from Water Environment Ltd. Claire has over 7 years of experience in flood risk and was awarded Non-Chartered Member status through the Charted Institution of Water and Environmental Management (CIWEM) in 2014. She has a MEng in Civil Engineering and a MSc DIC in Environmental Engineering. Guy has a Masters degree in Civil Engineering (graduated Cum Laude) and has more than 15 years of technical experience in the environmental engineering sector. Guy is a Chartered Engineer (CEng), a Chartered Environmentalist (CEnv), a Chartered Water and Environmental Manager (C.WEM) and a full member of the Chartered Institution of Water and Environmental Management (MCIWEM).

2.5.13 Since the original 2014 ES and revised FRA in 2016 there have been various changes to policy, input data and software that could affect the assessment of flood risk impacts. Two new receptors were identified: Compass Park (previously referred to as Forge Farm), with a number of office buildings which were not present in the original assessment and a farm building at Russet Farm.

2.5.14 The ES 2021 assessment concluded that there would be no significant effects on flooding, water quality and groundwater during construction or operation of the Proposed Scheme. The updated FRA resulted in a reduction in operational flooding effects, an improvement from that reported in the 2014 ES.

2.5.15 An updated WFD screening assessment (RVR/70-03) was undertaken which concluded, in line with the original WFD screening assessment, that the Proposed Scheme is unlikely to cause a significant detrimental impact on either the River Rother or the Kent Weald Eastern-Rother groundwater body. The report makes recommendations for further assessment work at detailed design recognising that the environmental management of the Proposed Scheme is an on-going process. However, based upon the implementation of the mitigation proposed and the conditions associated with the existing planning consent the assessment is able to conclude that significant effects are unlikely.

2.6 Archaeology and Cultural Heritage

2.6.1 The 2014 ES predicted that there would not be any significant impacts to archaeology or cultural heritage during construction of the Scheme, however it was anticipated that the built Scheme would have a moderate negative effect on the setting of Robertsbridge Abbey (a Scheduled Monument). Although landscape mitigation planting will be implemented, the impacts to the setting will remain significant albeit declining over time.

Competency of specialists

2.6.2 The 2014 ES assessment work was undertaken by Christopher Place, Director of Place Archaeological Consultants. At the time of the assessment Christopher had a BA (Hons) in Archaeology. He was a Member of the Chartered Institute of Archaeologists. At the time of his assessment work, Christopher had over 25 years' experience in archaeological assessment. Christopher's relevant experience in relation to the assessment of construction and operation of rail infrastructure includes; archaeological assessment for the Thameslink EIA and advisor for the construction phase, Docklands Light Railway extension EIA, Channel Tunnel Rail Link EIA and the HS2 Appraisal of Sustainability.

Approach to assessment

2.6.3 The 2014 ES (RVR/25) assessment was undertaken in accordance with the Institute for Archaeologists (IfA) *Standard and Guidance for archaeological desk-based assessment*[45] and with regard to the *Planning for the Historic Environment Practice Guide*, which was issued with *PPS5 Planning for the Historic Environment* and still remains a valid and government endorsed document. A site walkover from public rights of way was undertaken in addition to consulting desk-based sources.

2.6.4 Heritage assets considered in the 2014 ES included:

- Above and below ground places of archaeological interest, whether designated as Scheduled Monuments or not;
- Registered Parks and Gardens;
- Registered Battlefields;
- Other historic landscapes; and
- Deposits of palaeoenvironmental interest pertinent to assets of archaeological interest.

Mitigation

2.6.5 The 2014 ES found that mitigating of the impact to the setting of Robertsbridge Abbey would be difficult to achieve by direct means. Screening by new vegetation would not be possible within the land to be acquired and used and would probably only serve to reinforce the impact of the reinstated railway when viewed from the north. The Scheme would be partially screened by existing vegetation to the south and there may be some potential to augment this in a manner that does not reinforce the Scheme itself. It is also likely that the materials used in the new embankment would weather and mellow over time and thus integrate into the landscape. In effect, the area would return to the state when trains last ran.

2.6.6 The potential for direct impacts on buried archaeological remains would be limited, and a targeted watching brief at these locations would be appropriate. Provision for this would be included in the CEMP, with the work undertaken by professional archaeologists to a written scheme of investigation agreed with the local planning authority.

Significant residual effects

2.6.7 The 2014 ES found that the negative impacts on the setting of Robertsbridge Abbey are likely to lessen but not completely disappear during the operational phase. A reduction to moderate or slight significance is considered likely. The loss of potential archaeological assets would be permanent, but compensated for by archaeological work and potential gains in knowledge about the local area and the wider area of the Weald.

Continued validity of assessment

2.6.8 The ES 2021 Update (RVR/70) assessment for the Archaeology and Cultural Heritage chapter was separately reviewed in two parts: archaeological remains and built heritage assets.

2.6.9 The revalidation for archaeological remains was undertaken by Rebecca Haslam (Pre-Construct Archaeology). Rebecca is a commercial archaeologist with over 20 years' experience. The revalidation assessment found that the ES is still considered to be adequate. If the ES was undertaken now, there would be methodological changes to the ways in which terms and quantification criteria are presented. Few changes have occurred to the baseline data. Minor changes to the construction of the Scheme have also taken place. However, overall these differences are not expected to significantly impact upon the below-ground archaeological resource or the setting of archaeological assets beyond the construction phase, including Robertsbridge Abbey.

2.6.10 The built heritage revalidation was undertaken by Guy Thompson (Pre Construct Archaeology). Guy is an historian and historic landscape specialist with over 15 years' experience in commercial archaeology. The review concluded that were the assessment to be produced today, the archaeological and cultural heritage assessment would probably be more formally structured and make consistent use of terminology and quantification criteria. The review did not identify any significant permanent adverse effects upon listed buildings, with the exception of slight to moderate effects upon the three listed assets at Robertsbridge Abbey.

2.7 Transport and Access

2.7.1 The transport and access assessment in the 2014 ES concluded that there would be no significant impacts resulting from the construction of the Scheme on the basis that appropriate local traffic management measures can be agreed with the highway authorities (Highways Agency and East Sussex County Council). There would be no significant impacts once the railway is operational, with delays due to barrier down time at the level-crossings being minimal as a result of the limited number of trains crossing on any given day.

2.7.2 The 2016 Addendum considered it would be unlikely that the revised Scheme would result in any significant material changes during construction or operation.

Competency of specialists

2.7.3 The 2014 ES assessment work was undertaken by David Hampton of Integrated Transport Planning. At the time of the assessment David had a HNC in Civil Engineering. At the time of his assessment work David had over 15 years' experience in transport planning both for local authorities and as a consultant.

Approach to assessment

2.7.4 Baseline traffic conditions for the 2014 ES were sourced from the Traffic Impact Assessment prepared by Mott MacDonald (2011) to assess the operational impacts of the new Level Crossings at the three vehicle crossing locations. Subsequently, Mott MacDonald prepared a number of reports to deal with technical issues arising from the 2011 report. These also formed part of the baseline and include:

- Highways & Traffic Assessment Report, Response to HA Comments on A21 Crossing. January 2013;
- Highways & Traffic Assessment Report, A21 Assessment of Delays. August 2013;
- Non-Motorised User (NMU) Audit – Context Report. January 2013; and
- Non-Motorised User (NMU) Audit Report. September 2013.

2.7.5 No further traffic surveys were undertaken as it was considered that the data contained within the 2011 TA was sufficiently robust and recent to support the 2014 ES.

Mitigation

Construction

2.7.6 Subject to appropriate measures being agreed with the highway authorities (Highways Agency and East Sussex County Council) and implemented on site, it was considered that the construction effects would be neutral, with the following construction mitigation measures suggested:

- Implementation of permanent speed management measures (identified in 2011 Traffic Impact Report) in advance of temporary accesses being constructed on A21 and B2244.

- B2244 Junction Road access, consideration of additional traffic management measures at site access to account for limited road width, presence of bridges / localised narrowings and manoeuvrability of large vehicles access / egressing construction site.
- The requirement for mitigation to be agreed with the highway authorities.
- Timing of weekend and overnight closures to be agreed with highway authorities.
- Encouragement of car sharing between operatives where practical to reduce localised impacts.

Operation

2.7.7 No measures were proposed.

Significant residual effects

2.7.8 After mitigation measures for construction, it was deemed no significant residual effects were likely to arise from construction and/or operation of the Scheme.

Continued validity of assessment

2.7.9 The ES 2021 Update (RVR/70) assessment was undertaken by John Dooley, Project Director at Mott MacDonald. John is an experienced transportation planner, engineer and road safety auditor with more than 30 years' experience. He is a Fellow and Chartered Member of the Institute of Logistics and Transport.

2.7.10 The review identified that traffic flow data for the A21, B2244 and Northbridge/ High Street, which informs the baseline, have remained constant or show minor increases in traffic volume since the 2014 ES, which is consistent with previous growth forecasts.

2.7.11 The review concludes that the assessment findings in the 2014 ES in relation to both construction and operational impacts to remain valid.

2.8 Socio-Economics

2.8.1 Based on a wide-ranging assessment of the socio-economic impacts of the Scheme, the socioeconomics assessment in the 2014 ES concluded that there may be some beneficial effects during the construction phase due to increased spend at local shops and suppliers by construction workers. The assessment identified that the Scheme could also generate an additional 14 full time equivalent jobs as a result of improved connectivity for inward tourism that the link to the mainline rail network could provide. It is acknowledged that there is the potential for wider regional economic and social benefits, although analysis of this fell outside of the scope of the EIA.

Competency of specialists

2.8.2 The 2014 ES assessment was undertaken by Martin Shenfield, Director of Berkley Hannover Consulting, a specialist economic consultancy.

Approach to assessment

2.8.3 Two major studies of the local economic impact of the Scheme were undertaken by the International Centre for Research and Consultancy, Manchester Metropolitan University (MMU). The first study was completed in 2007 and the second study completed in late 2013. These studies provided a wide-ranging assessment of the socio-economic impacts of the Scheme having been based on impact modelling, desk research of similar projects, fieldwork and an analysis of local economic data. The socio-economics chapter in the 2014 ES draws upon the outputs and conclusions of the research undertaken by MMU. No further fieldwork was deemed required to complete the assessments of socio-economic impacts. The socio-economic baseline area was assessed in the context of the population of Salehurst.

Mitigation

2.8.4 The 2014 ES found that the neutrality of the Scheme over the entire impact area negated any need to consider mitigation measures for any socio-economic factor and/or effect.

Significant residual effects

2.8.5 The 2014 ES reported no significant residual effects as a result of the construction or operation. The local socio-economic impacts of the Scheme would be minimal, though very marginally positive amongst certain receptors in the impact area. The benefits would arise from improved connectivity for inward tourism that would translate into a small increase in local jobs in this sector. There are likely to be minimal impacts to accessibility due to the level crossing.

2.8.6 The 2016 ES Addendum considered that it was unlikely there would be any material socio-economic changes as a result of the changes to the Scheme design.

Continued validity of assessment

2.8.7 The ES 2021 Update (RVR/70) assessment was undertaken by Mark Teasdale a Senior Director of Temple Group Ltd. He has over 30 years' experience as a socio-economics expert. He has an MA in Philosophy, Politics and Economics and a master's in Public Affairs/ Urban and Regional Planning. He is a full member of the Institute of Economic Development.

2.8.8 An update of baseline data confirms the conclusions of the 2014 ES, that the local impact area is not deprived by national standards. The original findings of the 2014 ES that *'overall the Scheme in terms of socio-economic impact is neutral to minimal positive'* remains valid.

2.9 Land Use and Agriculture

2.9.1 The land use and agriculture assessment in the 2014 ES concluded that there would be no significant effects as a result of the construction or operation of the railway, although engagement would continue with the affected landowners to agree appropriate mitigation and compensation measures.

Competency of specialists

2.9.2 The 2014 ES assessment work was undertaken by David Slack of RVR BEN FRICS FIAgrM. David undertook the assessment, given his familiarity with the site and the landholdings affected.

2.9.3 Peter George who was a Technical Director at Temple Group at the time of the assessment, provided EIA support for the preparation of the chapter. At that time, Peter had 24 years' experience in environmental assessment, had undertaken or been involved with over 75 EIAs and was a chartered environmentalist.

2.9.4 Peter Williams of Reading Agricultural Consultants provided technical review of the chapter. Peter at the time of the assessment had a BSc (Hons) in Agriculture and was a Member of the British Institute of Agricultural Consultants.

Approach to assessment

2.9.5 There are no specific guidelines on how EIA should consider and assess the effects of development proposals on agriculture. The approach adopted and reported in the 2014 ES was derived from planning advice on the treatment of agricultural issues in development affecting farmland. The scope of the study therefore assessed:

- The quantity and quality of agricultural land that would be taken temporarily and lost permanently;
- The effect of land loss and severance on agricultural holdings;
- The potential loss of agricultural buildings and other fixed farm capital;
- Any loss of access to farmsteads or fields; and
- Construction effects, such as disruptions to field drainage, nuisance from dust, construction traffic and general construction activities.

2.9.6 The limited dialogue with the affected landowners was identified as a limitation to the assessment, in that much of the ability to establish a detailed understanding of their farming operations was restricted. The assessment took a precautionary approach to any assumptions made about agricultural operations.

Mitigation

Construction

2.9.7 A series of best practice measures for the management of construction in an agricultural setting were identified in the assessment. This included:

- clear separation of working areas from adjacent agricultural land, particularly where livestock may be present;
- early identification of drainage infrastructure and the adoption of measures to ensure agricultural land continues to drain effectively;
- measures to ensure drainage from construction sites does not discharge onto agricultural land;
- management of agricultural access during construction where agreed; and
- soil handling, storage and restoration in accordance with best practice guidance

Operation

2.9.8 Operational mitigation relates to the provision of accommodation access to ensure there is no severance of agricultural land.

Significant residual effects

2.9.9 Following the adoption of construction phase best practice working methods the 2014 ES reported that the only residual effect would be the permanent loss of approximately 2.7 hectares of agricultural land. This loss of agricultural land was assessed to be a minor adverse effect and therefore not significant.

2.9.10 In relation to effects for individual landholdings, the provision of crossings had ensured that any land which could reasonably be accessed would not be left isolated. One landholding would be left with small parcels of land south of the Scheme which although were viable, may be slightly more difficult to farm. The residual effects on the landholdings was assessed in the 2014 ES to be neutral or slight adverse and therefore not significant.

Continued validity of assessment

2.9.11 The ES 2021 Update (RVR/70) assessment was undertaken by Peter Williams from Reading Agricultural Consultants. Peter holds an Honours Degree in Agriculture from the University of Reading and is a Fellow of the British Institute of Agricultural Consultants.

2.9.12 The ES 2021 Update assessment found that the methodology and assessment used in the original ES aligns with current best practice. The assessment of the effect on agricultural soil also remains valid, subject to slight amendments to the areas of land required temporarily and permanently. Due to changes to the baseline information available and the changes to the Scheme design and construction an updated assessment of the effects on the land holdings was undertaken.

2.9.13 The updated assessment concluded:

- The impact on agricultural land and soil was assessed as a slight adverse effect;
- impact to Parsonage/Redlands Farm was assessed as a slight to negligible adverse effect; and
- impact to Moat Farm was assessed as a slight adverse effect or a slight to negligible adverse effect, depending on the access provided to severed land.

2.9.14 These findings align with the 2014 ES conclusions.

2.10 Human Health

2.10.1 The assessment of human health was included in the 2021 ES Update Report (RVR/70) in response to a request in the Rule 17 direction. Human health as a standalone topic was not required by legislation at the time of the 2014 ES or at the time the Scoping Opinion was sought in May 2017.The assessment considered the potential of the Proposed Scheme to create environmental changes which in turn may generate effects (positive and negative) to human health. The assessment concluded that the Proposed Scheme would result in minor negative effects associated with air quality, noise, neighbourhood amenity and resource use. It also concluded that there would be positive effects associated with access to open space and nature, accessibility and active travel and social cohesion and cohesive design.

Competency of specialists

2.10.2 The assessment was undertaken by Elie Holderness an EIA Consultant at Temple Group. She has a BSc (Hons) in Geography and is a Practitioner member of the Institute of Environmental Management and Assessment. Ellie has over four years' experience in the co-ordination of EIA and undertaking environmental appraisal work.

Approach to assessment

2.10.3 There are no set methodologies for undertaking health impact assessment for EIA. The assessment has utilised the NHS's Healthy Urban Development Unit's (HUDU) Rapid Health Impact Assessment (HIA) Tool 2019, which has a comprehensive framework for HIA. This methodology is adapted so that the significance of any health effects is assessed (as per EIA Regulations) by consideration of relative sensitivities of receptor groups and likely magnitude of impacts, and potential effects of negligible significance scoped out to ensure a proportionate assessment.

Significant residual effects

2.10.4 Overall, the Proposed Scheme is expected to have a mixed but minor positive (not significant) impact to human health through the provision of an access route to the Kent & East Sussex Railway, currently only accessible by road. This will facilitate travel to and between areas of public realm and surrounding natural spaces along the route to users. This will particularly benefit accessibility for tourists to the area, therefore improving the local economy through additional spending and employment.

2.10.5 This will also lead to positive health outcomes for those who are more sensitive such as the elderly or disabled or those living in deprived areas, whereby they will more readily be able to access natural and cultural amenities, often outside of the area in which they live.

2.10.6 A moderate positive (significant) impact is expected as a result of provisions for those less mobile or with a disability, whereby all track crossings are implemented at-grade, and specialised coaches provided for on the majority of services for disabled access.

2.10.7 Negative impacts to the environment which may pose risk to human health, such as the degradation of the air quality and noise environment, are considered to be minor negative or negligible (not significant) following mitigation. During construction, negative impacts to human health such as the effects of dust, pollutant and noise emissions from construction activity and plant will be mitigated through the implementation of the CEMP and best

practice measures. In operation, these effects are expected to be negligible given that the services running on the line will be infrequent and limited and that background noise and air pollution concentrations are low.

2.10.8 A minor negative effect (not significant) will be caused by the availability of open land and biodiversity during construction; however, this will be mitigated through the provision of habitat planting to remediate land temporarily used for construction, in line with the LEMP.

2.11 Major Accident Hazards and Disasters

2.11.1 The assessment of major accident hazards and disasters was included in the 2021 ES Update Report (RVR/70) in response to a request in the Rule 17 direction. Major accident hazards and disasters as a standalone topic was not required by legislation at the time of the 2014 ES or at the time the Scoping Opinion was sought in May 2017. The assessment considered the vulnerability of the Proposed Scheme to those hazards that have the potential to cause a major event and which could then generate a significant adverse effect on the environment. The assessment concluded that there would be no significant residual effects.

Competency of specialists

2.11.2 The assessment was undertaken by Stephen Price, an Associate Director at Temple Group. Stephen has with 17 years' experience in planning and environmental assessment. Stephen holds an MA in Environmental Impact Assessment and Management, a Diploma in Town and Regional Planning and a BA (Hons) in Urban Studies and Planning. He is a Full Member of the Royal Town Planning Institute (MRTPI) and a Practitioner Member of the Institute of Environmental Management and Assessment (IEMA). Stephen has undertaken environmental assessments and co-ordinated large-scale infrastructure EIAs across a range of sectors including rail, energy, property, waste and minerals.

Approach to assessment

2.11.3 The requirement to consider major accident hazards and disasters was introduced by the Environmental Impact Assessment (Miscellaneous Amendments Relating to Harbours, Highways and Transport) Regulations 2017. In the short time that has elapsed since the 2017 EIA Regulations came into force, there is currently no recognised standard methodology for assessing significant environmental effects associated with the vulnerability of a development to a major event. The assessment has utilised the approach outlined in the IEMA document Major Accidents and Disasters in EIA: A Primer published in 2020.

2.11.4 An initial assessment scoped down the hazards likely to be relevant to the Proposed Scheme to the following:

- Persistent flooding which leads to a landslip/collapse of an embankment resulting in a potential derailment and/or the degradation of sensitive ecological receptors due to siltation of the River Rother and surrounding watercourses;
- High winds leading to a potential derailment as a result of trees and debris being blown onto the route of the Proposed Scheme;
- Loss of life and injury at a level crossing due to a collision between a train and a vehicle(s); and
- Loss of life or injury to train operators and passengers as a result of an explosion in the steam engine, which could lead to a catastrophic fire.

Significant residual effects

2.11.5 The assessment concluded that following the implementation of mitigation measures, the Proposed Scheme would not generate any significant environmental effects.

2.12 Climate Change

2.12.1 The assessment of climate change was included in the 2021 ES Update Report (RVR/70) in response to a request in the Rule 17 direction. Climate change as a standalone topic was not required by legislation at the time of the 2014 ES or at the time the Scoping Opinion was sought in May 2017. The assessment considered the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change.

Competency of specialists

2.12.2 The assessment was undertaken by Andrew Curry an Air Quality and Climate consultant at Temple Group. He has a BSc (Hons) in Geography and a MSc in Renewable Energy. Andrew has over three years' experience in the undertaking climate change assessment work for EIA chapters.

Approach to assessment

2.12.3 The assessment has utilised two assessment methodologies published by IEMA:

- IEMA (2020) Environmental Impact Assessment Guide to: Climate Change Resilience and Adaption; and
- IEMA (2017) Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance.

Significant residual effects

2.12.4 The assessment concluded that embodied carbon in building materials, carbon emissions from construction plant and maintenance and end of life emissions to result in minor adverse effects. The IEMA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance states that '*in the absence of any significance criteria or a defined threshold, it might be considered that all GHG* (greenhouse gas emissions) *might be considered as significant*' and as such the minor effects have been categorised as significant for this topic. Commonly for EIA topics minor effects are not categorised as significant.

2.12.5 The aforementioned IEMA Guide explains that by defining all GHG emissions as significant sufficient weight should be afforded to ensure a project takes mitigating action. The ES 2021 Update assessment considers that a reasonable level of mitigation has been implemented and although the minor adverse effects are categorised as significant in the context of the assessment methodology they are not disproportionate for a scheme of this nature.

2.13 Cumulative Effects

2.13.1 An assessment of the cumulative effects of the proposed Scheme identified no cumulative effects as a result of the construction or operation of the Scheme in isolation or in combination with other unrelated proposed developments.

2.14 Wider Effects

2.14.1 The purpose of the wider effects assessment is to identify any change to the significant effects that could arise if the Scheme were to be built in any position within the wider extent of limits and levels set out in the Order.

2.14.2 Although the Order permits a defined lateral and vertical deviation, in reality that limit will in practice not be achievable across the whole scheme due to various constraints upon the Scheme design including existing infrastructure, fixed design points (e.g. connections to existing track), environmental constraints and engineering feasibility constraints

2.14.3 Section 4.0 of the ES 2021 Update further details these constraints and reviews the limits of deviation along the Scheme separated into three sections. Overall, it is not anticipated that sufficient spatial deviation in the Scheme could be achieved to generate any new or different significant effects.

3.0 Response to objections

3.1 Provision of evidence

3.1.1 After the TWAO application was submitted, the Department for Transport invited consultation responses. A total of 1,003 objections were made, of which 572 were templates relating to the proposed A21 level crossing.

3.1.2 It should be noted that some of the issues raised by stakeholders that are environmental issues or issues considered within the Environmental Statement and subsequent environmental work are responded to directly in other evidence and will not be covered in my proof.

- Flood risk (evidence provided by Suzanne Callaway – Capita)
- Ecological impacts (evidence provided by Giles Coe – Co Ecology)
- Traffic and proposed crossings (evidence provided by Phil Hamshaw – I-Transport)
- Economic business case (evidence provided by Tom Higbee – Steer Davies Gleave)
- Farm impact (evidence provided by Peter Hodges – Lambert and Foster)

3.1.3 The following sections provide a response to key themes raised in the objections.

3.2 Adequacy of the ES

3.2.1 It is worth noting that a TWAO does not itself authorise the development to which it relates. There must always be development consent under the Town and Country Planning Act 1990 (“the 1990 Act”). It is open to an applicant for a TWAO to seek planning permission in advance of making the application for TWAO or to seek a grant of deemed planning consent with the application for statutory powers, pursuant to section 90(2A) of the 1990 Act.

3.2.2 In this case, full planning permission (RR/2014/1608/P dated 22 March 2017) has already been granted for the reinstatement of the railway that is to be authorised by the TWAO. This means that, save where further statutory authorisation is required to acquire or use third party land or to interfere with public rights over the highway, and subject to compliance with the planning conditions, RVR is already authorised to construct and operate the railway in accordance with the planning consent.

3.2.3 The passage of time between grant of permission and commencement of development in accordance with that permission does not undermine the validity of the EIA. It simply means that some assumptions in the ES may prove to have been overly sanguine and others to have been overly conservative. This is particularly likely to be the case where, as with RVR, it has not been possible for the applicant to obtain access to the land for survey purposes and it is why the planning conditions make provision for further details and management plans to be approved by the local planning authority prior to construction.

3.2.4 The planning consent for the re-instatement of the railway includes various conditions relating to ecology and environmental management. These conditions make clear that, notwithstanding the adequacy of the environmental statement, it is appropriate to carry out further detailed and site-specific ecological, and other, assessments prior to

implementation of the development in order to refine the detail of the requisite mitigation measures to ensure, inter alia, the protection of legally protected species and other wildlife and supporting habitats.

3.2.5 It follows that the environmental impacts occurring as a result of the project to be authorised by the TWAO are controlled through the discharge of the conditions on the relevant planning consent, and not through the TWAO itself.

3.2.6 In the present case there have been concerns expressed by objectors regarding the adequacy of the ES submitted with the TWAO. However, the ES was clearly considered adequate by RDC whose planning committee determined unanimously to grant consent for the development.

3.2.7 As presented in my evidence, although not a requirement for this application, the EIA was carried out by suitably qualified and competent experts.

3.2.8 Prior to submitting its application for TWAO, RVR sought a Scoping Opinion from the Secretary of State ("SoS") in accordance with Rule 8 of the Applications Rules as to the environmental information to be submitted with the TWAO application. Having considered the matter and consulted with the relevant environmental bodies in compliance with those Rules, the SoS opined that the information accompanying the planning application would, with some limited qualifications, provide an ES of sufficient scope for the purposes of the application. The further assessment required by the Scoping Opinion was reported in an Addendum to the original ES and submitted with the application for TWAO.

3.2.9 When determining the adequacy of the environmental assessment for this Scheme, the 2014 ES, 2016 Addendum, 2017 Addendum, ES 2021 Update and evidence supplied prior to and in the course of the inquiry should be considered collectively.

3.2.10 The 2014 ES was prepared in accordance with the Scoping Opinion of RDC as informed by statutory consultee representations, the EIA Regulations relevant to the time of writing, discipline specific best practice methodologies and the available baseline information at the time.

3.2.11 The 2014 ES detailed the general EIA approach and assessment methodologies for each of the scoped in environmental topics.

3.2.12 Limitations to the assessment were identified and described in Section 4.9 of the ES and in specific relation to each topic within their relevant chapters. The implications of the limitations were described as well as a commentary on how any limitations were addressed in the methodology to ensure a suitably robust assessment could be maintained.

3.2.13 Assessments were undertaken to identify any potentially significant effects arising from the construction and operation of the Scheme. Mitigation measures were proposed and committed to by RVR in order to reduce the effects to acceptable levels where possible.

3.2.14 The 2016 ES Addendum was prepared to provide further explanation and information in relation to the assessment of impacts on ecology within and adjacent to the project site, and to provide an update on changes to other topic assessments arising from minor changes to the Scheme design in response to engagement with the Environment Agency. This Addendum provided further explanation and information to demonstrate to the satisfaction of the county ecologist and Rother District Council that the Ecological Impact

Assessment (EcIA) is robust, proportionate and reasonable in the context of both established EcIA guidance and the requirements of the EIA Regulations.

3.2.15 The 2017 ES Addendum provides further explanation and clarification of the impacts of the Scheme against the key landscape components and objectives described in the AONB Management Plan and identifying, in each case, whether the Scheme is in accordance with or in conflict with those components and objectives. It also addressed matters raised by Historic England, which were not part of the Scoping Opinion.

3.2.16 The 2021 ES Update was in preparation prior to the postponement of the inquiry in 2020, its purpose was to revalidate the findings of previous environmental assessment to ensure decision-making could be made with up to date information. Following the Rule 17 direction the report has been revised further to address specific requests within the Secretary of State request.

3.3 Time since environmental assessment

3.3.1 Revalidation work has been undertaken which has reviewed the on-going validity of the original ES findings and those included in subsequent addendums and supporting technical notes. The work has consisted of:

- updating baseline data;
- identifying and reviewing updates to policies and plans considered in the original assessment;
- identifying and considering the implications of changes to assessment methodologies; and
- considering any changes to the Scheme since the assessments were undertaken.

3.3.2 As described previously, the determination of the application should be made on all information presented by the conclusion of the inquiry. As such, the original ES and addendums supplemented by the ES 2021 Update provide sufficiently up to date environmental information upon which decision-making can be made.

3.4 Operational noise

3.4.1 A review of the original operational noise assessment has been undertaken. The review made the following conclusions:

- there are some updates and changes to standards, guidance and policy but none are likely to affect the assessment method or findings;
- the methodology employed to determine operational noise is reasonable, and the same method is likely to have been adopted now as when the 2014 ES was completed;
- baseline data identified that the dominant noise source was road traffic noise. Despite traffic data from April 2019 indicating an increase in vehicle numbers, the change is unlikely to change the noise baseline. Any increase in road traffic noise would reduce the noise impact of the Scheme;

- no nearby new noise generating developments have been identified which might also affect the baseline at the identified receptors; and no noise generating uses are likely to have been removed which would lower the baseline (given road traffic noise is dominant at all locations;
- noise from road traffic stopping at the level crossing is only likely to reduce overall daily noise levels as slower moving traffic generates lower noise levels than faster moving traffic; however noise from stopped traffic would be of a different character (i.e. engine idling noise and acceleration rather than tyre noise from free flowing traffic).
- the relatively short duration and low number of level crossing operations (with a large proportion of the year they are not used at all) combined with the distance to receptors mean that significant noise effects are unlikely to be associated with the operation of the level-crossings and it is considered reasonable to have left them out of the scope of the 2014 ES.
- predicted noise levels would have to be substantially higher than those presented in the 2014 ES to lead to identification of minor or moderate effects (a 9dB and 13dB increase required for minor and moderate effects respectively); and
- the conclusion that the operation of the Scheme would result in Negligible effects is robust and continues to be valid.

3.5 Construction phase impacts

3.5.1 Construction phase impacts are commonplace in all infrastructure developments and in general terms are fairly generic in their nature and are largely temporary. As such, a wide range of established best practice construction methods have been developed in order to manage these very common potential impacts. Common construction phase impacts relate to temporary construction noise, temporary reductions in local air quality (in particular the creation of dust) and the potential to contaminate land and water. Various, construction management mitigation measures have been proposed by the individual topics chapters. A draft CEMP was prepared and included in the 2014 ES (Volume 2, Appendix 4).

3.5.2 The purpose of the CEMP is to:

- facilitate environmental management by providing an overview of the key environmental issues and actions;
- set out how environmental effects and disturbance of sensitive receptors will be minimised as a result of direct or indirect activities associated with the project; and
- provide a document that will become an integral part of the contractor's environmental management procedures in relation to the Scheme.

3.5.3 The CEMP is intended to be a live document that should be kept up to date and revised as necessary to maintain its usefulness.

3.5.4 Condition 6 of the RDC planning permission requires that a CEMP should be submitted and approved in writing by the local planning authority. The condition goes on to list specific details it wishes to have included.

3.5.5 It is through this planning condition mechanism that the Scheme will demonstrate than construction phase mitigation is suitably planned, consulted on, managed and implemented.

3.6 AONB

3.6.1 The revalidation work analysed whether (in the light of the AONB Unit's January 2015 letter and the SoS's associated June 2017 scoping opinion) the 2017 ES addendum paid '*due attention to the importance and relevance of the High Weald AONB Management Plan: appraising the proposed scheme against all the key landscape components and objectives in the management plan, identifying whether the scheme meets or brings about conflict with those components and objectives'*.

3.6.2 The revalidation work entailed reviewing the LVIA and other studies; carrying out high-level baseline, effects and other assessments; factoring in new information / baseline changes; either carrying out, or noting, the need for further studies as required; and making recommendations as required. The AONB Management Plan was also reviewed in relation to the revisions that were made to it following publication of the 2017 ES Addendum.

3.6.3 The 2017 ES Addendum concluded that there was a 'slight conflict' with two objectives in the 2014-19 AONB Management Plan. Both of these objectives are the same in the 2019-24 AONB Management Plan.

- *Objective W1: To maintain existing extent of woodland and particularly ancient woodland.* Addendum response: 'Initial limited loss of existing tree cover from remnant embankments to reinstate line, mitigated by planting'. This conflict would be temporary.
- *Objective FH1: Secure agricultural productive use of fields as part of sustainable land management.* Addendum response: '*Reinstatement of low embankment south of Church Lane could subdivide recently enlarged fields, with potential impact to agricultural productivity. Land use of smaller fields adjacent to river could change for arable to wet grassland management, thereby improving landscape and ecological value, but any such changes not within control of applicant'.*

3.6.4 The revalidation work confirmed that the Scheme could be in slight conflict with Objectives W1 (temporary), and FH1 (permanent) of the 2019-24 High Weald AONB Management Plan; otherwise, the Scheme meets all the other relevant objectives. In certain aspects, the Scheme demonstrates a high degree of compliance with the objectives. The AONB Management Plan notes that the *'89km of historic railway line'* within the AONB contributes to the area's '*natural and cultural capital'.* The AONB designation sets a very high standard in terms of the quality of any proposed development. Should the Scheme go ahead, the valuable landscapes through which the reinstated railway would pass must be protected and enhanced, which requires attention to detail during design and construction, maintenance and management.

3.6.5 The consent granted in March 2017 includes a condition to submit prior to construction the '*details for the planting proposals, details of any footpaths, fencing, lighting and a Landscape and Ecological Management Plan for the life of the scheme, to be approved by the local authority*'.

3.7 Air Quality and CO_2 emissions

3.7.1 In response to stakeholder concerns regarding air quality impacts, deriving from the change in traffic movements associated with the operation of the propose level-crossings and impacts from the operation of diesel and steam trains on the Scheme, RVR commissioned Temple to undertake additional work to appraise the potential impact these aspects of the Scheme might have. This work was captured in the Air Quality Statement (October 2018) (RVR/60) and subsequently revalidated as reported in the ES 2021 Update (RVR/70).

3.7.2 Assessment of air quality impacts associated with queuing vehicles at the three proposed level-crossings, has considered changes in NO_x and PM_{10} emissions. Based on 2019 traffic data and a barrier closure time of 72 seconds (a figure agreed with Highways England), the assessment concluded that queuing vehicles will have negligible impact on annual mean pollutant concentrations at the nearest sensitive receptors. In addition, considering the low baseline concentrations in the study area, there is no risk that annual or short-term air quality objectives will be breached.

3.7.3 The assessment also concludes that emissions from the operational railway would be well below the level at which significant effects might occur.

3.7.4 CO_2 emissions have been assessed within the climate change chapter of the ES 2021 Update (RVR/70). The assessment considered embodied carbon within the proposed infrastructure, carbon emissions associated with the construction of the Proposed Scheme and carbon emissions associated with the operation of the railway. Following mitigation, the effects were concluded to vary between negligible and minor adverse. It should be noted that the IEMA Guidance (*IEMA. 2017. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance*) used to inform the EIA methodology states: *"in the absence of any significance criteria or a defined threshold, it might be considered that all GHG emissions are significant and an EIA should ensure the project addresses their occurrence by taking mitigating action"*. In this respect, whilst it is acknowledged that all emissions from the Proposed Scheme will contribute to the overall significant effect of climate change, it is considered that the project has and will adopt an appropriate and reasonable level of mitigation and the residual effects should therefore be considered appropriate in the context of this EIA.

4.0 Conclusion

4.1.1 The Proposed Scheme was granted full planning permission (RR/2014/1608/P dated 22 March 2017) through the Town and Country Planning Act 1990. That planning application was supported by the 2014 ES (RVR/24, RVR/25, RVR/26 and RVR/27). The receiving environment for the Proposed Scheme is rural in character and remains largely unchanged, a fact verified through the baseline update undertaken. The revalidation work undertaken and reported in the ES 2021 Update (RVR/70) has demonstrated that the original findings of the 2014 ES continue to remain robust for the purposes of decision making.

4.1.2 The existing planning permission (RR/2014/1608/P) contains a number of conditions pertaining to the detailed design, construction phase management and operational phase monitoring which provide a comprehensive set of measures to ensure the mitigation proposed within the ES is implemented and approved externally.