

M54 to M6 Link Road

TR010054

Volume 6

6.3 Environmental Statement

Appendices

Appendix 3.2 Dark Lane Alignment

Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

January 2020

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**M54 to M6 Link Road
Development Consent Order 202[]**

**6.3 Environmental Statement Appendices
Appendix 3.2 Dark Lane Alignment**

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1 Introduction

1.1 Purpose of this Appendix

- 1.1.1 This report has been prepared as an Appendix to the Environmental Statement (ES) Chapter 3: Assessment of Alternatives [TR010054/APP/6.1] to present the post Preferred Route Announcement (PRA) review of the new link road alignment east of Dark Lane. The purpose of this report is to present the analysis of the environmental constraints and potential effects of the alternatives considered in the Dark Lane area as summarised in the ES Chapter 3: Assessment of Alternatives [TR010054/APP/6.1].
- 1.1.2 The PRA in September 2018 indicated that part of the new link road would extend through the historic Hilton Park and Lower Pool Site of Biological Importance (SBI) (a Local Wildlife Site (LWS)). It would pass between residential areas of Hilton Lane to the east and the residential areas of Dark Lane and Park Road to the west. The route would pass to the west of the Grade I listed Hilton Hall (and associated listed assets) and was positioned as far west as possible to reduce impacts on the historic environment.
- 1.1.3 During the course of consultation in the optioneering phases of the Scheme, residents of Dark Lane and Park Road raised concerns regarding the proximity of the link road to residential properties and the impact that the new link road may have on the environment in the locality of Dark Lane. These concerns have been echoed by South Staffordshire Council (SSC) and local Parish Councils.
- 1.1.4 Following the PRA in September 2018, four further alignments were developed to investigate the potential to design an alignment that increases the separation distance from properties to the west, whilst not creating new significant environmental effects. The alternative alignments would move the link road further to the east away from Dark Lane and Park Road, and closer to Hilton Hall (and associated listed assets) to the east. A description of the Baseline Option and the four alternatives can be found in Section 3 of this report.
- 1.1.5 Three of the five options were discounted due to performing noticeably worse than the other two options. The decision was made to move the alignment from the PRA position (referred to as the Baseline Option in this report) to the alignment of Option B(W)2 prior to Statutory Consultation in 2019, as requested by local people and key stakeholders and a high-level environmental sifting exercise informed by the emerging baseline information being prepared for the ES.
- 1.1.6 During statutory consultation, SSC asked Highways England whether the alignment could be moved even further from Dark Lane and Park Road. Further detailed assessment and stakeholder discussions with Natural England and Historic England was undertaken to inform the final decision between Options B(W)2 and Option B(W)4. This explored the key areas where it was anticipated that the two options could result in differing impacts on heritage assets, biodiversity, air quality, noise, landscape and the water environment. The further assessment around these two options can be found in Sections 5 to 10 of this report.

- 1.1.7 The decision to adopt the alignment of Option B(W)2 in the final Scheme layout as presented in the ES (Chapter 2: The Scheme [TR010054/APP/6.1]) was made as summarised in Section 11 of this report. A presentation was given to SSC in November 2019 and Hilton Parish Council in January 2020 to explain the decision and the rationale behind this decision.

1.2 Overview of the Project

- 1.2.1 A description of the Baseline Option and the four alternatives considered post PRA (Options B(W)1, BW(2), B(W)3 and B(W)4) can be found in Section 3 of this report.
- 1.2.2 A full Scheme description can be found in ES Chapter 2: The Scheme [TR010054/APP/6.1].

1.3 Legislative and Policy Framework

- 1.3.1 Details of relevant legislation and policies are detailed in the ES Chapter 1: Introduction [TR010054/APP/6.1]. Discipline specific legislation and policies are included in the relevant ES Chapters 5 – 15 [TR010054/APP/6.1].
- 1.3.2 An outline of legislation and policies relevant to this report has been identified below:
- Planning Act 2008**
- 1.3.3 The Scheme is defined as a Nationally Significant Infrastructure Project (NSIP) as it comprises of the construction of a highway under the Planning Act 2008 (Ref 1). See Section 2.3 of the Case for the Scheme and National Policy Accordance document [TR010054/APP/7.2] for more detail.

The EIA Regulations

- 1.3.4 The Scheme is classified as an 'EIA Development' under The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (Ref 2).

Planning Policy and Development Plans

- 1.3.5 The following policies and plans are relevant to this report:
- National Policy Statement for National Networks (NPSNN) (Ref 3)
 - National Planning Policy Framework (NPPF) (Ref 4)
 - Highways England Delivery Plan 2019 to 2020 (Ref 5)
 - Highways England Environment Strategy (Ref 6)
 - Highways England Biodiversity Plan (Ref 7)
 - Highways England Air Quality Strategy (Ref 8)
 - South Staffordshire District Council Core Strategy Development Plan document adopted 2012 (Ref 9)
- 1.3.6 Where relevant, the details of these policies and how these have been considered in the decision on the new link road alignment is noted in Sections 5 to 10 of this report.

2 The Project

2.1 Project Description

- 2.1.1 The Scheme description is provided in detail in Section 2.5 of the ES Chapter 2: The Scheme [TR010054/APP/6.1]. The Scheme boundary is presented in Figure 2.8 [TR010054/APP/6.2].

3 Assessment of Alternatives

3.1 Introduction

3.1.1 A description of the Baseline Option and the four alternative options considered can be found in this section. A review of the key characteristics and a high-level environmental sifting exercise was undertaken, informed by the emerging environmental baseline gathered to inform the ES. This sifting exercise considered the potential for each alternative option to improve the balance of environmental effects.

3.2 Reasonable Alternatives Studied

Baseline Option

3.2.1 Modified Option B(W) excluding M6 Toll was presented as the preferred route in September 2018. Further details on this option and how it was developed can be found in the ES Chapter 3: Assessment of Alternatives [TR010054/APP/6.1]. For the purposes of this report, this alignment is referred to as the Baseline Option. It is the option which the four alternative alignments were compared to.

3.2.2 The new link road would pass between Dark Lane and Lower Pool SBI as shown in Plate 3.1 below. The alignment would locate the new link road directly adjacent to Dark Lane, passing near the intersection with Park Road. The distance between the edge of the new carriageway (back of verge) and the closest residential property (façade) would be approximately 17 m. This alignment would provide the greatest distance between Hilton Hall and the new link road of all the five options considered at approximately 495 m. The distance between the edge of the new carriageway and the closest residential property (façade) on Hilton Lane is 153 m.

3.2.3 The alignment was predicted to result in the loss of approximately 15% of the Lower Pool SBI area (or 19% if dams are required at Lower Pool). This would include the loss of 17% of the total area of woodland and 10% of Lower Pool waterbody. It was expected to be necessary to provide dams to minimise the impact of construction works on Lower Pool, which would likely result in the loss of approximately 26% of the pond.

3.2.4 The alignment would cross Hilton Park bisecting the historic parkland resulting in the loss of approximately 14.8 ha (5%) of the historic parkland. The remaining area would be split into 291.8 ha to the east of the new link road and 23.4 ha to the west of the New link road (88% and 7% respectively).

3.2.5 It was anticipated that noise barriers would be required along the western edge of the new link road adjacent to Dark Lane in order to provide noise mitigation for the residential properties on Dark Lane and Park Road. Landscape planting would be required to provide visual screening for several properties on Dark Lane and Park Road. However, due to the limited space between Dark Lane and the new link road there would be little scope for visual mitigation for these residential properties.

3.2.6 There would be a need to find an area of adjacent land to provide planting to compensate for the loss of habitat from the SBI.



Plate 3.1: Baseline Option (PRA alignment)

Option B(W)1

- 3.2.7 The indicative alignment for B(W)1 is shown in Plate 3.2. The distance between the edge of the new link road and closest residential property (façade) on Dark Lane would be approximately 35 m. Hilton Hall would be 480 m away from B(W)1, approximately 15 m closer to Hilton Hall compared to the Baseline Option.
- 3.2.8 The alignment would result in the loss of approximately 24% of Lower Pool SBI, this would include the loss of 17% of the total area of woodland and 26% of Lower Pool waterbody. Due to the alignment moving further into the Lower Pool SBI it was considered likely that dams would be required to construct the Scheme rather than a simpler remodelling of the edge of the waterbody.
- 3.2.9 Option B(W)1 would be 15 m closer to Hilton Hall compared to the Baseline Option. The alignment would cross Hilton Park bisecting the historic parkland. The area of historic parkland lost would be similar to that of the Baseline Option (14.8 ha) with the remaining area split into approximately 24.4 ha to the west of the link road and 290.8 ha to the east of the link road and (7% and 88% respectively).
- 3.2.10 It was anticipated that landscape planting would be required to provide visual screening for several properties on Dark Lane and Park Road. Option B(W)1 would have a greater area to the west of the link road to provide this planting than the Baseline Option.
- 3.2.11 A noise barrier would still be required along the western edge of the Scheme to provide noise mitigation for residential properties on Dark Lane and Park Road.
- 3.2.12 There would be a need to find an area of adjacent land to provide planting to compensate for the loss of habitat from the SBI.



Plate 3.2: Option B(W)1 Indicative Position

Option B(W)2 – The Scheme alignment

- 3.2.13 The indicative alignment for B(W)2 is shown in Plate 3.3. The distance between the edge of the Scheme and the closest residential property (façade) on Dark Lane would be approximately 46 m. Hilton Hall would be approximately 470 m away from B(W)2 and 25 m closer to Hilton Hall compared to the Baseline Option.
- 3.2.14 The alignment would result in the loss of approximately 27% of Lower Pool SBI, this would include the loss of 18% of the total area of woodland and 43% of Lower Pool waterbody
- 3.2.15 The alignment would cross Hilton Park bisecting the historic parkland. The loss in area from the of historic parkland would be similar to the other options considered, with the remaining area split into approximately 25.1 ha to the west of the Scheme and 290.1 ha to the east of the Scheme (8% and 87% respectively).
- 3.2.16 It was anticipated that landscape planting would be required to provide visual screening for several properties on Dark Lane and Park Road.
- 3.2.17 It was anticipated that a noise barrier would still be required along the western edge of the Scheme to provide noise mitigation for residential properties on Dark Lane and Park Road.
- 3.2.18 Due to the impact on Lower Pool SBI there would be a need to find an area of adjacent land to provide planting to compensate for the loss of habitat from the SBI.



Plate 3.3: Option B(W)2 Indicative Layout (The Scheme position)

Option B(W)3

- 3.2.19 The indicative alignment for Option B(W)3 is shown in Plate 3.4. The distance between the edge of the link road and the closest residential property (façade) on Dark Lane would be approximately 55 m. Hilton Hall would be 460 m away from Option B(W)3, 35 m closer to Hilton Hall compared to the Baseline Option.
- 3.2.20 This alignment was anticipated to result in the loss of approximately 34% of Lower Pool SBI, this would include the loss of 19% of total area of woodland and 53% of Lower Pool waterbody. The alignment would also result in the realignment or loss of a bridge over Lower Pool waterbody which is a feature of the historic parkland.
- 3.2.21 The alignment would cross Hilton Park, bisecting the historic parkland. The loss of historic parkland area would be similar to the other Scheme options, with the remaining area split into approximately 289.4ha to the east of the Scheme and 25.8ha to the west of the Scheme (87.7% and 7.8% respectively).
- 3.2.22 Owing to the ability to retain more of the existing woodland with this option, existing screening for visual receptors at Dark Lane would remain. However, it was anticipated that visual screening would still be required for several properties on Dark Lane and that noise barriers would still be required along the western edge of the Scheme.

- 3.2.23 Similarly, there would be a need to find an area of adjacent land to provide replacement planting to compensate for the loss of area for the SBI.



Plate 3.4: Option B(W)3 Indicative Layout

Option B(W)4

- 3.2.24 The indicative alignment for Option B(W)4 is shown in Plate 3.5. The distance between the alignment and Dark Lane is 146 m. The distance between the edge of the link road and the closest residential property (façade) on Dark Lane would be approximately 163 m. However, the alignment would be closer to the properties located off Hilton Lane (approximately 80 m from the nearest property located off Hilton Lane compared to 200 m with the Baseline Option). Hilton Hall would be 348 m from Option B(W)4.
- 3.2.25 The alignment was estimated to result in the loss of approximately 12% of Lower Pool SBI, this includes the loss of 12% of the total area of woodland and 13% of Lower Pool waterbody. Option B(W)4 would result in the smallest loss of habitat from the SBI of all the options considered.
- 3.2.26 The alignment would cross Hilton Park bisecting the historic parkland. The loss of area from the historic parkland would be similar with all of the Scheme options. The historic parkland would be split with approximately 32.7 ha to the west of the Scheme and 282.5 ha to the east of the Scheme (10% and 85% respectively).
- 3.2.27 Dark Lane could remain open to traffic however during the public consultation process the closure of Dark Lane received positive feedback due to the existing

issues with rat-running. In addition, it may be difficult to introduce a T-Junction immediately after the proposed Hilton Lane overbridge therefore, consideration was still given to the closure of Dark Lane.



Plate 3.5: Option B(W)4 Indicative Layout

3.3 Justification for Options Selection

- 3.3.1 The Baseline Option was discounted as other options would provide increased potential for reducing the environmental impacts of the Scheme and addressing comments from local people and key stakeholders.
- 3.3.2 Option B(W)1 was discounted on the basis that this was not anticipated to result in a noticeable change in air quality or noise impacts on Dark Lane receptors, which were the primary concern for Dark Lane and Park Road residents. It also had the potential to result in slight worsening of impacts on heritage assets (increased loss of historic landscape features during construction) and increased loss of habitat from the Lower Pool SBI. There would also be limited opportunity to reduce the visual effects for Dark Lane receptors through mitigation planting, as a limited amount of space would be available between the Scheme and Dark Lane. This option would therefore not strike a suitable balance between the impacts on these receptors and was not considered further.
- 3.3.3 Option B(W)3 was also discounted as it would remove the greatest proportion of the Lower Pool SBI woodland and waterbody of the options considered, whilst slightly increasing visibility of the Scheme into the historic Hilton Park area. This would result in the greatest habitat loss of all the options considered and fragment two large portions of woodland including mature trees. There was less confidence with this option in the ability to retain woodland to the east of the Scheme to provide

visual screening from Hilton Park which informs the setting of the listed buildings. Option B(W)2 was anticipated to retain woodland on both the east and the west, providing more balanced screening to both Dark Lane residents and the heritage receptors to the east. The increased loss of Lower Pool waterbody was anticipated to require increased mitigation for flood risk and water quality over Option B(W)2 and Option B(W)4, although the impacts would likely be mitigatable. This option would have greater biodiversity effects than Option B(W)2. There were no criteria where Option B(W)3 performed significantly better than Option B(W)2 and so this option was discounted from further assessment.

- 3.3.4 A decision was made to proceed with the alignment of Option B(W)2 for the Statutory Consultation in 2019. Assessment work and discussion with stakeholders was undertaken to inform the final decision over Option B(W)2 and Option B(W)4. The further assessment and stakeholder discussion around these two options can be found in Sections 5 to 10 of this report.

4 Environmental Assessment Methodology

4.1 Environmental Scoping

4.1.1 An Environmental Impact Assessment (EIA) Scoping Report was submitted to The Inspectorate on 11 January 2019 (Ref 10) for the Scheme. The Inspectorate reviewed and consulted on the EIA Scoping Report and published a Scoping Opinion on 21 February 2019 (Ref 11). Some environmental factors were scoped out of the assessment of the Scheme, and therefore were not considered in the assessment of Options B(W)2 and B(W)4. Full details of the scope of the ES can be found in the ES Chapter 4: Environmental Assessment Methodology [TR010054/APP/6.1].

4.1.2 The initial sifting exercise found that some environmental factors were unlikely to show significantly differing results between any of the alternative options. Therefore these factors would not be key to decision making and were not considered in the assessment of Options B(W)2 and B(W)4.

4.1.3 The following environmental factors are scoped out of the assessment of Options B(W)2 and B(W)4:

- Decommissioning, heat and radiation.
- Major accidents and disasters.
- Geology and soils.
- Population and human health.
- Material assets and waste.
- Climate
- Temporary construction effects
- Buried archaeology

Decommissioning, Heat and Radiation

4.1.4 As noted in the ES Chapter 4: Environmental Assessment Methodology [TR010054/APP/6.1], decommissioning and heat and radiation have been scoped out.

4.1.5 In the unlikely event that the Scheme was demolished this would be part of the relevant statutory process at the time, including EIA as appropriate.

4.1.6 The EIA Scoping Report (and confirmed by the Scoping Opinion) concluded that heat and radiation were not relevant matters requiring consideration in the EIA given that the form and nature of the Scheme was such that these emissions would not occur.

4.1.7 Therefore, these factors have not been considered further within this report.

Major Accidents and Disasters

4.1.8 An assessment of potential issues associated with major accidents and disasters is provided in the ES Appendix 4.3 [TR010054/APP/6.3]. Major accidents and disasters are not considered further in relation the alternative options in this report,

as there would not likely be any difference in the risk or likelihood of these events in the alternative positions.

Geology and Soils

- 4.1.9 Both options may pass through areas containing potential contamination and may result in disturbance of contaminated materials during earthworks, were such works not adequately managed. The baseline information available did not suggest that any one route would present a higher risk than the other.
- 4.1.10 Both options would require the temporary and/or permanent use of best and most versatile agricultural soils. The footprint of the Scheme does not significantly increase with each of the options therefore the loss of agricultural soils would likely be similar for both options. Soils adjacent to the road may be affected by spray or airborne contaminants generated during routine use and maintenance of the road release during road accidents/emergency situations. This would be unlikely to differ between the options.
- 4.1.11 The same agricultural landowner would be directly affected by both options. The footprint of the Scheme does not significantly increase with each of the options therefore the loss of land from agricultural holdings would likely be similar for both options.

Population and human health

- 4.1.12 The population and human health assessment focuses on impacts to private property and housing, community land and assets, development land and businesses, agricultural land holdings, walkers, cyclists and horse-riders (WCH) and human health.
- 4.1.13 No Public Rights of Way (PRoW) were identified within the area which would be affected by the difference in option alignments.
- 4.1.14 Impacts on human health would be no different in terms of access to healthcare services and social infrastructure or impacts on social cohesion for either of the options.
- 4.1.15 Temporary construction effects were scoped out of the assessment as noted below. Permanent changes in air quality, noise and vibration and amenity were anticipated to present some difference between the options. These impacts are covered in Sections 5, 7 and 9 of this report (Air Quality, Landscape and Visual and Noise and Vibration respectively). No separate Population and Human Health section is provided in this report.

Material assets and waste

- 4.1.16 Both options would require construction works within a Mineral Safeguarding Area (MSA). As such, the material planning benefit of the Scheme would be balanced against the material planning benefits of any potentially underlying mineral for any option progressed.
- 4.1.17 Waste generation and material use is not considered to be a differentiating factor between the options as the cut and fill balance difference between options is anticipated to be in the region of +/- 100 m³. This is minor in the context of the full

Scheme cut and fill balance anticipated prior to the Statutory Consultation and the final cut and fill balance noted in the ES Chapter 10: Material Assets and Waste [TR010054/APP/6.1].

- 4.1.18 Material use and waste generation is expected to be very small during operation of the Scheme. An operational appraisal of the Scheme in relation Material Assets and Waste was screened out within the Scoping Report for the EIA and is not considered for the options.

Climate – Greenhouse Gases (GHG)

- 4.1.19 Both options would result in additional GHG emissions as a consequence of fossil fuels used in vehicles, plant and equipment during construction of the Scheme. This will include emissions as a result of the transportation of materials, waste and workers to/from the site and for the treatment of waste. Both options would also result in increased GHG emissions during construction due to embodied carbon within the construction materials themselves. Both options would result in the loss of woodland and the partial loss of a waterbody which are carbon sinks. Neither of the options would be likely to present significantly differing impacts or opportunities in relation to GHG emissions or carbon sinks.

- 4.1.20 In operation, both options would allow traffic to travel more efficiently between the M6 and the M54, rather than travel at lower speeds along the A460. The numbers of vehicles on the route would not be likely to differ with these changes in alignment.

Climate – Resilience

- 4.1.21 Both options would be likely to have some adverse impact on flood risk in the surrounding area due to change surface water catchment, when considering potential future increases in the frequency and severity of rainfall. This is considered in Section 10: Road Drainage and the Water Environment in this report. No other climate resilience issues are likely to differ between the options. No separate Climate section is presented in this report.

Climate – In-combination climate change impacts

- 4.1.22 The habitat around both options is marginally different and subject to the same potential for climatic changes. There would not be a significant difference in the ability of the surrounding environments to adapt to climate change such that this would be a differentiator for the options.

Temporary construction effects

- 4.1.23 The temporary construction effects associated with air quality (dust and construction vehicle emissions), noise, risk of pollution to the water environment, temporary flood risk issues and temporary landscape and visual effects are not assessed any further. By nature, these effects are temporary, and standard or specific mitigation measures would likely be employed for either option to reduce the impact or risk of significant effects.

Buried Archaeology

- 4.1.24 Both Option B(W)2 and B(W)4 would have similar footprints and are located in the same historic parkland area. There would be minimal differences between the two options, with significant effects likely to be recorded where there is a relative uncertain baseline regarding buried archaeology. In the interests of retaining proportionality, no further assessment was undertaken with regards to buried archaeology.

4.2 Surveys and Predictive Techniques and Methods

- 4.2.1 The assessment techniques and methods for surveys are noted in each of the technical sections below (Sections 5 to 10).

4.3 General Assessment Assumptions and Limitations

- 4.3.1 An acknowledgement and details of any limitations or assumptions adopted for each of the topic specific assessments is provided within each of the technical sections of this report (Sections 5 to 10).

4.4 Significance of Criteria

- 4.4.1 The details of the criteria used in the assessment of significance is provided in the ES Chapter 4: Environmental Assessment Methodology [TR010054/APP/6.1] and are not repeated in this report.

5 Air Quality

5.1 Legislative and Policy Framework

5.1.1 The relevant air quality legislation and policies are identified in the ES Chapter 5: Air Quality [TR010054/APP/6.1].

5.2 Assessment Methodology

5.2.1 Quantitative air quality modelling and assessment has been undertaken for the operational impacts of Option B(W)2, as this option was predicted to have the potential to affect more receptors which are sensitive for human health reasons. A qualitative comparison of Option B(W)2 to Option B(W)4 has been completed.

5.2.2 The methodologies used to undertake the operational air quality assessment are detailed in the ES Chapter 5: Air Quality [TR010054/APP/6.1].

5.3 Assessment Assumptions and Limitations

5.3.1 The assessment is based upon existing assumptions and limitations as detailed in the ES Chapter 5: Air Quality [TR010054/APP/6.1].

5.4 Study Area

5.4.1 The study area remains as per the ES Chapter 5: Air Quality [TR010054/APP/6.1], with a focus on reporting the effects for local receptors around Hilton Lane, Park Road and Dark Lane only. Individual sensitive receptors (within or outside Air Quality Management Areas (AQMA)) are studied in the local assessment at distances of up to 200 m. The ES Chapter 5: Air Quality [TR010054/APP/6.1] provides greater detail on the study area parameters.

5.5 Baseline Conditions

5.5.1 The assessment is based upon existing knowledge and baseline data as detailed in the ES Chapter 5: Air Quality [TR010054/APP/6.1].

5.5.2 To aid understanding of the assessment in the context of the local area, the monitored NO₂ annual mean concentration at the junction between Dark Lane and the A460¹ was 32.4 µg/m³ in 2017 and 15.7 µg/m³ at the junction between Dark Lane and Park Road in 2017².

5.6 Potential Impacts

Option B(W)2

5.6.1 The ES Chapter 5: Air Quality [TR010054/APP/6.1] shows that properties in close proximity to the A460 would experience an improvement (i.e. reduction) in annual mean NO₂ and particulate (PM₁₀ including PM_{2.5}) concentrations due to the reduction in traffic along the route, whilst concentrations of NO₂ and particulate (PM₁₀ including PM_{2.5}) would increase at receptors close to the new link.

¹ Based on 2017 data collected by Highways England, site ID M54 m6TL_002_0813.

² Based on 2017 data collected by Highways England, site ID M54 m6TL_003_0813.

- 5.6.2 The following predictions have been modelled for the NO₂ annual mean concentration with regards to Option B(W)2 for the Opening Year (2024):
- No properties along Dark Lane would experience a deterioration of more than 4 µg/m³ the NO₂.
 - An increase of 2.1 to 4 µg/m³ in the NO₂ at two receptors on Dark Lane, resulting in predicted concentrations of approximately 20 µg/m³ in 2024.
 - An increase of 0.5 to 2 µg/m³ would be experienced at three receptors on Hilton Lane an east of the A460, resulting in predicted concentrations of approximately 21 µg/m³ in 2024.
 - A decrease of -0.5 to -2 µg/m³ in NO₂ concentrations at 39 receptors located on the A460, Dark Lane, Park Road and Hilton Lane, with concentrations as high as 20 µg/m³ in 2024.
 - A decrease of -2.1 to -4 µg/m³ in the NO₂ at 56 receptors on the A460, Dark Lane, Park Road, Hilton Lane and New Road, including 21 receptors on Dark Lane and 32 receptors on Park Road, resulting in concentrations of less than 20 µg/m³.
 - A decrease of more than 4 µg/m³ in annual mean NO₂ concentrations at 12 receptors close to the junction between Dark Lane and the A460, resulting in predicted concentrations of approximately 20 µg/m³ in 2024.
- 5.6.3 The following predictions have been modelled for the PM₁₀ annual mean concentration with regards to Option B(W)2 for the Opening Year (2024):
- 515 out of 527 receptors that were modelled within the study area are predicted to experience an imperceptible change in annual mean PM₁₀ concentrations ($\pm \leq 0.4$ µg/m³).
 - There would be small improvements (-0.5 to -2.0 µg/m³) to the PM₁₀ annual mean concentration at 12 receptors, predominantly due to decreasing traffic flow on the A460.
- 5.6.4 More receptors along Dark Lane would experience an improvement than a deterioration with Option B(W)2. The assessment of Option B(W)2, as reported within ES chapter 5: Air Quality [TR010054/APP/6.1], has identified annual mean nitrogen dioxide (NO₂) impacts at receptor locations on Dark Lane, Park Road and Hilton Lane closest to the Proposed Scheme as +2.8 µg/m³ (R312), +1.9 µg/m³ (R337) and +1.2 µg/m³ (R233) respectively. These impacts occurred at locations where annual mean concentrations of NO₂ with the Scheme in operation are less than 20 µg/m³ and therefore did not cause a new exceedance of the air quality objective (40 µg/m³), or make an existing exceedance worse. As such, the effect is not considered to be significant.
- 5.6.5 The annual air quality objective value for NO₂ is 40 µg/m³ so post Scheme construction NO₂ annual mean concentrations at properties experiencing the largest change will be well within air quality objective values for all properties along Dark Lane.

- 5.6.6 Annual mean concentrations of PM₁₀ are predicted to be well within the 40 µg/m³ annual mean objective value at all receptors for human health and no locations are predicted to experience significant changes in PM₁₀ or PM_{2.5}. PM₁₀ is released in smaller quantities than oxides of nitrogen, which accounts for the smaller changes between the two pollutants.
- 5.6.7 Annual mean concentrations of PM_{2.5} are predicted to be well within the 25 µg/m³ objective value at all 527 sensitive receptors within the study area, both with and without the Scheme in the opening year of 2024.

Option B(W)4

- 5.6.8 An assessment of Option B(W)4 has been undertaken, focusing on the impacts predicted at those closest receptors on Dark Lane, Park Road and Hilton Lane. It should be noted that the assessment of Option B(W)4 considered impacts on these receptors only, as there were no traffic flow changes associated with this alternative option – only the change in alignment at these locations.
- 5.6.9 The assessment of Option B(W)4 has identified impacts at receptor locations (as defined in ES Chapter 6: Air Quality [TR010054/APP/6.1]) on Dark Lane, Park Road and Hilton Lane closest to the Proposed Scheme as -0.5 µg/m³ (R312), -0.3 µg/m³ (R337) and +2.5 µg/m³ (R233) respectively.
- 5.6.10 The improvements on Dark Lane (R312) and Park Road (R337) are as a result of the carriageway being further away from those receptors with this alignment, making the effect of the closure of Dark Lane and the reduction in traffic flow on the A460 Cannock Road more evident at these locations. The increase in impact at Hilton Lane (R233) is due to the carriageway moving closer to the receptor to the east on that road with this alignment. Option B(W)4 impacts occurred at locations where annual mean concentrations of NO₂ with the Scheme in operation are 20 µg/m³ or less and therefore did not cause a new exceedance of the air quality objective, or make an existing exceedance worse. As such, the effect is not considered to be significant.

5.7 Design, Mitigation and Enhancement Measures

- 5.7.1 No mitigation measures are proposed for the operational period because the operation of the Scheme would not have a significant effect on local air quality such that mitigation is required.

5.8 Assessment of Likely Significant Effects

Comparison of Option B(W)2 and Option B(W)4

- 5.8.1 Pollutant concentrations would be reduced for Dark Lane residents were the route to move to the alignment of Option B(W)4 compared to Option B(W)2. However, Option B(W)4 moves the alignment closer to Hilton Lane which would be likely to increase pollutant concentrations for residents along that road compared to Option B(W)2.
- 5.8.2 This assessment should be considered in the context of pollutant concentrations that have been shown through modelling to be below the relevant air quality

objectives with Option B(W)2, and where no large changes are predicted with either Option B(W)2 or Option B(W)4.

- 5.8.3 Neither of the options considered are likely to result in significant effects on local air quality in operation. Both Option B(W)2 and Option B(W)4 represent an improvement over the Baseline Option. Overall, the number of receptors likely to be exposed to changes in pollutants would be lowest with Option B(W)4, followed by Option B(W)2.

6 Cultural Heritage

6.1 Legislative and Policy Framework

- 6.1.1 The full list of relevant cultural heritage and archaeological legislation and policies have been identified in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1].
- 6.1.2 The primary basis for deciding whether or not to grant a Development Consent Order (DCO) is the NPSNN³ (Ref 3) which sets out policies to guide how DCO applications would be decided and how the impacts of national networks infrastructure should be considered.
- 6.1.3 The NPPF (Ref 4) is also of relevance to this cultural heritage assessment, with particular reference to Section 16 Conserving and Enhancing the Historic Environment. In accordance with the NPPF, the NPSNN policies relating to the applicant's assessment are the primary source of policy guidance regarding this assessment.
- 6.1.4 In relation to substantial harm for heritage assets, the NPSNN notes the following:
- Para 5.133: Where the proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits which outweigh that loss or harm.
 - Para 5.134: Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

6.2 Assessment Methodology

- 6.2.1 The methodologies used to undertake the cultural heritage assessment are detailed in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1].
- 6.2.2 The assessment in this report considers how the change in position of the link road could affect the potential for significant effects during construction and operation.

6.3 Assessment Assumptions and Limitations

- 6.3.1 The assessment is based upon existing assumptions and limitations as detailed in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1].

6.4 Study Area

- 6.4.1 The 1 km study area remains as per the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1]. The reporting in this section has a focus on the potential for significant effects on receptors localised to the alternatives under consideration.

³ Although other policies can have weight as relevant and important matters in decision making. See Case for the Scheme for more information [TR010054/APP/7.2].

6.5 Baseline Conditions

6.5.1 The baseline remains as per the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1]. To understand the significance of Hilton Park itself, and the designated assets present within it, data has been collected from the following sources:

- National Heritage List for England;
- Staffordshire Historic Environment Record;
- Staffordshire Records Office;
- Historic Ordnance Survey mapping; and
- Aerial Photographs (modern aerial images and those held by the Historic Environment Scotland aerial photographic collection.)

6.5.2 Relevant receptors that have been considered in this assessment include:

- The Grade I listed Hilton Hall and Conservatory located approximately 430 m and 530 m south east of Dark Lane respectively;
- The Grade II listed Coach House and Stable Block, and Portobello Tower; and
- Hilton Park, a non-designated historic park which forms the ground and setting for the Conservatory and Hilton Hall. This designed landscape contains the Shrubbery and the Lower Pool.

6.5.3 The extent of Hilton Park is shown in Plate 6.1 below. The full assessment of the value (significance) of heritage assets noted in this report is contained in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1] and supporting appendices.

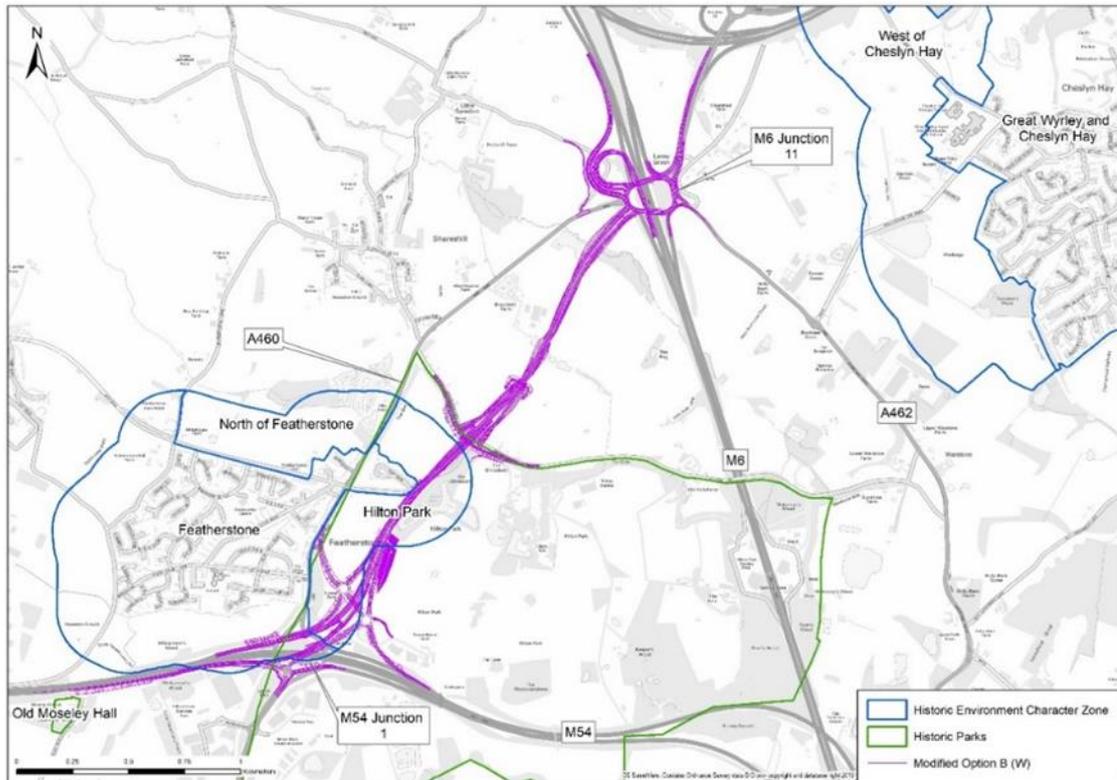


Plate 6.1 Extent of Historic Parkland

6.6 Potential Impacts

Construction

Option B(W)2

Hilton Park

- 6.6.1 Option B(W)2 would have a direct permanent impact upon Hilton Park. Hilton Park is not a Registered Park and Garden but is locally designated by South Staffordshire District Council in their Core Strategy (Ref 9). The new road would start at the M54 to the south and would continue until it meets Hilton Lane to the north, through the western part of the park. Option B(W)2 would affect the south-western corner of the park, which would be severed from the rest of the park to the east. As the new road continues to run northwards through the park, it would be located close to the alignment of Dark Lane, running parallel to the north-western boundary of the park. As a result, key elements of the park, including the Lower Belt, The Shrubbery, the Lower Pool and surrounding woodland would be affected. This would affect the understanding and appreciation of the development of Hilton Hall and associated parkland. These are elements that illustrate the historic development of the park.
- 6.6.2 However, although they would be affected by Option B(W)2, they would not be lost completely. The remaining woodland around the Lower Pool would continue to provide screening to the new link road from the eastern part of the park, as well as to Hilton Hall and its associated buildings and structures. To the south-west, it is

proposed to plant a number of trees and hedges that would screen Option B(W)2 from the park and the buildings within it.

- 6.6.3 The road would sever the parkland, but at a distance of 480 m from the Hall, to the west. The magnitude of impact on the park is considered to be moderate as the parkland would be modified through the partial loss of key elements of the landscape. The remaining part of the park would continue to be understood and appreciated and it would continue to provide an attractive setting for Hilton Hall and its associated buildings and structures. On this asset of medium value, the resulting significance of effect would be moderate adverse (significant).
- 6.6.4 In NPPF terms, Option B(W)2 would result in less than substantial harm to the significance of the asset, as the remaining park would continue to be understood and appreciated and provide an attractive setting for Hilton Hall and associated buildings.

Hilton Hall

- 6.6.5 Hilton Hall is Grade I listed and is therefore of high value in line with the methodology in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1].
- 6.6.6 The original Hall entrance was to the south of the building. The current Hall entrance is to the east and Option B(W)2 would not be in either of these views. It is also unlikely there would be any views from the Hall to Option B(W)2 at ground floor level due to vegetation both around the Hall and to the east of Option B(W)2. A detailed assessment of views from higher floors of the Hall has not yet been possible due to access constraints but the current assessment suggests that even from the roof (which is not generally accessible to users of the Hall) Option B(W)2 may not be visible due to the vegetation in Lower Pool SBI.
- 6.6.7 The setting of Hilton Hall includes Hilton Park. It includes parkland and landscape areas that surround the Hall, contributing to a rural feel and providing separation from the surrounding settlements.
- 6.6.8 Option B(W)2 would introduce an additional modern infrastructure element in the setting of Hilton Hall. The new development would be mostly screened from the Hall with only a few glimpses during the winter months. The remaining woodland around the Lower Pool, as well as proposed trees and hedges, would continue to provide screening to the new development in views from the Hall.
- 6.6.9 The proposed option would have a minor magnitude of impact on the hall due to the noticeable changes to the setting of the hall. On an asset of high value this would result in a slight adverse (not significant) effect.
- 6.6.10 In NPPF terms, Option B(W)2 would have an impact on the significance of Hilton Hall that would result in less than substantial harm. The significance of the asset, resulting from its architectural and historic interest would still be appreciated and experienced while its setting would noticeably change.

The Conservatory

- 6.6.11 The Conservatory is Grade I listed and of high value, in line with the methodology in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1]. Its significance derives from its high historic and architectural interest due to its unique shape and

the combination of traditional and new building materials used for its construction. The Conservatory was built as an ornamental feature within Hilton Park which defines its setting. It also contributes to the setting of Hilton Hall. The Option B(W)2 would not affect the relationship of the Conservatory with Hilton Hall. Due to existing trees and planting around the Conservatory, the asset would remain mostly screened from Option B(W)2. However, Option B(W)2 would introduce a modern infrastructure element within its parkland setting, approximately 400 m from it, resulting in a change to its setting. The Conservatory would continue to be understood and appreciated as a key ornamental feature within the park and its relationship with Hilton Hall and the rest of the buildings on the park would be retained.

- 6.6.12 The construction of the proposed development would have a negligible magnitude of impact on this asset of high value. This results in a significance of effect of slight adverse. In NPPF terms, there would be an impact on the significance of this asset as part of its setting would change in a way that would hardly affect the ability to appreciate the asset but this would result in less than substantial harm to the significance of this asset.

Portobello Tower

- 6.6.13 The Portobello Tower is Grade II listed and is therefore of medium value in line with the methodology in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1]. Option B(W)2 would introduce a change to the setting of the Portobello Tower. The tower is currently derelict, in a poor condition and inaccessible, therefore the upper storeys of the tower could not be accessed in order to inform this assessment. Some panoramic views from the asset would be affected. As a result of Option B(W)2 the significance of the tower would not be affected. The Portobello Tower would continue to contribute to views from within the park and views of the park, mainly from the south.
- 6.6.14 It is considered that permanent construction impacts would be limited and Option B(W)2 would have a magnitude of impact of no more than negligible. The resulting effect on an asset of medium value would be neutral (not significant).
- 6.6.15 In NPPF terms, Option B(W)2 would have some impact on the significance of this asset. However, the historic interest of the tower would not be affected while it would continue to act as a folly and contribute to views within and towards the park. Option B(W)2 would result in less than substantial harm on the significance of this asset

Coach House and Stable Block

- 6.6.16 The Coach House and stable block are located to the north-east of Hilton Hall. The Coach House and stable block is Grade II listed and is therefore of medium value in line with the methodology in the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1]. Construction of Option B(W)2 would not affect the relationship of this asset with Hilton Hall or the surrounding park. However, it would introduce a change in the setting of this asset. The coach house and stable block would continue to be experienced and appreciated within the park and their

significance would not be permanently affected by the construction of Option B(W)2.

- 6.6.17 The magnitude of impact on this asset of medium value is considered to be negligible. Therefore, the effect is neutral (not significant). In NPPF terms, this is less than substantial harm.

Option B(W)4

Hilton Park

- 6.6.18 Option B(W)4 presents a comparable surface footprint to that presented in Option B(W)2. It would result in the retention of a larger proportion of the woodland forming The Shrubbery and a smaller percentage of the pond being lost. However, although larger parts of these elements would be retained, these would be severed from the rest of the park, with The Shrubbery and Lower Pool surviving to the west of the Scheme, and Hilton Hall and its associated building located to the east.

- 6.6.19 Hilton Park is an asset of medium value. Option B(W)4 would have a direct permanent impact upon Hilton Park. Option B(W)4 would introduce a new encroachment in the park. It would affect the south-western part of the park. The Shrubbery and Lower Pool would be affected and there would be partial loss and severance of the park by the new road. In order to minimise likely visual impacts, Option B(W)4 has been designed in cutting, to the east of the Lower Pool. Due to the presence of the Scheme, these landscape features would not be able to be appreciated however the views from the park would be protected by the introduction of a cutting.

- 6.6.20 The magnitude of impact on Hilton Park is considered to be moderate as the parkland would be encroached with key elements of it being separated from others by the introduction of the new alignment. Construction works would result in some elements of the park being lost however, the park would continue to be understood and appreciated, to a certain extent, while it would continue to provide an attractive setting for Hilton Hall and associated buildings and structures. On an asset of medium value, the resulting effect would be moderate adverse (significant). This option would result in less than substantial harm to the significance of the park, as the remaining park area would continue to be understood and appreciated and provide an attractive setting for Hilton Hall and associated buildings.

Hilton Hall

- 6.6.21 Hilton Hall is a Grade I listed building, and therefore it is of high value.
- 6.6.22 Option B(W)4 would result in the alignment being brought closer to Hilton Hall. It is proposed that the Scheme would be constructed in a cutting where it passes closest to the Hall. While the benefit of the screening provided by The Shrubbery would be lost when compared to Option B(W)2, the construction of the Scheme within the cutting would aid in reducing the magnitude of effect on Hilton Hall, as opposed to the alignment being at grade. The proposed option would have a minor magnitude of impact due to the noticeable changes to the setting of the hall, which is of high value. This would result in a slight adverse (not significant) effect. Option B(W)4 would introduce a change in the setting of the asset that would affect key elements of the designed landscape that surround the hall. However, Hilton Hall

would continue to be appreciated as an early 18th century country house within the remaining part of the park. Option B(W)4 would result in less than substantial harm to the significance of these assets, as the significance of the assets would still be appreciated and experienced.

The Conservatory

- 6.6.23 The Conservatory is a Grade I listed building, and therefore it is of high value.
- 6.6.24 Option B(W)4 would result in the Scheme alignment being brought closer to the Conservatory. This option would be constructed in a cutting where it passes closest to the Conservatory. The Conservatory is a landscape feature of the park, of high architectural and historic interest. It forms part of the designed landscape and contributes to the attractive qualities of the park, while it is appreciated and experienced within the park. The setting of the Conservatory extends to the parkland and includes the area affected by Option B(W)4, and this parkland setting contributes to its significance. The Scheme would physically impact on the setting of the asset, running through the parkland.
- 6.6.25 While the benefit of the screening provided by The Shrubbery would be lost when compared to Option B(W)2, existing trees around the Conservatory would continue to provide screening during summer months, while the Scheme would be constructed in cutting as opposed to the alignment being at grade. Option B(W)4 would be visible from views from the Hall towards the Conservatory during the winter months. The Conservatory would continue to be appreciated as an early 19th century Regency style glasshouse of unique shape and construction.
- 6.6.26 Therefore, Option B(W)4 would have a negligible magnitude of impact due to the direct physical changes to the setting of the asset, which contributes to its significance. It is a landscape feature within the park, which is of high value. This would result in a slight adverse (not significant) effect. Option B(W)4 would result in less than substantial harm to the significance of these assets, as the significance of the assets would still be appreciated and experienced.

Other Listed Buildings

- 6.6.27 It is considered that the significance of effect on the other historic buildings located within Hilton Park (The Coach House and Stable Block, and Portobello Tower) would be as identified for Option B(W)2.

Operation

Option B(W)2

- 6.6.28 The assessment completed within the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1] for Option B(W)2 has concluded that there are no additional significant operational impacts from the noise, lighting or views of vehicles on either Hilton Park or the listed buildings within the park.
- 6.6.29 None of the designated built heritage assets within the study area are anticipated to experience a change in traffic noise of 3 dB or more due to the operation of the Scheme. The highest increases in noise are noted to be experienced at Hilton Hall (+1.7 dB) and the Conservatory (+2.1 dB) at the worst affected facade. The increase in traffic noise level is not considered to be significant.

Option B(W)4

- 6.6.30 Based on the noise sensitivity testing completed for Option B(W)2 and Option B(W)4 in Section 9 of this report, and the assessment completed within the ES Chapter 6: Cultural Heritage [TR010054/APP/6.1] for Option B(W)2, it is considered likely that noise would increase for receptors within Hilton Park should the alignment be moved to the position of Option B(W)4. This move would increase the risk of additional significant effects in operation for these receptors.

6.7 Design, Mitigation and Enhancement Measures

Construction

- 6.7.1 Mitigation measures outlined in the Outline Environmental Management Plan (OEMP) [TR010054/APP/6.11] should be followed to mitigate adverse impacts on the heritage assets. There would be permanent loss of the woodland, pools and parkland as part of the construction of Option B(W)2, with some replacement planting as shown in the ES Environmental Masterplan Figure 2.1 to 2.7 [TR010054/APP/6.2].
- 6.7.2 Option B(W)4 would encroach further into the historic parkland than B(W)2, however, mitigation planting would not be possible as it would in itself cause further disruption to Hilton Park, resulting in further impacts to the character of the parkland through its loss of openness and change to the designed landscape.

Operation

- 6.7.3 No further mitigation beyond the ES Environmental Masterplan Figure 2.1 to 2.7 [TR010054/APP/6.2] is required for the operational phase of Option B(W)2.
- 6.7.4 Option B(W)4 would move the noise source closer to Hilton Hall, however this would be more difficult to mitigate with a noise barrier (and screen planting) without disrupting the designed landscape to a greater extent.

6.8 Assessment of Likely Significant Effects

- 6.8.1 Option B(W)4 would allow the retention of the Lower Pool waterbody and woodland, which are features within the historic parkland area. However, following discussion with Historic England, it was concluded that the heritage value of the Lower Pool and associated vegetation is not sufficient as stand-alone assets for their retention to be favoured over the reduction in severance effects by retaining a larger area of the historic parkland intact.
- 6.8.2 Option B(W)4 would encroach further into the historic parkland than B(W)2, would sever more of it and would be closer to the listed assets around Hilton Hall. The intervisibility of the alignment and Hilton Hall (and associated assets) is likely to be more obvious for Option B(W)4 and more difficult to screen with planting.
- 6.8.3 Option B(W)4 would be located notably closer to Hilton Hall, increasing the adverse effect on the setting of this listed building (and other associated listed buildings) compared to Option B(W)2. The alignment for B(W)4 would pass through the open area of the parkland and any screening planting would itself adversely affect the character of the parkland through its loss of openness and change to the designed landscape. Option B(W)2 presents the best opportunity to screen views of the

Scheme from heritage assets, and to maintain the historic border of the designed historic feature the Shrubbery aligned towards Hilton Hall. For this reason, Option B(W)4 would be notably worse than Option B(W)2.

7 Landscape and Visual

7.1 Legislative and Policy Framework

7.1.1 The full list of relevant landscape and visual legislation and policies have been identified in the ES Chapter 7: Landscape and Visual [TR010054/APP/6.1].

7.2 Assessment Methodology

7.2.1 The methodologies used to undertake the landscape and visual assessment have been detailed in the ES Chapter 7: Landscape and Visual [TR010054/APP/6.1].

7.2.2 The assessment in this report considers how the change in position of the link road could affect the potential for significant effects during construction and operation.

7.3 Assessment Assumptions and Limitations

7.3.1 The assessment is based upon existing assumptions and limitations as detailed in the ES Chapter 7: Landscape and Visual [TR010054/APP/6.1].

7.4 Study Area

7.4.1 The study area remains as per the ES Chapter 7: Landscape and Visual [TR010054/APP/6.1]. This comprises of a 1 km area from the Scheme boundary and the extent of the study area was decided based on the Zone of Theoretical Visibility (ZTV).

7.4.2 The reporting in this section has a focus on the potential for significant effects on receptors localised to the alternatives under consideration.

7.5 Baseline Conditions

7.5.1 The baseline remains as per the ES Chapter 7: Landscape and Visual [TR010054/APP/6.1] and accompanying figures showing representative viewpoints [TR010054/APP/6.2].

7.5.2 Relatively close-range views would be expected for properties that are very close to the Scheme boundary, including Dark Lane, Park Road and Hilton Lane. Viewpoint 14 is representative of views from Dark Lane and Park Road looking to the east for Option B(W)2 (Figure 7.18 A to C [TR010054/APP/6.2]). Viewpoint 15 is representative of views from Hilton Lane for Option B(W)2 (Figure 7.19A to C [TR010054/APP/6.2]).

7.5.3 The majority of the Scheme lies within a triangle of land formed by the M6 in the east, the M54 in the south and the existing A460 Cannock Road in the west. It crosses several undulating fields – which are bounded by hedgerows – as well as running through woodland associated with the historic Hilton Park, and through riparian vegetation where it crosses existing watercourses.

7.6 Potential Impacts

Option B(W)2

7.6.1 Impacts on landscape character associated with Option B(W)2 would be likely to result in permanent impacts on landscape character, these include:

- the introduction of the link road between M54 Junction 1 and M6 Junction 11. Although partially positioned within an earthwork cutting, it would affect the semi-rural landscape character (through its presence, as well as the loss of vegetation to facilitate it). The Scheme alignment would also encroach slightly within the historic parkland surrounding the Grade I listed Hilton Hall;
- alterations to the existing field patterns and surrounding vegetation framework and modifications to existing landform; and
- generally increased perceptions of highways and highway infrastructure within the landscape character.

7.6.2 However, as reported in the ES Chapter 7: Landscape and Visual [TR010054/APP/6.1] no significant effects on landscape character during operation of the Scheme are anticipated due to the incorporation of mitigation. Option B(W)2 would enable retention of the open historic parkland landscape, as well as the retention/replanting of trees to both the east and west of the new link road in the Lower Pool SBI area.

7.6.3 In addition, Option B(W)2 would provide the opportunity to include screening and replacement woodland between properties on Dark Lane/ Park Road and the new link road to reduce visual impacts. The position of Option B(W)2 within existing woodland would restrict views of the Scheme using existing screening for residential receptors at Dark Lane. This would also be strengthened with additional planting. This is predicted to reduce the visual effects for these receptors from very large adverse in the Year 1 of operation to moderate adverse by the Year 15 (the Design Year) (refer to ES Chapter 7: Landscape and Visual [TR010054/APP/6.1] for more details).

7.6.4 The location of B(W)2 within the woodland means that the noise barrier (noted as a requirement with Section 9 of this report) east of Dark Lane could be screened from both the east and west, so the barrier itself would not have significant adverse landscape or visual effects.

Option B(W)4

7.6.5 Impacts on landscape character associated with Option B(W)4 would also be likely to result in permanent impacts on landscape character, these include:

- the introduction of the link road between M54 Junction 1 and M6 Junction 11. Although partially positioned within an earthwork cutting, it would affect the semi-rural landscape character (through its presence, as well as the loss of vegetation to facilitate it);
- further loss of the characteristic historic parkland surrounding the Grade I listed Hilton Hall;

- alterations to the existing field patterns and surrounding vegetation framework and modifications to existing landform; and
- generally increased perceptions of highways and highway infrastructure within the landscape character.

7.6.6 The alignment would have an increased impact over Option B(W)2 on landscape character through intervention within and loss of the more sensitive open area of historic parkland and loss of associated mature individual parkland trees which are a key characteristic. However, mitigation planting would in itself cause further disruption to Hilton Park, resulting in further impacts to the character of the parkland through its loss of openness and change to the designed landscape. This impact would have the potential to be significant.

7.6.7 Option B(W)4 would allow the retention of the woodland within the Lower Pool SBI, which would retain a substantial amount of screening for visual receptors at Dark Lane and Park Road. As such, visual effects for these receptors following 1 and 15 years' after the opening of the Scheme would be of lower magnitude than those exerted by Option B(W)2 and would likely be not significant.

7.6.8 However, visual effects on receptors located off Hilton Lane and potentially within the grounds of Hilton Hall, following 1 year after the opening of the Scheme would likely be significant. Mitigation planting may reduce the level of visual effects 15 years' after the opening of the Scheme, however it is likely that this level of effect would remain significant for receptors located off Hilton Lane.

7.7 Design, Mitigation and Enhancement Measures

Construction

7.7.1 Mitigation measures outlined in the OEMP [TR010054/APP/6.11] should be followed to mitigate adverse impacts on the landscape character and visual amenity. There would be permanent loss of the woodland, pools and parkland as part of the construction of Option B(W)2, with some replacement planting as shown in the ES Environmental Masterplan Figure 2.1 to 2.7 [TR010054/APP/6.2].

7.7.2 Option B(W)4 would encroach further into the historic parkland than B(W)2, however, mitigation planting would in itself cause further disruption to Hilton Park, resulting in further impacts to the character of the parkland through its loss of openness and change to the designed landscape.

Operation

7.7.3 No further mitigation beyond the ES Environmental Masterplan Figure 2.1 to 2.7 [TR010054/APP/6.2] is required for the operational phase of Option B(W)2.

7.7.4 Mitigation planting would disrupt the designed landscape of Hilton Park to a greater extent than Option B(W)2.

7.8 Assessment of Likely Significant Effects

- 7.8.1 Option B(W)4 would have greater landscape impacts than Option B(W)2 because the alignment would pass through an open area of designed parkland, affecting the landscape character of the historic landscape. It would take the Scheme alignment further away from sensitive residential receptors on Dark Lane, subsequently reducing their visual impact but also bring the Scheme closer to residents on Hilton Lane (with less room for landscape planting to screen these views).
- 7.8.2 Option B(W)4 would also affect more mature parkland trees, that have particular landscape value within the context of the parkland. Option B(W)2 has reduced landscape character effects on the historic parkland and retains more trees of landscape value.
- 7.8.3 Option B(W)4 would have lesser visual impacts than Option B(W)2 because the alignment would be situated further from sensitive residential receptors on Dark Lane. It would, however, bring the Scheme closer to residents on Hilton Lane (with less room for landscape planting to screen these views). Option B(W)4 would also affect more mature parkland trees, that have particular landscape value within the context of the parkland. Option B(W)2 has fewer landscape character effects on the historic parkland and retains more trees of landscape value. Option B(W)2 would have significant visual effects on Dark Lane residents, but Option B(W)4 would retain woodland screening between the alignment and residents to the west.

8 Biodiversity

8.1 Legislative and Policy Framework

8.1.1 The full list of relevant biodiversity legislation and policies have been identified in the ES Chapter 8: Biodiversity [TR010054/APP/6.1]. The NPS and NPPF are relevant to the discussion on Option B(W)2 and B(W)4.

8.1.2 The NPSNN states that:

- 'The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.' (5.32).

8.1.3 The NPPF also states:

- 'Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists...' (175d)

8.2 Assessment Methodology

8.2.1 The methodologies used to undertake the biodiversity assessment are detailed in the ES Chapter 8: Biodiversity [TR010054/APP/6.1].

8.2.2 The assessment in this report considers how the change in position of the link road could affect the potential for significant effects during construction and operation.

8.3 Assessment Assumptions and Limitations

8.3.1 The assessment is based upon existing assumptions and limitations as detailed in the ES Chapter 8: Biodiversity [TR010054/APP/6.1].

8.4 Study Area

8.4.1 The study area remains as per the ES Chapter 8: Biodiversity [TR010054/APP/6.1]. The reporting in this section has a focus on the potential for significant effects on receptors localised to the alternatives under consideration.

8.5 Baseline Conditions

8.5.1 The baseline remains as per the ES Chapter 8: Biodiversity [TR010054/APP/6.1]. Key features of note in this area include:

- Lower Pool SBI (and LWS) known to support bat roosts and provide foraging, especially on the woodland edge and aquatic habitats.

- Veteran trees outside of ancient woodland, as confirmed by arboricultural surveys completed in 2019. These were undertaken to further understand the status of trees within the area, and to address comments from SCC and Natural England in relation to ancient woodland and veteran trees.

8.6 Potential Impacts

Construction

Option B(W)2

- 8.6.1 Design development has confirmed that the Scheme design presented for Option B(W)2 would result in loss of approximately 37.7% of the Lower Pool SBI, including 29% of the woodland and 8.7% of the waterbody.
- 8.6.2 The full assessment of this option can be found in the ES Chapter 8: Biodiversity [TR010054/APP/6.1] and is not repeated in full in this report.
- 8.6.3 The woodland which forms part of Lower Pool SBI has been confirmed through survey to not be ancient woodland and although it is designated as part of the SBI, it is characterised as broadleaved/ mixed plantation with a variable species-poor ground layer which is absent in places (see ES Appendix 8.4 [TR010054/APP/6.3]). The surveys undertaken (details provided in ES Appendix 8.4 [TR010054/APP/6.3]) have therefore confirmed that although the site is designated as an LWS and SBI, it does not currently meet the criteria for this designation for woodland, ponds or habitat mosaic. However, Lower Pool LWS and SBI is an important ecological feature within the Scheme boundary and given the extent of the land take proposed, the Scheme would have an adverse impact on the ecological function and integrity of the habitats.
- 8.6.4 Taking into account the proposed habitats would take some time to establish, the Scheme is considered to have a moderate adverse impact on the Lower Pool SBI, resulting slight adverse (not significant) effects in the medium term (10-30 years years), reducing to neutral (not significant) in the long term (beyond 30 years) once habitats are established.
- 8.6.5 The ES Chapter 8: Biodiversity [TR010054/APP/6.1] concludes that Option B(W)2 would avoid impacting any veteran trees. Option B(W)2 would avoid the more valuable tree features to the east. As such nine Category A trees including seven potential veteran trees (T137, T178, T182, T211, T214, T221 & T227) would be retained. In addition, the retention of some prominent trees including T226, a particularly large over-mature ash, and T198 a fully mature cedar together with W216, G185 and part of G232 and many Category B individuals is also assured. See ES Appendix 7.1: Arboricultural Impact Assessment Report [TR010054/APP/6.3] for more details.

Option B(W)4

- 8.6.6 Option B(W)4 would result in a marginal reduction in habitat loss from Lower Pool SBI in comparison with the Option B(W)2, with the loss of 12% of Lower Pool SBI, including, 13% of the woodland and 13% of Lower Pool waterbody. Lower Pool LWS and SBI is an important ecological feature and whilst the extent of the land take would be lower than for Option B(W)2, there would be some adverse impact

on the ecological function and integrity of the habitats, in particular this option would isolate a small proportion of the SBI woodland that is located adjacent to Hilton Lane.

- 8.6.7 Upon completion of the arboricultural surveys in 2019, it was confirmed that Option B(W)4 would result in the loss of between four and seven veteran trees outside ancient woodland, which are considered to be an irreplaceable habitat as set out in the NPPF (paragraph 175(c)), and the loss of which should be avoided in accordance with the NPSNN (paragraph 5.32). Veteran trees are of national importance, the loss of which would be a major adverse impact. This would result in a large to very large adverse (significant) effect.

Operation

Option B(W)2 and Option B(W)4

- 8.6.8 There is potential for indirect adverse impacts on the surrounding habitat as a result of emissions to air and water with both options. This would likely be reduced with Option B(W)4 which would not directly pass through the centre of the Lower Pool SBI. Both options would also result in habitat fragmentation likely to affect protected and notable species (including bats).

8.7 Design, Mitigation and Enhancement Measures

- 8.7.1 The OEMP [TR010054/APP/6.11] outlines the environmental mitigation measures, policies and guidance to follow during the construction and operation of the Scheme. Full details of the mitigation measures are in the ES Chapter 9: Biodiversity [TR010054/APP/6.1].
- 8.7.2 There are mitigation measures outlined in the environmental masterplan to illustrate the measures undertaken to reduce the adverse impacts on habitats, designated and non-designated sites and species. With the fragmentation of the woodland with both Option B(W)2 and Option B(W)4, additional planting would provide replacement habitat for species and areas of woodland lost.
- 8.7.3 Option B(W)2 will require larger areas of the woodland and Lower Pool SBI to be mitigated than Option B(W)4.
- 8.7.4 As noted above, the impact on veteran trees in Option B(W)4 cannot be mitigated.

8.8 Assessment of Likely Significant Effects

Construction

- 8.8.1 In terms of loss of habitat and severance effects on Lower Pool SBI, Option B(W)4 presents a more preferable solution over Option B(W)2.
- 8.8.2 However, the loss of veteran trees outside of ancient woodland identified with Option B(W)4 presents three issues with the implementation of Option B(W)4:
- Option B(W)4 would have a significant adverse effect on veteran trees that, by definition, cannot be mitigated and are not present with Option B(W)2.
 - The NPSNN requires that where a Scheme leads to the loss of veteran trees, the applicant explains why the loss of veteran trees is 'unavoidable'. This would be challenging in the context of the availability of Option B(W)2; and

- Where veteran trees or ancient woodland is affected by a Scheme, compensation is required and this compensation cannot be counted towards land required to deliver no net loss of biodiversity. Land for this compensation would likely need to be compulsorily purchased from landowners in the Scheme vicinity and that purchase would need to be justified as being 'necessary' for the Scheme. Again, there would be challenges associated with this in the presence of alternative options.

8.8.3 The draft Arboricultural Impact Assessment, which is an appendix to the ES (Appendix 7.1 [TR010054/APP/6.3]), categorises trees in the area and shows that the majority of more valuable trees overall ('A' and 'B' trees) are located to the east of the Scheme. When the Scheme alignments are viewed alongside these plans it is clear that many more valuable trees would be affected by Option B(W)4 than Option B(W)2.

8.8.4 Overall, although Option B(W)2 requires the removal of a significant section of woodland through Lower Pool, which from an arboricultural perspective is preferred because it avoids the more valuable and irreplaceable tree features to the east of this area. The strong policy protection for veteran trees, coupled with the value placed on them by Natural England adds weight to this preference.

8.8.5 Option B(W)4 would result in less loss of habitat from Lower Pool SBI than Option B(W)2 but unlike the impact on veteran trees, this loss can be mitigated by provision of new habitats and other mitigation measures for protected species.

Operation

8.8.6 Option B(W)4 would result in less severance of habitat within Lower Pool SBI than Option B(W)2. There are potential for indirect adverse impacts on the surrounding habitat as a result of emissions to air and water with both options.

9 Noise and Vibration

9.1 Legislative and Policy Framework

9.1.1 The relevant noise and vibration legislation and policies have been identified in the ES Chapter 11: Noise and Vibration [TR010054/APP/6.1].

9.2 Assessment Methodology

9.2.1 A qualitative review of the options has been undertaken for this assessment based on the emerging assessment of Option B(W)2 as part of the Scheme presented at Statutory Consultation and informed by professional judgement.

9.2.2 The methodologies used to undertake the operational noise and vibration assessment for Option B(W)2 is detailed in the ES Chapter 11: Noise and Vibration [TR010054/APP/6.1].

9.2.3 A fully developed 3D design of Option B(W)4 has not been available to inform the assessment of Option B(W)4. Therefore, a simplified version of Option B(W)4 has been developed for the purpose of determining the likely operational road traffic noise impacts at in the Dark Lane/Park Road and Hilton Lane/Hilton Park area.

9.2.4 The simplified Option B(W)4 design includes the mainline alignment between Dark Lane and Hilton Park, with details of slip roads, junctions, accommodation bridges not included.

9.2.5 To ensure a 'like for like' comparison can be undertaken as far as reasonably possible, a simplified version of Option B(W)2 design has also been produced i.e. without slip roads, accommodation bridge and junction arrangements.

9.2.6 A sensitivity test has established that the simplified Option B(W)2 does result in comparable traffic noise levels to the fully developed Scheme upon which the ES is based, within the area of interest at Dark Lane and Hilton Park, and therefore validates the use of the simplified version of Option B(W)4 for comparison purposes.

9.3 Assessment Assumptions and Limitations

9.3.1 As noted above, the assessment of Options B(W)2 and B(W)4 is based on simplified designs developed to allow a sensitivity test to be performed.

9.3.2 The assessment is based upon existing assumptions and limitations as detailed in the ES Chapter 11: Noise and Vibration [TR010054/APP/6.1].

9.4 Study Area

9.4.1 The study area remains as per the ES Chapter 11: Noise and Vibration [TR010054/APP/6.1], with a focus on reporting the effects for local receptors around Hilton Lane, Park Road and Dark Lane only. The ES Chapter 11: Noise and Vibration [TR010054/APP/6.1] provides greater detail on the study area parameters.

9.5 Baseline Conditions

- 9.5.1 The assessment is based upon existing knowledge and baseline data as detailed in the ES Chapter 11: Noise and Vibration [TR010054/APP/6.1].
- 9.5.2 To aid understanding of the assessment in the context of the local area, residential properties are concentrated in the built up areas of Featherstone and Shareshill. Smaller areas of residential properties are located close to the Scheme at Dark Lane, Park Road, Hilton Lane and Brookfield Farm.
- 9.5.3 No quiet places or other areas that are particularly valued by the public for their tranquillity or acoustic environment have been identified in the vicinity of the Scheme.
- 9.5.4 A baseline noise survey was completed in March 2019 around the Park Road / Hilton Lane area.

9.6 Potential Impacts

- 9.6.1 The potential impacts from the Scheme remain as are reported within the ES Chapter 11: Noise and Vibration [TR010054/APP/6.3].

Option B(W)2

- 9.6.2 Option B(W)2 would have both beneficial and adverse traffic noise effects.
- 9.6.3 The Scheme would significantly reduce traffic flow on the A460, close to a large number of receptors but would provide a new noise source close to others. Additionally, the Scheme would result in re-routing of existing traffic, which has the potential to generate adverse traffic noise impacts.
- 9.6.4 A reduction in traffic along the A460 is predicted to result in moderate (-3.0 to -4.9dB) to major (\geq -5.0 dB) reductions in traffic noise levels at the front façade of properties facing onto the existing A460 through Featherstone, Hilton and Shareshill. These would be considered significant beneficial effects, and are concentrated along the existing A460 which is bypassed by the Scheme. Just under 20 properties are anticipated to experience a moderate or major beneficial impact, at the least beneficial façade. Though at the front façade facing directly onto the A460 properties experience a major reduction in traffic noise.
- 9.6.5 Conversely, in the absence of mitigation approximately 25 properties along the route of the new link road at the eastern end of Dark Lane and Park Road would experience a moderate (3.0 – 4.9 dB) or major (\geq 5.0 dB) increase in traffic noise at the worst affected façade. Moderate and major increases are classed as a significant adverse effect. A significant increase in traffic noise levels would be predicted without mitigation in place.
- 9.6.6 Therefore, to mitigate this significant adverse effect a noise barrier is proposed along the western side of the new link road in the vicinity of Dark Lane. With the benefit of a noise barrier in this location, no properties along Dark Lane or Park Road would experience more than a minor (1.0 - 2.9 dB) increase in noise levels with Option B(W)2 at the worst affected facade. The majority of the front facades of properties that face directly onto Dark Lane would experience a reduction in

traffic noise due to the large reduction in traffic on Dark Lane as it becomes a cul-de-sac.

Option B(W)4

- 9.6.7 Option B(W)4 relocates the mainline further away from properties at the eastern end of Dark Lane/ Park Road, but brings it closer to properties located to the west of the Scheme off Hilton Lane in the vicinity of Hilton Park.
- 9.6.8 In the absence of mitigation, the magnitude of the increase in traffic noise level at the eastern end of Dark Lane/Park Road is minor (1.0 - 2.9 dB) with Option B(W)4, at the worst affected façade. At the closest property to the west of the Scheme off Hilton Lane the magnitude of the impact is moderate (3.0 – 4.9 dB) at the worst affected façade. A significant adverse effect is therefore anticipated at one property.
- 9.6.9 On this basis mitigation would need to be considered for Option B(W)4. Initial exploration and testing of mitigation for this location has indicated that a noise barrier would not reduce the magnitude of the impact at the worst affected façades of the property to minor (1.0 - 2.9 dB) due to the topography in this location and the intended position of the new link road. At this point in the alignment the Scheme is in a cutting, and the additional benefit of a barrier is likely to be small in comparison to that of the depth of the cutting. A noise barrier in this location would not remove the significant adverse effect.

9.7 Design, Mitigation and Enhancement Measures

- 9.7.1 Taking into account the analysis of Statutory Consultation responses received in relation to Option B(W)2, and subsequent development of the traffic and noise models, a reflective noise barrier on the west side of the mainline of the Scheme as it passes close to Dark Lane, has been included within the Scheme design.
- 9.7.2 Mitigation for Option B(W)4 is likely to be ineffective in reducing significant effects as noted above, and so a noise barrier would not be proposed for that option.

9.8 Assessment of Likely Significant Effects

- 9.8.1 B(W)2 would lead to a significant reduction in road traffic noise levels for properties along Dark Lane close to the A460 and significant, but mitigatable increases in noise levels for residents living close to the alignment at Dark Lane. The closest properties off Hilton Lane to the east of Option B(W)2 are not anticipated to experience significant effects.
- 9.8.2 B(W)4 would be expected to lead to the same significant reductions in road traffic noise levels for properties along Dark Lane residents close to the A460 as Option B(W)2. Option B(W)4 is likely to result in no significant increases in road traffic noise at properties along Dark Lane or Park Road close to the alignment.
- 9.8.3 However, the closest property off Hilton Lane to the east of Option B(W)4 is anticipated to experience a significant increase in traffic noise. Initial tests indicate that a noise barrier would not be sufficient to reduce the magnitude of this impact to minor, and therefore significant effects would remain.

- 9.8.4 Option B(W)4 would be the better option in noise terms for residents to the west of the Scheme, but would introduce an additional significant effect to the east of the Scheme.

10 Road Drainage and the Water Environment

10.1 Legislative and Policy Framework

10.1.1 The full list of relevant water and flood risk legislation and policies have been identified in the ES Chapter 13: Road Drainage and the Water Environment [TR010054/APP/6.1].

10.2 Assessment Methodology

10.2.1 The methodologies used to undertake the water environment assessment for Dark Lane have been detailed in the ES Chapter 13: Road Drainage and the Water Environment [TR010054/APP/6.1].

10.2.2 The assessment in this report considers how the change in position of the link road could affect the potential for significant effects during construction and operation.

10.3 Assessment Assumptions and Limitations

10.3.1 The assessment is based upon existing assumptions and limitations as detailed in the ES Chapter 13: Road Drainage and the Water Environment [TR010054/APP/6.1].

10.4 Study Area

10.4.1 The study area remains as per the ES Chapter 13: Road Drainage and the Water Environment [TR010054/APP/6.1]. The reporting in this section has a focus on the potential for significant effects on receptors localised to the alternatives under consideration.

10.5 Baseline Conditions

10.5.1 The assessment is based upon existing knowledge and baseline data as detailed in the ES Chapter 13: Road Drainage and the Water Environment [TR010054/APP/6.1].

10.5.2 The bathymetry, sediment stratigraphy and sediment quality of Lower Pool was investigated by a survey carried out in September 2019. The approach, methods and results of this survey are presented in the ES Appendix 13.6 Sediment Sampling of Lower Pool [TR010054/APP/6.3].

10.5.3 Carp, perch and roach were detected in the Lower Pool eDNA samples. These results were to be expected. However, a species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was recorded: Canadian waterweed (*Elodea canadensis*) in Lower Pool.

10.5.4 Lower Pool has been considered to be of Medium important as noted into the ES Chapter 13: Road Drainage and the Water Environment [TR010054/APP/6.1].

10.6 Potential Impacts

Option B(W)2

10.6.1 Option B(W)2 would result in the loss of up to 43% of Lower Pool waterbody as noted in ES Chapter 13: Road Drainage and the Water Environment [TR010054/APP/6.1].

- 10.6.2 The partial loss of the Lower Pool waterbody, reduced water storage and altered shape and morphology may have an adverse impact on water quality and sediment transport. No significant effects are anticipated with Option B(W)2 as the potential for these were addressed through design and mitigation.

Option B(W)4

- 10.6.3 Option B(W)4 would result in the loss of up to 13% of Lower Pool waterbody, which is larger than Option B(W)2. The partial loss of the Lower Pool waterbody, reduced water storage, altered shape and morphology may have an adverse impact on water quality and sediment transport. In addition, the construction of Option B(W)4 would impact the pond inflow resulting in potential water quality and flow impacts. No significant effects are anticipated with Option B(W)4 however, as it would be possible to be address these through design and mitigation.

10.7 Design, Mitigation and Enhancement Measures

- 10.7.1 A number of wet ponds, filter drains, swales, new highway ditches and HVS have been incorporated into the overall water management strategy. These have been designed to mimic natural drainage as far as practicable, and to provide a number of other benefits to ecological habitat creation (see ES Chapter 8: Biodiversity). It is considered that these would mitigate for the loss of ponds across the Scheme, including the partial loss of Lower Pool.
- 10.7.2 The Flood Risk Assessment for the Scheme (ES Appendix 13.1 [TR010054/APP/6.3] confirms that despite the reduction in size of Lower Pool, the Scheme does not impact the fluvial flood risk for this watercourse if the pool is retained as an online pond. Water levels within the channel are increased in the section of watercourse between the culvert crossing and the Dark Lane culvert, as a result of reprofiling the upstream river reach. However, retaining part of the Lower Pool protects properties at Dark Lane, as well as the existing A460 from potential increased flood risk.
- 10.7.3 It is anticipated were the alignment of Option B(W)4 to be adopted, mitigation through design would be possible to reduce the impact such that effects on Lower Pool would not be significant.

10.8 Assessment of Likely Significant Effects

- 10.8.1 Option B(W)2 would result in greater loss of the Lower Pool waterbody than B(W)4. B(W)2 would interact with the pond outflow, whereas B(W)4 would interact with the pond inflow.
- 10.8.2 Overall, Option B(W) 4 would be the marginally better option, as there would be slightly less interaction with the water environment.
- 10.8.3 However, the impacts of both options are considered to be mitigatable through design and it is not anticipated that there would be significant effects for either option.

11 Summary and Conclusions

- 11.1.1 Following the PRA in September 2018, Highways England developed four further alternative alignments to move the link road further to the east away from Dark Lane and Park Road, and closer to Hilton Hall and associated heritage designations to the east.
- 11.1.2 The emerging baseline information being prepared for the ES and a high-level environmental sifting exercise demonstrated that other options provided increased potential to reduce the environmental impacts of the Scheme and address comments from local people and key stakeholders. This informed the decision to move the alignment from the Baseline Option position to the alignment of Option B(W)2 prior to Statutory Consultation in 2019.
- 11.1.3 Option B(W)1 was discounted as it was not anticipated to result in a noticeable improvement in air quality, noise or visual impacts on Dark Lane receptors, which were the primary concern for Dark Lane and Park Road residents, whilst slightly worsening impacts on heritage assets and biodiversity. This option would therefore not strike a suitable balance between the impacts on these receptors and was not considered further.
- 11.1.4 Option B(W)3 was discounted as it would remove the greatest amount of woodland and pond habitat from Lower Pool SBI, whilst increasing visibility of the Scheme into the historic Hilton Park area. The ability to screen the route from Hilton Park with retained vegetation was uncertain. There were no criteria where Option B(W)3 performed significantly better than Option B(W)2 and so this option was discounted.
- 11.1.5 A decision was made to proceed with the alignment of Option B(W)2 for the Statutory Consultation in 2019. Assessment work and discussion with stakeholders continued to inform the final decision over Option B(W)2 and Option B(W)4.
- 11.1.6 Neither Option B(W)2 or B(W)4 are predicted to result in significant air quality effects, although moving the alignment further away from residential receptors would offer some benefit in reducing overall exposure. Air quality is not a determining factor in the decision between these two alignments.
- 11.1.7 Option B(W)2 is predicted to result in significant, but mitigatable increases in noise levels for residents living close to the alignment at Dark Lane. Option B(W)4 is likely to result in no significant increases in road traffic noise at properties along Dark Lane or Park Road close to the alignment. However, the closest property off Hilton Lane to the east of Option B(W)4 is anticipated to experience a significant increase in traffic noise that is unlikely to be mitigatable. Therefore, Option B(W)2 is preferred as it would result in fewer significant effects after mitigation.
- 11.1.8 Option B(W)4 would retain a larger area of the Lower Pool waterbody and woodland as features within the historic parkland area. However, retaining a larger area of the historic parkland of Hilton Park intact is preferable over protecting the Lower Pool which is of lower heritage value. Option B(W)2 results in less severance of Hilton Park and would be easier to screen from the park with existing

retained vegetation. Mitigation to screen or reduce the noise impacts of Option B(W)4 would itself adversely affect the character of the parkland through its loss of openness and change to the designed landscape. For this reason, Option B(W)4 would be notably worse than Option B(W)2 in terms of impacts on heritage assets.

- 11.1.9 Option B(W)4 would have greater landscape impacts than Option B(W)2 because the alignment would pass through an open area of designed parkland, affecting the landscape character of the historic landscape. However, Option B(W)4 would have lesser visual impacts than Option B(W)2 because the alignment would be situated further from sensitive residential receptors on Dark Lane. It would, however, bring the Scheme closer to residents on Hilton Lane (with less room for landscape planting to screen these views). Option B(W)2 would have significant visual effects on Dark Lane residents, but Option B(W)4 would retain woodland screening between the alignment and residents to the west.
- 11.1.10 In terms of loss of habitat and severance effects on Lower Pool SBI, Option B(W)4 presents a more preferable solution over Option B(W)2. However, the loss of veteran trees outside of ancient woodland identified with Option B(W)4 would be a significant adverse effect that, by definition, cannot be mitigated. Demonstration of how this impact is 'unavoidable' would be challenging in the context of the availability of Option B(W)2. The strong policy protection for veteran trees, coupled with the value placed on them by Natural England adds weight to the preference for Option B(W)2 on biodiversity grounds.

11.2 Conclusion

- 11.2.1 Overall, the comparison between the options showed that Option B(W)2 performed better than Option B(W)4 for cultural heritage, biodiversity and arboriculture and landscape effects. The loss of veteran trees resulting from Option B(W)4 would be challenging to defend in the presence of Option B(W)2.
- 11.2.2 Option B(W)4 may be marginally better than Option B(W)2 for the impacts on road drainage and the water environment but these impacts can be more easily mitigated, unlike the impacts on Hilton Park, veteran trees and the landscape.
- 11.2.3 Following the assessment of the options, as documented in this report, it was concluded that Option B(W)2 had fewer adverse impacts on the local area than Option B(W)4 and should be taken forward.

12 References

- Ref 1 Planning Act 2008
- Ref 2 The Infrastructure Planning (Environmental Impact Assessment) 2017 Regulations
- Ref 3 Department for Transport (2014) National Policy Statement for National Networks.
Available online at: www.gov.uk/government/publications
- Ref 4 Secretary of State for Ministry of Housing, Communities and Local Government (2019)
National Planning Policy Framework
- Ref 5 Highways England Delivery Plan 2019 to 2020
- Ref 6 Highways England Environment Strategy
- Ref 7 Highways England Biodiversity Plan
- Ref 8 Highways England Air Quality Strategy
- Ref 9 South Staffordshire Council (2012) A Local Plan for South Staffordshire: Core Strategy
Development Plan Document
- Ref 10 Highways England (2019) EIA Scoping Report
- Ref 11 The Planning Inspectorate (2019) Scoping Opinion