A1 Birtley to Coal House

Scheme Number: TR010031

ES Addendum: Allerdene Three Span Viaduct Option – Non-Technical Summary

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Examination Procedure Rules) 2010

April 2020

Infrastructure Planning

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The A1 Birtley to Coal House Development Consent Order 20[xx]

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INTRODUCTION

An application for a Development Consent Order (DCO) was submitted by Highways England to the Secretary of State for Transport via the Planning Inspectorate on 14 August 2019. The DCO would, if made, grant consent for the A1 Birtley to Coal House Scheme. The application was accompanied by an Environmental Statement (ES) which considered if there would be significant effects on the environment as a result of the Scheme.

Further design development has continued to be undertaken by Highways England in order to realise efficiencies and design benefits. This is particularly important in optimising a scheme being delivered by the public sector in the public interest. During this process a new design for Allerdene Bridge has been proposed – a three span viaduct, which will allow further flexibility in relation to the proposed replacement Allerdene Railway Bridge.

The draft DCO [**APP-013**] currently allows for the replacement of Allerdene Railway Bridge by a single span integral bridge (Allerdene embankment option) or a 6/7-span viaduct (Allerdene viaduct option). Highways England are proposing to include a new option for a three span viaduct (Allerdene three span viaduct option). Further details of this option are provided in the Allerdene Bridge section below.

In order to assess any environmental impacts of this new option, an environmental impact assessment has been carried out. This Non-Technical Summary (NTS) presents a summary of the outcome of the assessment in non-technical language. It is not a duplication of the NTS of the ES [**APP-170**] submitted with the application and so should therefore be read in conjunction with it – A copy of the NTS submitted with the application can be found at

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010031/TR010031-000592-6.4%20Environmental%20Statement%20-%20Non-Technical%20Summary.pdf].

SCOPE

An environmental impact assessment (EIA) scoping exercise was carried out to identify those environmental topics that might be different for Allerdene three span option compared to those assessed previously. This exercise identified that only the following topics required a full environmental assessment:

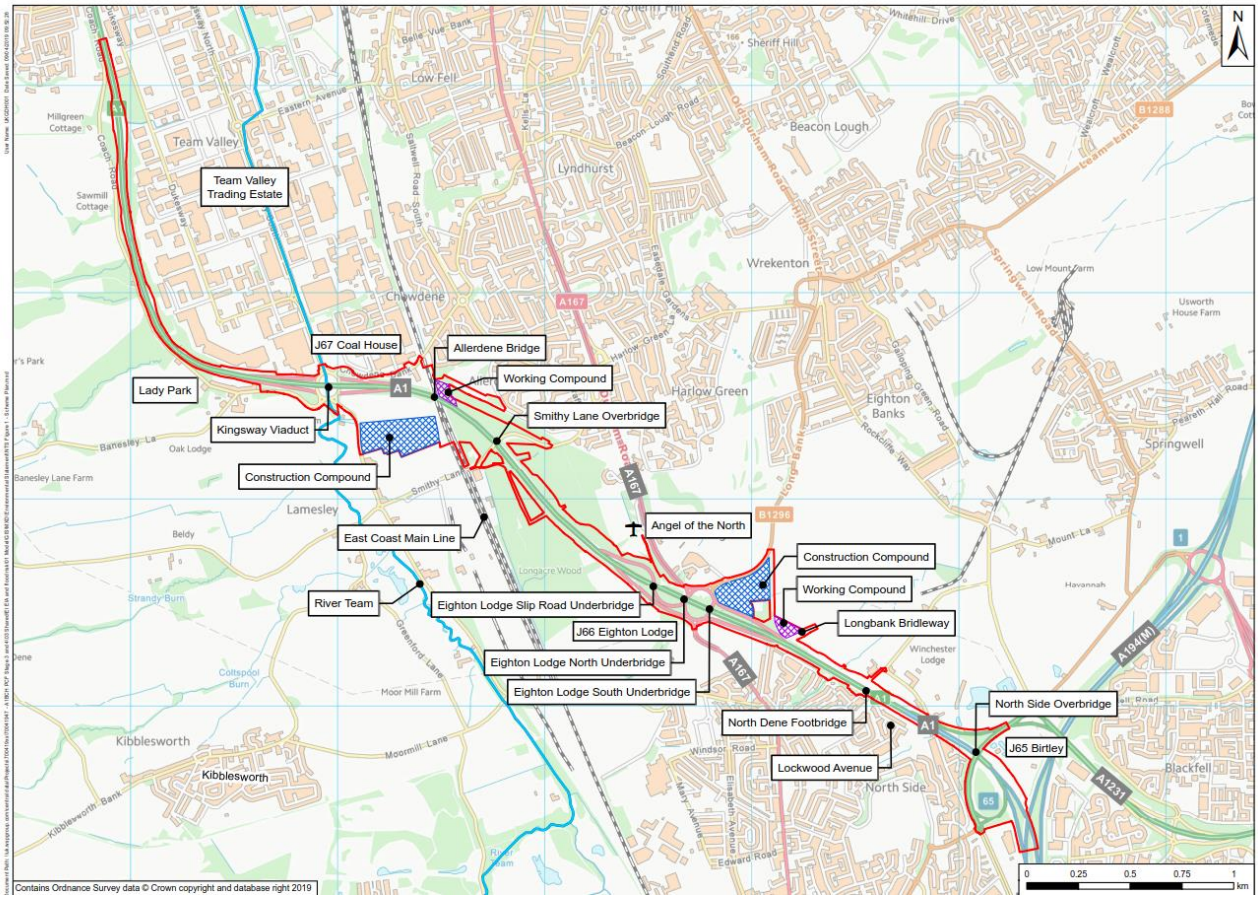
- Landscape and Visual
- Biodiversity

An ES Addendum has been produced which presents the outcome of the assessment of the likely significant effects for these topics as a result of Allerdene three span option.

ALLERDENE BRIDGE

The location of Allerdene bridge in the context of the Scheme is shown on **Figure 1 - Scheme Plan** below.

Figure 1 - Scheme Plan



The existing Allerdene Bridge would be demolished and the replacement bridge would be located approximately 40 metres to the south of the current structure between junction 67 (Coal House) and Smithy Lane Overbridge.

Two design options were proposed for the replacement Allerdene Bridge and included in the DCO application and the EIA. Highways England are now proposing to include a further design option in order to realise benefits for the Scheme.

The three options now proposed are:

- Allerdene embankment option – a single span bridge supported by embankments (a raised bank made of compacted soil) (**Figure 2**)
- Allerdene viaduct option – a 6 or 7 span viaduct structure (a long high bridge structure) supported on piers (**Figure 3**)
- Allerdene three span viaduct option (new option) – a 3 span viaduct structure (a long high bridge structure) supported on piers in the middle and embankments at either end (**Figure 4**)

The three design options are included within the DCO application to provide flexibility to allow further analysis to be conducted when detailed design is carried out. At the detailed design stage, the preferred option would be identified and taken forward into construction.

Figure 2 - Photomontage of North-East Views from Lamesley Road (Representing Residential Properties and Visitors to St Andrew's Church) – Allerdene Embankment Option

Figure 3 - Photomontage of North-East views from Lamesley Road (Representing Residential Properties and Visitors to St Andrew's Church) – Allerdene 6/7 Span Viaduct Option

Figure 4 - Photomontage of North-East Views from Lamesley Road (Representing Residential Properties and Visitors to St Andrew's Church) – Allerdene 3 Span Viaduct Option

BENEFITS

The benefits for this proposed change would be to:

- Allerdene three span option would provide a more efficient option in terms of construction activities and duration, particularly when compared to Allerdene embankment option, which, in turn, provides environmental benefits.
- It would reduce the amount of material required to construct the approach embankments by approximately 60,000m^3 when compared to Allerdene embankment option. This would reduce the construction programme by an estimated six months period (from 36 months for the single span option within the Application to 30 months for the 3-span arrangement). This would result in fewer associated construction vehicle movements which equates to a reduction of an estimated 6,900 deliveries of fill material in eight-wheeled tipper wagons based on an approximate overall import delivery rate of 500m^3 per day.
- Reduced duration of traffic delays to road users due to the shorter construction period, with associated savings in carbon and other emissions. Similarly, the capacity and safety benefits associated with the Scheme would be delivered sooner by an equivalent amount.
- Allerdene three span option would provide an efficient superstructure design, reducing the steelwork tonnage required to support the bridge deck. This also simplifies deliveries to site and reduces the construction risk and complexity of lifting beams into place above the railway.
- As the footprint of the embankments would reduce, when compared to Allerdene embankment option, due the steepened earth slopes, fewer rigid inclusions would be required to stabilise the ground. This would reduce construction noise and the volume of concrete required.

- The use of a 3-span structure alternative would combine benefits associated with both Allerdene embankment option and Allerdene viaduct option as included in the Application such as:
  - Eliminating the risk associated with potential settlement or heave on the railway caused by new loads from the approach embankments that would be in proximity in the case of Allerdene embankment option.
  - Removal of complex temporary works to construct the western abutment in proximity to the A1 that would be required for Allerdene viaduct option to keep the A1 operating during the works.

ALLERDENE THREE SPAN OPTION

For this option, Allerdene Bridge would be replaced with a three-span structure, with a maximum length of 154m (**Figure 4**). The structural form and foundations would be similar to the viaduct option but with a reduced number of spans.

Similar to the Allerdene Embankment option, an embankment would be constructed either side of the viaduct. Reinforced soil would be used to construct the embankments, and the slopes would be planted (seeded) with a grass mix. An example of what this may look like is shown in **Figure 5** below. The use of reinforced soil would enable the inclusion of steeper slopes for the embankments, reducing their overall footprint, and the amount of imported fill material required to construct the slopes.

Figure 5 - Example of a Seeded Reinforced Earth Embankment

Similar to Allerdene embankment option, Allerdene Culvert would be completely removed and replaced with a new culvert structure measuring 116.5m in length.

CONSTRUCTION

The construction of the Allerdene three span viaduct option would be undertaken in five stages: Preliminary works: Site clearance, establishment of haul roads and laydown areas, and other preparatory works including piling and the installation of piling platforms for access of construction plant.

- Abutment works: This will start with the construction of the abutments, using reinforced concrete pile caps. Abutment wall construction would follow with the erection of temporary access scaffolding. Concreting of the abutment would be undertaken using a 32m concrete pump and, following completion, the supporting structures shall be removed by mobile crane.
- Viaduct pier works: Access scaffolding will be erected, allowing the installation of supporting structures for the construction of the piers. Piers will then be poured using concrete, from a 32m concrete pump. Following completion, supporting structures will be removed using an 80t crane.
- Viaduct deck works: The deck will comprise of steel beams and a concrete deck. The steel beams will be produced offsite in a factory, and on delivery to site, will be assembled into pairs and lifted into place using a 500t crane. The remaining components of the deck will be erected using a 100t crane, followed by a pouring of concrete, waterproofing, kerbing, parapets and surfacing to finish. Supporting structures will then be removed by crane.
- Tie in works: Final tie in works between the existing embankment and the new abutment walls would be completed. These works will be undertaken with a dozer and pneumatic compaction roller. On completion of the earthworks, drainage, roadworks and finishes may be completed.

LANDSCAPE AND VISUAL

OVERVIEW

The landscape and visual assessment considered the impacts and effects of the use of the Allerdene three span viaduct option on landscape character and visual amenity areas such as footpaths.

The area surrounding the Scheme is characterised by a combination of uses including residential, urban, rural, industrial, recreational and open space. Much of the area falls within designated Green Belt land, namely the Tyne and Wear Green Belt. The A1 and East Coast Main Line sever the area and form strong visual and audible elements of the landscape.

CONSTRUCTION

The Allerdene three span viaduct option would result in comparable effects upon the landscape character to Allerdene embankment option, with the permanent embankment slopes being of a similar scale and nature. The construction of Allerdene three span viaduct option would similarly represent a noticeable new feature within the landscape when compared with Allerdene embankment option.

Allerdene three span viaduct option would result in similar visual effects to those receptors with a view of Allerdene embankment option.

OPERATION

The Allerdene three span viaduct option would result in comparable effects upon the landscape character to Allerdene embankment option. Once the Scheme is operational (2023), the effects identified in the winter for Allerdene embankment option would remain and be a permanent feature of the landscape. Allerdene three span viaduct option would result in a permanent adverse effect (not significant) on the Team Valley Landscape Character Area (which is the landscape character area within which the bridge is situated) as result of the absence of trees and shrubs on the embankments due to the steeper slope, which would be noticeable. The slope would be planted with a grassland seed mix. The effects would remain in the summer of the design year (which would be 15 years after opening - 2038).

Those receptors with views of the Allerdene three span viaduct option, in both the winter opening year and summer design year, would experience comparable effects to Allerdene embankment option in the winter of Year 1. This would be due to the absence of tree and shrub planting on the proposed embankment and following the establishment of landscape planting. Therefore, the effects would be similar to those described for Allerdene embankment option.

BIODIVERSITY

OVERVIEW

The biodiversity assessment considers the impacts and effects of the use of the Allerdene three span viaduct on the natural environment.

The existing natural environment (biodiversity) conditions have not changed from those reported within the NTS [**APP-170**]. The natural environment around the Scheme comprises a variety of grasslands, hedgerows, woodland and waterbodies including ponds and the River Team which passes beneath Coal House Roundabout and Kingsway Viaduct. There are several areas within 2km of the Scheme designated as Local Wildlife Sites as well as Bowes Valley Nature Reserve. These habitats are important as they support key species and habitats and provide ‘corridors’ which are important routes for wildlife to move in the landscape. Field surveys of these habitats and review of available data found wildlife including fish, bats, birds, great crested newts and invasive species.

CONSTRUCTION

There would be a temporary adverse effect upon woodland habitat from the Allerdene three span viaduct option. The area of woodland habitat created would be less in comparison to Allerdene viaduct option, due to less available space as a result of the proposed embankments being shorter. However, the landscape design proposes that replacement woodland be of a higher quality, being semi-natural woodland to compensate. In addition, to this increase in quality, the area created equates to the area lost. There would also be a

temporary adverse effect upon neutral grassland. However, grassland would be created on the embankments for the Allerdene three span viaduct option.

With the successful implementation of the joint biodiversity and landscape mitigation planting, the loss of terrestrial habitat as a result of the Allerdene three span viaduct option would be a significant adverse effect. This is comparable with both the Allerdene viaduct option and the Allerdene embankment option.

CONCLUSION

This NTS presents a summary in non-technical language of the environmental assessment that has been undertaken for Allerdene three span viaduct option. A scoping exercise identified that only two environmental topics required further assessment (Landscape and Visual, and Biodiversity). This is because for other topics the outcomes of the assessment were unlikely to be different for Allerdene three span viaduct option compared to Allerdene viaduct option and Allerdene embankment option assessed previously.

The assessments undertaken for the two topics (Landscape and Visual, and Biodiversity) have concluded that although the impacts vary with the Allerdene three span viaduct option, overall this option would not alter the findings of the ES with effects anticipated that would be comparable to those assessed previously.

WHAT HAPPENS NEXT?

At the time of publication of this Non-Technical Summary in April 2020, which should be read in conjunction with the previously published Non-Technical Summary, published in August 2019, the DCO examination has entered week 13. The Examining Authority has a duty to complete the examination of the application by the end of a period of six months, beginning with the day after the close of the Preliminary Meeting. The Preliminary Meeting was held on 21 January 2020. The examination of the application primarily takes the form of consideration of written submissions. Registered interested parties can send written comments to the Planning Inspectorate.

On completion of the examination after six months, the Examining Authority will then have three months to consider its recommendation. This recommendation and a supporting report will then be passed to the Secretary of State for Transport, who will have three months to decide whether to grant a Development Consent Order.

Finally, when the Secretary of State's decision is published, there will be a six-week High Court challenge period. If there are no High Court challenges, the decision will be final.

The Environmental Statement Addendum and supporting documents can be viewed online at: https://infrastructure.planninginspectorate.gov.uk/projects/North%20East/A1-Birtley-to-Coal-House-Improvement-Scheme/

Further information about the Planning Act 2008 process and DCO can be found on the PINS National Infrastructure Planning website: http://infrastructure.planninginspectorate.gov.uk/

If you need help accessing this or any other Highways England information, please call **0300 470 4580** and we will help you.

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