highways england

Trans-Pennine Upgrade

Preliminary Environmental Information Report

Non-Technical Summary

February 2018

CONTENTS

1 INTRODUCTION

The purpose of the Trans-Pennine Upgrade is to address longstanding issues of connectivity, congestion, reliability and safety of strategic Trans-Pennine routes between the M67 at Mottram and the M1 Junction 36 and Junction 35A north of Sheffield.

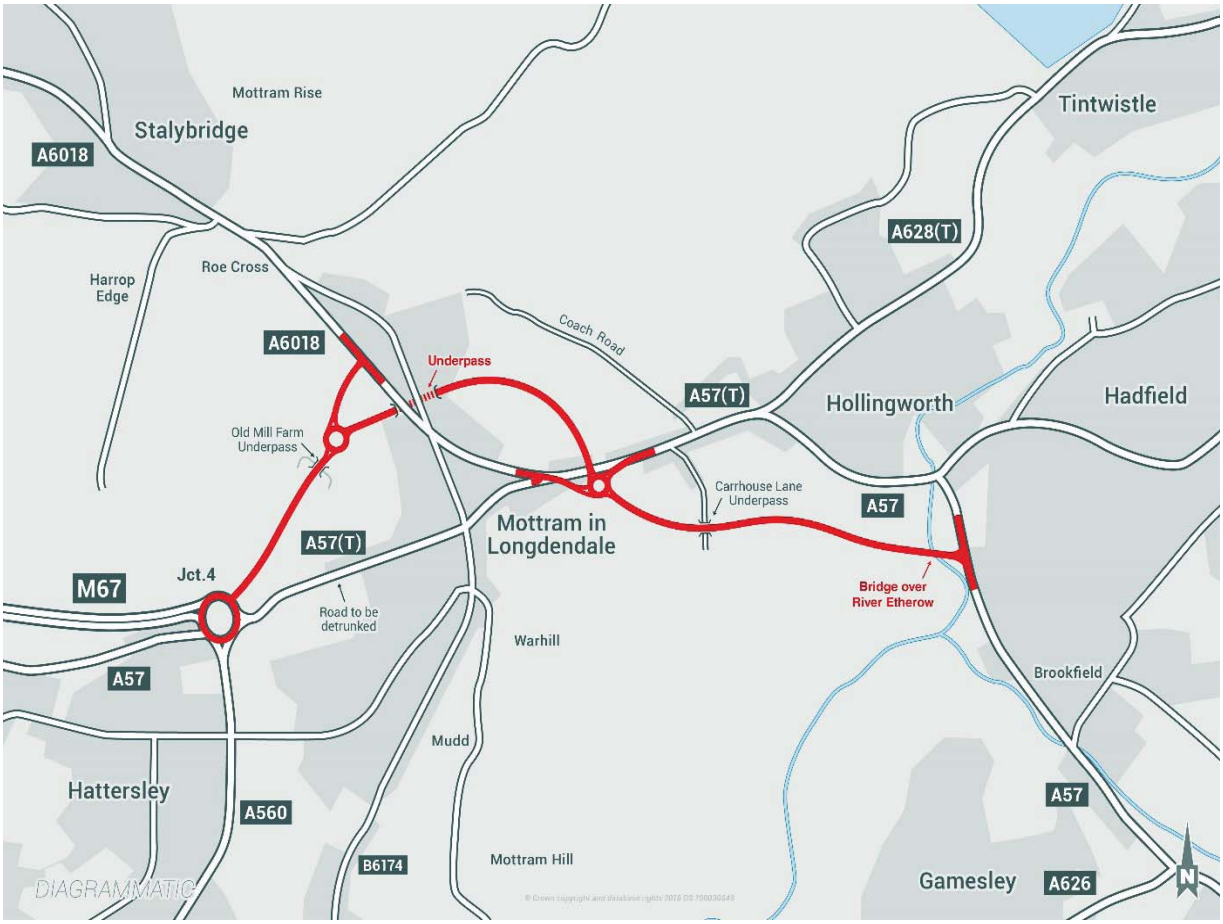
In accordance with paragraph 22 of the Highway and Railway (Nationally Significant Infrastructure Project) Order 2013, the two Nationally Significant Infrastructure Project schemes identified within the Trans-Pennine Upgrade are:

- Mottram Moor Link Road Scheme; and
- A57(T) to A57 Link Road Scheme.

Therefore, an application for Development Consent Order is required to be submitted by Highways England to the Secretary of State for transport via the Planning Inspectorate. This application will be accompanied by an Environmental Statement.

The Mottram Moor Link Road and the A57(T) to A57 Link Road will be combined and assessed as one scheme (hereafter termed 'the Scheme') in recognition that neither scheme can happen without the other, they are inextricably linked, and they have been combined for assessment purposes during the options development stage.

The location of the Scheme is presented below.



A Preliminary Environmental Information Report has been prepared for the purposes of consultation prior to submitting the Development Consent Order application, which presents information available to date on the Scheme's potential environmental effects. Further investigations and the development of mitigation measures to reduce environmental effects are ongoing. This information will be presented in an Environmental Statement which will be submitted with the Development Consent Order application.

The Preliminary Environmental Information Report will enable members of the public, statutory consultees and other stakeholders to develop an informed view of the Scheme and comment on particular aspects of interest. Feedback received will be used by Highways England to contribute to the continued development of the outline Scheme design and inform the ongoing environmental impact assessment. This document provides a non-technical summary of the Preliminary Environmental Information Report.

2 DESCRIPTION OF THE PROPOSED SCHEME

2.1 Background to the Scheme

The Trans-Pennine Upgrade is made up of measures announced in March 2015's Road Investment Strategy, published by the Department for Transport. These measures comprised the following schemes:

- Mottram Moor Link Road - a new dual-carriageway link road from the M67 terminal roundabout to a new junction at A57(T) Mottram Moor;
- A57(T) to A57 Link Road – a new single carriageway link from the A57 at Mottram Moor to a new junction on the A57 at Brookfield, bypassing the existing A628/A57 and A57 Woolley Lane/Woolley Bridge Road junctions;
- A628 Climbing Lanes – consideration of the provision of two overtaking lanes on the A628 near Woodhead Bridge;
- Safety and Technology Improvements – safety measures focused on addressing accident hotspots and the provision of electronic signs; and
- Upgrade of the A61 at Tankersley to dual carriageway (referred to as 'A61 Dualling').

However, since the Road Investment Strategy was published, the development of 'A628 Climbing Lanes' and 'A61 Dualling' schemes have been postponed until a later date to allow further consideration of the benefits associated with them.

Outside of the Road Investment Strategy, Highways England has previously considered a scheme to improve the junction of the A616 and A61 known as the 'Westwood Roundabout' to reduce congestion and improve the flow of traffic through the roundabout. Although not specifically stated in the Road Investment Strategy, this scheme is now being progressed as part of the Trans-Pennine Upgrade.

Further to public consultation on the schemes outlined above that constitute the Trans-Pennine Upgrade, a 'Preferred Route Announcement' was made on 2 November 2017. The 'Preferred Route' comprises:

- Mottram Moor Link Road and A57(T) to A57 Link Road (Option A);
- Safety and Technology Improvements; and
- Westwood Roundabout.

As stated above, the Mottram Moor Link Road and the A57(T) to A57 Link Road are considered to be Nationally Significant Infrastructure Projects in their own right, in accordance with paragraph 22 of the Highway and Railway (Nationally Significant Infrastructure Project) Order 2013.

The other 'Preferred Route' schemes (Safety and Technology Improvements and Westwood Roundabout) are not considered to be Nationally Significant Infrastructure Projects. Furthermore, following a review of the advice provided in Guidance on associated development applications for major infrastructure projects (Department for Communities and Local Government, April 2013), neither are they considered to be associated development.

Therefore, the Safety and Technology Improvements and Westwood Roundabout

schemes will not be referenced in the remainder of this Non-Technical Summary.

2.2 Scheme Objectives

The Scheme objectives are:

- **Connectivity** – By reducing congestion and improving the reliability of people's journeys between the Manchester and Sheffield city regions.
- **Environmental** – By improving air quality and reducing noise levels in certain areas, through reduced congestion and removal of traffic from residential areas. The scheme is also being designed to avoid unacceptable impacts on the natural environment and landscape in the Peak District National Park.
- **Societal** – By re-connecting local communities along the Trans-Pennine route.
- **Capacity** – By reducing delays and queues that occur during busy periods and improving the performance of junctions on the route.
- **Reliability** – By reducing the number of incidents and by the use of technology to advise drivers of incidents along the route.
- **Safety** – By reducing the number of accidents along the route through targeted improvement measures.

2.3 Scheme Alternatives and Options

A sifting exercise has been undertaken in order to identify the most optimal options in terms of development design, technology, location, size and scale. The sifting processes undertaken is summarised as follows:

Early Options Sifting Exercise

Initial options in relation to the Trans-Pennine Upgrade at the time of sifting were in relation to the Mottram Moor Link Road and A57(T) to A57 Link Road. Assessment considerations for overall recommendation were based on value for money; journey time benefits; delay reductions and least environmental impacts.

First Sift (Strategic Sift)

Assessment was undertaken using the Early Assessment and Sifting Tool; an Additional Sift Tool and a high level economic assessment using Transport User Benefit Appraisal.

Long List Sift Exercise

Assessment was undertaken using the Early Assessment and Sifting Tool, alongside an Additional Sifting Tool which considered the performance of each option against the project objectives.

Second Sift Exercise

The assessment was undertaken using the Options Appraisal Framework.

Historic Scheme Options

During the intricate history of work in this area, numerous options have been considered and discarded. A review was undertaken during the early sifting

exercises to capture these historic options and the reasons for rejection at the time.

The Mottram Moor Link Road and the A57(T) to A57 Link Road options presented for consideration have been informed by learning from historic options studies. For example, options generally considered to be less preferable have not been reconsidered at this time, and design development has been informed by historic study information where applicable.

2.4 Scheme Description

The Scheme comprises the following:

- A new offline bypass of 1.12 miles (1.8 kilometres) of dual carriageway road connecting the junction of the M67, A57(T) and A560 to the A57(T) Mottram Moor.
- A new offline bypass of 0.81 mile (1.3 kilometres) of single carriageway connecting the A57(T) Mottram Moor to the A57 Woolley Bridge.
- Creation of four new junctions:
  - Roe Cross Road Junction on Roe Cross Road;
  - Cricket Ground Junction on the new bypass;
  - Mottram Moor Junction on Mottram Moor; and
  - Brookfield Junction on A57 Woolley Bridge and improvement works to the existing M67 terminal roundabout.
- Creation of four new structures:
  - Old Hall Farm underpass;
  - Mottram underpass;
  - Carr House Farm underpass; and
  - River Etherow bridge.
- One main temporary construction compound area located close to the M67/A57(T)/A560 Junction, with three other locations along the route for storage.

Associated works for temporary access, temporary lay-down, work areas and ancillary works will also be required.

The design of the Scheme is currently under development and is being informed by the preliminary findings and outcomes of the environmental impact assessment.

3 POTENTIAL ENVIRONMENTAL EFFECTS

3.1 Environmental Impact Assessment Approach

The Scheme is being subjected to an environmental impact assessment in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

A key stage has been the identification of issues to be considered in the environmental impact assessment – a process known as scoping. An Environmental Impact Assessment Scoping Report, detailing the approach to the environmental impact assessment was issued to the Planning Inspectorate in November 2017. The Planning Inspectorate's Scoping Opinion was received in December 2017.

The environmental impact assessment will cover the effects of the Scheme on: air quality, cultural heritage, biodiversity, landscape and townscape, noise and vibration, people and communities, road drainage and the water environment, geology and soils, climate and materials. The preliminary findings of the environmental impact assessment are detailed in the Preliminary Environmental Information Report and are summarised in the sections below.

3.2 Air Quality

The Scheme is located within the administrative boundaries of Tameside Metropolitan Borough Council and High Peak Borough Council. Both Borough Councils have undertaken a review and assessment of air quality within their boroughs. This process has indicated that within Tameside, concentrations of nitrogen dioxide are above the Air Quality Strategy objective. As such, Tameside Metropolitan Borough Council has declared an Air Quality Management Area for nitrogen dioxide. The Scheme has the potential to affect air quality within this sensitive area.

Highways England undertook diffusion tube monitoring during 2016 at 82 locations within Tameside Metropolitan Borough and High Peak Borough. This, along with local authority monitoring, provides a good indication of current baseline conditions throughout the study area.

During construction, sensitive receptors have the potential to be affected by fugitive dust emissions and exhaust emissions from construction vehicles. Industry best practice mitigation measures will be used to ensure that construction activities do not result in significant negative impacts. These mitigation measures would be included within and managed through a Construction Environmental Management Plan.

Modelling has been undertaken at 55 worst case receptor locations to determine the potential impact on air quality from the Scheme during operation. No exceedances of the Air Quality Strategy objective have been predicted at any of the modelled sensitive receptors located along the Affected Road Network to date. As such, it is not considered that mitigation measures to minimise air quality effects during operation will be required. This will be confirmed when the assessment is updated in the Environmental Statement.

3.3 Cultural Heritage

The study area (1 kilometre either side of the Scheme) contains one Scheduled Monument (Melandra Castle Roman Fort), two Grade II* listed buildings ('Church of St Michael and All Angels' and 'Cross') and 46 Grade II listed buildings. The entire Mottram in Longdendale Conservation Area and a portion of the Hadfield Conservation Area also lies within the study area.

The Scheme has the potential to result in negative impacts on the setting of Melandra Castle Scheduled Monument and the Grade II* listed Church of St Michaels and All Angels.

The setting of several Grade II listed buildings also has the potential to be negatively affected by the Scheme. However, buildings with the Longdendale Conservation Area, the Gun Inn, and Hollingworth War Memorial have the potential to experience positive effects during operation of the Scheme through reduction of traffic.

Proposed mitigation, during construction, includes damping down to reduce dust produced during construction activities. Mitigation for negative effects on identified listed buildings may include additional screening to provide a reduction in visual intrusion into the setting of assets.

Several non-statutory heritage assets would be negatively affected by the Scheme. Mitigation proposed comprises archaeological excavation and recording before and during construction.

The Historic Landscape also has the potential to experience negative effects from the Scheme due to visual intrusion into the fabric of the landscape which may affect its character.

3.4 Biodiversity

There are three statutory designated sites within 2 kilometres of the Scheme; Hurst Clough Local Nature Reserve, Swallows Wood Local Nature Reserve and Great Wood Local Nature Reserve. Three additional statutory designated sites are located further than 2 kilometres from the Scheme but have also been considered within the assessment due to the potential for impacts from increased traffic volume in the wider road network; these are the Dark Peak Site of Special Scientific Interest, the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area and the South Pennine Moors Special Area of Conservation. There are also 14 non-statutory designated sites within 2 kilometres of the Scheme.

Targeted surveys for great created newts, reptiles, breeding birds, badgers, water voles, otters, bats (roost and activity survey) and Phase 2 habitat surveys for woodlands and hedgerows were undertaken between April and October 2017.

Potential effects from the Scheme include physical loss and fragmentation to a number of habitats, leading to displacement of species/changes in behaviour. In addition, construction activities and the operation of the road may result in increased traffic volume. This could lead to increased deposition of atmospheric pollutants (principally nitrogen), and consequently to the degradation of habitats by reducing species richness and/or the capacity for these habitats to recover from historic pollution events. Increased road traffic also has the potential to increase

the risk of collision of protected fauna with vehicles.

Measures to mitigate impacts will be developed within the Environmental Statement and (if necessary) within a Habitats Regulations Assessment. Habitat losses will be adequately compensated, and replacement habitats and road infrastructure would be designed to prevent fragmentation. Other mitigation proposed includes timing of construction works to avoid sensitive periods for protected species, the provision of bird and bat boxes, and the adoption of best practice measures to control dust deposition, air pollution and noise and light disturbance.

3.5 Landscape and Townscape

The Scheme is located across a range of landscape and townscape character areas including open moorland slopes, river valleys, and within and adjacent to some densely populated urban areas. The urban areas contain a number of residential properties as part of larger settlements on the edge of Manchester and scattered properties/farmsteads and clusters within the rural areas. The study area contains a number of recreational routes and local public rights of way.

During construction, the Scheme will have the potential to be visually intrusive and will have a short-term impact upon visual receptors in the study area including residents and recreational visitors to the area. There will be a loss of the arable landscape together with sections of hedgerow removal, a diversion of an existing watercourse and alteration to the existing topography and landform. Users of public rights of way would experience sequential views of construction activity, including compounds and storage areas, new night time light sources, noise and movement of plant. It is considered that these activities, albeit being short term in nature, would be noticeable, visible within the fore to mid-ground and occupy a large proportion of the view.

During operation, the Scheme and its associated traffic would result in disruption and loss of existing elements including hedgerows and a section of watercourse.

Mitigation measures include earthworks and new woodland block planting to integrate and provide screening within the wider landscape, together with the infill of existing hedgerows within the wider character area.

3.6 Noise and Vibration

The main source of noise in the area of the Scheme is road noise, primarily generated by vehicles travelling along the principle routes in the area including the B6174, A6018, A57 and A628. There are also four Noise Important Areas within close proximity to the Scheme.

In order to gain an understanding of the existing noise climate within the local area, noise surveys were undertaken at six monitoring locations positioned along the Scheme in December 2017.

There is potential for temporary short term negative noise and vibration effects during the construction phase. It is anticipated that construction noise effects could occur due to operation of construction plant across the Scheme, construction of the Mottram Underpass, and heavy goods vehicle movements to and from the site. It is anticipated that construction vibration effects could occur where percussive and vibratory piling activities occur (if required).

During operation, there is a potential for receptors in the vicinity of the Scheme to experience perceptible increases (adverse) or decreases (beneficial) in noise depending upon location.

Mitigation measures would include the implementation of low noise surfacing/thin wearing course across the Scheme, and (where required), the provision of environmental barriers.

3.7 People and Communities

Within the study area, land use is a mix of agriculture (mainly pasture), commercial and residential properties, social and community infrastructure (including education and healthcare facilities, community centres, the Mottram Agricultural showground and places of worship). There are also several public rights of way, paths and a national trail located in the vicinity of the Scheme.

The Scheme construction and operation would result in loss of agricultural land and a number of properties being demolished. It also has the potential to generate some short-term, temporary adverse impacts on agricultural businesses and local community facilities due to road closures and diversions.

There would be both positive and negative effects on certain public rights of way and footpaths in the vicinity of the Scheme during operation. Positive effects may include the creation of new, accessible, footpath links across the road; negative effects may include lengthier journey times as a result of diversion routes created.

Mitigation includes compensation and the methods for assessing appropriate levels would be identified in relation to the National Compensation Code. Ongoing consultation would continue as necessary with relevant landowners, occupiers and agents. A Traffic Management Plan would be implemented in order to minimise delays during construction.

3.8 Road Drainage and the Water Environment

Baseline water environment data has been collated for an area extending 500 metres from the red line boundary. Within the study area, the following surface water features have been identified: River Etherow, Glossop Brook and Hurtsclough Brook as well as several field drains, ponds, sinks and issues. The groundwater body underlying the Scheme consists of the Manchester and East Cheshire Carboniferous bedrock aquifer, which is overlain by superficial aquifers with variable and limited water storage.

During construction, potential negative effects on surface waters and groundwater include the potential deterioration of water quality due to receipt of polluted runoff and potential for reduced flow transport capacity due to sedimentation. There is also the potential for reduced groundwater levels and altered groundwater flow paths locally, where dewatering is necessary, particularly along the section of the Scheme in cut.

Construction effects on surface waters and groundwaters would be mitigated by carrying out works in accordance with Environment Agency best practice guidelines and by implementing an appropriate drainage solution for the Scheme, in particular where dewatering works may be required.

Potential operational effects consist of changes to surface water flow rates from

new built surfaces and potential deterioration of water quality due to receipt of polluted highway runoff. Operational effects would be mitigated by adopting an appropriate drainage strategy, including attenuation storage and treatment where necessary.

3.9 Geology and Soils

The superficial geology underlying the majority of the study area is the Devensian Till. In the eastern portion of the study area, Head deposits, Alluvium and a small area of River Terrace Deposits are indicated associated with the River Etherow. Made Ground may be present in developed areas associated with construction.

Two fault lines are mapped to be crossing the Scheme. One positioned across the A57 east to the M67 roundabout at the western extent of the Scheme, the other fault crosses the location of the proposed Mottram Underpass running northwest to southeast with Marsden Formation on the southwest side and Fletcher Bank Grit or Sandstone on the northeast side.

During construction there is a risk of spreading pre-existing (historic land use) contamination and creation of new contamination during construction e.g. within the construction compound areas/general works.

In order to mitigate, prior to the construction works, intrusive ground investigation would be undertaken to establish the presence of contaminated soils. Where unacceptable risks are identified, mitigation would be undertaken such as removal of unsuitable soils or changes in Scheme design.

3.10 Materials

Baseline data for material resources has been based on available material resources data for the UK, as material resources data is not available for the study area.

The capacity of waste infrastructure sites in 2015 (landfill sites and waste management facilities), within Derbyshire, Lancashire and Greater Manchester, that could potentially receive Construction, Demolition and Excavation waste arisings from the Scheme is around 33.8m tonnes and 1.8m tonnes respectively.

During construction, potential impacts include the reduction of waste management facilities and landfill sites capacity. Roads in close proximity to the Scheme would receive increases in vehicle movements in order to transport material resources to the Scheme.

Excavated material would be targeted for embankments and screen mounding where this is feasible and the material is suitable. However, the current volumetric analysis indicates that there would not be sufficient excavated material to form the proposed embankments and screen mounding.

It is anticipated that, during the lifetime of the Scheme, only a limited quantity of material resources would be required for maintenance and as a result negligible quantities of operational waste would be produced.

Mitigation measures will be set out within a Construction Environmental Management Plan, which would be supported by several subsidiary management plans such as a Site Waste Management Plan and a Materials Management Plan.

3.11 Climate

There has been a significant human influence on the observed warming in annual Central England Temperature since 1950. Statistical results from extreme value analysis suggest that the UK daily maximum and minimum temperature extremes have increased by just over 1°C since the 1950s, and that heavy seasonal and annual rainfall events have also increased. Across England, land temperature in the decade 2005-2014 was 1°C warmer than 1961-1990.

There has been a small observed increase in annual mean rainfall in recent decades. Between 1961-1990 and 1981-2010 annual mean rainfall increased by 3.2%. However, this change is not statistically significant in the context of rainfall totals over the last century.

It is predicted that climate change will increase the frequency and severity of some types of extreme weather events in England – warmer and drier summers are more likely along with warmer and wetter winters.

During construction, drought, high rainfall intensities and high winds could give rise to an increased risk of dust or water pollution, increased concentration of certain air pollutants, loss of species in certain areas (because soils become water saturated and cannot longer support existing species), damage to landscape planting and an increased flood risk, discharge volume and surface water runoff. In addition, a large amount of natural resources (i.e. raw materials and energy) would be required during construction, which would contribute towards greenhouse gas emissions and therefore climate change.

The construction phase of the Scheme would also have the potential to increase greenhouse gas emissions due to emissions from construction plant onsite, emissions from water consumption and exhaust emissions from construction phase road traffic.

However, it is estimated that additional vehicle movements and emissions, within the study area, associated with the construction of the Scheme would be a very small percentage of the total emissions within the study area. During operation, greenhouse gas emissions would mainly result from vehicular movements with other emissions, e.g. due to maintenance.

Mitigation measures for climate change adaptation have been presented within the specific environmental topics in the Preliminary Environmental Information Report.

Mitigation measures for greenhouse gas emissions include minimisation of water use during construction and the encouragement of water reuse. Any water abstraction required for construction would be coordinated with the needs of local community.

In addition, Highways England would work closely with suppliers to reduce greenhouse gas emissions from network related construction activities, including the reduction of fuel, energy and raw material consumption and all waste generation.

3.12 Assessment of Cumulative Effects

Two types of cumulative effects have been considered:

- Intra-scheme effects – The combined action of a number of different environmental topic specific effects upon a single resource/receptor; and
- Inter-scheme effects – The combined action of a number of different projects, in combination with the project being assessed, on a single resource/receptor.

A process of shortlisting has been undertaken regarding planning applications, relevant development plans and other relevant sources, in accordance with the Planning Inspectorate's Advice Note 17: Cumulative Effects Assessment. This has identified a shortlist of 'other developments' that are relevant to the assessment of potential cumulative effects for the Scheme. The shortlist comprises two approved residential developments (located 320 metres and 770 metres from the Scheme) and a Strategic Employment Site (located within the red line boundary, M67 Mottram).

More detailed information would be gathered for the Environmental Statement on the 'other developments'. Following this, the assessment would be undertaken in accordance with the Planning Inspectorate's Advice Note 17: Cumulative Effects Assessment. Throughout the assessment process, the 'other development' identified would be reviewed periodically to ensure that the most up to date information is used for the Environmental Statement.

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