M20 Junction 10a

TR010006

Environmental Statement

Chapter 2 The Proposed Scheme

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Volume 6.1

July 2016

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Environmental Statement

Chapter 2 The Proposed Scheme

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Content

2 The Proposed Scheme

2.1 Introduction

2.1.1 An overview of the site location and context is provided in this chapter together with a detailed description of the Main and Alternative Schemes in Sections 2.2, 2.3 and 2.4. Environmental mitigation design measures are also outlined (Section 2.5), the Construction of the Scheme (Section 2.6), future management and maintenance (Section 2.7) and decommissioning (Section 2.8).

2.1.2 Figure 2.1 contained in Volume 6.2 shows the General Arrangement for the Main Scheme; the Alternative is shown in Figure 2.2, Volume 6.2. Further Preliminary Design Drawings are available as part of the Nationally Significant Infrastructure Project (NSIP) application (Development Consent Order (DCO) document number 2.1 to 2.9).

2.2 Site Location and Context

2.2.1 The proposed new junction 10a would be approximately 700m to the south east of the existing M20 junction 10, to the east of Ashford in Kent. The proposed new link road would cross land to the south of the proposed new junction 10a to join the existing A2070 Southern Orbital Road to the west of St Marys Church, Sevington (see Figure 1.1 Location Plan, Volume 6.2).

2.2.2 Transport corridors are dominant within the area, with the M20 running through the study area to the north east of Ashford and the more southerly village of Mersham. The A2070 and A20 also form important transport corridors as they move through the centre of the study area, with the A2070 travelling south towards Romney Marsh and A20 running parallel with the M20. The Channel Tunnel Rail Link (CTRL) also traverses the area, although its impact is limited by running in cutting. Away from Ashford, the area is more open and rural in nature with irregular fields and blocks of woodland dominating, interspersed with small scale settlements such as the village of Mersham, also a Conservation Area, and isolated groups of houses. The village of Lacton Green located 150m to the north east of both the Main and Alternative Schemes is also a Conservation Area.

2.2.3 Aside from these Conservation Areas, other relevant designations relate to 2 Scheduled Monuments found within the study area. The first, Boys Hall Moat, is a moated site and associated garden located immediately adjacent to the CTRL just west of Ashford Industrial Estate. The second is a medieval moated site at Quarrington Manor located south of Quarrington Farm in the north eastern part of the study area.

2.2.4 A number of Public Rights of Way (PRoW) traverse the area, particularly to the south east of the A2070 between the CTRL and the M20 running parallel to the north. There are no long distant footpaths within the study area.

2.2.5 The Aylesford Stream, a tributary of the River Stour, flows from north east to south west through the study area, and passes under the A20 under Swatfield Bridge, and under the M20 and A2070 in culverts. There is an area of Flood Zones 2 and 3 associated with the channel of the Aylesford Stream.

Environmental Constraints

2.2.6 The main environmental constraints within the study area are shown on Figure 2.3, Volume 6.2. Key constraints relevant to the Scheme include:

- Listed Buildings (Grade I, Grade II and Grade II*).
- Scheduled Monuments (2 within 2km).
- Conservation Areas (Ashford Lacton Green, Willesborough Lees and Mersham within 2km).
- Sites of Special Scientific Interest (Hatch Park and Wye and Crundale Downs).
- Sites of Importance for Nature Conservation (7 within 2km).
- One National Nature Reserve.
- Local Nature Reserves (4 within 2km).
- One Roadside Nature Reserve.
- Landfill Sites (1 within 1km).
- Ancient Woodland (12 within 2km).
- One Registered Park and Garden.
- One Area of Outstanding Natural Beauty (North Downs National Park).
- Ponds, lakes and running water.
- Important Areas for Noise (Roads) (2 areas within 2km).
- Open Space (within the Scheme footprint).
- Green Corridors.

2.2.7 The potential impacts of the Scheme on the various environmental resources and receptors within the study area are considered in more detail in Chapters 5 to 16, Volume 6.1.

2.3 Description of the Main Scheme

2.3.1 As noted in Chapter 1 Introduction, Volume 6.1, the Main Scheme consists of a new gyratory roundabout over the M20 motorway, to the west of Mersham and approximately 700m south east of the existing junction 10, and a new dual carriageway link road to the existing A2070 Southern Orbital Road (SOR)

to the west of St Marys Church, Sevington. The Main Scheme includes demolition of the existing M20 Highfield Road bridge, construction of 2 new bridges over the motorway each carrying three traffic lanes, 4 new slip roads to cater for all movements to and from the motorway, closure of the existing east facing slip roads at junction 10, a new footbridge across the motorway, a new footbridge to replace the existing footbridge over the A2070 at Church Road, a new retaining wall at Kingsford Street, and demolition of 1 residential and 2 business properties – the Wyevale Garden Centre (incorporating 3 additional tenants, Kent Leisure Buildings, RCL Pools Ltd, and FS Partnership) and Sweatman Mowers.

2.3.2 Figure 2.1, Volume 6.2 shows the General Arrangement for the Main Scheme. Figures 2.4a to 2.4d, Volume 6.2 details the new and improved motorway, trunk road, side road and private means of access. Figure 2.4a to 2.4d, Volume 6.2 also illustrate where existing highway, private means of access and existing Public Rights of Way (PROW) are to be stopped up.

2.3.3 The Main Scheme as outlined below has been designed in accordance to the Design Manual for Roads and Bridges (DMRB) and best practice.

Junction Strategy and Signals

2.3.4 The proposed new M20 junction 10a roundabout would be partially signalised, with just the 2 slip roads off the motorway being under traffic signal control as they enter the roundabout. The proposed method of operation for the traffic signals at junction 10a would be Microprocessor Optimised Vehicles Actuation (MOVA). MOVA is an adaptive method of control that reacts to the varying traffic flows in order to optimise the operation of the traffic signals. The existing traffic signals at junction 10 operate under Split Cycle Offset Optimisation Technique (SCOOT) control, using the Kent County Council (KCC) network wide system. SCOOT is better at controlling networks of multiple signal junctions such as the existing junction 10 which has 6 signal controlled junctions and 2 separate pedestrian crossings. Although 1 of the controlled junctions at junction 10 will be closed with the removal of the south east facing slip roads, it is proposed to maintain this junction under SCOOT control.

2.3.5 During detailed design, the traffic signal layout and / or timings at the existing M20 junction 10 would be modified as necessary to align with the revised traffic flows being predicted. The method of operation would also be reviewed as part of the detailed design and modified if required.

2.3.6 The proposed junction between the new A2070 link road approach to junction 10a and the existing A2070 would be a roundabout. The existing A2070 / Barrey Road junction would modified with a new a new left turn lane introduced from the A2070 into Barrey Road.

Structures

New junction 10a Interchange Bridges

2.3.7 These 2 bridges (East and West) would be identical in form and would comprise 2 continuous spans with a built in central pier to create an integral or semi-integral structure. The use of 2 spans has been chosen to minimise the overall construction depth and lessen the height of the approach embankments, which additionally reduces the amount of imported fill required. The decks would be formed from precast pre-tensioned concrete beams with an in-situ reinforced concrete stitch at the pier. One or both bridges would provide for services which would require diversion from the demolished Highfield Road Bridge.

New Slip Road Bridges

2.3.8 These 2 structures would be located 1 either side of Lacton Farm Culvert which takes the Aylesford Stream under the M20. They would carry the new west facing slip roads for the new junction 10a over the Aylesford Stream. It is proposed that the bridges would be fully integral single span bridges, with the new supports set back from the stream to avoid any work in the stream or any impacts upon Flood Zones 2 and 3. The bridge decks would comprise precast pre-tensioned concrete beams. The bridge abutments have been aligned to avoid the need to remove the existing weirs within the Aylesford Stream.

Existing Lacton Farm Culvert

2.3.9 The Lacton Farm Culvert is an existing large culvert (3.5m x 3.1m high) allowing the M20 to cross over the Aylesford Stream. No major changes to this structure are proposed, however, the northern end may need to be trimmed to accommodate the new coastbound exit slip road which would abut the culvert and a mammal ledge would be installed through the culvert as requested by the Environment Agency.

New Kingsford Street Footbridge

2.3.10 The new Kingsford Street Footbridge would cross the M20 and the east facing slip roads on the south east side of the proposed junction 10a. Located opposite Bockham Lane and spanning 55m, the new footbridge would be a pre-fabricated steel bridge 3.5m wide, with approach earth ramps with a gradient no steeper than 1-in-20 in accordance with Highways England DMRB, BD 29/04 Design Criteria for Footbridges, and the requirements under the Equalities Act (2010).

New Kingsford Street Retaining Wall

2.3.11 A new retaining wall would be constructed where the proposed Londonbound exit slip road of the new junction 10a would come close to Kingsford Street.

The wall would be 6m at its highest and approximately 80m long. The wall would be constructed using soil nails driven into the new cut slope and faced with concrete or dressed stone.

Existing M20 Highfield Road Bridge

2.3.12 The existing 4 span Highfield Road Bridge which crosses over the M20 and links the A20 with Kingsford Street would be demolished. If left in place within the proposed interchange it would no longer serve as a safe route for non-motorised users wishing to cross the M20. Furthermore the Highfield Bridge supports were designed before current vehicle impact requirements were introduced and are now sub-standard, requiring significant strengthening works should the bridge be retained.

Existing A20 Swatfield Bridge

2.3.13 The Swatfield Bridge is a single span structure which carries the A20 over the Aylesford Stream. The level of the A20 over the bridge would be increased to keep the approach embankments to the new junction within acceptable gradients. The additional weight of fill over the bridge would however, exceed the capacity of the existing structure with strengthening works required. The existing structure would be strengthened on the outside to avoid working within the stream. The new road alignment would be accommodated within the width of the bridge and therefore the existing parapets and the appearance of the bridge would remain unchanged.

Existing A2070 Church Road Footbridge

2.3.14 The Church Road Footbridge is currently a 4 span reinforced concrete bridge of 1.8m width, which crosses the A2070 from Sevington Church to Church Road / Kingsford Close. It is approached by 2 1-in-10 earth ramps. The supports for this bridge would be within the proposed realignment of the A2070 and therefore the bridge would be demolished as part of the Scheme.

Proposed A2070 Church Road Footbridge

2.3.15 The existing A2070 Church Road footbridge would be replaced with a new single span pre-fabricated steel bridge just to the north of the existing bridge. This location allows the approach earth ramps to be reduced to a gradient no steeper than 1-in-20 to in accordance with Highways England DMRB, BD 29/04 04 Design Criteria for Footbridges and the requirements under the Equalities Act (2010). Steps would be included to provide a more direct route for more able users. Where the earth ramps are close to the A2070 a retaining wall will be required.

New CCTV Mast

2.3.16 The new junction 10a would be monitored by a new CCTV camera located on a 15m high mast situated on the coastbound carriageway verge of the M20 near the new East interchange bridge.

New MS4 Gantry

2.3.17 There is an existing MS1 information sign located within the central reserve on the east side of the proposed new junction 10a location. This sign would be removed and replaced by 2 new MS4 information gantries in the verges on each side of the M20. The MS4 information gantries would comprise a steel column which cantilevers over the hard shoulder to support a message board. These signs would be located approximately 800m to the east of the proposed junction 10a.

New Animal Bridge

2.3.18 An animal bridge would be installed over Aylesford Stream downstream of the M20 just outside the motorway boundary. The purpose of the new bridge would be to facilitate animal movement as a mitigation measure for loss of habitat, and would comprise a 600mm diameter pipe positioned at sufficient height to avoid creating an obstruction in the event of flooding.

Drainage

2.3.19 The proposed drainage strategy sees the existing drainage systems retained where they would be unaffected by the proposed works and existing outfalls used where possible. The highway drainage has been designed to current standards including:

- DMRB for highways under the control of the Highways England (M20 and A2070).
- KCC document 'Making it Happen: Appendix C2 – Sustainability: Drainage Systems (A20)'.

2.3.20 All new highway drainage would be designed and constructed to meet the requirements of DMRB Volume 4, Section 2, Part 3, HD 33/06 Surface and Sub-Surface Drainage Systems for Highways. This standard requires that sealed carrier drains must be designed for a return period of 1 year without surcharge. The design is also checked against a 5-year storm intensity to ensure surcharge levels do not exceed the levels of chamber covers.

2.3.21 Highway surface water drainage would be drained via kerb and gully, or slip formed concrete surface water channel. New sections of full depth carriageway would receive sub-surface drainage where applicable.

2.3.22 The current proposal to discharge surface water from the Scheme is to utilise existing outfalls where possible. Any existing catchments unaffected by the Scheme would be unaltered, whilst flows from existing roads would have attenuation on a 'nil detriment' basis.

2.3.23 Runoff from new roads would be attenuated up to the 100 year (+30%) event at approved greenfield runoff rate of 4l/s/ha south of the M20 and 2 l/s/ha for north of M20 through the construction of 3 new attenuation ponds. Two exceptions to this design philosophy are noted below:

- It is unfeasible to achieve the required run off rate of 4l/s/ha and 2l/s/ha for 2 sections near the eastbound off slip diverge and westbound on slip merges due to site constraints. It is therefore proposed to match the runoff rate to existing rates at these 2 locations only.
- For proposed Pond 3 (north of the M20), achieving the rate of run off at 2l/s (corresponding discharge rate of 2.6 l/s) is impracticable as it would require a hydrobrake / outfall pipe of 60mm diameter or orifice plate of similar size. The smaller diameter pipes are prone to blockage and therefore it is proposed to use 5 l/s with an outfall pipe of diameter of 105mm.

2.3.24 A sensitivity test has been carried out considering attenuation with an increased (+40%) event to assess exceedance flow paths for the new attenuation ponds. This has confirmed that the design will accommodate the additional rainfall allowance.

2.3.25 Any existing highway drainage networks severed by the Scheme would be either connected into the proposed drainage network or diverted accordingly.

2.3.26 Penstocks would be installed upstream and downstream of each attenuation pond to allow isolation in case of a spillage within the catchment. In addition, bypass oil interceptors would be installed upstream of the ponds.

2.3.27 Maintenance access roads are proposed at the 3 new balancing ponds.

Side Roads

2.3.28 The existing Highfield Lane Bridge would be demolished and Highfield Lane would be connected to Kingsford Street as shown in Figure 2.4c, Volume 6.2. There would be no direct access from Highfield Lane or Kingsford Street to the new M20 junction 10a.

2.3.29 Minor improvements are proposed to the existing Barrey Road junction, with a new left turn lane introduced from the A2070 into Barrey Road as shown in Figure 2.4d, Volume 6.2. The Church Road junction would not be affected.

Footpaths and Cycleways

2.3.30 The proposed footpaths and cycleway strategy was agreed with KCC. Given the new provision of combined cycleway / footway, the interconnection into existing rights of way and the perceived Non-Motorised User (NMU) desire lines, there would be no future requirement to maintain 6 current footpaths; AE337A, AU63C, AU65, AU53, north of the new A2020 link road, AE636, AE339 and 120m of AE338. These PROW closures are shown on Figure 2.4b, c and d, Volume 6.2.

2.3.31 The existing sub-standard footway on the west side of the A2070 would be upgraded to a 3m wide footway / cycleway. The existing Church Road footbridge would be demolished and new footway / cycleway footbridge would be constructed just to the north of the removed structure.

2.3.32 A new 3m wide footway / cycleway would be constructed south of the proposed A2070 link road and connected to the new footway / cycleway along Kingsford Street. This latter provision would improve NMU safety along Kingsford Street, a narrow road, and would accommodate increased NMU traffic being diverted to use the new Kingsford footbridge.

2.3.33 The new Kingsford footbridge would allow safe access over the M20 and would have pedestrian, cyclists and equestrian provision. This new footbridge would obviate the need to provide NMU crossing facilities at the new junction 10a. Drop kerbs would be provided where Kingsford Street footbridge meets the A20.

Lighting

2.3.34 The Lighting Design for the Scheme is shown on Figures 2.5a to 2.5d, Volume 6.2. In accordance with a DMRB TA49 assessment, lighting would be provided at all new junctions, including junction 10a and the junction of the A2070 link road with the existing A2070.

2.3.35 Lighting columns from 5 to 10m in height would be provided in the verge and junction splitter islands, whilst supporting LED lanterns for greater light control and longer life burning. The lanterns would be mounted at zero degree inclination to avoid upward light spillage. Along the A2070 link road the columns would be mounted at the back of the proposed verge.

2.3.36 The new footbridges would be lit utilising LED handrail lighting. Kingsford Street would be lit by bollards along its length to reduce visual intrusion.

Road Signs and Markings

2.3.37 An M20 Junction 10a Signing Strategy Report has been agreed in principal with KCC and Ashford Borough Council (ABC), with all minor changes proposed by KCC incorporated into the design.

2.3.38 The location and dimensions of all permanent traffic signs have been designed in accordance with The Traffic Signs Regulations and General Directions 2002 and Traffic Signs Manual Chapter 3 and 4 and Local Transport Note 1/94. The location and dimensions of all permanent road markings and studs have been specified in accordance with The Traffic Signs Regulations and General Directions 2002 and Traffic Signs Manual Chapter 5: Road Markings. The exact locations of the signs, road markings and studs are shown in the Preliminary Design Drawings available as part of the NSIP application (DCO document number 2.1 to 2.9).

2.3.39 As a result of the proposed closure of the M20 junction 10 east side slip roads, the existing signs would be amended to reflect the change to the roundabout alignment. No additional signs on this junction would be provided, however, new signage would be required elsewhere along the Scheme and around the proposed new M20 junction 10a.

Statutory Undertakers Diversions

2.3.40 In order to accommodate the Scheme, the Southern Water Pumping Station would be re-located and the Southern Water Foul Sewer would be diverted. The existing pumping station would be de-commissioned and removed. The pumping station would be relocated south of the existing location with access available from Highfield Lane or Kingsford Street.

2.3.41 A High Pressure Gas Main currently exists on site, running under the M20 and crossing the proposed alignment of the A2070 link road. The existing main under the M20 is protected by a nitrogen sleeve, the ends of which terminate under the position of the proposed slip roads for the new M20 junction 10a. Access is required to the sleeve ends for maintenance purposes and as such the whole length of the mains under the M20 would be diverted to ensure access. The proposed A2070 link road would be deemed a high density traffic route and as such the proposed diversion would need to extend beyond the southern side of the proposed A2070 link road. Southern Gas would be responsible for the diversion of the Gas Main.

2.3.42 Two South East Water mains currently run along the South side of the A20, as well as crossing Highfield Lane Bridge. The mains along the A20 would need to be diverted to follow the proposed new road layout, and the mains crossing over the M20 would be diverted through 1 of the new interchange bridges.

2.3.43 Three diversions would be required to UK Power Networks apparatus. The high voltage cable along the existing A2070 route would need to be diverted along the proposed route, tying back in near Barrey Road. The existing pole mounted transformer near the junction of Kingsford Street and Highfield Lane would be replaced with a ground mounted transformer and the low voltage cable diverted. A new enclosed substation would be needed as part of this diversion. The high voltage cable along the existing A20 route would need to be diverted along the new road layout.

2.3.44 BT ducts currently run along the South side of the A20, as well as crossing Highfield Lane Bridge. The ducts along the A20 would need to be diverted to follow the proposed layout, and the ducts crossing over the M20 would be diverted through 1 of the new interchange bridges.

2.3.45 Two diversions would be required to Vodafone's apparatus. The ducts and fibre optic cables along the existing A2070 route would need to be diverted along the proposed route, tying back in near Church Road footbridge. The ducts fibre optic cables along the existing A20 route would need to be diverted along the new road layout.

2.3.46 The Automatic Number Plate Recognition ANPR cameras and cables located on the existing Church Road footbridge would need to be diverted and repositioned on the proposed Church Road footbridge.

2.4 Description of the Alternative Scheme

2.4.1 The Alternative Scheme is the Main Scheme with the addition of an access to the proposed adjacent Stour Park development. The proposed Stour Park access would be a three-arm roundabout, located midway along the proposed A2070 link road, opposite the access track to the new attenuation pond (Pond 2). The access track to the attenuation pond would have direct access off the roundabout, however, as this would be used infrequently it would not require the addition of a separate arm to roundabout.

2.4.2 The roundabout would be lit, as for the rest of the A2070 link road, and advance direction signs would be required on the approach.

2.5 Environmental Mitigation Design Measures Incorporated in the Main Scheme and Alternative Scheme Design

2.5.1 The Preliminary Environmental Mitigation Design is shown in the Environmental Masterplan Figure 2.6 for the Main Scheme and Figure 2.7 for the Alternative Scheme, Volume 6.2. Both the Environmental Masterplans incorporate mitigation measures identified as part of the environmental assessment process, and would be developed further during the detailed design phase of the Scheme. Existing vegetation would be retained where practicable. Proposed planting would mainly consist of native tree and shrub species appropriate to the study area.

2.5.2 Environmental mitigation measures shown on the Preliminary Environmental Mitigation Design and described in this ES are considered to be essential. Any associated land requirement for essential mitigation would be secured by compulsory acquisition if landowner negotiations prove unsuccessful.

Nature Conversation Mitigation

2.5.3 The Environmental Masterplans incorporate habitat replacement for both protected and notable species as appropriate. This includes receptor sites for amphibians, reptiles and mammals. Hibernacula and hibernacula piles would be created to provide refuge and foraging opportunities for amphibians and reptiles. Bird, dormouse and bat boxes would also be provided. A mammal tunnel, a pipe bridge, and a mammal ledge would be installed within the Lacton Farm Culvert to provide connectivity and safe passage to foraging areas for a range of species. A reptile tunnel would also be installed to prevent isolation of reptile and amphibian populations.

2.5.4 Landscape planting has been tailored to enhance nature conservation. This includes:

- The introduction of scalloped south facing woodland planting to produce sheltered sun traps for reptiles.
- Woodland planting to connect existing dormice communities and additional woodland planting to compensate for habitat loss.

- The planting of trees and woodland vegetation to provide foraging habitats for bats, and planting along raised mounds to encourage high flight over the A2070 link road.
- The design has minimised short-term habitat loss and avoided high quality habitats where possible.

2.5.5 Lighting specifications have also been designed to be sympathetic to bat species. This includes shorter columns where possible, directional lighting with back plates, LED luminaires and the avoidance of white and blue wavelengths, which are known to attract bats as they attract food sources.

Landscape Design

2.5.6 The landscape strategy has been prepared to address mitigation requirements for both ecology and landscape assets. The design rationale has focused on replacement of vegetation lost during construction, enhancing natural habitats and providing screening vegetation. Where planting is proposed, it would include native species reflecting those currently on site, and would be of local provenance, as described in the Forestry Commission's Practice Note on Using Local Stock for Planting Native Trees and Shrubs. This design rationale also sits in line with the requirements of the Kent Downs Area of Outstanding Natural Beauty (AONB) where '*proposed landscaping should be based on indigenous species appropriate to the specific locality and should use plants of local provenance'* despite the both the Main and Alternative Schemes being located outside of the AONB.

2.5.7 Local native species would be introduced in areas where vegetation removal is required to accommodate construction. Swathes of native tree and shrub species would be punctuated with more mature standard trees giving instant height and impact, helping to settle the Scheme within the surrounding landscape. Over time, this vegetation would mature to offer effective screening where required as well as general landscape integration. Hedgerows would also be incorporated to help screen the proposed acoustic fencing along Kingsford Street. A Plant Schedule has been produced for both the Main and Alternative Schemes and is provided in Appendix 2.2, Volume 6.3.

Acoustic Barriers, Noise Bunds and Thin Surface Course

2.5.8 An acoustic barrier would be introduced at Kingsford Street. The 3m barrier would follow the alignment of the M20 at the top of the cutting slopes for optimum performance. At the eastern end, the barrier would terminate approximately where access to the new overbridge commences. At the western end, the barrier would follow the boundary of the property known as Highfield for a short distance. Owing to the need to provide pedestrian access there would be a small gap in the barrier in the vicinity of Lagonda Lodge. This would be offset by a small length of overlap barrier on the southeast boundary of the re-aligned Kingsford Street which would ensure continuity of screening against noise.

2.5.9 On the A2070 in the St Marys Church area a 2m acoustic bund adjacent to the A2070 would be introduced. At the roundabout the bund would then be replaced by an acoustic barrier due to space restrictions. Where space then increases close to St Marys Church, the barrier would then return to another 2m bund.

2.5.10 An additional acoustic bund would also be introduced to the rear of Summerhill Place, adjacent to the eastbound off-slip.

2.5.11 A thin surface course (which will reduce noise and spray) will be applied to new carriageways associated with the Scheme, with the exception of a short length of A20 which will remain with a hot rolled asphalt surface.

Replacement Open Space

2.5.12 Approximately, 1738m^2 of Open Space would be permanently required for the construction of the Church Road footbridge. A further 1,588m^2 would be temporarily unavailable during construction, resulting in an overall loss during construction of 3,326m^2. To mitigate the permanent loss, 5887m^2 (which includes 718m^2 of footpath/ cycleway) of replacement open space would be provided adjacent to the footbridge where the existing A2070 has been realigned, resulting in a net gain of 4,149m^2.

2.5.13 The replacement land would be contiguous with the permanently acquired land (refer to Figure 2.8 and Figure 2.6, Volume 6.2). Access for most NMUs would be improved through the addition of stairs from the footbridge to the existing open space. There are currently no stairs from the existing footbridge into the existing open space, therefore making access to the open space 'lengthy' and difficult as users have to follow the footbridge / path all the way to its end before accessing the open space.

2.5.14 The new footbridge would be cycle friendly and compliant with the Equalities Act (2010). As the existing footbridge is not compliant with the Disability Discrimination Act 2005, access for disabled users would be improved as part of the Scheme. Although the replacement land is not directly accessible from the existing open space it will be accessible from the existing footpath which runs along the north eastern boundary of the open space adjacent to the A2070 and the realigned A2070 footpath.

2.5.15 There would also be steps from the new footbridge which provide direct access into the replacement open space.

2.5.16 The replacement land is located adjacent to the A2070 and the new A2070 roundabout. A boundary fence and tree planting is proposed between the replacement land and the A2070 which would provide a degree of physical and visual separation between the 2. Additional woodland planting would be provided along the back boundary of the replacement land adjacent to the existing noise barrier and residential properties.

2.5.17 The public would be able to use the replacement land for recreation in the same way as they use the open space at Church Road. Further details are provided in the Statement of Reason, DCO document number 4.1).

2.6 Construction of the Scheme

2.6.1 Programme data from the Buildability Report (Volume 6.3, Appendix 2.1) has been used to inform the Environmental Statement and states: following Notice to Proceed to Construction (with a current provisional date of January 2018) works would be limited to Environmental Mitigation and Advanced Statutory Undertakers works. The main construction works would commence in August 2018 and be complete by the beginning of May 2020. It is anticipated that the main construction works would take approximately 22 months.

2.6.2 This represents a worst case scenario as Highways England's delivery plan assumes that the following programme opportunities will be explored and ensured once reviewed with the appointed supplier: construction and environmental mitigation to begin in January 2018 concurrently and the scheme to be open to traffic in March 2019.

2.6.3 Note however that whilst completion of the Scheme is scheduled for May 2020, Chapter 5 Air Quality and Chapter 11 Noise and Vibration, Volume 6.1 have used traffic data based on 2018 as the Opening Year, refer to Chapter 4 EIA Methodology for further details.

Construction Strategy

2.6.4 A Buildability Report has been produced by Carillion contained in Appendix 2.1, Volume 6.3. Within the report a number of options have been presented for elements of works. This ES is based on the following assumptions:

- Swatfield Bridge / Culvert: There are 4 options presented in the Buildability Report, Appendix 2.1, Volume 6.3. The EIA is based on the preferred baseline option (Option 1 – Current Design) which is included in the current construction programme and considered to be the environmental worst case. In addition Options 3 and 4 have been issued to KCC for comment who have confirmed that their preference would be for strengthening (Options 1 or 2) to facilitate future maintenance.
- The M20 Contraflow proposal is the preferred option for beam erection and is included within the current construction programme.
- Church Road Footbridge: There are 2 alternative options presented in the Buildability Report, Appendix 2.1, Volume 6.3. The EIA however, is based on the provision of a temporary at-grade crossing during construction to ensure the access is maintained throughout construction.

Hours of Working

2.6.5 The typical core working hours are expected to be between 07:00 and 18:00 on weekdays and from 07:00 to 13:00 on Saturdays with no works on Sundays and Bank Holidays except under exceptional circumstances subject

to the agreement of ABC. There would also be a 2 week shut down over the Christmas period.

2.6.6 Night works and weekend working would be required for some elements of work. These would be kept to a minimum. When road closures are required on the M20 for the bridge demolition, beam erection and contraflow, these would be done at night. Monday to Thursday nights are anticipated to be 21:00 to 05:00, Friday and Saturday night closures would be slightly longer 21:00 to 07:00 but any proposals would be subject to confirmation from the Network Operator. Working hours would be slightly different in the summer and winter, with shorter working hours in the winter. The above hours would be summer time working hours.

2.6.7 In terms of closures, the following assumptions have been made:

- M20 Traffic Management Installation / Beam Erection / Demolition / Footbridge Erection – 8 weeks / 40 nights (not continuous).
- A2070 Traffic Management Installation / Footbridge Erection – 3 weeks (not continuous).
- A20 – Traffic Management / Swatfield Culvert – 2 weeks (not continuous).

Programme and Phasing

2.6.8 Construction phases are presented in the Construction Programme and in Appendix A of the Buildability Report (Appendix 2.1, Volume 6.3).

Construction Compounds

2.6.9 A temporary compound located on the Willesborough Garden Centre north of the M20 would be required from January 2018 to August 2018 a period of 8 months during the environmental mitigation works. This initial compound would be required as the area identified for the main compound is suitable for reptiles. Once the environmental mitigation works have been completed the main compound would then be brought into use.

2.6.10 The main site compound would be located south of the existing junction 10 and north of Aylesford Stream and is shown as the green area in the Buildability Report (page 25) contained in Appendix 2.1, Volume 6.3. A number of assumptions regarding the site compound have been made as follows:

- Compounds would be lit at night, although lighting would be directed away from the stream and trees, where practicable.
- The compound would comprise single storey units.
- Solid wood fencing would be used along the stream line, to reduce light spill from the compound.
- Staff welfare facilities and offices, stockpiles and polluting materials would be located outside flood zones 2 and 3.

- Vehicle parking could be permitted within flood zones 2 and 3, as they could be quickly moved in the event of a flood warning. This would be subject to a suitable exclusion zone along the edge of the stream to prevent damage to the banks from vehicles.
- The Site Manager would sign up for Environment Agency flood warnings/flood alerts, and a flood emergency plan would be prepared and implemented by the Contractor;
- Access and egress to the site would be located outside of flood zone 2 and 3.
- The main access to the compound for light vehicles would be across the field from an access off of the existing A2070, where the new A2070 roundabout would be located. A temporary Bailey bridge would also be provided across Aylesford Stream for heavier plant, although not all construction plant would be able to make use of this crossing. The construction of the new Highfield Lane / Kingsford Street re-alignment, just south of the M20, is early in the programme which would allow for the permanent diversion allowing Highfield Lane Bridge to be closed to traffic. This bridge can then be used as an access route to the works from the A20. The following assumptions have been made regarding the Baily bridge across Aylesford Stream:
  - The width of the bridge would be no more than 7 – 8m, so would only need to remove 10 –15m of vegetation.
  - The foundations would be pad foundations, set back from the banks and raised.
  - The bridge will be located over the existing farm access or if not, as close to it as possible.
  - The bridge will be in place for 88 weeks.
- All construction work within 10m of the Aylesford Stream and any watercourse crossings (including a Bailey bridge) would be located and constructed in accordance with the provisions of the Flood Defence Consent included within the DCO, as agreed with the Environment Agency.

Construction Access and Vehicle Movements

2.6.11 Details on the key Traffic Management that would be in place is provided within the Buildability Report (page 20) contained in Appendix 2.1, Volume 6.3. The report also provides an overview of the vehicle movements anticipated on site throughout the construction phase (page 27).

2.6.12 A temporary A20 carriageway would be required for the works (refer to page 6 of the Buildability Report Appendix 2.1, Volume 6.3 for details).

Plant, Equipment and Lighting

2.6.13 A list of the key plant and equipment that would be used in the major areas of the project is provided in the Buildability Report (page 21) contained in Appendix 2.1, Volume 6.3.

2.6.14 The temporary A20 carriageway would be lit with temporary lighting equivalent to the existing provision in this location, and would most likely take the form of columns with temporary connections to the existing lighting.

2.6.15 Night works on the M20 would be lit by temporary mobile tower lights. The access routes through the Scheme would not be lit.

Footpath and Public Rights of Way

2.6.16 PRoWs that are not being permanently closed as part of the Scheme (as noted in section 2.3) and footpaths will be maintained at all times within the Traffic Management during works to the A2070 and the A20. Where PROW cross the scheme these will be maintained if possible. Where it is not possible for these to be maintained temporary diversions would be put into place. Diversion routes are not known at this time. The existing Highfield Lane bridge would remain in place until the new one is built and if closed to vehicular traffic foot traffic will still be allowed over it.

Utility Works

2.6.17 The Scheme would affect numerous existing utilities services that either cross or run parallel to the works footprint including a high pressure gas main. Where necessary, diversions to the services have been investigated in conjunction with the utility companies. A statutory undertaker schedule is provided in Appendix B of the Buildability Report (Appendix 2.1, Volume 6.3), with further details provided in Section 2.2 of the ES.

The Alternative Scheme

2.6.18 The construction of the Alternative Scheme involving the access roundabout to the Stour Park development would fit in the current programme without any extension to the completion date. Hours of working, lighting, access and haul routes would be similar to those required for the Main Scheme. There would be no additional Traffic Management and no requirement for an additional compound to facilitate the construction of the access roundabout to the Stour Park development.

Construction Environmental Management Plan

2.6.19 An Outline Construction Environmental Management Plan (OCEMP) has been produced and is provided in Appendix 17.1, Volume 6.3. The OCEMP summarises Scheme specific actions, identified through the EIA process and presented in the Register of Environmental Actions and Commitments (REAC) contained in Appendix 17.1, Volume 6.3. These actions require

implementation in order to ensure that environmental risk is managed and the stated environmental outcomes are delivered. All actions must be signed-off before the construction phase of the project can be formally completed. Actions in relation to the operational phase of the Scheme, for example long term monitoring, environmental mitigation or landscape maintenance, would be undertaken during the Aftercare Period and beyond as required. Further details are provided in Chapter 17 Environmental Management, Volume 6.1.

Site Waste Management Plan

2.6.20 The generation and handling of waste materials from the construction phase is an important aspect of the environmental assessment and environmental control and management during construction. So as to ensure compliance with legislative requirements in relation to the management of waste, and to demonstrate their Duty of Care, the appointed Contractor would be required to produce and implement a detailed Site Waste Management Plan (SWMP) for the construction phase of the Scheme.

Traffic and Transport Management Plan

2.6.21 A Traffic and Transport Management Plan would be prepared by the appointed Contractor prior to works commencing, to be agreed with Highways England and Kent County Council and Ashford Borough Council. The Traffic and Transport Management Plan would ensure minimal disturbance as a result of construction activities for the local road network and on access to services. Road space, road closures and temporary traffic signals would need to be authorised and confirmed in advance, to take into consideration any other works and planned events and any haul routes would be identified.

2.7 Maintenance and Management Measures

2.7.1 Meetings have been held with key stakeholders, including the Highways England Maintenance Contractor, KCC and Statutory Undertakers during the development of the Scheme to ensure that those with the experience of operation, maintenance and repair of roads affected by the Scheme are fully engaged.

2.7.2 As detailed in Figures 2.4a to 2.4d, Volume 6.2 the maintenance responsibility for the following roads would rest with Highways England:

- M20.
- Existing junction 10 and remaining west facing motorway slip roads.
- New junction 10a gyratory and new motorway slip roads.
- Existing A2070.
- New A2070 link road.

2.7.3 Areas of essential environmental mitigation would also be retained and maintained by Highways England. This includes the area south of Aylesford

Stream and the pockets of planted woodland to the east of the new M20 junction 10a.

2.7.4 Upon completion of the Scheme, full handover documentation would be passed to the incumbent Area 4 managing agent for Highways England. The asset maintenance, including the landscape and habitat objectives and management prescriptions, would then become part of the normal cyclic contractual arrangements between Highways England and the Contractor.

2.7.5 It is assumed that maintenance responsibility for the following roads would rest with Kent County Council:

- Existing A20 Hythe Road up to the give way lines with the new M20 junction 10a gyratory
- Barrey Road and Kingsford Street.
- The new development access road off the new A2070 link road (subject to its adoption as highway maintainable at the public expense, otherwise maintenance responsibility would lie with the Developer).

2.8 Decommissioning

2.8.1 The traffic and economic assessment demonstrates that the proposed improvements would operate adequately for the 15 year design life of the Scheme until 2033. Typically highway schemes are designed to have a material life-span of between 20 and 40 years before major maintenance and upgrading is required dependant on material properties, maintenance and usage. Elements including structural concrete and steelwork have extended design lives of up to 120 years.

2.8.2 It is considered highly unlikely that the junction and link road would be decommissioned after the various design life's listed as the road is likely to have become an integral part of the infrastructure in the area. Decommissioning would not be either feasible or desirable, and is therefore not considered further within this ES.

2.9 Legislative and Policy Context

Planning Act 2008 and The Highway and Railway (Nationally Significant Infrastructure Project) Order 2013.

2.9.1 The Planning Act 2008 (PA08) introduced a new consenting regime for projects that are considered to be nationally significant (i.e. an NSIP). When promoting new schemes, the first step is to determine if a scheme meets the definition of a highways NSIP, that would then require Secretary of State consent through The Planning Inspectorate (PINs).

2.9.2 The Scheme is an NSIP within Sections 14(1)(h) and 22(1)(b) of the Planning Act 2008. Under Section 22 an NSIP must fall within one of the three categories specified, which are expressly stated to be alternatives. This Scheme is an "alteration" within the meaning of Section 22(1)(b). The

alteration is to the M20 motorway by the creation of a new Junction 10a, which will form part of the motorway, the closure of the eastern slip roads on the nearby existing Junction 10 and the related highway works necessary to allow the new motorway junction to be integrated into the surrounding trunk and classified road network. The Scheme satisfies Section 22(3)(a) and (b) in that all the highway involved is wholly in England and Highways England Company Ltd, being a strategic highways authority, is the highway authority for the M20. The relevant area for development under Section 22(3)(c) and (4) is 15 hectares because the highway being altered is a motorway. The area for development is [49.7] hectares, which thereby exceeds the 15 hectare threshold.

Policy

2.9.3 Section 104 of the Planning Act 2008 states that when determining an NSIP, the Secretary of State must decide the application in accordance with any relevant National Policy Statement (subject to a limited number of exceptions).

2.9.4 National Policy Statements (NPSs) are produced by central government and provide policy on specific aspects of national infrastructure. They clarify how the infrastructure:

- Contributes to sustainable development.
- Takes account of the mitigation of, and adaptation to, climate change.
- How these objectives have been integrated with other Government Polices.
- How actual and projected capacity and demand have been taken into account.
- Consider relevant issues in relation to safety or technology.
- Circumstances where it would be particularly important to address the adverse impact of development.

2.9.5 National Policy Statements are the primary policy consideration. The decision maker must also take into account other matters that are considered both important and relevant (which may include the National Planning Policy Framework (NPPF)).

2.9.6 The Government has produced a series of National Policy Statements (NPS), including the NPS on National Networks[1], which covers roads. The National Networks NPS sets out "*the Government's vision and policy for the future development of nationally significant infrastructure projects on the national road and rail networks*" and provides guidance for promoters of NSIPs. It also provides the basis for examination by the Examining Authority and decision making by the Secretary of State.

[1]National policy statement for national networks, Department for Transport, 17 December 2014, available online at https://www.gov.uk/government/publications/national-policy-statement-for-national-networks, accessed 23/03/2016.

2.9.7 The NPPF sets out the Government's planning policies for England and requirements for the planning system. It provides a framework within which local authorities and residents can produce local and neighbourhood plans reflecting the needs and priorities of communities.

Local Policy

2.9.8 ABC is currently preparing its Local Plan, up to 2030. The plan is scheduled to be released for public consultation in June 2016. This will address housing, the economy, community infrastructure and environmental issues such as adapting to climate change and ensuring high quality design. The Local Plan will be an important document that will make site allocations for different development uses and will set out criteria-based policies to facilitate planning decisions.

2.9.9 The Council's Core Strategy[2] was adopted in 2008 and included the following vision:

- *Core Strategy Vision: Where practicable, impediments to growth such as capacity* limits *at the motorway junctions, will be removed allowing the town to develop as an office, research and business node that will attract inward investment and stimulate the economic growth of the sub-region.*

2.9.10 In addition, the Core Strategy contained a section relating to strategic growth, and the infrastructure that would be needed to support this, including junction 10a. The following strategies and plans are also in place, which support the Core Strategy:

- *Economic Strategy – relates to Ashford Town Centre redevelopment, the provision of improvements to both telecommunications and transport infrastructure;*
- *Housing* Strategy *– relates to housing and related support needs.*
- *Channel Corridor Partnership - Forward Plan – relates to delivery of local initiatives in* the *Ashford, Maidstone and Shepway Local Authority areas.*
- *Regional* Planning *Guidance and the Kent and Medway Structure Plan – relates to targets for housing and jobs growth.*
- *Development in the Ashford Growth Area - Spatial Objectives – relates to other key infrastructure projects, primarily set out in the Greater Ashford Development Framework (GADF) report, include Motorway Improvements: improvements to existing junctions 9 and 10, and the creation of a new junction 10a.*

2.9.11 The Ashford Borough Local Plan 2000 has now been largely superseded by the Local Development Framework (LDF). But a number of the policies in the 2000 Local Plan were 'saved' until these were either subsequently replaced or superseded by policies in the new system. There are some environmental

[2] Core Strategy, Ashford Borough Council, 2008, available http://www.ashford.gov.uk/core-strategy-2008, accessed 23/03/16.

policies of which are relevant to the scheme; however, the transport and infrastructure policies have largely been replaced by the Urban Sites and Infrastructure Development Plan Document (DPD).

2.9.12 The Urban Sites and Infrastructure Development Plan Document (USI-DPD) forms one of the key documents in the Ashford Local Development Framework. The role of the USI-DPD is to provide clear guidance on where appropriate development can take place in and adjoining the urban area of Ashford. This DPD covers the period to 2017.