

Hertfordshire County Council

**A602 Improvements
(Stevenage to/from Ware)**

Environmental Statement:
Volume I – Non-technical
summary

236368-HCC-ZZ-ZZ-RP-YE-00011

Issue | 22 April 2016



Contents

	Page
1. Introduction	2
2. The Area	3
2.1 Hertford Road junction	5
2.2 Watton-at-Stone to/from Tonwell	5
2.3 Tonwell to/from Ware	6
3. Alternatives Considered	7
4. The Proposals	9
4.1 Construction Timescales	12
5. Consultation Process	13
5.1 Business Case Consultation	13
5.2 Pre-planning Application Consultation	13
5.3 Scoping Opinion	13
6. EIA findings	14
7. Mitigation	21
7.1 Design Measures	21
7.2 Construction and Environmental Management Plan	21
8. Next stage	22
9. Contact Information	23

1. Introduction

Hertfordshire County Council is currently progressing plans for an improvement scheme to the A602 between Stevenage and Ware. The scheme will include a number of road realignments, junction improvements and roundabout enlargements in order to cut journey times, increase the capacity of specific junctions and to create a more reliable route along the A602.

The A602 is an important link in Hertfordshire's primary road network. The road runs north westwards from the A10 junction at Ware to join the A1(M) at Stevenage and then through the centre of Stevenage towards Hitchin.

The road is currently dual carriageway throughout central Stevenage but the rest of the route is a rural single carriageway, as shown in Figure 1. The road is considered to be of low standard for a primary route and drivers experience visibility problems and high levels of congestion especially at peak times. Hertfordshire County Council has wanted to improve this part of the A602 since the 1990s but have been unable to provide funding until now. With the improvements in place, queuing times will be significantly reduced, and journey reliability during peak time will be improved.



Figure 1 - A view of the single carriageway A602 in its rural setting

A planning application package is being made to Hertfordshire County Council Planning Department as the planning authority for the County's transport system. There are four engineering elements to the Proposed Scheme and a planning application will be submitted for each element.

These planning applications were considered to be a single improvement project which share the same base of evidence, which includes a single Environmental Impact Assessment (EIA) reported in the form of an Environmental Statement (ES). The ES, prepared to support these applications describes the findings of the EIA for the scheme. This document provides a non-technical summary of the Environmental Statement.

2. The Area

The proposed improvements to the A602 are located within Hertfordshire, England, and for the most part within the district of East Hertfordshire, with one element located in the Borough of Stevenage. The section of the road where the improvements will be made mainly runs through open countryside and agricultural fields. The area is semi-rural in nature with a number of villages/hamlets located along the route including Watton-at-Stone, Tonwell and Westmill.

The scheme can be divided into three main sections in separate geographical areas. Where there is more than one improvement proposed the section is split out further as listed below:

- **Hertford Road junction**
- **Watton-at-Stone to/from Tonwell**
 - A119 junction
 - Ware Road realignment
 - Stony Hills junction
- **Tonwell to/from Ware**
 - Tonwell North junction
 - Anchor Lane junction
 - Westmill Hamlet junction
 - Westmill Road Improvements
 - A10 junction

Figure 2 shows the locations of each of these improvements.

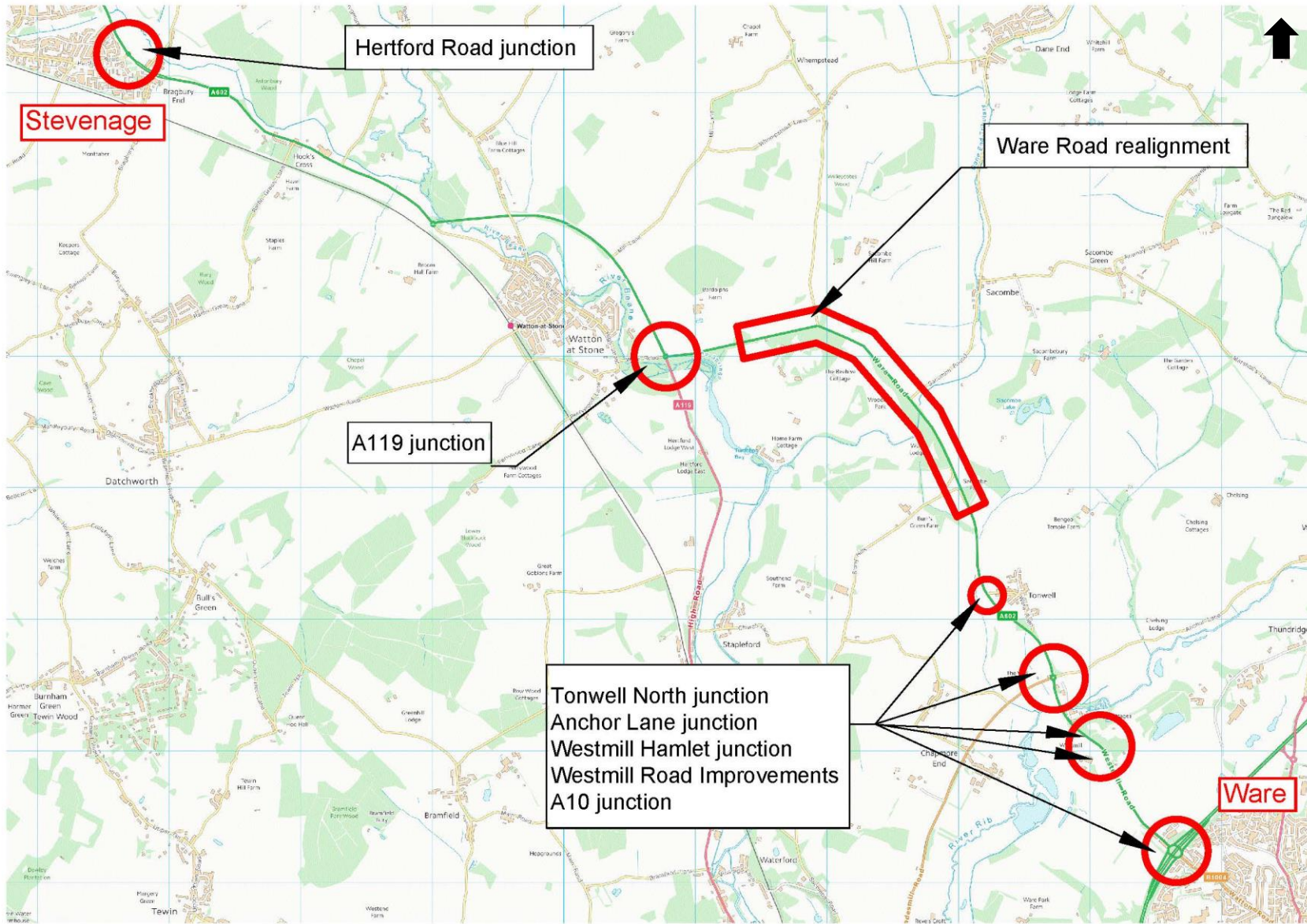


Figure 2- The Proposed Scheme within the wider area (Ordnance Survey license: 100019606)

2.1 Hertford Road junction

The Hertford Road junction (see Figure 3), is situated on the A602, 5km south-east of the centre of Stevenage, on the south-western edge of Stevenage Golf & Conference Centre. The A602 at this point is a single two-way carriageway meeting a three-armed roundabout (Hertford Road junction).

On the north-eastern side of the A602 lies Stevenage Golf Course & Conference Centre, on the western side is the residential area of Broadwater. Further to the south-west is Harwood Park Crematorium and to the east Astonbury Wood, where several public footpaths are available. Stevenage Brook runs from west of the A602, underneath the road to east of the A602, through the Stevenage Golf and Conference Centre and away to the south-east. Additionally, to the north-east and south-west of the A602 there are a number of agricultural fields.



Figure 3 – Looking towards Hertford Road junction

2.2 Watton-at-Stone to/from Tonwell

The western end of the Watton-at-Stone to/from Tonwell Section is situated around 1km south-east from the centre of Watton-at-Stone and runs eastwards on the A602 past the Woodhall Park Estate to the eastern end of the section situated 1km north-west of Tonwell.

Along this stretch the A602 is a two-way single carriageway meeting the four-armed A119 junction at the western end of the section. At the eastern end of the section is a junction on the A602 providing access to Stony Hills.

To the west of the section is Watton-at-Stone, a small town consisting of residential and commercial land uses. To the north of the site land use consists primarily of agricultural fields and woodland, with sparsely dispersed residential units. To the south of the site lies Woodhall Park (see Figure 4), a Grade II* Registered Park and Garden and privately owned estate consisting of residential and commercial property, Heath Mount School with playing fields, large open spaces used for amenity / recreation, wooded areas and the River Beane and the Dane End tributary. The Dane End tributary runs from the east under the A602 at the Sacombe Arches and joins the River Beane within Woodhall Park.



Figure 4 – Looking towards Woodhall Park

2.3 Tonwell to/from Ware

The A10 junction (see Figure 5) is situated at the southern end of the A602 around 1.5km north-west of the centre of Ware, at the intersection between the A602, A10 and B1004. The Westmill Road section of the A602 is situated 0.9km north-west along the A602 from the A10 junction, the Westmill Hamlet junction specifically provides access for residents at Westmill Hamlet, just off the A602. Anchor Lane Roundabout is further north-west (1.5km from the A10 junction) along the A602, and allows an intersection between the A602, B158 and Anchor Lane. Tonwell North junction sits a further 850m north-west of Anchor Lane Roundabout, providing access off the main A602 into the village of Tonwell.

The A602, between the A10 junction and Tonwell North junction, is a single two-way carriageway meeting a four-armed roundabout at the A10 junction. There is a short section of carriageway that includes a crawler lane in the northbound direction, north of the Anchor Lane junction.

agricultural fields and sections of woodland, including Westmill Plantation. The River Rib, which passes underneath the A602 200m south of Anchor Lane junction, has a number of associated tributaries, drains and man-made lakes, at their closest 100m from the A602. Westmill Farm is 100m to the west of the Westmill Road section and there are other sparsely distributed residential properties along the A10 junction to Anchor Lane junction stretch.



Figure 5 – Looking towards the A10 junction

To the south-east of this section is the town of Ware consisting of largely residential, commercial and employment uses, such as Ermine Point Business Park at the A10 junction. Further up the A602, on the Westmill Road section, there is a large gravel extraction works on both the east and west sides of the A602. There are also

3. Alternatives Considered

Options to improve traffic in the area have been considered for several years. The proposals taken forward were made in consideration with the Government's key objectives for transport. These include:

- Safety;
- Environment;
- Economy;
- Integration; and
- Accessibility.

A number of high level options were considered for the scheme including:

1. Construction of an alternative off-line route;
2. Widening the existing A602 to dual carriageway standard;
3. Junction and alignment improvements including a Hook's Cross bypass; and
4. Junction and alignment improvements only.

Of the above only Option 4 (junction and alignment improvements only) was taken forward as this represented the only feasible solution within available funding resources and the time constraints in which the scheme must be completed.

Following transport and economic surveys of Option 4, a preliminary Business Case was prepared and submitted in 2014 identifying a series of improvements that could be undertaken along the corridor. Following acceptance of the Business Case, the following improvements were considered for further analysis:

- **Hertford Road junction** – The Business Case proposed an enlarged roundabout to improve the capacity of the junction. As a result of further assessment it was decided a signalised T-junction was a better solution than the enlarged roundabout originally proposed. This is because it was better able to cater for the main north-south traffic flow, along the A602. It also allows for Hertford Road to have a dedicated traffic signal, to exit the junction.
- **A119 junction** – The signalised junction proposed in the Business Case was ruled out as it was not in keeping with the rural nature of the area. An enlarged roundabout solution was reassessed and taken forward as the preferred solution.
- **Ware Road realignment** – Several options for the realignment works of the A602 to remove the bends at Whempstead Road and Sacombe Pound were considered. The selected option provides a gap between the existing A602 and the realigned A602. This has helped to reduce disruption to the travelling public during construction as traffic management measures such as temporary traffic lights are minimised and lengthy road closures are avoided.
- **Side roads** – Works to the side roads to improve the layout for certain accesses including Heath Mount School, Whempstead Road, Garden House and Beehive Cottages, Sacombe Hill Farm, Sacombe Pound and Stony Hills have all been designed to connect into the option chosen for the Ware Road realignment. The alterations have also taken account of the issues raised at public consultation by incorporating single lane dual carriageway at Sacombe Pound, and the incorporation of a space for cyclists to stop while waiting to cross the live traffic at Sacombe Pound and Stony Hills.

- **Stony Hills** – The business case required significant land take for the realignment of the northern arm of Stony Hills to create a T-junction with the A602. This has now been refined and the environmental impact and land take has been reduced.
- **Anchor Lane junction** – Improvements proposed in the Business Case to Anchor Lane junction have generally not been changed with only minor amendments to improve the flow of traffic.
- **A10 junction** – The segregated left-turn lane that was planned to link Ware and the A10 has been ruled out as too many residential properties and a number of utility cables were affected. The preferred option now includes the installation of part-time traffic signals.

The final proposals for the scheme have come as a result of refining the above options, environmental considerations identified through the EIA, and through consultation with the general public. The proposals that make up the Proposed Scheme included in the planning application are discussed in the next section.

4. The Proposals

The Proposed Scheme involves eight key road improvements along the A602. These will lead to reductions in queuing times, delay and improved journey reliability.

Hertford Road junction

1. Hertford Road junction

The existing roundabout will be replaced with a traffic signal T-junction. The traffic signals would be in operation full time. The road will be widened at the junction to two lanes in each direction, and a third lane added for right turning vehicles in the southbound direction. The existing subways will be widened and the footway/cycleway facilities will be retained. A small number of trees will need to be removed to accommodate the works.

Watton-at-Stone to/from Tonwell

2. A119 junction

The A119 junction will be widened to two lanes on each approach, and a segregated (allowing free flow of traffic rather than waiting at the junction) left-turn lane in the direction of Stevenage to Ware will be provided. The footway along the A119 will remain where it is and the footway from the roundabout towards Watton-at-Stone will be extended. An uncontrolled pedestrian crossing will be provided at the A119 traffic island.

3. Ware Road re-alignment

a. Ware Road

The A602 (Ware Road) will be realigned by a maximum of 80m to the north (see Figure 6). This new section of road will be single carriageway. Due to the existing undulating landscape, the road will be in cutting for parts of the route and be on embankments for others. A bridge crossing will be provided over the Dane End tributary.

The realignment also requires localised widening to incorporate right-turn lanes at each of the following side roads:

- Access to Heath Mount School;
- Whempstead Road;
- Access to Garden House and Beehive Cottage;
- Sacombe Hill Farm access;
- Sacombe Pound; and
- Stony Hills realigned north junction.

The road will be widened at each of the above side road locations to allow space for vehicles to wait to turn into them without interrupting traffic flow.

b. Stony Hills junction

The northern arm of Stony Hills junction will be realigned to provide a T-junction with the A602. The existing southern section of the junction will be closed to traffic and converted into a Bridleway.

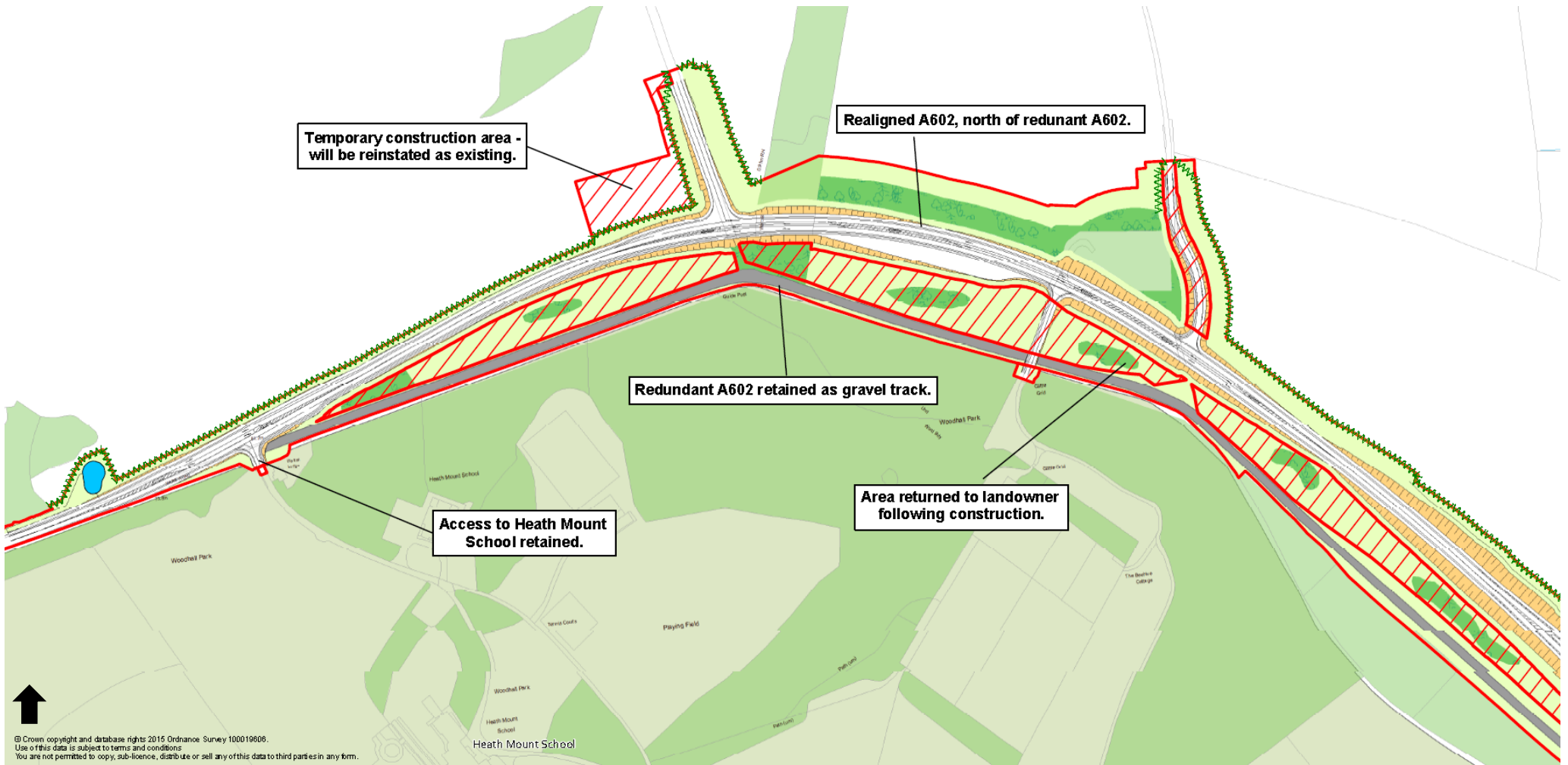


Figure 6 – Realigned Ware Road (A602), north of existing.

Tonwell to/from Ware

4. Tonwell North junction

A deceleration lane will be added at Tonwell North junction, allowing traffic slowing down to turn left into the junction and move out of the way of traffic on the A602.

5. Anchor Lane junction

The junction at Anchor Lane will be increased in size to allow more vehicles to flow through it. Each entry and exit at the junction will be two lanes. The current footway along the A602 will remain and will be extended south to join the Public Right of Way.

6. Westmill Hamlet

Trees in the vicinity of the Westmill Hamlet junction will be trimmed back to allow for better sight lines for drivers waiting to turn out of the junction. The proposals include for a right turn ban into Westmill Hamlet. This would ensure that the traffic is not delayed by vehicles wanting to turn right into Westmill Hamlet. Vehicles wishing to access Westmill Hamlet would still be able to U-turn at the Anchor Lane roundabout and then turn left into Westmill Hamlet. A deceleration taper (specialised road markings) will be added to allow traffic slowing to turn left into the junction to move out of the way of traffic on the A602.

7. Westmill Road Improvements

The sharp bend on the A602 will be removed. A deceleration lane into the household waste recycling centre will be provided. The deceleration lane will allow extra space for vehicles queuing to enter the household waste recycling centre to move out of the way of A602 traffic.

8. A10 junction

Part-time traffic lights will be installed at the junction at the top of the slip roads. On the eastern approach to the roundabout an extra lane will be added. Some of the grass verge will be removed to accommodate this widening. On the north side of the A10 junction a combined footway/cycleway will be added. Uncontrolled pedestrian crossing points will be provided at all road crossings.

4.1 Construction Timescales

Construction is due to start in late 2016, provided the required planning permissions are granted. It is anticipated that construction will be finished by 2019, as this is a requirement of the funding.

Section	Anticipated construction period
Hertford Road junction	<p>The construction of Hertford Road junction is currently due commence in 2016 with a duration of 26 weeks, with works lasting into 2017.</p> <p>Works will also require 2 months of site preparation before work starts on site, and 3 months of inspection and handovers prior to opening.</p>
Watton-at-Stone to/from Tonwell	<p>The construction of the A119 roundabout is currently due to commence in 2018 with a duration of 20 weeks. These works will be followed by the Ware Road works lasting 52 weeks.</p> <p>Works will also require 3 months of site preparation before work starts on site, and 3 months of inspection and handovers prior to opening.</p>
Tonwell to/from Ware	<p>The Tonwell North junction, Anchor Lane, Westmill Hamlet, Westmill Road and A10 works are currently due to be constructed following the Hertford Road junction works, with works commencing in 2017 and lasting for 26 weeks.</p> <p>Two months of site preparation are required before work starts on site, and 3 months of inspection and handovers prior to opening.</p>

5. Consultation Process

Throughout the development of the Proposed Scheme a consultation programme has been undertaken to understand the views of local public, non-statutory and statutory stakeholders regarding the potential environmental impacts and to incorporate environmental design and mitigation into the proposals.

5.1 Business Case Consultation

The Local Transport Body (LTB) consulted on the Business Case for the Proposed Scheme during 2014, to consider if there was a sound strategic, financial and economic case for the project. As part of the Business Case, an Environmental Appraisal was undertaken, in line with the Department of Transport's Transport Analysis Guidance. Outcomes of this consultation fed into the decision by the LTB to agree funding in principle for the Proposed Scheme.

5.2 Pre-planning Application Consultation

Consultation on the Proposed Scheme and planning applications took place from May 2015 until 14th June 2015. The aim of the consultation was to gather public views and consider these as part of the refinement of the Proposed Scheme and the EIA prior to submitting the planning application. This process involved:

- Meetings with directly affected landowners;
- Public exhibitions in Stevenage, Watton-at-Stone and at Westmill Farm, which included display panels, technical experts and design team members on hand to discuss the Proposed Scheme;

- Exhibition panels on public view throughout the consultation period at County Hall;
- Feedback forms and information leaflets available from Parish Councils; and
- An online consultation portal which included links to the information available at the public exhibitions and a place to provide comments.

5.3 Scoping Opinion

A formal Scoping Report for the scheme was submitted in May 2015. The Scoping Report provided key statutory and non-statutory consultees and the public with an overview of the Proposed Scheme and set out the existing environmental conditions, a brief summary of likely effects and proposed assessment methodologies that will be followed within the EIA. Comments were invited back from Hertfordshire County Council and a number of other statutory and non-statutory stakeholders to ensure the scope of assessment was agreed between all parties. Responses received were considered and taken into account in on-going work on the EIA.

6. EIA findings

The EIA has been undertaken in accordance with the Town and Country Planning (EIA) Regulations 2011 as amended and with reference to the standards and guidance published by the Highways Agency (now Highways England) titled the '*Design Manual for Roads and Bridges (DMRB) Volume 11: Environmental Assessment*'.

The purpose of the EIA has been to identify potential environmental effects¹, both positive and negative, of the proposed road scheme.

The assessment has considered the following aspects of the environment:

- Air Quality;
- Cultural Heritage;
- Landscape;
- Nature Conservation;
- Geology, Soils and Materials;
- Noise and Vibration;
- Effects on all Travellers (Pedestrians, Equestrians, Cyclists, Drivers);
- Community and Private Assets (Agricultural Land);
- Road Drainage and the Water Environment; and
- Cumulative effects (Effects that combine with one another to generate a larger effect).

The findings of the EIA are as detailed below. Key receptors identified in the findings below can be seen on Figure 7.

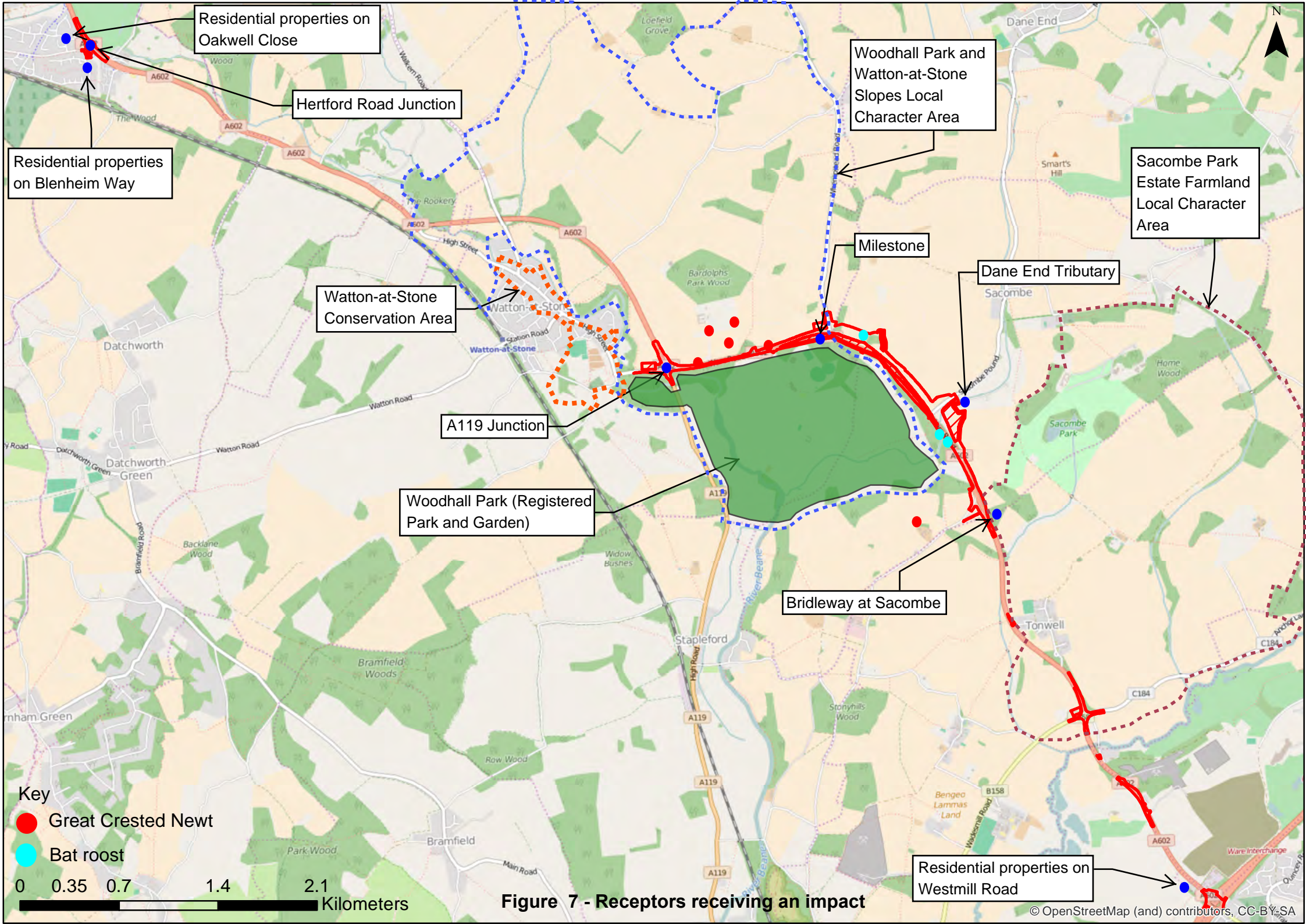
Air Quality

Following the DMRB screening methodology as described in the Scoping Report, the minimal change in traffic flow and realignment that would result from the Proposed Scheme, meant that impacts on air quality from traffic were considered insignificant, and no modelling or further assessment was required.

Following implementation of best practice dust management on the site suggests that there would be no significant negative effects during construction. Best practice dust management measures are outlined in a Construction Environmental Management Plan which the contractor who builds the scheme, will be required to follow in order to minimise emissions to air.

There are no significant negative effects anticipated during operation and therefore no mitigation is required.

¹ A change in the current situation which is a result of the Proposed Scheme.



Residential properties on Oakwell Close

Hertford Road Junction

Woodhall Park and Watton-at-Stone Slopes Local Character Area

Sacombe Park Estate Farmland Local Character Area

Residential properties on Blenheim Way

Watton-at-Stone Conservation Area

Milestone

Dane End Tributary

A119 Junction

Woodhall Park (Registered Park and Garden)

Bridleway at Sacombe

Key
 ● Great Crested Newt
 ● Bat roost

0 0.35 0.7 1.4 2.1 Kilometers

Figure 7 - Receptors receiving an impact

Residential properties on Westmill Road

Cultural Heritage

A desk-based review of existing historical information within 1km of the A602, geophysical survey and trial trenching have been undertaken within the footprint of the Ware Road re-alignment.

The surveys identified some areas of archaeological potential. Archaeological remains within the proposed footprint of the works may experience slight to moderate adverse effects during construction due to ground disturbance caused by machinery. An archaeologist will be present on site to record any finds during construction. There are no negative effects caused to the Watton-at-Stone Conservation Area. There may be a slight negative effect on a milestone which will need to be relocated as a result of the Proposed Scheme.

During operation of the Proposed Scheme there would be no direct negative effect upon heritage assets.

The Proposed Scheme would move away from the Woodhall Park Registered Park and Garden and this is assessed as a slight positive effect.

Landscape

A desk-based review of landscape character areas and a number of site visits by a landscape architect have been undertaken to understand the landscape context within the area.

The Proposed Scheme will have a significant negative effect on the Woodhall Park (Figure 8) and Watton-at-Stone Slope Local Character Area (LCA) during construction as the Ware Road section of the route and associated construction site will cut into this LCA changing the rural land use of the area.

During construction there is also likely to be significant negative effects upon residential dwellings on Blenheim Way, to the north-east edge of Bragbury End, at properties at Oakwell Close on the eastern edge of Bragbury End residential area and at residential properties to the north-west of Ware on Westmill Road, due to views towards construction works. The Bridleway at Sacombe, three public rights of way, and road users at Hertford Road junction and A119 junction, will also have significant negative temporary effects due to views towards construction works affecting those that use the facilities.

The maturing of proposed mitigation planting over the 15 year period from scheme opening will offset negative effects and provide localised benefits, see Figure 9 for an example of this.



Figure 8 - Woodhall Park



Figure 9 - Maturing planting, example from the Dane End Tributary crossing

Nature Conservation

Extensive habitat and protected species surveys have been undertaken between April 2014 and July 2015 for the majority of the central Watton-at-Stone to/from Tonwell section. All other sections are largely within the highway boundary and would require minimal land take in areas of low ecological value, as identified in initial surveys, therefore no further surveys were required in those sections. Surveys included:

- Phase 1 Habitat;
- Amphibians;
- Bats;
- Badgers;
- Reptiles;
- Otter and Water vole;
- White Clawed Cray Fish; and
- Hedgerows.

Potential negative effects have been identified for Local Wildlife Sites, great crested newts, barn owls and bats, as a result of the Proposed Scheme. Mitigation and enhancement measures will be provided as part of the scheme, including:

- Replanting of grassland and wildflowers on areas cleared for construction;
- Design of the new Dane End tributary to match that of the existing in terms of dimensions, with protection against erosion put in place while habitat establishes. Once vegetation has established, the channel will closely reflect the existing channel;
- Planting of 4.2km of species rich hedgerow, matching the composition of the existing hedgerows, and linking into sections of woodland to facilitate the movement of wildlife across the landscape;

- The installation of a tunnel to allow badgers to pass safely under the new road;
- Review of lighting proposals to prevent light spill affecting bats as they commute between their roosting and feeding sites;
- The installation of bat roost boxes near to lost roosting features such as trees;
- Amphibian exclusion fencing during construction and vegetative cover along Ware Road; and
- Sowing severed strips of land between the new and existing A602 with a wildflower seed mix rather than returning them to arable land, thereby increasing foraging habitat for Roman snail.

The incorporation of the above measures into the scheme design are predicted to result in no significant adverse effects on Nature Conservation.

A significant beneficial impact is predicted, as a result of:

- Provision of 4.2km of new hedgerow to replace that lost and enhance existing provision. A net gain of 2km of hedgerow will result from the Proposed Scheme.
- Provision of Roman snail habitat within all of the severed strips of land between the new and existing A602, positively benefiting the conservation of the species.

Geology, Soils and Materials

Baseline surveys have been used to inform the geology, soils and materials assessment. Potential receptors that may be impacted by the scheme include human health, biodiversity, groundwater and surface waters, and the built environment.

A Ground Investigation (GI) will be carried out prior to construction to obtain further information on the physical and

chemical properties of the ground beneath and around the site and inform the final design of the scheme. Appropriate action will be taken if unexpected contamination is found during the GI.

The scheme will include pollution prevention measures along the route. As a result, the impact of operation of the Proposed Scheme on human health and the built environment is not considered to cause any significant adverse effects.

Noise and Vibration

Following DMRB screening methods, the minimal change in traffic flows and re-alignment of the Ware Road are not expected to result in significant noise effects, therefore, no surveys or modelling of operational impacts was required.

Potential noise and vibration impacts during construction have been identified. Measures to minimise and manage these impacts are described in a Construction Environmental Management Plan which, the appointed contractor who will build the Proposed Scheme will be required to follow during construction. Further detailed assessment will be carried out ahead of construction as part of further planning documentation (Section 61 – Development Orders) preparation. This will help to determine the appropriate compaction methods and avoid any likely significant adverse effects during construction.

Effects on all Travellers (Pedestrians, Equestrians, Cyclists, Drivers)

Desk-based study, site visits and consultation to understand non-motorised user (Pedestrians, Equestrians and Cyclists) and driver activity in the area have been undertaken to inform the design and assessment.

During construction, the A602 will remain open and travellers will only be affected during short periods of time. With the implementation of diversions and traffic management some

journey times may increase. However, this will be temporary and drivers on this route already experience long delays and so the effect is not considered significant.

During operation all existing rights of way and crossings will be maintained. The Proposed Scheme will reduce journey times and congestion and so driver stress is expected to be reduced leading to a significant beneficial effect.

Community

A desk-based study and public consultation were undertaken in order to examine the existing community provision.

Most of the facilities serving the area are within the nearby settlements of Stevenage, Broadwater, Watton-at-Stone, Tonwell and Ware. There are expected to be no significant adverse effects to these services.

It is considered that all possible measures to reduce any effects of the Proposed Scheme on the community have been included in the scheme design. Therefore, no further mitigation is proposed.

Private Assets

No buildings are affected by the Proposed Scheme. A desk-based study was undertaken to establish the likelihood of high quality agricultural land being present along the Proposed Scheme.

The land use of up to 21.2 hectares of agricultural fields, of Grade 2 and 3a quality (considered best and most versatile for agricultural use), will be changed during construction of the Proposed Scheme. However, the implementation of good practice and a soil resources plan will ensure that the soil resource is able to retain its agricultural functions and quality where construction sites are returned to agricultural use (approximately 6.4 hectares), and its other ecosystem functions where land is returned to tree and shrub planting.

No significant adverse effect is therefore expected to Private Assets as a result of the Proposed Scheme.

Road Drainage and the Water Environment

A desk-based study and drainage survey was undertaken in order to inform the design and assessment.

A Construction Environmental Management Plan will be followed by the contractor who constructs the scheme. Measures included within the plan, such as: sediment control; controlled storage of materials; restricting the use of polluting materials near receptors; and local flood control, reduce the potential for adverse impacts on the water environment. Effects are therefore not considered to be significant.

During operation, mitigation measures will be put in place to reduce the impact of flooding. These include providing additional landscaped areas to control and manage water at three locations along the A602. Floodplain compensation has been provided a Dane End tributary to ensure any change in flood levels is kept low as possible, resulting in a no significant adverse effect being predicted.

Cumulative Effects

Potential cumulative effects arise from the interaction between the various different environmental effects, as described above, as well as from interaction between the construction of the Proposed Scheme and other development projects. As there are currently no other committed developments in the area the cumulative assessment will only focus on the interaction between environmental effects. The following effects are envisaged:

- Significant negative adverse effect on public rights of way due to the combination of visual effects and the temporary diversions during construction. However, it should be noted that these effects would be temporary, localised at the diversion points and not affect entire

routes. There will be no cumulative effects caused during operation as all public rights of way will be maintained.

- Significant adverse effect on the landscape and habitats during construction to Woodhall Park & Watton-at-Stone Slopes and Sacombe Park Estate Farmland as a result of hedgerow removal and the incorporation of manmade features. However, the maturing of proposed mitigation planting, including additional hedgerow, over the 15 year period from scheme opening would offset adverse effects and provide localised benefits. Additionally, a significant beneficial effect would result from the provision of additional habitat, such as 1.8km of extra hedgerow and specific great crested newt and Roman snail habitats, benefiting the wildlife in the local area.
- Residential properties may experience non-significant adverse individual effects as a result of air, noise, vibration, visual and accessibility impacts. However, due to appropriate techniques being implemented through construction, these effects will be managed appropriately, and as a result a combination of effects is not expected to result in a significant adverse effect on any residential receptor.

7. Mitigation

7.1 Design Measures

Throughout the design stage, where feasible, measures to prevent, reduce or minimise potential impacts upon the environment were incorporated into the developing design. Further mitigation measures are recommended and details are provided in the ES. These measures will be required as part of the delivery of the project.

A tunnel is provided for badgers, and hedgerows will be replanted for terrestrial habitat. Mitigation planting is proposed to provide links between severed habitats and to reduce visual impact. Further mitigation, such as bat roost boxes, is also being provided.

All existing footpaths will be retained and there will be improvements made at pedestrian crossing points.

It may be necessary to temporarily close or divert footpaths to allow the construction works and/or ensure sufficient separation between the works and the public; however, it should be noted that these effects would be temporary and localised.

7.2 Construction and Environmental Management Plan

When the scheme enters into the construction stage the appointed contractor will produce a Construction Environmental Management Plan (CEMP) based on recommendations from the Environmental Statement including a draft CEMP. This will describe methods by which they will meet environmental requirements. Implementation of the plan will be monitored by the relevant authorities.

The proposed CEMP will cover:

- Defining responsibilities for the environment;
- Protection measures for nature conservation and biodiversity;
- Noise control and hours of working;
- Traffic management;
- Materials and waste management;
- Air quality protection such as dust management;
- Management of complaints and corrective action processes; and
- Monitoring and reporting processes.

8. Next stage

After the planning application is submitted, the Planning Authority will undertake a period of statutory consultation within the 16 week statutory decision period. During this time the public can provide further comment on the application and the Environmental Statement to influence the decision making process.

9. Contact Information

The Environmental Statement and other supporting planning documents can be viewed at the planning offices for Hertfordshire County Council. They can also be downloaded via their online tool at:

www.hertsdirect.org/planning

If a hard copy of the Environmental Statement is required this can be requested, at cost (reflecting printing and distribution costs), from the address below.

Any comments on the application should be made directly to Hertfordshire County Council either via their online tool (link provided above), or at the address below:

A602 Improvements (Stevenage to/from Ware)
Planning Department
Hertfordshire County Council
County Hall
Pegs Lane
Hertford
Hertfordshire
SG13 8DQ

If you have any queries please email:

A602@hertfordshire.gov.uk

Alternatively you may call:

0300 123 4040