

Introduction

WCC have indicated that in advance of the surveys and assessments being undertaken consultation should be undertaken with technical officers of both Warwickshire CC and Nuneaton and Bedworth Borough Council. This report sets out the scope of the surveys and assessments which are proposed to be undertaken in support of the planning application.

Comments on the proposed scope are requested from WCC/NBBC officers to be provided to SLC Rail by 25th March 2016 and sent to [REDACTED]

Supporting information: Surveys and Assessments

Arboriculture

Baseline Survey Work

A survey of all the trees which have the potential to be adversely impacted by the wider scheme will be undertaken. Allied to this details of any Tree Preservation Orders at the site will be requested from Nuneaton and Bedworth Council. The survey will be carried out in accordance with "BS5837:2012 - Trees in relation to design, demolition and construction". The trees will be surveyed as individual specimens or as groups based on similar species and age composition. This level of survey will be such that it meets the requirements of BS 5837:2012 which states that 'trees growing as groups or woodland should be identified and assessed as such'.

The BS defines the term group as 'trees that form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally including for biodiversity (e.g. parkland or wood pasture)'. The individually recorded trees will include those growing in isolation or limited to significant trees, i.e. those that are mature specimens, dominant trees in groups or those that are of high landscape, arboricultural or cultural significance.

The survey will capture unique details about the trees including species, height, age, diameter at breast height, condition, any management recommendations and their retention values.

Reporting

A Tree Constraints Plan(s) will be produced showing the trees surveyed. The Arboricultural Impact Assessment (AIA) will be undertaken for those trees within the red line boundary and those adjacent to the works that require planning permission. This will include details of root protection areas and crown spreads.

Inter alia these plans will be used by designers to inform the layout of the proposals as the scheme progresses. The individual trees or the start and end points of tree groups will be plotted onsite by the Arboriculturist.

In the event that some trees of significance have the potential to be adversely impacted then mitigation may be recommended.

Noise and Vibration

Baseline Survey Work

A survey of the existing noise characteristics of the site will be undertaken. This will seek to plot the location of receptors that may be sensitive to noise or change in noise characteristics and baseline measurements will be taken at or close to a sample of these receptors. The guidance from WCC indicates that notwithstanding that noise impacts will arise outside of the red line boundary and from permitted development these should be assessed and submitted in support of the planning application(s).

The results of the baseline noise survey will be used to identify impacts that could arise during both the construction and operational phases of the development. Guidance on undertaking environmental noise surveys is provided in the IEMA Guidelines for Environmental Noise Impact Assessment, BS7445-1:2003, and the Calculation of Road Traffic Noise (1988).

The survey will be conducted over a single day, during good weather conditions, avoiding periods of precipitation and wind speeds above 5m/s. The survey will be following the shortened measurement procedure of Calculation of Road Traffic Noise (CRTN). It should be noted that the noise survey work can only be carried out in suitable weather conditions (i.e. prevailing dry/still conditions).

Assessment

The assessment will have regard to the requirements of the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 7 "Noise and Vibration". This involves undertaking assessments of the potential for changes in levels of noise and vibration, both during the construction and operation of a road project. The following are proposed to be undertaken:

- A noise survey would be undertaken during a single day. Baseline data would be collected for the key residential receptors.
- A construction noise and vibration assessment would be undertaken following the guidance and methodologies of BS 5228 "Code of practice for noise and vibration control on construction and open sites" Parts 1 and 2. Where required, mitigation measures would be outlined for the construction phase.
- Predictions of potential changes in levels of traffic noise would be undertaken following the procedures of CRTN and additional guidance as set out in DMRB. The resultant changes in levels of noise would then be assessed following the methodology of DMRB.
- Mitigation options for operational noise would be proposed where necessary/appropriate. One further scenario with mitigation would be modelled and assessed.

Road traffic data is proposed to be used for all road links within 1km of the proposed scheme. In addition, road traffic data for the wider area will also be used where links show a 25% increase or 20% decrease in traffic volume or significant changes in traffic speeds or heavy goods composition.

A vibration survey is not proposed to be undertaken. However, a generic appraisal of traffic vibration impacts will be undertaken as per the requirements of DMRB.

Air Quality

Baseline Survey Work

A survey of the existing nitrogen dioxide levels is proposed to be undertaken. This would utilise diffusion tubes and would provide additional background data. The survey would be undertaken for 3 months at circa 7 no. survey locations around the scheme. In addition, 3 no. tubes would be co-located with the local authority's continuous monitoring site in order to derive an adjustment factor in line with technical guidance.

Subject to agreement the diffusion tubes would be placed on the exterior of residential properties. The tubes will be changed over once a month (around the end/beginning of each month).

The following are the proposed locations for the diffusion tubes:

- Heath End Road area near junction with Bermuda Road;
- Heath End Road area between Tenlons Road and Bermuda Road;
- Heath End Road (west of Tenlons Road);
- Tenlons Road;
- Bermuda Road; and
- Near The Bridleway / bridge

Assessment

The assessment for air quality is proposed to include the following;

- A desk review of existing baseline conditions;
- an assessment of the impacts from construction; and
- an assessment of the impacts once the proposed scheme is complete.
- A review of the available baseline data supplemented with additional data from the proposed survey work.
- A qualitative assessment of the potential nuisance from dust arising during the construction of the Scheme undertaken in accordance with the Highways Agency's Design Manual for Roads and Bridges (DMRB).
- An assessment of the potential impact of construction traffic on air quality using the screening method outlined in the DMRB and the associated DMRB screening tool (*Annex C & D of DMRB 11:3:1 and available at <http://dft.gov.uk/ha/standards/guidance/air-quality.htm>*).
- An assessment of the potential impacts on air quality impacts arising once the proposed scheme is complete using the screening method given in the Highways Agency's DMRB and air quality assessment tools from DEFRA's Technical Guidance LAQM.TG(09).
- An estimation of the pollutant concentrations at representative receptors within 200m of the proposed scheme and other affected roads (defined according to the change criteria given in the DMRB) will be made and this will be compared with statutory air quality criteria. The assessment will consider the base year (2013), and without (do-minimum) and with (do-something) the proposed scheme in the opening year of 2018.
- A comparison of estimated and measured concentrations will be undertaken. Verification will be undertaken for a base year, using the principles laid out in DEFRA's Technical Guidance LAQM.TG (09). Additional receptor points will be included to represent the location of any monitoring sites within 200m of the affected road network.

- A sensitivity test will be undertaken in accordance with DEFRA guidance to account for uncertainty in estimating concentrations of NO₂ in future years.

Ecology

Methodology

No further survey work is proposed to that already carried out and supplied to the Local planning authority. The only exception is for bat emergence surveys to be undertaken at Bermuda Bridge. Two dusk/dawn emergence or re-entry surveys of the Bermuda Bridge which is being re-furbished as part of the works. Surveys will be in accordance with the Bat Surveys – Good Practice Guidelines 2nd Edition (Bat Conservation Trust 2012). The survey(s) would be carried out by two suitably experienced ecologists. The surveyors would be positioned on the bridge at dusk or dawn to monitor the presence of roosting bats in the structure. The evening survey would begin approximately 15 minutes before sunset and continue at least 2 hours after sunset, with the morning survey beginning approximately 1.5 hours before sunrise and continuing until sunrise. In the event that any bats are identified roosting within the structure it may be necessary to undertake further survey to support an application for a Natural England license for the works.

Reporting

The report will follow the Chartered Institute of Ecology and Environmental Management (CIEEM) 2012 Guidelines for Preliminary Ecological Assessment. It will include revision (where appropriate) to the following:

- Methodologies for the ecological assessment;
- Results of the additional bat survey work undertaken (inclusive of appropriate survey result maps;
- Nature conservation evaluation of all ecological receptors identified as being present within the Site boundary and ecological impact assessment of the proposals on these ecological receptors; and
- Mitigation measures that could be implemented to reduce or avoid adverse impacts and additional measures that could be implemented to enhance the site for the benefit of wildlife.

Geology, Soils and Contaminated Land

A desk based assessment of the scheme has been carried out which concluded that the proposed scheme could be affected by contaminated land relating to historical landfills / waste both on site and in the general area and ground stability.

Ground Investigation Works currently being undertaken will provide further details on the likely contamination and extent of the landfill sites in relation to the scheme boundary. The results of this work will be used to update the previously undertaken report and a further review of the potential impact of the scheme with respect to the geology and soils topic will be carried out.

The assessment methodology will take account of the Design Manual for Roads and Bridges (BMRB): Volume 11, Section 3, Part 11 (Geology and Soils). In the assessment both construction and operation phases are proposed to be considered.

Hydrology including FRA

The assessment work carried out to date identifies the potential for significant environmental effects on the water environment to arise from the proposed scheme.

The proposed scheme is likely to be affected by the following key water related environmental constrains:

- flood zones,
- groundwater aquifers and water related ecologically designated sites
- foul and surface water infrastructure.

Assessments are proposed to be undertaken to update the Level 1 Flood Risk Assessment in line with the Design Manual for Roads and Bridges (BMRB): Volume 11, Section 3, Part 10 (Road Drainage and the Water Environment).

Landscape and Visual Impact

Although the Request for a screening opinion indicated that the application would be submitted with a Landscape and Visual Impact Assessment (LVIA) the guidance from WCC did not indicate that this was required in support of the application.

Based on this guidance the it is recommended that no further work be undertaken and that the preliminary the preliminary LVIA be submitted. This includes a baseline survey, identification of potential visual and landscape constraints and opportunities for enhancement. This work is proposed to inform the detailed design and in doing so will allow representative visual receptors to be identified and assessed through the use of OS plans and Google Earth, alongside site photographs taken during the screening/scoping phase. No further survey work is proposed.

Cultural Heritage

A scoping report has been prepared by and provide a high-level assessment of potential environmental impacts on significant heritage assets. This preliminary cultural heritage assessment includes:

- A data search for designated heritage assets within a 1km study area surrounding the proposed site;
- A high-level review of non-designated heritage assets, as available on Heritage Gateway;
- A broad assessment of likely impacts on cultural heritage; and

Impacts to the built heritage were considered within the previous assessment work and it was considered that this element could be 'scoped out' of any further assessment.

The assessment identifies the archaeological assets within the red line boundary, it would establish the value of those assets, the impact of the scheme, and recommend mitigation measures deemed necessary.

The assessment has been undertaken in accordance with Design Manual for Roads and Bridges, Vol 11: Environmental Assessment including:

- Baseline information of archaeological assets for a study area of 500m from the boundary of the proposed site;
- Data from the following sources: The National Heritage List for England for information on designated heritage assets, the Warwickshire Historic Environment Record for known heritage resource including archaeological sites, find spots and archaeological priority areas;
- The submitted report will detail recommendations for further assessment and/or mitigation, if necessary; and
- Consultation with the Warwickshire County archaeologist would be undertaken, as per DMRB guidance.

Transport Assessment

Methodology

A Transport Assessment (TA) of the proposed scheme is proposed to be prepared in accordance with 'Transport Evidence Bases in Plan Making', specifically 'Travel Plans, Transport Assessments and Statements in decision-taking'.

The scope of the TA report would include the following elements:

- *Policy Review*; a review of transport related policy, including national and local guidance.
- *Baseline Assessment*; current baseline conditions, an overview road network and sustainable travel facilities available in the local area, including walking, cycling and public transport facilities. The Baseline Assessment will also include an assessment of the personal injury accident (PIA) record for the surrounding highways and a summary of the findings of the Parking Surveys.
- *Scheme Description*; an overview of the proposed scheme, including improvements to pedestrian and cycle facilities/connectivity. A review of the existing parking and an assessment of the potential impacts of the proposed scheme, taking into consideration the parking being proposed.
- *Operational Assessment* The Nuneaton S-Paramics Traffic Model will be used to provide scenario traffic flows to inform the TA including; Opening Year, Future Year, With the Bermuda Scheme; and
- With the A444 Corridor Improvements.

The TA would include assessment of the capacity for existing and proposed junctions for the AM and PM peak periods at;

- Heath End Road / Bermuda Road junction;
- Heath End Road / Tenlons Road junction;
- Heath End Road / The Raywoods junction;
- Heath End Road / Hare and Hounds Lane junction;
- Bermuda Road / Tenlons Road junction; and
- The Griff Roundabout.

The impacts of the proposed junctions would be assessed following the finalising of their detailed design;

WCC have indicated that further investigation is required to assess whether enhancement at the following locations should form part of the Scheme ('Table 2');

- Arbury Road / Heath End Road;
- Arbury Road / Westbury Road; and
- Arbury Road / Church Road.

For the purpose of the Transport Assessment it is considered that these junctions will need to be assessed in terms of junction capacity models. The rationale is that regardless of whether they are included in the Scheme or not, they are considered sensitive locations within the local area and therefore the operational impact of the Scheme will need to be considered.

Traffic Management It is anticipated that the construction of the scheme may require some temporary road closures and traffic regulation orders (TROs), in particular in relation to the proposed parking restrictions. The TA will include a preliminary summary of possible closures, temporary and permanent TROs as a result of the proposed scheme. These list will then provide a framework for the TRO process which would be commenced following planning approval.
Final Report; a final report for submission with the planning application for the scheme.

Following guidance received from WCC the potential impact on pedestrian circulation and PROW network will be assessed.

Lighting

WCC have indicated that in there is the potential for sensitive receptors to be adversely impacted by street and other associated lighting. The planning application is proposed to be supported by a baseline survey and assessment of the potential for sensitive receptors to be adversely impacted by light spillage. This will include details of the proposed new street lighting and any mitigation that may be required.

Human Health

The guidance provided by WCC indicates that the application is not required to be accompanied by a discrete assessment of the potential impacts of the scheme on human health. However, the assessments of potential impacts on human health arising from changes to the local air quality and potential for (traffic) accidents should be undertaken so as to enable statutory consultees to deduce the potential impacts on human health. As such the scope of the Safety Audit and Air Quality assessments is expected to explicitly address these aspects and be the subject of consultation with the respective WCC and NBBC officers.

Economic and Social

The guidance indicates that the application should be supported by a statement which *inter alia* identifies the social and economic benefits which will accrue from the approval of the planning application and the wider scheme.

It is proposed that the research undertaken in support of the economic viability case for the scheme is referenced as part of this statement. It is not proposed to undertake any updates to this assessment. The assessment of the social benefits is proposed to be qualitative.

The economic and social aspects of the scheme will be included within the planning statement to accompany the application. This will be prepared by SLC Rail.

Consultation

The Bermuda Connection scheme has been the subject of extensive public consultation. Discussions with WCC as part of the screening and scoping of the validation have confirmed that no further public consultation is required to be undertaken by the applicant.

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