

**CAMBRIDGESHIRE GUIDED BUSWAY**

**To:** Cabinet

**Date:** 14<sup>th</sup> December 2010

**From:** Acting Executive Director: Environment Services

**Electoral divisions:** The Hemingfords and Fenstanton, St Ives, Papworth and Swavesey, Willingham, Cottenham, Histon and Impington, Waterbeach, East Chesterton, King's Hedges, Petersfield, Trumpington, Gamlingay.

**Forward Plan ref:** Not applicable      **Key decision:** No

**Purpose:** This report advises Cabinet of progress towards completion of the Cambridgeshire Guided Busway and sets out proposals for rectifying defects that are at this time expected to be unresolved by the Contractor at completion.

**Recommendation:** Cabinet is asked to:

- a) note that the Contractor's progress is such that completion is unlikely to be achieved before late January 2011 at the earliest.
- b) approve the rectification by the Council's framework Contractors of the following defects as set out in the report:
  - i River Great Ouse Expansion Joints
  - ii St Ives Park and Ride surface ponding
- c) approve the development of proposals to address the flooding and ponding on the maintenance track between Swavesey and St Ives.
- d) Note that the above actions will only be necessary if the Busway Contractor fails to correct these defects.

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## **1 BACKGROUND**

- 1.1 The Cambridgeshire Guided Busway construction contract is nearing the point where the Project Manager could potentially certify completion. The contract should have been completed in February 2009. Proposals to open the section from Cambridge to St Ives in November 2009 foundered because the Contractor BAM Nuttall (BNL) refused to address six key defects.
- 1.2 This report sets out proposals to rectify three of these defects if, as anticipated, BNL continues to fail to address them. Of the remaining three defects, one appears close to resolution, and an assessment of the case for rectifying the remaining two will be brought to the next Cabinet meeting. If there are any other defects which have not been addressed by the Contractor at contract completion then a further report will be brought to members at that time.

## **2 PROGRESS**

- 2.1 The southern section of the Busway is near to being physically complete. At the time of writing, work was underway on completing the street lighting, traffic signals and CCTV; all of which are programmed to be complete by the date of the meeting. Landscape planting was also underway but there are concerns that the volume of work coupled with the cold weather will prevent this being completed before BNL's Christmas break, which starts on 17<sup>th</sup> December.
- 2.2 There is also concern about work to complete the Addenbrooke's Bridge delaying completion of the project. The bridge was structurally completed in 2007 and BNL laid the guideway over the bridge in September 2009. However BNL have not completed the non structural infill around the guideway because of concerns over water lying on the waterproofing on the bridge deck. This is not in itself a serious problem and any solution should take no more than a week or two to implement, but has been outstanding for over a year.
- 2.3 BNL submitted proposals to resolve this in October this year, which would in principle have dealt with the issue. However there were a number of reservations about the details of these proposals and as a result they were not accepted. It was expected that BNL's designers would address these reservations in a revised submission allowing work to proceed. However this has not been forthcoming. Instead, BAM Nuttall have submitted new proposals, received on 29<sup>th</sup> November. At the time of writing these were being reviewed. It is now considered that there is little prospect of the work on the bridge being completed by 17<sup>th</sup> December.
- 2.4 BAM Nuttall have re-organised their resources towards completing the project, with teams concentrating on certification and 'snagging', or the correction of minor defects. This work is now underway on both the

northern and southern section. Landscape planting both to complete unfinished work and to replace planting which has failed is underway on the north section. There is a considerable amount of the latter, and even before the cold weather there were grave doubts that this would be completed by 17<sup>th</sup> December.

- 2.5 Members will recall that the Cabinet report of 21<sup>st</sup> September raised concerns that BAM Nuttall would leave the submission of construction certificates until very late in the contract, contrary to previous commitments to provide these as each section of the work was finished. BAM Nuttall provide a monthly programme, the most recent, submitted on 29<sup>th</sup> October showed that construction certificates would start to be issued on 19<sup>th</sup> November. In reality the first two certificates were received on 1st December. Given this ongoing slippage there must also be doubts as to whether BAM Nuttall will achieve their own target date of 17<sup>th</sup> December. A revised programme is expected on 3<sup>rd</sup> December. Officers will provide an update at the meeting.
- 2.6 Given the foregoing it is considered highly probable that BAM Nuttall will have both work to complete and certification to submit when they return from their Christmas break on 4<sup>th</sup> January; adding more than two weeks further delay to completion.
- 2.7 Atkins working on the Council's behalf have now completed all their pre-certification inspections. This should allow a relatively straightforward appraisal of the certificates. Nonetheless there will still be a significant volume of work to be done, given that the certificates are expected to arrive en-masse. The contract allows 21 days for the review of the certificates. It must therefore be concluded that completion is unlikely to be certified before late January at the earliest.

### **3 DEFECTS**

- 3.1 A defect is defined in the contract for the Guided Busway as work which does not comply with the works information (the specification) or which is not in accordance with the Contractor's accepted design.
- 3.2 The Contractor has four weeks after the Project Manager certifies completion to correct notified defects. After this time the employer has three options:
  - Rectify the defect themselves and deduct the cost from the retention monies;
  - Take no action over the defect, in which case it remains a defect. If action is subsequently needed then the Contractor would be invited to rectify at their own cost and if they failed to do so the cost of rectification would be recovered from either the retention or the performance bond, both of which last for ten years from completion, reducing annually;

- Accept the defect with a suitable reduction in the target price, in which case the Works Information is changed and it is no longer a defect. The reduction in target price can either be agreed with the Contractor or assessed by the Project Manager on the basis of the amount saved by the Contractor in not carrying out the work correctly.
- 3.3 The six key defects which prevented sectional completion of the Busway between Cambridge and St Ives are:
- 1 River Great Ouse Viaduct Expansion Joints;
  - 2 St Ives Park and Ride (P&R) surface ponding;
  - 3 Maintenance track flooding;
  - 4 Guideway shallow foundations;
  - 5 Thermal expansion gaps between the guideway beams;
  - 6 Rubber tyre infill between the guideway beams.
- 3.4 Details of these have been reported to previous meetings.
- 3.5 While the Busway would be capable of being brought into use at completion, it is considered essential that the first two of these defects are addressed before the Busway can be opened to the public. On the assumption that BAM Nuttall will take no action to rectify these defects, design work is already well advanced in both cases and one of the Council's two framework contractors is preparing to undertake the work, including developing costings and programmes.
- 3.6 The maintenance track flooding will also need to be addressed but is subject to seasonal constraints and is not essential before bus services start. Details of the proposed works are set out below.
- 3.7 The costs of rectifying these defects will be deducted from the retention money. Under the contract 5% of the Contractor's account is retained each month until completion. At completion half of this is repaid to the Contractor; the remainder is repaid in ten annual installments, unless it is required to meet the cost of defect rectification work.
- 3.8 Appraisals are currently being undertaken by Atkins' experts of the risks to the Busway of the guideway shallow foundations and the inadequate thermal expansion gaps between guideway beams. These appraisals will help to inform decisions on whether or not to rectify these defects, which will be brought to the next meeting.
- 3.9 Bam Nuttall have recently resubmitted the Designer's Risk Assessments for the rubber tyre infill. This has been accompanied with a Design Certificate, unlike the previous submission. These are currently being reviewed and if acceptable should allow this defect to

be closed. Members will be advised of the latest position at the meeting.

#### River Great Ouse Viaduct

- 3.10 The work required at the River Great Ouse Viaduct will involve lifting or removing the guideway beams, breaking out in-situ concrete around the joint, fixing the new expansion joint, re-instating the concrete and replacing the beams. Doing this work after the Busway opened would require closure of a section of the Busway for the several weeks the work is likely to take. It would also be inadvisable to use de-icing salt on the Busway until this work is done as it could risk damage to the bridge structure.

#### St Ives Park and Ride

- 3.11 The St Ives Park and Ride car park as built has areas of puddles and a large part of the car park has a film of standing water in wet weather. This would not only be unpleasant to use but in freezing conditions is potentially dangerous. The car park requires resurfacing to create slopes within the car park and additional drains to remove the surface water. This work will largely involve overlaying the existing surface. The designer's have been instructed to do the minimum necessary to ensure that the surface water drains properly in order to minimise costs and time. Some of the existing drainage may not be able to cope with peak flows in heavy storms, however this will be infrequent and transitory, and it is not considered good value to replace this drainage. While the work could be done in two halves with the Busway operational this could result in there being insufficient space available in the car park to meet demand.

#### Maintenance track flooding

- 3.12 The flooding on the maintenance track between Swavesey and St Ives also needs to be addressed as in its present form it would have been unusable by pedestrians and cyclists for more than six months over the last year. However it is not necessary to do this work before bringing the Busway into use. This is fortunate as it will be much better to do the work during the drier weather in the summer when the risk of flooding has receded.
- 3.13 BAM Nuttall have had some discussions with the Environment Agency over potential solutions, but refused to advance this work to a design without an instruction. It is proposed to pick up this work with our own designers in January and develop the optimal design in terms of flood risk and cost. The conclusions of this work will be brought to Cabinet in the spring ready for implementation as soon as weather conditions allow.
- 3.14 There has been a considerable amount of informal use of the maintenance track by cyclists and pedestrians over the last twelve

months. A number of these have opted to use the guideway past the flooded sections. This will obviously not be acceptable once bus running commences. It is therefore proposed to augment the small flood warning signs already provided with gates across the maintenance track, carrying appropriate signs, warning that the track is flooded and advising against trespassing on the guideway track. These can be locked open when not required and locked closed when the track is flooded. This will not prevent use of the maintenance track but will give the fullest possible warning. It should be noted that visibility on this section of the Busway is far in excess of stopping distance, nonetheless bus drivers will be advised to be particularly vigilant when the maintenance track is closed.

#### **4 Summary**

- 4.1 Although the Busway is close to completion there is concern that outstanding work will not be completed by the start of BAM Nuttall's Christmas break on 17<sup>th</sup> December and as a result completion will not be possible until late January.
- 4.2 It is proposed that the River Great Ouse Bridge expansion joint and the St Ives Park and Ride drainage are rectified before the Busway is opened to passengers.
- 4.3 It is also proposed that the flooded sections of maintenance track are rectified after the opening of the Busway when weather conditions permit and that this section of maintenance track is closed until the work is completed.
- 4.4 A report will be brought to the next meeting advising on whether there is a need to rectify the shallow foundations and narrow guideway joints.
- 4.5 BAM Nuttall have submitted revised certified Designer's Risk Assessments for the rubber tyre infill, which are currently under review.

#### **5 IMPLICATIONS**

##### **Resources and Performance**

- 5.1 Finance and risk management – the report sets out the latest progress towards the opening of the busway. The report also proposes actions in respect of the correction of the defects which have prevented opening of the Busway to St Ives.

##### **Statutory Requirements and Partnership Working**

- 5.2 There are no significant implications for any of the headings within this category.

## **Climate Change**

- 5.3 The busway will provide a good alternative to use of the car for travel into Cambridge, St Ives, Huntingdon and other villages along the route. When operational, it is expected to significantly increase the bus patronage in this corridor and as such assist in our objectives to reduce the emission of greenhouse gasses from vehicles. The delay to the opening of the Busway has delayed the achievement of these benefits
- 5.4 The busway should also have a high quality track alongside that is available for pedestrians and cyclists and this again will increase its environmental benefits. This is already being used unofficially and usage will increase when the scheme is formally open. This report contains proposals to address defects in the maintenance track that would otherwise prevent these benefits from being fully realized.

## **Access and Inclusion**

- 5.5 The busway will provide good public transport and cycle/foot links between St Ives, the intervening villages and Cambridge. This will open up travel opportunities by increasing the quality of bus services in those communities and benefit particularly those without use of a car.

## **Engagement and Consultation**

- 5.6 There are no significant implications for any of the headings within this category.

<b>Source Documents</b>	<b>Location</b>
Agenda and Minutes, Cabinet 1/3/2005, 7/2/06, 13/6/06, 11/7/06, 16/10/07, 16/12/08, 29/9/09, 16/3/10, 27/4/10, 25/5/10, 15/6/10, 5/7/10, 7/9/10, 28/9/10, 26/10/10, 16/11/10	CGB Team Office, Old Police House, Shire Hall, Cambridge
Cambridgeshire Guided Busway Order	
Cambridgeshire Guided Busway Contract Documents	