

From: [Debbie Salmon](#)
To: [Southampton to London Pipeline Project](#)
Cc: [REDACTED]
Subject: Rushmoor Borough Council's bat survey of QEP order limits
Date: 21 February 2020 16:46:16
Attachments: [RBC20001-GTLA-OEP \(1\).pdf](#)

Dear Sir /Madam

Attached is a bat and tree survey undertaken by Calyx Ecology on 12th February 2020.

RBC felt they needed to undertake this survey due to the lack of information on bats within the application documents.

RBC would respectfully request that the inspectors accept this survey as part of our Deadline 5 submission.

Yours Sincerely

Debbie Salmon

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**Ground Level Tree Assessment for Proposed Gas
Pipeline Replacement though Queen Elizabeth Park
Cabrol Road, Farnborough, GU14 8NY**

Ref: RBC20001
February 2020

Author: Mike Bird

1.0 Introduction

- 1.1 Calyx Environmental Ltd was instructed by Rushmoor Borough Council to undertake an appraisal of trees for bat roost potential and general biodiversity / heritage value, that may be affected by a section of a proposed gas pipeline replacement that would run through Queen Elizabeth Park (QEP), Cabrol Road, Farnborough, GU14 8NY.
- 1.2 The appraisal has been informed by the following information provided by the client:
- GIS shape files of the proposed pipeline route showing 'order' limits plus hard copy;
 - Extract of footpath through QEP;
- 1.3 It is understood that, at the time of writing, no tree survey or measured drawing showing precise positions of trees within or adjacent to the order limits has been provided to RBC in support of the pipeline application.

2.0 Methodology

- 2.1 The field survey was undertaken on 12 February 2020 by Mike Bird an experienced and qualified ecologist and arboriculturist (see Appendix 1 for further details).
- 2.2 The survey was undertaken from ground level, aided by the use of binoculars, digital camera with zoom lens and endoscope.
- 2.3 Trees details were recorded and their positions plotted using bespoke data-capture software running on a smartphone and locations are based on the inbuilt GPS so should be treated as approximate. The survey involved an initial walk through the area defined by the order limits mapping provided by RBC, looking for trees of note in terms of bat potential or significant age, size or 'veteran' status¹.

Limitations

- 2.4 Assessments were made from ground level only. Due to time constraints, not all of the birch trees were looked at in detail and it should be noted that these can often contain features suitable for bats within the main stems of even relatively small diameter trees.

¹ Veteran trees are those that have either been traditionally worked and then left to develop naturally (eg. lapsed pollards) or that have been subject to other significant wounding (such as storm damage), which leads to the development of hollows, cavities, deadwood and the creation of other microhabitats that given them enhanced wildlife value compared to other trees of similar age. The Ancient Tree Forum describes them as follows: "A veteran tree is a survivor that has developed some of the features found on an ancient tree, not necessarily as a consequence of time, but of its life or environment. Ancient veterans are ancient trees, not all veterans are old enough to be ancient. A veteran may be a young tree with a relatively small girth in contrast to an ancient tree, but bearing the 'scars' of age such as decay in the trunk, branches or roots, fungal fruiting bodies, or dead wood. These veteran features will still provide wildlife habitat."
(<http://www.ancienttreeforum.co.uk/wp-content/uploads/2015/02/ancient-tree-guide-4-definitions.pdf>)

3.0 Results of Survey

- 3.1 19 trees were noted from an initial walk along the proposed route and adjacent land . Two of these were assessed to be veterans and two considered to be locally notable due to relatively large size and age for the site. One of the veteran trees and one of the locally notable trees are situated within the order limits. Four trees were assessed to have high bat potential, one of which is within the order limits and the other three on the edge. Nine trees were assessed to have moderate bat potential, five of which are within the order limits and one on the edge. Four of these trees are assessed to have moderate potential based on the presence of bat boxes rather than inherent roost features, but nevertheless if bats are using them they will be a material consideration in any planning decision and could only be moved under licence if Natural England consider that the derogation tests can be met.
- 3.2 The survey results are cross tabulated in Table 1 below and a full listing of the trees is given in Appendix 2 and locations shown in Appendix 3.

Bat Potential	Veteran	Locally notable	Other	Total	
High	[1]		[3]	4	
Moderate			[5] [1] {3}	9	
Low	{1}	[1] [1]		[3]	6

[1] = number of trees within the order limits;

[1] = number of trees adjacent to order limits;

{ } = number of trees in vicinity of order limits which could be indirectly impact through disturbance of bat roosts or due to root damage, depending on exact route of excavations.

4.0 Implications and Recommendations

- 4.1 Given the presence of veteran and notable trees as well as trees with high and moderate bat potential, it will be essential that any potential impacts on them resulting from development proposals be properly assessed in accordance with current planning policies and best practice. As well as direct felling, the trees could be adversely impacted by root severance and bat roosts could be affected by any lighting if there are night works, especially flood lighting, and/or noise from works, which could cause roost avoidance or abandonment. Therefore, it is essential, in my view, that a detailed constraints plan showing precise tree locations and root protection areas on a measured topographic survey drawing is produced to inform decision making and ecological impact assessment. This should include smaller diameter trees such as birch as well as the more obvious larger trees as birch can often contain highly suitable features for bats.

- 4.2 Guidance on root protection areas, in respect of veteran trees, is given in standing advice from Natural England and the Forestry Commission². This equates to buffer zone around the tree which “should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree’s canopy if that area is larger than 15 times the tree’s diameter.” For other trees, BS5837 provides guidance on minimum buffer zones.

² <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

Appendix 1: Qualifications and Experience

Mike Bird BSc (Hons), MSc, MCIEEM

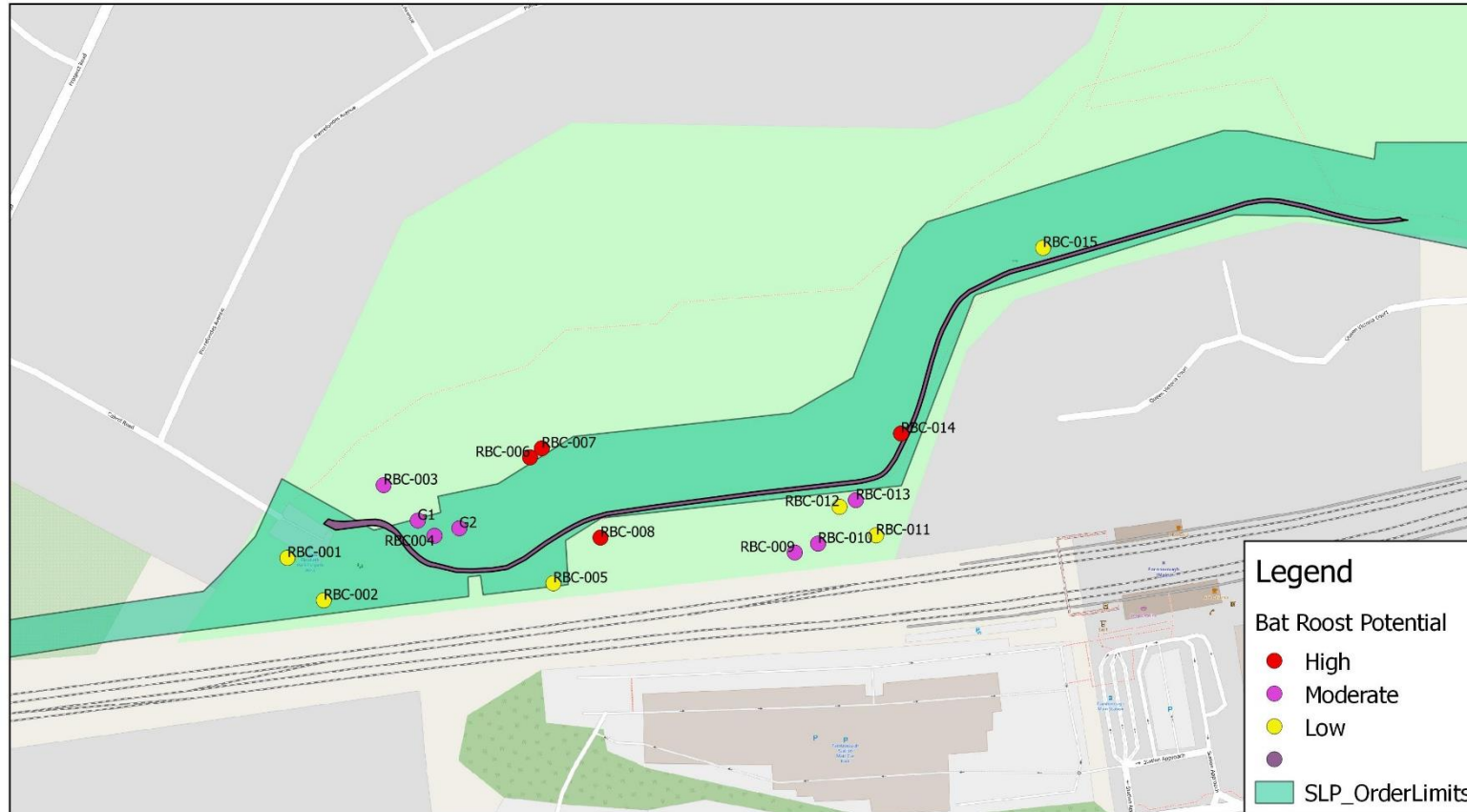
Mike is an experienced and qualified ecologist with over fifteen years of experience in the planning sector. He holds a BSc (Hons) in Environmental Land Management, an MSc in Ecology and Management of the Natural Environment and an HND in Arboriculture. He has worked in local authority planning both as a tree officer and as a biodiversity officer. Between 2008 and 2012 he was the Principal Officer in charge of the Trees and Ecology team at Basingstoke and Deane Borough Council. He left local government in early 2013 to start an environmental consultancy practice, which became incorporated as Calyx Environmental Ltd in August 2013. He specialises in advanced bat survey techniques, including trapping with acoustic lures and radio telemetry. He has extensive experience of undertaking bat surveys to support planning proposals and is registered under the class 4 survey licence to enable disturbance and handling of bats for commercial survey purposes, and capture with harp traps and acoustic lures.

Appendix 2: Tree Survey Data

Ref	Species	Age class	Ancient/ veteran / notable?	Bat roost potential	Notes
RBC-G1	2 x oaks with bat boxes	Mature		Moderate	Potential based on bat boxes. Otherwise low.
RBC-G2	2 x oak with bat boxes around pond	Mature		Moderate	Potential based on bat boxes. Otherwise low.
RBC-001	Willow	Mature		Low	Pollarded tree with some partially occluded cankering. With further occlusion, these could eventually provide roost features but currently limited shelter so potential is assessed as low
RBC-002	Willow	Early mature		Low	Topped at approximately 4m with no branches and much of the stem decayed but evidence of new shoots forming. Cavity on main stem at approx 2 m on SW side but low bat potential.
RBC-003	Pedunculate oak	Early mature		Moderate	Moderate potential based on bat boxes, otherwise low.
RBC-004	Pedunculate oak	Mature		Moderate	Moderate potential based on bat boxes, otherwise low.
RBC-005	Beech	Early mature		Low	Topped
RBC-006	Silver birch	Mature		High	Partially occluded vertical cavity lower main stem with opening on SW side and leading to apex chamber with high bat roost potential (summer or winter roosting). Cavity extending too far up to fully check with endoscope from ground level
RBC-007	Sweet chestnut	Maturing		High	Woodpecker hole at approx 4 m on SW side with high bat roost potential; linear cavity with apex chamber on lower stem. Not fully searchable with endoscope from ground level but high roost potential; 2 x woodpecker holes on N side at approx 4 m with high roost potential
RBC-008	Silver birch	Early mature		High	Vertical shear crack through entire stem approx 3-4m from ground level-- high bat roost potential

RBC-009	Beech	Early mature		Moderate	Cavity from tear-out wound on main stem below main canopy at approx 5m on SE side-- moderate roost potential; historic storm damage.
RBC-010	Beech	Mature		Moderate	Cavity from tear-out of limb on main stem, approx 3m from ground level on NW side
RBC-011	Beech	Late maturity	Veteran	Low	Notably large tree for the site (343cm girth) and nice example with good potential to be become a high value habitat tree when moves into senescent phase of life; appears to have been pollarded in the past or has lost main leader resulting in development of multiple leaders similar to a lapsed pollard.
RBC-012	Pedunculate oak	Mature	Locally notable	Low	Good sized oak for the site
RBC-013	Beech	Late maturity		Moderate	Cavity from branch tear-out wound on limb at approx 4m on SW side of tree (inner half of limb); recently topped presumably in response to hazard as failed leader noted near to tree on the ground.
RBC-014	Beech	Late maturity	Veteran	High	Evidence of past storm damage but lopped and topped (presumably in response); cavity from tear-out wound at approx 10m on E side with high bat roost potential; 390cm girth
RBC-015	Beech	Mature	Locally notable	Low	Not ancient but nice locally-notable character tree; small cavity in truncated end of limb

Appendix 3: Tree Locations



Approximate tree locations in relation to order limits layer and main path (provided by RBC with base mapping from Open Street Map)

Appendix 4: Photos



RBC-001 Pollarded Willow - has potential to develop into a veteran with further age and development of decay



RBC-002 Willow



RBC-004 Oak with bat boxes



RBC-006 Silver birch



RBC-007 Sweet chestnut showing linear cavity with apex chamber and woodpecker hole above, both with high bat roost potential



RBC-007 Sweet chestnut



RBC-006 Silver birch (left) and RBC-007 Sweet chestnut (right) showing features with high bat roosting potential.



RBC-008 Silver birch



RBC-009 Cavity in main stem of beech with moderate roosting potential



RBC-010 Cavity in main stem of beech with moderate roost potential



RBC-011 Beech



RBC-013 Beech



RBC-014 Beech



RBC-014 Cavity in beech stem with high bat roost potential



RBC-015 Beech



RBC-015 Cavity in truncated end of limb in beech assessed as low roost potential