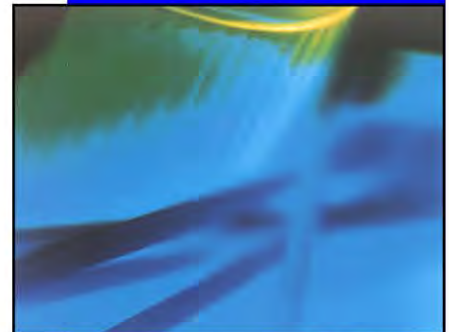




Landscape Architecture

SEAWARD PROPERTIES LTD

**Langstone Gate, Solent Road,
Havant, Hampshire**



Environmental Design

Protected Species: Water Vole

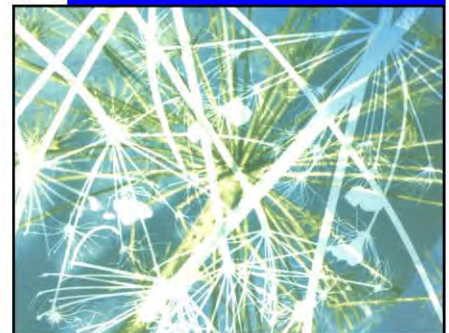
- Presence / Likely Absence**
- Relative Population Estimate**

Approved By: Mark Vivian

Signed:

Position: Principal Ecologist

Date: 30th August 2016



Landscape Planning

August 2016 – Planning Issue

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Lizard Landscape Design

Lizard Landscape Design and Ecology



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SUMMARY

Seaward Properties Ltd have commissioned Lizard Landscape Design and Ecology to undertake a Water Vole Presence / Absence Survey of the proposed development site, and surrounding areas, at Langstone Gate, Havant, Hampshire (Grid Reference: SU 71583 06055 – hereafter referred to as the 'site').

The results were used to make an estimate of relative population size and appropriate recommendations for compensation and enhancement. The analysis contained within this report was undertaken and prepared by Mark Vivian (BSc MSc MCIEEM; Natural England Bat Licence; Principal Ecologist; Lizard Landscape Design).

Two water vole surveys were undertaken on 30th June 2016 and 19th August 2016. A Preliminary Ecological Appraisal (PEA) was conducted on 17th March 2016 which provided a basic assessment suggesting the habitat affected by the development to be of 'low/moderate' quality. The evidence collected during this survey confirmed water vole presence on-site, upstream of site and downstream of site. The results clearly suggest the relative population density of water vole on-site, and within the local vicinity of site, to be 'low'.

The development proposals have changed since the completion of the PEA having been significantly scaled back. Most notably, the amended development proposals do not require the stream to be culverted and the development footprint lies entirely within an area of hardstanding.

The development will not, therefore, damage or destroy confirmed water vole habitat and the potential for functionally disturbing a water vole in a place of shelter is very 'low'. There would be very little reason for water voles to reside within the area proposed for development totally negating the potential for an incidental killing to occur. For these reasons, it is suggested that the amended development proposals, that do not require the stream to be culverted, do not need to be licenced.

As a simple precautionary measure, it would be advantageous to install Herras fencing, with a strong canvas, along the northern, eastern and southern site boundaries. This will ensure that debris, such as dust and plastic, from the site construction does not easily end up in the river channel. This will reduce the impact of indirect impacts of the development upon the local water vole population.

1.0 INTRODUCTION

- 1.1 Seaward Properties Ltd have commissioned Lizard Landscape Design and Ecology to undertake a Water Vole Presence / Absence Survey of the proposed development site, and surrounding areas, at Langstone Gate, Havant, Hampshire (Grid Reference: SU 71583 06055 – hereafter referred to as the 'site').
- 1.2 The results were used to make an estimate of relative population size and appropriate recommendations for compensation and enhancement. The analysis contained within this report was undertaken and prepared by Mark Vivian (BSc MSc MCIEEM; Natural England Bat Licence; Principal Ecologist; Lizard Landscape Design).

Survey Rationale

- 1.3 Two water vole surveys were undertaken on 30th June 2016 and 19th August 2016. A Preliminary Ecological Appraisal (PEA) was conducted on 17th March 2016 which provided a basic assessment suggesting the habitat affected by the development to be of 'low/moderate' quality.
- 1.4 A local security guard did, however, attest to the presence of water vole, as well as rats, within an area of standing water adjacent to the existing offices on-site. There were also local records for water vole from c. 330.00 metres south of the site within the same riverine channel.
- 1.5 There was an area of optimal water vole habitat c. 28.00 metres north-west of the site, comprised of slow-flowing water controlled by weirs, containing dense water cress growth, an optimal herbaceous food plant. There was also a notable stretch of the main channel extending north from the site, adjacent to Burger King, that also provided ample opportunities for water vole.
- 1.6 Based on all of the information available, and the development proposals of the time, the consulting team decided it was plausible for the development to affect the local population of water vole. Currently, development proposals have been scaled back and the channel on-site will not be moved or culverted, resulting in significantly less potential damage.

Site Overview / Context

- 1.7 There is a confluence of two small riverine channels at a point, c. 80.00 metres, to the south of the red-line boundary. The western channel has been canalised flowing in a more-or-less straight passage from Brockhampton Lane, c. 190.00 metres north of the site, until it passes Langstone Technology Park. South of this point the river takes a more natural, meandering path through deciduous woodland after which the canalised form is resumed until the Solent Estuary.
- 1.8 The eastern channel does not appear to have been canalised although much of its banks had been reinforced with revetments. The flow rate of the water was also controlled upstream to the north-west by weirs ensuring a steady, slow flow-rate. The eastern stream flows through a housing estate, into the area controlled by weirs where water cress growth dominates, through a culvert beneath the Park South Road (B2149), through the site and past the offices to the south of the site, where it meets the confluence.
- 1.9 The area adjacent to the offices is ornamental in nature, however, the banks are comprised of a soft substrate optimal for water vole burrows. There is also an area where a pond has been established and notable emergent vegetation has developed. There are numerous habitat opportunities for water voles within the local environment and habitat connectivity is optimal.

Development Proposals

- 1.10 The development proposals consist of the construction of a Starbucks on the existing hardstanding area used for car parking. Original plans were to culvert the stream and build over this area, however, the plans were altered between March and August 2016.

Key Considerations

- 1.11 The potential impact of the proposed development with regard to water voles was damage to the population caused by habitat loss, habitat fragmentation and incidental killing during construction. These have been the driving factors when designing the surveys and making the suggestions for avoidance / mitigation.

2.0 SCOPE OF SURVEY

2.1 The aim of this Water Vole Survey has been:

- To identify field signs definitive of water vole, i.e. latrines, and use them to estimate relative population size
- To identify field signs suggestive of water vole, i.e. burrows, feeding stations, lawns and runs
- To use the information collected to inform an appropriate course of mitigation / enhancement

3.0 WATER VOLE LEGISLATION

3.1 Water voles are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (WCA), and have received full protection since 2008. The WCA, informed by amendments, lists the following offences that are relevant to the development:

- Intentionally killing, taking or injuring a water vole
- Intentionally or recklessly damaging or destroying a water vole's place of shelter or protection
- Intentionally or recklessly disturbing a water vole whilst it is occupying a structure or place which it uses for shelter or protection
- Intentionally or recklessly obstructing access to a water vole's place of shelter or protection

3.2 Water vole's 'places of shelter and / or protection' are generally considered to be active burrow systems and nests within burrows and / or amongst dense vegetation.

3.3 Trapping and displacing water voles needs to be conducted under licence from Natural England. The WCA has no provision for derivation therefore works need to be conducted under a conservation licence. In order to be granted a licence a conservation benefit will need to be demonstrated such as net gain in habitat quantity, quality and / or habitat linkages.

4.0 METHODOLOGY

Desk Study

- 4.1 As part of the Preliminary Ecological Appraisal (PEA), conducted on 17th March 2016, the National Biodiversity Network (NBN) Gateway was checked for records of water vole *Arvicola amphibius*.
- 4.2 Various conversations were had with the security manager (Langstone Gate, Havant); a long-standing, full-time employee of the offices on-site.

Field Survey

- 4.2 The survey was designed and undertaken by a suitably experienced surveyor (Mark Vivian BSc MSc MCIEEM). The survey undertaken during the water vole breeding season: 1) 30th June 2016 & 2) 19th August 2016.
- 4.3 The toe of the bank was inaccessible therefore the field signs were accessed from the top of the bank. It was established during the first survey visit that the combined water and substrate depth was too great to allow a lone-working surveyor to safely access the water channel.
- 4.4 The bank immediately adjacent to the surveyor was searched from above by eye, bending and kneeling down where necessary. 10 x 40 binoculars were also used to search the near bank when the distance to the water was too great to allow effective survey without a visual aid.
- 4.5 The far bank was always surveyed making use of 10 x 40 binoculars and the channel was surveyed from both sides where accessible to ensure the maximum area was surveyed from a close distance.
- 4.6 A metre by metre search of the suitable habitat was conducted and all water vole field signs that were noted were marked on a map. The footprint of the development was surveyed in addition to 220.00 metres upstream to the north-east; 200.00 metres upstream to the north-west (measured from the confluence SW of site); and 500.00 metres downstream to the south.

5.0 RESULTS

5.1 Desk Study

- 5.1.1 The NBN Gateway search conducted as part of the PEA, conducted on 17th March 2016, yielded positive records for water vole from approximately 330.00 metres downstream of the site.
- 5.1.2 A habitat assessment, provided within the PEA, suggested that the habitat offered 'low/moderate' habitat quality for water vole.
- 5.1.3 The local security confirmed the presence of water vole and rat within habitat adjacent to the channel.

5.2 Field Survey

30th June 2016

- 5.2.1 Nothing definitive of water vole, such as latrines, was identified during the first survey visit.
- 5.2.2 There was also limited evidence suggestive of water vole, such as feeding stations, runs and lawns.
- 5.2.3 There were, however, small burrows adjacent to the channel noted in three separate locations (refer to TN01, TN04 & TN07, Table No. 1 – Target Notes & Figure No 1 – Local Map of Water Vole Field Signs). These were not taken to be definitive of water vole at the time of the survey.

Limitations

- 5.2.4 The bankside vegetation was very overgrown over much of the channel impairing much of the view. Features, such as paving stones, where field signs were observed in the second survey visit were not visible.

Table No. 1 – Prevailing Weather Conditions During Survey; 30th June 2016

Temperature (°C)	Rainfall (mm)	Wind Factor (mph)
18	0	5

19th August 2016

- 5.2.5 Six water vole latrines were identified, the locations of which have been marked on Figure No. 1 – Local Map of Water Vole Field Signs (refer also to TN01-06, Table No. 1 – Target Notes & Photographs No. 01, 02, 07-10, 14 & 15; Appendix No. 1 – Site Photographs).
- 5.2.6 Burrows, within the bankside habitat, were identified at three locations, the locations of which have been marked on Figure No. 1 – Local Map of Water Vole Field Signs (refer also to TN01, TN04 & TN07, Table No. 1 – Target Notes & Photographs No. 04-06, 11, 12, 16-18; Appendix No. 1 – Site Photographs). The complexity of the burrow systems ranged from single entrances observed at TN01, two adjacent burrow entrances at TN04 and four adjacent burrow entrances at TN07 (on-site).
- 5.2.7 Feeding stations were identified at two locations, the locations of which have been marked on Figure No. 1 – Local Map of Water Vole Field Signs (refer to Photograph No. 11 & 13; Appendix No. 1 – Site Photographs).

Limitations

- 5.2.8 Despite being able to see much more of the bankside habitat compared to the first survey visit, visibility was restricted over much of the survey area. Vegetation, such as hedges, marginal plants and water cress, covered much of the banks and restricted the confidence with which negative results could be expressed. It is quite possible for latrines, or other indicative features, to have been obscured from view.

Table No. 2 – Prevailing Weather Conditions During Survey; 19th August 2016

Temperature (°C)	Rainfall (mm)	Wind (mph)
12	10	22

5.2.9 The following table has been taken from The Water Vole Mitigation Handbook 2016:

Table No. 3 – Estimating Relative Population Density

Relative Population Density	Approximate number of latrines per 100m of bankside habitat	
	First half of survey season (mid-April to end of June)	Second half of survey season (July to September)
High	10 or more	20 or more
Medium	3-9	6-19
Low	2 or less (or none, but with other confirmatory field signs)	5 or less (or none, but with other confirmatory field signs)

5.2.10 There were less than five confirmatory field signs per 100 metre of bank, therefore, the results suggest that the relative population density of water vole within and around the site is 'low'.

6.0 EVALUATION

- 6.1 The Preliminary Ecological Appraisal (PEA), conducted 17th March 2016, confirmed that the habitat on-site was suitable for water vole *Arvicola amphibius*. Reconnaissance work for this survey confirmed that the local landscape was amenable to water vole providing ample habitat opportunity, on-site and upstream / downstream of site. Landscape connectivity, provided by the riverine corridor, was also noted to be optimal, which provided water vole with the means to migrate between potential habitat opportunities. Most importantly, a basic desk study confirmed that water vole were known from habitat c. 330 metres south of the site and a local security guard attested to water vole presence on-site.
- 6.2 The evidence collected during this survey, inferred from confirmatory field signs, confirmed water vole presence on-site, upstream of site and downstream of site (refer to Figure No. 1 – Local Map of Water Vole Field Signs).
- 6.3 Six confirmatory field signs of water vole were located from a total channel length of more than 675.00 metres equalling an approximate total bankside habitat of 1350.00 metres. In fact, a much larger area was surveyed, however, all field signs were sparsely scattered within an approximate 250.00 metre radius of site. The results clearly suggest the relative population density of water vole on-site, and within the local vicinity of site, to be 'low'.
- 6.4 The development proposals were originally to culvert the stream as it passes through the site in order to allow construction directly above the stream and to open up, an otherwise redundant, area to the east of the stream. This would have caused significant damage and disturbance to the structural integrity of the banks, now confirmed as water vole habitat, and would have required a large-scale course of compensation and enhancement to achieve a licence from Natural England.
- 6.5 The development proposals have changed since the completion of the PEA having been significantly scaled back. Most notably, the amended development proposals do not require the stream to be culverted and the development footprint lies entirely within an area of hardstanding, used as a car park. Moreover, the boundary of the development will be more than 10 metres from the closest signs of water vole, burrows located on the east bank of the local stream.

- 6.6 The development will not, therefore, damage or destroy confirmed water vole habitat and the potential for functionally disturbing a water vole in a place of shelter is very 'low'. There would be very little reason for water voles to reside within the area proposed for development totally negating the potential for an incidental killing to occur. For these reasons, it is suggested that the amended development proposals, that do not require the stream to be culverted, do not need to be licenced.
- 6.7 It is the opinion of the surveyor, therefore, that the development proposals stand a 'negligible' risk of committing an offence as stipulated under The Wildlife and Countryside Act 1981 (as amended). As such, a detailed strategy for water vole mitigation – such as displacement and habitat creation – would not be proportionate to the predicted impact of this planning application. It is further recommended that no water vole-related restriction be placed upon the timetable for the development.
- 6.8 Based on the collated information from both the baseline ecology survey and this survey, the most appropriate conclusion is that the development proposals will not disrupt the local water vole population from maintaining or expanding its current size. Based on the survey data, it is also suggested that the Favourable Conservation Status (FCS) and Continued Ecological Functionality (CEF) of a protected species will not be detrimentally affected by the development proposals. The proposed works are therefore not considered to be licensable, and Natural England does not need to be contacted for advice.
- 6.9 As a simple precautionary measure, it would be advantageous to install Herras fencing, with a strong canvas, along the northern, eastern and southern site boundaries. This will ensure that debris, such as dust and plastic, from the site construction does not easily end up in the river channel. This will reduce the impact of indirect impacts of the development upon the local water vole population.

Langstone Gate, Solent Road, Havant, Hampshire

Table No. 4 – Target Notes (TN) for Water Vole Field Signs

TN	Description	Protected Species	Potential	Photo No.
TN 01	Water vole latrine identified on concrete paving slab that was protruding from the channel. One burrow identified on left bank (flow-wise) c. 1.50 metres from paving slab (above). One burrow identified on the right bank (flow-wise) c. 2.00 metres from bridge.	Water Vole	Confirmed	1-6
TN 02	Water vole latrine located on concrete weir upstream (north-east) of the site. Area of slow-flowing water created by series of weirs that were covered by water cress.	Water Vole	Confirmed	7
TN 03	Water vole latrine located on concrete weir upstream (north-east) of the site. Area of slow-flowing water created by series of weirs that were covered by water cress.	Water Vole	Confirmed	8
TN 04	Water vole latrine identified on a concrete paving slab that was protruding from the channel. Two extensive burrows, connected by a run with a feeding station.	Water Vole	Confirmed	9-12

TN 05	Water vole latrine located on small, level area adjacent to the water's edge. Feeding station located adjacent to latrine on right bank (flow-wise).	Water Vole	Confirmed	13 & 14
TN 06	Water vole latrine located on small, level area adjacent to the water's edge.	Water Vole	Confirmed	15
TN 07	Series of burrows located on-site in between two confirmed water vole territories.	Water Vole	Confirmed	16

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 1 - Paving slab with water vole latrine, located at TN01, Figure No. 1.



Photograph No. 2 - Close-up of feature displayed in Photograph No. 1. The camera at full zoom, however, droppings can just be made out a few centimetres left of the bottom right corner of the paving slab. Descriptive parameters are real life values.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 3 - One burrow entrance, located at TN01, c. 1.50 metres downstream of paving slab shown in Photograph No. 1 & 2.



Photograph No. 4 - Close-up of feature described in Photograph No. 3.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 5 - One burrow entrance, located at TN01, c. 2.00 metres downstream of bridge.



Photograph No. 6 - Close-up of feature described in Photograph No. 5.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 7 - Water vole latrine, located at TN02, Figure No. 1.

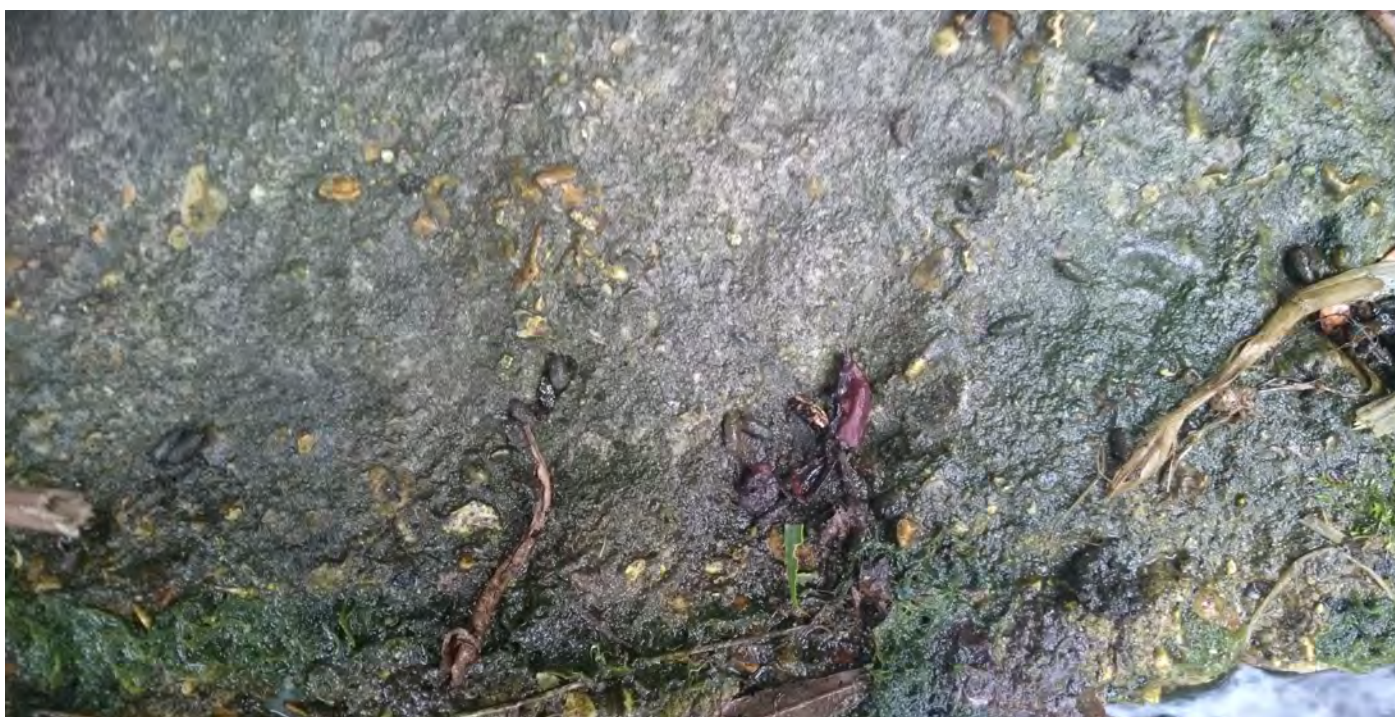


Photograph No. 8 - Water vole latrine, located at TN03, Figure No. 1.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 9 - Water vole latrine, located at TN04, Figure No. 1.



Photograph No. 10 - Close-up of feature described in Photograph No. 9.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 11 - Burrow entrance and feeding station with a run (right) to another burrow entrance, located adjacent to latrine, at TN01, Figure No. 1.



Photograph No. 12 - Series of burrow entrances, located TN01, Figure No. 1. Two burrows were extensive whereas two were 'proto-burrows'.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 13 - Feeding station located at TN05, Figure No. 1.



Photograph No. 14 - Water vole latrine located at TN05, Figure No. 1.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 15 - Water vole latrine located at TN06, Figure No. 1.



Photograph No. 16 - Series of burrow entrances located at TN07, Figure No. 1.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 17 - Close up of a burrow entrance located at TN07.



Photograph No. 18 - Close up of a burrow entrance located at TN07.