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Via email: [Adrian.rowlands@mhpa.co.uk](mailto:Adrian.rowlands@mhpa.co.uk)

24 November 2017

Our Ref: 856531 Pembroke Dock Marine – Badger Sett Monitoring report – Rev0

Dear Adrian,

### **BADGER SETT MONITORING REPORT**

This document presents the findings of monitoring of a potential Badger sett undertaken in connection with the proposed redevelopment of Pembroke Port, Pembroke Dock, Pembrokeshire (centred on Grid Reference SM959 037). The location of the site is illustrated in *Figure 1*.

The potential sett was identified at *Target Note 35 (Figure 2)* during a Preliminary Ecological Appraisal<sup>1</sup> completed on 24 March 2017 within an area that has been identified for the Pembroke Dock Ferry Terminal extension works (Pembroke Port Development Plan; Option 5 Layout and Demolition/ Intervention Plan). The hole dimensions were suitable for Badger and there was a small spoil heap present in front of the entrance. However, there was no other evidence that this tunnel was being occupied by Badger (*e.g.* footprints, hairs at the entrances or latrines). It could not be confirmed at the time if the hole had been created by Badgers or another mammal (*e.g.* fox). Therefore, we proposed to monitor the excavation to ascertain whether it was being used by Badgers and, if so, determine the level of activity and confirm the sett type. It was agreed that *ad hoc* monitoring of the excavation would be completed when RSK were on site to undertake other ecological surveys such as bat and reptile surveys.

This report includes a summary of the results of the monitoring undertaken between May and October 2017 and discusses ecological implications for the proposed works.

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<sup>1</sup> RSK (2017) Pembroke Port, Pembroke Dock, Preliminary Bat Roost Assessment.

## Methods

The excavation was monitored using sticks covered in reversed sticky tape (*i.e.* with the sticky side exposed). Several sticks were positioned across the hole in such a way that a large animal, such as a Badger, would have to move or remove one or more of the sticks to gain access to or leave the hole and in the process leave behind evidence in the form of hairs stuck to the sticky tape. Hair could then be used to identify the species using the hole. Additionally, we monitored the surrounding area to identify any signs of Badger activity (*i.e.* latrines, foraging signs, prints and trails *etc.*).

## Ecological Context

Pembroke Port is an active industrial port and dockyard with frequent movements of machinery, heavy goods vehicles, and ferries. It is occupied by hard-standing, bare ground and industrial, commercial and office buildings associated with the port operations. There is a sand-storage depot in the east of the site. Vegetated areas are principally located in the southern part of the site, and include a small area of immature secondary broad-leaved woodland, scattered trees, ruderal open grassland, a small area of unimproved grassland and scrub. Elsewhere, vegetation is scattered across the site and includes ephemeral species, amenity grassland and introduced shrubs.

The waters of Milford Haven form the northern boundary of Pembroke Port and together with an industrial area forms the western site boundary. To the south the site is bounded by residential properties, the South Pembrokeshire Hospital, a golf course and farmland. The town of Pembroke Dock lies to the east of the site and is dominated by residential and commercial buildings and transport infrastructure.

## Results

Most surveys undertaken between May and October 2017 did not record signs, or possible signs, of Badger activity. Only the results of monitoring visits where confirmed or possible Badger activity was recorded are presented in *Table 1*. A full table of results is available in *Appendix 1*.

**Table 1: Abridged Badger Monitoring Survey Results**

Date	Results
24 March 2017.	Possible single-hole, outlier, partially –used Badger sett identified in woodland. Size suitable for Badger (or Fox), vegetation debris in entrance and small spoil heap outside the tunnel entrance. No sign, such as hair, <i>etc.</i> to positively identify the species using it.
14 June 2017.	Possible signs of foraging noted in the form of ‘snuffle holes’ in grassland c. 50m from the tunnel entrance. No conclusive evidence was found to enable the identification of the species responsible.

Date	Results
23 August 2017	During a dusk bat roost survey, a Badger was observed by several surveyors to run in a westerly direction past the front of the northern elevation of The Commodore Hotel.
24 August 2017	One stick had been pushed towards the ground (as if trodden on) and a single Badger hair was stuck to another of the sticks.
12 September 2017	One stick was removed from the tunnel entrance and found c. 1 m from the tunnel entrance (at the rear of the spoil heap). No other signs were found to identify the species responsible.

### Evaluation and Conclusions

The identification of a Badger hair stuck to the tape on one of the sticks together with the movement of another stick confirmed the excavation as an active, well-used, outlier Badger sett<sup>[1]</sup> according to the criteria. Single-hole outlier Badger setts are often used only sporadically, which appears to be the case with this sett. The observation of a Badger during a nocturnal bat survey also confirms the presence of Badgers in the area.


Should works take place in the vicinity of the sett they could disturb Badgers or damage the sett. It is recommended that a method statement is developed which enables completion of the works and avoids affecting Badgers. If it is not possible to avoid the sett then an application for a sett closure/disturbance licence would need to be submitted to Natural Resources Wales beforehand, and any conditions set out in the licence would need to be adhered to (e.g. closure of setts which can only be done between 1 July and 30 November). Alternatively, the sett could be monitored during the period when Badgers are most active (between 1 July and 30 November) with camera traps and sticks. If it is proven that Badgers are not present for longer than 21 days then the sett could be destroyed without the need for a licence. An audit trail of survey results would need to be maintained to support this approach.

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<sup>[1]</sup> Harris *et al.* (1984 and 1989). *Surveying Badgers*. The Mammal Society.

If you have any questions please contact us on 0117 300 4288 or at [pparker@rsk.co.uk](mailto:pparker@rsk.co.uk).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Paul Parker'.

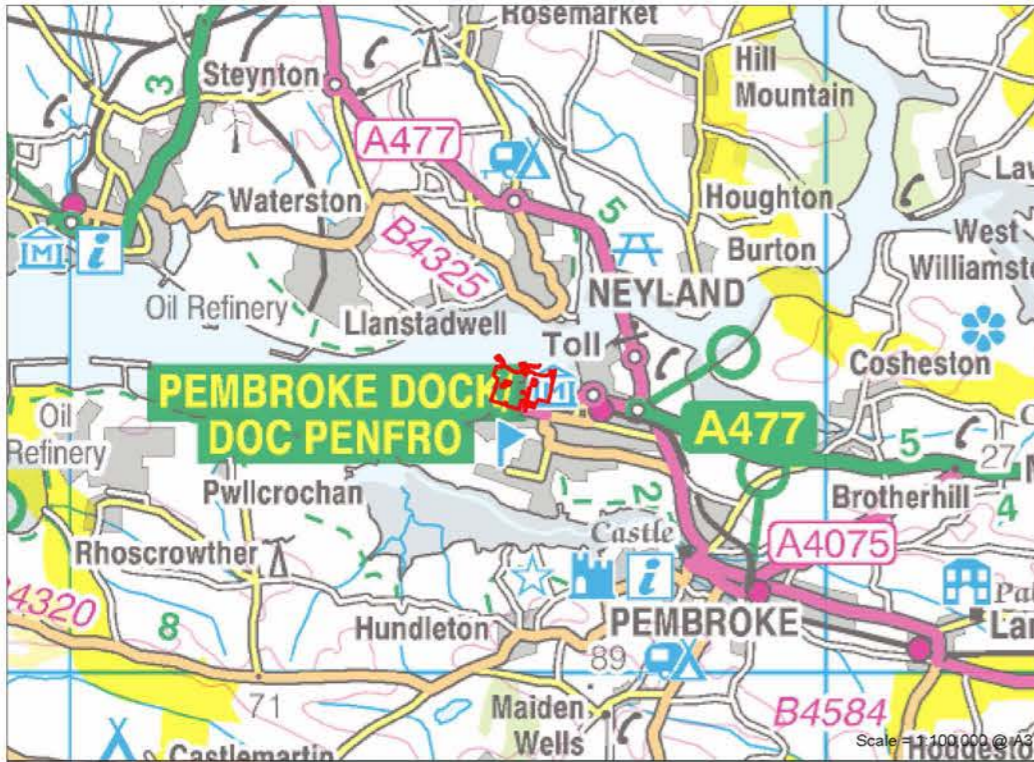
Paul Parker

Ecological Consultant

**Reviewed by**

A handwritten signature in black ink, appearing to read 'Roberta Epps'.

**Roberta Epps**  
**Principal Consultant**



Site boundary

Rev	Date	Description	Drn	Chk	App
00	18.04.17	856531	RG	SP	PP

**Pembroke Docks**

Figure 1  
Site Location Plan

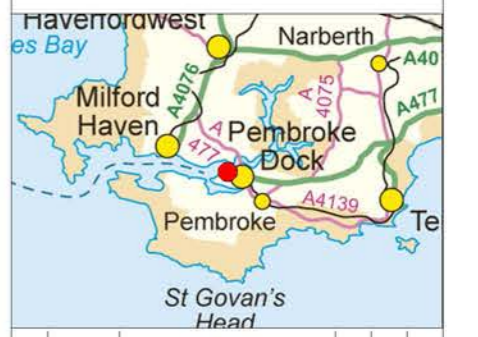
0 300 metres  
Scale = 1:10,000 @ A3

0 300 metres  
Scale = 1:10,000 @ A3

REV 00



- Site boundary
- Broad-leaved semi-natural woodland
- Scattered broad-leaved tree
- Dense scrub
- Scattered scrub
- Unimproved neutral grassland
- Ruderal open grassland
- Standing water
- Intertidal area / sea
- Sea wall
- Sand pit
- Introduced shrub
- Amenity grassland
- Ephemeral vegetation
- Bare ground
- Building
- Hard standing
- Target note

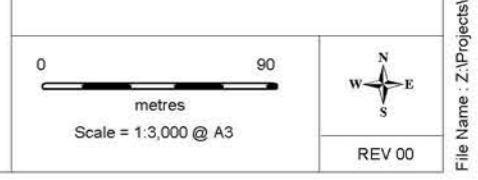


Rev	Date	Description	Drn	Chk	App
00	15.05.17	856531	RG	SP	PP

**Pembroke Docks**



Figure 2  
Phase 1 Map



## APPENDIX A –FULL MONITORING SURVEY RESULTS

The full results of the monitoring survey are available in *Table 2*.

**Table 2: Full Monitoring Survey results**

Date	Results
24 March 2017.	Possible single-hole, outlier, partially –used Badger sett identified in woodland. Size suitable for Badger (or Fox), vegetation debris in entrance and small spoil heap outside the tunnel entrance. No sign, such as hair, <i>etc.</i> to positively identify the species using it.
10 May 2017	Tunnel appeared unused, light vegetation over entrance. Small amount of debris in tunnel entrance. No fresh spoil or other sign.
11 May 2017	No change; installed sticks with reversed duct tape attached to them.
16 May 2017	No change; no hairs on sticks, no recent activity noted.
14 June 2017.	Possible signs of foraging noted in the form of ‘snuffle holes’ in grassland c. 50m from the tunnel entrance. No conclusive evidence was found to enable the identification of the species responsible.
22 June 2017	No change; no signs of activity noted.
18 July 2017	No change; no signs of activity noted.
16 August 2017	No change - no activity, possibly less debris, not conclusive.
23 August 2017	During a dusk bat roost survey, a Badger was observed by several surveyors to run in a westerly direction past the front of the northern elevation of The Commodore Hotel.
24 August 2017	One stick had been pushed towards the ground (as if trodden on) and a single Badger hair was stuck to another of the sticks.
30 August 2017	No change; no signs of activity noted.
12 September 2017	One stick was removed from the tunnel entrance and found c. 1m

Date	Results
	from the tunnel entrance (at the rear of the spoil heap). No other signs were found to identify the species responsible.
19 September 2017	No change; no signs of activity noted.
26 September 2017	No change; no signs of activity noted.
19 October 2017	No change; no signs of activity noted.