

Blakes Lock Welfare Facility

Ecological Advice Note

1. Background

Blakes Lock Island is on the River Kennet/Kennet & Avon Canal in Reading at SU 72692 73532. The existing facilities for the lock keeper are a metal unit containing a toilet and an adjacent wooden shed for storage. Both are to be removed and replaced by a single welfare unit (See figures 1 and 2) with a larger footprint. The location for this facility is within an enclosed gated area approximately 490m² in size, bounded by the River Kennet, hedgerows, shrubs and a fence, hereafter called 'the development site'. Given the small area affected, the isolation of the island from other terrestrial habitats and the relatively small scale of the works, it was not deemed necessary to carry out a full preliminary ecological appraisal of the site. This ecological advice note was therefore deemed adequate to highlight any potential ecological impacts of the proposals and to suggest any necessary mitigation measures and enhancements.

There is currently no detailed methodology for the works. Some materials will be need to be placed on the development site using a crane situated on a barge. This will be on the north bank of the island and should be completed in one day. All other access will be across the lock on the south bank of the island. There will not be any piling and the main noise disturbance will be from a mini digger. A concrete base will need to be poured and then the new welfare unit will be constructed from panels. The proposed date for the start of construction, as long as all permissions and permits are in place, is September 2020.

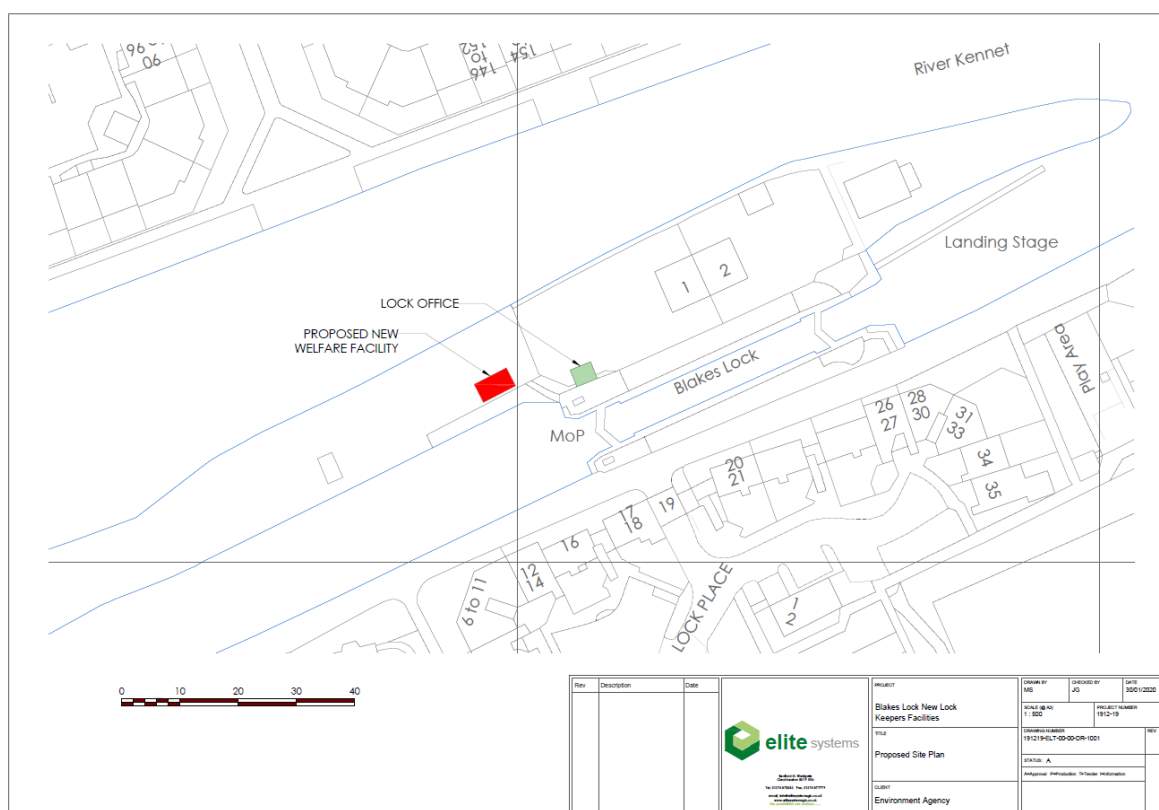




Figure 2. Proposed detailed site plan.

2. Methodology

A desktop search was undertaken using the Environment Agency's own Geographic Information System. The search extended to 500m from Blakes Lock Island and included nature conservation sites, protected habitats and species and invasive, non-native species. These include the Environment Agency's own records as well as those from local record centres.

On 6th March 2020 a walkover of the site was undertaken in dry, sunny weather. The habitats and associated plant species were recorded, as well as any animal species observed. An assessment was made of various features including trees, structures and wood piles, for their potential to support protected species. A search for field signs of protected species was also carried out.

3. Results

3.1 Desktop search

There are no site, species or habitat records for the island itself. Within 500m there are the following:

- No statutory nature conservation sites.
- No Areas of Outstanding Natural Beauty.
- The Coal, Kennet Mouth and Kings Meadow East Local Wildlife Site.

- Lowland mixed deciduous woodland (habitat of principle importance under S41 of the Natural Environment and Rural Communities Act, 2006).
- European eel.
- Bat species: Pipistrelle; Soprano pipistrelle; Daubenton's; Noctule.
- Hedgehog.
- Stag beetle.
- Invasive, non-native species: floating pennywort; Japanese knotweed; Himalayan balsam; orange balsam; zebra mussel.

3.2 General

The downstream part of the island (that includes the development site) is mostly tree and shrub covered, dominated by deciduous species but with some conifers. Herbaceous species include ruderals and woodland flora. There is a mix of native and non-native plant species. There is an informal grass path running west to east towards the south of the island. Downstream of the lock office there is more formal planting within the lock cottage gardens. Beyond these is an area occupied by Reading Sea Cadets and this has less tree cover and is more intensively managed than the upstream part of the island.

3.3 Target notes

Figure 3 illustrates the main structures and features recorded on the development site as numbered target notes.

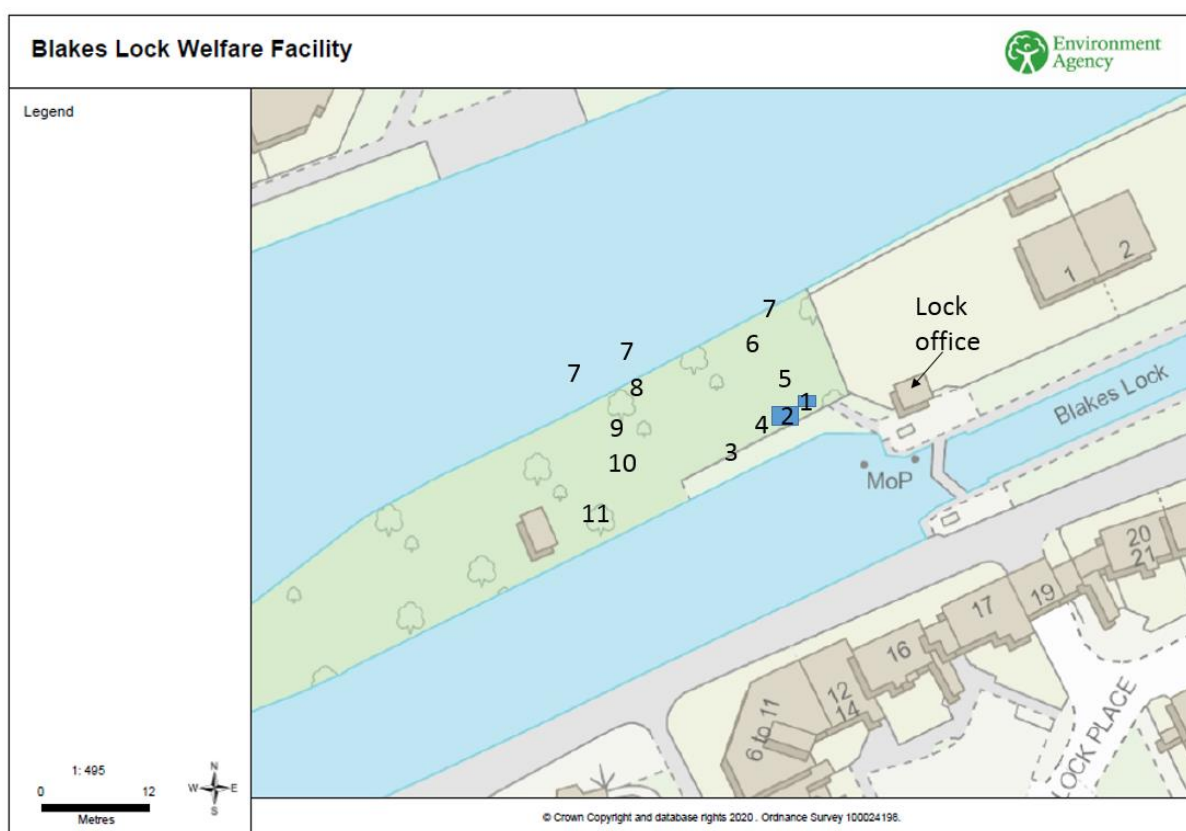


Figure 3. Map illustrating the existing structures and features on the development site

Target notes from Figure 3:

1. Metal unit containing existing toilet – see photograph 1.
2. Existing wooden shed used for storage – see photographs 2 and 4.
3. Rhododendron (*Rhododendron* sp.) hedge.
4. Pile of recently cut, large pieces of timber.
5. Pile of brash with old fence panels and pallets – see photograph 4.
6. Pile of brash – see photograph 3.
7. Crack willow trees at the bottom of the river bank and within the channel.
8. Cherry tree (*Prunus* sp.) on top of river bank.
9. Ivy covered tree, species unknown – see photograph 4.
10. Mature coppiced tree, species unknown – see photograph 4.
11. Cherry tree (*Prunus* sp.).

There were some additional saplings that have not been mapped. Herbaceous species included Spanish bluebell (*Hyacinthoides hispanica*), herb-Robert (*Geranium robertianum*), bramble (*Rubus fruticosus* agg), ivy (*Hedera helix*), common nettle (*Urtica dioica*), comfrey (*Symphytum* sp.) and sweet violet (*Viola odorata*). There was some bare ground beneath the shade of the mature coppiced tree.

3.4 Native fauna

Birds observed within the development site were goldcrest and blackbird. Elsewhere on the island was a mute swan guarding an area where it is likely to build a nest. On the river were Canada geese, greylag geese, mallards and black-headed gulls. Other waterfowl known from this location include coot, moorhen and great-crested grebe, with occasional Mandarin duck and black swan. Small colonies of sand martins nest every year in this location, in old drainage pipes within the brick walls of the canal banks and railway bridges.

3.5 Invasive, non-native species

A small stand of Japanese knotweed occurs on the north bank of the island, approximately 65m upstream of the development site. There are recent records of floating pennywort caught on Blakes weir upstream of the development site, but none was observed on this survey.



Photograph 1: Metal unit containing toilet.



Photograph 2: Wooden shed.



Photograph 3: Brash pile next to the river, looking north.



Photograph 4: Timber shed and brash pile with ivy-covered tree and coppiced tree in the background.

4. Potential impacts on protected species

4.1 Bats

The existing metal unit had no gaps where bats could enter, and being made of metal the temperatures are likely to fluctuate making it less suitable for bats. Therefore this had negligible potential to support roosting or hibernating bats. The existing wooden shed had no gaps where bats could enter and no signs such as bat droppings were observed. Therefore this had negligible potential to support roosting or hibernating bats. The only tree with bat potential was the ivy-covered tree (target note 8 and photograph 4) as bats could roost within crevices behind the ivy, although it was not possible to see the trunk. This tree has low potential for bats.

4.2 Otters

We are aware that otters regularly use this stretch of the River Kennet and spraint has frequently been recorded on the weir structure. A search was made within and close to the development site for field signs including runs, footprints and spraint, but none were observed. One of the crack willow trees on the river bank had a cavity amongst the roots facing in towards the island that could be used by otter or mink. However, there was no run into this cavity and no field signs of either species were observed.

4.3 Water voles

There are no records of water voles in this location and there is negligible habitat for water voles. No field signs were observed and it was concluded that water voles are not present.

4.4 Other mammals

Due to the isolation of the island from other terrestrial habitats and the relatively small size of the island, it is considered unlikely that mammals found in east Reading such as fox, hedgehog and muntjac deer would be present on the island. No field signs of any mammals were observed.

4.5 Birds

From previous experience of this location, a pair of mute swans and up to three pairs of Canada geese nest on the island, but not within the development site. All of the hedges and trees have the potential to support nesting birds. No nests were observed and no birds were seen entering or exiting the hedge.

4.6 Reptiles

The three timber piles could potentially be used by reptiles for cover. The most likely species would be grass snake that could swim across to the island. But given the lack of good foraging habitat it is considered unlikely that grass snakes inhabit the island.

4.7 Amphibians

There are no ponds or ditches on the island where amphibians could breed. The three timber piles could potentially be used by amphibians for cover. But given the lack of good foraging habitat it is considered unlikely that any amphibian species inhabit the island.

4.8 Invertebrates

There are no records of protected or uncommon invertebrate species on the island.

5. Discussion and Recommendations

5.1 Local Wildlife Sites and protected habitats

The only potential impacts of construction on the nearby Local Wildlife Site and deciduous woodland is from pollution entering the river although this is considered low risk. Pollution prevention measures must be in place to include: no refuelling of plant within 8m of the river; drip trays and bunds installed for plant working close to the river; care taken to not allow any cement to enter the river while being poured for the base.

5.2 Invasive, non-native species

The Japanese knotweed present on the island is not within or immediately adjacent to the development site so no mitigation measures are required. The barge delivering the crane and material should be thoroughly checked for floating pennywort before moving off site, to prevent it spreading to other areas. In addition, the 'Check – Clean – Dry' biosecurity measures should be followed for all plant and personnel working on the site, to prevent the spread of other invasive, non-native species and waterborne diseases.

5.3 Bats

As neither the metal unit nor the timber shed have any bat potential, they can both be removed without the need for a bat survey. The footprint of the proposed welfare unit is not in the vicinity of the ivy-covered tree with low bat potential. A bat survey would only be required if the tree needed to be removed or pruned, e.g. to enable access for the materials to be craned in. Enhancements could include the installation of bat boxes on the island.

5.4 Otters

The site must be checked by a suitably qualified ecologist immediately prior to the start of construction. Should a natal holt be confirmed, a European Protected Species mitigation licence would need to be obtained from Natural England. If a temporary lying up site is confirmed, the ecologist will advise on any mitigation measures required. Given that the site is in an urban area, any lone otters present will be habituated to a certain level of noise and disturbance. While the detailed construction methodology has yet to be confirmed, as no piling is planned it is unlikely that a lone otter would be disturbed by the work. If an otter is disturbed, work should cease immediately and advice sought from a suitably qualified ecologist.

5.5 Water voles

As there is negligible water vole habitat and no field signs were observed, there is no need to carry out a water vole survey.

5.6 Other mammals

Given the small size of the island and the fact that no field signs were observed, there is no need to carry out a survey for other mammals.

5.7 Birds

Most of the trees, shrubs and hedges within and adjacent to the development site have the potential to support nesting birds. Any vegetation clearance should be done between 1st September 2020 and 28th February 2021 to avoid the main bird breeding season. The exact dates vary depending on such factors as temperature. Therefore it is recommended that even outside of the nesting season, a suitably qualified ecologist checks for active bird nests 24 hours prior to the start of construction. Should any active nests that could be disturbed by the work be found, work will need to stop until the young have fledged. We recommend that some bird boxes are installed on the island to compensate for any nesting habitat that is lost.

5.8 Reptiles

While it is unlikely that any reptiles are present on the island, the timber piles should be removed by hand and checked for reptiles while this takes place.

5.9 Amphibians

While it is unlikely that any amphibians are present on the island, the timber piles should be removed by hand and checked for amphibians while this takes place.

5.10 Invertebrates

While a record for stag beetle was found in the data search, the lack of standing deadwood within the development site means that no mitigation measures for stag beetle are required and there is no requirement for an invertebrate survey.

6. Summary

A summary of the mitigation measures required are:

- Carry out vegetation removal outside of the bird nesting season and have a suitably qualified ecologist check for active bird nests 24 hours prior to the start of construction.
- A suitably qualified ecologist must check for signs of otters immediately prior to the start of construction.
- Remove the timber piles by hand to avoid potential harm to reptiles and amphibians.
- Biosecurity measures must be in place.
- Pollution prevention measures for working next to water must be in place.

Recommended enhancements:

- Install bird boxes on buildings or trees on the island, to increase the nesting opportunities.
- Install bat boxes on some of the larger trees on the island, to increase the roosting and hibernating opportunities for bats.

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