Grand Canal Bridge

Environmental Assessment

Report

September 2009

Contents

Section 1: Description of Proposed Development

It is proposed to construct a new bridge on the Grand Canal, in the vicinity of Lynches Lane, on lands in the townland of Grange.

The proposed works comprise:

(a) Construction of a bridge on the Grand Canal. This bridge will comprise either an openable bridge at Canal level, subject to agreement with appropriate authorities or a bridge set above Canal level.
(b) All associated works and modifications to existing landscaping and services.

1.1 Openable Bridge

The openable pedestrian/cyclist bridge would comprise of two halve bridges, which sit over the canal when in closed position. The halves would swing back over the canal banks into a docking position, when barges, boats or other users need to navigate past. The bridge surface is raised slightly over the bank on both sides. Ramping will be required from the Canal tow paths onto the bridge, at both sides. The indicative drawings show the bridge raised c 900mm over the Canal bank, and 2 no. 9m long 1:20 ramps on each side. A second fixed bridge is also proposed over an existing bio-diversity ditch to the north of Lynches lane. It is proposed to construct a mound on the northern edge of the biodiversity ditch, to raise the cycle track to the level of the fixed crossing. This will allow access over Lynches lane to the openable bridge.

The openable pedestrian/cyclist bridge would require the removal of a small amount of hedgerow and trees in the vicinity on lands to the north and south. Subject to detailed design, it is unlikely that this option would require excavation of the canal bank. It is likely that supporting steel poles would be driven into the banks on either side to support the bridge.

1.2 Over Bridge

The overhead pedestrian/cyclist bridge would be elevated by 4m max over the canal. On the north side, the approach bridge is within the proposed Griffeen Valley Park extension lands. These lands sit under the level of the canal. The rise necessary from the north is therefore c. 6-6.5m to get appropriate clearance over the Canal. A grassed mound is proposed on the northern side that will accommodate pedestrians and wheel-chair users on a 1:20 ramp and cyclists separately on a 1:20 ramp. On the south side of the

canal, it is necessary to ascend by c4m. A single shared ramp with 1:40 gradient is proposed to cater for pedestrians, wheelchair and cyclists.

The overhead bridge would require the removal of some hedgerow and (4/5) trees in the vicinity on lands to the north and south. The bridge would sit c 4m over the canal and tow paths and have limited physical contact with the immediate canal environment. Support poles would be erected along the edge of the northern and southern tow paths to support the over bridge.

Section 2: Receiving Environment

The proposed works will take place on lands in the vicinity of Lynches Lane, in the townland of Grange.

The receiving environment comprises the Grand Canal, the canal banks, tow paths to north and south, a bio-diversity ditch on the northern side and hedgerow on both sides. The Grand Canal Green Route is currently under construction on the southern tow path.

The canal at this location is approximately 8m in width and includes canal banks on either side with a selection of flora and fauna.

To the immediate south of the canal, vegetation has been excavated and removed from the southern tow path, as part of the construction of the Green Route. There is a dense hedgerow with trees further south, forming the boundary with Grange Castle Business Park.

To the immediate north of the Canal, Lynches lane operates as a public road and the northern canal tow path. There is a biodiversity ditch to the north of Lynches lane of c 5 meters in depth. This ditch was dry at time of inspection. A dense hedgerow with trees lines the northern edge of the bio-diversity ditch forming a buffer off the proposed parkland to the north.

A rich selection of plant and animal species are known to exist along the canal at this location, based on previous studies. These studies are discussed in more detail in section 3.2.

Section 3: Environmental Assessment

3.1 Human beings

The proposed development would provide new infrastructure in the form of a link to the strategic cycle network for the existing Lucan and Adamstown populations. The development will facilitate increased walking and cycling for school, employment and leisure purposes. This will have economic and health benefits for persons in the area. It is also consistent with the National Smarter Travel policy, which seeks to increase walking and cycling and with approved South Dublin County Council policy in relation to walking and cycling, including "Green Routes in South Dublin County", 2006.

It is considered that the proposed development would be likely to have a positive impact on human beings in the area.

3.2 Flora and Fauna

A significant amount of data exists in relation to ecology along the canal. Studies undertaken in this area as part of the Grand Canal Green Route project include the following:

An Ecological Assessment was carried out along the Grand Canal in July 2007. The study was carried out by Roger Goodwillie and Associates, Application Ecologist, in respect of the proposed Grand Canal Green Route, to identify any items of significant ecological interest, protected or otherwise. Rodger Goodwillie met with members of the Loc Canail, a local heritage group, during the course of this study and the opportunity was given to highlight any items of which they had knowledge. This report describes and assesses the value of flora and fauna along the southern towpath of the Grand Canal between the 12th Lock and 3rd Lock including the canal bank and hedgerows and tree lines.

A separate Bat Survey of the Canal was carried out by Aardwolf Wildlife Surveys as part of the ecology study in July 2007 and again in May 2008. Further bat studies were also undertaken by Aardwolf Wildlife Surveys as part of the Grand Canal Green Route project in 2009, all of which have confirmed the presence of five bat species feeding or commuting on and along the Grand Canal.

The Ecological Surveys in respect of the Grand Canal Green Route found that the likely impacts of the proposed Green Route were considered to be negligible to minor. No significant botanical species were found along this section of the Canal during that ecological survey.

As bats have been found to be foraging along the Canal, their presence cannot be ruled out at the location of the proposed bridge. As part of the mitigation measures for bats that have been agreed with the NPWS for the Green Route project, a lighting system has been specially designed to minimise impact on bats using the Canal.

South Dublin County Council's Heritage officer has reviewed the previous studies and conducted a visual inspection of the bridge site. A summary of the Heritage Officers comments are outlined below:

> The overhead bridge option would appear to present the least impact on the sensitive ecological environment of the canal, its towpaths and the zone of biodiversity between the towpath and the hedgerow on the northern side as its sits above these habitats for the most part.
>
> The openable canal level bridge would site into these habitats and involve significantly more disturbance, particularly to the canal habitat.
>
> The most significant impact on flora would be the removal of hedgerow and possibly a small number of trees.
>
> It is recommended that an ecological survey of the hedgerow, ditch and ecological zone between the hedgerow and canal be undertaken prior to any construction to establish the current biodiversity resource and to inform any mitigation measures that may be required. The survey should predominantly record plants and birds and establish the presence or use of the area by protected species such as badgers and otter. This survey should extend to lands to the north along the entire cycle route, to establish whether badger setts or other protected species are present.
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> Assessment at the bridge location, in August 2009, indicated that the hedgerow species most likely to be impacted upon would be ash trees (c. 5-6 trees) and some smaller shrubs of hawthorn and elder. It is recommended that the least number of trees possible be removed, and while these are common species, their loss would need to be mitigated by e.g. additional planting of similar species in the area.
>
> During construction, damage to remaining trees and shrubs in the hedgerow should also be avoided. It is recommended that a method statement be prepared to address this issue.

A bat population is known to forage along the Grand Canal. While no bat presence was identified at this location, it cannot be ruled out. It is therefore recommended that a bat expert be employed to survey the sections of hedgerow for removal and to oversee any removal of trees or hedgerow in case bat roosts are present. It is recommended that the lighting system agreed with the NPWS for the Grand Canal Green Route should be sued on the cycle way and bridge also, in order to keep light disturbance of bats to a minimum. Additional mitigation measures could include the provision of bat roosts, which could be incorporates as a design feature on the bridge itself.

In the event of an openable bridge that would cut into or significantly disturb the Grand Canal bank, an assessment of the aquatic ecology in the canal and on the canal bank, should be undertaken prior to any construction.

In summary, prior to any construction work, it is recommended that an ecological survey of the hedgerow and bio-diversity zone is undertaken at the appropriate time of the year in conjunction with a bat report, both of which should establish baseline data and recommend mitigation measures to protect local biodiversity interests.

3.3 Soil

It is likely that soil will be imported to facilitate mounding in the Griffeen Valley Park lands, under both options. In the case of the openable structure there may be some disturbance to soil along the canal bank. No significant impacts to soil have been identified.

A geological survey of the area should be undertaken prior to commencement of development to ascertain the soil and ground types in the area.

Imported top soil should be sourced from environmentally sensitive sources.

3.4 Water

Subject to environmentally sensitive site works and good construction practice, no likely significant impacts on water quality have been identified.

A construction methodology should be prepared and agreed with the appropriate authorities, including Waterways Ireland and the

Eastern Regional Fisheries Board prior to the commencement of development. The statement should have regard to best practice and the guidance document "Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites". This document is available at www.fishingireland.net**.**

In the event of an openable bridge that would cut into or significantly disturb the Grand Canal bank, an assessment of the aquatic ecology in the canal and on the canal bank, should be undertaken prior to any construction. This would identify any significant impacts on water.

3.5 Air and Climatic Factors

Impacts likely to be positive or neutral depending on the level of modal switch from motorised vehicles to bicycle.

3.6 Landscape

The openable bridge structure, set at canal level, is a low profile bridge that would not be visible at a distance or impact on views or vistas along the canal or in the wider area.

The over bridge would be set at up to 6 meters over canal level and include significant mounding on the northern side. This bridge would be visible from a significant distance, along the Canal and from surrounding lands to north and south. It would have a significantly greater impact on views and vistas in the area, than the lower option. The impact of the design should be minimised through design and use of materials.

3.7 Material Assets

There are no archaeological sites, listed in the Records of Monuments and Places in the immediate vicinity of the site. An archaeological assessment carried out in respect of the Grand Canal Green Route, did not identify any features at this location.

In the event that any items of archaeological significant are found during the course of construction, all development works should cease immediately and the National Monuments Section of the Department of the Environment, Heritage and Local Government should be notified.

There are no structures, listed in the Report of Protected Structures, in the immediate vicinity of the site. There are a number of protected structures in the general area, as follows:

Grange Cottage, Stone Cut Arches (linking to Griffeen River), a former mill cottage on south side of the canal, to the west of the site, 12th Lock Bridge, 12th Lock, Mill, Lock Keepers Cottage (RPS: 119).

The proposed bridge is located at a significant distance from these protected structures and as such, it is considered unlikely that the proposed bridge structures would impact negatively on these structures.

Section 4 Conclusions

Having regard to available information, it is considered unlikely that disturbance associated with this project would not be likely to have a significant environmental impact on the receiving environment, and in particular on protected flora and fauna, subject to appropriate further assessment and mitigation. It is therefore considered that a full Environmental Impact Study under the European Communities (Environmental Impact Assessment) Regulations, 1989 is not required.

Notwithstanding this, given the rich selection of plant and animal species that are know to exist along the canal, it is considered appropriate that further studies are undertaken to establish the current bio-diversity resource at this location prior to the commencement of works and that appropriate mitigation measures are undertaken in the design and construction of the bridge.