Ringsend to City Centre Core Bus Corridor Study - Feasibility and Options Assessment Report

Environmental Desktop Study Report

Draft – March 2017

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Issue	Description	Made	Checked	Approved	Date
0	Environmental Desktop Study Report	GR	BC		08/03/2017

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1.0 INTRODUCTION

1.1 Introduction (Objectives and Benefits)

Roughan & O'Donovan – AECOM Alliance Consulting Engineers has been commissioned by the National Transport Authority (NTA) to identify improvement proposals for the Ringsend to City Centre Core Bus Corridor Scheme (hereafter referred to as the "Scheme").

The main objectives of the Scheme are as follows:

- To deliver on-street infrastructure in order to provide continuous priority for bus movements along the Core Bus Corridor, facilitating a reliable and effective bus service;
- To provide on-street cycle facilities, particularly those required under the Greater Dublin Area Cycle Network Plan; and
- To optimise the movement of people and goods along the corridor, consistent with local constraints and place-making requirements.

1.2 Site Location

Although the exact route is not decided, the Scheme is proposed to provide a bus route that will connect the city centre to Ringsend. Proposed routes R1 and R2 run from Lombard St to Irishtown Rd, Bath St and Pembroke St via Ringsend Rd and Bridge Street. R3 also travels from Lombard St to Bridge Street, prior to turning onto Thorncastle St and Cambridge Rd. Route R3 then travels along Pigeon House Rd, crossing the R131 and continues through the roundabout onto the Sean Moore Rd. Route R4 begins by travelling a loop alomg Samuel Beckett Bridge, North Wall Quay, Talbot Memorial Bridge and City Quay. It then follows on to Sir John Rogerson's Quay where it crosses over to York Rd via a proposed bridge. From York Rd, the route follows the same route as R3 along Pigeon House Rd and Sean Moore Rd. The proposed routes are illustrated in Figure 1.1 and in Appendix A.

1.3 Purpose of the Environmental Desktop Study

This Environmental Desktop Study has been carried out with the objective of compiling as much information as possible relating to the natural environment in order to identify and assess all feasible potential route options for the Scheme. This data collection is focussed on determining environmental constraints and designated sites which could affect the route of the scheme.

As part of the Desktop Study, an assessment of route options for the Scheme has been considered. These have taken into account the environmental constraints of the study area. The chapters that follow examine these constraints in more detail.

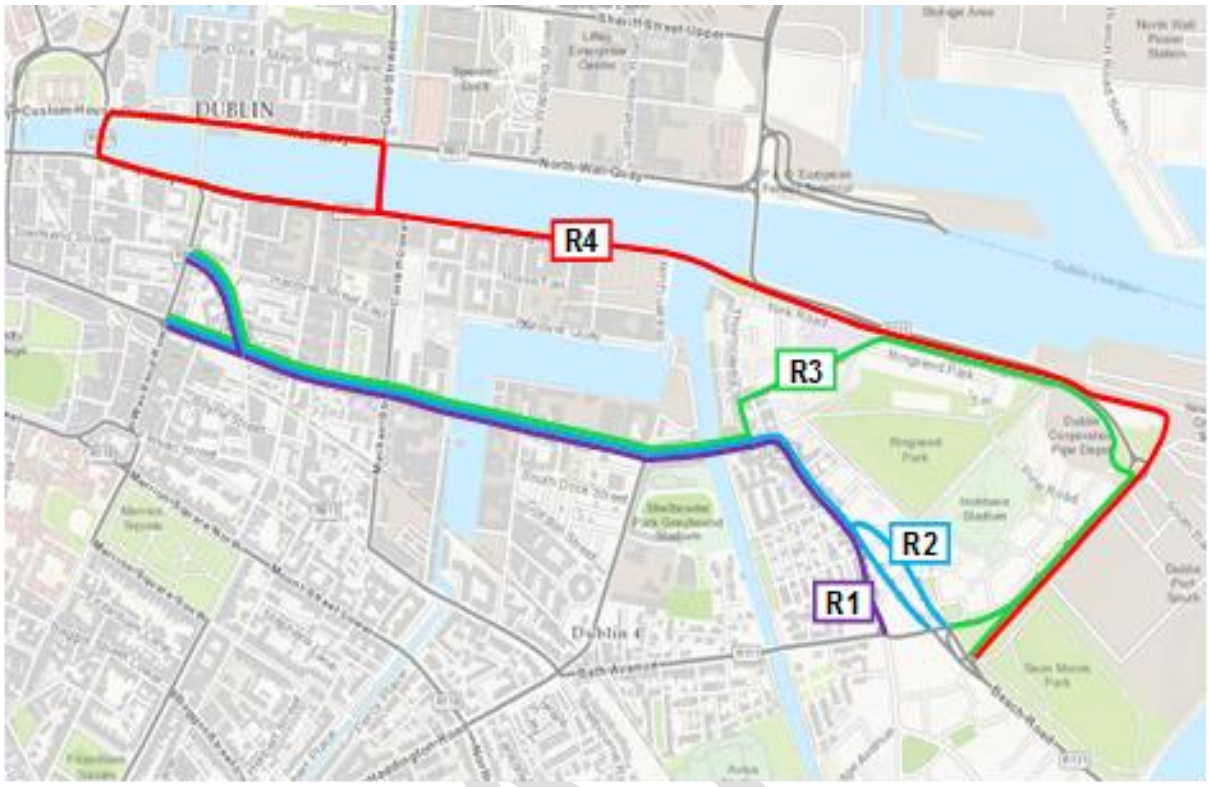

Figure 1.1 Proposed Route Options R1 – R4

2.0 METHODOLOGY

2.1 Desktop Study

A desktop study was initially undertaken to review potential environmental constraints within the study area. A review of the following available online data sources was carried out to screen the proposed project area for potential impacts:

- OSI mapping
- Aerial photography
- National Parks and Wildlife (NPWS)
- National Biodiversity Data Centre Ireland (NBDC)
- Floodmaps.ie
- EPA Map Viewer (envision.ie)

A review of the National Parks and Wildlife Service (NPWS) website database was undertaken to determine the boundaries of designated areas for conservation in the vicinity of the proposed project and to identify any known records of protected species within the area.

The National Biodiversity Data Centre Ireland (NBDC) database was reviewed to identify any known species records within 2km of the proposed scheme. The Draft Dublin City Biodiversity Action Plan 2015-2020 was also reviewed.

The desk study identified the potential for a range of flora and fauna to be present within the study area, of which protected species identified may be present or utilise the area. A review of the NPWS and the NBDC websites was undertaken to determine the boundaries of designated areas for conservation and to identify known records of the species listed for protection.

2.2 Reporting

The evaluation of the ecological environment and the criteria used to assess the significance of impacts are derived from the Guidelines for Assessment of Ecological Impacts on National Road Schemes (NRA, Rev. 2, 2009) and the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (EcIA).

3.0 RECEIVING ENVIRONMENT

3.1 Introduction

This chapter of the Environmental Desktop Study Report considers the key constraints for the planning of the Scheme. It reviews the constraints and opportunities for the project in relation to ecology, landscape and flooding. The route of the proposed Scheme is shown in Figure 1.1 and Appendix A.

3.2 Designated Areas

3.2.1 Natura 2000 sites

Areas of international significance for nature conservation have been included in a European Union network of protected areas known as Natura 2000. These areas are:

- **Special Areas of Conservation (hereafter referred to as SACs)** are designated under the EU Habitats Directive (92/43/EEC) which are transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No 477 of 2011).
- **Special Protection Areas (SPAs)** are designated under the EU Birds Directive (79/409/EEC) which are transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No 477 of 2011).

A review of the National Parks and Wildlife Service database has identified the following designated sites as being within 10km:

Table 3.1: Designated Sites within 10km

Name	Site code	Approximate Location
North Bull Island SPA	004006	3km north east
Baldoyle Bay SPA	004016	9km north east
South Dublin Bay and River Tolka SPA	004024	700m south east / north east
Baldoyle Bay SAC/pNHA	000199	9km north east
Howth Head SAC	000202	9km north east
North Dublin Bay SAC/pNHA	000206	3km north east
South Dublin Bay SAC/pNHA	000210	700m south east
Rockabill to Dalkey Island SAC	000205	9km east east
Liffey Valley pNHA	000128	8km west
Santry Demesne pNHA	000178	6km north
Dodder Valley pNHA	000991	9km south west
Dolphins, Dublin Docks pNHA	000201	1km east
Booterstown/Marsh pNHA	001205	4km south east
Dalkey Coastal Zone and Killiney pNHA	001206	9km south east
Fitzsimon's Wood pNHA	001753	8km south
Royal Canal pNHA	002103	100m north
Grand Canal pNHA	002104	0km

The study area does not border any Natura 2000 site. The Natura 2000 sites in closest proximity to the site are the South Dublin Bay and River Tolka Estuary SPA (Site Code 004024) and the South Dublin Bay SAC/pNHA (Site Code 000210), both located 700m south east of the scheme. The site synopses and full versions of the Conservation Objectives for the Natura 2000 site can be found on the NPWS website at: http://www.npws.ie/protectedsites/.

The study areas of route options R1, R2 and R3 cross the Grand Canal pNHA between Pearse St and Ringsend Rd by means of the Grand Canal Bridge. Due to the small scale of works proposed and the timing of works, the proposed development is unlikely to have any direct or indirect impacts on these pNHAs.

3.3 Protected Species

Online sources of publicly available data provided by National Biodiversity Centre (NBDC) with regards to protected species recorded within 2km of the site informed the desk study and are presented in Table 2.

Table 3.2: Notable Protected Species Records within 2km of the Site

Species	Most Recent Date Recorded	Suitable Habitat Within the Site
EU Directive		
Mallard (*Anas platyrhynchos*)	2016	No
Little Egret (*Egretta garzetta*)	2016	No
Red-throated Dever (*Gavia stellata)*	2011	No
Red-breasted Merganser (*Mergus serrator)*	2011	No
Eurasian Curlew (*Numenius arquata)*	2016	No
Common Frog (*Rana temporaria)*	2016	No
Rock Pigeon (*Columba livia*)	2012	Yes
Common Wood Pigeon (*Columba palumbus)*	2013	Yes
Striped Dolphin (*Stenella coeruleoalba)*	2001	No
Lesser Noctule (*Nyctalus leisleri*)	2013	Yes
Nathusius's Pipistrelle (*Pipistrellus nathusii*)	2010	Yes
Pipistrelle (*Pipistrellus pipistrellus sunsu lato*)	2013	Yes
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	2011	Yes
European Otter (*Lutra lutra*)	2016	No
Common Kingfisher (*Alcedo atthis*)	2011	No
Dunlin (*Calidris alpine)*	2011	No
Peregrine Falcon (*Falco peregrines*)	2011	No
Mediterranean Gull (*Larus melanocephalus*)	2011	No
Bar-tailed Godwit (*Limosa lapponica*)	2011	No
Common Tern (*Sterna hirundo)*	2011	No
Northern Lapwing (*Vanellus vanellus*)	2011	No
Grey seal (*Halichoerus grypus*)	2013	No
Common Porpoise (*Phocoena phocoena*)	2012	No
Sperm Whale (*Physeter macrocephalus*)	1766	No

Species	Most Recent Date Recorded	Suitable Habitat Within the Site
Daubenton's Bat (*Myotis daubentonii*)	2011	Yes
Brown Long-eared Bat (*Plecotus auritus*)	2013	Yes
Arctic Tern (*Sterna paradisaea*)	1999	No
Common Porpoise (*Phocoena phocoena*)	1914	No

Although most of these species do not have suitable habitats within the site, potential pathways between the works and species present within the waterways may exist dependent on the extent of construction on the bridge across the River Dodder on route options R1, R2 and R3. However by adhering to the NRA/TII Environmental Assessment and Construction Guidelines (EACG) along with the timing of the works, effects on the environment will not be significant.

Route option R4 may have further effects on these species as a bridge would be required crossing the mouth of the River Dodder and the Grand Canal. If R4 is chosen, an EIS will be required if the bridge is greater than 100m in length.

3.4 Invasive Species

Publicly available data offered online by NBDC with regards to invasive species are presented in Table 3. The presence of Japanese Knotweed (*Fallopia japonica*) was identified most recently in 2016. Japanese Knotweed, Giant Hogweed and Indian Balsam are species subject to restrictions (Third Schedule) under Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011. **A complete invasive species survey will be required for the preferred route prior to the commencement of works.**

Table 3.3: Invasive Species Records within 2km of the Site

Species	Most Recent Date Recorded	Suitable Habitat Within the Site
Narrow-leaved Ragwort (*Senecio inaequidens)*	2014	Yes
Sycamore (*Acer pseudoplatanus*)	2014	Yes
Three-cornered Garlic (*Alliium triquetrum)*	2015	Yes
Butterfly Bush (*Buddleja davidii)*	2015	Yes
Japanese Knotweed (*Fallopia japonica*)	2016	Yes
Traveller's-joy (*Clematis vitalba)*	2013	Yes
Giant Hogweed (*Heracleum mantegazzianum*)	2012	Yes
Indian Balsam (*Impatiens glandulifera*)	2013	Yes
Cherry Laurel (*Impatiens glandulifera)*	2009	Yes
House Mouse (*Mus musculus)*	2015	Yes
Eastern Grey Squirrel (*Sciurus carolinensis*)	2014	Yes
Canadian Fleabane (*Conyza Canadensis)*	2012	Yes
Sea-buckthorn (*Hippophae rhamnoides)*	2014	Yes
American Mink (*Mustela vison*)	2016	No
Water Fern (*Azolla filiculoides)*	1984	No
Nuttall's Waterweed (*Elodea nuttallii*)	2009	No
Narrow-leaved Ragwort (Senecio inaequidens)	2014	Yes

Species	Most Recent Date Recorded	Suitable Habitat Within the Site
European Rabbit (Oryctolagus cuniculus)	2015	No

3.5 Bats

It is unlikely that bat roosts are present within the treelines along the route of the Scheme due to the urban, exposed and well lit nature of the study area. Additionally the trees along the route are young and therefore the tree barks lack degradation and crevasses which are required for bat roosts. However, the linear route and overgrown vegetation may provide foraging and commuting for bats and the potential effects on bats from the removal of trees along the route will need to be assessed. Therefore, **a bat suitability assessment should be carried out by a bat specialist during the bat active survey season, between April to September, in advance of construction**. The assessment should be carried out in accordance with Bat Conservation Trust guidance (Collins. J, 2016) and should determine baseline patterns of site use, identifying specific sections of the route that are important for bats. The NBDC online source of publicly available data determined that six species of bats have been recorded within 2km of the Site including Common Pipistrelle (*Pipistrellus pipistrellus sunsu lato*), Daubenton's Bat (*Myotis daubentonii*) ,Brown Long-eared Bat (*Plecotus auritus*), Nathusius's Pipistrelle (*Pipistrellus nathusii*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Lesser Noctule (*Nyctalus leisleri*) (see Table 2). If tree removal is required due to the proposed works, it is recommended that felled trees are left in-situ for 24 hours prior to removal from site.

3.6 Other Protected Mammals

NBDC data provided one Otter record within 2km of the Site boundary from 2016, as seen in Table 2. Due to the urban and exposed nature of the study area along with the lack of suitable habitat for the species, it is unlikely that the study area comprises Otter or Badger habitats. Therefore, no protected mammal survey is deemed necessary in relation to the proposed works.

3.7 Trees

Route options R1, R2 and R3 all travel from Lombard Street to Bridge Street before separating. On this section of the route they have the potential to remove approx. 55 trees such as those on Pearse Street and Townsend Street below.

Plate 3.1 Pearse Street

Plate 3.2 Townsend Street

Route option R1

Route R1 may result in the removal of a further 20 trees such as those shown on Irishtown Road below, in addition to those accounted for above, bringing the potential overall effect of the route to approx. 75 trees.

Plate 3.3 Irishtown Rd

Route Option R2

Similarly route option R2 may have potential impacts for a further 25 trees on Irishtown Rd and Pembroke Street as illustrated below, bringing its overall effect to approx. 80 trees.

Plate 3.4 Pembroke Street

Route Option R3

R3 has the potential to remove 145 trees. In addition to those shown above on Pearse St and Townsend St, approx 90 trees may be subject to removal along Pigeon House Rd and Sean Moore Rd as seen in Plate 3.5.

Plate 3.5 Sean Moore Rd

Route Option R4

R4 has the potential to affect approx. 140 trees along City Quay such as those shown in Plates 3.6 and 3.7. A further 60 trees would be required to be removed along Pigeon House Rd and Sean Moore Rd bringing the total to approx 200 trees.

Plate 3.6 City Quay

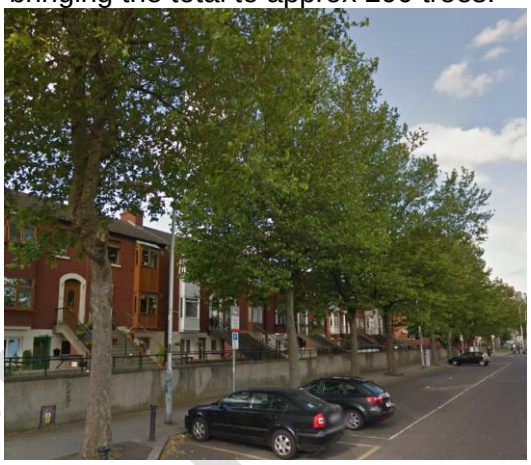

Plate 3.7 City Quay

These treelines along the four route options provide a positive visual and landscape aspect to the area, however the trees are young and are of local importance only. It is unlikely that they comprise bat roosts and due to the lack of ground cover, the range of species present is likely to be low. Whilst the trees may have visual benefits locally, the ecological benefit of the trees is not significant.

3.8 Breeding birds

Disturbance during construction may cause some temporary displacement of birds from treelines. The treelines on the route of the Scheme are likely to hold a community of breeding birds that would be dominated by small passerine species such as Blackbird, Robin, Chaffinch and Wren. The range of species present is likely to be low due to the urban nature of the study area, the high exposure of the trees to wind, the absence of ground cover and the lighting along the route. A breeding bird survey will not be required as a result of the proposed construction works.

However, any removal of trees required for the Works should be undertaken in a series of phases, thus avoiding simultaneous disturbance on the entire length of the project. Potential disturbance to breeding birds in the existing treelines should be avoided by confining the felling of trees and other site clearance to the period 1st September to 28th February. It is noted that the design of the proposed development is being developed so as to minimise the intrusiveness of the construction methodologies required.

3.9 Landscaping and Visual Impact

The most significant potential landscape and visual impact associated with the proposed development would arise in the case of the removal of tree lines. These tree lines provide a positive visual and landscape aspect to the area at present. However the trees are young and are of local importance only.

Additionally, the view looking west along the River Liffey is identified as a key view by the Dublin City Development Plan 2011-2017, as shown in Plate 3.8. Route 4 along

City Quay may have minor effects on this view as buses will travel across the Samuel Beckett Bridge and North Wall Quay. However, several bus routes currently use this route so there will not be a significant additional impact. This key view will be taken into consideration when developing the Scheme. Although the loss of trees along certain roads will have an adverse landscape and visual impact, it is anticipated that with sensitive design there will not be any significant adverse impacts, however a detailed Landscape and Visual Impact Assessment will be required at planning stage.

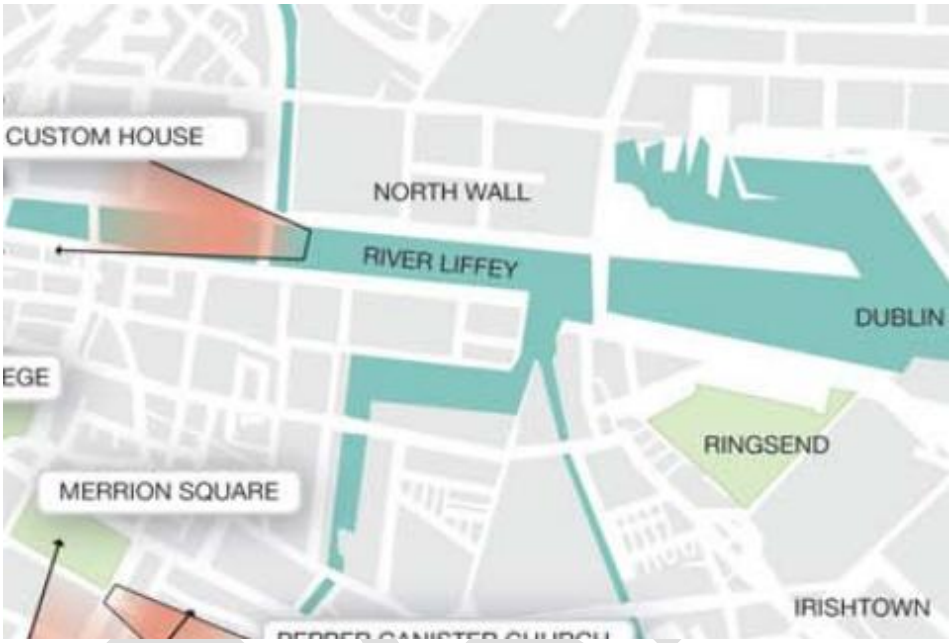

Plate 3.8 Key Views and Prospects from the Dublin City Development Plan 2011-2017

Route option R4 will have a further adverse effect on the landscape. As a vehicular bridge from Sir John Rogerson's Quay to York Rd, across the mouth of the River Dodder would be required, views from the North Wall Quays and the Grand Canal Docks as shown in Plate 3.9 would be likely to be significantly affected. This bridge does not yet have planning approval and will have to be assessed further in the EIA for the proposed bridge.

Plate 3.9 View from Grand Canal Docks towards N Wall Quays

3.10 Flooding

A desktop study was carried out to investigate the flooding history of the site and the existing drainage regime within the study area.

Routes R1, R2 and R3 cross the Grand Canal via Grand Canal Bridge and the River Dodder via Ringsend Bridge. Route R4 crosses the River Liffey via the Samuel Becket Bridge and the Talbot Memorial Bridge and is also proposed to cross from Sir John Rogerson's Quay to York Street via a proposed new bridge.

The OPW floodmaps.ie website was consulted to determine the extent of flooding along the road network of the study area. One flood event occurred in 1963 on Ringsend Rd as seen in Plate 3.10. Tidal floods in Dublin City also occurred on 1st February 2002, affecting many areas. Irishtown Rd, Ringsend Rd, the R131, Sir John Rogerson's Quay and North Wall Quay experienced flooding during this event thus affecting all four routes. While the Eastern Catchment Flood Risk Assessment and Management (CFRAM) study details that while City Quay along the River Liffey and Pearse Street are subject to upto 10% Tidal AEP Events, all four routes are outside the River Liffey Fluvial Flood Extents. Ringsend and Irishtown are also detailed in the Dodder CFRAM as being protected by flood defences along the Dodder River.

These events will be taken into consideration when developing the Scheme, while it is also noted that flood assessments and improvement works have since been implemented in recent years including the Dodder CFRAM study and the Eastern CFRAM Study.

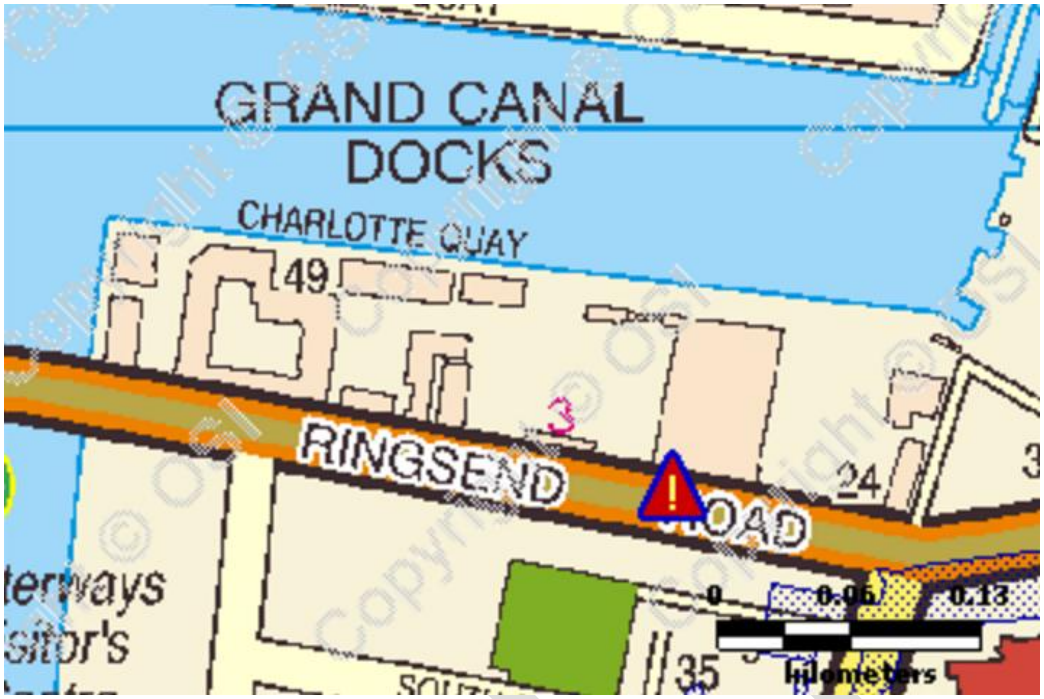

Plate 3.10 Location of flooding event on Ringsend Rd in 1963

Plate 3.11 Dublin tidal flooding along Irishtown Rd in 2002

4.0 CONCLUSION

The proposed Scheme will be developed along an urban, well developed area of artificial landscaping, which has minimal biodiversity value at present. The Scheme does not border any Natura 2000 site however it does cross the Grand Canal pNHA. Due to the small scale nature of works required, with appropriate timing of works, the scheme is not likely to impact on any designated sites. Bridge improvement works on Grand Canal Bridge or Ringsend Bridge should not cause any significant effects, once the NRA/TII EACGs and the Guidelines for the crossing of Watercourses during the construction of National Road Schemes 2008 are strongly adhered to.

Route option R4 may result in additional effects on the environment as the construction of the proposed bridge from Sir John Rogerson's Quay to York Rd will be required. The likely significant effects of this bridge will be mitigated for in an EIS, or whatever planning route that is adopted.

A bat suitability assessment should be carried out by a bat specialist prior to construction works. A protected mammal survey is not deemed necessary as no suitable habitat is likely to be found onsite. **Due to records of invasive species within the site, a complete invasive species survey will be required for the entire route prior to the commencement of works.**

Any felling of trees required for the works should be undertaken in a series of phases, thus avoiding simultaneous disturbance to breeding birds along the entire length of the project. The felling of trees should be confined to the period 1st September to 28th February and felled trees should be left in-situ for 24 hours prior to removal off site.

Provided that the presented avoidance measures are incorporated into the design of the development, the scheme is not expected to have any appreciable environmental impacts.

5.0 REFERENCES

Chartered Institute of Ecology and Environmental Management (CIEEM), (2016), Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland

Collins, J (ed). (2016), Bat Surveys: Good Practice Guidelines, 3rd Edition, Bat Conservation Trust, London

Dublin City Council, (2013), Dublin City Development Plan, 2011-2017. Written Statement

NRA, (2009), Guidelines for Assessment of Ecological Impacts on National Road Schemes Rev. 2

Appendix A:
Drawing of Proposed Core Bus Corridor Route

Proposed Route Options