APPENDIX D

PRELIMINARY ECOLOGICAL APPRAISAL

PRELIMINARY ECOLOGICAL APPRAISAL

Partick to Govan Footbridge
River Kelvin West Bank Walkway

Prepared for

Glasgow City Council

ch2m

CH2M
City Park, 368 Alexandra Parade, Glasgow G31 3AU
tel 0141 552 2000 fax 0141 552 2525
https://www.ch2m.com/

Contents

Document History

This report has been prepared in accordance with the instructions of the client, Glasgow City Council, for the client's sole and specific use.

Any other persons who use any information contained herein do so at their own risk.

This document has been issued and amended as follows:

Version	Date	Suitability	Created By	Verified by	Approved by
1.0	10.02.17	First issue	A Park	M Roxburgh	C Short

Acronyms and Abbreviations

eDNA	Environmental DNA
EPS	European Protected Species
GCC	Glasgow City Council
GCN	Great Crested Newt
HSI	Habitat Suitability Index
HRA	Habitats Regulations Appraisal
JNCC	Joint Nature Conservation Committee
GLBAP	Glasgow Local Biodiversity Action Plan
GMRC	Glasgow Museums Resource Centre
PEA	Preliminary Ecological Appraisal
SBL	Scottish Biodiversity List
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TN	Target Note

Introduction

1.1 Background

CH2M has been commissioned by Glasgow City Council (GCC) to undertake a Preliminary Ecological Appraisal (PEA) to inform the proposed Partick to Govan footbridge and River Kelvin west bank walkway, hereafter referred to as the 'proposed scheme'. The footbridge and walkway forms part of major redevelopment programmes across the west and south of Glasgow.

The proposed Partick to Govan footbridge has two indicative alignment options:

- Alignment one spans from Govan (NS 55548 65854) to the north bank (NS 55596 66027) opposite the Riverside Museum.
- Alignment two spans from Govan to the Riverside Museum pier (NS 55662 65939).

The proposed walkway (NS 55845 66224) passes under the A814 road and railway line on the west bank of the River Kelvin.

A site plan showing the proposed scheme boundaries is provided in Appendix A.

The majority of the survey area consists of bare ground with the exception of the north bank at the confluence of the River Kelvin and River Clyde. This area offers a relatively diverse habitat, with broadleaved trees, scrub, marginal vegetation and intertidal mudflats, in an otherwise urban environment which has limited ecological value.

This report presents the results of a desk study and site walkover survey undertaken to collect baseline ecological information for habitats and species associated with the proposed scheme. This report also identifies the need for any additional surveys and recommendations.

1.2 Objectives

The approach to establishing the ecological baseline found within this report has been achieved by means of a Preliminary Ecological Appraisal (CIEEM, 2013)[1]. This included the following:

- A desk study investigating designated sites and protected/ notable species records within the local area
- A walkover survey identifying the main habitats on the site and the presence of, or potential for protected/ notable species
- Identification of any further surveys and recommendations.

1 Chartered Institute of Ecology and Environmental Management (2013), Guidelines for Preliminary Ecological Appraisal - Technical Guidance Series, CIEEM 2013

Methodology

2.1 Desk Study

A desktop study was undertaken to establish the location of any designated sites within 2km of the proposed scheme. This information was collected using online sources including, the Joint Nature Conservation Committee (JNCC) website[2] and the Scottish Natural Heritage (SNH) SiteLink website[3].

Protected and notable species records within a 500m radius of the proposed scheme were requested from the Glasgow Museums Resource Centre (GMRC).

An online search of the Glasgow Local Biodiversity Action Plan (GLBAP, 2001)[4] was carried out to highlight priority species and habitats relevant to the proposed scheme.

2.2 Site Survey

The survey was undertaken on the 9th of February 2017 by Melanie Roxburgh BSc (Hons) PGDip ACIEEM MIEnvSc CEnv, CH2M Senior Environmental Consultant, who also holds a personal bat roost licence from Scottish Natural Heritage (SNH) and April Park BSc (Hons) GradCIEEM, CH2M Graduate Ecologist.

Weather conditions during the survey were overcast and cold with frequent snow flurries and a moderate wind.

The survey was carried out in the four areas associated with the proposed scheme (previously described in section 1.1). A site plan showing the four survey areas is provided in Appendix A.

A Phase 1 habitat survey is beyond the scope of this report, however the broad habitats present were classified in accordance with Joint Nature Conservation Committee survey methodology (JNCC, 2010)[5].

Habitats identified on site and any evidence or potential habitat for protected/ notable species are presented as a list of target notes (TN) in Appendix B and are further detailed throughout this report. The presence of any invasive plant species was also target noted.

2.3 Limitations

Populations of animals and plants are often transient in nature and a single survey visit can only provide a general indication of species present on site. No evidence of a species does not necessarily indicate absence. The possibility exists for other species to be present on the site which were not recorded during the survey.

As the survey was carried out in winter this could influence the results of the survey, for example some flowering plant species which grow and flower during spring/ summer may have been missed. This is particularly important for the invasive plant species, Himalayan balsam (*Impatiens glandulifera*), which can be difficult to identify during winter.

Legal and technical limitations which apply to this report are set out in Appendix D.

2 Available at: http://jncc.defra.gov.uk/

3 Available at: https://gateway.snh.gov.uk/sitelink/

4 Available at: https://www.glasgow.gov.uk/CHttpHandler.ashx?id=31719&p=0

5 Joint Nature Conservation Committee (2010), Handbook for Phase 1 Habitat Survey - A Technique for Environmental Audit, Joint Nature Conservation Committee, Peterborough

Results

3.1 Desk Study

3.1.1 Designated sites

Designated sites within 2km of the proposed scheme are presented in **Table 3-1**.

Table 3-1: Statutory and Non-statutory Designated Sites within 2km of the proposed scheme

Designated Site	Distance From Scheme	Details
Statutory		
Inner Clyde Ramsar, Special Protection Area (SPA), Site of Special Scientific Interest (SSSI)	Whilst the Inner Clyde site is over 2km from the proposed scheme (approximately 7km downstream), as it is hydrologically connected to the scheme, the Ramsar, SPA and SSSI may require further consideration.	The JNCC website states[6]: "The Inner Clyde Estuary is located to the west of Glasgow in central west Scotland. Although the Clyde Estuary is heavily industrialised along much of its length, upstream of Gourock Bay and Helensburgh there are very extensive intertidal sand- and mud-flats. These have an abundant invertebrate fauna, the species composition of which has been changing consequent to recent improvements in the quality of water within the estuary. The Inner Clyde Estuary is important for a range of wintering waterbirds, notably Redshank *Tringa totanus*".
Non-statutory		
River Kelvin and River Clyde Green Corridor	Within the proposed scheme.	The Glasgow City Plan Part 2 states[7]: "The green corridors include rivers, streams, canals, hedgerows, trees, railway lines, motorways and trunk roads. These corridors are important features in the landscape and can support a rich biodiversity. They provide links between habitats enabling the movement and dispersal of plants and animals."

3.1.2 Species Records

The relevant protected and notable species records provided by the GMRC are detailed in **Table 3-2**. The data was filtered to only include records from the last 15 years.

The bird records included in **Table 3-2** are species of higher conservation concern and are listed in one or more of the following:

- Annex I species of the EU Birds Directive 2009/ 147/ EC[8]
- Schedule 1 of the Wildlife and Countryside Act 1981[9]
- A qualifying species of the Inner Clyde Ramsar, SPA or SSSI
- Red-listed in the Birds of Conservation Concern[10]
- Scottish Biodiversity List (SBL)[11]

6 Available at: http://jncc.defra.gov.uk/default.aspx?page=1947
7 Available at: https://www.glasgow.gov.uk/CHttpHandler.ashx?id=1696&p=0
8 Available at: http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm
9 Available at: http://jncc.defra.gov.uk/pdf/waca1981_schedule1.pdf
10 Available at: http://www.bto.org/sites/default/files/u12/bocc3.pdf
11 Available at: http://www.biodiversityscotland.gov.uk/advice-and-resources/scottish-biodiversity-list/

- Glasgow Local Biodiversity Action Plan (LBAP)

Table 3-2: Recent records of protected/ notable species within 500m of the proposed scheme (GMRC, 2017).

Species	Nearest Location	Spatial Reference	Most Recent Year Recorded
Birds			
Kingfisher (*Alcedo atthis*)	Kelvingrove; Kelvin, Kelvingrove Park	NS5666	2008
Peregrine falcon (*Falc peregrinus*)	Kelvin to W of Kingston Bridge (N bank); Stobcross Crane	NS5665	2016
Little gull (*Hydrocoloeus minutus*)	Kelvin to W of Kingston Bridge (S bank); Pacific Quay	NS5665	2016
Little ringed plover (*Charadrius dubius*)	Kelvin to W of Kingston Bridge (N bank)	NS5665	2016
Whooper swan (*Cygnus cygnus*)	Kelvin to W of Kingston Bridge; SECC	NS5665	2015
Kestrel (*Falco tinnunculus*)	Kelvin to W of Kingston Bridge (N bank); Stobcross Crane	NS5665	2016
Swift (*Apus apus*)	Kelvingrove; R Kelvin [Partick]	NS561663	2008
Mediterranean gull (*Larus melanocephalus*)	Glasgow Science Centre	NS5665	2014
Kittiwake (*Rissa tridactyla*)	Kelvin to W of Kingston Bridge (N bank)	NS5665	2016
Woodcock (*Scolopax rusticola*)	SECC	NS5665	2014
Common tern (*Sterna hirundo*)	SECC	NS5665	2013
Sandwich tern (*Sterna sandvicensis*)	Kelvin to W of Kingston Bridge (N bank); SECC	NS5665	2016
Other Species			
Sea lamprey (*Petromyzon marinus*)	R Kelvin 01.01: Kelvinhall; Benalder St bridge	NS561663	2009
Roe deer (*Capreolus capreolus*)	in development area at former Partick Bridge Station, Benalder Street	NS561663	2008

3.1.3 Glasgow Local Biodiversity Action Plan (GLBAP)

The following species are included in the Glasgow Local Biodiversity Action Plan and are considered potentially relevant to the scheme, therefore require further consideration:

- Swift
- Palmate newt (*Lissotriton helveticus).*

3.2 Site Survey

3.2.1 Habitat Descriptions

The following Phase 1 habitats were identified within the during the walkover survey:

- Amenity grassland
- Bare ground
- Broadleaved plantation woodland
- Broadleaved trees
- Marginal vegetation
- Running water
- Scrub
- Standing water
- Tall ruderal vegetation

The following describes the Phase 1 habitats that were identified within the four survey areas and should be read in conjunction with the target notes (see Appendix B).

The site plan provided in Appendix A shows the location of the target notes within the survey areas.

Running water (common to all four survey areas)

Both indicative footbridge alignments are located at the confluence of the River Clyde and the River Kelvin. The proposed west bank walkway runs parallel with the River Kelvin approximately 250m upstream of the confluence. These rivers are noted as green corridors as they support a variety of wildlife and provide a means of connecting habitats. Within the survey area, habitat alongside the River Kelvin and River Clyde is limited due to the hard-engineered bankside however, the north bank survey area includes some marginal vegetation and intertidal mudflats.

3.2.1.1 North bank

Marginal vegetation

The River Clyde bankside has a narrow band of damaged marginal vegetation which borders an area of intertidal mudflats. An abundance of litter and debris is present amongst the vegetation (TN1).

Broadleaved trees

Beyond the mudflats and marginal vegetation, the bankside is dominated by a line of immature alder (*Alnus glutinosa*) and birch (*Betula* spp.) trees with an understorey of dense brambles (*Rubus fructicosus*) and common nettles (*Urtica dioica*). Stands of the invasive plant species, giant hogweed (*Heracleum mantegazzianum*), were also recorded along the bankside (TN2).

Ephemeral/ short perennial

The survey area is dominated by this habitat type which is composed of resilient grass species such as, false oat grass (*Arrhenatherum elatius*), cock's-foot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*). Other species included ribwort plantain (*Plantago lanceolata*) and creeping buttercup (*Ranunuculus repens*). Rushes (*Juncus* spp.) and a carpet of moss have colonised in areas where the ground is damp.

Standing water

A small pond surrounded by grass and a layer of moss was identified within the survey area (TN3).

Scattered scrub

Scattered scrub, predominantly buddleia (*Buddleja davidii*), broom (*Cytisus scoparius*), willow (*salix* spp.) and broadleaved saplings, are present throughout the survey area.

Tall ruderal vegetation

An area of teasel (*Dipsacus* sp.) is present along the bank edge that runs parallel to River Kelvin (TN4).

3.2.1.2 River Kelvin West Bank Walkway

Bare ground

The survey area is dominated by bare ground which forms the existing stretch of riverside walkway which passes under the A814 road (TN5).

Dense Scrub

An area of dense buddleia is present at the entrance to the walkway.

Broadleaved plantation woodland

A small patch of broadleaved plantation is present between the A814 road and the railway.

3.2.1.3 Govan

Bare ground

The survey area is dominated by pavement (TN6).

Ephemeral/ short perennial

This habitat type is present beyond the fence line, surrounding the former vehicle ferry ramp. Plant species include: resilient grass species, brambles and rosebay willow herb (*Chamerion angustifolium*) (TN7). An abundance of litter is present amongst the vegetation.

Amenity grassland

Small patches of amenity grassland associated within the surrounding residential houses are within the survey area.

3.2.1.4 Riverside Museum Pier

Bare ground

The survey area is comprised of pavement that surrounds the Riverside Museum.

3.2.2 Species

The following describes the protected/ notable species recorded within the survey areas (i.e. field signs identified) and those which could potentially occur on site due to the presence of suitable habitat (see Appendix B for target notes):

Breeding Birds

All trees, scrub and marginal vegetation within the north bank survey area could provide nesting habitat for a range of breeding bird species, along with foraging opportunities. Whilst the marginal vegetation alongside the River Clyde was in poor condition during the survey, it may provide suitable nesting, roosting and foraging habitat for waterbirds once re-established in spring/ summer.

Non-breeding birds

The intertidal mudflats and marginal vegetation alongside the River Clyde on the north bank could provide foraging and roosting habitat for a variety of non-breeding waterbirds during the winter. The area is known to support roosting cormorants during low tide and a single cormorant was sighted on the mudflats during the survey, along with two mallards (*Anas platyrhynchos*) and a moorhen (*Gallinula chloropus*).

Amphibians

No amphibian records within 500m of the proposed scheme were provided by GMRC. The small pond identified within the survey area could provide potential breeding habitat for common frog (*Rana temporaria*) and common toad (*Bufo bufo*) during the spring/ summer if the waterbody is a permanent feature. However, the pond is considered unsuitable for newts given the lack of submerged/ emergent vegetation which newts require for laying their eggs.

In particular the waterbody is considered unlikely to support great crested newts (a European Protected Species (EPS)) given the geographical location, urban setting and isolated nature of the pond.

Rock piles, a common feature within the survey area, may provide potential hibernating sites for common frog and toad during the winter months.

Otter

No otter records within 500m of the proposed scheme were provided by GMRC. During the survey, no signs of otter (e.g. spraints, holts, footprints) were recorded. Generally, otter habitat is limited due to the hard-engineered banksides of the River Kelvin and River Clyde however, the marginal vegetation along the River Clyde bankside has the potential to provide some shelter for commuting otter.

Badgers

No badger records within 500m of the proposed scheme were provided by GMRC. During the survey no evidence of badger (e.g. badger setts, paths, footprints, latrines) was recorded. The survey area is considered unsuitable for badger given the isolated nature of the site and limited foraging and sett building habitat. A prominent mammal path was recorded within the north bank survey area (TN8) however, the path was likely created by common species of mammal such as, red fox (*Vulpes vulpes*) and roe deer.

Water vole

No water vole records within 500m of the proposed scheme were provided by GMRC. During the survey, no signs of water vole (e.g. burrows, runs, latrines, feeding remains) were identified. The survey area is considered unsuitable for the species given the hard-engineered banksides, limited marginal vegetation and tidal nature of the site.

Bats

No bat records within 500m of the proposed scheme were provided by GMRC. The broadleaved trees present along the River Clyde bankside (north bank survey area) are immature and did not possess any features (e.g. cracks or crevices) that could support roosting bats. Bats also roost in man-made structures (e.g. buildings and bridges) however, no suitable structures are present within the survey area.

Foraging habitat is limited within the survey area, restricted to the line of broadleaved trees along the River Clyde bankside and scattered scrub within the north bank survey area. Daubenton's bats (*Myotis daubentonii*) may forage over the River Kelvin however, given the existing disturbance from the A814, they are likely to forage further upstream.

Relevant Legislation

Listed below is various wildlife legislation which has been considered within this report:

- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
- Wildlife & Countryside Act 1981 (as amended)
- Protection of Animals Act 1911
- Wildlife and Environment (Scotland) Act 2011

More detail on the above legislation with respect to the protected/ notable species relevant to the proposed scheme are provided in Appendix C.

Recommendations

The following recommendations are made to help manage any potential risks to ecological features on the site, inform the development of the scheme options, any appropriate mitigation and enhancement measures, the environmental impact assessment (if required) and possible ecological consenting requirements.

5.1 Statutory Designated Sites

The Inner Clyde (Ramsar, SPA, and SSSI) is located approximately 7km from the scheme boundary however, despite the distance of the proposed footbridge and walkway, the scheme is hydrologically connected to the Inner Clyde site.

Non-breeding redshank (*Tringa totanus*) is a qualifying feature of the Inner Clyde SPA and Ramsar site and could utilise habitat within the survey area (i.e. intertidal mudflats).

The Inner Clyde SSSI is designated for a range of non-breeding water birds which could also roost and forage within intertidal mudflats, including: cormorant, eider (*Somateria mollissima*), goldeneye (*Bucephala clangula*), oystercatcher (*Haematopus ostralegus*), red-breasted merganser (*Mergus serrato*r) and red-throated diver (*Gavia stellata*).

Consultation with key stakeholders is recommended to determine if targeted surveys are required for these qualifying species. In addition, there is the potential requirement to carry out a Habitats Regulations Appraisal (HRA) for the Inner Clyde SPA, given the sites hydrological connection to the scheme. This should be discussed in consultation with Scottish Natural Heritage (SNH).

5.2 Habitats

It is recommended that impacts on trees, scrub, marginal vegetation and mudflats are avoided where possible to limit impacts to these habitat types and the species that utilise them.

5.3 Species

Breeding birds

All wild birds in the UK are protected by the Wildlife and Countryside Act, 1981 (as amended).

All trees, scrub and marginal vegetation within the survey area could provide nesting and habitat for a range of breeding bird species, along with foraging opportunities.

No specific surveys are recommended for breeding birds. However, to avoid negative impacts on breeding birds it is recommended that vegetation clearance is not carried out during the breeding bird season (March to August inclusive) and, with consideration of other species, any suitable bird habitat should be removed out with the breeding season.

Non-breeding birds

The intertidal mudflats and marginal vegetation alongside the River Clyde on the north bank could provide foraging and roosting habitat for a variety of non-breeding waterbirds during the winter, notably cormorants.

Alignment option one could directly impact the marginal vegetation and mudflat habitat alongside the River Clyde (north bank survey area), therefore if alignment option one is selected, over-wintering bird surveys should be carried out prior to construction to help understand the importance of the area. Survey results will inform appropriate mitigation measures, if required.

Otter

Otter and their place of shelter are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Under this legislation, otters are classed as European Protected Species (EPS) and are given the highest level of protection.

No evidence of otter was recorded during the survey and limited sheltering habitat is available within the survey area however, there is some potential habitat along the River Clyde bankside (north bank survey area) where marginal vegetation is present which could provide shelter for commuting otter.

A pre-construction otter survey should be carried out in all suitable habitat across the survey area and within 200-250m of the scheme boundary to ensure no otter shelters are within proximity of the proposed scheme.

Amphibians

Great crested newts

Great crested newts (GCN) are a European Protected Species. In Scotland, GCN, their breeding ponds and resting places are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

Whilst the pond identified in the north bank survey area is unlikely to be suitable for breeding GCN, given their high conservation status, it is recommended the pond is assessed for its potential to support GCN using the Habitat Suitability Index (HIS) methodology. If the waterbody is assessed as being suitable, surveys will be required (possibly including eDNA sampling) to determine presence/absence.

Common frog and common toad

Prior to construction, a visual check of any ponds in close proximity to the scheme boundary is recommended during the main amphibian breeding season (March to June). This will determine if any ponds identified support breeding amphibians and, if so, works should be scheduled out with the breeding season. If this is not possible, amphibians and their spawn should be removed and placed in a waterbody unaffected by works.

If destruction of ponds is necessary, this should be undertaken during the winter months (November to February) to reduce the impact on amphibian populations (i.e. avoid breeding season). Occasionally, common frogs and toads hibernate in mud at the bottom of waterbodies therefore, drainage methods should minimise the risk of injury or mortality to hibernating amphibians.

Potential hibernation sites (e.g. rock piles) should not be removed during the winter months (November to January) to prevent injury or mortality to hibernating amphibians. Rock piles may also provide shelter for amphibians during the active period (February to October) therefore, these features should be removed by hand to prevent injury or mortality.

Invasive plant species

A walkover survey at a more optimum time of year (spring to autumn) is recommended (possibly in combination with surveys for other receptors e.g. otter) to identify the extent of giant hogweed on the River Clyde bankside and record any additional invasive plant species.

Conclusions

A desk study and site walkover survey has been undertaken to inform the proposed Govan to Partick footbridge and River Kelvin west bank walkway.

The majority of the survey area consists of bare ground with the exception of the north bank at the confluence of the River Kelvin and River Clyde. This area offers a relatively diverse habitat (e.g. broadleaved trees, scrub, grasses and mudflats) in an otherwise urban setting which has limited ecological value. It is recommended that impacts on these habitats are avoided where possible to limit negative impacts to these habitat types and the species they support.

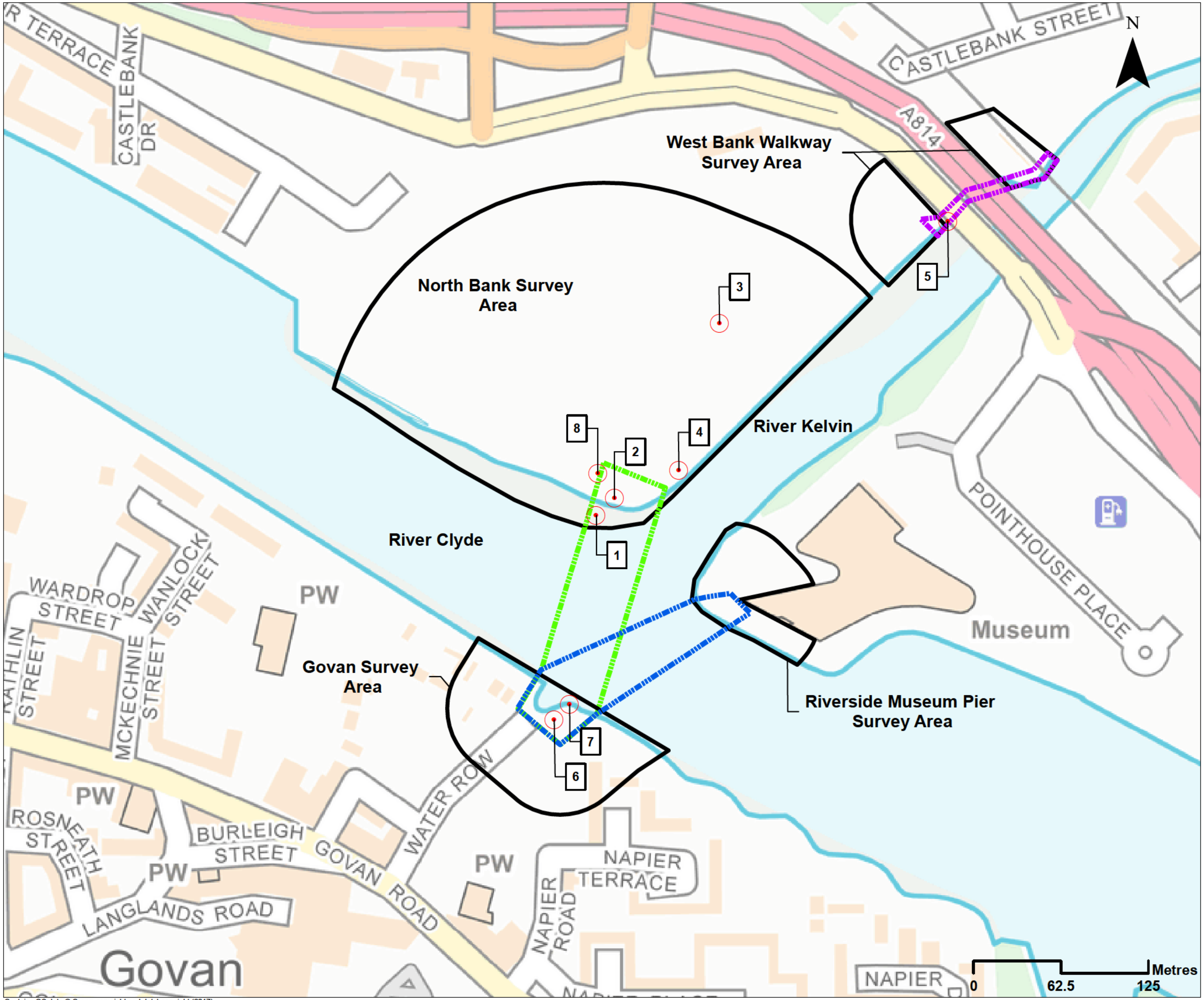
Table 6-1 summarises the likely presence or absence of species within the survey area and recommended action.

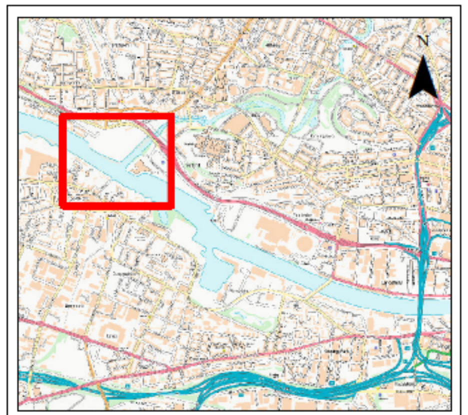
Table 6-1: Likely presence/ absence of species within the survey area

Ecological Feature	Likely presence/ absence within study area and recommended action
Breeding birds	All trees, scrub and marginal vegetation within the survey area could provide nesting habitat for a range of breeding bird species. Provided works which disturb or remove vegetation are undertaken out with the breeding season (March to August inclusive) no specific surveys have been recommended.
Non-breeding birds	The intertidal mudflats and marginal vegetation alongside the River Clyde on the north bank could provide foraging and roosting habitat for a variety of non-breeding waterbirds during the winter, notably cormorants. Alignment option one could directly impact the marginal vegetation and mudflat habitat alongside the River Clyde, therefore if alignment option one is selected, over-wintering bird surveys should be carried out prior to construction to help understand the importance of the area. Survey results will inform appropriate mitigation measures, if required.
Otter	No evidence of otter was recorded during the survey and limited otter habitat is available within the survey area due to the hard-engineered banksides of the river throughout most of the survey area. However, the north bank survey area offers some potential sheltering habitat along the River Clyde bankside where marginal vegetation is present. A pre-construction otter survey should be carried out in all suitable habitat across the survey area and within 200-250m of the scheme boundary to ensure no otter shelters are within proximity of the proposed bridge and walkway. Optimal survey time: All year round, however dense vegetation cover and after periods of heavy rainfall will limit results.
Amphibians	A small pond was identified within the north bank survey area which could support breeding amphibians, notably common frog and toad. Prior to construction, a visual check of any ponds in close proximity to the scheme boundary is recommended during the amphibian breeding season (March to June).
Great crested newts	A small pond was identified within the north bank survey area. Whilst the pond is unlikely to be suitable for breeding GCN, given their high conservation status, it is recommended the pond is assessed for its potential to support GCN using the Habitat Suitability Index (HIS) methodology. If the waterbody is assessed as being suitable, surveys will be required (possibly including eDNA sampling) to determine presence/absence. Optimal survey time: mid-April to end of June.
Badger	No signs of badger were recorded during the survey. The survey area is considered unsuitable for badger given the isolated nature of the site and limited foraging and sett building habitat.

Ecological Feature	Likely presence/ absence within study area and recommended action
	No further surveys are recommended.
Water vole	No signs of water vole were recorded during the survey. The survey area is considered unsuitable for the species given the hard-engineered banksides, limited marginal vegetation and tidal nature of the River Kelvin and River Clyde. No further surveys are recommended.
Bats	No trees or structures within the survey area provided bat roost potential. Foraging habitat is also limited within the survey area, restricted to the line of broadleaved trees along the River Clyde bankside and scattered scrub within the north bank survey area. Daubenton's bats may forage over the River Kelvin however, given the existing disturbance from the A814, they are likely to forage further upstream. No further surveys are recommended.
Invasive species	In the north bank survey area giant hogweed was identified on the River Clyde bankside. A walkover survey is recommended (possibly in combination with surveys for other receptors) to identify the extent of giant hogweed on the River Clyde bankside and record any additional invasive plant species. Optimal survey time: Spring to Autumn.
Inner Clyde Ramsar, SPA and SSSI qualifying species	Non-breeding redshank (*Tringa totanus*) is a qualifying feature of the Inner Clyde SPA and Ramsar site. The Inner Clyde SSSI is designated for a range of non-breeding water birds, including: cormorant, eider (*Somateria mollissima*), goldeneye (*Bucephala clangula*), oystercatcher (*Haematopus ostralegus*), red-breasted merganser (*Mergus serrato*r) and red-throated diver (*Gavia stellata*). These species could utilise habitat within the survey area (i.e. intertidal mudflats). Consultation with key stakeholders is recommended to determine if targeted surveys are required for these species. The potential requirement to carry out a Habitats Regulations Appraisal (HRA) for the Inner Clyde site should be discussed with SNH.

Appendix A Site Plan





Legend

- Alignment Option 2 Boundary
- Alignment Option 1 Boundary
- West Bank Walkway Boundary
- Ecological Survey Areas
- Ecological Target Note
- 1 Target Note ID

SCALE 1:2500

REV	SUIT	DATE	DESCRIPTION	BY	APP

ch2m:

City Park 368 Alexandra Parade Glasgow G31 3AU
Tel + 44 (0) 141 552 2000 Fax +44 (0) 141 552 2525

Glasgow CITY COUNCIL

PARTICK - GOVAN FOOTBRIDGE & RIVER KELVIN WEST BANK WALKWAY SITE PLAN WITH ECOLOGICAL TARGET NOTES

DESIGN: AP	DRAWN: HA	CHK: AP	APP: CS

DATE: 16/02/2017

PROJ: 201174

DWG: SITE PLAN WITH TARGET NOTES

SHEET: 1 of 1	REVISION: P01	SUITABILITY:

Document Path: C:\Users\HA029457\Desktop\Partick Footbridge\Drawing.mxd

Appendix B Target Notes

Target Note 1

Damaged marginal vegetation which borders the mudflats on the River Clyde bankside located at grid reference NS 55582 66011

Target Note 2

Giant hogweed on River Clyde bankside located at grid reference NS 55591 66012

Target Note 3

Small pond located at approximate grid reference NS 55666 66137

Target Note 4

Area of teasel at grid reference NS 55637 66032.

Target Note 5

Existing stretch of walkway along the west bank of the River Kelvin located at grid reference NS 55829 66210

Target Note 6

Location of the proposed footbridge landing in Govan. A paved area located at grid reference NS 55548 65854.

Target Note 7

Vegetation beyond the fence line of surrounding the former vehicle ferry ramp located at grid reference NS 55559 65865.

Target Note 8

Prominent mammal path located at approximate grid reference NS 55579 66030

Appendix C Legislation

Otter

Otters and their place of shelter are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), which is also referred to as 'the Habitats Regulations'. Under this legislation, otters are classed as European Protected Species) and are given the highest level of protection. It is an offence to deliberately or recklessly:

- capture, injure or kill an otter
- harass an otter or group of otters
- disturb an otter in a holt or any other structure or place it uses for shelter or protection;
- disturb an otter while it is rearing or otherwise caring for its young
- obstruct access to a holt or other structure or place otters use for shelter or protection or to otherwise deny the animal use of that places
- disturb an otter in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species
- disturb an otter in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young.

It is also an offence to:

- damage or destroy a breeding site or resting place of such an animal (note that this does not need to be deliberate or reckless to constitute an offence);
- keep, transport, sell or exchange or offer for sale or exchange any wild otter or any part or derivative of one (if obtained after 10 June 1994).

Birds

All wild birds in the UK are protected by the Wildlife and Countryside Act, 1981 (as amended). It is an offence to intentionally or recklessly:

- kill, injure or take a wild bird
- take, damage, destroy or interfere with a nest of any wild bird whilst it is in use or being built (or at any time for a nest habitually used by any bird listed in Schedule A1
- obstruct or prevent any wild bird from using its nest
- take or destroy an egg of any wild bird
- disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young, or whilst lekking
- disturb the dependent young of any wild bird listed on Schedule 1
- harass any wild bird listed on Schedule 1A

It is also an offence to possess or control a live or dead wild bird, an egg of a wild bird (or any such derivatives), or to knowingly cause or permit any of the above acts to be carried out.

Great crested newt
Great crested newts (GCN) are European Protected Species. In Scotland, GCN, their breeding ponds and resting places are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). It is an offence to deliberately or recklessly:

- capture, injure or kill a wild animal of these species
- disturb such animals whilst using any structure or place it uses for shelter or protection (e.g. a breeding pond, a hibernation site)
- obstruct access to a breeding site or resting place of such an animal or to otherwise deny the animal use of that site
- disturb such an animal in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of that species
- disturb such an animal in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young.

It is also an offence to:

- damage or destroy a breeding site or resting place of such an animal (note that this does not need to be deliberate or reckless to constitute an offence);
- keep, transport, sell or exchange or offer for sale or exchange any of these species or any part or derivative of one (if obtained after May 1994).

Please note the legislation above is a summarised list taken from the SNH website (SNH, 2016). For a definitive list of offences please refer to the actual legislation at legislation.gov.uk.

Common frog and toad
These widespread species of amphibian receive partial protection under the Wildlife and Countryside Act 1981 (as amended) against sale, barter, exchange, transporting for sale and advertising to sell or to buy. All amphibians held in captivity are covered by the Protection of Animals Act 1911 which prohibits cruelty and ill-treatment of animals

Invasive Plants
In Scotland**,** under the Wildlife and Environment (Scotland) Act 2011 it is an offence to plant or otherwise cause the growth of specific invasive plant species, such as giant hogweed

Appendix D Legal and Technical Limitations

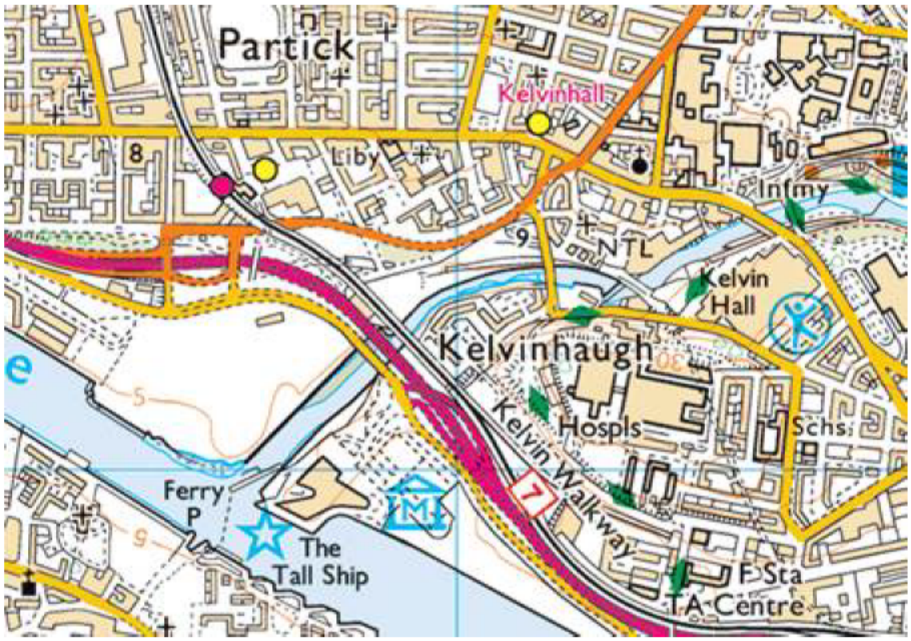
- This report has been prepared by CH2M with all reasonable skill, care and diligence within the terms of the contract made with the Client (**The Glasgow City Council**) to undertake this work, and taking into account the information made available by the Client. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us.
- CH2M disclaims any responsibility to the Client and others in respect of any matters outside the scope of this contract. This report is confidential to the Client and is not to be disclosed to third parties. If disclosed to third parties, CH2M accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any third party relies upon the contents of this report at their own risk and the report is not to be relied upon by any party, other than the Client without the prior and express written agreement of CH2M.
- The advice provided in this report does not constitute legal advice. As such, the services of lawyers may also be considered to be warranted.
- Unless otherwise stated in this report, the assessments made assume that the sites and facilities that have been considered in this report will continue to be used for their current planned purpose without significant change.
- All work carried out in preparing this report has utilised and is based upon CH2M's current professional knowledge and understanding of current relevant UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and may cause any conclusions to become inappropriate or incorrect. CH2M does not accept responsibility for advising the Client or other interested parties of the facts or implications of any such changes;
- This report has been prepared using factual information contained in maps and documents prepared by others. No responsibility can be accepted by CH2M for the accuracy of such information;
- Any works undertaken as a consequence of the recommendations provided within this report should be subjected to the necessary health & safety checks and full risk assessments.

PREPARED FOR:	Glasgow City Council
COPY TO:	-
PREPARED BY:	April Park (Graduate Ecologist)
DATE:	24.01.18
PROJECT:	Partick to Govan Footbridge and River Kelvin West Bank Walkway
TITLE:	Addendum to Preliminary Ecological Appraisal (2016) – Potential for fish species within the proposed Ground Investigation (GI) works area
DOCUMENT REF:	-

1.0 Introduction

This technical note provides a brief overview of the potential for fish species (e.g. Atlantic salmon, trout, eels and lamprey) at different life stages within the stretch of the River Kelvin and River Clyde where the proposed GI works, carried out to inform the Patrick to Govan footbridge, are being undertaken.

1.1 Spawning/ Juvenile Habitat



(Streetmap, 07/11/2017)

According to the OS map above (scale 1:50,0000) the stretch of the River Kelvin and River Clyde where GI works are proposed is tidal (highlighted by the solid black line around the banks of the watercourses); therefore, this area is unlikely to provide suitable spawning or juvenile habitat for the species previously mentioned.

1.2 Adult Habitat

Whilst the area where GI works are proposed is unsuitable for spawning/ juvenile fish, Atlantic salmon *etc.* may pass through this area during their migration upstream/ downstream.

1.1 Recommendations

GI works within the River Kelvin and River Clyde should be carried out in line with the following guidance provided by a Fish Ecologist from the Scottish Environmental Protection Agency (SEPA)[1]:

Partick to Govan Footbridge and River Kelvin Walkway – proposed GI works

[1] Sent from Peggy Shelbourne (SEPA) to Susan Leitch (CH2M) on the 15.01.18

The previous restrictions between April and October would have been suggested to protect both upstream and downstream migration of salmonids along with eel and lamprey but SEPA is willing to relax this if some mitigation measures can be put in place.

The main upstream migration of salmonids would occur between July and October and we would still like a moratorium on drilling/piling during this period. We could still see upstream salmonid migration earlier than this but it is likely the numbers will be low and the bigger issue is downstream smolt migration between April and June (peaking in May). However, although smolts migrate during the day as well as at night time, they do prefer to migrate under the cover of darkness so SEPA is happy for operations to proceed during the months of April, May and June providing these are for a maximum of 8 hours during daylight. We would also ask that any drilling/piling utilises low noise equipment and technology (can details be provided please) and begins with a period of low noise to discourage fish before gradually increasing to the required working levels.

Rising river levels will stimulate migration so we would ask for any drilling/piling to cease during extended periods of heavy rainfall where an obvious increase in water level is evident.

These measures should ensure sufficient protection is offered to migrating salmonids as well as other species such as eels and lamprey. SEPA is happy for boreholes 19 and 20 to remain in the plan if necessary.

City Park
368 Alexandra Parade
Glasgow
G31 3AU
United Kingdom
+44 (0) 141 552 2000
www.ch2m.com

Marine Scotland
Mailpoint 11
1B South
Victoria Quay
EDINBURGH
EH6 6QQ

2 March 2017

Dear Sirs,

Proposed Pedestrian Bridge across the River Clyde
Request for Environmental Impact Assessment Screening Opinion

CH2M were commissioned by Glasgow City Council (GCC) in December 2016 to design a new foot/cycle bridge over the River Clyde to connect Partick and Govan at the location of the confluence of the River Kelvin with the River Clyde. The purpose of the crossing is to increase the connectivity between these two areas. Additionally the provision of a new west bank walkway alongside the River Kelvin below the Pointhouse Road, Clydeside Expressway and Argyle Railway Line, is included within this scheme to connect proposed/ongoing developments and provide significantly improved pedestrian and cycle connectivity, between the river and the west end of the city.

We are exploring two options for the northern footing of the bridge, with landing sites on the east bank of the River Kelvin adjacent to the Riverside Museum and on the west bank of the River Kelvin on land owned by Peel Holdings Limited currently under consideration (see figure 2). We will only be progressing with one of these options for the final design. The same construction method/layout proposed would be used for either bridge option.

As part of the initial feasibility design phase of the project we are writing to request a formal screening opinion from Marine Scotland to determine whether or not an Environmental Impact Assessment (EIA) will be required under the Environmental Impact Assessment (Scotland) Regulations 2011.

The following documents and information are included with this letter:

- Location Plan (Figure 1)
- Bridge Options Boundary Plan (Figure 2)
- Walkway Boundary Plan (Figure 3)
- Environmental Designations Plan (Figure 4)
- Possible Compound Locations Plan (Figure 5)

Site Description

The Site is located on the River Clyde at the confluence with the River Kelvin, see Figure 1 below.

Figure 1: Location Plan

The application site falls into three areas;

- the **south bank of the River Clyde** at the vicinity of Govan Cross (see Figure 2)
  - The south bank is open public space comprising the south riverside walkway and historical quay wall infrastructure and is part of the Govan Conservation Area;
- the **areas of the east and west banks of the River Kelvin** at its confluence with the River Clyde on the opposite bank of the river (see Figure 2)
  - North-East landing area
    The north east bank is open public space comprising the grounds of the Riverside museum and the Glennlee tall ship along with new quay walls
  - North-West landing area
    The north-west bank is a derelict brownfield site and the former site of historical ship building slipways which have since been in-filled. The site is earmarked for a significant mixed-use development; and
- further north up the River Kelvin on the **west bank of the River Kelvin**, under the Pointhouse Road, Clydeside Expressway and railway bridges (See Figure 3)
  - The walkway site beneath the existing Clydeside Expressway and Rail bridges is currently semi-derelict and features several sections of inaccessible and disjointed public footpath.

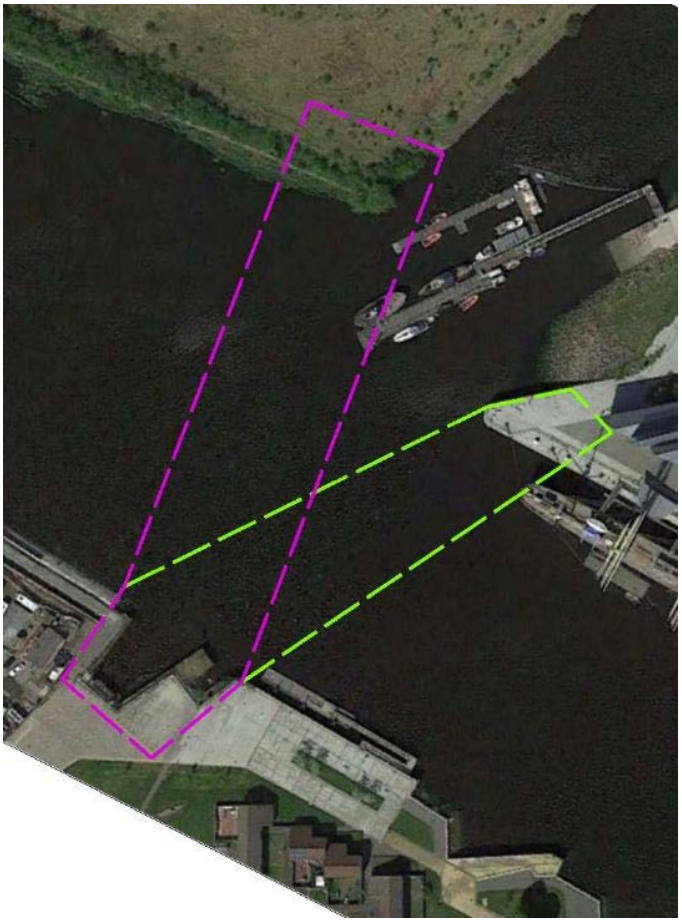


Figure 2: Bridge Options Boundary Plan

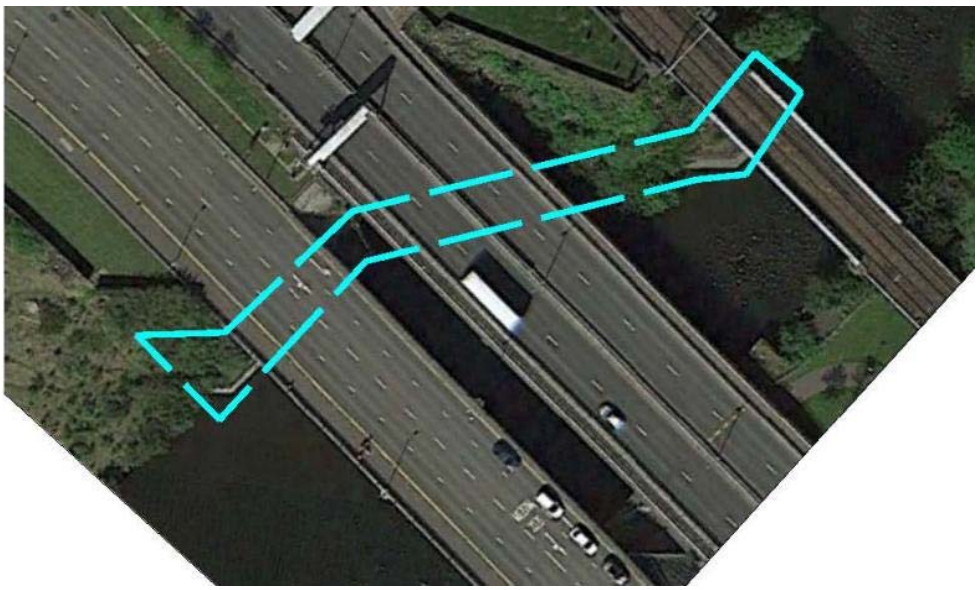


Figure 3: Walkway Boundary Plan

Location of Proposed Development

No part of the proposed development will be located within a 'sensitive area' as defined in the regulations.

Figure 4 below shows the environmental designations in proximity to the scheme. There are no international or national designated sites for example, Ramsar sites, Special Protection Areas (SPA), Special Areas of Conservation (SAC) or Sites of Special Scientific Interest (SSSI), within 2km of the scheme.

However, the scheme is hydrologically connected to the Inner Clyde Ramsar, SPA, and SSSI site located approximately 7km downstream of the proposed scheme. The Inner Clyde Ramsar and SPA is designated for non-breeding redshank (Tringa tetanus). The Inner Clyde SSSI is designated for a range of non-breeding water birds including, oystercatcher (Haematopus ostralegus) and red-throated diver (Gavia stellata). Consultation with Scottish Natural Heritage will be undertaken to discuss the potential requirement to carry out a Habitats Regulations Appraisal (HRA) for the Inner Clyde SPA.

The River Clyde and the River Kelvin are also designated as part of the City-Wide Sites of Importance for Nature Conservation (C-SINC). City-wide SINCs display the qualities of the very best wildlife sites in the City. The area is also designated as a Green Corridor. It is not considered that the proposals will compromise the biodiversity or the integrity of the green corridor/C-SINC.

There is potential for European and UK protected species to be present within or in proximity to the scheme, particularly on the North-West landing area which offers a relatively diverse habitat in an otherwise urban setting. This area could provide habitat for otter, nesting birds and over-wintering birds. Consultation with Scottish Natural Heritage and Glasgow City Council's Biodiversity Officer will be undertaken, and targeted ecological surveys will be commissioned, to inform mitigation and minimise potential impacts on habitats and species in proximity to the scheme notwithstanding that there is an existing planning consent for mixed-use redevelopment of the site.

The location of the southern landing of the proposed footbridge falls within the **Govan Conservation Area**. The 'Govan Conservation Area Appraisal and Management Plan' notes:

"With the development of the Riverside Museum on the north side of the River Clyde there is a newly revived entry point into the conservation area, currently provided by a ferry link available in summer months."

It continues to state that lack of connectivity to the north has "*isolated the town centre and contributed to a loss of vitality*" and notes that a new connection would provide a permanent entry point from the north, which would be a positive contribution to the area. Care will be taken within the design to incorporate the new footbridge sensitively and appropriately into the existing environment.

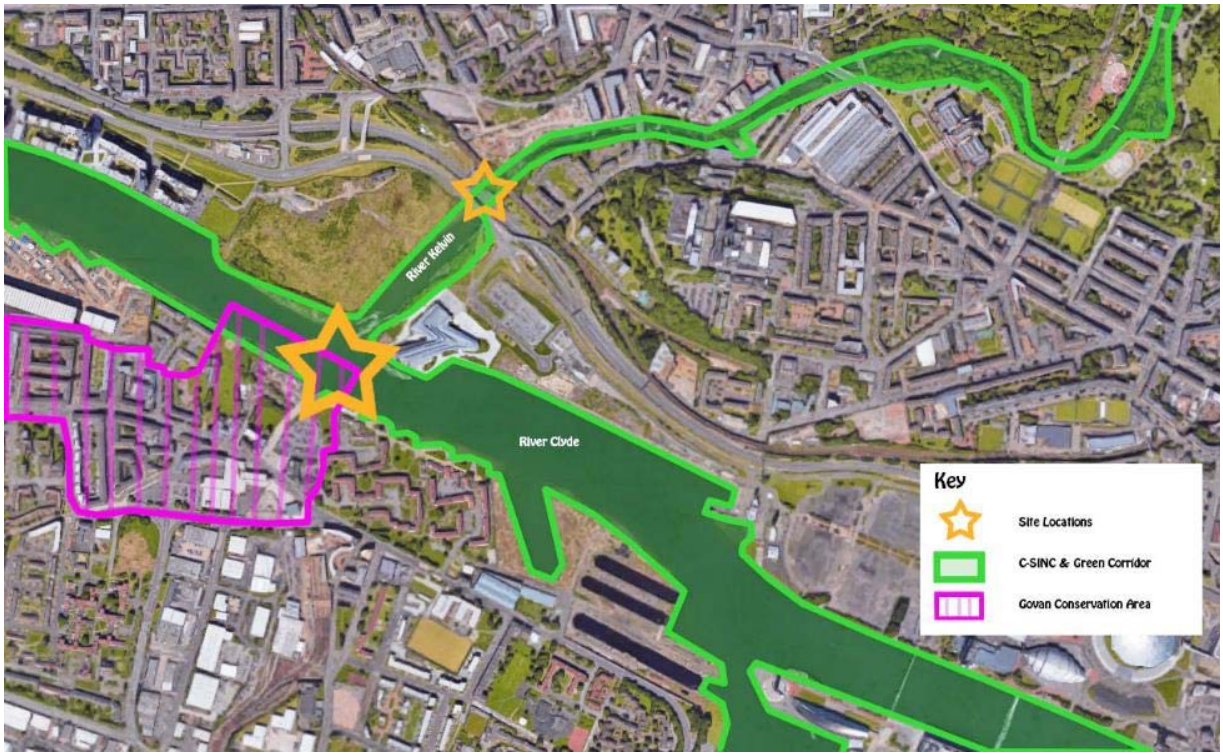


Figure 4: Designations

Characteristics of Proposed Development

In the current situation when considering cross-river movement between the wider Govan area and the wider Partick/Hillhead area, Bells and Millenium bridges at Finnieston and the Clyde Tunnel at Whiteinch provide the nearest fixed crossing points. There is a clear gap in connectivity across the River Clyde in the vicinity of Govan and Partick which could be alleviated by a new cycle/ footbridge.

Footbridge

A 5-7m wide footbridge with an opening section approximately 70m long to provide navigation clearance over the Clyde is proposed. The bridge will most likely be three span comprising two abutments at the north and south quay walls and piers in the river straddling the 70m opening span. The opening span, powered either by hydraulics or electrical motors, will either lift or rotate the central span out of the navigation channel. The span arrangement is likely to be (as a function of the Clyde's width) ¼ backspan, ½ main span (75m opening), ¼ backspan.

The abutments supports will likely comprise small concrete abutments located at the top of river banks above MHWS supported on a number of driven steel or bored concrete piles. In the river, the piers will comprise precast concrete shells supported on driven steel piles and in-filled with concrete to complete the structural connection

As noted previously, we are considering two options for the north bank landing location. Only one of these options will be taken forward to detailed design.

Construction

The bridge will largely be constructed using river-based marine plant on barges. With temporary driven steel piles placed in the river to moor against during construction. Upon completion of the works, these temporary piles will be extracted from the river. Sub assembly of bridge deck components and storage of plant and materials will likely be undertaken in the open area of land to the east of the Riverside

museum on the north bank. Site clearance and land side works at the landing points will be very limited in size and scope.

Access Arrangements

South Bank

This landing point is common to both alignment routes and benefits from potentially large temporary working areas for plant and material storage and laydown areas for larger bridge components. Vehicle access to his part of the site is good with Water Row and Napier Road being potential access points, both of which feature open bell mouth junctions and wide footpaths clear of obstacles (lighting columns, bollards etc).

North east landing area

While access into the Riverside Museum from the Clydeside Expressway is good, access to the quay wall area for plant and materials is poor and would likely limit the size of plant available to be used by the Contractor. Moreover, the proximity of the Glenlee tall ship, its visitor centre and the Riverside Museum to the works would likely lead to disruption during construction (noise, dust, public access etc).

North-West landing area

Although requiring coordination and formal agreement between the bridge Contractor and the commercial site developer, access to this area during construction from Castlebank Street would be very good. Subject to negotiation and phasing, a sizable area adjacent to the bridge landing could be established for storage of materials and plant.

Walkway Site

Along its west bank the River Kelvin has a 4m wide pedestrian walkway which is being reopened, cleared and improved between the mouth of the Kelvin and the Benalder Street bridge to provide access from Partick and the west end to the Clyde. Beneath the Clydeside Expressway Bridge a section of missing walkway approximately 50m in length needs to be created. The walkway will be 4m wide comprising a paved surface and pedestrian guardrails and will link between the existing walkways beneath the Pointhouse Road Bridge and the bridge over the Argyle Rail Line.

Construction Options

Options being considered are:

- a lightweight modular walkway system hung from the beams of the Clydeside Expressway bridge;
- a lightweight modular walkway system supported on “stilts” (small diameter circular piles); or
- a row of sheet piles along the outer edge of the proposed walkway in-filled and surfaced over with a pedestrian handrail affixed to the top of the sheet pile wall.

The sheet pile wall solution is the preferred option at this stage as this presents the least technically challenging option.

Access

The River Kelvin Walkway upgrade, is located on the northern edge of the Glasgow Harbour site, approximately 275m north of the proposed bridge landing. Landing the bridge on the Glasgow Harbour site would allow the walkway upgrade to be undertaken from the bridge site. If the footbridge landed at the Riverside Museum, a third standalone site would need to be established to construct the walkway upgrade.

Construction/Compound Requirements

There is likely to be three compound sites, for the different parts of the project:

1. an area for the north bank and walkway works;
2. a second area for the south landing works, which is probably where the permanent compound with cabins and other facilities would be located; and
3. a third temporary laydown area for plant and materials to be lifted onto barges for works in the river.

See figure 5 below for a location plan of these areas.

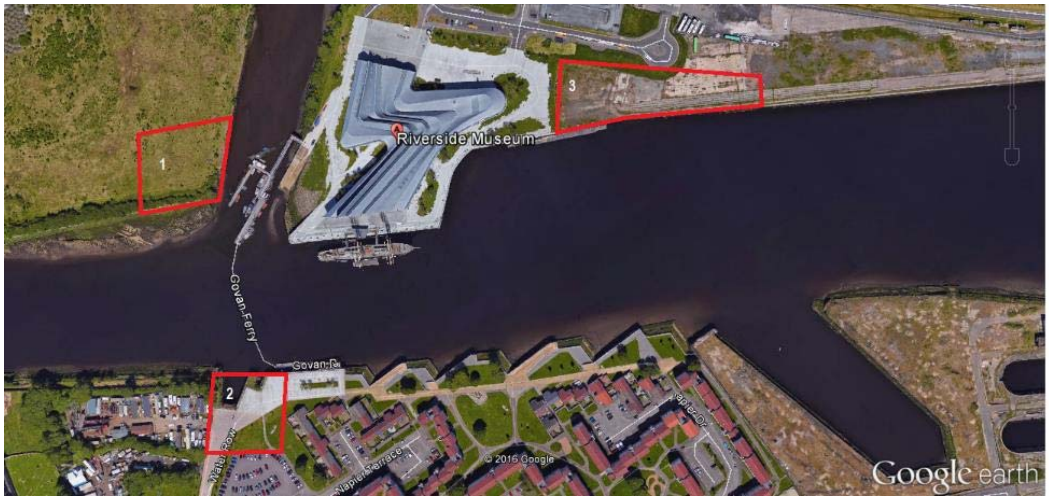


Figure 5: Likely Compound locations

Characteristics of Environmental Impacts

The potential for environmental effects to occur is likely to be greatest during the construction phase of the proposed works. Potential impacts that may occur during this phase of the development include:

- Temporary disturbance of species present within the vicinity of the bridge e.g. birds and otter;
- Disturbance of water habitat as a consequence of temporary piling;
- Construction noise and vibration impacts on neighbouring housing, services and local businesses;
- Temporary increases in traffic flow as a result of construction traffic accessing/egressing the site;
- Nuisance dusts; and
- Potential pollution of groundwater and surface water as a result of accidental pollution events (e.g. release of sediments, greases or fuel oils), including potential impacts on aquatic species.

Due to the temporary duration of the construction works, disturbance due to noise, vibration and traffic impacts identified above are considered to be short-term in their nature and are therefore unlikely to produce any permanent environmental effects. Release of pollutants to ground, groundwater or surface waters would be the result of an accidental event on site and therefore the magnitude and significance of potential impacts is unquantifiable at this time. However, the Pollution Prevention Guidelines developed by SEPA will be followed, which will limit the risk to the water environment.

It is envisaged that the majority of the environmental impacts encountered during the operation of the bridge will be positive, resulting in a prominent landscape feature, which will improve public access and enhance the experience of using both the rivers and paths.

The provision of a pedestrian and cycle bridge at this key location will promote modal shift towards sustainable forms of transport and may reduce the volume of vehicular traffic accessing the proposed mixed use development on the west bank of the Kelvin. This will have a beneficial impact on air quality and public health.

Ambient noise levels during the bridge operation will be largely unaffected, as only pedestrian and cycle access will be allowed. The bridge will have the facility to be opened, but the system will essentially be silent, either electric motors and gears and/or hydraulics.

There is unlikely to be any cumulative impacts from other future local consented projects. The scheme is located adjacent to a proposed mixed use development to the north east, however our proposal is in sync with the principles of this development, and would provide future benefit to the project.

The Case for 'non EIA'

Under the Environmental Impact Assessment (Scotland) Regulations 2011, the proposed works could be defined as Schedule 2 infrastructure projects within the following category:

- 10(b) – Urban Development Projects, where the area of the development exceeds 0.5 hectares

Development of a type listed in Schedule 2 requires EIA if it is likely to have significant effects on the environment by virtue of factors such as its size, nature or location.

It is suggested that the proposed bridge and walkway works will not require a full EIA under the Environmental Impact Assessment (Scotland) Regulations 2011 as the development is unlikely to have any significant environmental effects.

The total maximum boundary for the development area has been calculated as 1.46 hectares, although the actual footprint of the works may fall below the 0.5 hectare threshold as set out in the regulations.

No part of the proposed development will be located within a 'sensitive area' as defined in the regulations. All designated areas in direct proximity to the scheme are of local importance only. The River Clyde and River Kelvin Green Corridors are in direct proximity of the scheme, however the proposed works are unlikely to result in adverse environmental effects. The North-West landing area of the proposed scheme offers a relatively diverse habitat in an otherwise urban environment. Impacts on these habitats will be minimised where possible notwithstanding that there is an existing planning consent for mixed-use redevelopment of the site.

As mentioned above, consideration of the potential impacts on the Inner Clyde SPA will be undertaken through consultation with SNH and production of a HRA Screening.

Any negative environmental impacts experienced will be temporary during the construction phase only, and dealt with under other environmental legislation. During the operational phase, the proposal may have a positive environmental impact by promoting modal shift towards sustainable modes of transport in line with local and national planning policy.

We look forward to receiving your EIA screening decision and hope that you will be able to respond at your earliest convenience. If you should have any questions regarding the proposed works please do not hesitate to contact me.

Yours sincerely

Jeni Rowe
Landscape Architect, CH2M

City Park
368 Alexandra Parade
Glasgow
G31 3AU
United Kingdom
+44 (0) 141 552 2000
www.ch2m.com

Blair Greenock
Development and Regeneration Services
Glasgow City Council
229 George Street
Glasgow
G1 1QU

21 February 2016

Dear Mr Greenock,

Proposed Pedestrian Bridge across the River Clyde
Request for Environmental Impact Assessment Screening Opinion

CH2M were commissioned by Glasgow City Council (GCC) in December 2016 to design a new foot/cycle bridge over the River Clyde to connect Partick and Govan at the location of the confluence of the River Kelvin with the River Clyde. The purpose of the crossing is to increase the connectivity between these two areas. Additionally the provision of a new west bank walkway alongside the River Kelvin below the Pointhouse Road, Clydeside Expressway and railway bridges, in included within this Scheme to connect proposed/ongoing developments and provide significantly improved pedestrian and cycle connectivity, on the west bank.

We are exploring two options for the north landing location for the bridge, either the west bank of the River Kelvin at the corner of the development site, or the east bank adjacent to the Riverside Museum (see figure 2). We will be only be progressing with one of these options for the final design. The same construction method/layout proposed would be used for either bridge option.

As part of the initial feasibility design phase of the project we are writing to request a formal screening opinion from Glasgow City Council to determine whether or not an Environmental Impact Assessment (EIA) will be required for the proposed development works at the site under the Environmental Impact Assessment (Scotland) Regulations 2011.

The following documents and information are included with this letter:

- Location Plan (Figure 1)
- Bridge Options Boundary Plan (Figure 2)
- Walkway Boundary Plan (Figure 3)
- Possible Compound Locations Plan (Figure 4)
- Environmental Designations Plan (Figure 5)

Site Description

The Site is located on the River Clyde at the confluence with the River Kelvin, see Figure 1 below.

Figure 1: Location Plan

The application site falls into three areas;

- the **south bank of the River Clyde** at the vicinity of Govan Cross (see Figure 2)
  - The south bank is open public space comprising the south riverside walkway and historical quay wall infrastructure and is part of the Govan Conservation Area;
- the **areas of the east and west banks of the River Kelvin** at its confluence with the River Clyde on the opposite bank of the river (see Figure 2)
  - North-East landing area
    The north east bank is open public space comprising the grounds of the Riverside museum and the Glennlee tall ship along with new quay walls
  - North-West landing area
    The north-west bank is derelict brownfield site and the former site of historical ship building slipways which have since been infilled. The site is earmarked for significant retail and commercial development; and
- further north up the River Kelvin on the **west bank of the River Kelvin**, under the Pointhouse Road, Clydeside Expressway and railway bridges (See Figure 3)
  - The walkway site beneath the existing Clydeside Expressway and Rail bridges is currently semi-derelict and features several sections of inaccessible and disjointed public footpath.

Figure 2: Bridge Options Boundary Plan

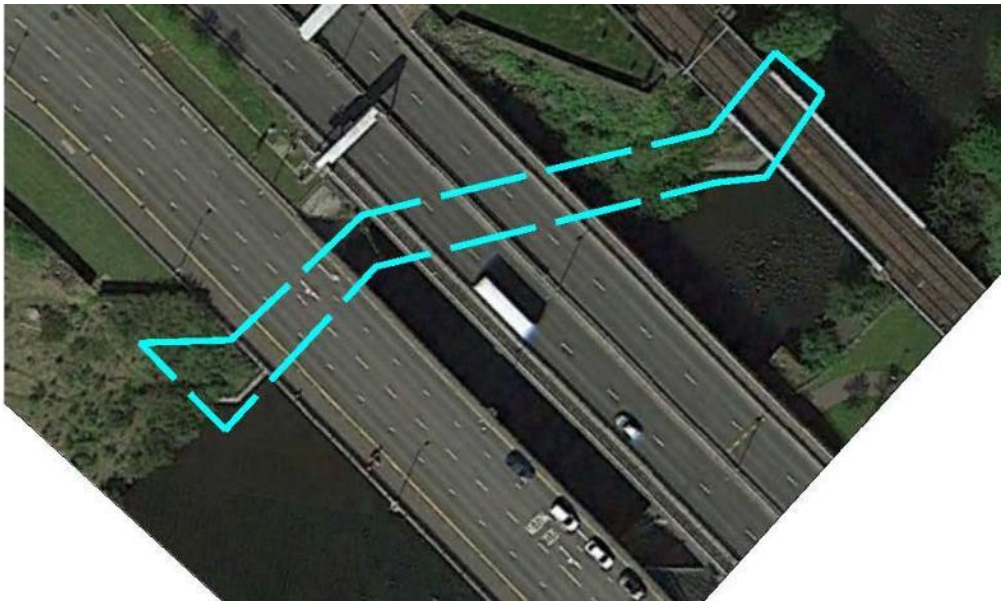


Figure 3: Walkway Boundary Plan

Proposed Development

In the current situation when considering cross-area movement between the wider Govan area and the wider Partick/Hillhead area, Bells and Millenium bridges at Finnieston and the Clyde Tunnel at Whiteinch provide the nearest fixed crossing points. There is a clear gap in connectivity across the River Clyde in the vicinity of Govan Cross/Riverside Museum which could be alleviated by a new cycle/ footbridge.

Footbridge

A 5m wide footbridge with an opening section approximately 70m long to provide navigation clearance over the Clyde is proposed. The bridge will most likely be three span comprising two abutments at the north and south quay walls and piers in the river straddling the 70m opening span. The span arrangement is likely to be (as a function of the Clyde's width) ¼ backspan, ½ main span (75m opening), ¼ backspan.

The abutments supports will likely comprise small concrete abutments located at the top of river banks above MHWS supported on a number of driven steel or bored concrete piles. In the river, the piers will comprise precast concrete shells supported on driven steel piles and infilled with insitu concrete to complete the structural connection

As noted previously, we are considering a two options for the north bank landing location and the design of the bridge, all of which include an opening span, powered either by hydraulics or electrical motors to either lift or rotate the central span out of the navigation channel. Only one of these options will be taken forward to detail design.

Construction
It will largely be constructed using river based marine plant on barges. With temporary driven steel piles placed in the river to moor against during construction. Upon completion of the works, these temporary piles will be extracted from the river. Sub assembly of bridge deck components and storage of plant and materials will likely be undertaken in the open area of land to the east of the Riverside museum on the north bank. Site clearance and land side works at the landing points will be very limited in size and scope.

Access Arrangements
South Bank
This landing point is common to both alignment routes and benefits from potentially large temporary working areas for plant and material storage and temporary laydown areas for larger bridge components. Vehicle access to his part of the site is good with Water Row and Napier Road being potential access points, both of which feature open bell mouth junctions and wide footpaths clear of obstacles (lighting columns, bollards etc).

North east landing area
While access into the Riverside Museum from the Clydeside Expressway is good, access to the quay wall area for plant and materials is poor and would likely limit the size of plant available to be used by the Contractor. Moreover, the proximity of the Glenlee tall ship, its visitor centre and the Riverside Museum to the works would likely lead to disruption during construction (noise, dust, public access etc).

North-West landing area
Although requiring coordination and formal agreement between the bridge Contractor and the commercial site developer, access to this area during construction from Castlebank Street would be very good. Subject to negotiation and phasing, a sizable area adjacent to the bridge landing could be established for storage of materials and plant.

Walkway Site

Along its west bank the River Kelvin has a 4m wide pedestrian walkway which has and is being reopened, cleared and improved between the mouth of the Kelvin and the Benalder Street bridge to provide access from Partick and the west end to the Clyde. Beneath the Clydeside express way bridge a section of missing walkway approximately 50m in length needs to be created. The walkway will be 4m wide comprising a paved surface and pedestrian guardrails and will link between the existing walkways beneath the Pointhouse Road Bridge and the Partick – SECC Rail Bridge

Construction Options

Options being considered are:

- a lightweight modular walkway system hung from the beams of the Clydeside express way bridge;
- a lightweight modular walkway system supported on “stilts” (small diameter circular piles); or
- a row of sheet piles along the outer edge of the proposed walkway infilled and surfaced over with a pedestrian handrail affixed to the top of the sheet pile wall.

It is most likely that the sheet pile wall solution is the chosen option as this is the least risky.

Access

The River Kelvin Walkway upgrade, is located on the northern edge of the Glasgow Harbour site, approximately 275m north of the bridge landing. Landing the bridge in this location would allow the walkway upgrade to be undertaken from the bridge site. If the footbridge landed at the Riverside Museum, a third standalone site would need to be established to construct the walkway upgrade.

Construction/Compound Requirements

There is likely to be three compound sites, for the different parts of the project:

1. an area for the north bank and walkway works;
2. a second area for the south landing works, which is probably where the permanent compound with cabins and other facilities would be located; and
3. a third temporary laydown area for plant and materials to be lifted onto barges for works in the river.

See figure 4 below for a location plan of these areas.

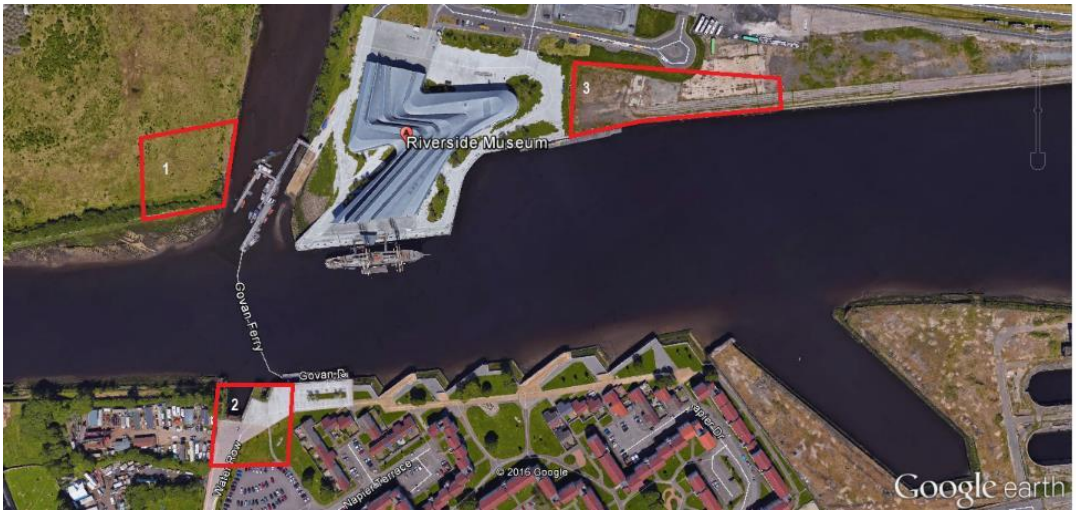


Figure 4: Likely Compound locations

Designations

The location of the southern landing of the proposed footbridge falls within the **Govan Conservation Area**. It notes in the 'Govan Conservation Area Appraisal and Management Plan' that:

"With the development of the Riverside Museum on the north side of the River Clyde there is a newly revived entry point into the conservation area, currently provided by a ferry link available in summer months."

It continues to state that lack of connectivity to the north has "*isolated the town centre and contributed to a loss of vitality*" and therefore a new connection would provide a permanent entry point from the north, which would be a positive contribution to the area. Care will be taken within the design to incorporate the new footbridge sensitively and appropriately into the existing environment.

The River Clyde and the River Kelvin are also designated as part of the City-Wide **Sites of Importance for Nature Conservatio**n (C-SINC). City-wide SINCs display the qualities of the very best wildlife sites in the City. It is also designated as a **Green Corridor**. The proposals will not compromise the biodiversity or the integrity of the green corridor/C-SINC and seek to enhance the landscape and wildlife characteristics or geological features of these designations (as noted in City Plan 2).

See figure below for the location of the designations.

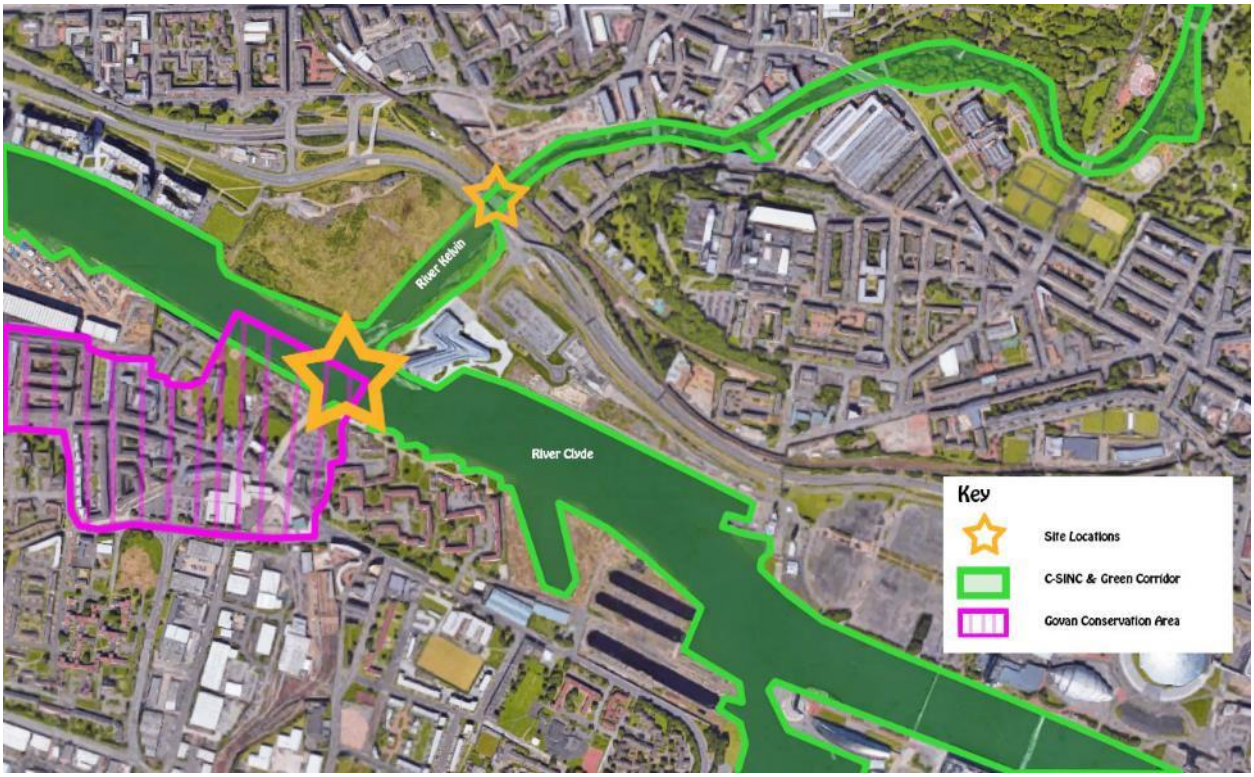


Figure 5: Designations

Potential for Environmental Impacts

It is envisaged that some of the environmental impacts encountered during the operation of the bridge will be positive, resulting in a prominent landscape feature, which will improve public access, human health and enhance the experience of using both the rivers and paths. Air quality and noise disturbance during the bridge operation will be largely unaffected, as only pedestrian and cycle access will be allowed. The bridge will have the facility to be opened, but this is likely to be on a rare occasion (once

every few months), and the system will essentially be silent, either electric motors and gears and/or hydraulics

The enclosed plan shows environmental designations in proximity to the scheme.

There are no international or national designated sites for example, Ramsar sites, Special Protection Areas (SPA), Sites of Special Scientific Interest (SSSI), within 2km of the scheme.

However, the scheme is hydrologically connected to the Inner Clyde Ramsar, SPA, and SSSI site located approximately 7km downstream of the scheme. The Inner Clyde Ramsar and SPA is designated for non-breeding redshank (Tringa tetanus). The Inner Clyde SSSI is designated for a range of non-breeding water birds including, oystercatcher (Haematopus ostralegus) and red-throated diver (Gavia stellata). Consultation with Scottish Natural Heritage will be undertaken to discuss the potential requirement to carry out a Habitats Regulations Appraisal (HRA) for the Inner Clyde SPA.

The scheme is in direct proximity to the River Clyde and River Kelvin which are designated as Green Corridors and are of local importance.

There is potential for European and UK protected species to be present within proximity to the scheme, particularly on the North-West landing area which offers a relatively diverse habitat in an otherwise urban setting. This area could provide habitat for otter, nesting birds and over-wintering birds. Consultation with Scottish Natural Heritage and Glasgow City Council's Biodiversity Officer will be undertaken, and targeted ecological surveys will be undertaken, to inform mitigation and minimise impacts on habitats and species in proximity to the scheme.

The potential for environmental effects to occur is likely to be greatest during the construction phase of the proposed works. Potential impacts that may occur during this phase of the development include:

- Temporary disturbance of species present within the vicinity of the bridge e.g. birds and otter;
- Disturbance of water habitat as a consequence of temporary piling;
- Construction noise and vibration impacts on neighbouring housing, services and local businesses;
- Temporary increases in traffic flow as a result of construction traffic accessing/egressing the site;
- Nuisance dusts; and
- Potential pollution of groundwater and surface water as a result of accidental pollution events (e.g. release of sediments, greases or fuel oils), including potential impacts on aquatic species.

Due to the temporary duration of the construction works, disturbance due to noise, vibration and traffic impacts identified above are considered to be short-term in their nature and therefore, they are unlikely to produce any permanent environmental effects. Release of pollutants to ground, groundwater or surface waters would be the result of an accidental event on site and therefore the magnitude and significance of potential impacts is unquantifiable at this time. However, the Pollution Prevention Guidelines developed by SEPA will be followed, which will limit the risk to the water environment.

The Case for 'non EIA'

Under the Environmental Impact Assessment (Scotland) Regulations 2011 the proposed works at Stockingfield Junction could be defined as Schedule 2 infrastructure projects within the following category:

- 10(b) – Urban Development Projects, where the area of the development exceeds 0.5 hectares

Development of a type listed in Schedule 2 requires EIA if it is likely to have significant effects on the environment by virtue of factors such as its size, nature or location. The total maximum boundary for

the development area has been calculated as 1.46 hectares, although the actual footprint of the structure will be significantly less than this. As the bridge will provide access for pedestrians and cyclists only it will be a relatively small structure, with no ramps or stairs, and with no vehicular traffic.

The land is currently part public realm and part derelict land. The proposals will convert the derelict land on the north-west bank and the walkway into public realm, which is a positive addition to the area.

Whilst the scheme is hydrologically connected to the Inner Clyde SPA, given the schemes distance from the SPA (approximately 7km upstream) and temporary nature of the works, it is unlikely the scheme will result in Likely Significant Effects (LSE) for the sites qualifying feature i.e. redshank. However, consultation with SNH will be undertaken to discuss the potential requirement to carry out a HRA for the Inner Clyde SPA.

The River Clyde and River Kelvin Green Corridors are in direct proximity of the scheme. However, at this location both rivers have predominantly hard-engineered banksides with limited habitat for species.

The North-West landing area of the proposed scheme offers a relatively diverse habitat in an otherwise urban environment, with broadleaved trees scrub, marginal vegetation and intertidal mudflats. Impacts on these habitats will be minimised where possible.

The North-West landing area could provide habitat for otter, nesting birds and over-wintering birds. The Preliminary Ecological Appraisal (PEA), undertaken to inform the scheme, recommended additional surveys for these species. Surveys will be undertaken during the design phase of the project to assess the site for these protected species and, if necessary, will inform mitigation measures to prevent or reduce any adverse effects on any species present.

Construction impacts on the water environment will be dealt with through SEPA in accordance with the Water Environment (Controlled Activities) Regulations 2005 regime.

Conclusion

It is suggested that the proposed bridge and walkway works will not require a full EIA under the Environmental Impact Assessment (Scotland) Regulations 2011 as the development is unlikely to have any significant environmental effects during operation of the bridge. Any negative impacts experienced will be temporary during the construction phase only, and dealt with under other environmental legislation. All designated areas in direct proximity to the scheme are of local importance only, and the proposal offers the potential for residents and visitors to the city to enjoy improved facilities and access to the river, in line with the objectives of City Plan 2.

We look forward to hearing your EIA screening decision and hope that you will be able to respond at your earliest convenience. If you should have any questions regarding the proposed works please do not hesitate to contact me.

Yours sincerely

Jeni Rowe
Landscape Architect, CH2M

marinescotland

Scottish Government
Riaghaltas na h-Alba
gov.scot

T: +44 (0)1224 295579 F: +44 (0)1224 295524
E: ms.marinescotland@gov.scot

City Park
368 Alexandra Parade
Glasgow
G31 3AU
United Kingdom
+44 (0) 141 552 2000
www.ch2m.com

15th March 2017

Dear Ms Rowe

SCREENING OPINION UNDER PART 2, REGULATION 11 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2007 (AS AMENDED)

CH2M (for Glasgow City Council) Proposed Pedestrian Bridge, River Clyde

Thank you for your letter dated 2nd March 2017 with accompanying documents, seeking a Screening Opinion for the above proposed works.

The proposal is considered to fall under Point 10(b) of Annex II of the EIA Directive 2011/92/EU Marine Scotland - Licensing Operations Team (MS-LOT) have reviewed the information provided by you on 2nd March 2017 in reaching a screening opinion.

MS-LOT is of the opinion that a full Environmental Impact Assessment (EIA) is not required in this instance as the proposed works are not likely to have a significant impact on the environment. It is felt that any potential impacts can be identified and mitigated during the marine licensing process without requiring the support of a full EIA

Thank you for consulting with us on this matter. We look forward to receiving your marine licence application in due course. The relevant application form can be accessed here.

Should you have any further queries, please do not hesitate to contact us at MS.MarineLicensing@gov.scot.

Yours sincerely,

[redacted]

Jacqui Cameron
Marine Scotland - Licensing Operations Team

Our ref: DECISION
GCC Application Ref: **17/00551/DC**

CH2M
City Park
Alexandra Parade
GLASGOW
G31 3AU

20 March 2017

Dear Sir/Madam

SITE: **Site At Water Row/ Meadowside Quay Glasgow**

PROPOSAL: **Erection of pedestrian bridge and walkway: Request for a screening opinion under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011.**

I am pleased to inform you that Glasgow City Council considers that an Environmental Impact Assessment is **not required** for the above proposal.

A copy of the decision notice is attached with any appropriate notes which should be read together with the decision.

The decision notice is a legal document and should be retained for future reference.

Should you require any additional information regarding the decision, please contact the case officer **Mr S McCollam** on direct phone **0141 287 6021,** or email **Sean.McCollam@drs.glasgow.gov.uk,** who will be happy to help you.

Yours faithfully

[redacted]

for Executive Director of Development and Regeneration Services

Encls.

Glasgow
CITY COUNCIL

PLANNING DECISION NOTICE

SCREENING OPINION

ENVIRONMENTAL STATEMENT NOT REQUIRED

IN RESPECT OF APPLICATION **17/00551/DC**

Erection of pedestrian bridge and walkway: Request for a screening opinion under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011.

AS SHOWN ON THE PLAN(S) RELATIVE TO THE SAID APPLICATION AT

Site At Water Row/ Meadowside Quay Glasgow

I refer to your application in connection with the above proposals, requesting a screening opinion under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011.

Having regard to the characteristics of the development, it represents an 'infrastructure project', as categorised in Schedule 2 (10)(b) of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011. In accordance with this legislation, the Local Authority is obliged to consider whether the proposals require an Environment Impact Assessment to identify any possible effects which the development may have on the environment and any mitigation measures to minimise these effects.

In assessing likely effects, account must be taken of the selection criteria contained in Schedule 3 of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 and in Annex A of Circular 3/2011: The Town and Country Planning (Environmental Impact Assessment)(Scotland) Regulations 2011.

Having regard to the available details on the proposal and the characteristics of the areas involved, it is the view of the Planning Authority that the potential accumulative environmental effects of the development characteristics, its location and potential impact are not of sufficient extent to warrant evaluation in a formal Environmental Assessment.

I also note that Marine Scotland has screened the proposals against Regulation 11 of The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) and have concluded that the proposals are not likely to significantly impact on the environment and will not require a full Environmental Impact Assessment.

The enclosed table indicates how the Council has arrived at this conclusion and comments as appropriate in terms of Circular 3/2011 criteria. As part of this process, the Planning Authority has had regard to the following matters;

Proposed Bridge Landing Options

The proposals show two potential footbridge crossing configurations, both of which have a common landing point on the south bank of the River Clyde at Govan. The optional north landing points identified are on either side of the confluence of the River Kelvin and River Clyde (north east and north west landing areas).

In terms of all landing areas, the key environmental constraint at this location is the River Clyde itself and its designation as a Green Corridor and a City-Wide Site of Importance for Nature Conservation (SINC). Whilst these do not represent 'sensitive areas' as defined in Regulation 2(1), they nevertheless have important nature conservation characteristics. Accordingly, development proposals must not impact on the integrity of their biodiversity and water quality.

The screening letter also recognises the site is hydrologically connected to the Inner Clyde Estuary approximately 7km downstream and its designation as a Ramsar site, a Special Protection Area and a Site of Special Scientific Interest.

In terms of the construction effects of this aspect of the proposals, it is noted that bridge abutments will largely be formed in pre-cast concrete units supported on steel driven piles, in-filled with concrete. Construction works will include river-based barges with temporary steel pile moorings. Other bridge deck components and associated plant and materials will be stored and handled from the riverside at three potential controlled compound areas. Site clearance at the landing areas will be limited in size and scope and is unlikely to result in significant environmental effects.

Notwithstanding the predominant use of pre-cast units, there is some potential for impacts on the watercourse from construction activity, including concrete leachate and fuel/oil from construction equipment and barges. Whilst mitigation measures have not been identified, it is accepted that the likelihood and magnitude of any effects are limited and it would therefore be appropriate to considered these in full at planning application stage as part of your suite of supporting information.

Other potential effects include the probability of noise and vibration impacts on neighbouring residential and commercial properties at Govan and the Riverside Museum, the disturbance of water habitat during piling works and general traffic impacts and dust related nuisances from construction activities. Whilst these impacts will be temporary in nature, mitigation measures should be identified in the supporting documentation to accompany your planning application.

In recognition of the diversity in habitat offered by land on the north-west bank of the River Clyde and wider environs and potential for European and UK protected species to be present, there may be possible secondary effects on habitats and species from construction activity. As noted in your screening letter, targeted ecological surveys will be required to consider these possible impacts and any requirement for mitigation measures and will be required for assessment at planning application stage.

The south landing area is also located within the Govan Conservation Area and accordingly, the visual impacts of the bridge crossing on the setting of the conservation area and the setting of the River Clyde will require careful consideration, which should be demonstrated in full in the Design and Access Statement to accompany the planning application.

Proposed Walkway under the Clydeside Expressway at the River Kelvin
The indicated siting of the walkway is on the west bank of the River Kelvin underneath Stobcross Road, Clydeside Expressway and the railway bridge. This aspect of the proposals will resolve a missing section of walkway, linking up areas immediately to the north and south. The format of the walkway would involve either; (a) a lightweight modular walkway suspended from the underside of the Clydeside Expressway bridge; (b) a lightweight modular walkway supported on stilts (small diameter circular piles); or (c) sheet piling to form an outer edge for the walkway and suitably in-filled and surfaced, to include handrails.

In terms of potential construction impacts, it is principally the construction approach to (b) and (c) which have the potential to generate impacts on their surroundings, primarily through disturbance of water habitat during piling. Again, these effects will be temporary in nature and mitigation measures to prevent impacts should be identified as part of the suite of supporting documentation to accompany your planning application.

In terms of the day to day operational characteristics of the completed pedestrian bridge and walkway, it is accepted that there are not likely to be any significant impacts. In the event that the opening sections of the bridge will be hydraulically operated, it should be suitably design to avoid impact on the water environment as a consequence of hydraulic fluid, which can be evaluated at planning application stage.

Construction Compound Areas
The intended arrangements are for conjoined construction and compound arrangements at both the north-west landing area and south landing areas, in addition to a standalone compound to the east of Riverside Museum (Areas 1, 2 and 3 respectively as indicated at Figure 5 of the Screening Letter.

In terms of their operational characteristics, it is anticipated that Area 1 will represent the compound for works to the north bank of the River Clyde and the walkway at the River Kelvin. Area 2 at the south landing area is likely to represent the preferred compound for citing of cabins and other site facilities for the duration of works. Area 3 represents a temporary laydown area for plant and machinery before transfer onto construction barges.

Each of these areas bring with them a limited possibility for impact on the water environment, through potential spillage from on-site materials, fuel/oil or site storm and foul drainage. Areas 2 and 3 also have the potential to impact on neighbouring uses though traffic related issues and dust, light, noise and vibration effects. As the impacts are likely to be minimal and temporary, a methodology for their mitigation can be considered as part of the planning application process.

You should note that the above comments are offered on the principle of the proposed uses and their associated impacts and do not prejudice the Councils assessment of any specific proposals at planning application stage.

I trust this is of assistance, however, should you wish to discuss any of these findings in further detail, please contact the case officer, Sean McCollam, on 0141 2876021.

Yours faithfully

[redacted]

Dated:

***For* Executive Director**
Development and Regeneration Services
Glasgow City Council

THIS DECISION NOTICE SHOULD BE READ WITH THE ATTACHED ADVICE NOTES

THIS IS AN IMPORTANT LEGAL DOCUMENT AND SHOULD BE KEPT SECURE FOR FUTURE REFERENCE

COMMUNITY BENEFIT

Glasgow City Council (GCC) has developed a policy on Community Benefit to ensure that Glasgow secures the maximum economic and social benefit for residents and businesses from planned investment being made in the city.

The policy introduces measures to encourage;
- the targeted recruitment and training of those furthest from the job market, the long-term unemployed and individuals leaving education
- the advertising of sub-contracted business opportunities
- dedicated support for small to medium sized businesses (SMEs) and social enterprises (SEs) to build capacity

These elements have been included in the development of the Commonwealth Arena, the Commonwealth Games Athletes' Village and the Hydro Arena at the SECC, among others, with significant success to date.

The Council is now working with Private Sector developers to maximise the impact of their investment in the City, for example Land Securities, developer of Buchanan Galleries. Significant assistance is available from various Public Sector agencies to achieve these outcomes and the support private contractors.

Should you wish to discuss these opportunities in more detail, please contact the Council's Community Benefit Programme Manager on 0141 287 6014.

Further background information on the Community Benefit model can be found at;

http://www.scotland.gov.uk/Publications/2008/02/12145623/1