Bilberry to Waterford City Centre Greenway Link

Screening Report for Appropriate Assessment

Doherty Environmental Consultants Ltd

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Screening Report for Appropriate Assessment

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1.0 INTRODUCTION

Doherty Environmental Consultants (DEC) Ltd. have been commissioned by Waterford County Council to undertake a Screening Report for Appropriate Assessment for the proposed Bilberry to Waterford City Centre Greenway link (see Figure 1.1 for location and Appendix 2 Project Scheme Design Drawings).

This Screening Report for Appropriate Assessment forms Stage 1 of the Habitats Directive Assessment process and is being undertaken in order to comply with the requirements of the Habitats Directive Article 6(3). The function of this Screening Report is to identify the potential for the project to result in likely significant effects to European Sites and to provide information so that the competent authority can determine whether a Stage 2 Appropriate Assessment is required for the project.

1.1 LEGISLATIVE CONTEXT

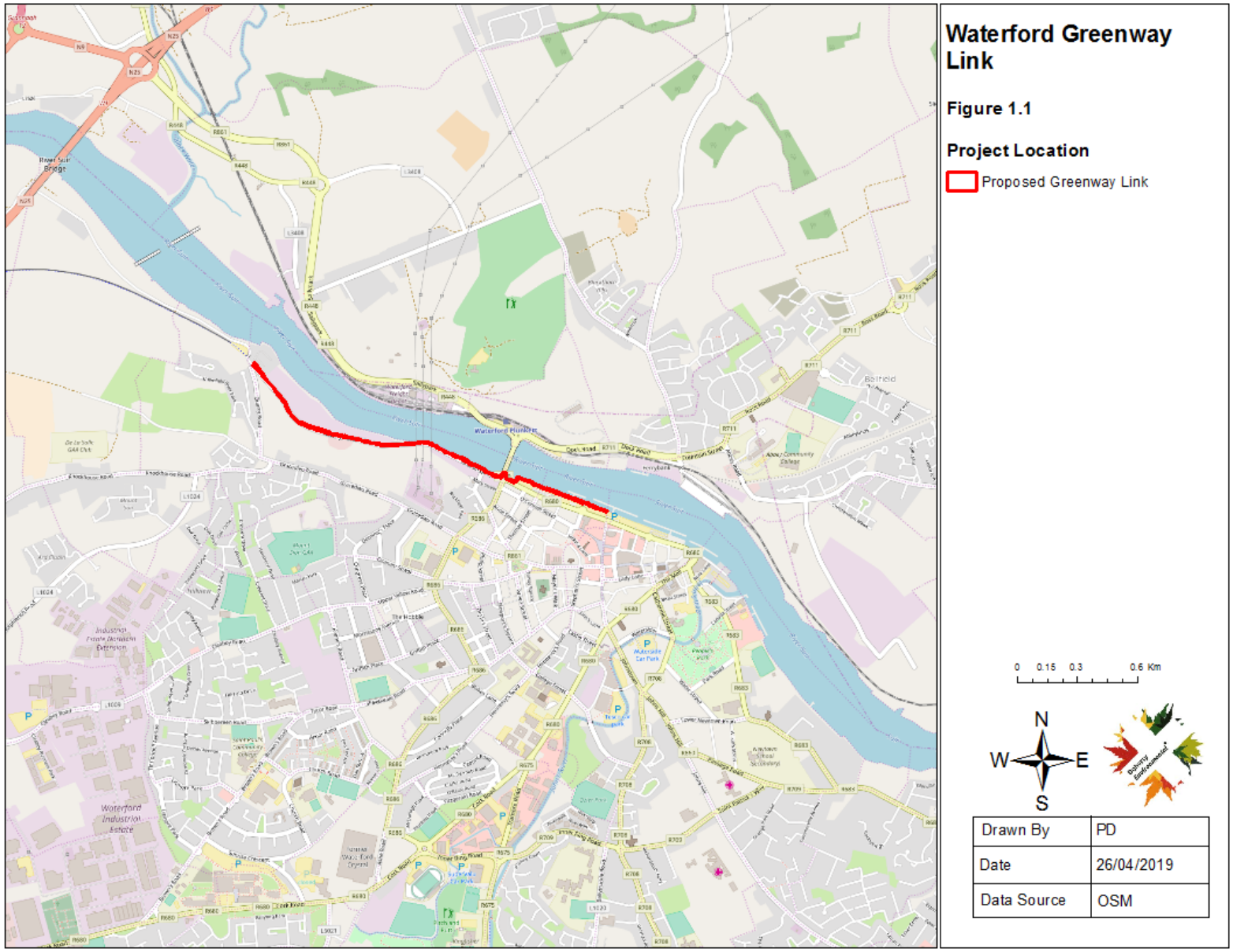
This Screening Report for Appropriate Assessment is being prepared in order to enable the competent authority to comply with Article 6(3) of Council Directive 92/43/EEC (The Habitats Directive). It is prepared to assess whether or not the project alone or in combination with other plans and projects is likely to have a significant effect on any European Site in view of best scientific knowledge and in view of the conservation objectives of the European Sites and specifically on the habitats and species for which the sites have been designated.

1.1.1 Requirement for an Assessment under Article 6 of the Habitats Directive

According to Regulation 42(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 – 2015, the competent authority has a duty to:

- Determine whether the proposed Project is directly connected to or necessary for the management of one of more European Sites; and, if not,
- Determine if the Project, either individually or in combination with other plans or projects, would be likely to have a significant effect on the Eurpoean Site(s) in view of best scientific knowledge and the Conservation Objectives of the site(s).

This Report contains a Screening for Appropriate Assessment and is intended to assess and address all issues regarding the construction and operation of the Project and to inform and allow the competent authority to comply with the Habitats Directive. Article 6(3) of the Habitats Directive defines the requirements for assessment of projects and plans for which likely significant effects on European Sites may arise. The European Communities (Birds and Natural Habitats) Regulations, 2011 – 2015 (the Habitats Regulations) transpose into Irish law Directive 2009/147/EC (the Birds Directive) and Council Directive 92/43/EEC (the Habitats Directive) lists habitats and species that are of international importance for conservation and require protection. The Habitats legislation requires competent authorities, to carry out a Screening for Appropriate Assessment of plans and projects that, alone or in combination with other plans or projects, would be likely to have significant effects on European Sites in view of best scientific knowledge and the Site's conservation objectives. This requirement is transposed into Irish Law by Part 5 of the Habitats Regulations and Part XAB of the Planning and Development Act, 2000 (as amended).


Waterford Greenway Link
Figure 1.1
Project Location
Proposed Greenway Link
0 0.15 0.3 0.6 Km
N
W
E
S
Drawn By PD
Date 26/04/2019
Data Source OSM

1.2 STAGE 1 SCREENING METHOD

This Screening Report has been prepared in order to comply with the legislative requirements outlined in Section 1.1 above and aims to establish whether or not the proposed greenway link to Waterford City, alone or in combination with other plans or projects, would be likely to have significant effects on European Sites in view of best scientific knowledge and the Site's conservation objectives. In this context "likely" refers to the presence of doubt with regard to the absence of significant effects (ECJ case C-127/02) and "significant" means not trivial or inconsequential but an effect that has the potential to undermine the European Site's conservation objectives (English Nature, 1999; ECJ case C-127/02). In other words any effect that compromises the conservation objectives of a European Site and interferes with achieving the conservation objectives for the site would constitute a significant effect.

The nature of the likely interactions between the project and the conservation objectives of European Sites will depend upon the sensitivity of these sites and their reasons for designation to potential impacts arising from the project; the current conservation status of the features for which European Sites have been designated; and any likely changes to key environmental indicators (e.g. habitat structure; vegetation community) that underpin the conservation status of European Sites, in combination with other plans and projects.

This Screening Report for Appropriate Assessment has been undertaken with reference to respective National and European guidance documents: Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities (DEHLG 2010) and *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* and recent European and National case law. The following guidance documents were also of relevance during the preparation of this Screening Report:

- A guide for competent authorities. Environment and Heritage Service, Sept 2002. Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (2010). DEHLG.
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/42/EEC. European Commission (2001).

- Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC. European commission (2018).

The EC (2001) guidelines outline the stages involved in undertaking a Screening Report for Appropriate Assessment for projects. The methodology adopted during the preparation of this Screening Report is informed by these guidelines and was undertaken in the following stages:

1. Describe the project and determine whether it is necessary for the conservation management of European Sites;

2. Identify European Sites that could be influenced by the project;

3. Where European Sites are identified as occurring within the zone of influence of the project identify potential effects arising from the project and screen the potential for such effects to negatively affect European Sites identified under Point 2 above; and

4. Identify other plans or projects that, in combination with the project, have the potential to affect European Sites.

2.0 PROJECT DESCRIPTION

2.1 OVERVIEW OF THE PROJECT

The proposed project aim to provide a link between the Waterford Greenway at Bilberry and the planned South Quay Public Plaza, where the proposed North Quays Bridge is planned to connect to the South Quays. Waterford County Council wish to provide a safer and more attractive connection between the Greenway at Bilberry and the City centre. The length of the proposed greenway is approximately 2kms, with additional design works required on Bridge Street and the existing footpath adjacent to the flood wall along Merchants Quay.

The Waterford Greenway was officially opened on the 26th March 2017. The existing link to Waterford City Centre is by way of a local road (Bilberry Road L1501) which has a restricted cross section. The aim for the Bilberry Road section is the delivery of a single carriageway to take predicted traffic flows and pedestrian and cycle facilities to accommodate the number of

users on the Greenway. In addition the project includes for distinct Greenway priority crossings at Grattan Quay, where the Greenway meets the City Centre (in close proximity to the Rice Bridge/Bridge Street signalised junction). The project will require the development of improvements to the Rice Bridge/Bridge Street/Grattan Quay junction to improve accessibility for pedestrians and cyclists. Traffic flows at this busy signalised junction are not to be impacted by the design. The improvement of cycle lanes on Merchants Quay from the Rice Bridge junction to the proposed plaza at the Clock Tower (North Quays Project) also form part of the proposed greenway project.

A link from Bilberry Road to O'Connell Street will also be included as part of the project with the intention of providing a Greenway link to O'Connell Street.

2.2 DESCRIPTION OF PROJECT WORKS

The work will involve the widening of the existing Bilberry Road at 2No. pinch points (approx. 140m and 90m in length) using cantilevered structures to allow for a 4m wide boardwalk for pedestrians and cyclist as part of this Greenway Link. The cantilevered structures will be constructed out of structural steel to the north face of the existing River Suir quay wall. The bridge supports will be constructed with the use of tension and compression piles that will be cored down to bedrock through the existing road bed. Once the piles and pile caps are in place, the prefabricated steel structures will be placed using a crane which will be located on the existing road.

A specification for hoarding will be supplied to tenderers, which will minimise landscape and visual intrusion during the construction phase. The specification is timber-framed plywood faced hoarding, which will be constructed at the river bank to prevent spread of species through bank disturbance. All softwood timbers will be treated with suitable inert preservatives to protect them from deterioration in the wet environment. Similarly, the plywood facing will be constructed from 18mm marine plywood to ensure maximum durability and robustness.

Works will be undertaken on a section by section basis with only one section being commenced and completed at any one time. The sections will be kept to a minimum to reduce obstruction to the adjacent Bilberry Road. The completion of the greenway link in this manner will also reduce the area footprint of construction works to a small area at any one time during the construction phase.

Saw cutting of the existing road surface and quay walls will be required. Where saw cutting of the road surface or the existing walls takes place, the saw will have a small stream of water to prevent dust arising. These saw cutting operations, and other activities, which potentially can cause dust, will be screened off so that all cutting and dampening water is contained and collected during cutting for removal off site.

During removal of sections of the existing wall to accommodate the two proposed cantilevered sections of the greenway link, a suitable barrier will be placed on the river side of the wall in order to prevent the accidental fall of debris into the water.

3.0 DESCRIPTION OF THE PROJECT SITE

The habitats occurring along and adjacent to the project include:

Tidal River (CW2): the River Suir adjacent to the proposed greenway extension is an example of a tidal river.

Stone wall and other stonework (BL1): The existing quay wall and stone wall are examples of this habitat.

Buildings and artificial surfaces (BL3): paved areas and buildings are representative of this habitat.

Exposed siliceous rock (ER1): The rock face of Bilberry Rock is an example of this habitat.

Dry Heath (HH1): examples of this habitat occur on Bilberry Rock

Dry humid grassland (GS3): examples of this habitat occur on Bilberry Rock

Disturbed ground (ED) comprising Spoil and bare ground (ED2) and recolonising bare ground habitat (ED3) occur adjacent to the proposed greenway in disused and derelict sites.

Common and ubiquitous mammal species, such as house mouse *Mus domesticus*, long- tailed field mouse *Apodemus sylvaticus*, brown rat *Rattus norvegicus* and pygmy shrew *Sorex minutus* certainly occur within the study area. Fox *Vulpes vulpes* also occurs, with evidence of recent

presence along the derelict sites on Bilberry Road. A long dead hedgehog was noted on the Bilberry Road.

Particular search was made for badger *Meles meles* but no signs were found within the immediate route corridor. The recent level of development along the quarry road may reduce the likelihood of finding badger in the area.

Otter *Lutra lutra* occurs along the River Suir (McGrath 2006) and would be expected at times to pass along the section of river within the study area. However, there is no habitat here for breeding sites or even resting areas.

Bats are expected to utilise the various buildings along the route corridor, especially some of those which are now derelict. McGrath (2006) notes that bats are widespread in the city and he recorded pipistrelle bats from the Bilberry area.

Numerous young frogs *Rana temporaria* were present in Coady's Pond at the time of the August 2010 survey.

The common lizard *Lacerta vivipara* would be expected in the heath habitat of the rock outcrop along Bilberry Road.

3.1 LOWER RIVER SUIR SAC

The proposed greenway link is located adjacent to the lower River Suir, which is designated as a SAC. This is a large SAC designated for a range of features, which are as follows:

- Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]
- Mediterranean salt meadows (Juncetalia maritimi) [1410]
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]
- Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]

- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]
- Taxus baccata woods of the British Isles [91J0]
- Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]
- Austropotamobius pallipes (White-clawed Crayfish) [1092]
- Petromyzon marinus (Sea Lamprey) [1095]
- Lampetra planeri (Brook Lamprey) [1096]
- Lampetra fluviatilis (River Lamprey) [1099]
- Alosa fallax fallax (Twaite Shad) [1103]
- Salmo salar (Salmon) [1106]
- Lutra lutra (Otter) [1355]

The qualifying feature of interest of the SAC that are known to occur along the section of river adjacent to the proposed greenway link are described in the following sub-sections.

3.1.1 Atlantic Salmon

The Suir is one of Ireland's most important salmonid rivers and salmon spawn throughout the very extensive headwater streams and tributary rivers of the Suir system. Until recently, salmon were fished by snap-net teams in the upper estuary and middle estuary while in the lower estuary drift nets were deployed in a significant commercial fishery for the species. The section of the River Suir estuary adjoining the proposed greenway link is used as a migratory channel for adult salmon returning to spawn, spent species returning to sea and smolts running to sea. The main smolt run is between March and mid-June, while the inward adult migration is from July to October and again in December. Peak adult migration numbers have been reported to occur during December (Aquatic Services Unit, 2010). For both adults and smolts, high river flows are often associated with larger movements. While smolts will not delay their journey once they initiate it and continue directly to sea, the summer-autumn returnees will often spend extended periods in holding station in the estuary depending on flow, however, adult salmon are not known to congregate around Rice Bridge in the city stretch (Aquatic Services Unit, 2010). No suitable salmon spawning habitat occurs in the vicinity of the project site and as such

this species does not spawn or feed in the section of the channel adjoining the proposed greenway link.

3.1.2 Twaite Shad

The following overview of Twaite Shad and the population occurring in the River Suir is based on a summary provided by the Aquatic Services Unit (2010) and ROD (2018):

Twaite Shad are reported to have declined in numbers in the Suir over the past two decades (King and Roche, 2008) although recent observations note increased shad possibly due to the ban on drift net fishing of salmon where shad would previously have been caught as a by- catch (Aquatic Services Unit, 2010). Twait Shad are a migratory member of the herring family which spawns in freshwater. It is an an iteroparous species, i.e. individuals can spawn multiple times over their lifespan (Rooney & King, 2015, IFI, 2018a). Adult shad move from the sea into estuaries in spring and are commonly recorded congregating in Waterford Harbour in March and occasionally in February (Doherty et al., 2004; Gallagher et al., 2016). Upstream migration from the estuaries peaks at water temperatures of 10-14°C (IFI, 2018a). On the Suir they spawn over gravels in calm waters, just above the top of tidal waters, about 1km upstream of the old bridge in Carrick-on-Suir principally during the months of May and June. The spent adults commence their migration to the lower estuary immediately after spawning. During the breeding season, large numbers of adult shad move up and down the estuary with the tide but all adults return to sea by the end of the summer. The movements and ecology of Twaite Shad during their residency in estuaries are not fully understood (IFI, 2018a) and are the subject of ongoing research (IFI, 2018c). However, based on a review of data from other rivers (in Europe and the UK – Aprahamina et al, 2003) the fry emerge after about 3 to 5 days and commence their gradual move down the estuary feeding on crustacean plankton (Aprahamian, 1989) and appear in the outer estuary in the late summer and autumn. Most juveniles move to the lower estuary during their first summer and migrate to sea at end of their second year.

Apart from the nocturnal spawning habit, the diel activity patters of Twaite Shad are not well defined/studied. However, it appears that, with the exception of the spawning period, Twaite Shad is a mainly diurnal species. Gregory & Clabburn (2003) found that the numbers of adult shad migrating upstream and downstream were much reduced between 9:00 pm and 3:00 am and that a peak in activity occurred around dawn. Esteves & Andrade (2008) found that shad

larvae were more common during daylight hours, particularly in the afternoon, than they were at night.

Following on from the foregoing the periods of time when adult Twaite Shad are likely to be in the section of the Suir estuary adjacent to the proposed greenway link are during the months of March, April and May during the upstream spawning migration and during late May and June when spent fish migrate downstream to the lower estuary. While the timing of the arrival of young-of-the-year Twaite Shad in the lower estuary adjacent to the project site and the seaward departure of older juveniles is not known precisely, juveniles of either the 0+ or 1+ year class are considered likely to be present in the vicinity of the Project year-round.

3.1.3 Lamprey Species

Sea Lamprey enter estuaries from the sea and migrate upstream in April-June to spawn in June and July in the freshwater reaches of the River Suir. O'Connor has recorded the juveniles (ammocoetes) in the main channel as far upstream as Cahir. The ammocoetes live in marginal silty area where the gradually develop over several years. They then begin to metamorphose to the adult starting in July. This takes about 3 months after which they migrate to the lower estuary in about October, where they commence their parasitic life on fish.

The upstream migration of River Lamprey is less well-defined than Sea lamprey and is thought to commence in August and continue over the winter months until the spawning season in spring with two peaks in migration occurring, first in the August-November period and then a second in Spring (March-April) (Aquatic Services Unit, 2010). Metamorphosed young adults begin their downstream migration over an extended period from late winter to early summer. Downstream migration by both Sea Lamprey and River Lamprey is predominantly nocturnal.

The status of Sea Lamprey and River Lamprey in the River Suir has been classed as unfavourable and favourable.

3.1.4 Otter

Otters are known to occur along the stretch of the lower River Suir adjacent to the proposed greenway link. Evidence of otters in the form of spraints and prints have were recently recorded along the North Quay wall downstream of the project site during field surveys completed for

the assessment of the proposed Waterford City Sustainable Bridge (ROD, 2018). While no evidence of otters was recorded along the river bank adjacent to the proposed greenway this species is assumed to occur along the river adjacent to the project. No potential or confirmed holts or couches were recorded within the vicinity (i.e. within 200m) of the proposed greenway link.

3.2 WATER QUALITY

The River Suir at Rice Bridge has an average salinity of about 10‰ fluctuating from about 2‰ to 20‰. Water Quality (Neill, 2001 and 2005) has probably improved in recent years since all the raw sewage previously discharged from the City of Waterford to the Suir in this reach has been piped for full secondary treatment to the WWTP near Belview. The current quality is eminently suitable for the passage of all Annex II species. Due to its position along the estuary, the channel is visibly turbid within the study reach, which is more evident during low tides and high flows in the river.

4.0 IS THE PROJECT NECESSARY FOR THE CONSERVATION MANAGEMENT OF EUROPEAN SITES

The project has been described in Section 2 of the Screening Report and it is clear from the description provided that the project is not directly connected with or necessary for the future conservation management of any European Sites.

5.0 EUROPEAN SITES WITHIN THE ZONE OF INFLUENCE OF THE PROJECT

5.1 LIST OF EUROPEAN SITES

Current guidance recommends that all European Sites occurring within 15km of project sites should be identified at the outset of a screening exercise. A total of five European Sites have been identified in the surrounding 15km area. Table 5.1 lists these European Sites and the spatial relationship between each of these sites and the study area is shown on Figure 5.1 and Figure 5.2. Appendix 1 lists the qualifying features of interest/special conservation interest for each of these European Sites.

In addition to the European Sites occurring within a 15km area of the project site the DEHLG 2010 guidelines on Appropriate Assessment of Plans and Projects in Ireland also advise that where the potential exists for a hydrological pathway to occur between the project site and European Sites beyond the 15km distance, then these sites should also be included as part of the Screening. No other European Sites are connected to the project site via hydrological pathways or any other pathways and as such only those sites located within a 15km distance of the project site are included in this Screening for Appropriate Assessment.

5.2 IDENTIFICATION OF EUROPEAN SITES IN THE PROJECT ZONE OF INFLUENCE

European Sites occur in the zone of influence of the project where there is potential for such sites to be impacted by the project. Aside from the Lower River Suir SAC no other European Sites occur within close proximity to the project site. Due to the location of the proposed greenway along the southern bankside of the Lower River Suir SAC this SAC is identified as occurring within the zone of influence of the project. The occurrence of the other four European Sites within the zone of influence of the project is dependent on presence of a potential impact pathway, that connects the project site to these European Sites.

A source-pathway-receptor model has been used to establish which of these four European Sites could occur within the zone of influence of the project. Under such a model the project, as described above, represents the source.

Potential impact pathways are restricted to hydrological pathways. Given the distance between the project site and these European Sites other impact pathways such as noise, air, lighting and human disturbance will not have the potential to influence the qualifying features of interest and the conservation objectives of these European Sites..

The receptors represent European Sites and their associated qualifying features of interest.

European Sites and their associated qualifying features are likely to occur in the zone of influence of the project only where the above pathways establish a link between the project site and European Sites or where the project site is likely to play an important role in supporting populations of mobile species that are listed as special conservation interests/qualifying species for surrounding European Sites.

Table 5.1 provides a determination as to whether each of these four European Site occur within the zone of influence of the project. This determination has been undertaken in line with the following assessment questions:

- Is there a hydrological pathway linking the Project site to European Sites and does this pathway have the potential to function as an impact pathway?
- Are Annex I qualifying habitats of these European Sites at risk of experiencing impacts as a result of the project?
- Does the project site have the potential to interact with or support Annex II qualifying species/special conservation interest bird species of these European Sites?

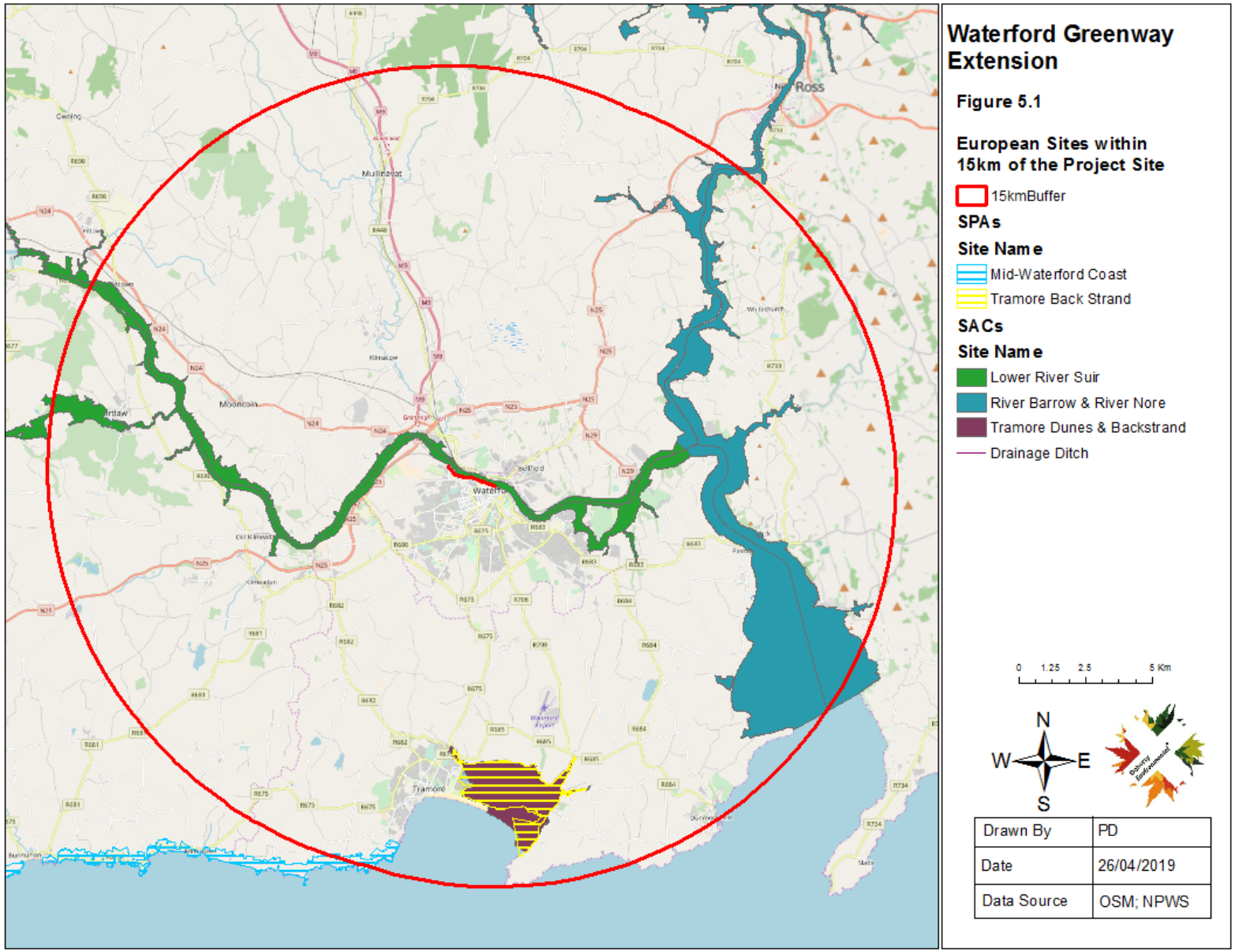

Waterford Greenway Extension
Figure 5.1
European Sites within 15km of the Project Site
15kmBuffer
SPAs
Site Name
Mid-Waterford Coast
Tramore Back Strand
SACs
Site Name
Lower River Suir
River Barrow & River Nore
Tramore Dunes & Backstrand
Drainage Ditch
0 1.25 2.5 5 Km
N
W
E
S
Drawn By PD
Date 26/04/2019
Data Source OSM; NPWS

Table 5.1: Identification of European Sites within the Zone of Influence of the Project

European Sites	**Distance from Project Site**	**Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway?**	**Does the Project have the potential to interact with Annex I Habitats?**	**Does the Project have the potential to interact with Mobile Species?**	**Do European Sites occur within the Projects Zone of Influence?**
River Barrow and River Nore SAC	8.5km downstream and to the east	Yes. The proposed greenway link is located adjacent to the lower River Suir Estuary, which drains into this SAC. However the river is not considered to have the potential to function as an impact pathway for the following reasons: The project will not require any works to be undertaken within the lower River Suir; The project will not require the use of potentially polluting substances within	No. All Annex habitats of this SAC are located at remote distance from the project site. The hydrological pathway established by the location of the project site adjacent to the River Suir will not have the potential to function as an impact that could result in downstream impacts to the coastal and estuarine Annex I habitats of this SAC.	No. The Annex II species for which this SAC is designated are located at remote distances from the project site and the project site does not support any habitats that these species rely upon.	No. No pathways link the project site to this SAC.

European Sites	Distance from Project Site	Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway?	Does the Project have the potential to interact with Annex I Habitats?	Does the Project have the potential to interact with Mobile Species?	Do European Sites occur within the Projects Zone of Influence?
		the river channel. During construction, the primary contaminants of concern are hydrocarbons and suspended solids. There is very limited potential for accidental contamination during construction as any required bulk storage of fuels will be within the construction compound which will be located 150m away from the river channel towards the western end of the project and on the landward side of the Bilberry Road. As such the only potential leakage along the route corridor is a single construction vehicle leak i.e. maximum 200 litres. Should such a leak occur it will become mixed with surface runoff and be discharged to the river. However it will be discharged via the existing surface water drainage network which has been recently upgraded as part of the Grattan Quay,			

European Sites	**Distance from Project Site**	**Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway?**	**Does the Project have the potential to interact with Annex I Habitats?**	**Does the Project have the potential to interact with Mobile Species?**	**Do European Sites occur within the Projects Zone of Influence?**
		Bilberry Road and Quarry Quay improvement works. As such any hydrocarbon contaminated run-off entering the surface water drainage will be treated prior to discharge to the river. It addition any surface water generated from works areas will become quickly diluted downstream. Based on the water volumes in the receiving River Suir any surface water runoff from the project site will be imperceptible and will not have the potential to result in any changes to the status of water quality within the river. Given the proposed use of the greenway as a pedestrian and cycle surface there will be no risk of pollution to surface water runoff during the operation phase.			

European Sites	**Distance from Project Site**	**Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway?**	**Does the Project have the potential to interact with Annex I Habitats?**	**Does the Project have the potential to interact with Mobile Species?**	**Do European Sites occur within the Projects Zone of Influence?**
Tramore Dunes & Backstrand SAC Site Code: 000671	10.5km to the south	No. There is no hydrological pathway linking the project site to this SAC	No. The Annex I habitats for which this SAC is designated are located at a remote distance from the project site and are not linked to the project site via any impact pathways.	No. No Annex II species are listed as qualifying habitats for this SAC.	No. No pathways link the project site to this SAC.
Mid-Waterford Coast SPA Site Code: 004193	14.5km to the southwest	No. There is no hydrological pathway linking the project site to this SPA.	No. The habitats upon which the special conservation interest bird species of this SPA rely are coastal in nature. No such habitats occur in the vicinity of the project and there is no potential for the project to interact with the habitats that support the population of bird species for which this SPA is designated.	No. This SPA is located at a remote distance from the project site and there is no potential for the project to interact with the populations of the special conservation interest bird species of this SPA.	No. No pathways link the project site to this SAC.

European Sites	**Distance from Project Site**	**Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway?**	**Does the Project have the potential to interact with Annex I Habitats?**	**Does the Project have the potential to interact with Mobile Species?**	**Do European Sites occur within the Projects Zone of Influence?**
Tramore Back Strand SPA Site Code: 004027	10.5km to the south	No. There is no hydrological pathway linking the project site to this SPA.	No. The habitats upon which the special conservation interest bird species of this SPA rely are coastal in nature. No such habitats occur in the vicinity of the project and there is no potential for the project to interact with the habitats that support the population of bird species for which this SPA is designated.	No. This SPA is located at a remote distance from the project site and there is no potential for the project to interact with the populations of the special conservation interest bird species of this SPA.	No. No pathways link the project site to this SAC.

Table 5.1 above examines the relationship between the project site and the four European Sites occurring within the wider 15km area surrounding the project site. As noted within this table none of these European Sites occur in close proximity to the project site and there are no functional impact pathways linking the project site to these European Sites. As such these European Sites do not occur within the zone of influence of the project.

As such the remainder of this Screening examines the potential for the project to result in likely significant effects to qualifying features of interest and the conservation objectives of the Lower River Suir SAC.

5.3 QUALIFYING FEATURES OF INTEREST OF THE LOWER RIVER SUIR SAC WITHIN THE ZONE OF INFLUENCE OF THE PROJECT

As noted in Section 3.1 above the Lower River Suir SAC is designated for its role in supporting a range of Annex I qualifying habitats and Annex II qualifying species. These features are again listed in Table 5.2 below along with an assessment that identifies whether each of these qualifying features of interest of the SAC occur within the zone of influence of the project. qualifying features of interest of the Lower River Suir SAC are considered to occur in the zone of influence of the project if they are known to occur along the stretch of the Lower River Suir adjacent to the project site.

Table 5.2: Lower River Suir SAC qualifying features of interest, conservation and identification of the features of interest occurring within the zone of influence of the project

Qualifying features of interest	Does the qualifying features of interest occur within the zone of influence of the project?
Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	No. No examples of this habitat occur in the vicinity of the project site.
Mediterranean salt meadows (Juncetalia maritimi) [1410]	No. No examples of this habitat occur in the vicinity of the project site.
Water courses of plain to montane levels with the Ranunculion fluitantis and	No. No examples of this habitat occur in the vicinity of the project site.

Callitricho-Batrachion vegetation [3260]	
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	No. No examples of this habitat occur in the vicinity of the project site.
Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	No. No examples of this habitat occur in the vicinity of the project site.
Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]	No. No examples of this habitat occur in the vicinity of the project site.
Taxus baccata woods of the British Isles [91J0]	No. No examples of this habitat occur in the vicinity of the project site.
Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	No. No populations of this species occur within the vicinity of the project site.
Austropotamobius pallipes (White-clawed Crayfish) [1092]	No. No populations of this species occur within the vicinity of the project site.
Petromyzon marinus (Sea Lamprey) [1095]	Yes. As outlined in Section 3.1 above this species is known to occur within the section of the Lower River Suir adjacent to the project site.
Lampetra planeri (Brook Lamprey) [1096]	No. No populations of this species occur within the vicinity of the project site.
Lampetra fluviatilis (River Lamprey) [1099]	Yes. As outlined in Section 3.1 above this species is known to occur within the section of the Lower River Suir adjacent to the project site
Alosa fallax fallax (Twaite Shad) [1103]	Yes. As outlined in Section 3.1 above this species is known to occur within the section of the Lower River Suir adjacent to the project site
Salmo salar (Salmon) [1106]	Yes. As outlined in Section 3.1 above this species is known to occur within the section of the Lower River Suir adjacent to the project site

Lutra lutra (Otter) [1355]	Yes. As outlined in Section 3.1 above this species is known to occur within the section of the Lower River Suir adjacent to the project site

To summarise the results of the assessment outlined in Table 5.2 above the following qualifying feature of interest of the Lower River Suir SAC are identified as occurring within the zone of influence of the project:

Atlantic Salmon; Sea Lamprey; River Lamprey; Twaite Shad; and Otters.

6.0 CONSERVATION OBJECTIVES

Detailed Site-Specific Conservation Objectives have been published for the five qualifying features of interest of the Lower River Suir SAC occurring within the zone of influence of the project. These Conservation Objectives are outlined in Section 8 below and an assessment is provided in Section 8 by evaluating the project's potential to result in likely significant effects to the Conservation Objectives of the qualifying feature of interest occurring in the zone of influence of the project.

7.0 ASSESSMENT

7.1 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS TO FEATURES OF INTEREST WITHIN THE ZONE OF INFLUENCE OF THE PROJECT

The consideration of how the project could result in likely significant effects to European Site features of interest within its zone of influence relates to an examination of the project's potential to result in emissions to the Lower River Suir SAC that could result negative impacts to the status of the five qualifying species known to occur within the section of the river adjacent to project site.

The potential emissions that could be generated by the project that require examination relate to the construction phase are include emissions to surface water runoff and vibration and noise emissions generated during the construction phase of the project.

The operation phase of the project will not result in any emissions that will have the potential to result in perceptible changes to existing land use that could represent a risk of likely significant effects to the Lower River Suir SAC.

An assessment of the potential for these emissions to result in likely significant effects to the status of these features of the Lower River Suir SAC is provided in Section 8 below.

8.0 ASSESSMENT OF PROJECT'S POTENTIAL TO RESULT IN LIKELY SIGNIFICANT EFFECTS TO QUALIFYING FEATURE OF INTEREST

The function of this Screening for Appropriate Assessment is to assess whether or not the project, alone or in combination with other plans or projects, is likely to have a significant effect on any European Site, in view of best scientific knowledge and the conservation objectives of European Sites and specifically the habitats and species for which the sites have been designated. The structural and functional elements of a European Site to maintain the favourable conservation status of qualifying features of interest are embedded into the list of detailed Site Specific Conservation Objectives for each of the site's interest features. As such the detailed Conservation Objectives of a European Sites represent the parameters against which an assessment of a project's potential to result in likely significant effects should be undertaken.

Site Specific Conservation Objectives for the five qualifying species of the Lower River Suir SAC occurring within the zone of influence of the project have been published by the NPWS (NPWS, 2017). Table 8.1 lists the Conservation Objectives attributes and targets for each of these features and provides an assessment of the potential for the project to undermine each of these targets.

Table 8.1: Assessment Of Likely Significant Effects Against The Site Specific Conservation Objectives For Qualifying Features Of Interest Occurring Within The Zone Of Influence Of The Project

Attribute. No.	Attribute	Target	Assessment
Lamprey species			
1	Distribution (extent of anadromy for sea lamprey) &/or barriers to movement	Access to all watercourses downs to first order streams for river lamprey. Greater than 75% of main stem length of rivers accessible from the estuary.	Development projects can result in barriers to the movement of lamprey and consequent changes to their distribution within river systems where they have the potential to result in: 1. Physical obstruction to the movement of lamprey along a river channel; 2. Changes to the hydraulic regime (i.e. flow velocities) of a river that impedes movement; 3. Noise or vibration The project does not propose any works within the channel of the Lower River Suir SAC or the provision of any structures within the river channel. As such it will not result in any structures within the river channel that could result in physical obstructions to the movement of lamprey species. Changes in flow velocity within a river channel can arise as a result of changes in the width and/or depth or the installation of structures within a channel. As the project does not propose any works that will result in changes to the river channel width or depth or the installation of structures within the channel it will not have the potential to result in changes to the hydraulic regime of the Lower River Suir SAC. Noise and vibration in waters can result in detrimental effects to fish that include behavioural change, auditory tissue damage, which can be temporary, i.e. temporary threshold shift (TTS), or permanent, i.e. permanent threshold shift (PTS), non-auditory tissue damage and death. During the construction phase of the project the main source of noise and vibration will arise during the installation of support piles for the proposed cantilevered sections of the greenway. These piles will be installed into the existing road

			formation and the bedrock below. As described in Section 2 the piles will be cored using low vibration piles with a maximum PPV of 2mm/s. The nearest pile to the quay wall and the adjacent river channel will be approximately 1m. Sound level exposure (SEL) is used as metric to assess the impact of noise on fish. Guideline values for the rate of SEL at which fish are at risk of being injured by piling activities have been established by the California Department of Transport's *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (Caltrans, 2015) and have been summarized by the Aquatic Services Unit (2010). It is noted that the guideline values are based on hammer or impact piling as opposed to low vibration core piling which will be used of this project. The SEL guides are based on a cumulative sound level exposure ($SEL_{cumulative}$) which adds all the SEL outputs from individual pile strikes for the total number of strikes required to drive the pile. The low guideline value for ($SEL_{cumulative}$) to fish as outlined by Caltrans (2015) is 183 dB. It is the considered opinion of the project design engineer that the installation of the piles using the cored low vibration pile that will not involve any high impact strikes or hammering, coupled with the presence of the road formation, masonry block work of the quay wall and other road and subsurface material between the piling locations and the river, that no noise or vibration associated with the piling will have the potential to cause injury to fish (i.e. will not exceed the low guide value of the 183 dB within adjacent waters) within the river channel adjacent to the piling locations. Given this assessment the piling operations associated with the project will not have the potential to result in any detrimental impacts to lamprey species and will not have the potential to cause a barrier to the movement of lamprey during piling operations.
2	Population structure of juveniles	At least three age/size groups present	Of the two Lamprey species occurring within the zone of influence of the project, juvenile River Lamprey are more reliant on estuarine habitat and are more likely to be present in the stretch of the Lower River Suir SAC adjacent to the project site for more prolonged periods of time. Potential effects associated with land use developments that can affect the population of juveniles in estuaries include changes to ongoing noise and vibration; changes to hydraulic regime; water quality; and changes in light conditions. For the reasons outlined for Attribute no. 1 above the project will not have the potential to result in ongoing noise and vibration or changes to the hydraulic regime of the estuary that could result in likely significant effects to the population structure of juvenile Lamprey species.

			The project is not considered to have the potential to result in likely significant effects to the water quality of the Lower River Suir for the following reasons: No works associated with the project will be undertaken within the lower River Suir; The project will not require the use of potentially polluting substances within the river channel. During construction, the primary contaminants of concern are hydrocarbons and suspended solids. There is very limited potential for accidental contamination during construction as any required bulk storage of fuels will be within the construction compound which will be located 150m away from the river channel at the landward site of Bilberry Road towards the western end of the proposed project. As such the only potential leakage along the route corridor is a single construction vehicle leak i.e. maximum 200 litres. Should such a leak occur it will become mixed with surface runoff and be discharged to the river. Any surface water generated from works areas will become quickly diluted within the river. Based on the water volumes in the receiving River Suir any surface water runoff from the project site will represent a miniscule fraction of the total volumes of water within the Lower River Suir and will become well diluted and degraded such that it is imperceptible and will not have the potential to result in any changes to the status of water quality within the river; The completion of all construction works for the proposed greenway link on a section by section basis will minimise the footprint of the construction works to a small area at any one time and will minimise the quantities of materials, dusts and other runoff that can be generated. In addition dust will be minimised through the removal of any excavated material arising from construction works at regular intervals to avoid stockpiles of spoil and, therefore, avoidance of dust arising from same. Damping down techniques will be used providing there is no run off from the road into the adjacent river. Where saw cutting of the road surface or the existing walls takes place, the saw will have a small stream of water to prevent dust arising. These saw cutting operations, and other activities, which potentially can cause dust, will be screened off so that all cutting and dampening water is contained and collected during cutting for removal off site. During removal of sections of the existing wall to accommodate the two proposed cantilevered sections of the greenway link, a suitable barrier will be placed on the river side of the wall in order to prevent the accidental fall of debris into the water;

			All materials associated with the cantilevered sections of the propose greenway link will be pre-treated off site prior to installation. This will eliminate any risk posed by treatment on site in the vicinity of the Lower River Suir SAC. Given the proposed use of the greenway as a pedestrian and cycle surface there will be no risk of pollution to surface water runoff during the operation phase. Existing night time lighting is provided along the entire stretch of the proposed scheme and the project will not result in an intensification of lighting over the river channel. The project does not include any proposals to provide night time lighting over the river channel and there will be no light spill on the channel waters as a result of the project. Two cantilevered sections will be provided as part of the project. The footprint of the cantilevered sections amounts to less than 1,000m^2. The approximately area of the transitional waters of the Lower River Suir SAC amounts to approximately 12.5 million square metres. As such the area occurring under the cantilevered sections will represent a miniscule fraction of the entire footprint of the Lower River Suir SAC. It addition the area occurring under the cantilevered section is tidal and is exposed during low tide and is therefore not likely to be relied upon by juvenile Lamprey Given the above shading under the cantilevered section will be miniscule in the context of the estuarine and transitional waters of the Lower River Suir SAC and will not have the potential to result in a perceptible impact to the extent of juvenile habitat available for Lamprey species. In summary the project will not have the potential to result in any significant effects to the population of structure of juvenile Lamprey populations supported by the Lower River Suir SAC.
3	Juvenile density in fine sediment	Mean catchment juvenile density of at least 2/m2 for river and brook lamprey and 1/m2 for sea lamprey	The fine sediment habitats upon which juvenile Lamprey species rely are restricted to freshwater sections of the Lower River Suir SAC, which are located at remote distance upstream of the project site and are outside the project's zone of influence. There will be no potential for the project to result in significant effects to the density of juveniles occurring in fine sediments.

4	Extent and distribution of spawning habitat	No decline in distribution and extent of spawning beds.	The spawning habitats upon which juvenile Lamprey species rely are restricted to freshwater sections of the Lower River Suir SAC, which are located at remote distance upstream of the project site and are outside the project's zone of influence. There will be no potential for the project to result in significant effects to the extent and distribution of spawning habitat occurring within the SAC.
5	Availability of juvenile habitat	More than 50% of sample sites positive	For the reasons outlined for Attribute Nos. 2, 3 and 4 above the project will have the potential to result in a change to the availability of juvenile habitat.
Atlantic salmon			
6	Distribution (extent of anadromy	100% of river channels down to second order from the estuary.	Development projects can result in barriers to the movement of Atlantic Salmon and consequent changes to their distribution within river systems where they have the potential to result in: 1. Physical obstruction to the movement of lamprey along a river channel; 2. Changes to the hydraulic regime (i.e. flow velocities) of a river that impedes movement; 3. Noise or vibration The project does not propose any works within the channel of the Lower River Suir SAC or the provision of any structures within the river channel. As such it will not result in any structures within the river channel that could result in physical obstructions to the movement of Atlantic Salmon. Changes in flow velocity within a river channel can arise as a result of changes in the width and/or depth, or the installation of structures, within a channel. As the project does not propose any works that will result in changes to the river channel width or depth or the installation of structures within the channel it will not have the potential to result in changes to the hydraulic regime of the Lower River Suir SAC. The effect of noise and vibration in waters on fish are summarised under Attribute No. 1 above. During the construction phase of the project the main source of noise and vibration will arise during the installation of support piles for the proposed cantilevered sections of the greenway. These piles will be installed into the existing road formation and the bedrock below. As described in Section 2 the piles will be cored using low vibration piles with a maximum PPV of 2mm/s. The nearest pile to the quay wall and the adjacent river channel will be approximately 1m. It is the considered opinion of the project design engineer that the installation of the piles using the cored low vibration pile that will not involve any

			high impact strikes or hammering, coupled with the presence of the road formation, masonry block work of the quay wall and other road and subsurface material between the piling locations and the river, that no noise or vibration associated with the piling will have the potential to cause injury to fish (i.e. will not exceed the low guide value of the 183 dB within adjacent waters) within the river channel adjacent to the piling locations. Given this assessment the piling operations associated with the project will not have the potential to result in any detrimental impacts to Atlantic Salmon and will not have the potential to cause a barrier to the movement of Atlantic Salmon during piling operations.
7	Adult spawning fish	Conservation limit consistently exceeded	The spawning habitats upon which Atlantic Salmon rely are restricted to freshwater sections of the Lower River Suir SAC, which are located at remote distance upstream of the project site and are outside the project's zone of influence. There will be no potential for the project to result in significant effects to the extent and distribution of spawning habitat occurring within the SAC.
8	Salmon fry abundance	Maintain or exceed 0+ fry mean catchment wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling.	The habitat upon which Atlantic Salmon fry rely is restricted to freshwater sections of the Lower River Suir SAC, which are located at remote distance upstream of the project site and are outside the project's zone of influence. There will be no potential for the project to result in significant effects to the abundance of Atlantic Salmon fry supported by the SAC.
9	Out-migrating smolt abundance	No significant decline	For the reasons outlined for Attribute Nos. 1 and 6 above, the project will not have the potential result in a decline in the numbers of out-migrating smolt.
10	Number and distribution of redds	No decline in numbers or distribution	Atlantic Salmon redds are restricted to freshwater sections of the Lower River Suir SAC, which are located at remote distance upstream of the project site and are outside the project's zone of influence. There will be no potential for the project to result in changes to the number and distribution of Atlantic Salmon redds occurring within the SAC.
11	Water quality	At least Q4	The potential for the project to result in perturbations to water quality has been examined under Attribute No. 2 above and it based on this the project will not have the potential to influence the water quality status of the Lower River Suir SAC and will not have the potential to result in declines in water quality. It is further noted that this Attribute is particularly concerned with freshwater water quality for Atlantic Salmon. As all freshwater sections of the SAC are located upstream of the project there will be no potential for the project to influence the water quality status of freshwater sections of the SAC.

Twaite Shad			
12	Distribution: extent of anadromy	Greater than 75% of main stem length of rivers accessible from estuary	Development projects can result in barriers to the movement of Twaite Shad and consequent changes to their distribution within river systems where they have the potential to result in: Physical obstruction to the movement of lamprey along a river channel; Changes to the hydraulic regime (i.e. flow velocities) of a river that impedes movement; Noise or vibration The project does not propose any works within the channel of the Lower River Suir SAC or the provision of any structures within the river channel. As such it will not result in any structures within the river channel that could result in physical obstructions to the movement of Twaite Shad. Changes in flow velocity within a river channel can arise as a result of changes in the width and/or depth, or the installation of structures, within a channel. As the project does not propose any works that will result in changes to the river channel width or depth or the installation of structures within the channel it will not have the potential to result in changes to the hydraulic regime of the Lower River Suir SAC. The effect of noise and vibration in waters on fish are summarised under Attribute No. 1 above. Twaite Shad, like all members of the herring family, is considered a "hearing specialist" as it has a much greater auditory range than other fishes (Teague & Clough, 2011). As Twaite Shad is a hearing specialist and predominantly diurnal and as both adults and juveniles are likely to be present at the Project location in significant numbers, this species is considered to be the most sensitive receptor in terms of noise impacts. During the construction phase of the project the main source of noise and vibration will arise during the installation of support piles for the proposed cantilevered sections of the greenway. These piles will be installed into the existing road formation and the bedrock below. As described in Section 2 the piles will be cored using low vibration piles with a maximum PPV of 2mm/s. The nearest pile to the quay wall and the adjacent river channel will be approximately 1m. It is the considered opinion of the project design engineer that the installation of the piles using the cored low vibration pile that will not involve any high impact strikes or hammering, coupled with the presence of the road formation,

			masonry block work of the quay wall and other road and subsurface material between the piling locations and the river, that no noise or vibration associated with the piling will have the potential to cause injury to fish (i.e. will not exceed the low guide value of the 183 dB within adjacent waters) within the river channel adjacent to the piling locations. While it is noted that Twaite Shad are particularly sensitive to noise and vibration within waters, given the assessment that the piling operations associated with the project will not result in any noise or vibration that will have the potential to cause injury to fish species (i.e. will not result in an exceedance of the 183 dB low guide value within adjacent waters), including Twaite Shad, there will be no potential for the piling operations to result in any detrimental impacts to this species and will therefore not have the potential to cause a barrier to the movement of Atlantic Salmon during piling operations.
13	Population structure: age classes	More than one age class present	Potential effects associated with land use developments that can affect the population structure of Twaite Shad in estuaries include changes to ongoing noise and vibration; changes to hydraulic regime; water quality; and changes in light conditions. For the reasons outlined for Attribute Nos. 1 and 12 above the project will not have the potential to result in ongoing noise and vibration or changes to the hydraulic regime of the estuary that could result in likely significant effects to the population structure of Twaite Shad. For the reasons outlined in Attribute No. 2 above the project is not considered to have the potential to result in likely significant effects to the water quality of the Lower River Suir Existing night time lighting is provided along the entire stretch of the proposed scheme and the project will not result in an intensification of lighting over the river channel. The project does not include any proposals to provide night time lighting over the river channel and there will be no light spill on the channel waters as a result of the project. Two cantilevered sections will be provided as part of the project. The footprint of the cantilevered sections amounts to less than 1,000m^2. The approximately area of the transitional waters of the Lower River Suir SAC amounts to approximately 12.5 million square metres. As such the area occurring under the cantilevered sections will represent a miniscule fraction of the entire footprint of the Lower River Suir SAC. It addition the area

			occurring under the cantilevered section is tidal and is exposed during low tide and is therefore not likely to be relied upon by Twaite Shad Given the above, shading under the cantilevered section will be miniscule in the context of the estuarine and transitional waters of the Lower River Suir SAC and will not have the potential to result in a perceptible impact to the population structure of Twaite Shad within the section of the river adjacent to the project site. In summary the project will not have the potential to result in any significant effects to the population structure of Twaite Shad supported by the Lower River Suir SAC.
14	Extent and distribution of spawning habitat	No decline in extent and distribution of spawning habitats	The spawning habitat for this species is located upstream of Carrick-on-Suir at a remote distance from the project site and outside the zone of influence of the project. There will be no potential for the project to negatively affect the extent or distribution of spawning habitat for Twaite Shad.
15	Water quality: oxygen levels	No lower than 5mg/l	For the reasons outlined in Attribute No. 2 above the project is not considered to have the potential to result in likely significant effects to the water quality of the Lower River Suir and will not have the potential to alter oxygen levels within the river.
16	Spawning habitat quality: Filamentous algae; macrophytes; sediment	Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plants) growth	The spawning habitat for this species is located upstream of Carrick-on-Suir at a remote distance from the project site and outside the zone of influence of the project. There will be no potential for the project to result in changes to the quality of Twaite Shad spawning habitat.
Otters			
17	Distribution	No significant decline	The project will not have the potential to change the distribution of otters in the vicinity of the project site. No otters were identified as breeding within the vicinity of the project site and there will be no change to the extent of riparian habitat occurring along the river upon which otters rely. The project will not result in any noise or vibration emissions that will have the potential to result in significant disturbance to otters.
18	Extent of terrestrial habitat	No significant decline	The provision of the greenway link will not result in a change in land cover adjacent to the project site and will not result in any change to the extent of terrestrial habitat available for otters.

19	Extent of marine habitat	No significant decline	The project will not have any potential to interfere with this attribute and target due to the remote location of marine otter habitat from the project site.
20	Extent of freshwater habitat (river)	No significant decline	For the reasons outlined for Attribute no. 2 above, the project will not have the potential to undermine this target.
21	Extent of freshwater habitat (lakes)	No significant decline	This attribute and target are not relevant to the project as no lakes occur within the catchment area.
22	Couching sites and holts	No significant decline	No couching sites or holts were identified as occurring along the bankside adjacent to the project site during a field survey in April 2018. No holts or couching sites occur in the immediate vicinity of the project and none will be disturbed by the project's activities.
23	Fish biomass	No significant decline	Given the assessment outlined for Lamprey, Atlantic Salmon and Twaite Shad above, the project will not have the potential to undermine this target.
24	Barriers to connectivity	No significant increase	For the reasons outlined for Attribute Nos. 1, 6 and 12 above, the project will not have the potential to undermine this target.

8.1 POTENTIAL IN-COMBINATION EFFECTS

A comprehensive review of all other plans and project occurring in the vicinity of the project has been recently prepared for the proposed Waterford City Sustainable Bridge project (ROD, 2018). Relevant plans and project listed in this review that occur in the vicinity of the project site are listed in Table 8.2 below and are assessed for their potential to result in likely significant effects to the Lower River Suir SAC.

In addition a review of the Waterford City and County Council online planning portal has also been completed in order to identify any other recent projects that may have applied for planning permission since the completion of the ROD (2018) review in December 2018. No additional projects were identified during this review.

Table 8.2: Assessment of the Project's Potential to Combine with Other Projects

Project Planning Ref. & Brief Description	Overview[1]	Assessment
Waterford Greenway Cycle and Pedestrian Route – Kilmeaden to Bilberry	A 9.6km Greenway between Kilmeaden and Bilberry, Waterford, 600 m upstream of the Project, on the south side of the River Suir, is open to the public. The route forms part of the Waterford to Dungarvan "Déise Greenway". The proposed project will result in this extension of the eastern end of this greenway into Waterford City centre.	All works associated with the existing greenway have been completed and did not give rise to negative effects to the Lower River Suir SAC. The operation phase of the existing greenway does not pose a risk of negative effects to the SAC. As there are no ongoing effects associated with this existing project, it will not combine with the proposed project to result in negative in combination with the Project.
Waterford Flood Alleviation Scheme Phase	Flood protection works were completed in 2014 along the River Suir upstream at its	These works have been completed and did not give rise to adverse effects. As there are no ongoing or

[1] The source of the overview description for the majority of the projects listed in Table 8.2 are taken from ROD (2018)

1	confluence with John's River at Scotch's Quay/George's Quay along the length of the South Quay to Rice Bridge and on John's River from its confluence with the River Suir at Scotch Quay/George's Quay. The flood protection works are in immediate proximity to the Project.	future effects, there will be no negative effects in combination with the Project.
Waterford City Public Infrastructure Project: SDZ Access and Public Road Infrastructure Part VIII Application	The proposed road and access infrastructure will consist of modifying and upgrading the existing R711 dual carriageway and Abbey Road to facilitate the connection of the existing and proposed future planned road, cycling and pedestrian network with a future planned internal road, cycle and pedestrian network within the North Quays SDZ. Connection into the SDZ is proposed through two bridge access points located at the eastern and western ends of the SDZ respectively. The eastern access will connect into a realigned Abbey Road and the western access will connect to the R711 opposite the currently unoccupied Ard Rí Hotel entrance. The site is set back from the existing Dock Road and adjacent properties and is also set back from the River Suir.	Owing to the nature and scale of the proposed road works and their distance from the River Suir, they will not give rise to adverse effects in combination with the Project.
WCCC Transportation Hub: Dock Road and North Quays SDZ Application	Construction of a new transport hub to accommodate the relocation of the existing passenger terminus from Plunkett train station. The project has not yet been fully defined or designed at this stage. However, the site is defined and the works are likely to comprise of the following; site clearance (including the demolition of	The construction phase or operation phase of the proposed greenway link project will not result in any impacts to the Lower River Suir SAC by itself and will not overlap with this project which has yet to be designed and approved. As the operation phase of the proposed greenway extension will be the only phase of this project that will overlap with the proposed transportation hub there will be no potential for both projects to combine

	the existing railway overbridge at the site); 2 No. 200 m long station platforms; a train station building at the eastern end of the platform which will comprise of a concourse/waiting area and a footbridge/plaza bridge over the railway line connecting into the SDZ development; a footbridge at the western end of platforms connecting into the SDZ development; hard landscaping of the area between the Project (access infrastructure) drop-off/set-down area and the station/platforms to facilitate safe access and egress into the station and North Quays SDZ. The site is set back from the existing Dock Road and adjacent properties and is also set back from the River Suir.	to result in cumulative negative effects to the Lower River Suir SAC.
River Suir Sustainable Transport Bridge	The proposed River Suir Sustainable Transport Bridge will be located at the eastern terminus of the proposed greenway link. Construction of this bridge will not commence until after the completion of the proposed greenway link.	The provision of the section of the proposed greenway in the vicinity of the proposed bridge (i.e. between Rice Bridge and the proposed bridge) will involve minor works such as the resurfacing of existing made ground along the quay wall. Impact piling will be required during the construction phase of the proposed bridge. All works associated with the proposed greenway link, including low vibration core piling, will be completed in advance of the commencement of construction phase of the bridge. There will be no potential for the construction phase of both projects to overlap. Given the sequencing of these projects their construction phases will not combine to result in cumulative

		negative effects to the Lower River Suir SAC. An NIS has been prepared for the proposed bridge and mitigation measures have been outlined to avoid significant effects to the Lower River Suir SAC during its operation. As the proposed greenway link will not in itself have the potential to result in any negative operation phase effects to the Lower River Suir SAC and provided the operation phase mitigation measures of the proposed bridge are implemented the operation phase of both projects will no combine to result in cumulative negative effects to the Lower River Suir SAC.
WCCC Flood Defences Project	The aim of this future project is to provide flood protection to the west of Rice Bridge. This project will be developed between Irish Rail, the Office of Public Works and WCCC and is currently at preliminary discussion stage. In the absence of any design or even design options, an assessment of cumulative effects with this project cannot be undertaken at this stage. Once developed, this project will be required to undertake the appropriate assessments including EIA Screening and AA Screening and consider the cumulative effects resulting from all other projects, as appropriate.	Owing to the nature and scale of this project, its proximity to the River Suir, and the absence of any design information at this stage the potential for it to result in likely significant effects to the Lower River Suir SAC cannot be ruled out. Construction works associated with the proposed greenway link are planned to be completed well in advance of the commencement of any works associated with this project. As such there will be no potential for cumulative construction related impacts to the SAC. The operation phase of the proposed greenway will not in itself result in negative impacts to the SAC and it is not predicted to have the potential to combine with any proposed flood defence works to result in cumulative negative effects to the SAC. As noted a Screening for Appropriate Assessment and where necessary an Appropriate Assessment for the proposed flood defence project, once formulated, will be required to give consideration to cumulative effects with the proposed greenway link and other projects in the surrounding vicinity.

McInerney Homes Ltd – Housing Development [Planning Ref. 14500067]	Extension of the duration of a previous permission under Planning Ref. 09/500006 was granted in 2014 and will be valid until 2019. The development consists of the construction of 22 No. semi-detached homes to replace 18 No. detached houses on site numbers 58 -75 granted under Planning Permission No. 04/500131, minor adjustments to the approved road layout and all associated site works. The proposed development is located to the south of the proposed greenway link.	Owing to the nature and scale of this development and its distance from the River Suir, there will be no adverse effects in combination with the Project
Michael Hanrahan [Planning Ref. 17222]	An extension in duration of the planning application 12/500066 was granted in May 2017. The development comprises building 36 No. houses consisting 3- and 4-bedroom detached and semi-detached 2-storey and/or dormer-style 3-storey houses. Estate entrances are provided from Gracedieu Road and Quarry Road and together with all associated site development works and all associated services installation. The site is located 1.7 km upstream of the Project, adjacent to the Bilberry Industrial Estate.	Owing to the nature and scale of this development and its distance from the River Suir, there will be no adverse effects in combination with the Project.

8.1.1.1 Potential for In-Combination Effects with Other Plans

The relevant plan with respect to the location of the project is the current Waterford City Development Plan 2013 – 2019. The Waterford CDP has been reviewed in order to identify any other plans or projects that may be facilitated by the CDP within the vicinity of the project site. No such plans or projects have been identified and it is considered that there will be no potential for the project to combine with the Waterford CDP to result in likely significant effects to the Lower River Suir SAC.

In addition to the Waterford CDP the Waterford City North Quays Strategic Development Zone (SDZ) provides a framework plan for the development of lands along the north quay to the east of Rice Bridge. The proposed greenway link as well as the proposed Waterford City Sustainable Transport Bridge form part of the Access Strategy for the SDZ. A NIS of the SDZ has been completed and as part of the NIS assessment an examination of the potential cumulative effects posed by the access strategy and other elements of the SDZ were considered. The SDZ NIS concluded that the impacts of the access strategy and as such the greenway link are related to the potential impacts associated with the provision of the Waterford City Sustainable Transport Bridge. The proposed bridge and the wider SDZ development have been identified as having the potential to combine to result in cumulative negative effects to the Lower River Suir SAC. Mitigation measures to avoid such effects are outlined in the NIS for the SDZ and are also outlined in the NIS for the proposed Waterford City Sustainable Transport Bridge project. Provided all mitigation measures are implemented the provision of all elements of the SDZ and the proposed bridge will not combine with the proposed greenway link to result in likely significant effects to the Lower River Suir SAC or any other European Sites.

9.0 SCREENING CONCLUSION

During the preparation of this Screening Report for Appropriate Assessment of the proposed Bilberry to Waterford City Centre greenway link it was found that five European Sites occur within a 15km radius of the project site. The Lower River Suir which is deisgnated as the Lower River Suir SAC is located adjacent to sections of the propsoed greenway link and as such was identified as occurring within the zone of influence of the project. The four other European Sites occurring within the wider 15km surrounding area were not identified as occurring within the zone of influence of the project due to the absence of any functional impact pathways linking the project site to these European Sites.

As such this Screening for Appropriate Assessment has focused on assessing the potential for the project, alone or in combination with other projects, to result in likely significant effects to the conservation objectives of the Lower River Suir SAC. The qualifying features of interest of the Lower River Suir SAC that were identified as occurring within the zone of influence of the project are Sea Lamprey, River Lamprey, Atlantic Salmon and Otters.

An assessment of the project's potential to undermine the attributes and targets for achieving the conservation objectives of these qualifying features of interest of the SAC has been

completed and it has been found that the project does not have the potential to result in likely significant effects to these attributes and targets and will not have the potential to undermine the conservation objectives for these qualifying feature of interest.

An assessment of the project's potential to combine with other plans or projects has also been completed and it has been found that the project will not have the potential to combine with these other plans or projects to result in likely significant effects to the Lower River Suir SAC or any other European Sites.

In light of the findings of this report it is the considered view of the authors of this Screeing Report for Appropriate Assessment that it can be concluded by Waterford City and County Council that the project is not likely, alone or in-combination with other plans or projects, to have a significant effect on any European Sites in view of their Conservation Objectives and on the basis of best scientific evidence and there is no reasonable scientific doubt as to that conclusion.

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APPENDIX 1: QUALIFYING FEATURES OF INTEREST OF EUROPEAN SITES OCCURRING WITHIN THE WIDER SURROUNDING AREA

A total of five European Sites were identified as occurring within a 15km radius of the project site. Table A1.1 below lists the qualifying features of interest of each of these European Sites.

Table A1.1: Qualifying Features of Interest for European Sites occurring within 15km of the Project

European Sites	Qualifying features of interest
Lower River Shannon SAC	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]
	Mediterranean salt meadows (Juncetalia maritimi) [1410]
	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]
	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]
	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]
	Taxus baccata woods of the British Isles [91J0]
	Margaritifera margaritifera (Freshwater Pearl Mussel)

	[1029]
	Austropotamobius pallipes (White-clawed Crayfish) [1092]
	Petromyzon marinus (Sea Lamprey) [1095]
	Lampetra planeri (Brook Lamprey) [1096]
	Lampetra fluviatilis (River Lamprey) [1099]
	Alosa fallax fallax (Twaite Shad) [1103]
	Salmo salar (Salmon) [1106]
	Lutra lutra (Otter) [1355]
River Barrow and River Nore SAC	Estuaries [1130]
Wicklow Mountain SAC	Mudflats and sandflats not covered by seawater at low tide [1140]
	Reefs [1170]
	Salicornia and other annuals colonising mud and sand [1310]
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]
	Mediterranean salt meadows (Juncetalia maritimi)

	[1410]
	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]
	European dry heaths [4030]
	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]
	Petrifying springs with tufa formation (Cratoneurion) [7220]
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]
	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]
	Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]
	Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]
Poulaphouca Reservoir SPA	Austropotamobius pallipes (White-clawed Crayfish) [1092]
	Petromyzon marinus (Sea Lamprey) [1095]
South Dublin Bay SAC	Lampetra planeri (Brook Lamprey) [1096]

	Lampetra fluviatilis (River Lamprey) [1099]
	Alosa fallax fallax (Twaite Shad) [1103]
	Salmo salar (Salmon) [1106]
North Dublin Bay SAC	Lutra lutra (Otter) [1355]
	Trichomanes speciosum (Killarney Fern) [1421]
	Margaritifera durrovensis (Nore Pearl Mussel) [1990]
Tramore Dunes & Backstrand SAC	Mudflats and sandflats not covered by seawater at low tide [1140]
	Annual vegetation of drift lines [1210]
	Perennial vegetation of stony banks [1220]
	Salicornia and other annuals colonising mud and sand [1310]
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]
	Mediterranean salt meadows (Juncetalia maritimi) [1410]
	Embryonic shifting dunes [2110]
	Shifting dunes along the shoreline with Ammophila

	arenaria (white dunes) [2120]
	Fixed coastal dunes with herbaceous vegetation (grey dunes) [213
Tramore Back Strand SPA	Light-bellied Brent Goose (Branta bernicla hrota) [A046]
	Golden Plover (Pluvialis apricaria) [A140]
	Grey Plover (Pluvialis squatarola) [A141]
	Lapwing (Vanellus vanellus) [A142]
	Dunlin (Calidris alpina) [A149]
	Black-tailed Godwit (Limosa limosa) [A156]
	Bar-tailed Godwit (Limosa lapponica) [A157]
	Curlew (Numenius arquata) [A160]
	Wetland and Waterbirds [A999]
Mid-Waterford Coast SPA	Cormorant (Phalacrocorax carbo) [A017]
	Peregrine (Falco peregrinus) [A103]

	Herring Gull (Larus argentatus) [A184]
	Chough (Pyrrhocorax pyrrhocorax) [A346]

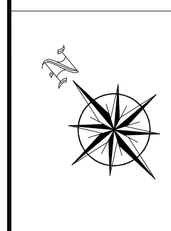
APPENDIX 2: SCHEME DRAWINGS

This drawing is produced using the :
Irish Transverse Mercator (ITM)

A1

LEGEND:

- PROPOSED KERBLINE
- PROPOSED TACTILE PAVING
- PROPOSED FOOTPATH
- PROPOSED CARRIAGEWAY
- PROPOSED RAISED CYCLETRACK
- PROPOSED ON-ROAD CYCLELANE
- PROPOSED SHARED SPACE
- PROPOSED BUS LANE / STOP
- PROPOSED LANDSCAPING
- PROPOSED RAISED PLATFORM
- PROPOSED EARTHWORKS
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING BOUNDARY TO BE RETAINED
- PROPOSED BOUNDARY
- EXISTING GREENWAY
- EXISTING GREENWAY CARPARK



EXISTING SECTION A-A (TYP.)
SCALE - 1:125

PROPOSED SECTION A-A (TYP.)
SCALE - 1:125

Revision	Description	Drw'n	Chk'd	Date
P01	Planning Issue	MR	CB	26.04.19

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Client: WATERFORD CITY & CO. CO.

Project: BILBERRY TO CITY CENTRE
WATERFORD GREENWAY LINK

Dwg. Title: PART 8 PLANNING - SCHEME LAYOUT
(Sheet 1 of 4)

Drawn By: MR | Date: 26.04.19

Checked by: CB | Scale: 1:1000 @ A1

Project Code	Originator	Zone/ Phase	Level	Type	Role	Dwg. No.
18_200	CSE	GEN	XX	DR	C	2216

S2 — ISSUED FOR INFORMATION
Status Code — Suitability Description

P01 — PLANNING
Revision — Project Status

18_200
CSEA Job No.

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Irish Transverse Mercator (ITM)

A1

LEGEND:

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- PROPOSED TACTILE PAVING
- PROPOSED FOOTPATH
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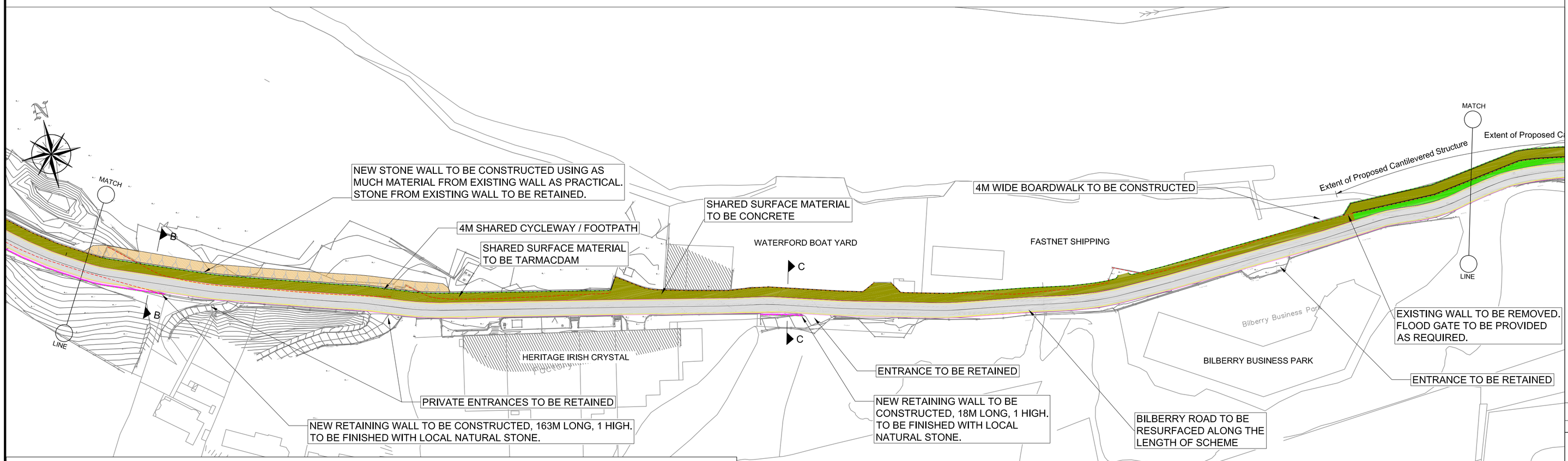

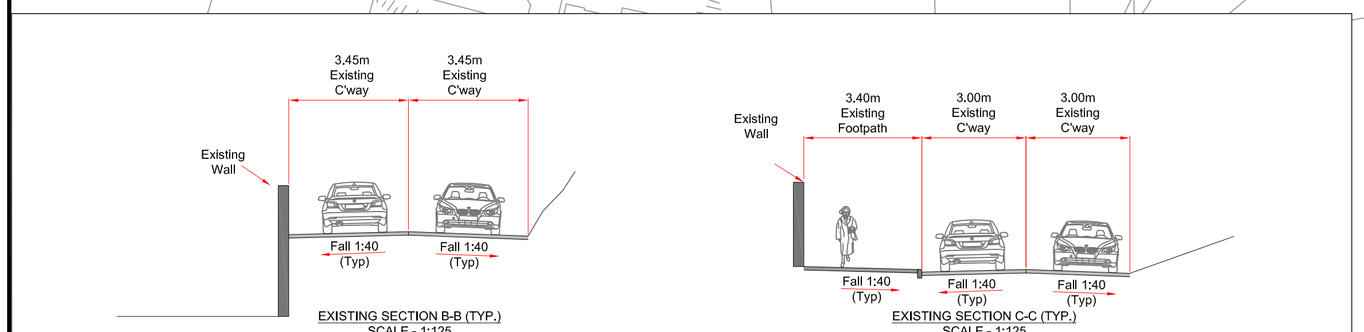

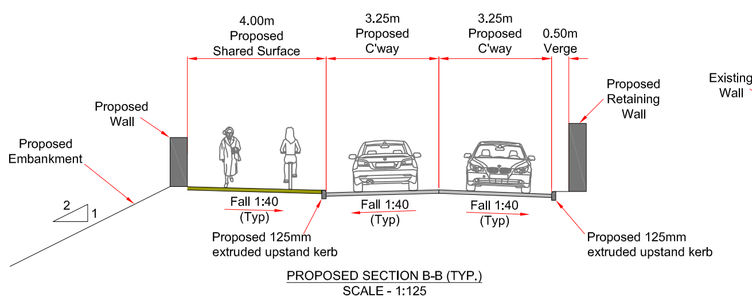

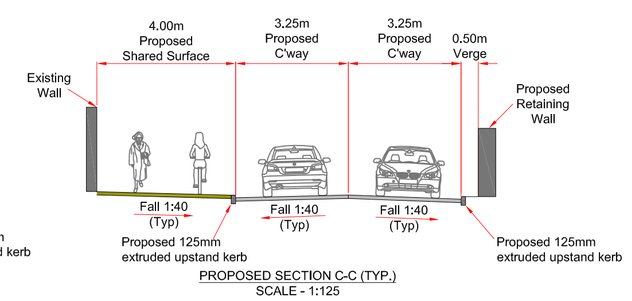

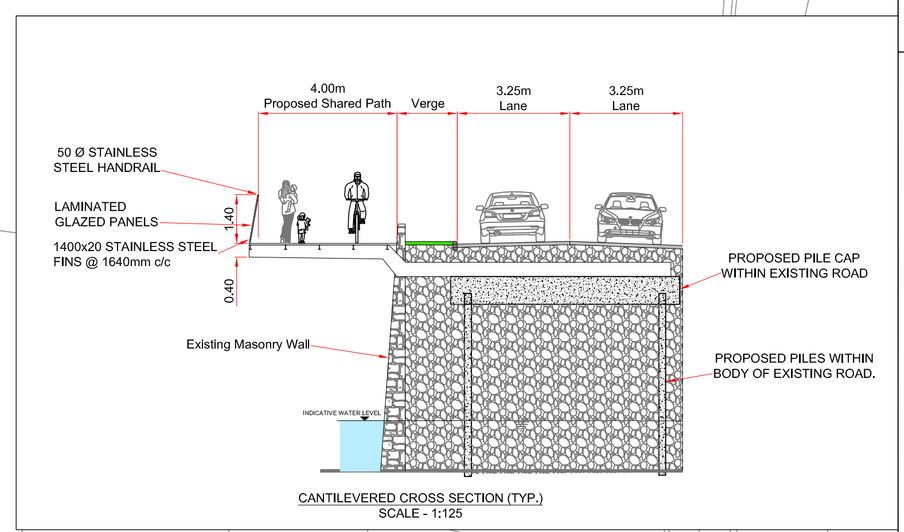

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Project: BILBERRY TO CITY CENTRE WATERFORD GREENWAY LINK

PART 8 PLANNING - SCHEME LAYOUT (Sheet 2 of 4)

Dwg. Title

Drawn By: MR | Date: 26.04.19

Checked by: CB | Scale: 1:1000 @ A1

Project Code	Originator	Zone/ Phase	Level	Type	Role	Dwg. No.
18_200	- CSE -	GEN -	XX -	DR -	C -	2217

Status Code	Suitability Description
S2	ISSUED FOR INFORMATION

Revision	Project Status	CSEA Job No.
P01	PLANNING	18_200

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Irish Transverse Mercator (ITM)

A1

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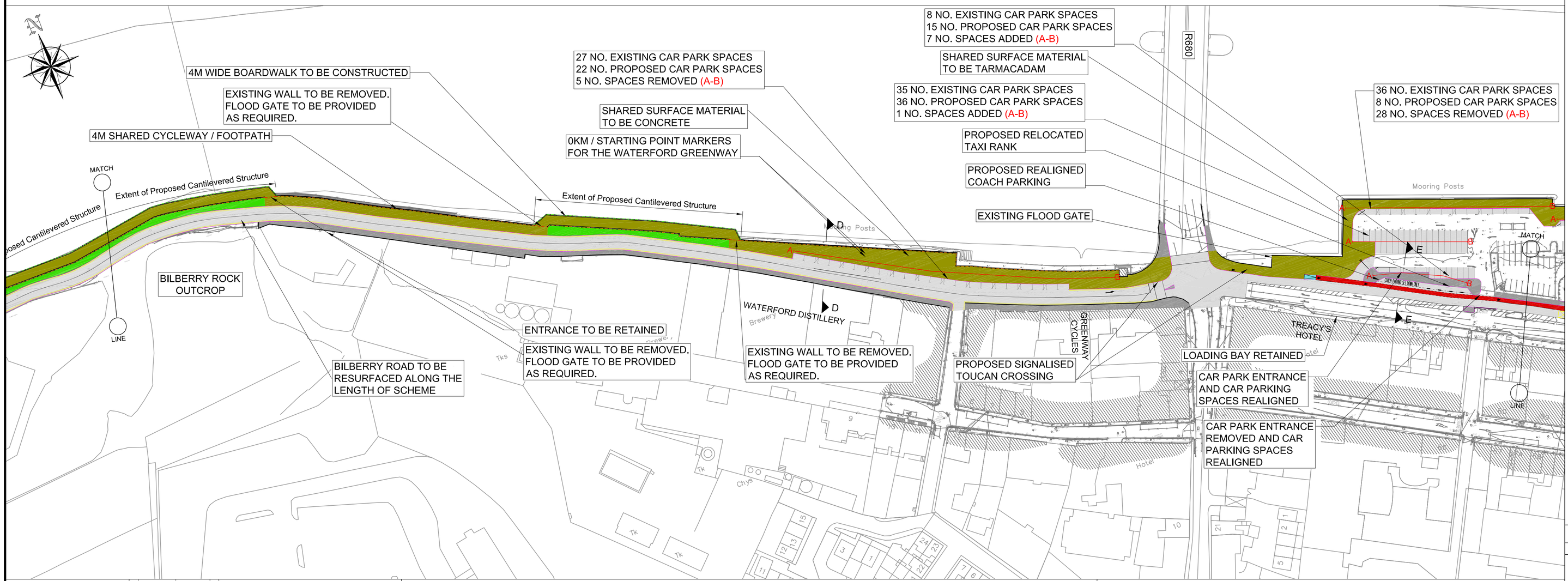

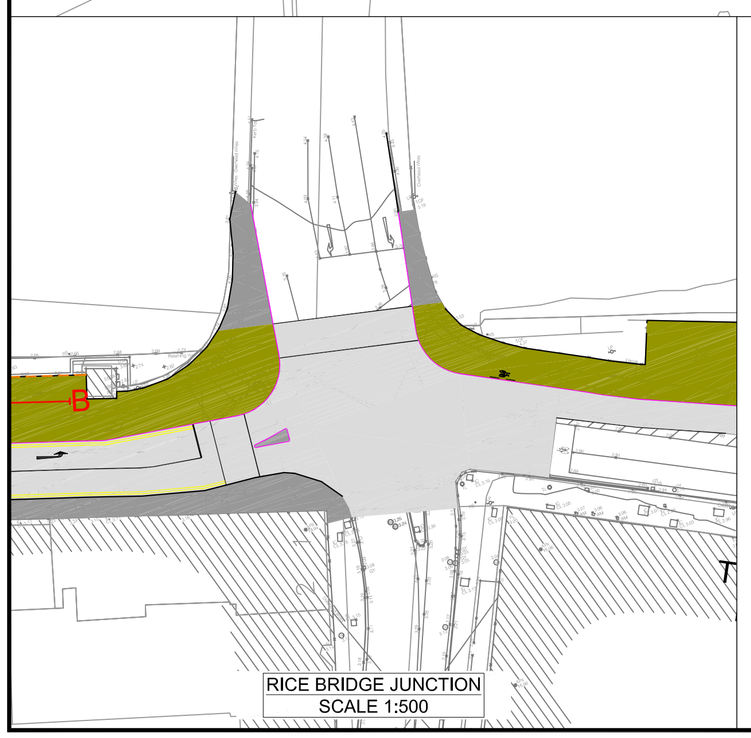

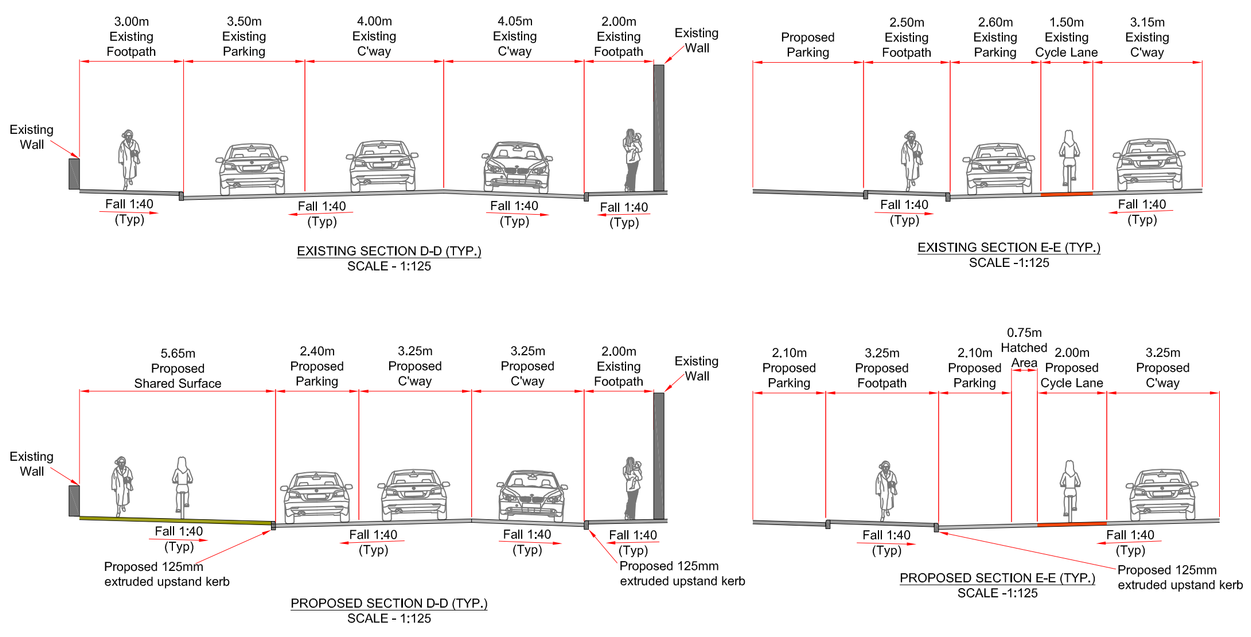

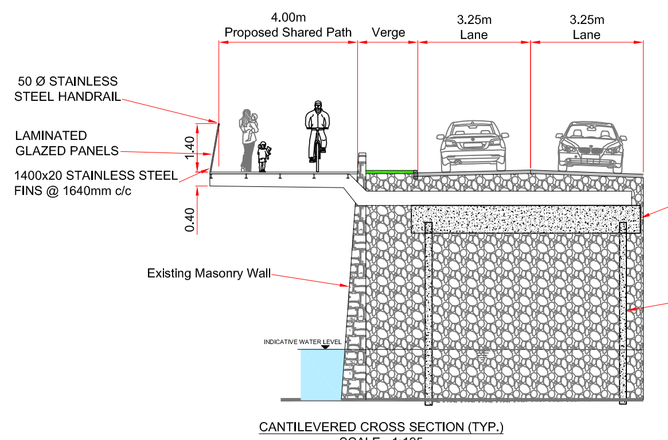

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Dwg. Title: PART 8 PLANNING - SCHEME LAYOUT (Sheet 3 of 4)

Drawn By: MR | Date: 26.04.19

Checked by: CB | Scale: 1:1000 @ A1

Project Code	Originator	Zone/ Phase	Level	Type	Role	Dwg. No.
18_200	CSE	GEN	XX	DR	C	2218

S2 — ISSUED FOR INFORMATION (Status Code / Suitability Description)

P01 — PLANNING (Revision / Project Status)

18_200 (CSEA Job No.)

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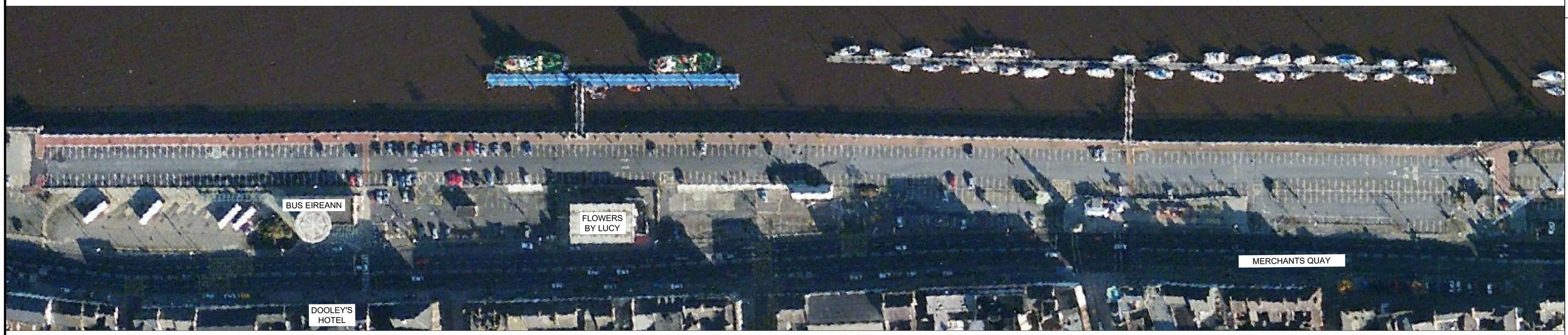

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- EXISTING GREENWAY CARPARK

53 NO. EXISTING CAR PARK SPACES.
2 NO. EXISTING DISABLED SPACES.
21 NO. PROPOSED CAR PARK SPACES
2 NO. PROPOSED DISABLED SPACES.
32 NO. NET SPACES REMOVED. (A-B)

49 NO. EXISTING CAR PARK SPACES
22 NO. PROPOSED CAR PARK SPACES
27 NO. SPACES REMOVED (A-B)

14 NO. EXISTING CAR PARK SPACES
5 NO. PROPOSED CAR PARK SPACES
9 NO. SPACES REMOVED (A-B)

EXISTING TREE PLANTERS TO BE REMOVED AND RELOCATED ALONG THE LENGTH OF QUAY WALL WITH A LANDSCAPED STRIP

SHARED SURFACE MATERIAL TO BE CONCRETE WITH BANDS OF STONE

PROPOSED SIGNALISED TOUCAN CROSSING

SCHEME TO TIE INTO EXISTING QUAY PLAZA

FUTURE SUSTAINABLE TRANSPORT BRIDGE

PROPOSED RAISED PLATFORM

BUS STOP RETAINED

PARKING SET DOWN ONLY EXTENDED

BUS EIREANN

DOOLEYS HOTEL

DEPT. OF AGRICULTURE

OLIVER MURPHY INSURANCE BROKERS

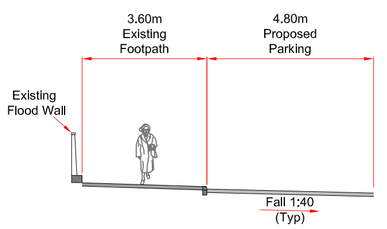
GRANVILLE HOTEL

BANK OF IRELAND

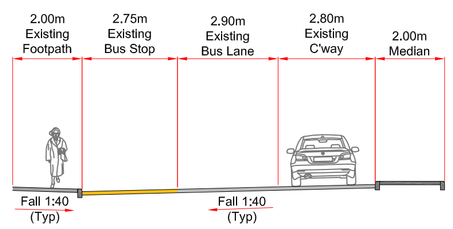
LOADING BAY RETAINED

COACH PARKING RETAINED

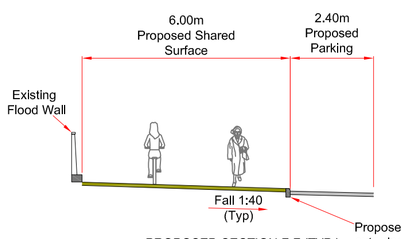
PARKING RETAINED



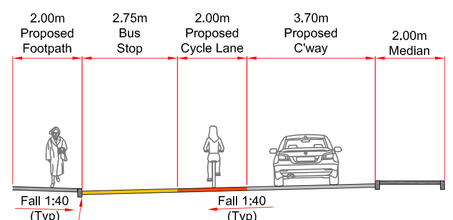
EXISTING SECTION F-F (TYP.)
SCALE -1:125



EXISTING SECTION G-G (TYP.)
SCALE -1:125



PROPOSED SECTION F-F (TYP.)
SCALE -1:125



PROPOSED SECTION G-G (TYP.)
SCALE -1:125

Revision	Description	Drw'n	Chk'd	Date
P01	Planning Issue	MR	CB	26.04.19

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Project: BILBERRY TO CITY CENTRE WATERFORD GREENWAY LINK

Dwg. Title: PART 8 PLANNING - SCHEME LAYOUT (Sheet 4 of 4)

Drawn By: MR — Date: 26.04.19

Checked by: CB — Scale: 1:1000 @ A1

Project Code	Originator	Zone/ Phase	Level	Type	Role	Dwg. No.
18_200	CSE	GEN	XX	DR	C	2219

S2 — ISSUED FOR INFORMATION (Status Code / Suitability Description)

P01 — PLANNING (Revision / Project Status)

18_200 (CSEA Job No.)