# 7 Landscape and Visual

## 7.1 Introduction

This chapter presents the landscape, townscape and visual impact assessment of the proposed Douglas Flood Relief Scheme, including the Togher Culvert. The scheme comprises sections along the Douglas/Tramore River (including tributaries of Ballybrack Stream, Grange Stream in Donnybrook, and a section of the Tramore River in Togher, County Cork. This assessment has been carried out by Brady Shipman Martin.

The objective of the assessment is to appraise the existing landscape character of the site and its wider setting so as to establish the sensitivity towards and likely landscape and visual impacts arising from the proposed scheme. Potential mitigation measures are also included.

## 7.2 Assessment Methodology

### 7.2.1 Introduction

The proposed scheme was assessed with regard to key landscape and visual concerns. Firstly, the existing landscape/townscape character was evaluated with regard to criteria such as landform, land cover and land use, key features and focal points, key views and prospects, scale of the receiving visual unit, quality of the environment and amenity, and the valued aspects integral to how the character is experienced or perceived. Secondly, the visual impact regarding the sensitivity of this character to the type and degree of change arising from the proposal was assessed. In both cases a high degree of subjectivity may be involved in the consideration of the significance of any changes.

In general the proposed scheme is localised in nature, yet will likely give rise to a range of impacts with regard to the visual aesthetics of the river amenity. Construction impacts will be temporary, negative and localised.

The landscape and visual impact assessment included:

- Field visits to site and environs.
- Review of relevant planning legislation, policy and other documentation to establish the local and wider significance of the area or features of the area in a landscape and visual context.
- Desk studies of ordinance survey mapping and aerial photography.
- Review of details of the proposed scheme including plans, sections, elevations and photomontages.

### 7.2.2 Relevant Guidelines and Legislation

The LIVA has had regard to the following legislation, policy and guidance:

Cork County Council, 2014, *Cork County Development Plan 2014*

Cork County Council, 2007, *Cork County Draft Landscape Strategy*

Cork County Council, 2013, *Douglas Land Use and Transportation Study (DLUTS) 2013*

Cork County Council, 2015, *Carrigaline Electoral Local Area Plan 2015*

Cork County Council, 2016, *Draft Ballincollig-Carrigaline Municipal District Local Area Plan 2016.*

Environmental Protection Agency, 2002, *Guidelines on the information to be contained in Environmental Impact Statements*

Environmental Protection Agency, 2003, *Advice Notes on current practice in the preparation of Environmental Impact Statement*

Environmental Protection Agency, 2015, *Draft Revised Guidelines on the information to be contained in Environmental Impact Statements*

Environmental Protection Agency, 2015, *Draft Advice Notes on current practice in the preparation of Environmental Impact Statement*

Government of Ireland, *Planning and Development Acts 2000-2010*

Landscape Institute, and Institute of Environmental Management & Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment.* 3rd Ed. Oxon: Routledge

### 7.2.3 Significance, Nature and Duration of Impact Criteria

The impact significance criteria used in the assessment are based on the EPA Draft Revised Guidelines 2002 and Draft Advice Notes 2003 as set out in **Table 7.1**, with additions from the EPA's 2015 revised guidelines and notes. The nature of landscape and visual impacts may be positive, neutral or negative/adverse as defined in **Table 7.2**. The duration of impacts is as described in the EPA Guidelines and as set out in **Table 7.3**. The terminology used to define impacts is outlined in **Table 7.1.**

**Table 7.1 Significance of Effects Terminology** from Guidance on the information to be contained in Environmental Impact Statements, EPA. 2002. (Note; 'Not significant' and 'Very significant' definitions introduced in Draft EPA Revised Guidelines on the information to be contained in Environmental Impact Statements, 2015).

| Impact Level | Definition |
|---|---|
| Imperceptible | An impact capable of measurement but without noticeable consequences |
| Not significant | An impact which causes noticeable changes in the character of the environment but without noticeable consequences. |
| Slight | An impact which causes noticeable changes in the character of the environment without affecting its sensitivities |
| Moderate | An impact that alters the character of the environment in a manner that is consistent with the existing and emerging trends |
| Significant | An impact which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment |
| Very significant | An impact, which by its character, magnitude duration or intensity, significantly alters the majority of a sensitive aspect of the environment. |

| Impact Level | Definition |
|---|---|
| Profound | An impact that obliterates sensitive characteristics |

As per the EPA Guidelines, landscape and visual impacts (or effects) can be considered to be negative/adverse, neutral or positive in effect. Impacts are considered where they may be direct, indirect and/or cumulative as appropriate. Impact duration is considered as being Momentary (effects lasting seconds to minutes), Brief (less than a day), Temporary (for up to one year), Short-term (from 1 to 7 years), Medium-term (7 to 15 years), Long-term (from 15 to 60 years) or Permanent (in excess of 60 years).

There were no limitations or constraints in carrying out the assessment.

**Table 7.2 Nature of Impacts**

| Nature of Impact | Description |
|---|---|
| Positive | A change that improves the quality of the environment |
| Neutral | A change that does not affect the quality of the environment |
| Negative/adverse | A change that reduces the quality of the environment. |

**Table 7.3: Duration of Impacts**

| Nature of Impact | Description |
|---|---|
| Momentary | Lasting from seconds to minutes |
| Brief | Lasting less than a day |
| Temporary | Lasting one year or less |
| Short-term | Lasting one to seven years |
| Medium-term | Lasting seven to fifteen years |
| Long-term | Lasting fifteen to sixty years |
| Permanent | Lasting over sixty years |

### 7.2.4 Photomontages

A number of representative photomontages have been prepared so as to more fully illustrate the physical and visual nature of aspects of the proposed scheme. The photomontages, which are included in **Appendix 7.1**, are from/of the following five locations and have guided the assessment of landscape and visual impacts.

- View 1 – View of open channel of Tramore River at Togher Road
- View 2 – View of open channel of Tramore River at St. Patrick's Mills
- View 3 – View towards Ballybrack Stream within Douglas Community Park
- View 4 – View of Ballybrack Stream from grounds of ICA building
- View 5 – View of Ballybrack Stream within Ravensdale

It will be necessary to remove some trees in each of the proposed works areas. A tree survey has been carried out for the site which specifies which trees should be retained where it is feasible to do so, refer to **Appendix 6.5**. The removal of trees will be kept to a minimum. Every effort will be made to retain these trees where possible. For impact assessment purposes, these trees are assumed to be removed in the EIS.

The necessity for tree removal in Douglas Community Park will be determined during construction. For this view, photomontages will depict both the worst case scenario, i.e. removal of all trees along the stream, as well as a less impacting scenario, i.e. partial removal of trees along the stream.

## 7.3 Receiving Environment

### 7.3.1 General Context

### Douglas

The Douglas section of the proposed scheme is divided between three sites within the main valley of the Douglas/Tramore River: 1) Tramore River at St Patrick's Mills, 2) Ballybrack Stream (a tributary of the Douglas/Tramore River) running through Ravensdale/Ballybrack Woods, located approximately 380 metres south-east of St. Patrick's Mills, and 3) Grange Stream (a tributary of Ballybrack Stream) within Donnybrook Commercial Centre approximately 500 metres from the Ballybrack Woods section. All of the sites are characterised by a low-lying strong urban form on the river valley floor, with diverse activities and close, built horizons determining limited views out of the sites.

#### *St. Patrick's Mills*

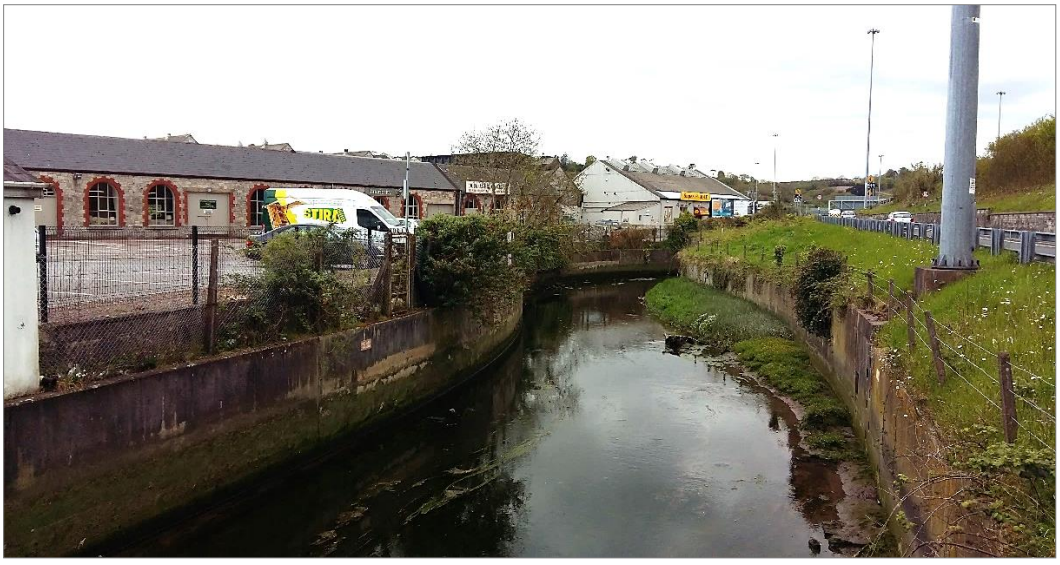

**Figure 7.1: View of proposal site from R851, along open culvert on Tramore River, adjacent to St Patrick's Mills on the left and a slip road to the N40 on the right.**

The proposed scheme is located along the open channel of the Tramore River in advance of its transition into the Tramore River. Here the channel runs alongside a car park boundary of the former St Patrick's Woollen Mills building (Figure 1). The mills and car park are set within a tight complex of small former light industrial type units (reminiscent of the area's textile industries), with the entrance to the Woollen Mills opposite the Douglas Village Shopping Centre in the centre of Douglas Village.

In addition to the former Woollen Mills stone structure, a large number of smaller modern buildings have developed in a relatively unstructured way. The units are occupied by a wide variety of uses, predominantly mixed retail, service and light

industry. The complex is bordered by the N40 to the north-east and the R851 to the west, and lies adjacent to a busy junction between the two roads.

The site lies at the edge of the thriving central commercial business district within Douglas Village; a large and heavily urbanised suburb approximately 3km south of Cork City. The area contains significant and busy road infrastructure, with major junctions and roundabouts dispersed throughout the centre of the village generating much noise pollution. The R851, R609, and R610 intersect the village, while the N40/South Ring Road overpass to the north-west stands as a visually dominating and segregating physical barrier defining the outer boundary of the village centre and separating the village from nearby residential development.

The village is recognisable for its two major shopping complexes, Douglas Court Shopping Centre in the East Village area, and Douglas Village Shopping Centre which spans between the East and West Villages. The commercial/industrial complex of the Woollen Mills also operates a number of successful businesses.

The river does not have a notable influence in visually defining the character of the immediate area, with much of the channel culverted/underground. Nevertheless its presence was key in the development of the area's textile industry in the early 18$^{th}$ century and subsequent urban form. It also marks a continuation of the Douglas River valley and estuary which lie a short distance (less than 600m) north east of this section of the site. Even though the area sits within the wider landscape setting of the open Tramore River valley, this character is eclipsed by the strong urban and suburban fabric.

Instead the main focal point at this location is the protected structure of St. Patrick's Woollen Mills; an important element of the area's architectural and industrial heritage. Views of the structure and complex are quite contained: from the bridge on the R851 looking over the open channel and across to the Woollen Mills and car park (**Figure 7.1**); from the slip road adjoining the N40 (right-hand side, **Figure 7.1**); and from the N40 (off right of **Figure 7.1**, above slip road) where the mills and river can again be temporarily viewed in tandem. Visually, the most sensitive viewing point is within the car park of the industrial heritage complex and the panned sequential viewing of the mills and open channel.

Two Architectural Conservation Areas are designated within the village; the Church Street Conservation Area and the West Douglas Street Conservation Area, the latter forming a substantial part of the Woollen Mills site and outside streetscape, including the terraced buildings directly adjacent to the river. Along with the protected structure of the Woollen Mills, several buildings on the site are listed on the National Inventory for Architectural Heritage.

### *Ballybrack/Douglas Community Park*

**Figure 7.2: View of amenity area around Ballybrack Stream at the entrance to Ballybrack woods, with Church Road and Douglas Community Park in the centre background.**

The narrow Ballybrack stream flows north into Douglas Village and joins the Tramore River at the closed culvert near the Woollen Mills site, from where **Figure 7.1** was taken. The proposed scheme involves the section of this stream that extends along the western edge of Douglas Community Park, continues under a culvert beneath Church Road before entering Ballybrack Woods and Ravensdale.

Although less than 400 metres from Douglas Village, Ballybrack has a quieter and less densely built-up character, while still maintaining a typical suburban village form. The land use of the area is more residential, with an identifiable main artery along Church Road including a mix of commercial units, schools and clubs, churches and cemeteries, a nursing home, and large areas of open space including Ballybrack Woods and Douglas Community Park, located opposite one another and joined by a designated walkway extending into both spaces.

The tree-lined walkway within the Community Park runs alongside the river, physically separated by a visually permeable wrought-iron fence. There are broken views through the trees of a parallel line of dwellings within a cul de sac named as The Pond Bank and of Coveney's Yard (a small cluster of commercial services). The Community Park lies adjacent to the Church Street Conservation Area to the east, predominately defined by the protected structure and landmark of St Luke's Church and cemetery. The ACA continues as far as Church Road across from the entrance Ballybrack woods.

The entrance to Ballybrack woods includes a small but important river amenity/park (**Figure 7.2**) area in advance of the main Ballybrack Woods walkway. It is accessed from the road by a short metal footbridge over the channel and surrounded by predominantly mixed broadleaf tree lines with some dispersed conifers. Part of the stream (and works area) adjoins the curtilage of the Irish Countrywomen's Association (ICA) hall (also accessed by a similar bridge). The northern river bank at this point is lined with overgrown vegetation and mature trees.

The channel swings around the eastern edge of the curtilage and extends into Ravensdale before continuing into Ballybrack Woods further downstream. Ravensdale is a relatively secluded residential area comprising a small cluster of houses behind the ICA hall. It is accessed by a short local access road off the main Church Road. The area is well screened from the R609 to the immediate east by a line of mature screes, and to the west and south by the trees in and around Ballybrack Woods giving it an enclosed and quiet character. The site extends a short distance (along c.75m of the channel) from Ravensdale and into the open space of the Ballybrack Woods area which comprises a long narrow and enclosed section of land. A public walkway marks the central division between the eastern half covered by woodland and the western half comprising grassland and Ballybrack Stream. Outward and inward views are restricted.

### *Donnybrook Commercial Centre*


**Figure 7.3: View north-east through Donnybrook Commercial Centre, with existing open channel (Grange Stream) running down the central car park area of the complex, the mixed use units visible on the left, and the protected red-brick mill structure visible off centre right background.**

A small section of the proposed works continues into the Donnybrook Commercial Centre. The site is very contained and largely hidden from view apart from the imposing mill structure that can be seen from the main road. A mix of commercial units are lined together within the complex and along the length of a linear and narrow open channel of the Grange Stream – a tributary of Ballybrack Stream.

While the commercial units are utilitarian, pre-fabricated styled structures, they lie within an older industrial mill complex which includes several buildings listed on the National Inventory of Architectural Heritage (NIAH); the most prominent being the protected structure of the main mill (NIAH Registration No. 20908622).

The site is surrounded by dense clusters of mature deciduous trees, adding to the sense of enclosure and restricted views from within and towards the site. The vegetation along the banks is minimal and limited to grass slopes as the channel dissects the hard surface car park and is detached from the nearby tree clusters.

## Togher

**Figure 7.4: View of Togher Road, including the key focal point of the Church of the Way of the Cross as an important landmark. The proposed flood defence scheme runs along the western pavement having continued from Brook Avenue.**

Togher is a suburb lying on the outskirts of Cork City but within the County boundary. The site extends from the culvert at Lehenaghmore Industrial Estate, beyond the residential area of Brooke Avenue and to the roundabout at Togher Road where a channel section of the Tramore River opens for approximately 50m. The existing culvert (and proposed scheme) then continues north to meet the open channel at Greenwood Estate at the top of Togher Road. The ground level of the site falls to a flat catchment area of the river which lies at the end of a steep incline from the south. The northern end of the site is defined by another open channel running behind the Greenwood Estate.

The land use is mainly a mix of residential and commercial, with the Church of the Way of the Cross forming an important focal point and landmark. The area also includes schools, car parks, a community centre, petrol station and small retail units, while the main thoroughfare of Togher Road runs the length of the study area. The site extends along Togher Road on the side of the church and schools (Figure 7.4), opposite a predominantly residential stretch of buildings on the eastern roadside.

The area has a typical suburban form; open and with low-density settlement patterns. Along with the wide expanse of Togher Road, many open spaces like car parks, green areas and sport pitches give a wide spatial appearance to the townscape, especially on the western side where building footprints are set at clear distances from one another. The area also has several buildings listed on the National Inventory of Architectural Heritage which lie close to the proposal site.

### 7.3.2 Landscape Character Type and Designations

The *Cork County Draft Landscape Strategy 2007* defines the landscape character for the County and is supported by the *Cork County Development Plan 2014* (CDP),

*Carrigaline Electoral Local Area Plan 2015* (CELAP) and the *Draft Ballincollig-Carrigaline Municipal District Local Area Plan 2016*. The Strategy identifies the wider character context of both the Douglas and Togher areas as 'City Harbour and Estuary', and as being of very high value, very high sensitivity (and therefore extra vulnerable to change), and of national importance. It does not provide details specific to the areas in question beyond the following description:

> *"The rural areas around much of the greater harbour area are now characterised by a prevalence of infrastructure such as roads, bridges and electricity powerlines and some urban sprawl".*

There are no designated scenic landscapes or routes within the study areas, however the Cork Harbour SPA comprises most of the main intertidal areas of the harbour including the Douglas Estuary close to St Patrick's Mills.

Furthermore the site areas themselves do not possess 'harbour' landscape characteristics and are too far inland/built-up to possess harbour views. The CELAP however identifies how, in relation to the south environs:

> *"the steeply rising slopes on the southern periphery of this settlement add to the visual setting and character of Cork City and therefore should remain relatively free from large scale development."*

South of Douglas, this steep topography rises to agricultural ridgelines incised by extensive riparian wooded river valleys, running in a largely north-south orientation.

The nearest scenic route is identified in the CDP as the S56 east of the airport, approximately 1km from the Togher site and approximately 2km from the Douglas sites. It is considered scenic due to its views towards the city skyline and its northern ridge. Views towards/out of the study areas are limited by intervening topography.

Douglas and Togher possess architectural elements integral to the character of their townscapes. While the visibility of the Woollen Mills is limited to a small amount of brief views, being within quite an enclosed complex, the setting of St. Luke's Church is especially significant, with the church as a main landmark. The ACAs are fundamental in defining the special character of the built environment.

There are no protected structures or ACAs in the Togher study area. Four structures listed on the NIAH are important features contributing to the area's character. The landmark building of the Church of the Way of the Cross lies in the centre of the study area, while closer to the roundabout, three more structures are clustered at small distances from one another, forming a nucleus of heritage structures within an overall contemporary urban form. Of these The Lodge Dental Practice stands as the most prominent and attractive feature of architectural heritage.

### 7.3.3 Landscape Value and Sensitivity

While the wider landscape character area is identified as of high value and sensitivity, all of the sites fall at the edge of this designation, and do not possess the main harbour/estuarine landscape characteristics that determine this high value and sensitivity. The landscape character of the study areas therefore appears more robust than those closer to the harbour, and of a less significant scale.

It is envisioned in this study that the proposed scheme would nevertheless, without mitigation, result in a significant change to some sections of the study areas in relation to the extent of the removal of trees, and as such altering the character of the river amenity. There is potential to mitigate the impact through criteria for sensitive integration of the proposed scheme into the existing landscape. Overall the landscape has the capacity to absorb the kind of change brought about as a result of the proposed flood scheme, on the condition that the integrity of the river amenity and tree corridors are maintained as much as possible.

The main landscape values of the study areas centre on several characteristics:

- the amenity value of the river and river walkways, associated trees and riparian woodland;
- ecological richness of the riparian habitats; and
- Historical landscape determined by the built heritage of individual protected structures/recorded monuments as well as and industrial townscapes.

A number of key receptors are fundamental in defining these values and every effort should be taken to ensure the protection of their role in contributing to the landscape/townscape character of the study areas:

### *Douglas*

- Landmark/focal point of St Luke's Church;
- Architecturally significant heritage buildings of /around the Woollen Mills;
- Architecturally significant townscape;
- Recorded monuments;
- Open space of Douglas Community Park and playground;
- Ballybrack Woods and amenity area;
- Designated walkway through Douglas Community Park/Ballybrack Woods;
- Tree lines/clusters within Douglas Community Park/Ballybrack Woods;
- Mills at Donnybrook Commercial Estate.

### *Togher*

- Landmark/focal point of the Church of the Way of the Cross;
- Trees, particularly large horse chestnut, around existing open channel adjacent to the roundabout;
- Individual trees throughout site area along western pavement;
- Trees at entrance to Greenwood Estate;
- Trees screening boundary between Lehenaghmore industrial estate and Brookside residential estate;
- Local amenity walkway along open channel above Greenwood Estate;
- Architectural value of recorded monuments cluster near roundabout, especially the visual prominence of The Lodge Dental Practice;

- Open spaces and sports pitches.

### 7.3.4 Landscape Planning Context

The *Cork County Development Plan 2014, the Carrigaline Electoral Local Area Plan 2015 (2nd Ed), and the Draft Ballincollig-Carrigaline Municipal District Local Area Plan 2016* set out the area's planning context and contain a number of references to the landscape, townscape and amenity of the areas. Douglas and Togher are outlined in the CDP as falling within the 'Cork City South Environs'; the southern suburbs which lie outside the Cork City Area. Douglas Village is zoned as a 'town centre/neighbourhood centre in the CELAP within which a Specific Zoning Objective for St. Patrick's Woollen Mills (TC-01) outlines plans for the redevelopment of the entire site as mixed use.

The Ballybrack site falls outside the Douglas Village zoning and is identified as being within an 'Existing Built-Up Area', with part of the site extending through an open space zoning of Douglas Community Park.

The CDP also refers to the Cork Retail Centres Hierarchy, defined in the Cork Retail Study 2008, which identifies Douglas as one of the 'district centres' in the Cork Suburbs, highlighting its role as an important and established suburb of the city. The study identifies Togher as a 'Neighbourhood Centre'. In relation to development trends in the areas, the CELAP notes the following

> *2.1.8 The southern periphery of the city is located on the southern edge of the River Lee valley partly on low lying gently undulating land and partly on the more steeply rising slopes of the valley side. In the past, it has tended to be a more popular location for development than the more hilly land on which the northern suburbs of the city are largely built.*
>
> *2.1.9. Housing in recent years has been provided in the form of large housing estate developments which, while often suburban in character, have introduced diversity to the housing mix in the town, catering for all age groups and stages in the lifecycle. This enhanced choice in housing is particularly important for the rapidly expanding places such as Douglas and Togher, where the need to maintain mixed communities is an essential element in maturing a neighbourhood and creating a sense of integration between the established and new communities.*

A number of observations and objectives are identified within these plans for their relevance to and implications for the landscape, public realm, and amenity concerns within the wider planning context of the proposed scheme. These are outlined in full in **Appendix 7.2**, with key aspects of relevant objectives summarised below:

- Protect visual/scenic amenities of built and natural environment.
- Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or distinctive boundary treatments.

- Preserve the character of important views and prospects (including views of historical significance, e.g. buildings and townscapes) and views of natural beauty.
- Ensure proposals are of high quality architectural design and appropriate in terms of how they impact on the design and setting of protected structures.
- Conserve and enhance the special character of ACAs including its streetscape, landscape and setting.
- Use of appropriate materials during the course of public infrastructure schemes within ACAs.
- Maintain important features of the landscape which function as ecological corridors and areas of local biodiversity value.
- The redevelopment of St. Patrick's Woollen Mills will include the retention of all buildings of historic and architectural merit and any new build to enhance this precinct shall complement the established building fabric.
- The Douglas Community Park should be at the centre of life in the village and should be an integral part of the population's lifestyle choice.
- Provide a high quality off-road walk and cycleway along the Ballybrack Stream from the Community Park to the Donnybrook Hill area.
- The river, river bank and the park (Douglas) could be more meaningfully structured to give more of an amenity opportunity to the public (DLUTS).

## 7.4 Characteristics of the Proposed Scheme

As outlined in detail in **Chapter 3 Description of the Proposed Scheme**, the proposed Douglas Flood Relief Scheme (including Togher Culvert) will include the construction of direct and indirect flood defences along the Ballybrack Stream, Grange Stream and Tramore River. The proposed scheme will include flood walls, embankments and conveyance improvements including channel widening, channel deepening and the introduction of or replacement of culverts.

As described previously in **Chapter 1 Introduction**, construction works for the proposed scheme will take place in four separate areas along the Tramore River, Ballybrack Stream and Grange Stream in Douglas and Togher as follows:

**Area 1:** Ballybrack Stream through Douglas.

**Area 2:** Tramore River through St Patrick's Mills, Douglas

**Area 3**: Grange Stream (tributary of Ballybrack Stream) through Donnybrook Commercial Centre

**Area 4**: Tramore River through Togher

From a landscape and visual perspective, the main characteristics of the development that are of concern are the removal and construction of walls and any removal of trees along the existing wooded river corridors of the main river and its

tributaries as a result of the works, especially in areas where they contribute to residential and recreational amenity.

As outlined in **Chapter 3**, many of the linear defences will require the temporary removal of boundary walls and fences as well as tree removal to facilitate the construction access. Boundary walls and fences will be reinstated on completion in agreement with landowners. Landscaping and replanting will also be carried out on completion in agreement with landowners.

Trees in the area were surveyed by an arborist and for potential bat roosts. Trees which are directly within the footprint of the construction works will be removed and are presented in **Appendix 3.2** of this EIS. There are also some trees whose roots may be indirectly impacted due to the presence of adjacent works within the root protection area and which may subsequently require removal depending on the extent of impact. It is noted that every effort will be made to retain these trees where possible. For impact assessment purposes, these trees are assumed to be removed in the EIS.

## 7.5 Evaluation of Impacts

### 7.5.1 Construction Impacts

There are a number of specific impacting elements of the proposed scheme in the Douglas and Togher areas that will be bring about certain **temporary** and **localised** changes to the immediate environs during construction:

#### *St. Patrick's Mills*

**Moderate negative** visual impacts during construction of new wall and parapets along open channel.

**Slight neutral** visual impact from removal of small tree/shrub cluster on channel bank adjoining car park.

**Moderate positive** visual impact from removal of unkempt/overgrown vegetation along channel.

**Moderate negative impacts** on immediate amenity of the complex due to general construction works.

#### *Ballybrack/Douglas Community Park*

**Significant negative** impact on the character of the river corridor from the removal of trees and vegetation on and around the Ballybrack Stream banks, especially in Douglas Community Park and the Ballybrack Woods entrance.

**Significant negative** impact on residential amenity from the removal of trees within Ravensdale.

**Moderate negative** impact from removal of attractive riverside features (stone steps and walls along channel) at Ballybracks Woods entrance area.

**Significant negative** visual impact on river character and recreational amenity during the channel deepening and widening, path realignment, and embankment construction in the Douglas Community Park.

**Significant negative** visual impact on river character and recreational/ residential amenity during the channel widening and deepening, construction of new flood walls and cycletrack/footpath, bridge removal/replacement, ground regrading in and around Ballybrack Woods and Ravensdale.

### *Donnybrook Commercial Centre*

**Moderate negative** visual impact during culverting of existing channel.

**Moderate negative** impacts on amenity due to general construction works.

### *Togher*

**Moderate negative** impact on character of townscape from removal of trees throughout study area (especially large horse chestnut tree near roundabout at Togher Road, trees at entrance to and behind Greenwood Estate.

**Significant negative** visual impact on townscape and pedestrian accessibility during construction of replacement culverts throughout study area.

**Significant negative** impact on residential amenity/access during construction of new culvert, footpath and regrading of road on Lehanaghmore Road.

**Significant negative** impact on residential and public amenity during construction of new channel wall at Greenwood.

## 7.5.2 Operational Impacts

There are a number of specific impacting elements of the proposed scheme in the Douglas and Togher areas that will have a number of likely operational impacts on the overall landscape character and visual appearance of the study area. These impacts incorporate the effects of the mitigation measures outlined. These measures ensure any significant negative impacts are avoided.

### *St. Patrick's Mills*

**Significant positive** impact of limestone masonry finish flood defence wall, enhancing the immediate visual environment.

**Significant positive** impact from the protection of historical townscape and structures from future flooding.

**Significant positive** impact from removal of existing wire fence and unkempt/overgrown vegetation along channel providing a higher quality public realm.

### *Ballybrack/Douglas Community Park*

**Moderate negative** impact on the character of the river corridor and public amenity from the removal of trees and vegetation on and around the Ballybrack Stream banks at the Ballybrack Woods entrance area, with this reducing to **slight negative** as new planting matures.

**Moderate negative impact** on the character of the river corridor, public and residential amenity from the removal of all trees along the banks in Douglas Community Park which is proposed as a worst case scenario and includes appropriate level of replanting. Partial removal of trees (and necessary replanting) will result in a **moderate negative impact** on the character of the river corridor, public and residential amenity.

**Moderate negative** impact on residential amenity from the removal of trees within Ravensdale.

**Moderate neutral/positive impact** from the introduction of stone clad wall and bridge parapets (cladding on both dry and wet sides).

**Significant positive** impact from the protection of ACAs from future flooding.

**Significant positive** impact through enhancement of public and residential amenity due to flood prevention.

**Significant positive impact** from enhancement of pubic amenity and recreational aspect of Ballybrack with improved layout, cycle routes and footways.

**Moderate positive impact** through enhancement of public realm at entrance to Ballybrook Woods and around ICA building with new walkway and walls and reinstated trees.

### *Donnybrook Commercial Centre*

**Slight neutral** visual impact from new culvert over existing channel.

### *Togher*

**Slight negative** impact on character of townscape, recreational and residential amenity from removal of trees reducing to **slight neutral/imperceptible** as reinstated planting matures.

**Slight neutral to imperceptible** visual impact on townscape from new culvert.

**Slight neutral to imperceptible** visual impact on townscape from in-filling of open channel at entrance to Greenwood.

**Slight neutral** impact on residential and public amenity from new wall and reinstated planting at Greenwood, reducing to imperceptible as planting matures.

**Moderate positive** impact on public realm in Togher near roundabout from new pedestrian walkway.

**Significant positive** impact from the protection of historical structures from future flooding.

### 7.5.3 Cumulative Impacts

The zoning for the proposed redevelopment of the Woollen Mills Complex together with the proposed flood defence scheme could have moderate negative cumulative impact implications with regard to the detraction from the industrial heritage character of the site if inappropriate and overly contemporary materials are used in both developments. Appropriate materials will reduce this to **slight neutral** cumulative impacts. The combined removal of trees along various sections of the river corridors may have a moderate cumulative negative impact, diminishing the character of the river corridor throughout the Douglas and Togher study area. However this should reduce to **slight negative/neutral** as new and existing planting matures.

## 7.6 Mitigation Measures

Measures have been considered to avoid, reduce and/or remediate, where possible the likely impacts of the proposed scheme and works.

### 7.6.1 Construction Mitigation Measures

#### *General*

- Where concrete is exposed, careful consideration of the design finish is required to be sympathetic with receiving environment.
- River banks will be left intact and vegetated wherever possible. Coppicing and/or selective removal of trees may be considered where required in preference to total vegetation removal.
- Retention of existing trees where possible in the interest of residential amenity, public realm and visual character of the river amenity.
- Remaining trees will be protected and a tree replanting scheme will be devised.
- Where retention of existing trees is not an option, these shall be replaced with new trees as close as possible to the original location in the interest of public realm and visual character of the river amenity.
- Disturbance to private boundaries, gardens, etc. shall be avoided wherever possible and where impacted shall be reinstated prior to completion of the works.
- Machinery shall not enter the river unnecessarily.
- All landscape, footpath, roads etc., disturbed during the course of the works shall be fully reinstated prior to the completion of the construction works.
- Japanese Knotweed is particularly common along stretches of the river (e.g. Ballybrack stream). Works on river banks should seek to control/eradicate such invasive weeds. Such weeds shall not spread or relocated in the course of the works.

### *Specific*

- Location of the proposed flood walls along the line of an existing wall on river bank at St Patrick's Mills in the interest of minimising intrusion on the existing landscape character.
- Finish of new wall on dry side at St. Patrick's Mills to be sympathetic to historical character of the built fabric.
- Finish of new wall on both sides to be sympathetic to character of river amenity and existing boundaries along Ballybrack Stream.
- Tree removal at entrance area to Ballybrack Woods and within Douglas Community Park to be compensated with newly planted trees along the banks specifically within these areas.

## 7.6.2 Operational Mitigation Measures

### *General*

- Climbing plants, (*e.g.* Ivy and Honeysuckle) shall be planted along new walls where possible to reduce the visual impact on the character of the river corridor.
- Where trees are removed, new trees of appropriate species (e.g. Alder, Birch) shall be planted in replacement as close as possible to original location (it is noted that replanting potential is restricted at Ravensdale).
- Where shrubs and vegetation are removed, new plants of appropriate species shall be planted in replacement.
- All trees retained in proximity (i.e. within root protection area (RPA) as per BS 5837) shall be subject to a detailed post-construction tree survey carried out by a qualified arborista. Any works recommended shall be undertaken and the survey shall be made available to the Client.

The following planting and species are advised where trees and shrubs are removed in order to avoid any significant negative impacts as a result of their removal:

River edge:

- Alder (Alnus glutinosa), 18-20cm girth, root balled at 4m centres.
- Hawthorn hedge (Crataegus monogyna), 0.9-1.2m high, bare-root, planted at 0.45m centres, double row staggered.

Landscape areas in park/verges:

- Birch (Betula pendula), 18-20cm girth, root balled at 4m centres.
- Maple (Acer platanoides 'Columnare' and Cultivars, 18-20cm girth, root balled at 5m centres.

# 7.7 Residual Impacts

The landscape, townscape, visual and amenity impacts of the works are generally localised and predominantly in relation to the removal of trees during construction and the aftermath effects of this.

This will have a significant impact on the experience of and visual character of the river amenity and residential amenity during construction, but will be reduced to **moderate/slight negative** over time as new planting matures. The introduction of the stone clad walls and bridge parapets will bring **moderate negative** change to the immediate residential area of Ravensdale, with **moderate negative** change from tree removal due to the restricted scope for new planting. There will be no significant residual impacts, with the development being consistent with existing and emerging trends in the area.

In Togher, residual impacts will generally be **slight neutral** on the character of the townscape, recreational and residential amenity and once new planting establishes.

There are also **moderate to significant positive** residual impacts associated with the enhancement of public and recreational amenity, especially throughout Ballybrack Woods and Douglas Community Park, and on Lehanaghmore Road in Togher, as well as the general benefits to public realm and townscape from flood prevention.

## 7.8 References

Cork County Council, 2007, Cork County Draft Landscape Strategy

Cork County Council, 2014, Cork County Development Plan 2014

Cork County Council, 2013, Douglas Land Use and Transportation Study (DLUTS) 2013

Cork County Council, 2015, Carrigaline Electoral Local Area Plan 2015

Department of Arts, Heritage and the Gaeltacht. National Inventory of Architectural Heritage