

River Ilen & Caol Stream Redevelopment Project

Feasibility Study (Phase I)



**River Ilen
&
Caol Stream
Redevelopment Project**

Feasibility Study (Phase I)

Prepared for:

**RIPPLE Committee
Skibbereen**

by

Cronin Millar Consulting Engineers

The Mews,
Copperfields
Cobh
Co. Cork

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Feasibility Project – Phase I***

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Authorised by: _____

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RIPPLE are grateful to West Cork Leader for their assistance with funding and their advice.

1.0 Introduction

1.1 Project Introduction

Cronin Millar Consulting Engineers were appointed as Engineering Consultant by the RIPPLE Committee in February 2007 to carry out a Preliminary Feasibility Study for the proposed *River Ilen & Caol Stream Redevelopment Project*. This report is the first phase of the Feasibility Study, which will eventually evolve into a full Development Plan for the Ilen & Caol in Skibbereen.

The future Development Plan, which will be the manifestation of the RIPPLE Committees vision for the area, will be the blueprint for the redevelopment of the urban watercourse environment in the town of Skibbereen.

The issues that are addressed in this report are:

- Review of relevant current & previous plans, studies etc.
- Ecological and landscape desktop surveys & outline advice.
- Visual inspection/survey of the quays & site.
- Consultations (Preliminary) with relevant organisations & individuals.
- Outline scheme design and drawings.
- Schedule of recommendations and additional studies, surveys & design required.
- Preliminary development cost estimates.

The development areas included in this Preliminary Study are:

- River Ilen/Marsh area – Riverside walks, water feature, recreation/amenity features.
- Quay Renovation – Renovation, repair & access improvement for the quays.
- Caol Stream – Environmental, habitat & visual enhancement of the stream.
- History & Heritage – Plan to complement & enhance the rich heritage of the area.

1.2 Project Background

The RIPPLE (River Ilen Planning Project Liaison Executive) Committee was formed in September 2006. The vision of the committee is to promote and drive the development, restoration and enhancement of the River Ilen in Skibbereen to become a major tourist attraction.

The four primary objectives of the Committee are:

- To develop the Marsh Area between the Ilen River and the new relief road.
- Restoration of the quays.
- Establishment of Skibbereen as the Historical Tourist centre for the South West Cork region.
- Rejuvenation of the Caol Stream.

1.3 History & Heritage

Skibbereen has a rich and interesting history from its establishment in the mid 17th century, through the famine years and emigration up to today.

The history of Skibbereen town is intricately linked with the River Ilen and indeed the town owes it's founding to the river which brought settlers to the area in the 17th century.

The river was the primary transport route for people, goods and services and gave Skibbereen access to the many coastal towns and islands of West Cork and further afield. The town's quays along the river were extensively used in the past for transhipment of goods and supplies. The introduction of first rail and then road transportation brought about the end of the river as a transport link and led to its eventual demise.

As Skibbereen developed over the past number of decades, the town turned its back on the river and used it only to dilute and convey the wastewater from the town. This remains the practice to this day and the river is completely under-utilised and under appreciated.

There is a pride in the history and heritage of the town and the Skibbereen Heritage Centre provides a focal point for tourists and locals. The Skibbereen Trail, which is a tour of the towns key heritage sites is an asset to the town and attracts much interest.

1.3 Feasibility Study Team

To prepare this report, Cronin Millar Consulting Engineers assembled a project team comprised of in-house staff and associates of the company. The project was managed by Adam Cronin, Chartered Engineer. Technical support was provided by David Millar and Sean Ventry.

Associates assisting Cronin Millar were John Browne (Fisheries & Natural Resource Consultant) of Still Waters Consultancy and Paul Murphy (Environmental Consultant) of EirEco.

The team were supported by Frank Fahy, Chairperson of the RIPPLE committee, who provided contacts, background information and local knowledge.

1.3 Study Area

The town of Skibbereen is approximately 85km south west of Cork city. It is situated on the N71, which is the main Cork to Killarney road. Skibbereen which is acknowledged to be the “capital” of West Cork is a thriving commercial town which serves a number of outlying towns and villages.

The River Ilen which flows through the northern side of the town reaches the sea at Baltimore. The Caol Stream is a tributary of the Ilen.

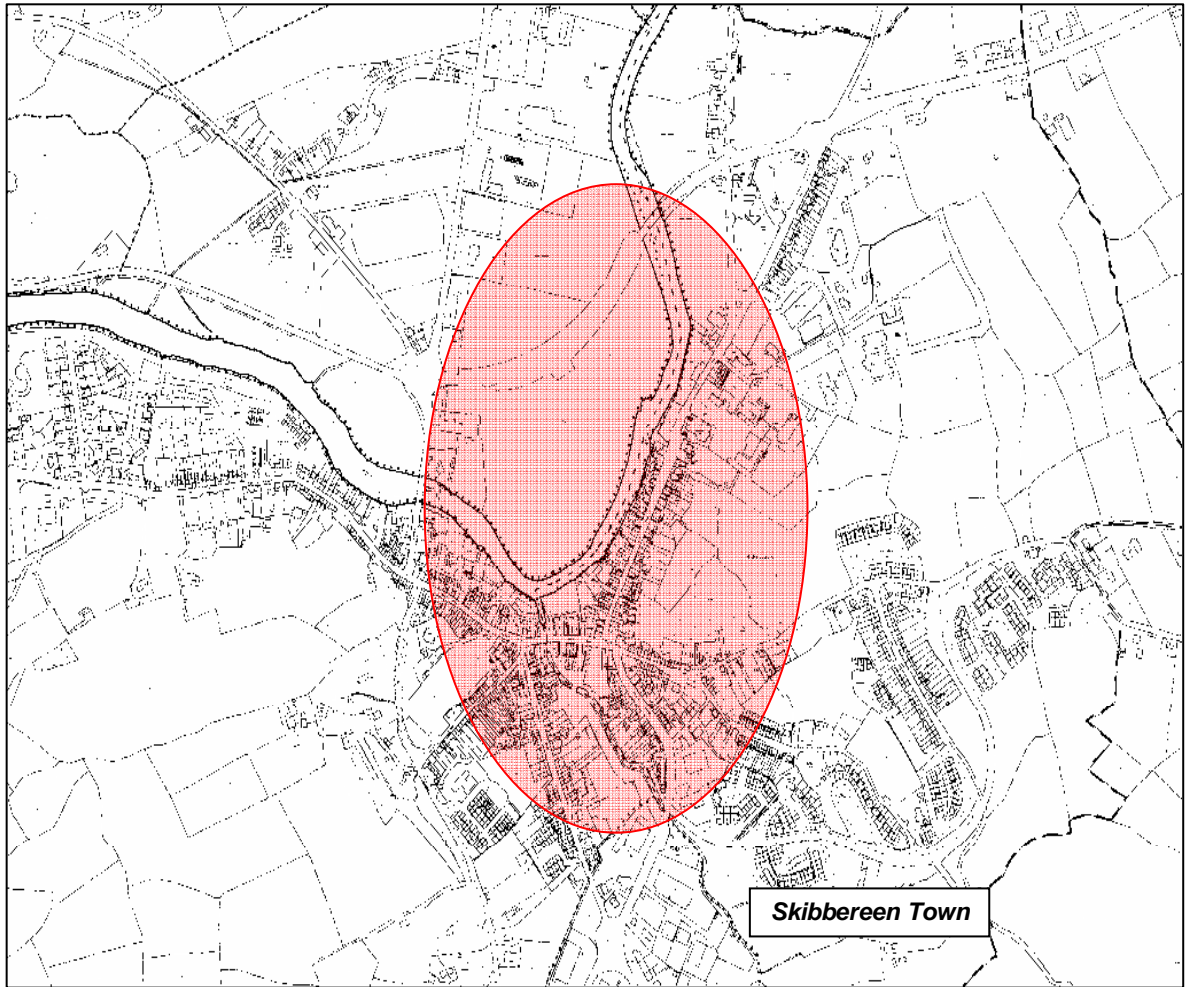
The project areas for the purposes of this study are:

- (1) River Ilen between the Relief Road Bridge and John F Kennedy Bridge.
- (2) Marsh area between the Ilen and the relief road.
- (3) Caol Stream from Levi’s Quay to Market Street.

Map 1 depicts the study area.

The area does not have any environmental designation.

The entire area falls within the functional jurisdiction of Skibbereen Town Council.



Map 1 – Project Study Area

2.0 Consultations & Acknowledgements

An important element in the preparation of this feasibility study was to consult with a number of relevant organisations and individuals. This process was conducted by members of the study team throughout the study period. As this was a limited study, only key consultees were included. Cronin Millar would like to thank all those who provided information, guidance and advice during the research and preparation of this report. The consultees included:

Name	Organisation
Mr. Niall O'Mahony	Cork County Council
Mr. James Dwyer	Cork County Council
Mr. John O'Keeffe	DCMNR
Mr. Barry McDonald	DCMNR
Mr. Kevin Reeves	Limerick City Council/WIHCC
Mr. Stephen Douglas	Waterways Ireland
Mr. Seamus Hopkins	Donegal County Council (H&S)
Ms. Patricia O'Connor	SWRFB
Mr. Leslie Paine	SWRFB
Mr. Michael Harte	Skibbereen Angling Club
Mr. Tim Looney	Landowner (West Cork Hotel)
Mr. Dick Roycroft	Landowner (Steam Mill Quay)
Mr. Con Minihane	

Note: This list excludes members of the RIPPLE Committee.

One of the recommendations of this report is for the preparation and implementation of a comprehensive Communications Plan, which will incorporate a detailed consultation process as part of the development of the final Development Plan.

3.0 Development Plan Context (Existing Studies, Plans & Reports)

3.1 Introduction

As part of the research element of this project, existing and past studies, plans and reports were examined. Local and national plans/policies as well as specific technical and non-technical reports/studies were considered. The relevant contents, conclusions and recommendations of the following reports and plans were considered:

- Skibbereen Town Development Plan (2004-2010).
- Cork County Development Plan (2003-2009).
- Marsh Car Park Development – Flood Study Report (Feb. 2004).
- Skibbereen Urban Study – Cunnane, Stratton, Reynolds (2001)

Note: Many other reports, documents etc. were reviewed as part of this project. A full list of all publications reviewed is included in the References section of this report

Skibbereen Town Development Plan (2004-2010)

The purpose of this plan is to set out the Local Authorities “overall strategy for the proper planning and sustainable development of the area of the Development Plan”. The plan takes cognisance of the County Development Plan and other national and regional strategies.

This Development Plan acknowledges the historical importance and significance of the river and its access to the sea. It also recognises the importance of the Water Framework Directive in managing the river basin. The relevant objectives outlined in this plan include:

- Development of the river environs by provision of car parking and amenity areas.
- Link the Marsh area to the town centre by footbridges.
- Encourage the construction of boardwalks to the rear of Main Street, North Street & Bridge Street.
- To provide a new sewage collection system and modern wastewater treatment plant.

The maps contained in the plan depict the following:

- Marsh Area – Flood plain (Constraints Map)
- Marsh Area – Open Space (Existing Use Map)
- Marsh Area – Car Parking, Ecological Zone, Footpath, Water Feature, improved public access, (River Environs Objectives).

It is also an objective of the plan to carry out scoping studies for the Ilen River Environs and the Caol Stream Environs.

Cork County Development Plan (2003 -2009)

The Cork County Development Plan 2003 is the statutory Development Plan for the County of Cork. It is a six year plan and will be operational until 2009.

The purpose of the plan is to set out a strategy for the proper and sustainable development of County Cork.

The plan describes Skibbereen as a growth/development centre, which performs an important employment, service and social function for an extensive rural hinterland. The plan's strategy aims for continued growth and development of the town.

The population of the town is expected to rise over the next number of years, with an estimated population of 2,450 (approximately 950 households) by 2011.

The town is recognised as being "particularly attractive enjoying a fine townscape and an attractive landscape setting.

Marsh Car Park Development – Flood Study Report (2004)

This report was prepared by RPS-MCOS Consulting Engineers for Skibbereen Town Council. The purpose of the report was to consider the options regarding the height, location and size of the proposed car park in the Marsh area and flood relief measures that would be associated with the various options for the car park development.

It draws on the Town Development Plan and the Cunnane Stratton Reynolds report and takes into account the previous flood studies and reports. These reports are:

Road Traffic and Flooding Study at Skibbereen (1984 RPS-MCOS)

This report recommended a diversion of the Ilen through the Marsh, together with downstream channel works. The report also recommended the construction of the relief road, which is now constructed. A second report in 1997, by RPS-MCOS examined alternatives to the proposed Ilen diversion.

The main conclusion of the 2004 report is that it would be possible to develop a car park in the Marsh area without the need to construct the flood relief channel along the north of the Marsh, subject to the design of the car park being altered and a number of flood alleviation measures being carried out. These measures were: Remedial works at JFK Bridge, lowering of flood plain between Levi's Quay and the proposed pumping station and regrading of a section of the Ilen river.

Skibbereen Urban Study – Cunnane, Stratton, Reynolds (2001)

The Urban Study of Skibbereen was prepared by Cunnane, Stratton, Reynolds in conjunction with M.C O’Sullivan Consulting Engineers, David Gallagher Associates Architects and TPI Transport Planning Consultants. The purpose of the study was to consider future options for the physical development of Skibbereen Town. The study focussed on the Marsh area of the town and the adjoining riverfront lands and properties.

The study included consultations with interest groups and the general public. A review of other relevant plans, studies etc. was also undertaken.

The primary output of the study was an Urban Design Framework, which looked at the riverfront and backland redevelopment areas, the car park lands and the Marsh. There were a range of recommendations including the type and massing of riverside properties, development of a car park in the Marsh area, provision of a pedestrian bridge linking the car park to the town, parkland access and a flood relief channel incorporating a water feature in the Marsh area. It was also suggested that additional pedestrian bridges be developed.

The report made recommendations for development of lands north of the bypass. These recommendations have not been examined.

The implementation recommendations included; formation of local group to drive projects, identification and investigation of potential funding mechanisms, phasing of the works and estimated development costs.

4.0 Existing Environment & Infrastructure

The description of the existing environment and infrastructure is divided into the following geographic areas:

<u>Marsh Area</u>	All land to the north/west of the Ilen river, bounded by the new relief road.
<u>River Ilen</u>	The Ilen River between the new relief road bridge and the JFK Bridge. (During the course of our research we extended the study area slightly upstream and downstream of the respective bridges.)
<u>Town Quays</u>	All the Quays along the left hand bank of the Ilen along the town area.
<u>Caol Stream</u>	The Caol Stream between the Market Street bridge (Upstream) and the confluence with the Ilen at Levis Quay. (A section of the Caol, upstream of the Market Street bridge was examined as part of our research).

The descriptions and analysis cover both the natural and manmade environments and existing infrastructure within the study area. The study areas are detailed in maps under the relevant headings.

The study area is within the functional jurisdiction of Skibbereen Town Council.

4.1 Marsh Area

The area known as the Marsh extends from the bypass road bridge (Curragh Bridge) to the John F Kennedy Bridge along the western bank of the River Ilen and is bounded to the north of the town by the bypass road. The area is a floodplain of the Ilen.

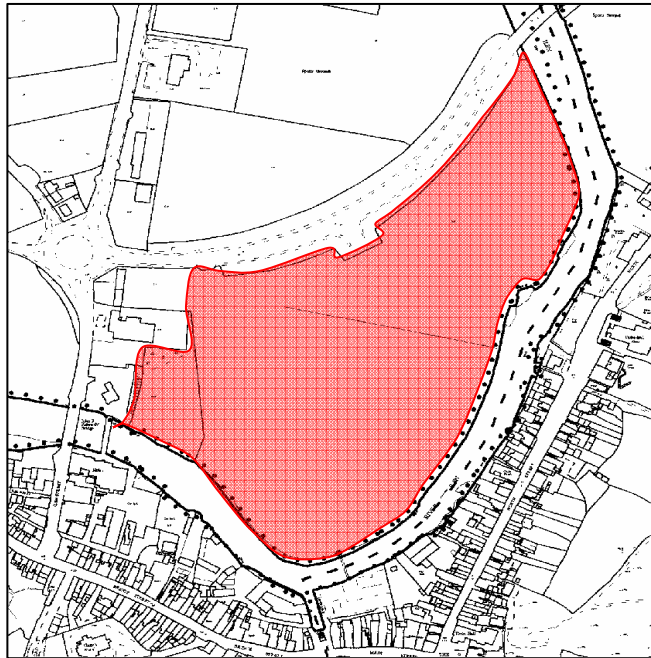
4.1.1 Natural Environment

The Marsh area is not designated for nature conservation. The dumped spoil in the central part is recolonising with rank grassland vegetation. Elsewhere, the vegetation is primarily comprised of dry neutral grassland. The land has not been heavily managed in recent times and is generally open with field divisions of wire fencing. A small field occurs in the south western corner which has a scrubby hedgerow of hawthorn and bramble. A full ecological assessment of the study area is contained in the appendix.

4.1.2 Manmade Environment

There have been recent works carried out in the central part of the area associated with the construction of the footbridge from Levis Quay to service the proposed car park. An access road opening with field gate has also been constructed providing access from the bypass road. Spoil has been dumped in the area. The abutment for the Marsh side of the footbridge is in place.

The local authority have lowered a section of the Marsh area and used the excavated material to construct a flood protection berm, which runs from the footbridge for a distance of approximately 200m. This work was part of the flood alleviation works in preparation for the construction of the car park in the Marsh.



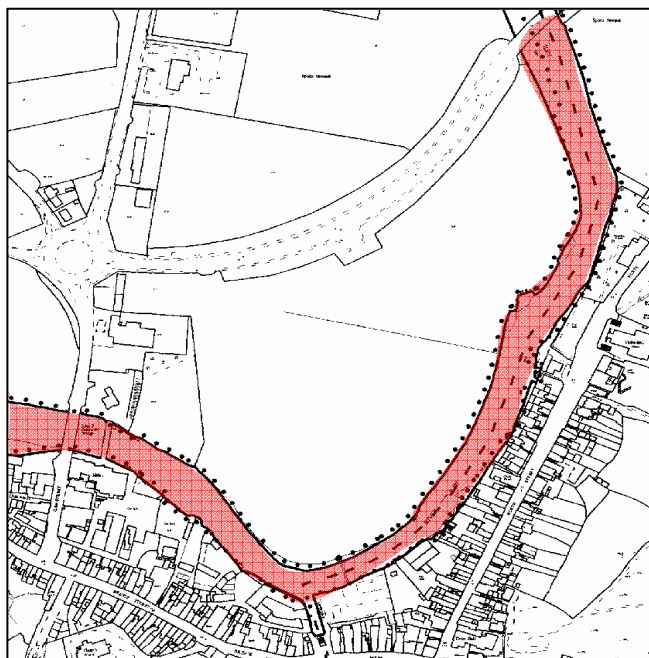
Map 2 – Marsh Area



View of Marsh Area

4.2 River Ilen

The section of the river considered in this study extends from the Curragh Bridge to the John F Kennedy Bridge, although this area has been extended slightly upstream and downstream.



Map 3 – River Ilen

4.2.1 Natural Environment

The River Ilen rises in the hills north of Drimoleague and flows into Roaringwater Bay approximately 3km downstream of Skibbereen. It is a spate river some 33km long. The river is a depositing lowland river. The river, which is up to 40m in width, carves a large meander through the town forming a floodplain known as the Marsh along the western bank.

A tidal pulse extends upstream to Skibbereen, though the water is entirely fresh at this point. This pulse results in the rise of approximately 1m in river depth at the John F Kennedy Bridge. As a result, while there are some shallow riffle and gentle glide stretches during low water, at high water the flow backs up and slackens. The channel is approximately 40m in width and the substrate is comprised of cobble and small boulder in faster flowing stretches with sand and gravels in areas of slacker flow.

A range of vegetation inhabits the river zone including willow moss, dropwort, curled dock, figwort and water mint. There is also a mixture of tree types including sycamore, alder, ash and hawthorn.

The Ilen supports populations of a number of species afforded protection under the EU Habitats Directive. This includes otter, freshwater pearl mussel and salmon. Other species that probably inhabit the river include sea lamprey, kingfisher and little egret.

The Ilen supports good populations of brown trout, sea trout and salmon. A full description of the flora and fauna of the Ilen River included in the ecological assessment report in the appendix.

4.2.2 Manmade Environment

The river banks are steep to vertical and have been consolidated in the past with dry-stone walling. The extensive tree cover along the eastern bank has resulted in the partial collapse of the bank at a number of locations. There has been recent bank stabilisation using boulders along both banks for a distance of approximately 120m downstream of the new bridge. The western bank is primarily comprised of walls with small areas of riparian vegetation. There is a short section of high stone wall on the northern bank immediately upstream of the John F Kennedy Bridge.

There are a number of stone quays along the eastern river bank. These are outlined in Section 4.3.

The Curragh Bridge is a three span reinforced concrete structure. Access under this bridge along the river banks is possible. This bridge is owned by Cork County Council. The Cast Iron Bridge adjacent to the West Cork Hotel is a disused railway bridge. There are plans to develop this bridge by the owner, Mr. T. Looney. The John F Kennedy Bridge is a three span reinforced concrete bridge. The bridge restricts boat access due to shallow river bed at this location and the low air draft available under the bridge. This bridge is owned by Cork County Council.

There are a number of effluent and surface water discharge pipes along the town side of the river. The effluent discharge pipes discharge untreated sewage into the Ilen.

More modern infrastructure includes a cantilevered boardwalk and pontoon along the river bank at the West Lodge Hotel and balconies/walkways at recent waterside building developments adjacent to Long Quay and Levis Quay.



Ilen River



Curragh Bridge



Cast Iron Railway Bridge



John F Kennedy Bridge



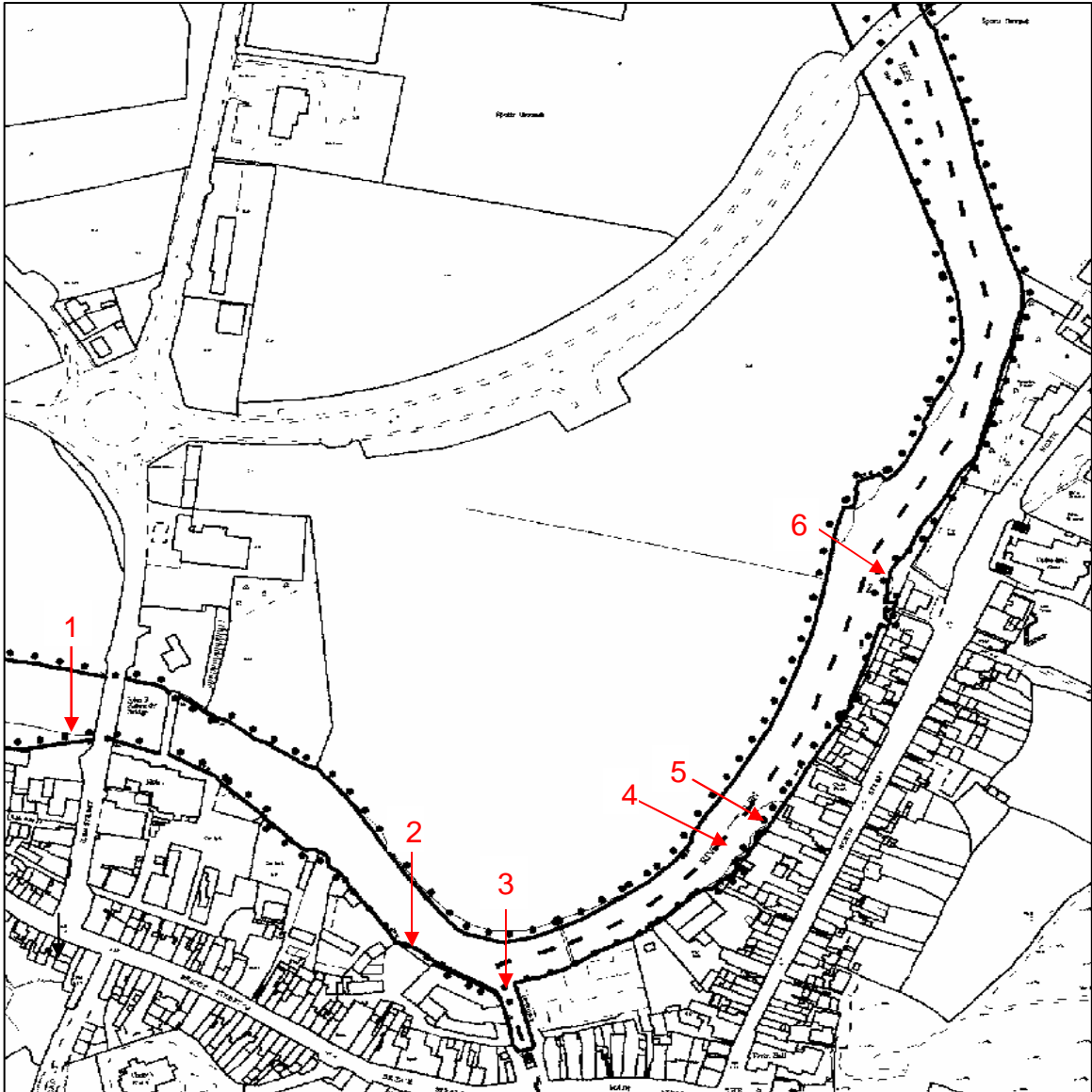
Abutments for New Footbridge



Cantilevered Walkway at Hotel

4.3 Town Quays

There are a number of old disused stone quays along the town side of the River Ilan. These quays, which were once the primary means to transport goods and people in and out of Skibbereen are clustered between the two road bridges and fall within the defined study area.



Map 4 - Town Quays

No.	Name
1	Steam Mill Quay
2	Long Quay
3	Levis Quay
4	Nagle's Quay
5	Minihane's Quay
6	Chapel Quay

4.3.1 Description of Quays

Steam Mill Quay

The Steam Mill Quay lies on the left hand bank of the Ilan immediately downstream of the JFK bridge. The land behind the quay is currently used as a car park.

The quay wall is of interlocked dry stone construction, with natural grass decking behind the wall. The quay wall is in fair to poor condition. Remedial works are required.

The river bed is heavily silted up around the quay wall and a sewage pipe discharges untreated effluent directly into the river adjacent to the quay. There is currently no free water draft at low tide.

The quay is currently in private ownership.



Long Quay

The Long Quay lies on the left hand bank of the Ilan immediately downstream of a new waterside apartment development. The land behind the quay is used as an informal car parking area.

The exact form of construction of the quay is difficult to ascertain due to an accumulation of stone along the face of the quay wall. It appears to be of rough dry stone construction. The condition of the quay is very poor.

In the past, a slipway was located on the upstream side of the quay. There is little evidence of this structure today.

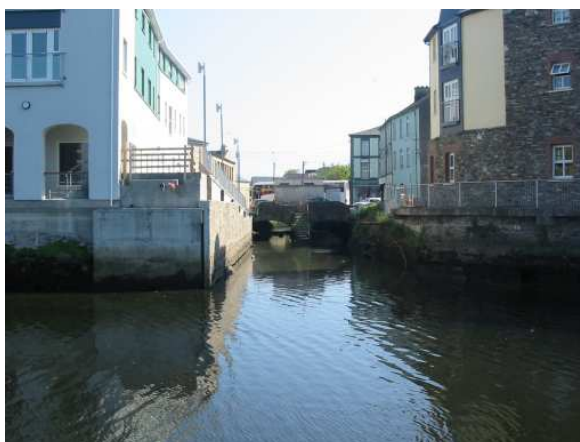


Levis Quay

Levis Quay is the primary quay in the town and is the focal point of the river/land interface. The existing quay walls on the downstream side are constructed from coursed stone and there is significant vegetative growth. The quay wall is in fair condition.

The quay wall on the upstream side has been covered with a stone faced concrete wall as part of the apartment development adjacent to the quay.

The steps in the centre of the quay area are in poor condition and access to these steps is currently blocked.



Nagle's Quay

Nagles Quay is accessed via a laneway from North Street adjacent to the sports shop.

The landside adjacent to the quay has been built on and a wall prevents access to the quay. The quay is constructed of coursed stone and is heavily overgrown. The condition of the quay is poor.



Minihane's Quay

Minihane's Quay is accessed via a pedestrian laneway from North Street adjacent to Minihan's public house.

Pedestrian access is unrestricted and there has been little disturbance to the landside area. The quay wall is constructed from random coursed stone and is in poor to fair condition. The river area in front of the quay is shallow and stone has been placed/dumped in front of the quay face.



Chapel Quay

Chapel Quay lies to the rear of the Civil Defence building and is accessed from North Street via a short roadway. Access is unrestricted.

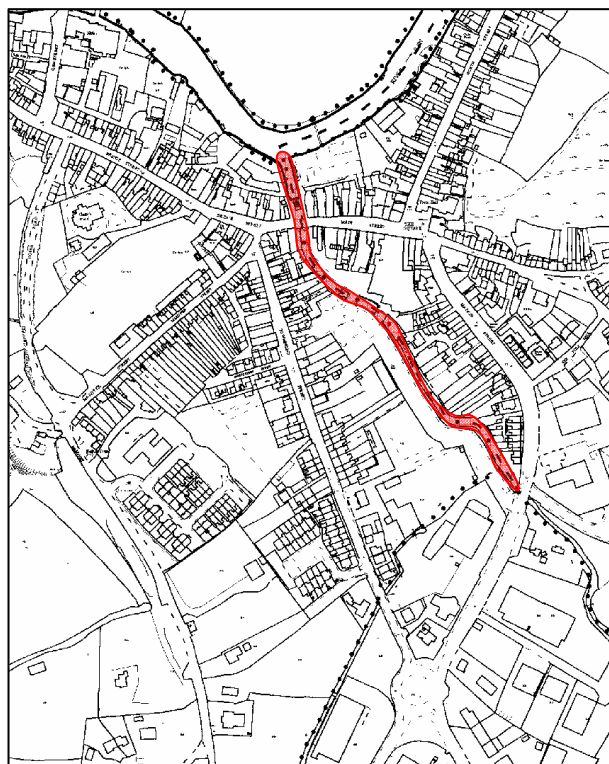
Construction of the quay wall is unknown, presumed to be coursed stone. The quay and river banks adjacent to the quay are completely overgrown. The land slopes down from the roadway to the river at this location.

Loose stone has been deposited in the river adjacent to the quay at this location causing silt to accumulate.



4.4 Caol Stream

This study is concerned with the section of the Caol between the Market Street Bridge and the confluence of the Caol with the Ilan at Levis Quay. An inspection of the Caol upstream of the Market Street Bridge was carried out as part of the research.



Map 5 – Caol Stream

4.4.1 Natural Environment

The Caol Stream, which rises in Lough Abisdealy, joins the Ilan approximately 250m upstream for the John F Kennedy Bridge at Levis Quay. There is limited flora along the stream with only a marginal fringe on each side.

The water quality at the Market Street end is estimated to be moderate to fair, evidenced by the presence of juvenile trout. The water quality deteriorates rapidly downstream due to the discharge of untreated sewage from a number of points. The water quality is considered to be poor quality for most of the stretch. Extensive mats of sewage fungus and soft sediment deposits occur on its lower reaches and the stream is likely to be devoid of life with the exception of extremely tolerant forms such as Tubificid worms.

The banks of the Caol are heavily infested with the exotic invasive Japanese Knotweed, which will result in extensive shading along its course during the summer period. The stream could provide suitable habitat for salmonids, however due to the current poor water quality this is not currently possible. There is anecdotal evidence that the stream previously supported a run of salmon.

The status of the Caol upstream of the Market Street Bridge improves and it is very suitable habitat for fisheries development.

4.4.2 Manmade Environment

The Caol Stream from the Market Street Bridge to Levi's Quay is confined within an artificial channel with a marginal fringe on either bank. There are a number of crossings of the river within the study area and there are numerous direct discharge sewage pipes.

The right hand banks of the stream along the upper stretches within the study area are bounded by private properties, rear gardens etc. The bank is primarily soft mud with extensive varied vegetation. Numerous sewage discharge points are situated along this bank. The right hand bank is comprised of vertical concrete walls from the Supervalu store for the remainder of its length to Levis Quay.

The left hand bank of the stream between the Market Street Bridge and the Supervalu store is comprised of natural clay/mud and contains extensive varied vegetation. There are a number of surface water discharges and sewage discharge from this bank. The bank is comprised of vertical stone and concrete walls from the Supervalu store area for the remainder of its length.

The stream passes under a twin arch masonry bridge at Bridge Street and discharges into Levis Quay. The left hand ope of the bridge is partially blocked with a makeshift weir. The purpose of this weir is unknown, but it is probably an attempt to concentrate low flows within the stream to aid flushing. There are steps into the centre of the stream at Levis quay. These stone steps are in poor condition and are not currently safe for public use.

As previously outlined, the water quality in the Caol Stream is very poor. The poor water quality is caused by the direct discharge of untreated sewage into the stream from a number of point sources. The source of these outfalls is unconfirmed, but it is probable that they are connected to the private residences in the area and the retail/commercial units closer to Bridge Street. There is visual evidence of both kitchen/catering type waste and sewerage in the Caol Stream. There is also olfactory evidence of the pollution, i.e. there is a foul smell emanating from the stream at certain locations.

The proposed Skibbereen Sewerage Collection System will rectify the pollution problem, by collecting the foul water from each side of the stream via interceptor sewers buried under the ground along the stream length. These sewers will convey the waste water to the proposed pumping station in the Marsh area and on to the treatment plant. The scheme as proposed will include storm water outfalls and combined sewer overflow discharges into the Caol at various locations. The scheme also proposes to attach a 250mm diameter foul sewer to the wall on the western (left hand) side of the stream from Main Street to the car park area.



Caol Stream at Market Street



Caol Stream adjacent to Supervalu



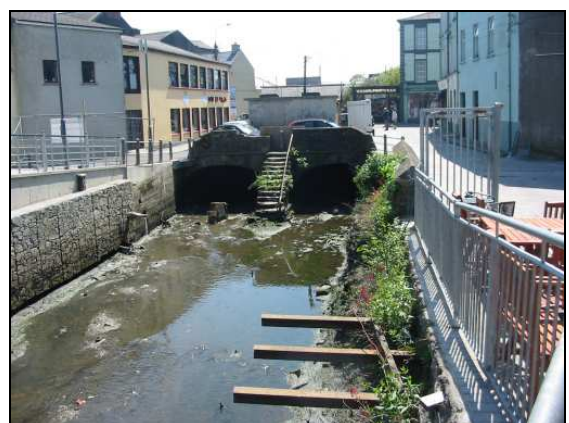
Caol Stream – Landside Planting & Fencing



Caol Stream at Clerkes Lane



Caol Stream – Landside approaching Bridge Street



Caol Stream – Downstream of Bridge St. Bridge



Discharge pipe at Clerkes Lane



Discharge pipe at Clerkes Lane



Polluted Stream Bed



Stream Bed at Levi's Quay

Visual Evidence of Pollution of Caol Stream

Based on consultations with engineering staff of Skibbereen Town Council and Cork County Council it is likely that the Sewerage Collection System will not be operational until late 2009 or early 2010.

The Council are proposing a short term measure to extend some of the foul discharge pipes below the stream water level to aid dilution and improve the conveyance of the waste from the stream to the Ilen.

5.0 Preliminary Development Proposals

5.1 Introduction

The following development proposals are preliminary, and are based on the RIPPLE Committees vision for the area and incorporate the philosophy of “Sustainable Development”. Case studies of other Urban Watercourse developments in Europe and North America have been examined and the best practices, where applicable included. The proposals have been developed in line with the current planning objectives of Skibbereen Town Council and other relevant public sector & private sector policies/plans for the area and with the planned wastewater infrastructure works.

The proposals take cognisance of the existing use of the Ilen & Caol and the history/heritage of the area. Our recommendations try to maximise the use of the underutilised amenities within the study area, while ensuring that any negative impacts will be negligible.

These proposals have been prepared as part of this Preliminary Feasibility Study. It is expected that the ideas and designs will be refined and developed further as part of the future proposed “*River Ilen & Caol Stream Development Plan*”.

The proposals, while specific in nature include some general proposals which are common to all aspects of the developments, such as Public Health & Safety, Amenity Improvement, History & Heritage etc.

A preliminary development plan map detailing the proposals is included in the appendix. Each section below contains example photographs and sketches from other successful schemes to further explain the proposals.

Urban river redevelopment schemes enhance both the natural and manmade environments. The most successful schemes allow as much access as possible to the general public, thus instilling a sense of ownership in the community. In the past, communities and public authorities have turned their back on water bodies, but the tide is turning in this regard.

Environmental legislation, particularly the Water Framework Directive will ensure that rivers and other water bodies will be protected. It is up to the communities to enhance, make use of and enjoy the watercourses, thus improving the quality of life for the town’s residents and improving Skibbereen’s sense of identity.

5.2 Marsh & Ilen Area – Development Proposals

5.2.1 Development Objective

The overall objective for the development of the Marsh area is to provide high quality public access to the Marsh area and the riverside environment. The proposal includes the construction of a small manmade lake, which can be used by small boats and general amenity and resting facilities. The development is in essence a linear park with a number of pedestrian access points from existing public footpaths. The proposal also includes viewing areas with nature/heritage information points.

5.2.2 Development Implementation

The following elements are proposed:

Walkway & Cycleway

The high quality combined walkway and cycleway will commence at the upstream bridge and follow the right hand river bank (approximately) all the way to the John F Kennedy bridge, subject to a suitable route being agreed.

The walkway will be hard surfaced with bituminous macadam (bitmac) and be wide enough to accommodate pedestrians, wheelchair users and pushchairs. The walkway and all other public areas will be lit with high quality, discrete lighting.

The walkway will follow around the banks of the lake and a number of access points to existing routes will be provided.

The walkway will be constructed on the existing land, on top of the flood protection berm or elevated above the floodplain as required.

The gradients and surface of the walkway will allow easy passage for all users. Tactile surfacing and elements will be incorporated to allow visually impaired people to use the walkway.

Bridges

Two bridges will be provided. One will be located at a wetland area towards the upstream end of the river. This will pass over the wetland area and allow people to be surrounded by a natural ecosystem. The second will be sited adjacent to the existing cast iron railway bridge and will facilitate access to the left hand bank of the river.

The bridges will be of high quality design and complement their surroundings. They will be fully accessible for all users.

Consideration will be given to constructing the bridges from renewable/environmentally sound materials.

Resting Areas

The resting areas will be provided at various locations. Their layout and materials used will promote interaction with people and the environment. High quality furniture (seating/bins etc.) will be used.

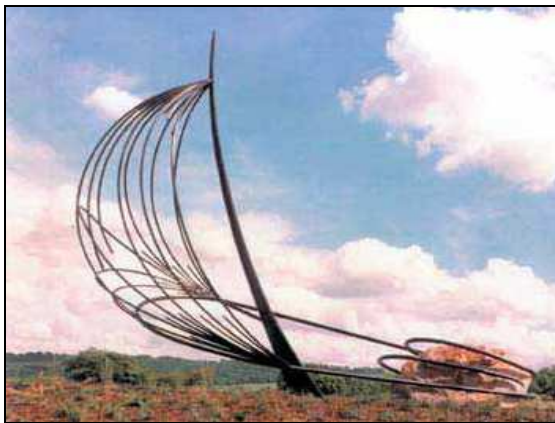
Lake	<p>The man made lake will be a primary feature of the Marsh redevelopment and will be constructed so as to allow safe waterside access for all age groups. The lake design will include for marshy wetland area and deeper water areas to promote varied flora and fauna.</p> <p>The lake depth will be sufficient to allow small boat access for leisure purposes. A pontoon for access will be incorporated. The lake will be designed to be incorporated as part of the flood bypass channel if constructed in the future. Additional investigation and detailed design will be required at a later phase.</p>
Viewing Areas	<p>There will be views of the river and the surrounding habitats from most parts of the walk. A suspended viewing platform will be developed as a feature approximately halfway along the walk. The platform will allow people to stand out over the river. The platform will be timber decked and visually non intrusive.</p>
Information Boards	<p>Information boards will be located at key points along the walk. They will include information about the natural and manmade environments and the history & heritage of the area.</p>
Playground	<p>It is proposed to construct a small high quality environmentally themed playground for small children. This will be located adjacent to the lake area.</p>
River Access	<p>Access to the water is a primary objective of this project. Apart from the refurbished quays and other developments on the Caol and the left hand bank of the Ilen, access to the river will be provided at two or three locations along the river. The locations for these access points will be determined at a later phase.</p> <p>A pontoon will be installed immediately downstream of the John F Kennedy Bridge, preferably on the left hand bank. This pontoon with associated infrastructure will allow small fast passenger boats to operate a ferry/tour service from the town to the Ilen and Roaringwater Bay.</p> <p>A pontoon will also be installed on the downstream side of Levis Quay. This pontoon will facilitate small boats, kayaks etc. to access the river for leisure purposes.</p>
Water Safety	<p>Rescue lifebuoys will be provided every 50m to 70m. Appropriate signage will be provided where required.</p>
Habitat	<p>River and landside habitat improvement schemes will be implemented. A comprehensive habitat improvement scheme will be designed and implemented on a phased basis. This will help to offset the loss of habitat caused by developments in the area and the poor water quality. A planting design will be included in this package.</p>
Art	<p>It is recommended that a sculpture be commissioned and erected along the walk. The theme of the sculpture could be based on the traditional boating and river heritage of the area.</p>
Schools Project Area	<p>An area to the east of the car park has been assigned as a "Schools Project Area". Ideas for the development of this area will be sought from local schools, possibly as a competition, with the winning schools idea being implemented into the final design.</p>



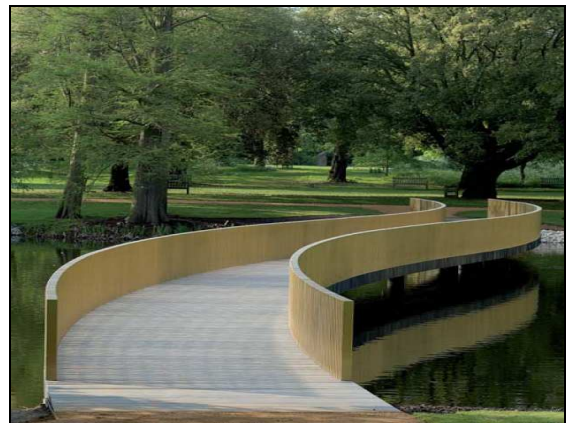
Information Board - Example



Information Board - Example



Riverside Sculpture - Example



Elevated Walkway - Example



River Access - Example



Lake Side Access - Example

5.3 Town Quays – Development Proposals

5.3.1 Development Objective

The overall objective for the development of the town quays is to improve public access to the River Ilan to allow the public to partake in water based leisure activities and to pay respect to the industrial heritage and archaeology of the quays. The proposals include the restoration of some of the quays and the provision of safe access to the water

5.3.2 Development Implementation

It is proposed to develop the quays as follows:

Steam Mill Quay

It is probable that the landside of the Steam Mill Quay will be developed privately by the owner as a car parking area in conjunction with a proposed residential development.

As the quay is one of the most complete and visually appealing it is recommended that the quay is lit. Restoration works are also required. It is proposed that pedestrian access is maintained along the quay edge to allow future development of a walkway/footpath along the riverbank.

This would be the ideal location for a pontoon to facilitate future potential leisure boats, water taxis etc.

Long Quay

This quay has good public access and a right of way along the rivers edge at the adjacent apartment block. This quay should be restored so that it can provide access along the riverside for future walkway development.

A pontoon could be sited at this quay and car parking provided.

As there was a slipway at this site in the past for boat access to the river, the possibility of reconstructing a combined quay & slipway at this site should be examined.

Due to the excellent public access, minimal dredging requirement and views across to the Marsh, this quay would be considered to be extremely important in the overall redevelopment scheme. This quay should be considered for early redevelopment.

Levis Quay

As the focal point of the river/town interface, Levis Quay will be completely restored. A pontoon will be installed along the downstream wall of the quay with access via a cantilevered boardwalk on the western wall. The area will be dredged, if required and high quality furniture and fittings installed.

The quay area will be fully lit and the building adjacent to the quay will be restored and utilised for a suitable purpose, e.g. information centre.

Heritage information boards will be installed and a limited resting area provided.

Nagles Quay

Due to the limited access and the poor condition of this quay, no redevelopment works are recommended.

Minihane's Quay

This quay has good pedestrian access and a good aspect.

The quay wall should be restored and lighting provided. The dilapidated riverside building adjacent to the quay should be renovated and would make an excellent café/bistro type development.

The riverbed in front of the quay should be dredged and access facilities provided for small boat users.

Chapel Quay

This quay has potential to allow a full range of leisure access.

The quay wall should be restored and the riverbed dredged in front of the wall. A slipway should be constructed to allow the public to launch and recover small boats. The access road to the quay area should be improved and the area lit. Suitable safety equipment to be provided.

This quay should also be considered for early development, particularly as the proposed waste water collection system will have minimal impact on the quay area. This quay has excellent access and is the most suitable location to develop a slipway.



Resting Area - Example



Combined Cycle/Footpath - Example



Slipway - Example



Viewing Platform - Example



Riverside Walk - Example



High Quality Furniture - Example



Small Boat Use - Example



Riverside Pontoon - Example



River Canoeing - Example



River Access - Example

5.4 Caol – Development Proposals

5.4.1 Development Objective

The overall objective for the development of the Caol Stream through the town of Skibbereen is to improve the quality of the water and the natural habitats. The visual appearance of the stream will also be improved. Access to the stream will be provided at one location and the urban streetscape around the stream improved.

5.4.2 Development Implementation

It is proposed to develop the Caol Stream as follows:

Public Access

Access for members of the public will be provided at one location along the stream, utilising a section of wide bank upstream of the Supervalu store. Seating, as part of a resting area will also be provided.

The pathway along the stream from Market Street to Levis Quay will be designated as an urban section of the overall walk and suitable signage and information boards provided. Other potential areas for public access or the development of quality public spaces will be examined at a later date.

A partially cantilevered boardwalk should be developed, opening up the river immediately upstream of Bridge Street.

Streetscape Improvement

The boundary walls, fences etc. shall be improved in keeping with good urban landscape design. High quality street furniture and equipment shall be installed and appropriate planting schemes developed to soften the existing hard landscape.

The footpaths adjacent to the car parking area shall be increased in width, with a green separation area created in the interests of public safety. The existing lighting should be examined and improved where required.

Water Quality

The existing water quality within the stream is very poor. It is essential that the water quality is improved. The proposed sewerage collection scheme will remove the pollution threats from the stream but this system will not be in place for approximately 3 years.

We recommend that a temporary system be designed and implemented to deal with the contamination of the stream in the short term. This will be either the connection of as many of the existing outfalls to a temporary or existing sewer pipe discharging directly to the Ilan or the installation of a temporary collection and disposal/treatment system.

Habitat Improvement

The existing stream is devoid of fish life due to the poor water quality and lack of suitable habitat. A comprehensive habitat improvement scheme should be designed and implemented to provide suitable habitat for fish life. This action should only be carried out after the water quality is improved. The information boards should include details about the fish habitat within the river.

6.0 Development Cost Estimates

The cost estimates are indicative only and are based on the limited amount of site specific information available and standard construction costs. The accuracy of the indicative costs estimates is +/- 20%.

<u>Development Element</u>	<u>Indicative Cost</u>
<u>Marsh Area</u>	
Walkway & Cycleway (Includes elevated boardwalk, lighting, furniture etc.)	€1.1m
Bridges	€780,000
Lake (includes pontoon and entrance from river)	€680,000
Playground	€100,000
Planting & Landscaping	€270,000
In stream Habitat Improvements (Pools, ledges, dredging)	€80,000
<u>Quays</u>	
Chapel Quay (New wall and surfacing, dredging, furniture lighting, slipway)	€250,000
Minihane's Quay (Quay wall restoration, dredging, lighting, furniture)	€180,000
Levis Quay (Restoration, boardwalk, pontoons, furniture, lighting)	€280,000
Long Quay (Wall reconstruction, dredging, decking, lighting, furniture, pontoon)	€270,000
Steam Mill Quay (Quay wall restoration, dredging, lighting, furniture, pontoon)	€320,000
<u>Caol Stream</u>	
Public Access Improvement (Resting area, furniture, lighting etc.)	€160,000
Streetscape Improvement (Widen footpaths, boardwalk, tactile surfacing, furniture, planting)	€420,000
In Stream & Bankside Habitat Improvement (Pools, riffles, ledges, boulder placement, planting etc.)	€170,000

7.0 Conclusions & Recommendations

7.1 Introduction

It is our recommendation that the development objectives and implementation strategies contained within this report be implemented. This report is the first phase of the Feasibility Study. This study will be developed further and a full Development Plan for the Ilan & Caol in Skibbereen will be prepared.

The study area has the potential to be a significant asset to Skibbereen, its people and visitors. A high quality urban waterfront environment will add value to the area and be a draw for national and international tourism.

7.2 Specific Recommendations

Specific recommendations in relation to the geographic zones within the study area have been outlined in section 5. These are preliminary recommendations and the implementation of the objectives may alter after further studies have been carried out and after further detailed consultations. The specific geographically related recommendations are complemented by specific non-geographically related recommendations as follows:

<i>Health & Safety</i>	<p>The health and safety of the users of the amenities and the general public is of primary importance. Health & Safety will be at the forefront of all elements of the plan.</p> <p>A water safety campaign should be encouraged alongside this development. Input from the Local Authority water safety officer and local schools should be organised.</p>
<i>Heritage & History</i>	<p>An important element of this plan is the awareness and celebration of the history and heritage relating to the town, the river and the area in general. This area will be considered in all aspects of the development.</p>
<i>Communications</i>	<p>Communications are a vital part of any change process and this project is all about change.</p> <p>Community "Clean ups" of the river area could be organised.</p>
<i>Access</i>	<p>"Access for All" policy to be adopted</p>

7.3 Additional Studies

It is recommended that based on this report and subject to funding that the preparation of a full Development Plan be commissioned. If funding is limited or only available on a phased basis then a Phase II Feasibility Study should be commissioned, which will research and concentrate on other areas and perhaps examine some specific issues in more detail, such as the redevelopment of a particular quay.

The final Development Plan will be the blueprint for the redevelopment of the urban waterside environment within the study area. It will comprehensively detail the design of both the physical infrastructure and the policy and plan elements. It should address funding and time constraints and a funding plan, development schedule and regulatory framework plan should be included.

Additional studies and research topics that are required are detailed below. This is a non exhaustive list and will depend on how the project develops over time. These areas can be addressed as part of the Development Plan, or carried out separately. If work is to proceed on a piecemeal basis, it is advised that an overall Project Management Plan be developed to ensure continuity and quality of information.

7.3.1 Additional Studies & Research Areas

<i>Health & Safety Plan</i>	The preparation of a health & safety plan incorporating risk assessments of all design elements and proposed activities as part of the redevelopment scheme.
<i>Heritage Plan</i>	Development of a heritage plan to allow the information boards to be prepared, brochures developed and to include recommendations in relation to infrastructure issues. Link with traditional boat building etc.
<i>Tree Survey</i>	A tree survey of all the trees in the area is required. Advice and recommendation in relation to the treatment of existing trees to be included.
<i>Landscaping & Planting Plan</i>	A comprehensive landscaping and planting plan is required for the Marsh, Ilen, town quays, lake and Caol areas.
<i>Communications Plan</i>	Preparation of a communications plan. To include local landowners, general public, statutory & non statutory organisations. Use of RIPPLE website to be fully exploited.
<i>Habitat Improvement Plan</i>	A survey and development of a plan to improve the habitat for fish and land based fauna.
<i>Funding Report</i>	Research, advice and plan identifying funding mechanisms available to RIPPLE.
<i>Regulatory Framework Report</i>	Planning Permission, Foreshore Lease/Licence, Fishery Board consultation etc.
<i>Access Audit & Report</i>	For all areas within project study area.
<i>Detailed Engineering Design</i>	Design of walkway, boardwalks, embankments, bridges, lake, access points etc required.

7.4 The Way Forward

This Phase I Feasibility Study is intended to assist the RIPPLE Committee drive forward their plans for redeveloping the urban waterscape in Skibbereen. This report and the final Development Plan, while taking cognisance of all elements of the project, concentrates on infrastructural and developmental aspects. A successful development project however must consider the softer elements and include a broad range of interests.

As part of the conclusions of this report and to assist RIPPLE in advancing this project, we recommend that the following areas be included;

Communications

We have previously outlined the need for a Communications Plan as part of our recommendations. At this stage however it is imperative to keep the lines of communication with a range of parties' open, i.e. local authority, public representatives as well as the general public. The RIPPLE website should be exploited and use of vehicles such as the Water Heritage Day (www.heritageweek.ie), should be exploited. Regular updates about the project in the local newspapers should be considered.

Lobbying

The ability to fund any community based project is always difficult. It is likely that the committee will have to fund this project on a phased basis and with funding from a range of sources. As part of this campaign it is vital to keep local and relevant national politicians briefed and interested.

Development Plan

This phase I Feasibility Study is limited in terms of its scope and refinements will be required. It is recommended that a full Development Plan be commissioned, funding permitting. The current Skibbereen Town Development Plan ends in 2010. It is likely that the next Development Plan for the town will be considered from 2008 onwards. It is important that the elements from this report and the proposed Ilen/Caol Redevelopment Plan be included in the town plan.

Community Involvement

As part of the communications element and to try to generate interest within the community, small community projects should be devised to promote public participation and ownership of the project and the urban watercourse. Events such as public "river clean ups", local talks/presentations or calls for ideas (such as the proposed schools project) should be organised.

Funding

A critical element to ensure success of the project is funding. One of our recommendations is for the preparation of a funding plan/report. This plan would identify and examine potential sources of funding, such as local authority, national lottery grants, private sponsorship, EU funding etc. The level of funding required to implement the project is significant and novel methods of fundraising should be explored.

Watching Brief

It is essential that the RIPPLE Committee monitor all local, national and European issues that may impact on the proposed plan. Areas such as the preparation of the draft Town Development Plan, County Development Plan and implementation of the Water Framework Directive need to be kept abreast of. This applies to potential funding sources also.

European Context

There are a number of EU funded projects relating to Urban or City Watercourse redevelopment. These projects should be examined and the lessons learned from these projects incorporated into the Ilen & Caol Redevelopment Plan. Consideration should be given to “twinning” with other similar towns across Europe who wish to redevelop their urban watercourses, with a view to setting up a joint project for EU funding. A good current example of this is the “Water in Historic City Centres” project, (www.wihcc.nl), which is an Interreg III funded project concerned with the redevelopment and use of waterways in six European cities.

7.5 Project Phasing

Due to the pending major sewerage infrastructural works in Skibbereen, which will have a significant impact on this projects study area, it will be difficult to progress many elements of this plan in the short term.

Local authority staff have indicated that the Marsh area will effectively be closed to the public for most of the sewerage scheme construction period. Due to the likely major works in the Caol Stream, it is recommended that any redevelopment works in this area be suspended until the sewerage civil works are complete. The proposals for the Ilen & Caol Redevelopment Plan need to feed into the sewerage scheme, so that the reinstatement works can take into account the redevelopment proposals.

It will be possible to progress a number of elements of the plan and we would suggest that the elements listed below could be progressed. We recommend that one project be identified and developed as a “Flagship” type scheme, which will generate interest, discussion and exposure. The redevelopment of the Chapel Quay & Slipway is the best scheme to promote at this time.

Infrastructure Elements

- (1) Redevelopment of Chapel Quay & Slipway, including dredging.
- (2) Redevelopment of the Long Quay, with slipway, pontoon and car parking.
- (3) Renovation of Steam Mill Quay, dredging & installation of pontoon.
- (4) Partial renovation of Levis Quay and installation of pontoon.

Management Elements

- (1) Funding options examined.
- (2) Schools project commenced.
- (3) Communications Strategy developed.
- (4) Full Redevelopment Plan commissioned.
- (5) Additional surveys carried out (funding permitting).

8.0 Appendices

References

1	Skibbereen Town Development Plan (2004-2010)	Skibbereen Town Council
2	County Cork Development Plan (2003-2009)	Cork County Council
3	Skibberen Urban Study (2001)	Cunnane Stratton Reynolds
4	Flood Study Report – Marsh Car Park Development (2004)	RPS-MCOS
5	Skibbereen Sewerage Scheme – EIS (09/2004)	Cork County Council RPS-MCOS
6	Skibbereen Sewerage Scheme Collection System Foreshore Licence Application (04/2004)	Cork County Council RPS-MCOS
7	National Development Plan (2000-2006)	Government Publication
8	Towards a Marine Policy for Ireland (1996)	Marine Institute
9	Making the most of our Urban Watercourses	Institution of Civil Engineers
10	Fishery Guidelines for Local Authority Works (1998)	Department of the Marine
11	A Guide to Sustainable Urban Drainage	SEPA
12	Watercourses in the Community (2000)	SEPA
13	Ponds, Pools & Lochans (2000)	SEPA
14	Channels & Challenges (2006)	Central Fisheries Board
15	Rehabilitation of Rivers for Fish (1998)	FAO of UN
16	Rivers & Wildlife Handbook	RSPB
17	Stream Corridor Restoration	
18	Sustainable Management of Urban Rivers & Floodplains (2004)	Kings College London
19	Old Waterfront Walls (Management, Maintenance & Rehabilitation) (1992)	CIRIA

Ecological Assessment of RIPPLE Area

(EirEco Environmental Consultants)

Development Plan Layout Drawings