

SANTRY RIVER RESTORATION & GREENWAY MASTERPLAN

Dublin City Council,

Fingal County Council, National Transport Authority



Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

Comhairle Contae
Fhine Gall
Fingal County
Council



NTA
Oidáris Náisiúnta Iompair
National Transport Authority

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1. Introduction

TEAM

Client: Dublin City Council, Fingal County Council, National Transport Authority (NTA).

Main consultant: Nicholas O'Dwyer Ltd Consulting Engineers

The project is a collaboration with a team of specialists led by Nicholas O'Dwyer Ltd Consulting Engineers including REDscape Landscape & Urbanism and Cbec Eco Engineering.



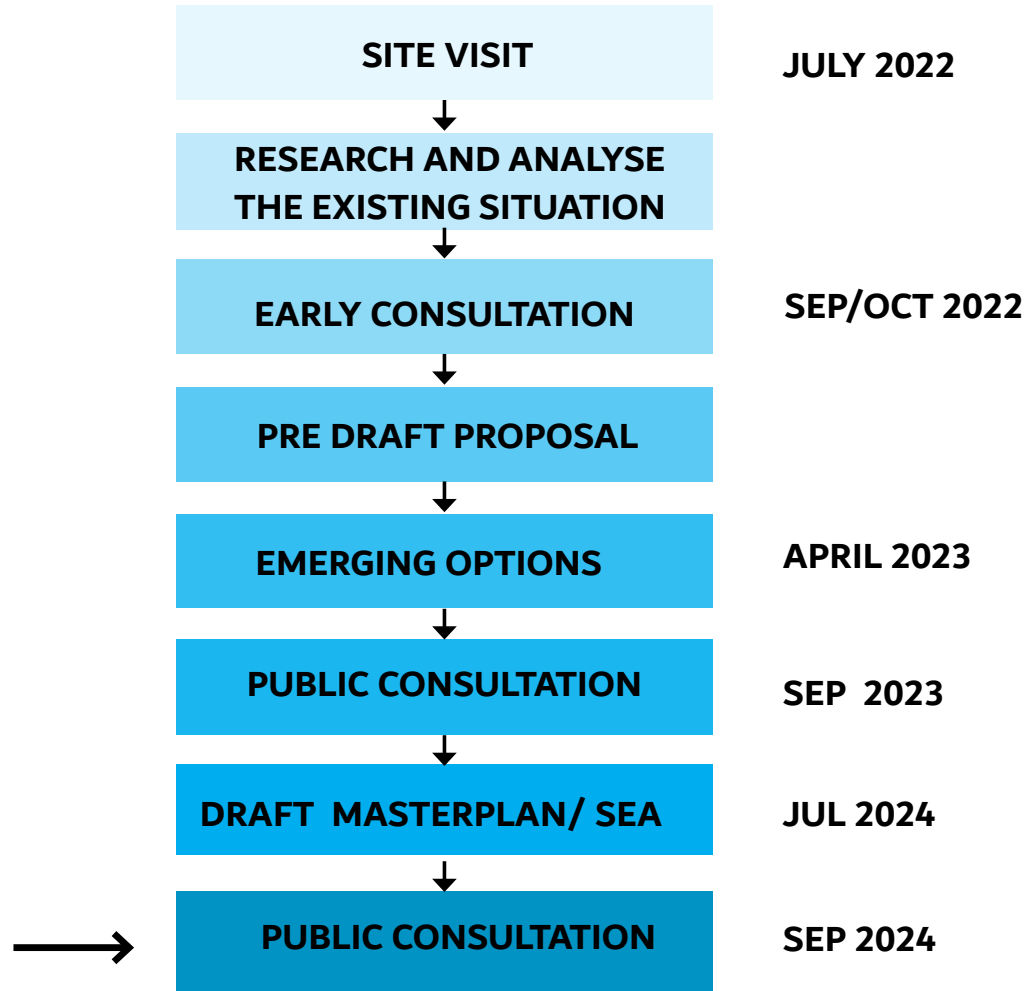
PROJECT MISSION

Imagine the future of the Santry River as an attractive river landscape or River Park flowing through North Dublin as an integrated green blue landscape for ecology and amenity.

A wide variety of existing and future activities from sport to cultural and recreational possibilities can be found there.

The landscape of the Santry River is to become the backbone of a new green infrastructure project to facilitate nature, pedestrians, and cyclists and form a route from the biosphere of Dublin Bay at St Anne's Park to Dublin's wider hinterlands at Sillogue.

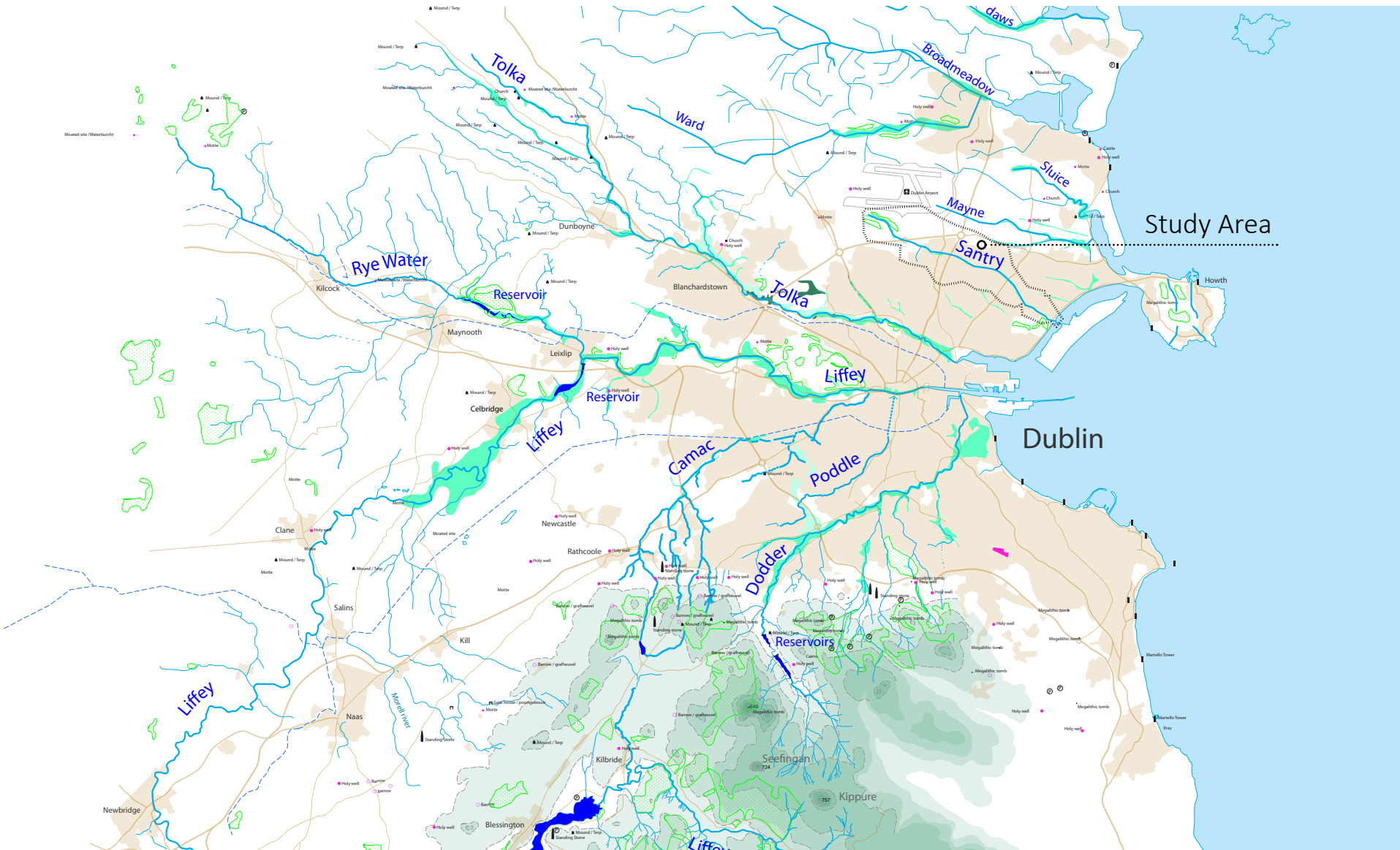
PROJECT PROGRAMME



Strategic Environmental Assessment



RIVERS IN THE REGION



The River Santry is one of 3 key rivers for North Dublin. The Liffey, the Tolka, the Santry.

CO-CREATION, THE PARTICIPATION PROCESS



Image: Feeding the swans at Santry lake, Santry Park.



HISTORICAL CONTEXT OF RIVER SANTRY 1848 & 2022



Map of Santry River in 1878 with overlay of Santry River 2022.
Source : <https://www.geohive.ie/> and REDscape Landscape & Urbanism.



Map of Santry River in 2022 with overlay of Santry River 1878.
Source : <https://www.geohive.ie/> and REDscape Landscape & Urbanism.

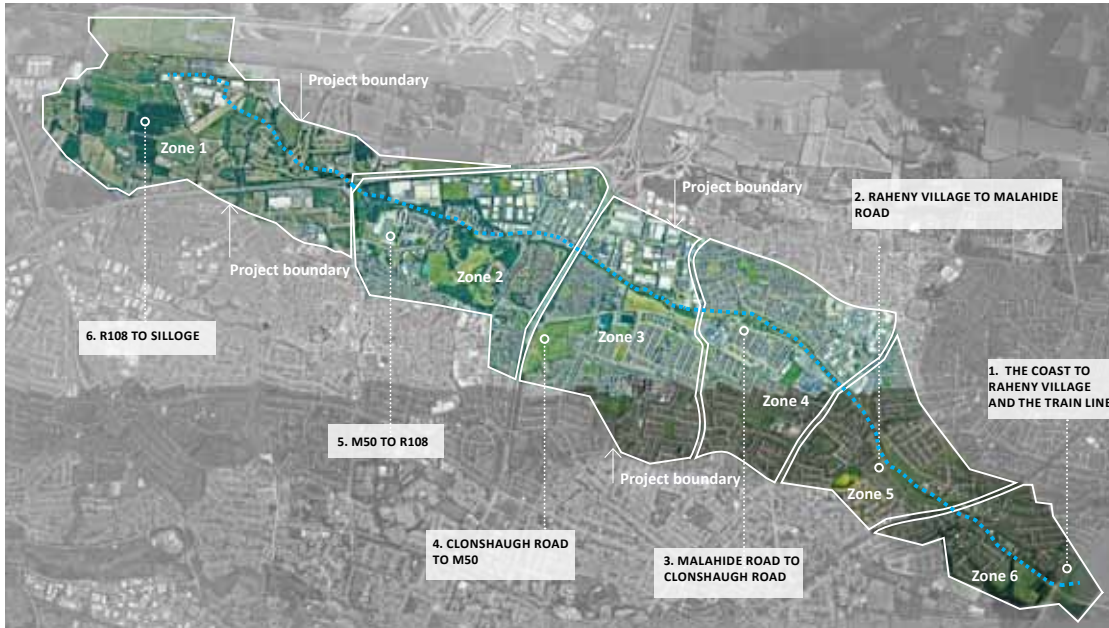


A millstone at St John's the Evangelist, Coolock, believed to emanate from Viking times, was powered by the River Santry at a nearby mill.



Pools at Edenmore House, circa 1900. Image donated by the Local Historical Society, Raheny.

EXISTING SITUATION



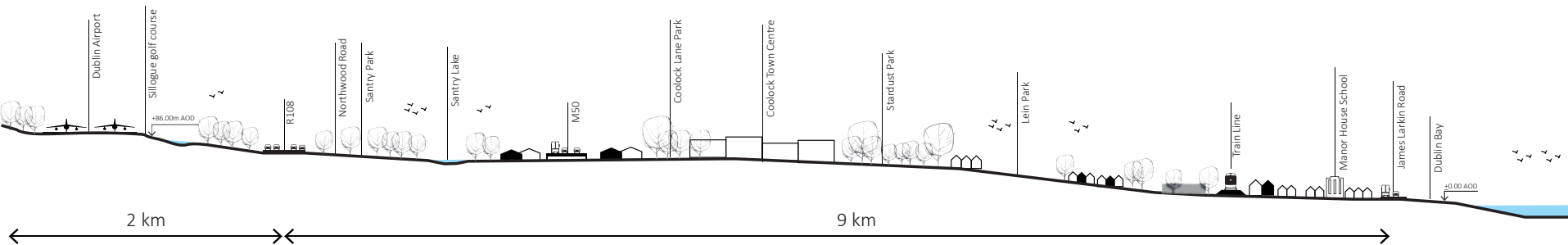
Map showing site boundaries and different zones within the project area



Image of the Santry River at Sillogue Golf Course (above) at source.



Image of the Santry River as it flows to the sea at Dublin Bay.



Schematic longitudinal section of the River Santry from Sillogue to Dublin Bay (approx 11km), 9km of which is to have a greenway.
Source, REDscape Landscape & Urbanism.



Overview map showing locaiton of existing site images in 2022/3.

2. Design themes

SPATIAL THEMES



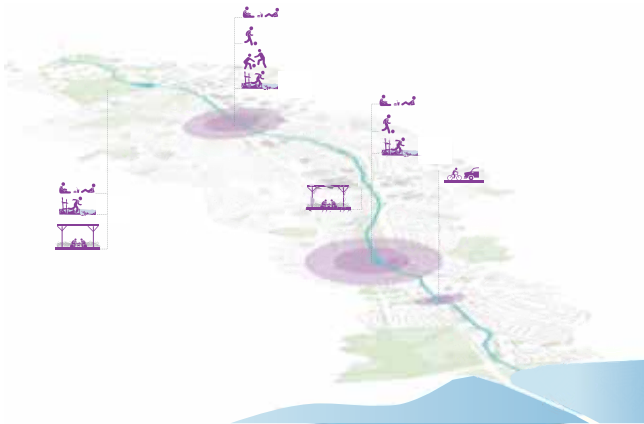
01. A robust and healthy water system



02. A continuous, multifunctional route, connected with the surroundings.



03. A green quality from source to sea.



04. A unique identity and information system.



05. Placemaking/Activation

The scheme has 5 themes that inform its transformation to a Riverpark

01. A ROBUST AND HEALTHY WATER SYSTEM

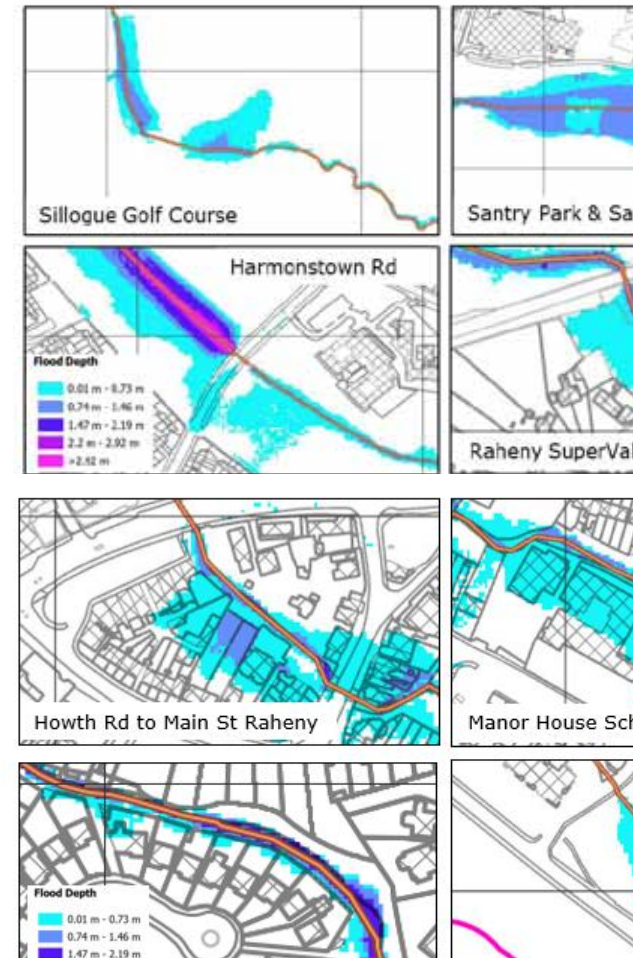


Schematic of a robust and healthy water system for the Santry River

1.1 FLOOD MITIGATION

- FLOOD HAZARD - BASELINE DESIGN EVENT

The Target Standard of Protection of the Scheme is to prevent flooding of properties and assets within the Scheme Area during flood events with a 1% AEP (e.g. the 1% AEP event has a 1% or 1 in 100 probability of happening in any year)



FLOOD RISK MANAGEMENT OPTIONS

Options were developed to provide flood protection up to 1% AEP in the areas of Santry Lake

①



- Sluice 33% resulted to be effective for the 1% AEP climate change MRFS
- Sensitivity test on increased storm duration reports minor flooding from the boundary of the lake into Northwood Avenue, and no flooding on Swords Road.



②



- The flood wall heights (including freeboard) were found to be effective for the 1% AEP climate change MRFS



FLOOD RISK MANAGEMENT OPTIONS

Flood walls have been proposed to provide flood protection up to 1% AEP in the areas of Raheny Village



Between Howth Rd and Main Street



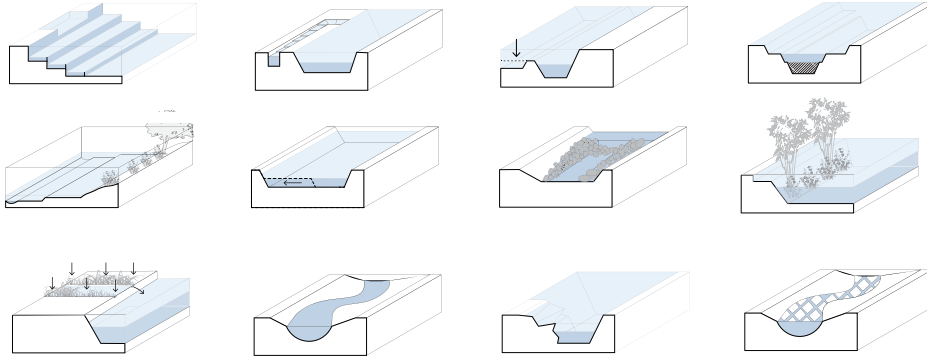
Around Manor House School



Existing Property wall at Watermill Lane could be reinforced and/or channel banks restored



1.2 RIVER RESTORATION



1. Daylighting of short sections of culverted channel
2. Removal of hard bank protection
3. Channel re-alignment
4. Two-stage channels
5. Develop Floodplains
6. Develop offline wetlands

Possible restoration measures for Santry River. Soure REDscape



Above: Example removal of hard bed and bank protection, Stane Gardens Restoration, UK. (Source: cbec eco-engineering UK Ltd.)



Above: Cross-sectional representation of a re-meandered/re-aligned channel. Dotted line represents existing position of the Santry River.

1.3 IMPROVING WATER QUALITY



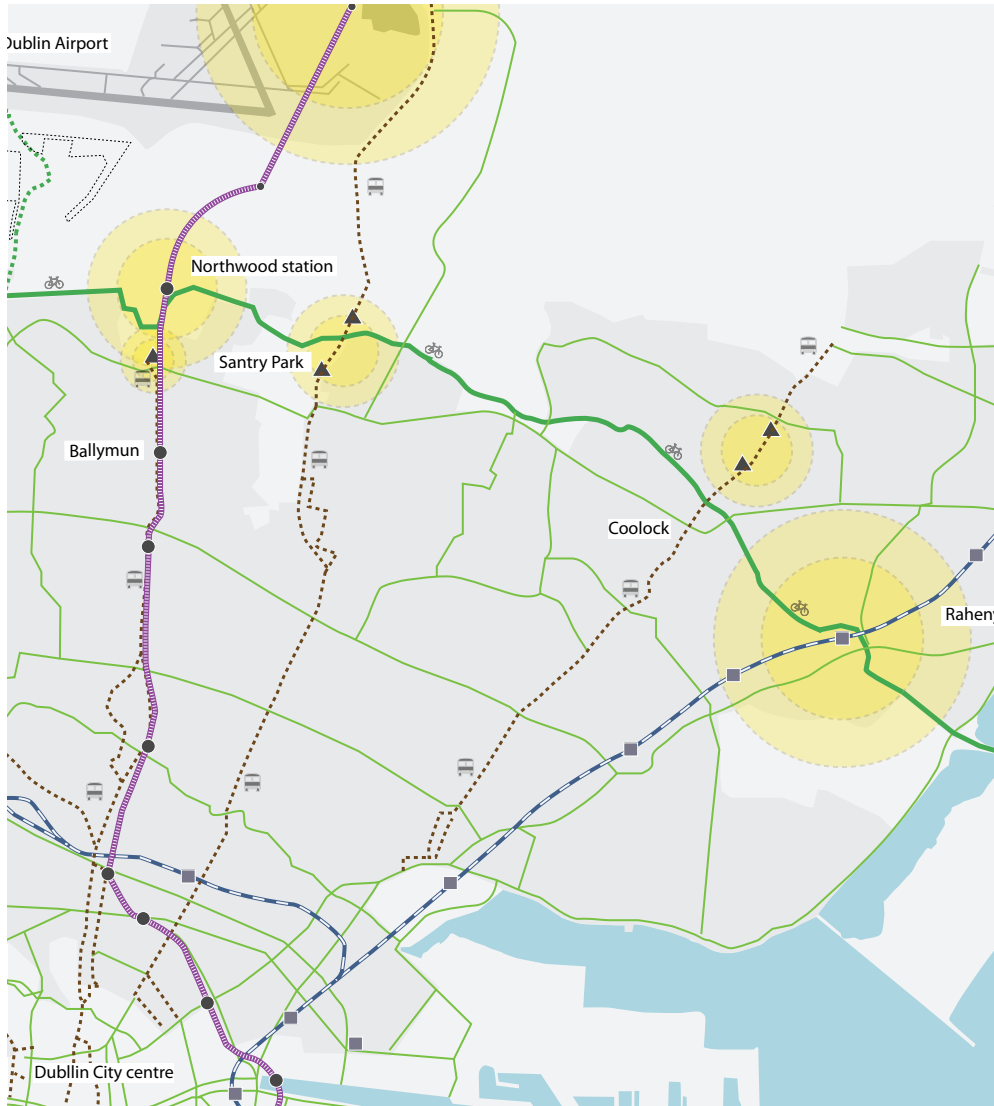
1. Remediate industrial and residential misconnections.
2. Remediate sewage misconnections.
3. Undertake flow analysis
4. Introduce SUDS systems into the river basin
5. Develop planting to oxygenate and clean water

02. A CONTINUOUS, MULTIFUNCTIONAL ROUTE

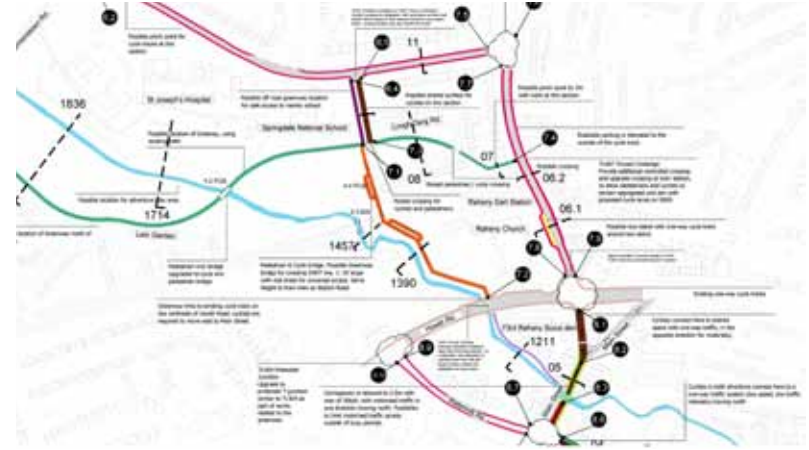


Schematic of emerging preferred option for the location of the Santry Greenway.

GREENWAY OPTIONS



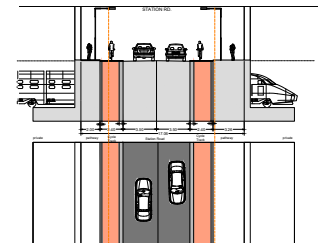
Proposed Santry Greenway in the context of the Active Travel Network for North Dublin.



Example of options Map



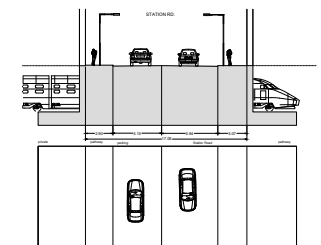
Proposed Situation (Station Road, Raheny)



Proposed section 06



Existing Situation (Station Road, Raheny)



Existing section 06

Example of before and after visuals and sections from Greenway options report.

Many options and combinations of options were investigated

03. A GREEN QUALITY FROM SOURCE TO SEA



Schematic of the green quality from source to sea for the location of the Santry River.

DEVELOP GREEN ZONES & HABITATS



Schematic of existing parks and green areas near the Santry River. Source: REDscape.

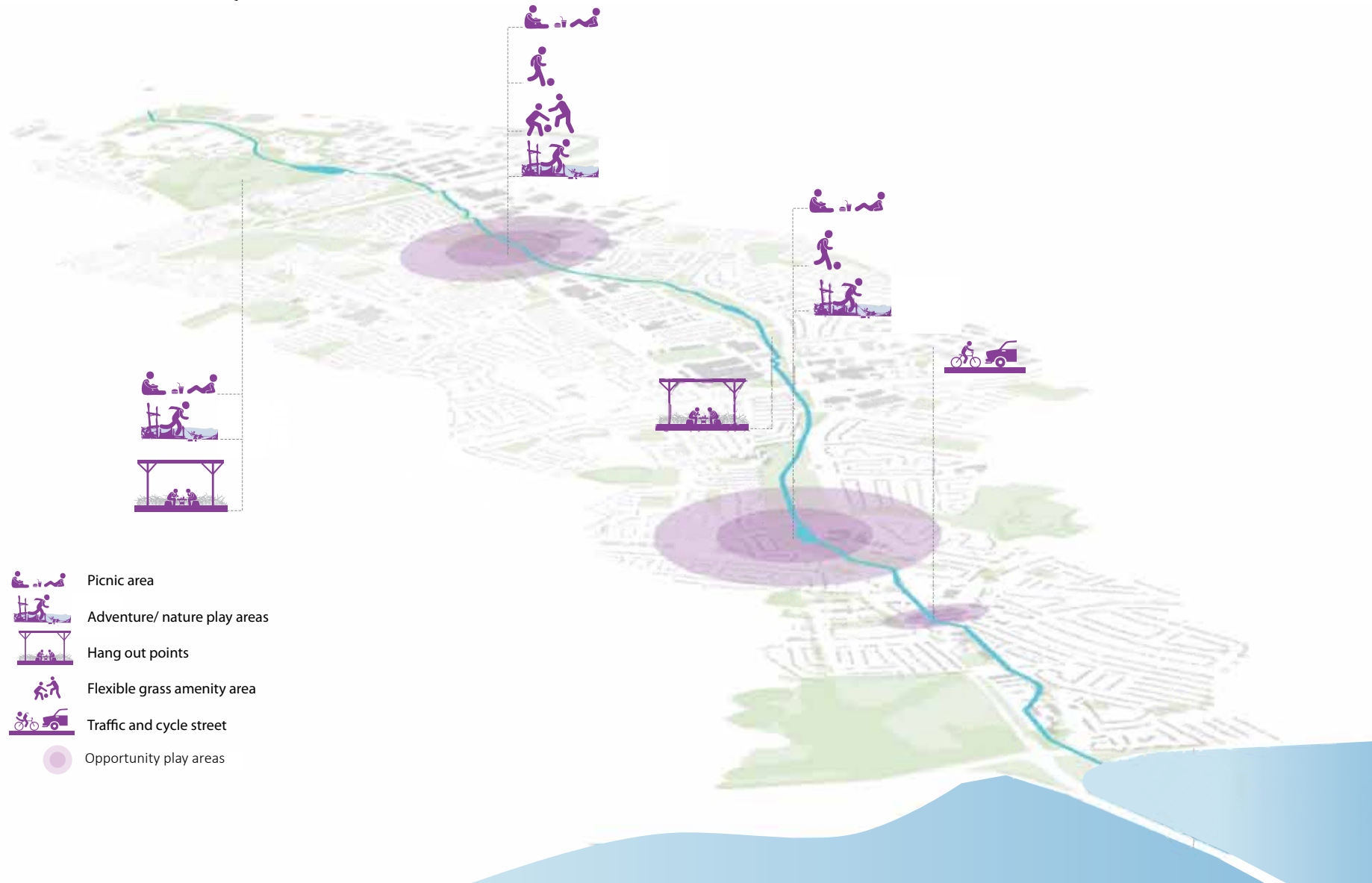
1. Retaining existing habitats of known species.
2. Develop riparian zones.
3. Re-design green areas within the Riverpark for nature and amenity
4. Develop a planting and maintenance program (tree survey and planting programme)



Schematic of riparian zone for the Santry River. Planted riparian buffer should ideally be two bankfull channel widths wide and should remain free from future development.

Different measures are proposed

04. A UNIQUE IDENTITY AND INFORMATION SYSTEM



Schematic of a unique identity and information system for the Santry Greenway.



Corten steel



FSC class 1 Irish oak



Asphalt



Concrete

Images showing the four basic materials for the Santry Riverpark: steel, wood, asphalt and concrete.



Corten steel bridge



Bailey bridge construction



Stepping stone crossings



Adventure crossings



Images showing design references to examples of furniture using similar materials



Boardwalks



Greenway surface



Signage/wayfinding



Seating



Hangout for teenagers



Adventure play in wet areas



Fences and gates



Bollards



Viewing Platforms



Retaining steps



Railings



Bike parking



Lighting



Images showing design references to examples of furniture using similar materials

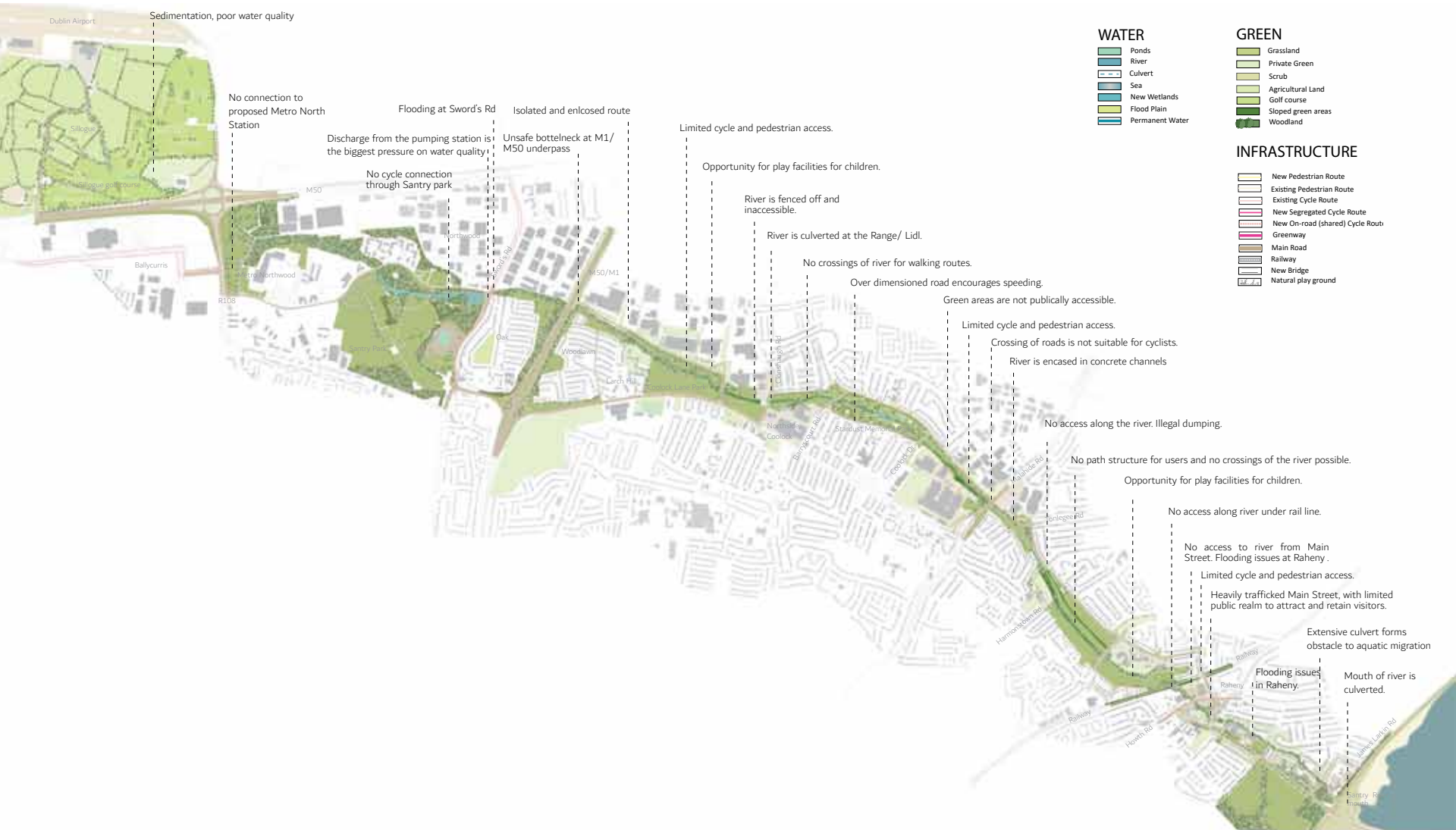
05. PLACEMAKING AND ACTIVATION



Schematic of Placemaking and amenity development for the Santry Riverpark.

3. Masterplan

EXISTING SITUATION



Masterplan of area showing the existing situation (2023) with main issues highlighted during stakeholder workshops

PROPOSED MASTERPLAN (OVERVIEW)



Plan drawing: Masterplan of area showing the proposed situation for flood mitigation, restoration and greenway.

PROPOSED MASTERPLAN IN DETAIL



Plan drawing: Masterplan of area showing the proposed situation

PROPOSED MASTERPLAN IN DETAIL



Plan drawing: Masterplan of area showing the proposed situation

PROPOSED MASTERPLAN IN DETAIL



Plan drawing: Masterplan of area showing the proposed situation

PROPOSED MASTERPLAN IN DETAIL



Plan drawing: Masterplan of area showing the proposed situation



Visual: A bird's eye view of the Santry Riverpark showing the preferred emerging option for the Greenway.

EXISTING SITUATION

(The Range, Coolock)



PROPOSED SITUATION

(The Range, Coolock)



Existing situation.



Artist impression of a future situation demonstrating a restored Santry River near the Range, Coolock.



EXISTING SITUATION

(Lein Gården)

PROPOSED SITUATION

(Lein Garden)



Existing situation



Artist impression of a future situation demonstrating a possible nature based adventure play area near Edenmore school, pending available funding.

EXISTING SITUATION

(Adare Road)



PROPOSED SITUATION

(Adare Road)



Existing situation



Artist impression of a future situation demonstrating the possible extended Stardust Park at Adare Road, pending available funding.

EXISTING SITUATION

(Moatfield Road)



PROPOSED SITUATION

(Moatfield Road)



Existing situation



Artist impression of a future situation demonstrating a restored Santry River near Moatfield Road, showing dry condition, pending available funding.

PROPOSED SITUATION

(Moatfield Road)



Existing situation



Artist impression of a future situation demonstrating a restored Santry River near Moatfield Road, showing wet condition, pending available funding.

EXISTING SITUATION

(Springdale Road-Lein Park)



PROPOSED SITUATION

(Springdale Road-Lein Park)



Existing situation



Artist impression of a future situation demonstrating a unique bridge construction for the Santry River near Lein Park, Showing Dry condition pending available funding.

PROPOSED SITUATION

(Springdale Road-Lein Park)



Existing situation



Artist impression of a future situation demonstrating a unique bridge construction for the Santry River near Lein Park, Showing Wet condition pending available funding.

EXISTING SITUATION

(Main Street, Raheny)



PROPOSED SITUATION

(Main Street, Raheny)



Existing situation, Main Street Raheny 2022



Historic situation, Main Street Raheny (date unknown)



Artist impression of a possible future situation demonstrating a re-imagined, possibly partially pedestrianised Main Street with integrated SUDS at Raheny, pending stakeholder consultation and available funding.



01. Santry Park before and after



02. The Range, Coolock before and after



03. M1/ M50 Underpass before and after



04. Lein Garden before and after



05. Woodlawn Park before and after



06. Adare Road before and after



07. Greencastle Road before and after



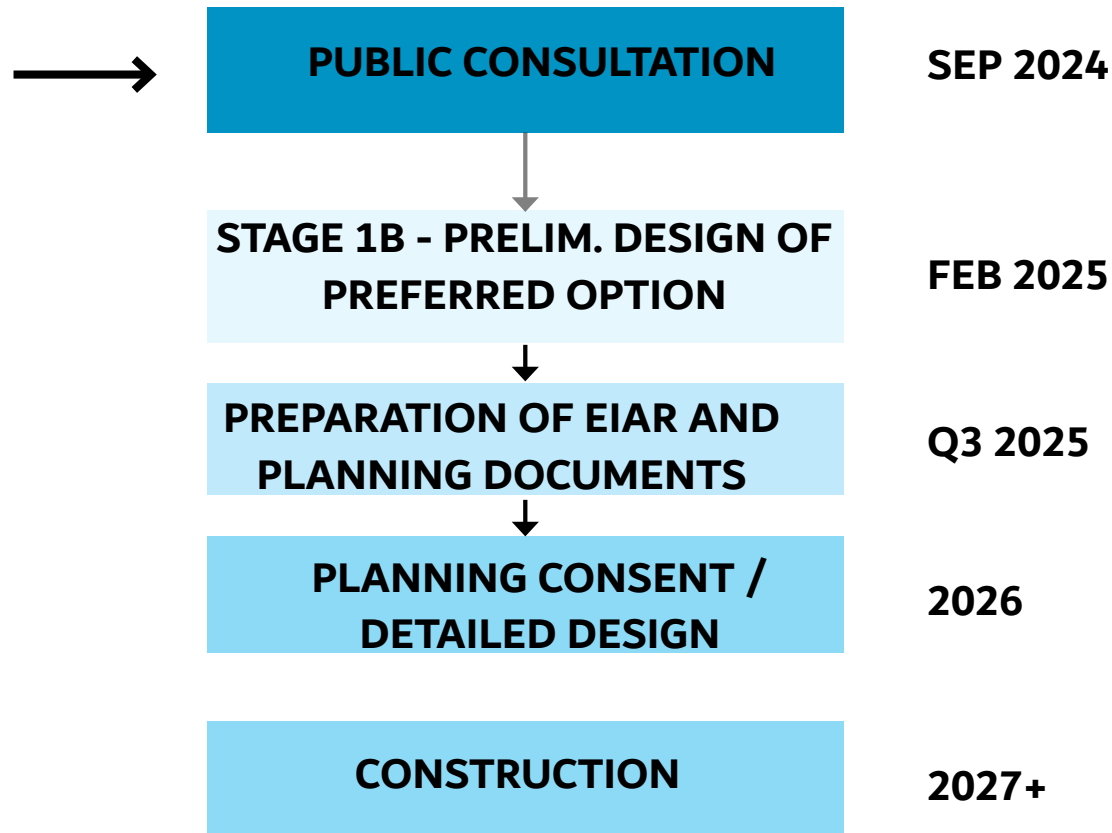
08. Moatfield Road before and after



09. Springdale Road-Lein Park before and after

4. Next steps

PROGRAMME



All future works are pending funding.

End of presentation

Thank you!

Looking forward to your comments.

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