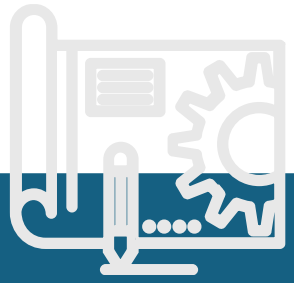
Transport Infrastructure Ireland

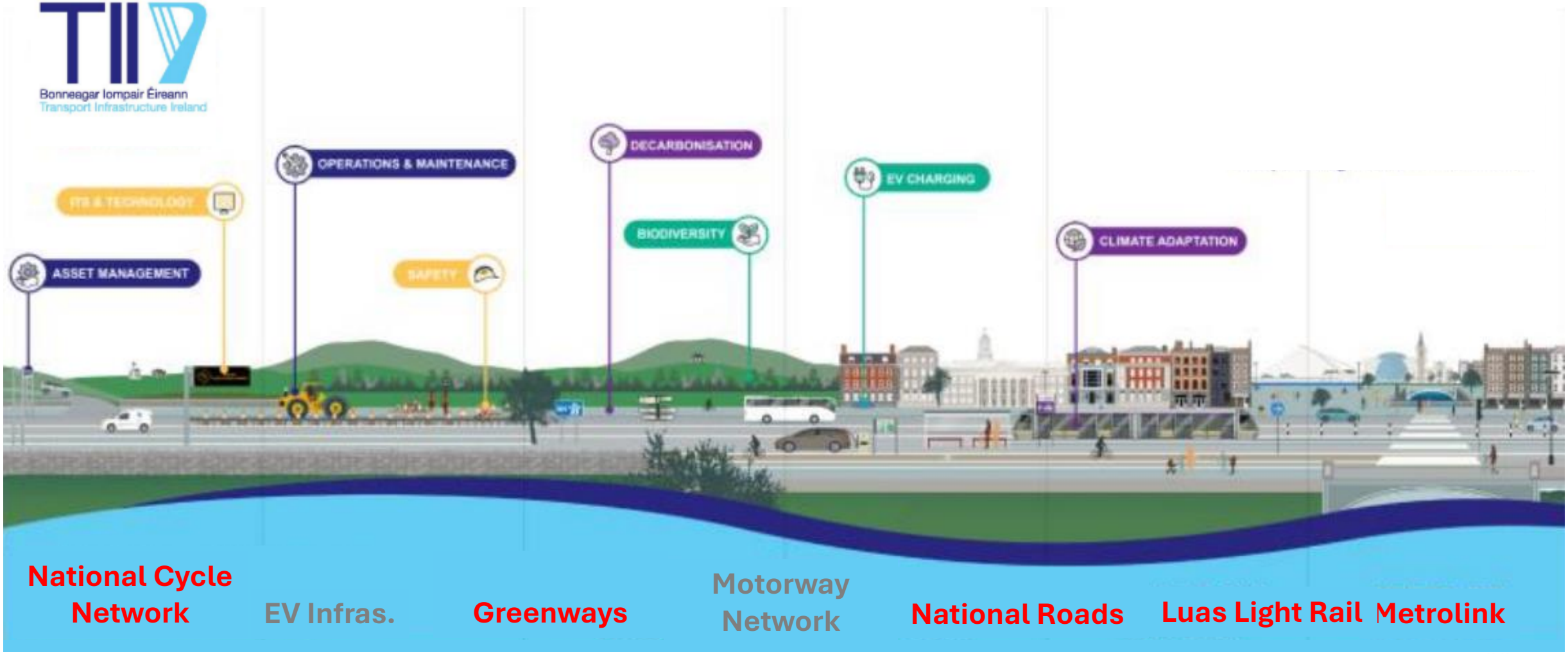
Standards Roadshow

TII Soft Landscape



Eimear Fox June 2025

Bonneagar Iompair Éireann
Transport Infrastructure Ireland



What Soft Landscape? Where?

The term ‘Soft Landscape’ describes the wide range of vegetative elements established and designed within our urban areas and the infrastructure required for their establishment.

TII'S Sustainability Plan / Biodiversity Plan / Landscape Plan / Soft Landscape Guides

TII'S Sustainability Plan / Biodiversity Plan / Landscape Plan / Soft Landscape Guides

How will we achieve this?

The aim of the TII Landscape Plan is to provide considered and practical guidance into all stages of our landscape's evolution from initial design to long-term management. While we have focused much of our efforts to date on guidance focussed on the design and implementation stages, as our landscapes mature, we are turning our attention also to the successful ongoing and future maintenance of this valuable asset.

Objective 1

Ensure a high standard of Landscape and Streetscape Design

Objective 2

Ensure TII develops high quality, consistent, cost effective and adaptable landscape design and management practices and standards.

Objective 3

Assist in fulfilling TII's planning and strategic commitments with regard to landscape

Objective 4

Ensure an appropriate response to associated Government Strategies and Policies including those on nature-based Solutions, SUDS, sustainability, biodiversity and blue-green infrastructure, resilience and climate change

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TII'S Sustainability Plan / Biodiversity Plan / Landscape Plan / Soft Landscape Guides

1.3 Organisation of the Overarching Technical Document

1

SECTION 1: INTRODUCTION

Presents the context and purpose of the OTD and introduces some of the key definitions used throughout the document.

2

SECTION 2: SOFT LANDSCAPE LEGISLATION AND POLICY FRAMEWORK

Presents an overview of European, as well as national legislation and policy, and notes the relevant TII standards.

3

SECTION 3: THE FUNCTION AND VALUE OF SOFT LANDSCAPE IN URBAN TRANSPORT ENVIRONMENTS

Provides a comprehensive overview of the available placemaking and planting selection strategies.

4

SECTION 4: SOFT LANDSCAPE TREATMENTS DESIGN GUIDANCE

Outlines the methodology required to undertake a soft landscape treatment.

5

SECTION 5: SOFT LANDSCAPE PLANNING AND DESIGN ACTIONS

Describes processes involving surveying and data collection that should be undertaken to assist in the integration of Soft Landscape Design.

A

APPENDIX A: SAMPLE DOCUMENTS

A1: Requirements of a Brief for Procurement of Soft Landscape Professionals.

A2: Sample Management and Maintenance guide

A3: Sample Schedule of Quantities

A4: Sample Landscape Report

B

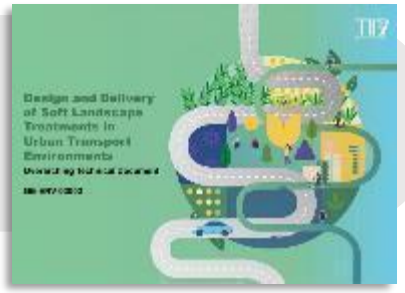
APPENDIX B: PILOT STUDIES

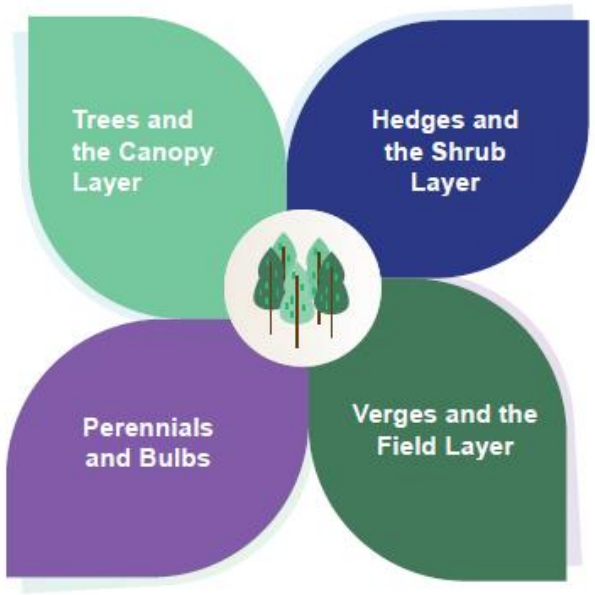
B1: N76, Grangemocklar

B2: N24, Carrick-on-Suir

B3: N21, Fossa

Design Approach





Landscape Treatments for Placemaking and Shaping

Planet Positive Landscape Treatments

Enriching Place and it's Characteristics

Communities, Health & Wellbeing

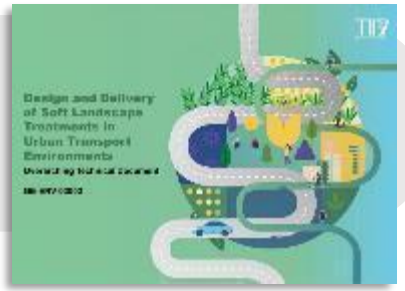
Climate Resilience and Sustainable Soft Lanscape Design

Biodiversity Positive Landscape Design

Inform the **design approach** for multi-functional soft landscapes along TII urban transport corridors.

Typologies and Functions

Guidance on Functions and Value



Landscape Treatments for Placemaking and Shaping

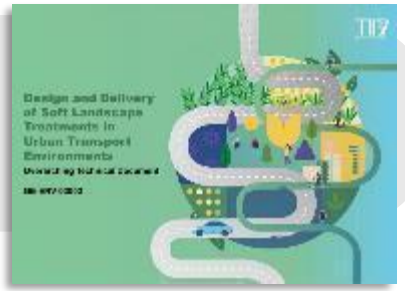
Enriching Place and it's Characteristics

Communities, Health & Wellbeing

Landscape Treatments for Placemaking and Shaping

Placemaking | Enhanced Journey Experience | Traffic Calming | Visual Connectivity & Sightlines | Functional Buffers | Social Inclusion | Wellbeing

Guidance on Functions and Value



Landscape Treatments for Placemaking and Shaping

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Landscape Treatments for Placemaking and Shaping

- Placemaking
- Enhanced Journey Experience
- Traffic Calming
- Visual Connectivity & Sightlines
- Functional Buffers
- Social Inclusion
- Wellbeing

Planet Positive Landscape Treatments

- Pollinator Friendly
- SuDS
- Habitat Connectivity
- Cooling
- Carbon Sequestration

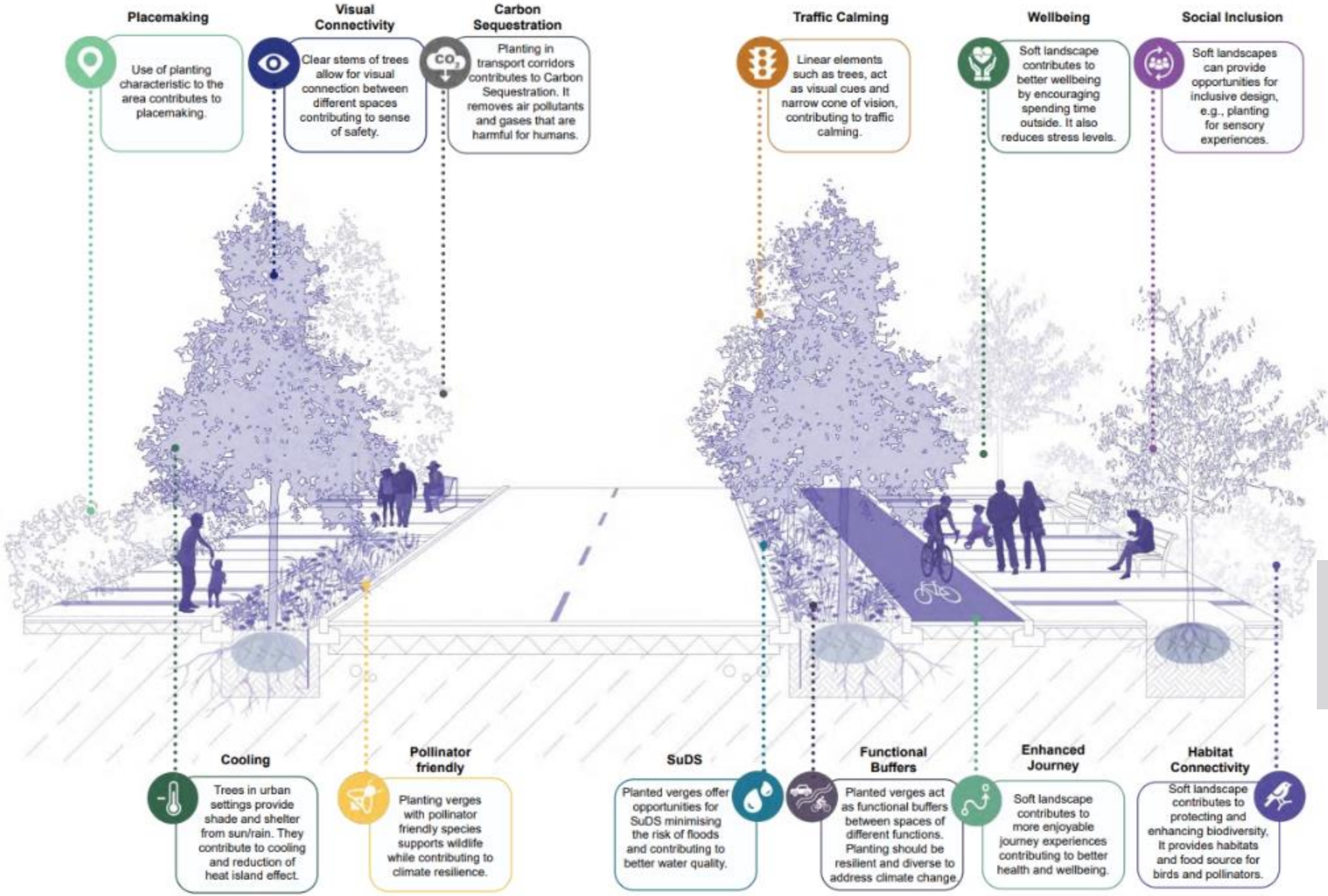
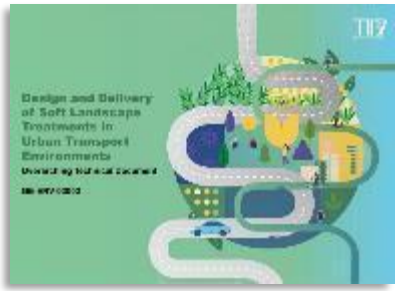


Figure 3.1: **Multiple functions of Soft Landscape Treatments along transport corridors.**



Landscape

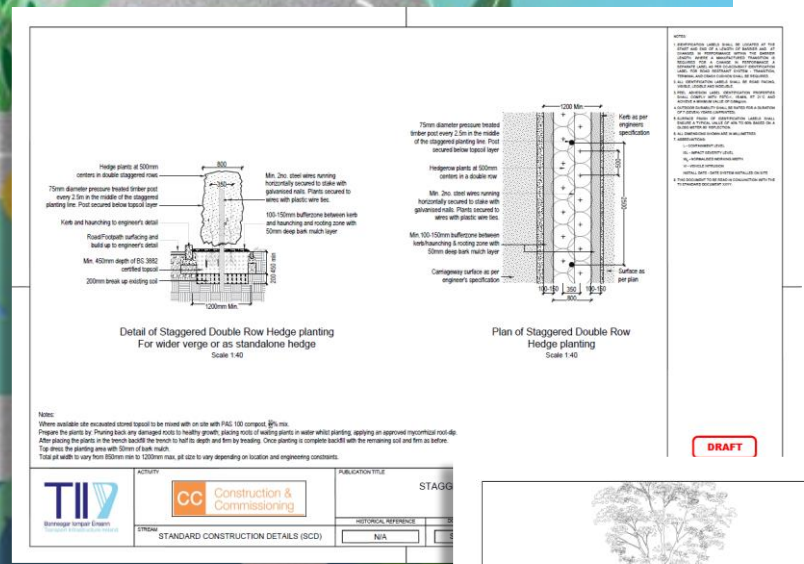
above and below ground

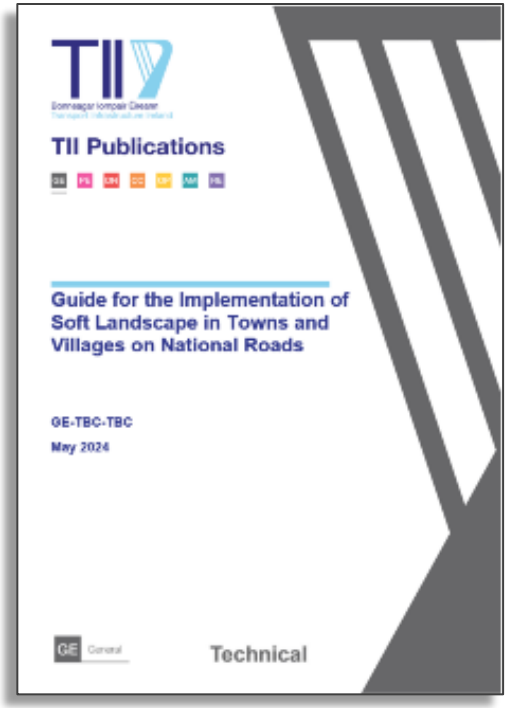
Published June 2024

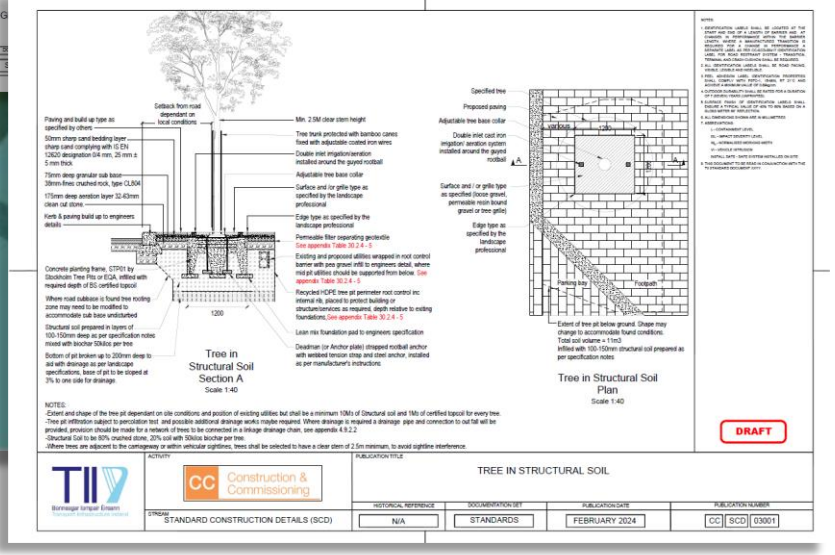
Design and Delivery of Soft Landscape Treatments in Urban Transport Environments

Overarching Technical Document

GE-ENV-03002



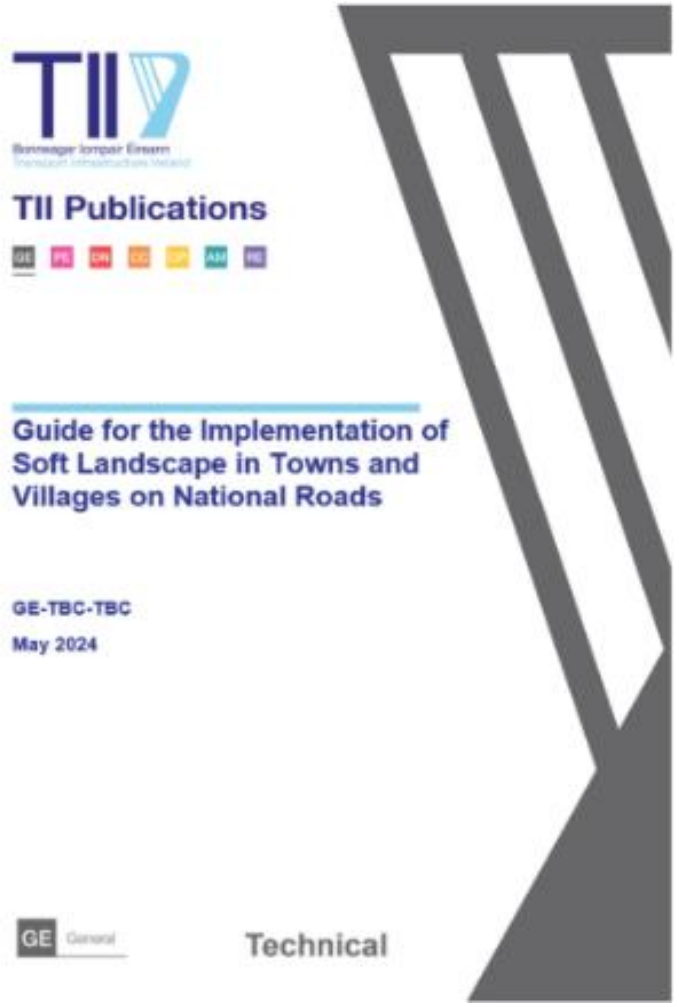




Available free to download at **www.tiipublications.ie**

Technical Guidance on Implementation

How? What is needed to achieve the soft landscape design and by Whom.



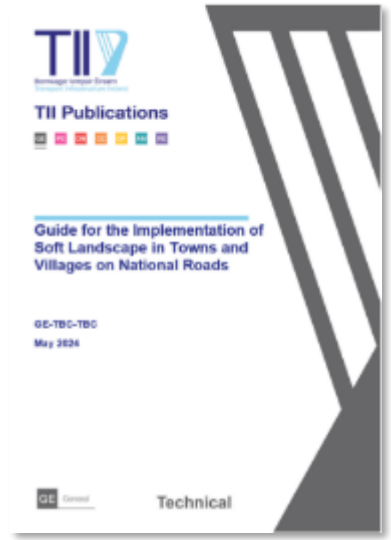
Inform the **design delivery** for multi-functional soft landscapes along TII urban transport corridors.

- The Requirements of a Landscape Professional
- The Role of a Landscape Professional
- Landscape Professional Inputs, Key Soft Landscape Design Tasks and Typical Outputs at each TII Project Phase *(all at direction of Project Manager)*

- Application of Soft Landscape Treatments to TII Projects
- Landscape Delivery Documentation
- Soft Landscape Treatments – Technical Requirements (timing, pla health etc.) and Species selection and Specification (size of tree, clear stem height, planting methods)

Project Phases	0 Scope and Strategic Assessment	1 Concept and Feasibility	2 Options Selection	3 Landscape Design and Evaluation	4 Statutory Processes	5 Enabling and Procurement	6 Construction and Implementation	7 Closeout and Review
Involvement of Landscape Professional	RECOMMENDED		TO BE CONFIRMED WITH RELEVANT AUTHORITY	MANDATORY				
Stage Outcome	*Note: The output will vary depending on the specific project and at the direction of the Project Manager.*	As required by Project Manager, Landscape Professional may produce a **Landscape Constraints and Opportunities Report** or may input into the Project Feasibility Report. *Note: The output will vary depending on the specific project and at the direction of the Project Manager.*	Typical output for Phase 2 will vary depending on the specific project, and the scale of the analysis and development. It may include Landscape Character Analysis/Streetscape analysis and Landscape constraints and opportunities analysis in graphic or report form as instructed by the Project Manager.	A full set of landscape drawings to an appropriate scale, **landscape details**, **outline specification** (see Section 3 in GE-ENV-03001) and **Landscape Report** to accompany Planning/Part 8 Application (see OTD GE-ENV-03002 Appendix A). Soft Landscape **Management and Maintenance Plans** (see OTD GE-ENV-03002 Appendix A) Landscape Designer's **Risk Assessment**, as required by the Project Manager. *Any other deliverables as requested by Project Manager.*	As required by Project Manager. *Note: The output will vary depending on the specific project and at the direction of the Project Manager.*	A **revised set of landscape drawings** to an appropriate scale (no less than 1:500). **Landscape specification for construction** and **minimum 36-month maintenance of works**. An itemised pricing document, forming the basis of a Schedule of Quantities (see OTD GE-ENV-03002 Appendix A). *Any other deliverables as required by Project Manager.* *Note: The output will vary depending on the specific project and at the direction of the Project Manager.*	Pre-Tender / Site Works: A set of landscape drawings to an appropriate scale. See Section 2 of GE-ENV-03001 for details. **Soft Landscape Specifications**, including a specified maintenance period and management plan (see OTD GE-ENV-03002 Appendix A). During Construction & Implementation: **Site Inspection Reports**; **Landscape Audit Reports** *Any other deliverables as required by Project Manager.*	A **maintenance and long terms management plan**, adapted as needs be following maintenance period. To be handed over to the local authority and any relevant community groups who will have an input into the long terms' maintenance and management of the soft landscape areas. *Any other deliverables as required by Project Manager.* *Note: The output will vary depending on the specific project and at the direction of the Project Manager.*
Core Tasks *During this phase*	Project Manager may seek input from a Landscape Professional at Phase 0 Scope and Pre Appraisal **to ensure the project aligns with current TII Strategic Programmes and Plans with regard to Landscape and Biodiversity.** *Landscape Professional inputs are generally not required at these Design Phases. However, a Landscape Professional may be appointed on the direction of the Project Manager.*	Project Manager may consult a Landscape Professional at Phase 1: Concept and Feasibility, when investigating the feasibility of the project in further detail, with regard to landscape specific issues and opportunities relating to the project and its particular landscape or streetscape setting. If such consultation is required, **Landscape Professional may produce a Landscape Constraints and Opportunities Report.**	Examine the Landscape Context and **develop existing Landscape Baseline**. Review all statutory and non-statutory policy including TII Strategic Programmes and Plans, County/Local Development Plans, nearby developments that may related to the landscape environment. **Identify landscape constraints and opportunities** including conflicts with the existing trees. Coordinate with the **design team** to ensure integrated design solutions are achieved. If required, **engage** with internal and external **stakeholders**. Identify outcomes and functions delivered and enabled by soft landscape treatments.	**Design Development:** **Landscape Analysis**, if not carried out in Phase 2. Develop outline plans / sketch proposals and options for Landscape Treatments and integrate it within the wider design strategy. Drawings shall be appropriate for consultation. Develop SuDS Strategy in coordination with the multidisciplinary team and agreed with TII. Consider Maintenance and Management actions in the design process and clearly articulate these within the drawing package and design statement. If required, be involved in the Stakeholder engagement. **Detailed Resolution:** Contribute to the design, drawings development and the project team meetings to ensure effective multi-disciplinary design solutions are achieved. Attention should be paid to: Root Protection Areas (RPAs) and SuDS, recommendations from all environmental studies and assessments, feedback from the relevant **stakeholders**. **For Statutory Processes:** Produce Landscape Strategy and ensure all maintenance and management actions are clearly articulated. Advise on the required location of photomontages. If EIAR is applicable, **ensure Landscape Design and Maintenance and Management Plans are assessed and reviewed for environmental impacts.**	Supply relevant documentation for Landscape proposals. As required by or to support the Statutory Processes, **participate in planning presentations or Oral Hearing.**	During this Project Phase, **the proposal reaches a stage where all elements within it are fully coordinated and resolved**, enabling contractors to price it for construction. There are **three critical parts of the soft landscape construction package** which, once the Project contract is awarded to contractor, will form part of that form of contract. These are: Detailed soft landscape plans, including construction and planting details. Specification (See Section 3.3 GE-ENV-03001); Schedule of Quantities (See OTD GE-ENV-03002 Appendix A). **Design Resolution:** To finalise the three key documents listed above, the Landscape Professional will need to resolve the detailed design and specification of the soft landscape proposal and work together within a multi-disciplinary team to ensure those proposals are fully coordinated. Across all detailed design stages and beyond, the Landscape Professional and design team shall consider the Schedule of Environmental Commitments (National Roads Authority, 2007). **Tender Review:** Landscape Professionals may be involved in the review of tender submissions and must do so in accordance with relevant legislation (Office of Government Procurement, 2022).	If applicable, the Schedule of Environmental Commitments or planning conditions from the statutory process to be considered across all soft landscape treatment documentation and designs, including the maintenance, management, and end of life plans. Issue Final Set of Construction drawings. Meet on-site to agree construction design site layout and amend drawings as required. Carry out inspections and site monitoring. See GE-ENV-03001 Section 2 for a list of inspections. Complete all snagging reports. Issue compliance certifications. Conduct Maintenance visits and produce Landscape Audit Reports over a three-year establishment period (maintenance period covering the time required by plants to be established). **Landscape Audit Reports:** Together with the Contractor, carry-out a joint site audit and inspection during each growing season (June - September).	Carry out and record final inspections. Complete a **defects report**. Issue of final certification. Produce handover maintenance, management and end-of-life plans for the scheme as required. Agree and undertake ongoing monitoring and reviews.
Information Exchange *During this phase*			Internal Stakeholder Engagement Arborist Survey Ecological Studies Existing Utilities	External Stakeholder Engagement Drainage Strategy Lighting Plan Road Layouts				
LVIA/LCA Outputs* *If Environmental Impact Assessment Report (EIAR) is required, refer to PE-ENV-01102 for typical outputs and deliverables for Landscape Professionals.*	*As stated in PE-ENV-01102, Phase 0 and 1 are carried out by the Project Manager.*		*HIGH LEVEL LCA & LVIA - Baseline Landscape Character and Visual Appraisal, Visual Constraints. For detailed LVIA output follow PE-ENV-01102.*	*Detailed Level LCA & LVIA - Drafting of Landscape Design Mitigation & Schedule of Commitments. For detailed LVIA output follow PE-ENV-01102.*		*Implementation of mitigation - Implementation of landscape design mitigation & schedule of commitments, Monitor effectiveness of mitigation.* *For detailed LVIA output follow PE-ENV-01102.*	

** Landscape and Visual Impact Assessment (LVIA) is required within EIAR. If EIAR is required, a suitably qualified Landscape Professional will prepare the LVIA. LVIA is a separate process to the Landscape Design and it may be the case that the same Landscape Professional may undertake both LVIA and the Landscape Design. EIA Screening and Scoping will be required to assess if the EIAR is required and will inform the requirement for the LVIA. Deliverables outlined in the above table refer to the Landscape Design only and will depend on a specific project and the direction of a Project Manager. If LVIA is required, a reference is made separately here to the LVIA outputs for Landscape Professional per each Project Phase. For detail refer to PE-ENV-01102.*



Landscape Tasks and Deliverables required at each Project Phase.

‘It requires **different design solutions** for **different contexts**.’

page 1 DN-GEO-03084

Understanding Local Landscape Context

GRANGEMOCKLAR – TII SAFETY

Description

Upgrade of an existing stretch of National Road **N76** through a rural Tipperary village. Scheme approx. length 2km. Narrowing Carriageway allowed for **Space Reallocation**

Project elements

Transition zones, Gateways, Village Core, New Crossings, Formalizing car parking, Footpath Connectivity, Public Realm.

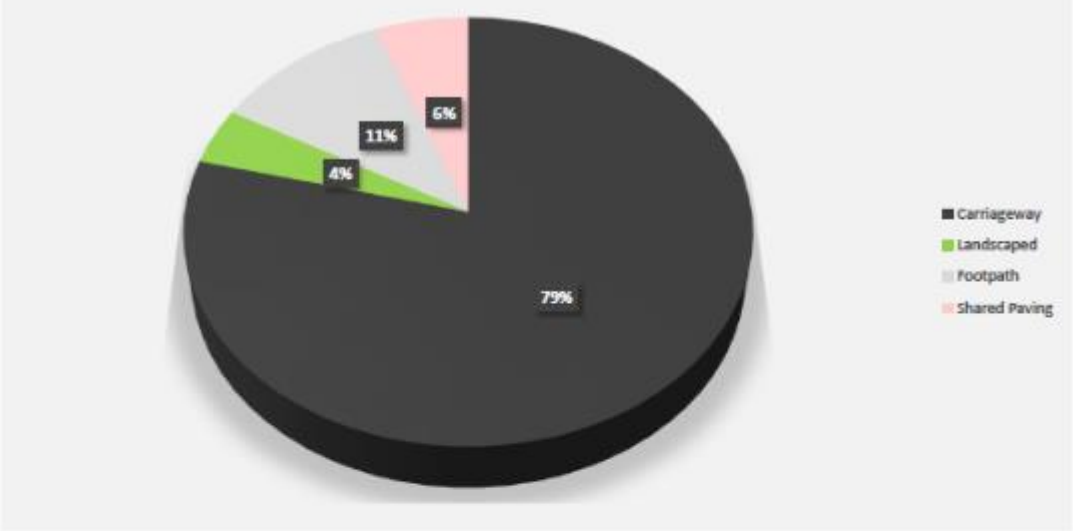
Details

This project involved a significant investment into soft landscape elements as a part of the traffic calming process and streetscape transformation.

SPACE REALLOCATION

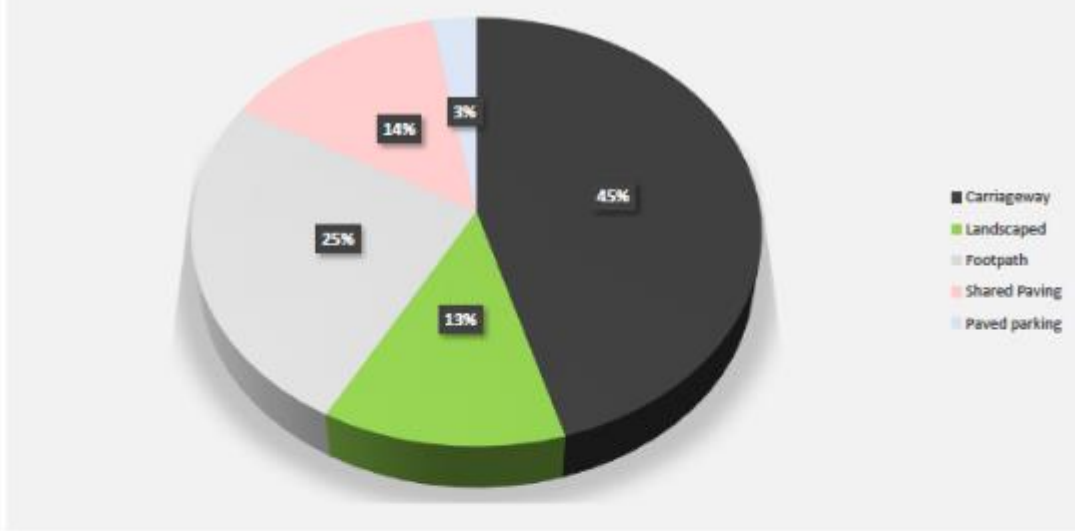
EXISTING LAYOUT

	Quantities (sq. m)															Total	
Carriageway	2427	1967	831	1587	750											7562	sq. m
Landscaped	139	266														405	sq. m
Footpath	157	58	55	450	17	36	106	26	158							1063	sq. m
Shared Paving	229	36	106	25	158											554	sq. m
																0	sq. m
															Total area (approx):	9584	sq. m

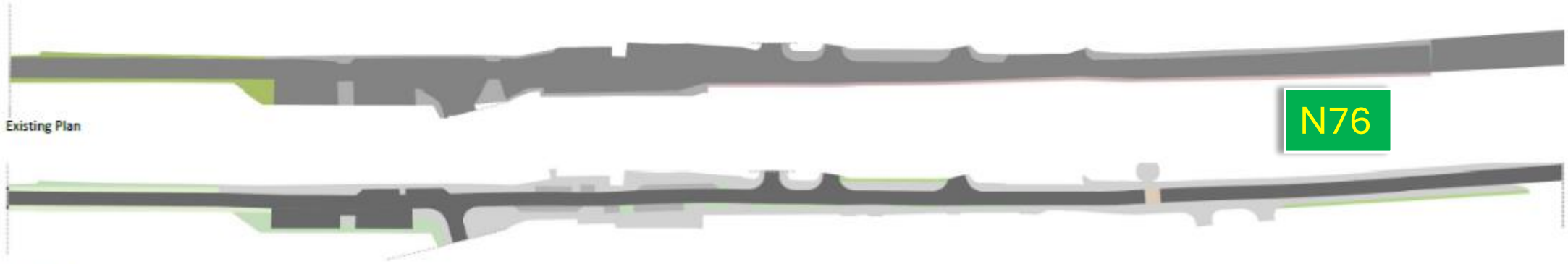


PROPOSED LAYOUT

	Quantities (sq. m)															Total	
Carriageway	488	431	2721	110	61	67	69	406								4353	sq. m
Landscaped	128	173	262	85	193	17	29	53	28	25	12	75	133			1213	sq. m
Footpath	856	20	85	413	38	36	28	34	71	77	13	370	25	25	325	2416	sq. m
Shared Paving	36	76	24	50	320	410	7	34	25	355						1337	sq. m
Paved parking	65	34	17	19	60	70										265	sq. m
															Total area (approx):	9584	sq. m



All quantities shown are approximate.



Existing Plan

Proposed Plan

Cathal O'Meara
Landscape Architects
087 9202549
2 Mc Sweeney St,
Fermoy, Co. Cork

Chartered member of the Irish Landscape Institute

Client: Tipperary County Council

Project: Carrick-on-Suir

Drawing: Landscape layout 3 of 8

Date: 03/02/2022

Drawn By: Wendy Kirkpatrick

Checked By: Cathal O'Meara

Issue: Tender

Dwg No: 2131-LA-T003

Rev	Date	Note

cathal o'meara landscape architects

N

Scale 1:500, @ A1

GRANGEMOCKLAR – TII SAFETY

Landscape Treatments for Placemaking and Shaping

Planet Positive Landscape Treatments

Social inclusion

Placemaking

Traffic Calming

Functional Buffers

Well-being

Enhance Journey Experience

design a place of value

Landscape Treatments for Placemaking and Shaping

Enriching Place and it's Characteristics

Communities, Health & Wellbeing

design a planet positive place

Planet Positive Landscape Treatments

Climate Resilience and Sustainable Soft Lanscape Design

Biodiversity Positive Landscape Design

Before Street Space Reallocation

After Street Space Reallocation

SPACE TO GROW

Table 5.7 provides the minimum soil volume required for trees of different canopy widths to be used in existing urban transport environments - such as existing town centres and streets.

Mature Canopy	Canopy Area	Target Soil Volume
LARGE (8m dia+)	$30m^2$+	$30m^3$
MEDIUM (5m-8m dia+)	$20m^2$+	$12m^3$
SMALL (3m-5m dia+)	$7m^2$+	$5m^3$

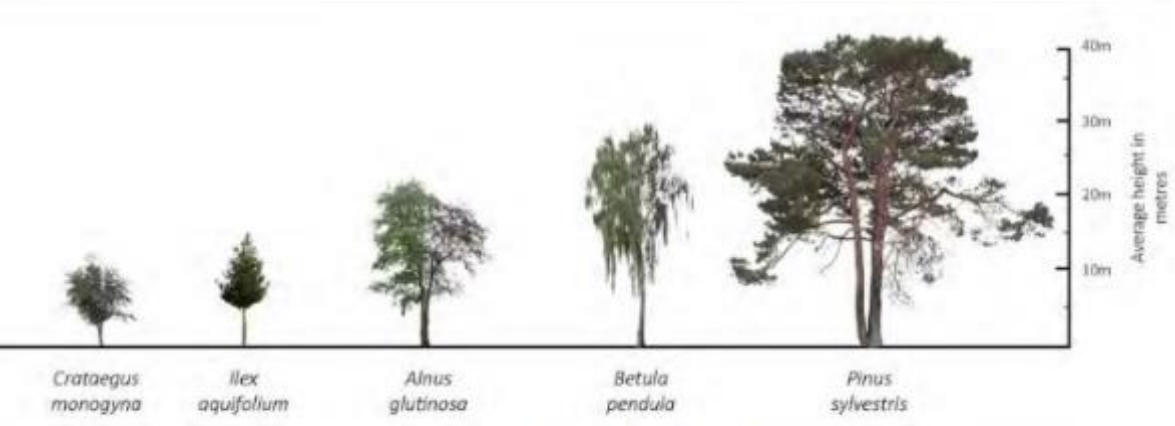
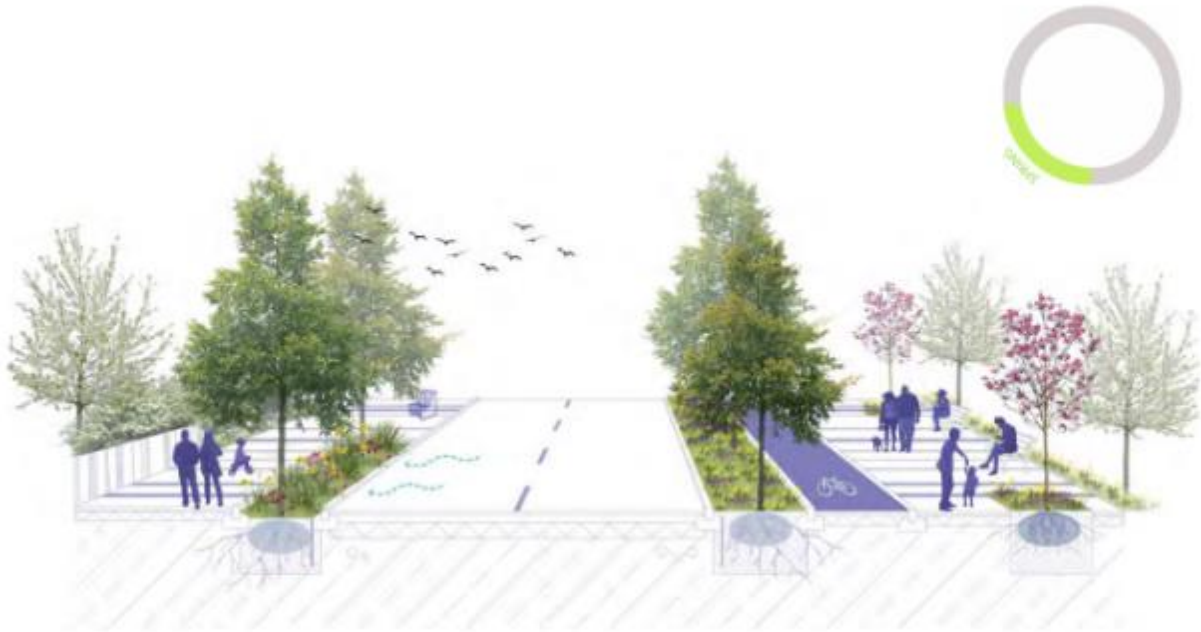
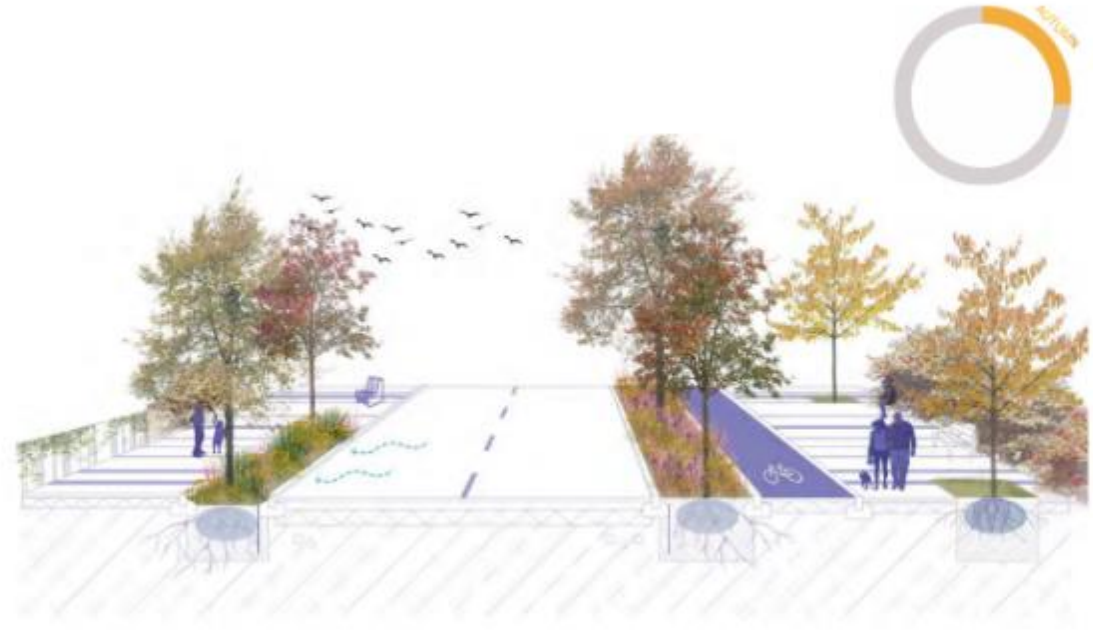


Figure 4.2: Sketch representing native Irish trees and their average mature height.

Potential conflict	Proposed trees are perceived to be located too close to proposed lighting pole
Solution	Lighting engineer and Landscape professional to liaise so as to agree on shifting lighting element locations and/or trees on a case-by-case scenario
Potential conflict	Multiple services restrict the proposed tree pit extent
Solution	Group together services to maximise a space for trees
Potential conflict	Tree root located in close proximity to building foundations
Solution	Explore the use of root protection barriers and root director products. Careful consideration should be given to tree species selection (refer to section 4.1.1 of this document)
Potential conflict	Underground services not picked up by existing services survey now located where the tree has been proposed
Solution	Pending on type of clash, consider wrapping the services in a layer of geotextile, then backfill with gravel to protect services



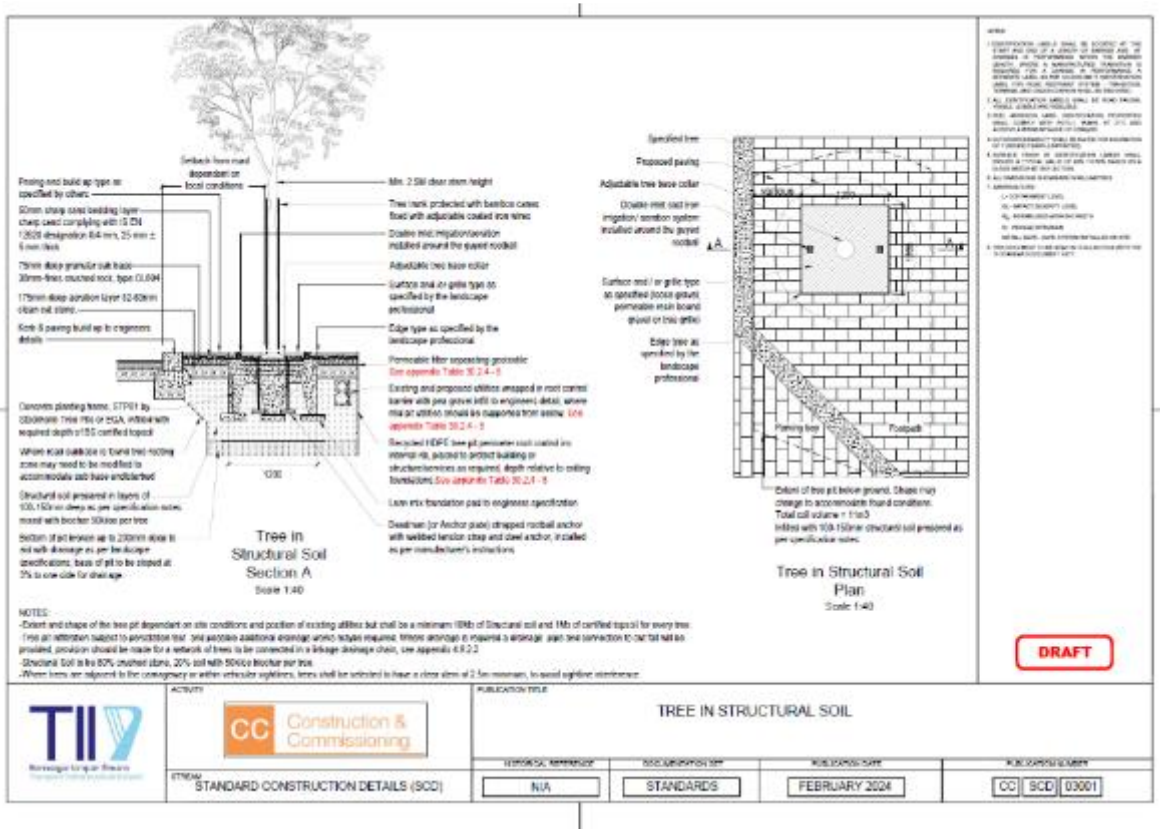


Soft Landscape Planting details - Luas existing planting details and trial schemes

ACTIVITY: Construction & Commissioning

STREAM: STANDARD CONSTRUCTION DETAILS (SCD)

Visual Connectivity & Sightlines | Placemaking | Traffic Calming | Wellbeing | SuDS



Luas Cross City

Grangemocklar

A.1 Requirements of a Brief for Procurement of Landscape Professionals

Sample Brief

An Integrated Design Team For Landscape Services

For Phase 0 to Phase 7. [Select phases to which services apply].

Introduction

Transport Infrastructure Ireland (TII) seeks to commission the services of a suitably qualified and experienced Landscape Professional specialising in public realm design, for the Project as described above. The successful Landscape Professional will work as part of a larger design team.

The specific services in respect of the project will be delivered in stages as set out below:

- Phase 0 - Scope and Pre-Appraisal
- Phase 1 - Concept and Feasibility
- Phase 2 - Options Selection
- Phase 3 - Design and Environmental Evaluation
- Phase 4 - Statutory Processes
- Phase 5 - Enabling and Procurement
- Phase 6 - Construction and implementation
- Phase 7 - Close out and Review

The purpose of this document is to provide tenderers with information regarding the scope of service to be provided. The appointed consultant will be required to provide services in stages from Phase 0 to stage 7 as described in this document and the attached Tender and Schedule, and other Request for Tender (RFT) documents.

Tenderers should refer to the Project Brief Document and associated Tender Documentation and Information Pack for a full detailed description of all service requirements.

Requirements

Landscape Professionals involved in TII projects concerning the planning, design and delivery of soft landscape treatments in and around transport corridors are required to meet all of the following criteria:

- National Framework of Qualifications (NFQ) Level 8 (or equivalent level) in Landscape Architecture (or equivalent discipline); and / or, a master's degree (NFQ Level 9 (or equivalent) in Landscape Architecture (or equivalent discipline);
- Full corporate membership of the Irish Landscape Institute (MILI), or equivalent professional body that represents landscape professionals, and is a member of the International Federation of Landscape Architects; or be eligible for same.
- At least ten years of relevant post-graduate experience as a Landscape Architect.

It is important to note that the minimum number of years' relevant post-graduate experience may change (upwards or downwards) depending on the size, nature, and complexity of the project in question. Furthermore, further criteria must be laid down to specify the post-graduate experience that is considered relevant to the project's context.

It is essential that careful consideration is given to including adequately experienced professionals with the relevant expertise; effective collaboration shall also be enabled to ensure successful implementation of Soft Landscape Treatments.
The Project Manager must therefore document the identified criteria ensuring Landscape Professionals are qualified, competent, and expert.

The professionals to be involved at the early stages of a project should be as instructed by the Project Manage r and based on desktop analysis of the potential project area.

Town / Village Background

To be inserted based on local context and history.

Planning Context

Ireland's Towns and Villages are the centre of the social and civic life of much wider communities. Town centres with a vibrant commercial offering, diverse services and an attractive public realm sustain economic growth, attract more people to the region, and promote a sense of well-being and identity. It is vital for town centres to be successful and viable to provide for their populations as well as to encourage visitors.

Many of our towns are under pressure from several factors. Notably high levels of traffic, poor pedestrian connectivity, relatively high vacancy rates, and limited night-time activity. Despite this the Town Centre continues to provide a good range of retailing, with many local or family-owned premises. The traditional town centre creates an attractive built environment complementing the natural setting. However, investment in the public realm of our towns and villages to achieve traffic calming while delivering an expanded public realm is central to maintaining and enhancing the vitality of these into the future.

National Roads and Greenways run through many towns and villages around the country with very different characteristics. Good design begins with an understanding of the place. So it follows that different design solutions should be applied in different places to take account of this variety and local context. This context should influence traffic calming measures and also present opportunities within the public realm. By analysing the context and its various components, these opportunities become clearer.

In order to address these issues holistically it is necessary to start with the design of the street as more than a conduit for traffic. The publication of the Design Manual for Urban Roads and Streets (DMURS) in 2013 sought to rebalance the competing needs of all road users with the identification of place

A.3 Sample Schedule of Quantities

Trees and the canopy layer

Street trees

Botanical Name	Common Name	Height (m)	DBH caliper cm	Clear Stem (m)	Specification	Transplant (times)	Breaks/ branches	Root cond.	Quantity
Tilia cordata	Small leaved lime	4-6m	20-25cm	2.5m	Mature	3 x	N/A	Rootballed	18
Acer campestre	Field maple	4.24-5m	16-18cm	2m	Advanced heavy standard	3 x	N/A	Rootballed	22
Amelanchier lamarckii	Juneberry	3-3.5m	N/A	1m	Multistem	2 x	5 breaks min	Rootballed	12

General Woodland Planting Mix

Botanical Name	Common Name	Height (m)	Specification	Transplant (times)	Root cond.	Spacing	Quantity	Percentage
Wuercus petraea	Sessile oak	60-90cm	Transplant	1+1	BR	1 plant per 1.5m²	150	15%
Betula pubescens	Downy birch	90-120cm	Transplant	1+1	BR	1 plant per 1.5m²	200	20%
Corylus avellana	Hazel	60-90cm	Transplant	1+1	BR	1 plant per 1.5m²	200	20%
Crataegus monogyna	Hawthorn	90-120cm	Transplant	1+1	BR	1 plant per 1.5m²	200	20%
Sorbus acuparia	Towan	60-90cm	Transplant	1+1	BR	1 plant per 1.5m²	100	10%
Botula pendula	Silver Birrch	60-90cm	Transplant	1+1	BR	1 plant per 1.5m²	50	5%
Ilex aguifolium	Holly	60-90cm	Transplant		2L Container	1 plant per 1.5m²	50	5%
Rhamnus cathartica	Buckthorn	60-90cm	Transplant	1+1	BR	1 plant per 1.5m²	50	5%

A.4 Sample Landscape Report

Contents

WHAT NEXT?

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- **TII to commence developing more detailed Landscaping Specifications and Requirements for Measuring and Pricing as part of the new standards commission.**

- **New standards such as the Soil and Biodiversity standard will also reference soft landscape requirements.**

- **There is interim support and specification information in the OTD and Guide for the Implementation of Soft Landscape in Towns and Villages on National Roads.**

Thank you

Questions?

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