

ENTRY NUMBER  
243-P-LPA

# EDINBURGH GREEN BLUE NETWORK

EXCELLENCE IN LANDSCAPE PLANNING AND ASSESSMENT



# CONTENTS

Introducing the Project ..... 3  
Entry Requirements ..... 4  
Covering Statement ..... 5  
Meeting the Criteria .....10  
Sustainability..... 11  
Value .....14  
Professionalism .....16  
Green Blue Network Report .....18



# INTRODUCING THE PROJECT

The development of the Green-Blue Network is part of the commitment made by **City of Edinburgh Council's** Sustainability Programme which **aims to achieve a carbon neutral status by 2030**. The Green Blue Network aims to provide an integrated digital framework bringing together information from Edinburgh council and key stakeholders to share information on environmental green-blue assets, climate risks, active travel and social data **identifying future opportunities to integrate nature-based solutions throughout the city**.

The Green-Blue Network supports and informs environmental, development and social policies set out in Edinburgh's Cityplan 2030 and the City Vision 2050. **Priority action sites** identified by this study for inclusion in the LDP action list have significant potential to **contribute to the Cityplan 2030 themes of sustainability and wellbeing, accessibility, fairness and economic success** through high quality placemaking as part of area regeneration and development, **contributing to the future proofing of the city against climate change**.

**Blue-green infrastructure (BGI) has a pivotal role to play in building Scotland's resilience to climate change and supporting a green recovery response the COVID-19 public health emergency. Fundamental to the delivery of sustainable flood risk management and improved water quality, a strategically planned 'infrastructure first' approach will also support profound social and economic change.**

Wendy Campbell  
Edinburgh Place Lead and Senior Planner  
Scottish Environment Protection Agency





# ENTRY REQUIREMENTS

## Name of scheme

Edinburgh's Green Blue Network

## Entrant details

Atkins

## Entry number

243-P-LPA

## Location

Location Edinburgh, UK

## Size of site (HA)

26,400 hectares

## Details of LI professional member responsible for production of work

Ujwala Fernandes CMLI  
 ujwala.fernandes@atkinsglobal.com  
 Tel: +44 141 220 2367

## Client / Owner authority

City of Edinburgh Council

## Project sponsor

Sustrans  
 SEPA  
 Scottish Water  
 City of Edinburgh Council

## Scheme details

### Project dates

Nov 2020 – Nov 2022

### Budget

125K

## Project Team

### Julie Waldron

Client Project Manager

Senior Planning Officer, CMLI,  
 City of Edinburgh Council



### Ujwala Fernandes

Project Manager /  
 Landscape Technical Lead

Associate Director –  
 Landscape & Urban Design  
 CMLI, Atkins



### Sian Lovell

Project Landscape Lead

Principal Landscape Architect,  
 CMLI, Atkins



### Lucy Duerden

Project Landscape Architect

MLI, Atkins



### Zorica Todorovic

Technical Lead - Water

Associate Director, (Water) Atkins



### Elsbeth McIntyre

Project GIS Lead

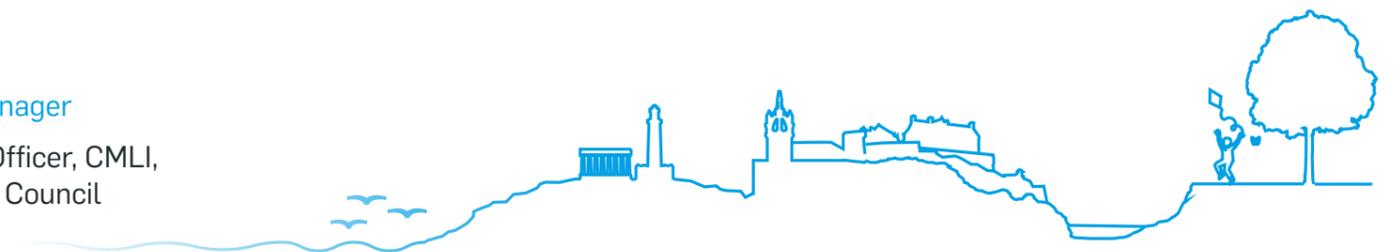
Senior GIS Consultant



### Monica Barker

Natural Capital Lead

Principal Consultant



# COVERING STATEMENT



## OVERVIEW

In 2020 City of Edinburgh Council commissioned Atkins to develop a **Green-Blue Network for the City of Edinburgh to holistically consider sustainable water management and climate change adaptation at a strategic level** to underpin future change and development as part of Cityplan 2030 and City Vision 2050.

The Edinburgh Green-Blue Network aims to:

- Provide a **framework to identify opportunities to integrate nature-based solutions** in the city at a strategic and local scale;
- **Provide environmental, social and economic benefit** for people and wildlife;
- To **sustainably manage water and flood risk**; and
- Enable the **future proofing** of the city **against the effects of climate change**.

**The outputs of the Green Blue Network project will mark a significant achievement in bringing together information across a range of stakeholders and making this information accessible via a shared platform to enable long term multi-organisational planning.**

Dawn Lochhead  
Flooding Manager, Scottish Water



Through this project Edinburgh recognises the importance of a connected network where trees, soil, water, and healthy ecosystems thrive supporting health, wellbeing **to ensure a future as a thriving and climate resilient city.**

The Green-Blue Network will provide a framework to enable everyone involved in planning, maintenance, change or development in Edinburgh to routinely consider opportunities to improve green-blue linkages and improve the multifunctionality of existing spaces, identifying and integrating nature-based solutions to provide environmental, social and economic benefits.

In March 2021, the Edinburgh Green-Blue Network was one of six projects shortlisted by Scottish Government to be showcased at a virtual exhibition for 'World Water Day'. The theme of the exhibition was to demonstrate 'the best of what Scotland is doing in the green blue infrastructure sector'. [Watch the video →](#)

**As a 'key agency' partner (working collegiately to inform the Edinburgh Blue Green Network supporting the Cityplan), I have found Atkins wonderful to work with. The Atkins team have consistently shown great professionalism and interpersonal skills in bringing together data and advice from a wide range of players.**

Wendy Campbell  
Edinburgh Place Lead and Senior Planner  
Scottish Environment Protection Agency



Enhance and safeguard biodiversity by protecting and expanding habitat networks



Create better places through consideration of wildlife, water and wellbeing



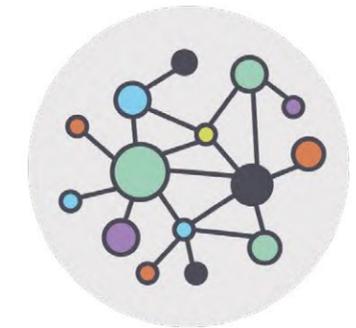
Maximise sustainable water management using nature-based solutions



Integrate and expand walking and cycling networks with green/blue infrastructure



Enhance quality of life making Edinburgh a great place to live work and visit



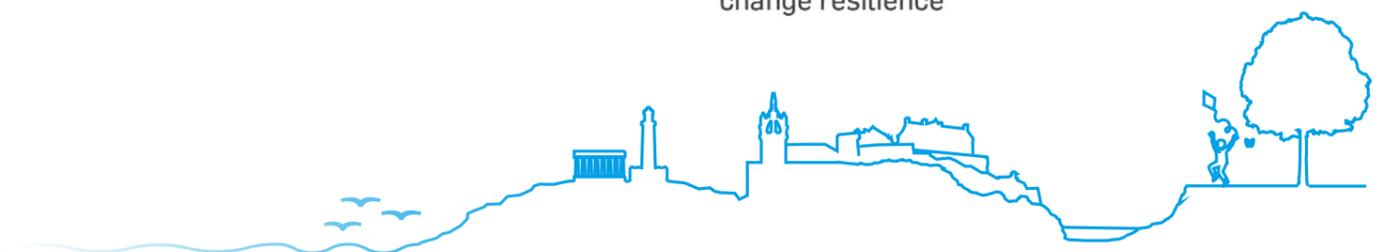
Provide a integrated framework of information to support Council decision making and strategies



Investment in communities



Increase Edinburgh's climate change resilience



This project has been developed **collaboratively** with input and funding support from SEPA and Scottish Water along with City of Edinburgh Council and Sustrans and data and expertise from NatureScot. The Green Blue Network project is being progressed and informed by other Atkins projects that are running in parallel including the Edinburgh Climate Change Risk Assessment and Sustainable Rain Water Management Guidance.

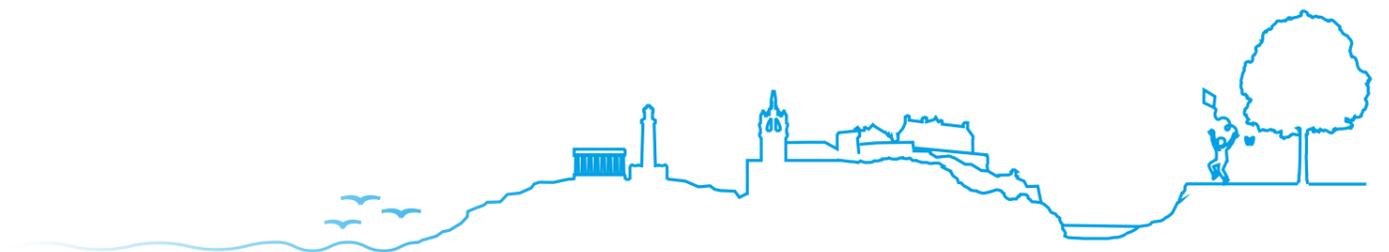
Our landscape-architect led **multi-disciplinary team** drew on extensive experience in nature-based solutions and local knowledge to develop **integrated technical outputs that embedded principles of quality placemaking**. A broad range of Atkins specialists worked together to deliver:

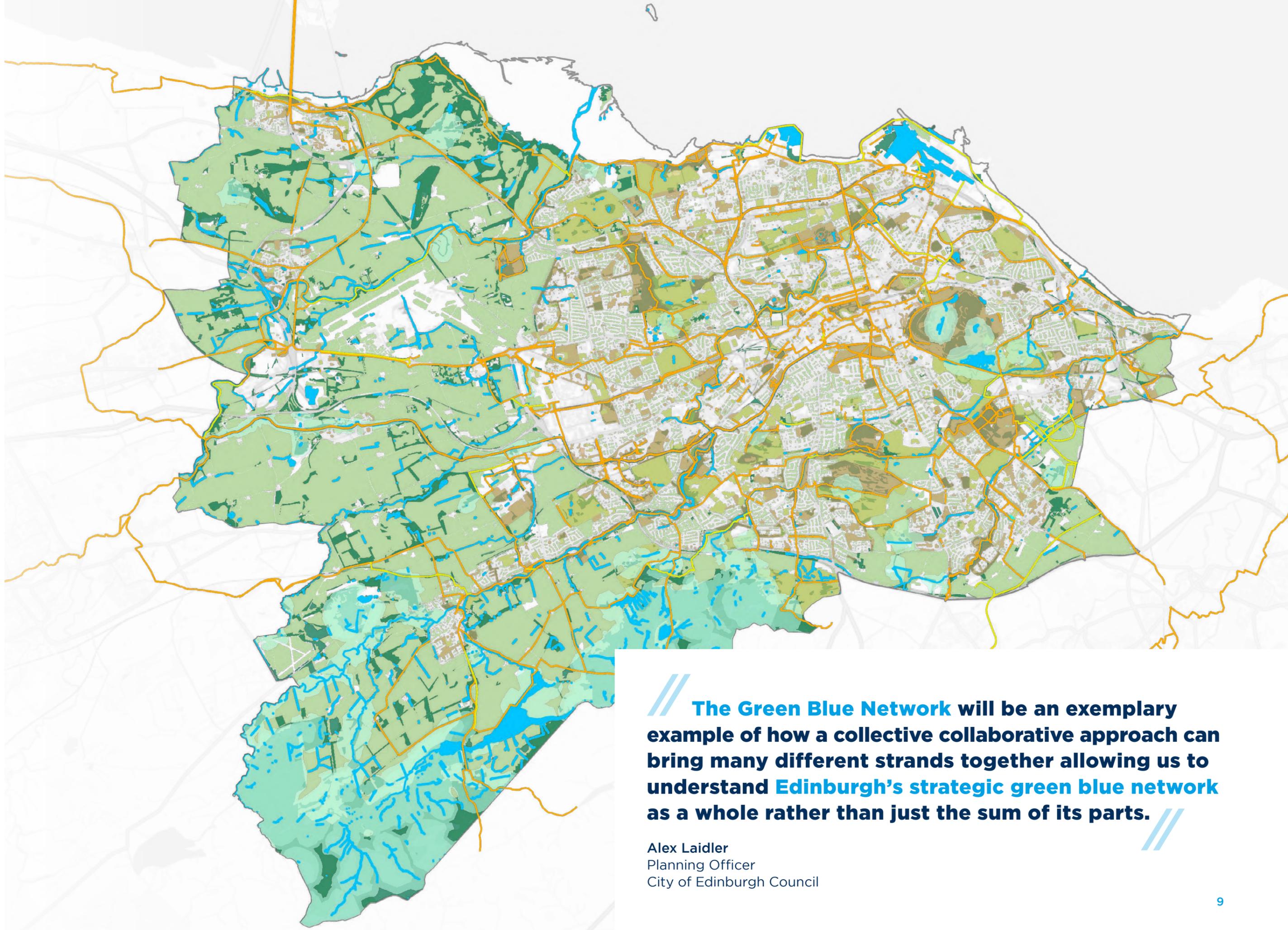
- **A strategic flood risk assessment and flood risk modelling** to identify hotspots for fluvial and pluvial flooding, detailed assessment of **all development areas and identification of opportunities** to de-culvert 'lost' watercourses.
- **Creation of an integrated digital platform** using GIS to bring together data and information as a baseline for the Green-Blue Network and resource to assist planners and decision makers.
- **Mapping of Surface Water Flow Paths** across the city to identify opportunities for storm water separation using sustainable surface water management to relieve pressure on Edinburgh's drainage infrastructure.
- Natural capital **ecosystem services mapping of air quality, noise, recreation, biodiversity, and land capacity for carbon sequestration**, to identify gaps and opportunities for improvements.

- Mapping and analysis to **identify key opportunity sites at strategic and local scale** with potential to provide multiple benefits in the form of ecosystem service improvements, sustainable water management and improved connectivity for people and nature.
- Extensive **Stakeholder Engagement** throughout the course of the project to understand priorities, inform the development of the network and agree emerging opportunities.
- **Cost Estimates** to inform prioritisation and programming of 'Priority Action' sites to be taken forward for implementation as part of the LDP Action List.

**The work of the Atkins project team will help provide a foundation which should bring significant benefits by enabling partners to capitalise on a range of multiple benefits through co-ordination of planning activities and alignment of investment across multiple stakeholders.**

Dawn Lochhead  
Flooding Manager, Scottish Water





/// **The Green Blue Network will be an exemplary example of how a collective collaborative approach can bring many different strands together allowing us to understand Edinburgh's strategic green blue network as a whole rather than just the sum of its parts.** ///

Alex Laidler  
Planning Officer  
City of Edinburgh Council

# MEETING THE CRITERIA



## SUSTAINABILITY

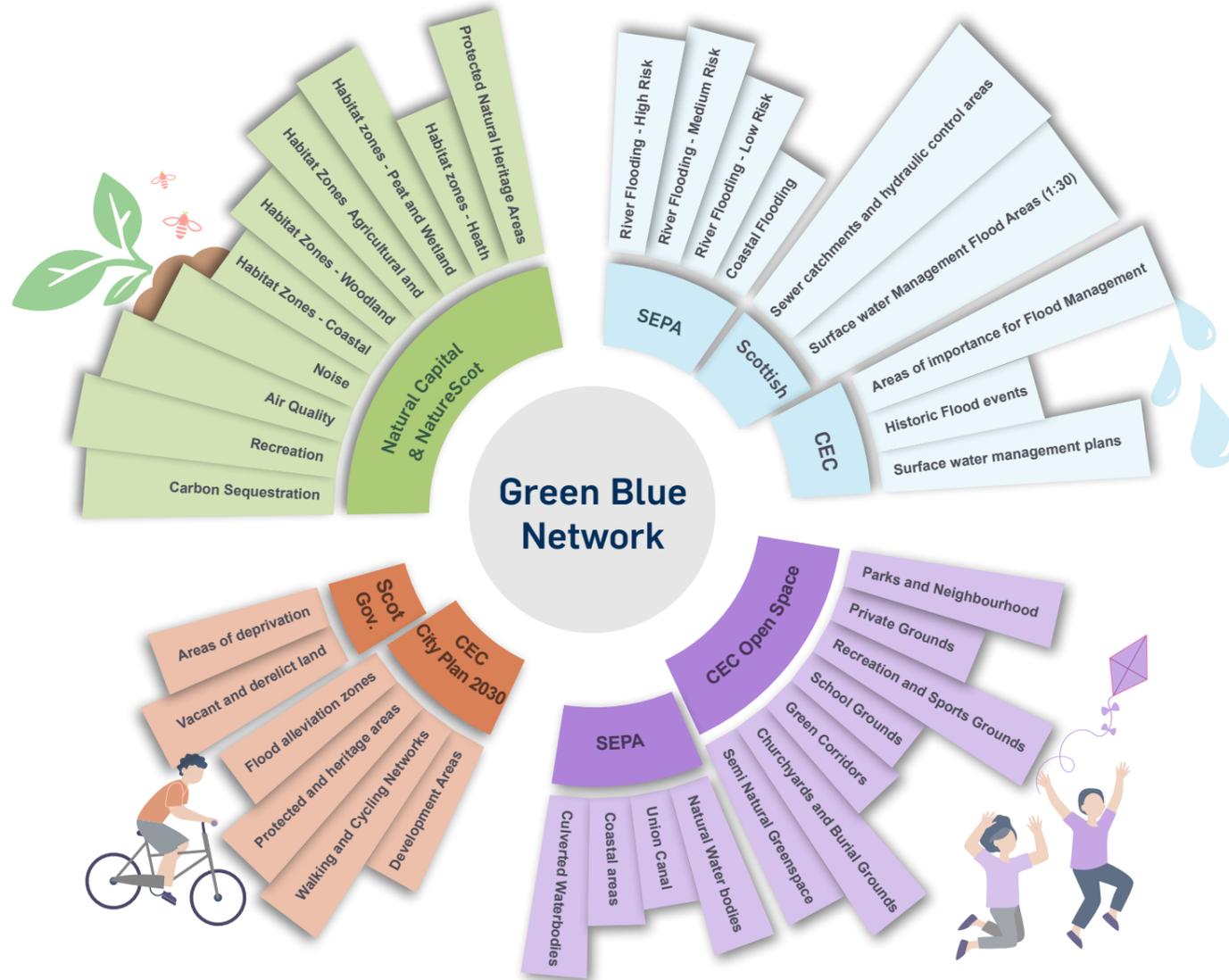
The Green-Blue Network positively contributes to UN goals: 11 Sustainable Cities, goal 13 Climate Change Action, and goal 9 Innovation and Infrastructure and supports goal 3 Health and Wellbeing and goal 6 Clean Water by enabling a network of holistic nature based solutions at a city scale as part of future development.

**The project looks not just at the city's environmental assets but at the functions and interactions of habitat, water noise air quality and carbon sequestration in relation to urban structure and greenspace.**

**// This work aligns with and supports the City Plan's emphasis on recognising the multifunctionality of the Green Blue Network where matters such as biodiversity, carbon sequestration, mental and physical health, water management, noise levels and air quality are all of great importance in creating the sustainable, high quality environment we want Edinburgh to be. Also this reflects wider City of Edinburgh Council aims that are important across all our work as set out in the City Vision 2050; particularly relating to bring green, sustainable, healthy, happy and connected. //**

Iain McFarlane  
CityPlan 2030 Project Lead  
City of Edinburgh Council





Our specialists looked at:

- **Current carbon sequestration capacity**, soil and biomass carbon stock, based on Scottish HabMOS landcover layer with carbon transfer values created by Atkins experts and Hutton institute Topsoil values; identifying opportunity areas to safeguard or increase the carbon sequestration capacity,
- **Connectivity between priority habitats**; identifying priority sites with highest habitat connectivity along with networks gaps as opportunity areas to improve connectivity.
- **Analysis of background noise and air pollution** with current Air Quality Management Areas to determine highest priority sites for mitigation.
- **Flood Risk and Surface Water Management** including river, coastal and surface water risks for 1/ 200 years plus climate change, and a storm water separation analysis identifying opportunities to redirect by surface water away from sewers into nature-based solutions.
- **Identifying exemplar opportunity sites where improvements can provide multiple benefits** using natural elements to provide recreation and community resources, improve wellbeing, support active travel, mitigate flood risk, support biodiversity, combat urban heat island effects, and enhance the beauty of the city.

Throughout the project the team have been extremely flexible around programme to meet our requirements by mobilising the resources required very quickly. They have responded to the evolving brief in a professional and supportive manner.

Julie Waldron  
Senior Planner & Project Manager  
City of Edinburgh Council

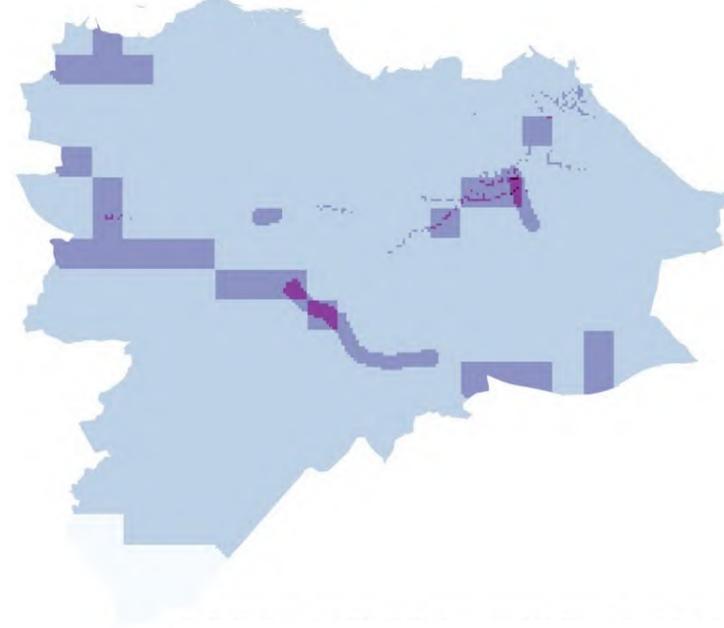




Carbon



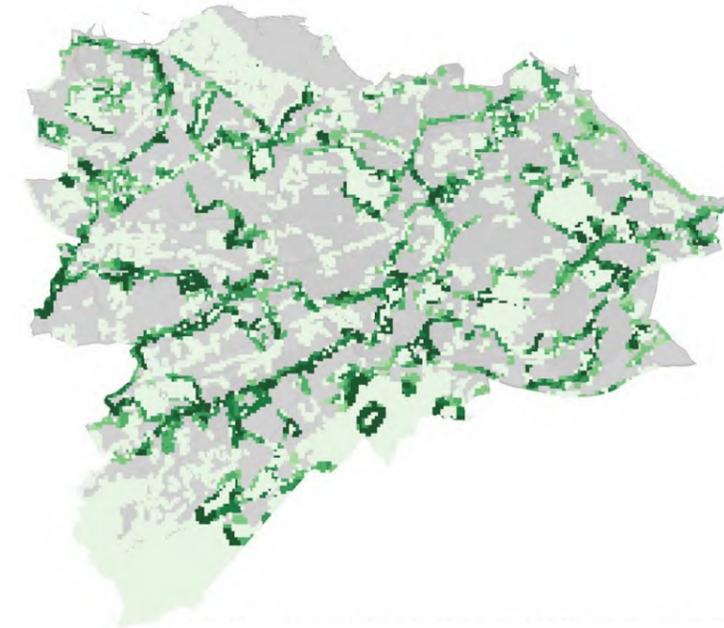
Air



Noise



Biodiversity



**Including ecosystem service assessments in the Green Blue Network will help us to better understand the functional value of water and greenspace in a way that can inform decision making and support Edinburgh council's 2050 and 2030 environmental objectives.**

Julie Waldron  
Senior Planner & Project Manager  
City of Edinburgh Council



## VALUE

The Green Blue-Network was **developed collaboratively** with input and funding support from SEPA and Scottish Water along with City of Edinburgh Council and Sustrans and data and expertise from NatureScot.

**Atkins unique working relationships** with Scottish Water, SEPA and Edinburgh Council meant we understood their drivers, existing programmes, and available datasets which enabled us to deliver cross stakeholder value to benefit all stakeholders beyond the reach of their own organisations remit. Our use of the digital geo-spatial platform was key to this process.

**A flexible and collaborative approach** allowed the team to respond to the rapidly changing demands of the project and **deliver to an evolving brief without compromising the integrity and quality of the work.** A key change was the client's requirement for accelerated completion of the strategic flood risk assessment and identification of the green-blue network opportunity sites to meet the Council's commitment to delivery of the Edinburgh City Plan 2030.



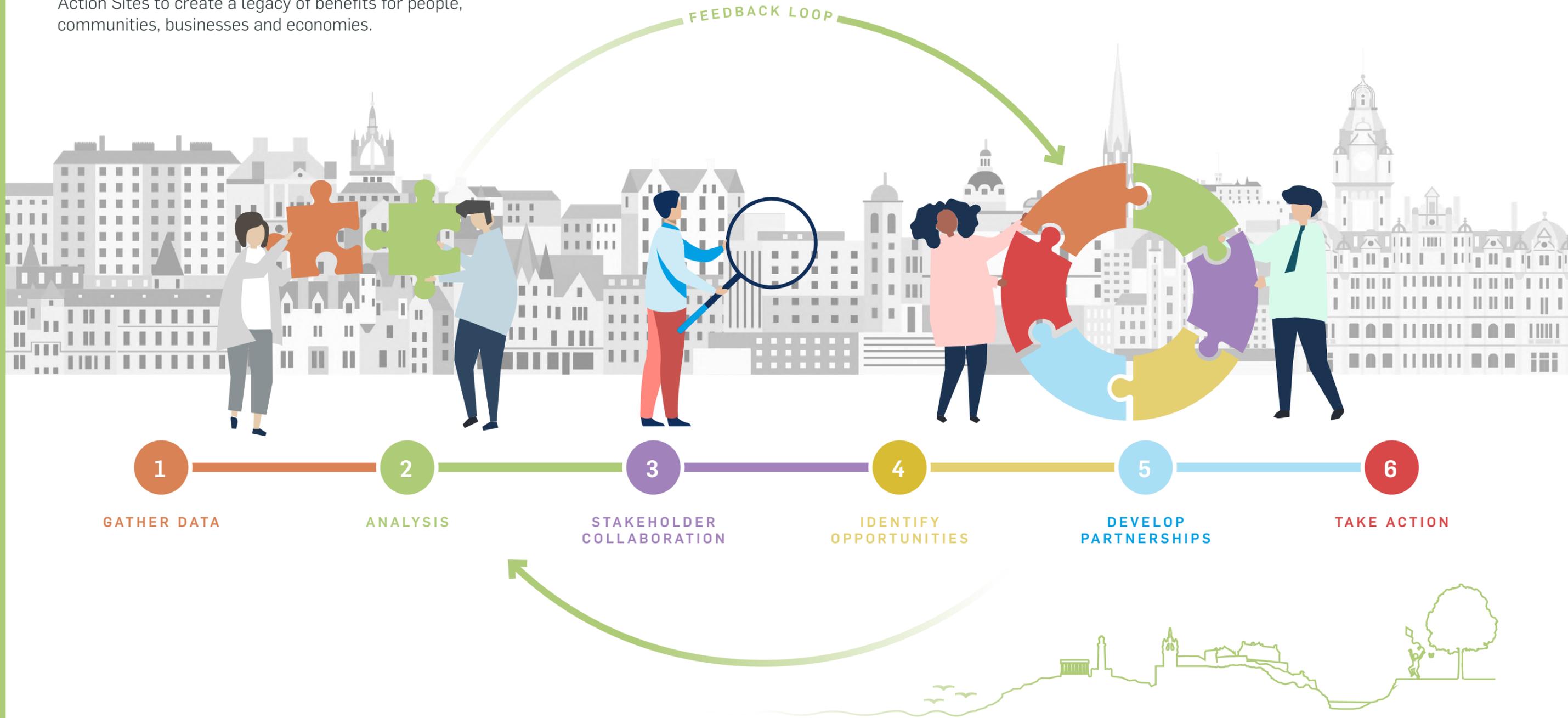
**Atkins have worked incredibly hard to bring this project together in time for the City Plan 2030. They have had to navigate multiple challenges caused by external factors which were compounded by the complexity of the project. It is testament to their skills and abilities that they have produced a robust and fascinating piece of work whilst maintaining excellent working relationships with internal and external stakeholders.**

**Julie Waldron**  
Senior Planner & Project Manager  
City of Edinburgh Council



Atkin's Technical Networks across the UK allowed our specialists to **share best practice and lessons learnt** across our whole team and allowed the seamless introduction of additional resources to adapt and deliver against the change in priorities.

As part of the next stage of the Green Blue Network project, our team of **Social Value Practitioners** will work collaboratively with the Council to develop a strategy for delivering **better social, economic and environmental outcomes** through the life cycle of the Priority Action Sites to create a legacy of benefits for people, communities, businesses and economies.



## PROFESSIONALISM

Our landscape-architect led **multi-disciplinary team** drew on extensive experience in nature-based solutions and local knowledge to develop **integrated technical outputs that embedded principles of quality placemaking**. Atkin's Technical Networks across the UK allowed our specialists to **share best practice and lessons learnt** across our whole team. The project was also informed by parallel projects underway with Edinburgh Council such as Climate Risk Analysis, Sustainable Rain Water Management Guidance and Streetscape Guidance to provide a **'joined up' approach**.

All mapping and analysis was based on **robust established methodologies** with data integrity and management at the forefront, aligning with BIM principles, and maintaining a **rigorous assessment** regime. Datasets were heavily critiqued before use, with limitations and risks clearly stated. A complete data record, and the original datasets, were all collated and provided to the client for future use.

**Provision of multi-functional blue-green spaces will support active travel provision, the enhancement of biodiversity, linkages with regeneration of vacant and derelict land, enhanced social cohesion, outdoor education and improved mental well-being.**

Wendy Campbell  
Edinburgh Place Lead and Senior Planner  
Scottish Environment Protection Agency



The Green Blue Network also provides a digital platform to integrate and co-ordinate stakeholder projects **to maximise potential for climate change mitigation and environmental benefits**. This unique platform facilitates, for the first time, **open and transparent sharing** of information and discussion between multiple stakeholders, often with conflicting drivers, to be collaborative in the strategic identification and installation of blue green solutions across the city.

This enables the prioritisation and joint programming of works to reflect individual stakeholder timescales and funding streams **to deliver benefits holistically**. Developers including local communities, will have access to this digital platform to support better understanding of and approaches to green-blue infrastructure.



**Working with Atkins on the Green Blue Network project has been a really positive experience. They have recognised that Edinburgh's Green Blue network has a multifunctional role in managing the City's response to climate change rather than considering only their individual aspects and functions, and in this they recognise the strength of the network as an asset to Edinburgh and its citizens for both traditional uses and future needs.**

Iain McFarlane  
CityPlan 2030 Project Lead  
City of Edinburgh Council



# GREEN BLUE NETWORK REPORT

