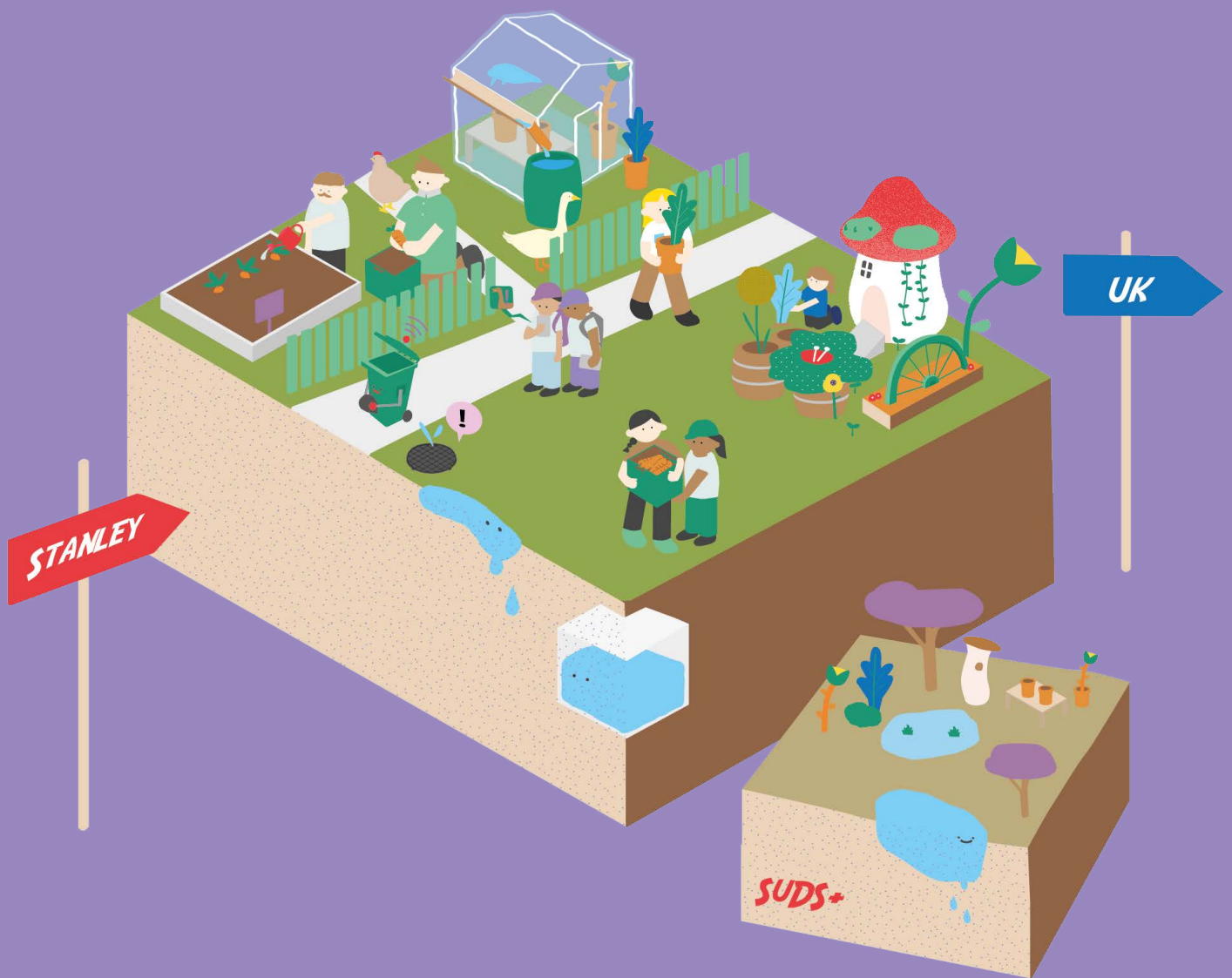


SuDS+

Community-led Futures



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Acknowledgements

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	8	Addressing System Barriers
	9	Community Engagement Strategy

Shortcuts

How to navigate to the key findings

For a quick overview of the key information in this report explore the following:

Chapter 1
Introduction

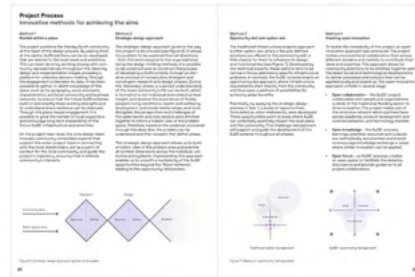
Project Aims pg. 12

Find out more about the seven project aims that are the innovation drivers for this project.



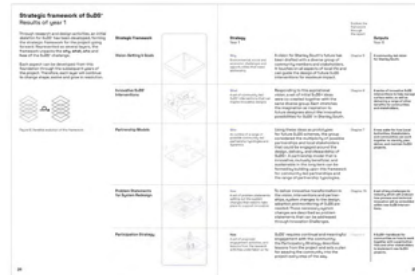
Methods pg. 18

Learn more about the different methods used and how they have informed the different stages of the project.



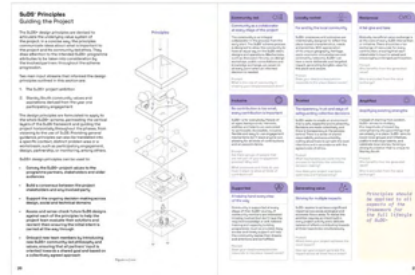
Strategic Framework pg. 22

Explore the SuDS+ framework to unpack the why, what, who and how of the problem.



SuDS+ Principles pg. 24

Gain an insight into the underlying value system of SuDS+; the design principles that communicate ideas about what is important to the project and its community-led ethos.



Chapter 2
Water Challenges
in Stanley South

Community Insights pg. 38

Read more about how the Stanley South community members experience heavy rain and flooding.



Chapter 5
Community Visions for
Stanley South's Future

Vision Statements pg. 68

Explore the seven vision statements and 21 accompanying goals expressed by the diverse group of stakeholders and community members.



Chapter 6
Our Ideal SuDS
Community Concepts

SuDS Community Concepts pg. 106

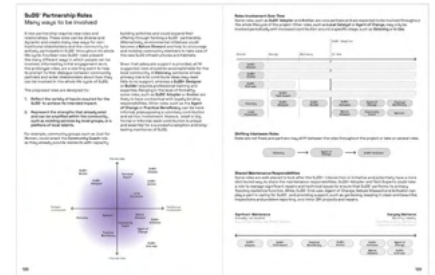
Get inspired by four SuDS+ concepts for Stanley South which were generated collectively by community members and stakeholders.



Chapter 7
SuDS+ Partnerships

SuDS+ Partnership Roles pg. 126

Find out how stakeholders and community members can actively participate in SuDS+ throughout its whole lifecycle.



Partnership Typologies pg. 134

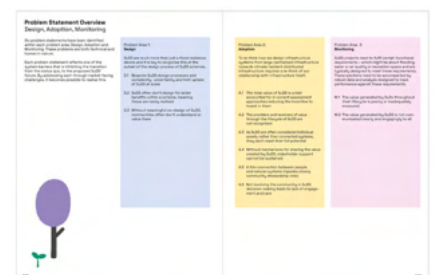
Explore several examples of partnership formats that have been co-developed with the Stanley South community in a workshop.



Chapter 8
Addressing System
Barriers

Problem Statements pg. 146

Unpack the current system barriers inhibiting the transition from the status quo of SuDS to a SuDS+ future.



Introduction



Introduction

Creating thriving communities with SuDS+

The SuDS+ project aims to establish a community-based approach for designing, delivering, and monitoring Sustainable Drainage Systems (SuDS) that provides multiple benefits to the local community and their environment.

Flooding is one of the most pressing environmental challenges in the UK and is further exacerbated by the changing climate. Like many 21st Century challenges, flooding is a **wicked problem***. It is dynamic, interdependent, and complex – solving a wicked problem is fundamentally a social process.¹ For responses to wicked problem to be effective and long-lasting, they need to have broad community support and resonate with people’s values and aspirations. Therefore, addressing flooding systemically and holistically requires interventions that create an inclusive environment in which community feedback is embraced, considered, and acted upon.

SuDS+ represents one such intervention that has this potential. The project aims to meet diverse stakeholder and community needs by considering SuDS and urban drainage as not only water management infrastructure and instead as drivers of urban (re-)development that can enrich the public realm and build the resilience of places and communities.

It approaches traditional flood risk management from a wider angle; encouraging everyone to think about water not as a problem, but as an asset that can provide opportunities to enhance the natural environment and improve people’s quality of life. While traditional drainage systems are hidden away below the ground, SuDS can provide access to new urban green spaces that incorporate water and water management alongside new habitats for the local flora and fauna and opportunities for the community to interact and relax, like playgrounds, nature trails or allotments. These new ‘urban commons’ are community-focused assets which help enhance the liveability our towns and cities.

* **Wicked Problem**
These are problems with many interdependent elements making them appear impossible to solve and unable to be addressed by quick fixes. As the components are often interconnected, incomplete, in flux, challenging to define, and usually deemed “too big”, solving wicked problems requires a deep understanding of the unique context and the

many stakeholders involved. Complex issues such as healthcare, education and poverty are wicked problems. This term was initially coined in 1973 by Horst Rittel in ‘Dilemmas in a General Theory of Planning’.

¹ Conklin, J. (2001). Wicked Problems and Social Complexity. CogNexus Institute.

To realise these ambitions, not only do the physical SuDS+ need to be designed, but new governance structures are necessary to ensure the promised benefits can be realised well into the future.^{2,3} It is only by working with communities in design, delivery and monitoring of SuDS+ that we can open new opportunities for community training, job creation, and other socio-economic and cultural enrichment, now and in the future.

To establish new ways for how the community is involved in the design and management of flood prevention infrastructure, a paradigm shift is necessary. We need to move away from traditional infrastructure design approaches that limit meaningful community involvement and fair value sharing, to transform to a proposed SuDS+ future.

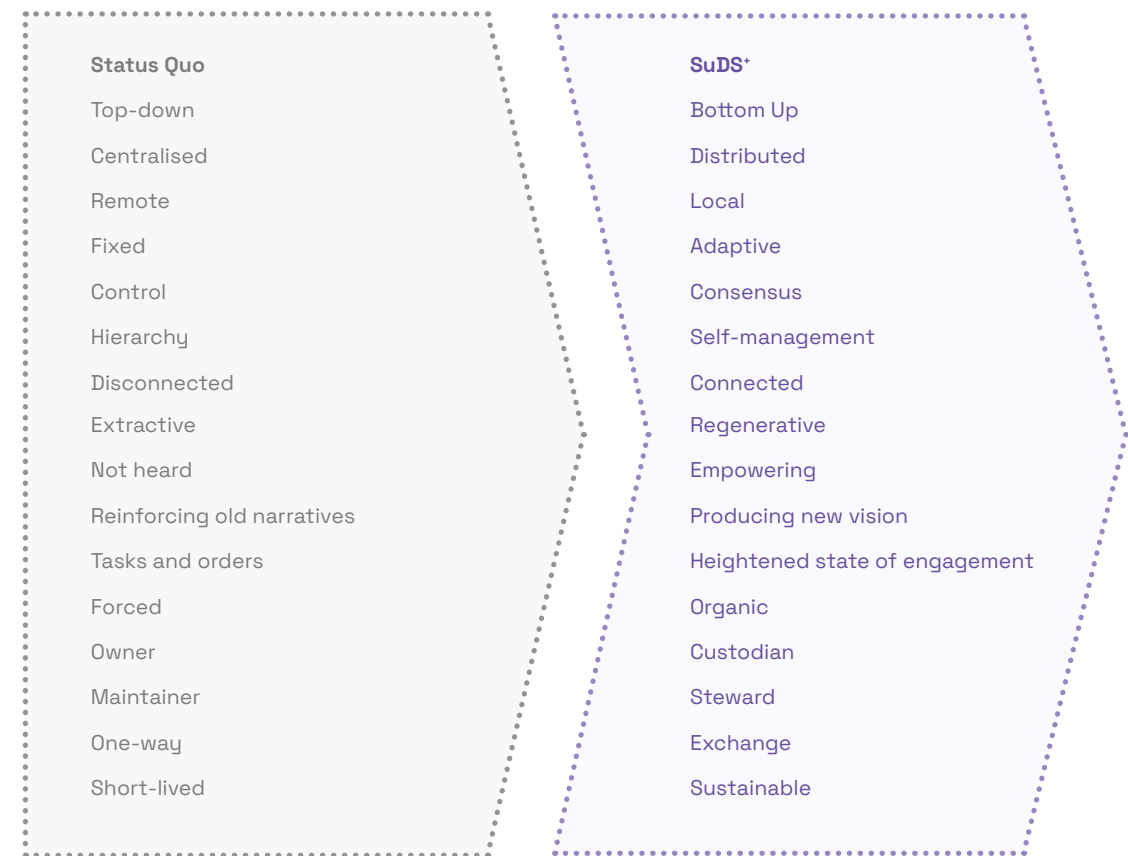


Figure 1 | From status quo to SuDS+ future

² Frantzeskaki, N. (2019). Seven lessons for planning nature-based solutions in cities. Environmental Science & Policy, [online] 93, pp.101–111. doi:10.1016/j.envsci.2018.12.033.

³ Van der Jagt, A.P.N., Smith, M., Ambrose-Oji, B., Konijnendijk, C.C., Giannico, V., Haase, D., Laforteza, R., Nastran, M., Pintar, M., Železnikar, Š. and Cvejić, R. (2019). Co-creating urban green infrastructure connecting people and nature: A guiding framework and approach. Journal of Environmental Management, [online] 233, pp.757–767. doi:10.1016/j.jenvman.2018.09.083

Taking a **strategic design approach***, this project will set out to understand, define and overcome challenges to delivering community SuDS by employing new ways of thinking, partnership working and making the best use of existing and new technologies. **We term this the SuDS+ approach.**

The following report sets the ambition and direction for the SuDS+ approach and provides a scaffolding to navigate the remaining five years of the programme.

The introduction chapter outlines the overarching aims, methods and principles guiding the SuDS+ programme. Then, chapters 2 to 4 set the context by unpacking the challenges of flooding in the UK, the opportunities presented by SuDS+, and invite you to learn about the richness of the Stanley South community. Chapters 5 to 9 share the outputs of the programme's first year through a five-part strategic framework for SuDS+. Each part of the framework represents a fundamental aspect of creating community-led SuDS+ for Stanley South and beyond. The framework unfolds chapter by chapter, describing a future vision for Stanley South, a set of innovative community-created SuDS+ concepts, providing guidance on partnership models, setting out a suite of problem statements that unpack the system barriers for delivering sustainable community-led SuDS+, and a guide for participation for the years ahead. This framework lays out the foundations for SuDS+ to be realised in the remaining five years. The report can be read cover to cover, explored in sections, or skimmed through shortcuts.

The work is being undertaken in Stanley South, in the North-East of England. However, the lessons and model is intended to be applied widely across the UK. The outputs of this work will form the foundations for a new way of delivering SuDS on the scale required across the UK, creating more resilient, greener community spaces shaped by their residents.

* **Strategic Design Approach**
A design methodology drawing making uses both Design Thinking and Service Design methods to solve complex problems. The approach taken in this project is further explained on pg. 18.



South Moor Memorial Park

Project Aims

Setting the ambition for SuDS

The following seven aims set the innovation drivers for this project. Each reflects a shift that is needed within the design, delivery and management of infrastructure assets, and forms a philosophy for the SuDS+ project. The aims are:

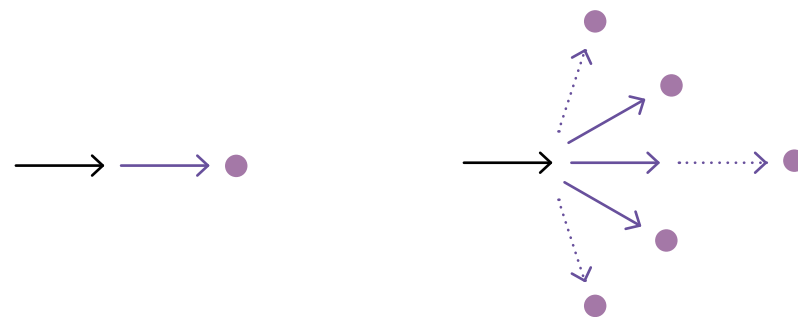
1. Diversify and multiply the value created
2. Work together with the whole stakeholder ecosystem
3. Build holistic community resilience
4. Design for long-term stewardship
5. Be led by the community
6. Design for scalability
7. Innovate by doing

1. Diversify and multiply the value created

Nature-based solutions, like SuDS, are recognised not only for their flood resilience benefits, but as drivers of many types of value. As place-based interventions SuDS can increase flood resilience while also being:

- A platform for public space improvements
- A vehicle for community building
- An activator for new jobs, careers or local industries
- An exemplar to connect people with the wider natural world
- A connector between communities and stakeholders
- A place where the future citizen can be developed

This recognises a broader shift in infrastructure ambitions, to move beyond one intervention, for one benefit – like a pipe for managing water – to, one intervention for the creation of many benefits. Only by doing this can it be possible to design the infrastructure required to meet the challenges of the 21st Century and deliver flooding infrastructure that also sequesters carbon, or makes space for nature, or enables economic regeneration. It is key to recognise this potential at the outset of the design process of SuDS schemes and to design for these benefits, rather than adding them on as an afterthought.



One intervention for one benefit

One intervention for many benefits

Figure 2 | Expanding the benefits created by interventions like SuDS

2. Work together with the whole stakeholder ecosystem

By setting more holistic ambitions, a multiplicity of stakeholders are invited into the SuDS dialogue, each with a new vested interest in SuDS. With a greater diversity of actors working together to drive a breadth of outcomes, from health, to housing, the potential impact and value that can be generated is amplified. For example, a stakeholder like the NHS is primarily interested in health outcomes, while the Environment Agency invests in creating benefits like flood risk mitigation. If a SuDS scheme is designed by only one of these organisations then it is less likely to substantially address both health and environmental challenges. Looking to maximise the value generated by SuDS has impacts on the framing and approach of SuDS+.

SuDS+ sets out to facilitate collaboration between the full spectrum of stakeholders invested in the public urban realm. This provides a much richer canvas of ideas and inputs around the potential impacts of SuDS+ on the street, which can lead to win-win schemes being developed between institutions and the community.

3. Build holistic community resilience

Delivering ‘resilience’ is foundational to successfully delivering all UK flood and coastal risk projects. However, resilience is not a universally agreed-upon term, and different disciplines define resilience differently. There are two primary ways to think about resilience:

- **Engineering resilience** focuses on taking action to help people and communities plan for, react to, and recover from floods, back to the ‘normal’ state that they lived in before they flooded. This is often termed ‘bouncing back’. This type of resilience can be created by writing flood plans, building flood defences, and organising flood wardens and flood groups, amongst other things.
- **Social resilience** focuses on building strong and well-connected communities. It seeks to support communities to work together and with institutions and adapt the way they think about and react to stresses, like floods, so that ‘normal’ gets better each time they are overcome. This type of resilience is developed by building relationships, social learning, and dialogue within and between communities and between institutions such as local authorities so that people can work together to make communities better and stronger for everyone.

Social resilience isn’t targeted to specific problems or challenges, such as flooding. It is about making everyday life better and our ability to respond to and recover from any shocks (like flooding) easier. The SuDS+ approach extends beyond engineering resilience to include social resilience thinking. In the project, the process of developing a SuDS scheme through dialogue and shared vision-setting is as crucial as the actual scheme that is installed.

4. Design for long-term stewardship

A focus solely on engineering resilience is one of the primary reasons SuDS fail to deliver the promised benefits beyond flooding mitigation. This thinking tends to think of them as static assets and often does not consider how they are cared for in the long term. As a result, many fall into disrepair. Re-framing resilience around the social structures that underpin it, in turn, drives a new way of thinking about the whole lifecycle of SuDS features, which designs equally for adoption and long-term care. Therefore, to support this shift, there is a need to re-balance the roles between stakeholders and devise more community-led approaches, which prepare the community for adoption throughout project delivery.

Stewardship

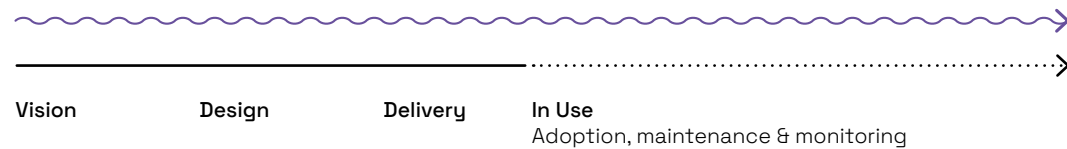


Figure 3 | Current SuDS Asset Lifecycle

5. Led by the community

Today, communities are often disenfranchised by traditional engagement processes as they don't see long-lasting benefits, have a fair share of equity, have a meaningful role in shaping local infrastructure investment and don't always understand the value that SuDS bring. Recognising that the top-down approaches of design and management that lead to these community sentiments have not succeeded in delivering well-loved and managed SuDS assets, SuDS+ seeks to take a bottom-up approach.

There is a need to explore the conditions where such an approach can flourish and the new forms of partnerships that will be fundamental to realising a genuinely community-led ambition.

Unlike in a top-down approach, where the designs and functions of the infrastructure are determined by a select group of stakeholders who might not be the end-users, the bottom-up approach flips this hierarchical, one-way dynamic. It suggests that the local community, who will be the end-users of the infrastructure, be equal partners within the process, contributing their views and ideas to inform the designs and functions of the future infrastructure.

The bottom-up approach also suggests that the ownership and management of the infrastructure can take a more decentralised structure. Traditionally owned and managed centrally by one organisation that funds and maintains the asset, the bottom-up system could be shaped as a distributed network of local agents that each play a unique role in activating the infrastructure, looking after it and directly benefiting from its functions.

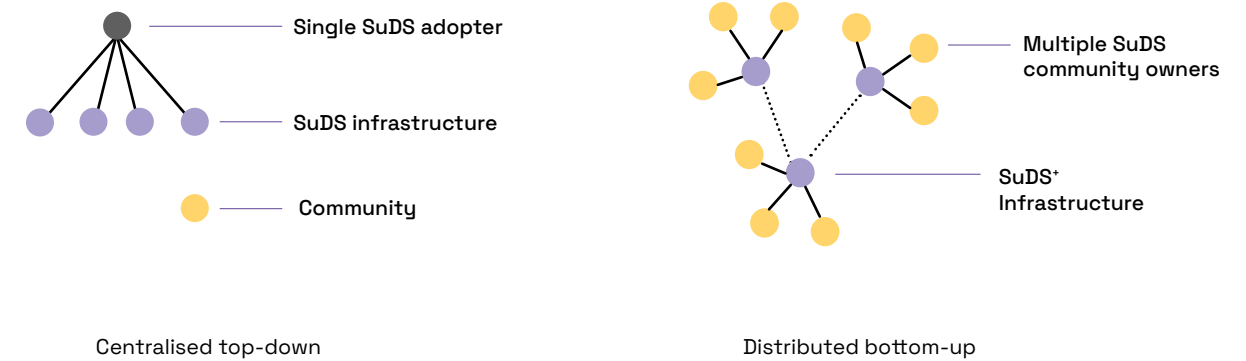


Figure 4 | Top-down vs.. Bottom-up Governance

6. Design for scalability

SuDS+ aims to develop mechanisms to enable a transformational change in how SuDS are implemented and the scale at which this is done. This is key for SuDS to meet its potential, as distributed infrastructure needs to be implemented on a large scale to be effective. Due to this, SuDS+ will prioritise scalable and potentially proven solutions in other sectors while adopting an open, transparent approach to the distribution of knowledge and resources. SuDS+ is intended to be applicable across the UK and globally and across other infrastructures from water to housing retrofit.

The term 'open-source' means a commitment to sharing knowledge and source materials, facilitating access to the design and implementation of solutions. An open-source culture in SuDS promotes a technology innovation paradigm that delivers an accelerated transition towards more sustainable solutions.

Scalability is also embedded into the location we have chosen. SuDS+ will be grounded in a place, South Stanley. This is to act as a testbed for SuDS+ and as a place with a diverse housing typology, hydrology, and community drivers, representative of hundreds of other towns and cities across the UK.

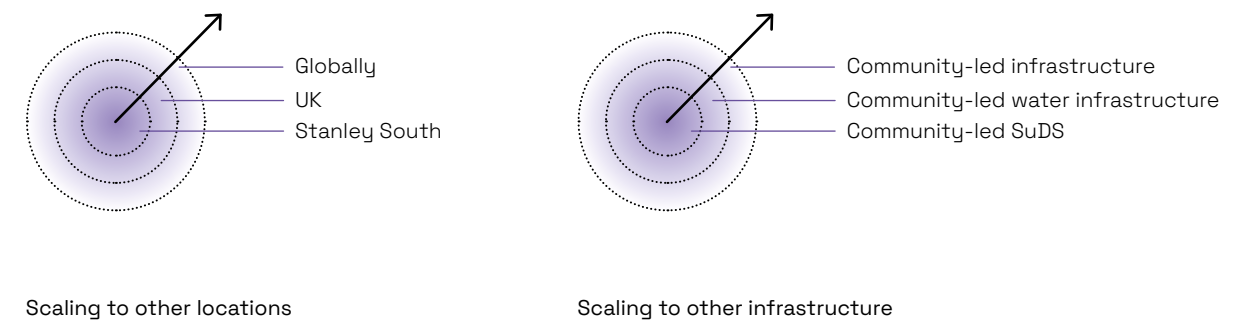


Figure 5 | Current SuDS Asset Lifecycle

7. Innovate by Doing

To meet the challenge of delivering a transformational SuDS⁺ approach, the project establishes a culture of innovation, driven by the 'fail fast, learn fast' philosophy. This approach breaks the problem of 'designing sustainable infrastructure to manage flooding and maximise wider benefits' into smaller, short-term pilot projects where rapid learning is valued – allowing for mistakes, quick adapting, and for lessons to be shared widely. This is a departure from traditional development models, which often involve 'picking winners' and making significant financial and time investments, without certainty of their success until the final outputs are delivered. When tackling this problem, taking an iterative approach allows elements of the problem, with high potential impact, to be focused on, and for secondary non-direct innovations to be discovered within each iteration.

Taking a practical and iterative approach, also allows for continuous engagement with the community and stakeholders across a wide range of problems. Being embedded locally and being led by the community, creates opportunities to build local skills and knowledge.

By working through this pilot process, the project can devise a scalable SuDS⁺ process that has led to a series of secondary outcomes.

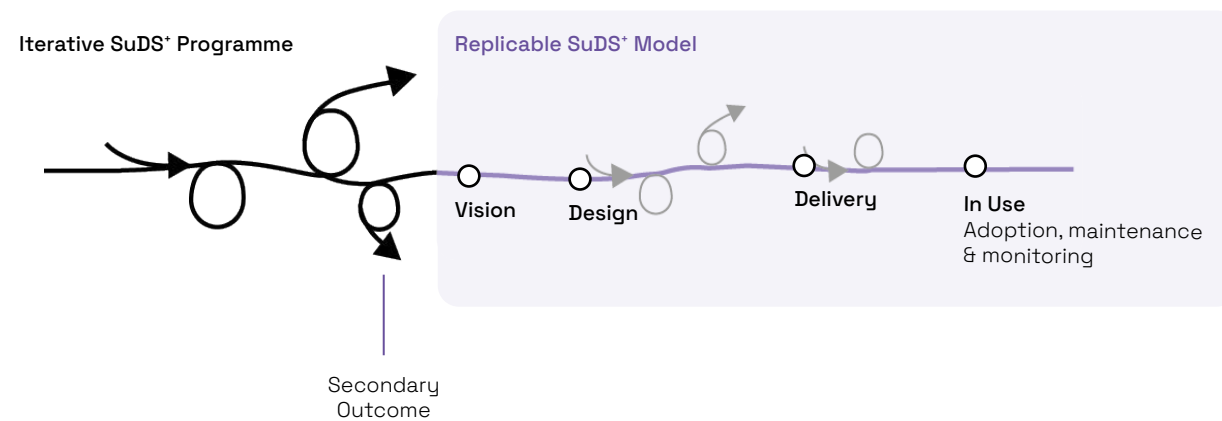


Figure 6 | Creating a scalable design process through iteration



Project Process

Innovative methods for achieving the aims

Method 1 Rooted within a place

The project positions the Stanley South community at the heart of the design process. By placing them at the centre, SuDS solutions can be co-developed to meet local needs and ambitions. This can be done by working closely with community representatives throughout the visioning, design and implementation stages, providing a platform for collective decision-making. Through the engagement undertaken to date, it has been possible to gather in-depth knowledge of the place, such as its geography, socio-economic characteristics, and local community and business networks, to ensure that the future SuDS schemes build on and amplify these existing strengths and to understand where resilience can be improved. Through this place-based engagement, it is possible to grow the number of local supporters and encourage long-term stewardship of the future SuDS+ infrastructure and amenities.

On the project team level, the core design team includes community-embedded experts that support the wider project team in connecting with the local stakeholders, act as a point of contact for the local community, and guide the project's trajectory, ensuring that it reflects community's interests.

Method 2 Strategic design approach

The strategic design approach governs the way the project is structured (see Figure 6). It allows the problem to be explored from all directions - from the technological to the organisational. Using design thinking methods, it is possible to de-construct and re-construct the process of developing a SuDS scheme through an iterative process of consecutive divergent and convergent research and design phases. During the 'discovery' phase, a nuanced understanding of the local community's life can be built, which is formed of a rich individual and collective level insight, and explore the experience of floods, people's living conditions, health and wellbeing, employment, and social relationships, and more. Alongside, the perspectives and challenges of the water sector and civic sectors were stitched together to inform a holistic view of the problem space. Therefore, based on the evidence uncovered through this deep dive, the problem can be understood and then solved in the 'define' phase.

This strategic design approach allows us to build a holistic view of the problem area and examine all context dimensions across the individual, collective and systemic. Implementing this approach enables us to unearth a multiplicity of SuDS+ opportunities beyond 'flood resilience', leading to the opportunity-led process.

Method 3 Opportunity-led over option-led

The traditional infrastructure projects approach is often option-led, where a few pre-defined solutions are offered to the community with little chance for them to influence its design and functionalities (see Figure 7). Developed by technical experts, these options tend to be narrow in focus, addressing specific infrastructure problems. In contrast, the SuDS+ scheme enacts an opportunity-led approach, where infrastructure requirements stem directly from the community and thus open a plethora of possibilities for achieving wider benefits.

Practically, by applying the strategic design process in Year 1, a series of opportunities, formulated as vision statements, were developed. These opportunities point to areas where SuDS can potentially positively impact the local place and the community. This challenge-led approach will support and guide the development of the SuDS scheme throughout all phases.

Method 4 Creating open innovation

To tackle the complexity of the project, an open innovation approach was embraced. The project invites unconventional collaborators from across different domains and markets to contribute their ideas and expertise. This approach allows for community ambitions to be stitched together with the latest social and technological developments to deliver processes and outputs that can be applied locally and scaled up. The open innovation approach unfolds in several ways:

- **Open collaboration** – the SuDS+ project collaborates with people and organisations outside of the traditional flooding sector to drive innovation. The project makes use of the extensive network which partners have across academia, product development and commercialisation, and technology transfer.
- **Open knowledge** – the SuDS+ process, learnings, practical resources and outputs are methodically documented and shared to encourage knowledge exchange in areas where similar innovation can be applied.
- **Open forum** – a SuDS+ process, creates an open space to facilitate the debates, discussions and provide guidance to all project collaborators.

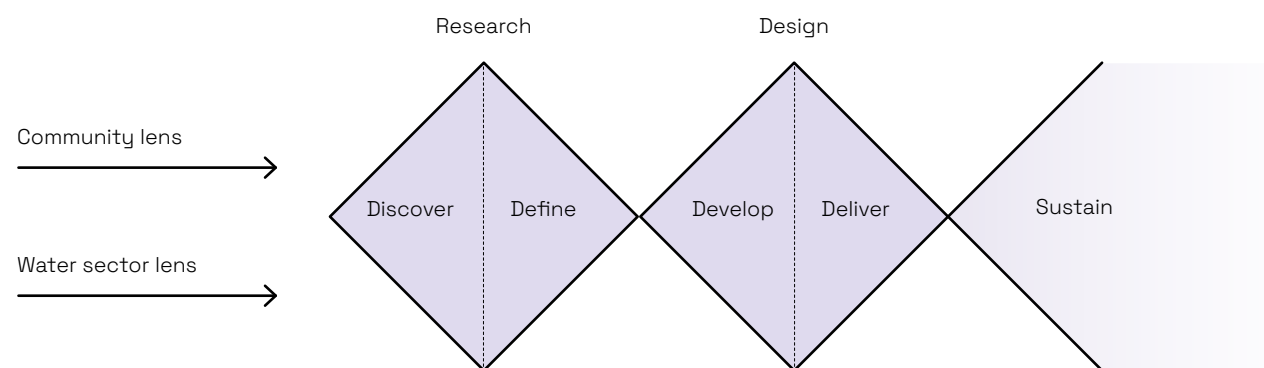


Figure 7 | Strategic design approach applied at all scales

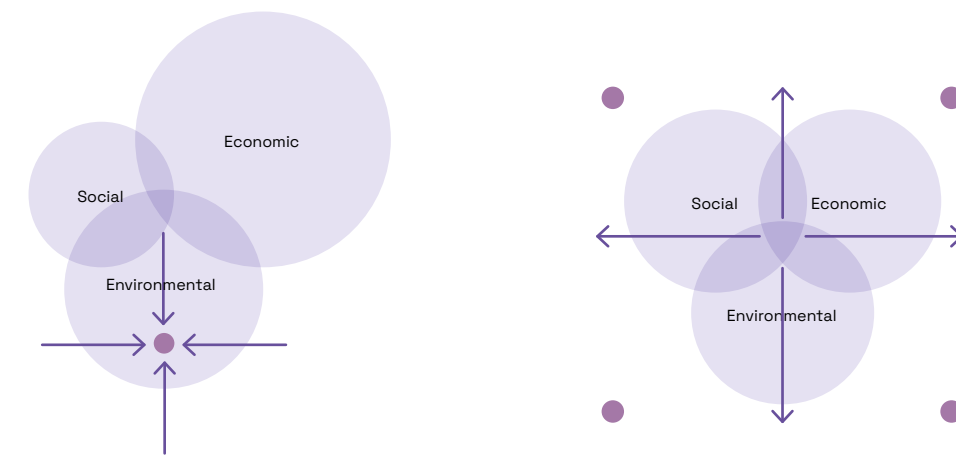


Figure 8 | Taking an opportunity-led approach

Project Timeline

Phase 1 | Year 1 Summary

SuDS+ 5 year programme will be delivered in three phases:

- Phase 1: Visioning & Problem Definition
- Phase 2: Challenges & Innovation Partnerships
- Phase 3: Monitoring and Evidencing

In the first year, Phase 1, we worked together with the Stanley South community to set a vision for future sustainable development of their local place and neighbourhoods. We undertook preliminary engagement activities with a diverse group of participants to explore current community experiences of SuDS and other interventions, flooding and other environmental challenges, aspirations for the study area, as well as project governance.

Through this engagement we developed initial ideas on how SuDS interventions can be integrated into sustainable place-making activities in the long term, thus making them resilient solutions.

Year one is a pilot that will be scaled up with a larger group of residents in the following year.



PACT House Pop-Up Workshop



Greenland School Pop-Up Workshop



Phase 1 utilises a participatory approach to assess how community aspirations can be incorporated into local flood plans to identify opportunities for addressing flooding issues through community SuDS.

Phase 2 will adopt a challenge-led approach to explore innovation in the design, building, monitoring, and maintenance of urban SuDS.

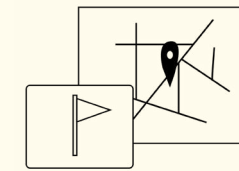
Phase 3 will work in partnership with the community to develop a transferable framework through which SuDS interventions can be successfully and sustainably adopted by the community, and their ongoing performance monitored.

Research activities delivered in the year 1



Desk Research

Review of existing strategies, literature and reports to understand the current state and best practices.



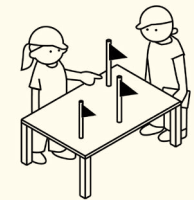
Site & Community Visits

Field research within Stanley to explore the spatial qualities, key community locations and natural sites.



14 x Community Interviews

Interviews with locals, including those who run community initiatives, events or businesses.



2 x Co-creation Workshops

Co-creation workshops exploring a future vision, partnerships and measures of success.

15 x Stakeholder Interviews

Interviews with stakeholders and subject matter experts to understand the problem from an organisational lens.

4 x Pop up Workshops

Informal workshops to explore flooding experiences and vision for Stanley South a local school, community meal, women's group and youth club.

Figure 9 | Project Timeline

Strategic framework of SuDS+

Results of year 1

Through research and design activities, an initial scaffolding for SuDS+ has been developed, forming the strategic framework for the project going forward. Represented as several layers, the framework unpacks the **why, what, who** and **how** of the SuDS+ challenge.

Each aspect can be developed from this foundation through the subsequent years of the project. Therefore, each layer will continue to change shape, evolve and grow in resolution.

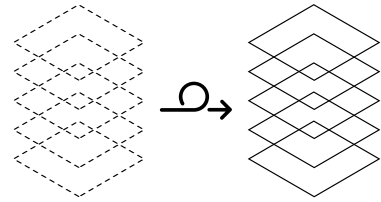
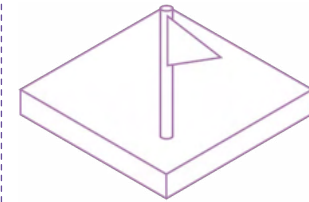


Figure 10 | Iterative evolution of the framework

Strategic Framework

Vision-Setting & Goals



Strategy Year 1

Why

Environmental, social and economic challenges and opportunities that need addressing

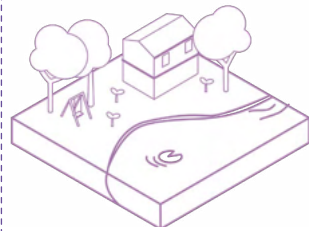
A vision for Stanley South's future has been drafted with a diverse group of community members and stakeholders. It touches on all aspects of local life and can guide the design of future SuDS interventions for maximum impact.

Chapter 5

Outputs Year 6

A community-led vision for Stanley South that reflects many local opportunities and challenges and sets direction for future SuDS+ interventions.

Innovative SuDS+ Interventions



What

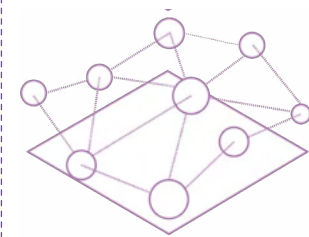
A set of community-led SuDS+ interventions that can inspire innovative designs

Responding to this aspirational vision, a set of initial SuDS+ ideas were co-created together with the same diverse group. Each stretches the imagination as inspiration to future designers about the innovative possibilities for SuDS+ in Stanley South.

Chapter 6

A series of innovative SuDS interventions to help manage surface water, as well as delivering a range of other benefits for communities and stakeholders.

Partnership Models



Who

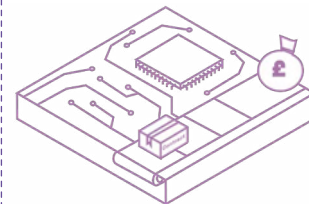
An outline of a range of possible community-led partnership typologies and dynamics

Using these ideas as prototypes for future SuDS schemes, the group considered the multiplicity of possible partnerships and local stakeholders that could be engaged around the design, delivery, and stewardship of SuDS+. A partnership model that is innovative, mutually beneficial, and sustainable in the long term can be formed by building upon this framework for community-led partnerships and the range of partnership typologies.

Chapter 7

A new way for how Local Authorities, Stakeholders, and communities can work together to identify, plan, deliver, and maintain SuDS+ projects.

Addressing System Barriers



How

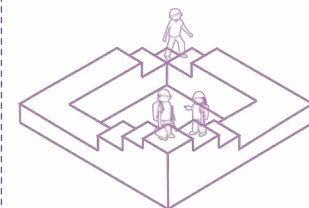
A set of problem statements setting out the system changes that need to take place to support innovation

To deliver innovative transformation in the vision, interventions and partnerships, system changes to the design, adoption and monitoring of SuDS are needed. These necessary system changes are described as problem statements that can be addressed through Innovation Challenges.

Chapter 8

A set of key challenges to industry which will underpin how process and technical innovation will be embedded within new SuDS interventions.

Community Engagement Strategy



How

A set of proposed engagement activities, and lessons from the research activities undertaken so far

SuDS+ requires continual and meaningful engagement with the community; the community engagement strategy describes lessons from the project and sets a plan for weaving the community into the project every step of the way.

Chapter 9

A SuDS+ handbook for communities on how to work together with local authorities and other stakeholders to implement new SuDS+ projects.

Explore the framework through the report

SuDS+ Principles

Guiding the project

The SuDS+ design principles are devised to articulate the underlying value system of the project. In a concise way, the principles communicate ideas about what is important to the project and its community-led ethos.

Two main input streams informed the design principles outlined in this section:

1. The SuDS+ project ambition
2. Stanley South community values and aspirations derived from the year one participatory engagement

The SuDS+ design principles make up the “moral compass” of SuDS+ scheme; they are intended to guide thinking, behaviour and activities within the project. The eight principles inform the total project, pervade all layers of the strategic framework, and guide each project phase, from vision to when the sustainable drainage is in use and maintained. They can be applied to any context, distinct problem area or workstream.

SuDS+ design principles can be used to:

- Convey the SuDS+ project values to the programme partners, stakeholders and wider audiences
- Build a consensus between the project stakeholders and any involved party
- Support the ongoing decision-making across design, social and technical domains
- Assess and sense-check future SuDS designs against each of the principles to help the project team evaluate their solutions and reorient them ensuring the initial intent is carried all the way through
- Onboard new team members by introducing new SuDS+ community-led philosophy and values, ensuring that all partners’ input is oriented towards a shared goal and based on a collectively agreed approach

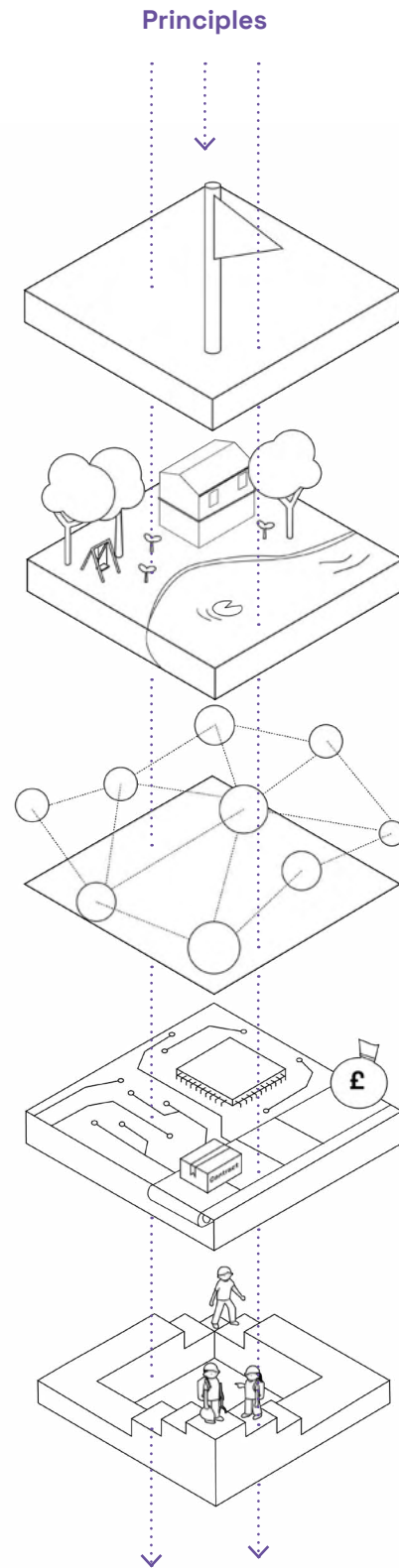


Figure 11 | Principles permeate all elements of SuDS+

Community-led

Community as a collaborator at every stage of the project

The community is an integral collaborator in the process from the start. The SuDS+ scheme process is designed to allow the community to have an equal say on the SuDS+ vision, designs and operations. Mechanisms, such as discussion forums, co-design workshops, public consultations and knowledge exchange, are woven in at every point when an informed decision is needed.

Prompt:
What is the role of community in shaping your idea/process/solution?

Locally rooted

For and by the local community

SuDS+ processes and outcomes are intentionally designed to reflect place-based characteristics, needs and priorities. With appreciation of its unique geography, heritage, socio-economic circumstances and community networks, SuDS+ can have a more deliberate and targeted impact, generating tangible value for the place and people.

Prompt:
Does your idea/process/solution responds to the place-based needs?

Reciprocal

A fair give and take

Mutually-beneficial value exchange is at the core of every SuDS intervention or initiative. There should be a fair exchange of resources for every contribution, ensuring that each stakeholder’s input is valued and encouraging prolonged participation.

Prompt:
Who benefits from the generated value?

Who is excluded from the value exchange?

Inclusive

No contribution is too small, every contribution is important

SuDS+ is for everybody. People of all ages, backgrounds, interests, abilities and talents are welcomed to participate. Accessible, inclusive, flexible and easy to use engagement mechanisms don’t leave anyone out, allowing for all kinds of contributions and on people’s terms.

Prompt:
Are there groups of people that are not part of your engagement process? Why not?

What processes and tools do you have in place to allow all kinds of contributions?

Trusted

Transparency, trust and ways of safeguarding collective decisions

SuDS+ seeks to create an environment that is safe, respectful and trustworthy. Decisions are made collectively, and there is transparency in the process. There is a sense of shared responsibility and accountability, inviting all partners to act with the best intentions and in accordance with the agreed code of ethics.

Prompt:
What mechanisms are built into the process to facilitate the collective decision-making?

How does your project maintain openness and transparency?

Amplified

Amplifying existing strengths

Instead of starting from scratch, SuDS+ strives to multiply the magnitude of impact by strengthening the good things that are already in a place. SuDS+ aims to boost local groups and initiatives, platform individual talents, and celebrate local stories, forming a strong foundation that is unique to Stanley South.

Prompt:
What existing strength does your idea/solution amplifies?

Supported

A helping hand every step of the way

Community is supported at every stage of their SuDS+ journey. If community members are interested in being involved but don’t have the required knowledge or skill, tailored training and capacity building programmes must be provided. Easy access and timely support will help the community realise their dreams and ambitions and be fulfilled.

Prompt:
What support do you provide to help community to fulfil their anticipated roles?

Generating value

Striving for multiple impacts

SuDS+ aspires to achieve a significant impact across social, ecological and economic focus areas. To realise this ambition requires an intent built in every project activity and a delicate balance of efforts contributing towards all three trajectories simultaneously.

Prompt:
Where does your project achieves the most impact?

How can your project generate the impact across all three focus areas?

The Principles should be applied to all dimensions of the SuDS+ framework for the full lifecycle of SuDS+

Water Challenges in Stanley South



2

Flooding from Heavy Rainfall

A growing risk for the UK

In recent years, images of fallen trees, stranded vehicles, and residents trying to protect their homes from flood water have been appearing more frequently in the news. Flooding is one of the most serious climate-related risks that the UK faces. As well as large-scale flooding from rivers, a recent analysis by think tank Bright Blue shows that UK towns and cities have been hit by surface water flooding 51 times since 2007, causing major disruptions to communities and facilities.¹ As climate change affects the frequency of storms and alters our weather patterns, we can expect more intense rainfall and associated flooding across the UK in the future.

Surface water flooding* occurs when intense rainfall overwhelms the ability of the ground to soak up water, or the capacity of drainage systems to carry water away. Water flows across the ground and collects in low-lying areas. Although the main cause of surface water flooding is high intensity and/or prolonged rainfall, factors like the nature of the soil, the shape of the land, how built up an area is, how well-maintained drains and gullies are, and physical barriers such as buildings can all contribute to causing an area to flood.

This type of surface water flooding is more difficult to forecast accurately than other flood risks, such as a river or coastal flooding, as current weather forecasting methods are not able to pinpoint where or when potential heavy rain will arrive, nor can they know or predict the capacity of local drainage systems to manage the level of rainfall.² In addition, the extent and depth of flooding can be heavily influenced by relatively small, locally specific factors, which are hard to detect at a large scale, such as the height of kerb stones or the camber on a section of road. Although there are large uncertainties in any estimates, the Environment Agency estimates that over 3 million properties are at risk of surface water flooding in England

Climate change is only likely to make the risk of surface water flooding worse. According to the latest State of the UK Climate report, the UK has become wetter over the last few decades. 2020 was the UK's fifth wettest year in a series from 1862, with 116% of the 1981–2010 average rainfall and 122% of the 1961–1990 average rainfall.³

¹[Jackson, H. \(2021\). Bright Blue Campaign, UK](#)

* Also called flash flooding or pluvial flooding

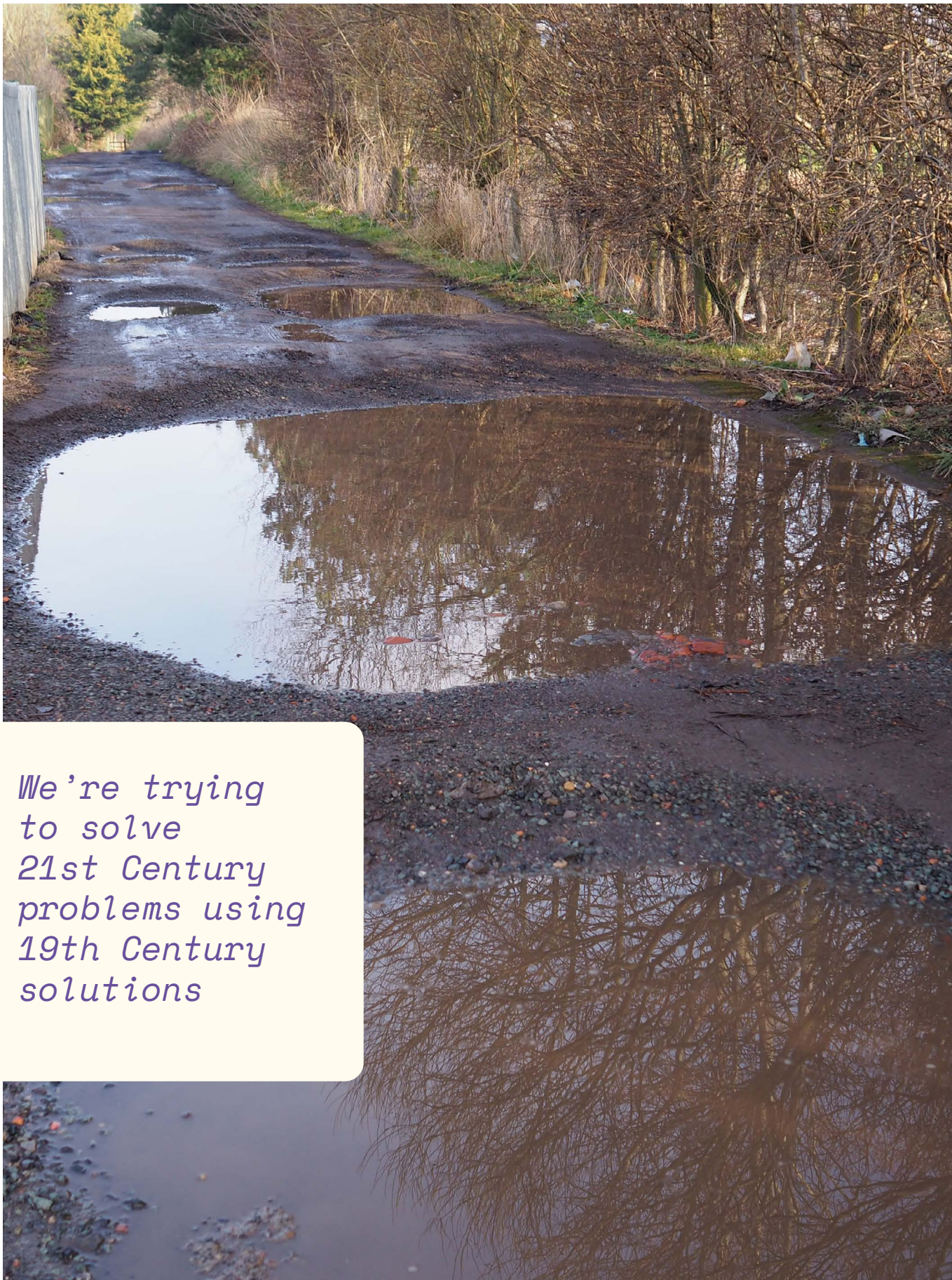
²[Surface water management A government update. \(2021, July\). Department for Environment Food & Rural Affairs.](#)

³[Kendon, M., McCarthy, M., Jevrejeva, S., Matthews, A., Sparks, T., & Garforth, J. \(2021\). State of the UK Climate 2020. International Journal of Climatology, 41\(S2\), 1–76.](#)

The Environment Agency estimates that over 3 million properties are at risk of surface water flooding in England



South Moor adjacent to the golf course



We're trying to solve 21st Century problems using 19th Century solutions

As this climate trend is likely to continue, there will be a greater chance of heavy or intense rainfall events in many parts of the UK, especially during the winter months. This will increase the frequency and severity of all types of flooding but particularly surface water flooding.

Our urban areas are poorly designed to cope with surface water flooding, both now and in the future. Traditional drainage systems, which rely on drainage gullies and pipes to move water away from where it falls as rain as quickly as possible, are not resilient to extreme weather. By design, they have limited capacity and most were not designed to cope with the increasingly heavy rainfall events which we are now seeing, and which are predicted to become more frequent with climate change.

When the capacity of traditional drainage systems is exceeded, **uncontrolled flooding occurs***, affecting homes and businesses. And this flooding is often not just rainwater. Most drainage systems older than 10-20 years are **combined drainage systems***, in which rainwater from streets and house roofs mixes with raw, untreated sewage. Flood water is therefore often contaminated and poses the risk of infection and disease as well as causing extensive water damage.

Even when flooding of houses does not occur, traditional drainage systems can pose a risk to local environments. Usually, combined sewer discharges go to the wastewater treatment works to be treated and released to local rivers. When the capacity of drainage systems is met or exceeded, this water is instead released directly into rivers through Combined Sewer Overflows (CSOs). These CSOs act as release valves, to try and stop homes and businesses from being flooded. However, if they discharge too often, they can badly affect the habitats and wildlife of local streams and rivers.

Floods can have negative social, economic, health, and environmental effects on local communities and businesses. Not only do they devastate homes and businesses, they also cause physical and mental health problems, and can cause disruptions to vital community infrastructure such as utilities, transport, communication, education, and healthcare.

*** Uncontrolled flooding**

Happens when the capacity of a drainage system or a stream to carry water is exceeded and flooding occurs in a way which was not designed for. This often means flooding negatively affecting homes and businesses. In more modern developments, we try to 'design for exceedance', meaning that we design areas such as roads to be flooded in extreme circumstances to avoid homes and businesses being affected.

*** Combined Sewers**

Carry both rainwater, from house roofs and roads, and foul sewage, from things like toilets. All the water flows to the waste water treatment works for processing and release back into local rivers and streams.

Change is needed in the UK water sector

A range of water challenges

Flooding, and climate change, more broadly, is only one of the challenges the UK faces with water. When we think about water, we must recognise that where water is and how it is used in our society is embedded within how our society functions and the relationship we have with the natural environment.

Changing our society's relationship with water means addressing several significant challenges, for example:

- **Population growth and demand for resources**
- **Environmental degradation**
- **Political and economic uncertainty**
- **Ageing infrastructure**
- **Water customer behaviours and preferences**

These challenges manifest themselves specifically as:

- **Water quality and pollution** – a legacy of mining and heavy industry, high-intensity farming, and the development of urban areas and highways all contribute pollutants to our streams and rivers. This is often exacerbated by an ageing infrastructure and climate change-driven increases in rainfall intensity. Pollutants range from chemicals such as nitrate from fertilisers and hydrocarbons from oil to heavy metals and pharmaceuticals to micro-plastics from washing machines and car tyres. Pollution can damage the functioning of these natural environments, damaging habitats and ecosystems and making them unpleasant places to live near. Everyday pollution from farms and industry can be exacerbated by flooding when combined sewer systems lack capacity and frequently discharge untreated sewage into streams.
- **Water scarcity** – the frequency of flooding in the UK tends to mean people assume the UK has plenty of water. However, in many areas of the UK, population growth and the clustering together of people and businesses are putting much strain on our water supply and our ability to have enough water for everyone to use when they want it. This is often exacerbated by leakage from water supply infrastructure, which causes significant amounts of water to be wasted, and excessive usage by some customers. Some ways of managing water can help reduce flooding and alleviate water scarcity by slowing down the movement of water through the landscape and allowing more of it to soak into the ground and eventually into groundwater aquifers, where it can be extracted for drinking water.
- **The resilience of critical infrastructure** – much of our critical infrastructure is built in areas which are now, or will be in the future, at risk from flooding; this includes water treatment works and electricity substations. Some of our infrastructures are also quite old and vulnerable to failure and require frequent, invasive repairs. System failures, sometimes caused by flooding, can trigger broader problems for areas affected by flooding, such as power or water outages, even when people's homes are not affected by flooding.

Flooding can interact with, and exacerbate, many of these other challenges, and in many cases, we cannot work to solve one problem without solving others. This is because water represents a key point of connection between different parts of the natural environment and between us, as humans, and the environment. How we use water and how the water environment affects us is, therefore, a vital aspect of the resilience of people and their communities.

We need to invest in our water infrastructure and innovate in the way we handle water in our society if we are to meet these challenges. This will mean adopting a range of new smart technologies to monitor and control our water networks and understand how much water is where versus where it is needed. It will also mean investing in new, more efficient and easier to maintain technologies for drainage and water treatment and even reconsidering the idea that greywater from sinks and showers is a waste product or whether it is an asset which can be used more efficiently. We will also need to consider how we can integrate natural processes into our handling of water, moving away from end-of-pipe solutions reliant on large-scale infrastructure to make the most of distributed solutions for controlling and treating water where it falls with infrastructure that can slow the flow of water and help filter out pollutants before the water goes to the water treatment works.

However, these are not challenges we can address purely through scientific and engineering expertise, which often fails to understand the myriad different ways people experience water, both negatively through flooding and positively as a vital part of the place they live in. Therefore, it is crucial to understand the experiences of those affected by flooding and how it impacts their lives. SuDS⁺ offers a unique opportunity to deepen this understanding through a local community-informed perspective, which can contribute to addressing wider water sector challenges across the UK in a more effective way.



Flooding in Stanley South

Local challenges

Stanley South has been affected by several flood incidents caused by heavy rainfall over the last decade. Durham County Council, which is responsible for managing flood risk in this area, consider the area a “key surface water risk area”, in other words, Stanley South is at a high risk of experiencing surface water flooding.

Surface water flood risk in Stanley South is mainly caused by the built-up nature of the area and the steep slopes on which the town has developed. Rainfall falling on the streets and roofs in the area runs rapidly downhill. It often never flows into the drainage system, flowing past or over drainage gullies which have become blocked by leaves or road debris. This is made worse by clay-heavy soils which do not absorb much water, and by drainage systems and **culverted streams*** with limited capacity to move the water away.

Flooding of properties and streets has occurred regularly in the past, most recently during the **Toon Monsoon*** in 2012 and again in 2013. Flooding has resulted in residents having to temporarily leave their homes. For example, one property in Greylingstadt Terrace, The Middles was flooded three times in a year, and it took the landlord over three years to bring it back into use. Other storms and rainfall events, whilst not causing property flooding, have caused frequent discharging of CSOs into the Twizell Burn, which has contaminated sections of the stream with sewage, including in Memorial Park.

Although only a small number of properties have been flooded in the Stanley South area to date, **numerical modelling*** of the flood risk suggests that over 700 properties across the area are at risk of being flooded during a large flood (one with a 1% probability of occurring in any year), whilst almost 500 might be affected in a smaller flood (one with a 5% chance of occurring in any year)⁴.

* Culverted Watercourses

Are small streams which have been covered over into concrete or brick lined, roofed channels called culverts. This happened frequently in the industrial revolution, when streams were buried to make more room for building. Culverts like this can flow beneath homes and businesses without anyone really knowing about them.

* The Toon Monsoon

Also called ‘Thunder Thursday’, occurred on 28th June 2012, when slow-moving thunderstorms moving across the northeast of England caused over 50mm of rainfall to fall in an hour. The term The Toon Monsoon was coined after extensive flooding of the centre of Newcastle, with residents paddling canoes and inflatable boats along city centre streets. Rainfall also affected towns and villages across the northeast, including Stanley.

* Numerical Modelling

The chance of flood occurring at any particular point in time is usually referred to as a percentage, for example a 1% chance of occurring in any year. The smaller the percentage the larger the flood and the greater the impacts. In the past these floods have been called 1 in 100 year floods, or just simply 100 year floods, because on average a flood of this size will occur once every 100 years. However, this sometimes causes confusion as it is perfectly possible for multiple ‘1 in 100 year’ floods to occur in a 100 year time period, which is why you will mostly now see them referred to using a per year probability

⁴ [South Stanley & Craghead Stage 1 Drainage Study](#), [National Integrated Drainage Partnership \(NIDP\)](#)

“Our local river, the Twizell Burn, is rated as a poor quality watercourse due to the pollutants present in the water”

Wear Rivers Trust



Causes of Flooding and River Pollution:

- Heavy rainfall and number of storms are increasing due to climate change
- More tarmac and concrete surfaces mean water can't easily soak into the ground and instead concentrates in pipes
- More people and businesses mean more water is used, so more water enters the piped system
- The old piped system, some of it is over 100 years old, is not designed for the amount of water we have today



South Moor Memorial Park



South Moor Memorial Park

Negative Effects:

- More water entering the piped system means more risk of flooding when system capacity is exceeded this can be at manholes in the street or in people's homes
- When there is too much water in the system it can also overflow into rivers. This means that everything that is in the water will also end up in the rivers – what goes down the toilet, the sink and anything that was on the road including oil and micro-plastics from cars.

Flood incidents in Stanley South

A collection of flood events recorded by the community on Social Media



South Moor Memorial Park, 05/11/19

"Some pretty serious flooding in South Moor Park this morning after last night's torrential rain. What's it like near you?"

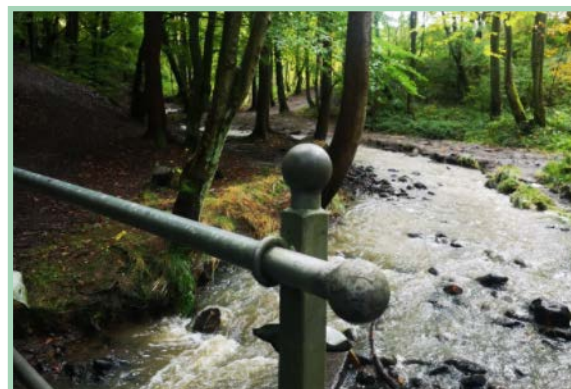
Local resident

"Yes its in our housing estate just off the park. Our poor neighbours are flooded. Services are on the scene. Hope they sort it soon"

Local resident

"South moor Park stream has burst it's Bank, fire service is in attendance, please avoid the area its unsafe. The flooding is also coming from the allotments going in the nearby housing estate fire service sorting drainage issues out"

Local stakeholder



South Moor Memorial Park, 04/10/20

"We had torrential rain when I was a kid, but no floods! What's happened, do you think the drainage is blocked?"

Local resident

"I guess I am not taking the pooches to the park any time soon"

Local resident

"Just drove up through Burnhope as diversion to Durham. Those top roads aren't much better at the minute, snowed more there and really flooded. Might be a bit better in a few hours though?"

Local resident



Waterlogged Allotment, 10/02/22

"The water is reaching way over our wellies"

Local resident

"The filter is blocked by litter and sediment along the stream. It looks like it will flood in the next rain"

Local resident

"That area has always flooded like that winter & summer for years?"

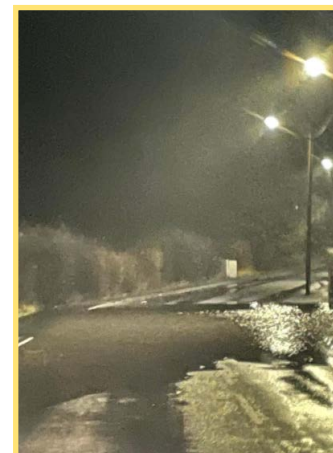
Local resident

"Aww, no way - my kids walk that way to their dad's to school in the morning. I hope it clears up by this afternoon"

Local resident

"Is this the same place that was flooded last week?"

Local resident



Craghead flooding, 05/12/21

Let us know if you have experienced heavy rain or flooding in Stanley South as well:



<https://stanleysuds.co.uk/>

Community Insights on Flooding – How South Stanley residents experience heavy rain and flooding

Flooding is a widespread risk, but one which only occurs sometimes. This means that people’s understanding, and experiences of flooding are often limited. For those who have experienced a flood, how this impacted them and how well they coped will have depended on many factors, often outside of their control, for example whether they own their home, their insurance company, or whether they have existing medical conditions. Preparing for and coping for floods requires working together between communities, businesses, charities, and management agencies. Areas where these connections are extensive and robust cope best with flooding.

In our pilot research we have talked to people from across the Stanley South area about their experiences of flooding, and how flooding impacts on them. Although everyone’s knowledge and experience of flooding are different, there are three key learnings about flooding in Stanley South:

- **Insight 1**
Flooding experiences are localised, so awareness and experiences vary considerably
- **Insight 2**
Small and localised instances of flooding are often not considered to be ‘flooding’ but just as part of life
- **Insight 3**
Preparing for and coping with floods requires working together



Thunder Thursday Comic and Workshop Material

Insight 1 Flooding experiences are localised, so awareness and experiences vary considerably

Community members’ awareness and experience of flooding vary dramatically and depend strongly on where they live and commute to. Residents living on the same street, for example, have had contrary experiences. In one case, while one neighbour’s front garden gets flooded after intense rainfall, to the extent that they must put out sandbags to prevent water from entering their home, another neighbour, living only a few doors down the road, has had no problems. Even during quite large events, such as Thunder Thursday, adjacent houses were differently affected, with one being flooded and one not.

- “So when there’s been heavy rainfall, our garden literally becomes just one giant puddle”
- “We have a friend over in Craghead, she lives on the front. And in the case of really bad downpours, they’ve got sandbags”
- “Like I said, I got away with it [on Thunder Thursday]. I live in number 12 and only the drains outside and the yard were overflowing – but in number 11 – the water was running through the back and going out the front door”

This demonstrates how difficult understanding surface water can be, as small-scale, frequently occurring flooding problems can be very localised, dictated by small changes in the shape of the ground which influence where water flows and ponds.

A person’s experiences of flooding when it occurs are also affected by their personal situation at the time, for example whether they live in rented accommodation or own their homes, insurance provision, and physical and mental health. Flooding poses extra hazards for people with existing mental and physical health problems, causing anxiety and depression, or exacerbating existing problems, for example damp.

- “My mum was terrified that flooding would happen again; she is terrible with water anyway, as she cannot swim”
- “I’m a bit anxious when we have a really bad downpour – because obviously when you get flooded, you lose everything really”
- “My dad has got a chronic inflammatory lung disease. And I’m worried about how the damp in the house now will affect him? Is it going to worsen his health?”

Experiencing flooding can be particularly challenging for people who rent homes, as getting the damage from flooding cleared up can be a long-drawn-out process, even if the person knows where to go for help.

- “I just don’t have a clue about how I would go and complain about flooding; whether the housing provider would even do anything about it”

Not everyone’s experiences were negative. For some people affected by flooding who had insurance, they were able to cope with the impacts and have their houses cleaned up rapidly

- “The insurance company was brilliant. You know, you hear so many horror stories about insurance not paying out and stuff like that. But ours was very helpful”

This demonstrates the uneven impacts across a community which flooding can have, depending on how someone’s situation can make them more or less vulnerable to the impacts of flooding.

Insight 2

Small and localised instances of flooding are often not considered to be 'flooding' but just as part of life

The risks associated with surface water flooding are not widely understood amongst community members, and more minor, everyday incidents which indicate flood risk are not recognised as such. Flood incidences such as waterlogged gardens, flooded pathways or potholes on the main road are often not regarded as "flooding" but instead dismissed as "something that just happens when you live around here".

- "When it happens, it happens, and then it stops, and then it can be a few weeks and then it happens again. That's British weather"
- "I think that if you grow up here, it's sort of somewhat expected in certain areas. It's not really a surprise [...] One has to make sure that 'whatever' it is, it does not directly affect your home"

For many residents "flooding" seems to evoke images of extreme weather conditions portrayed in the news media, which they haven't necessarily experienced first-hand. However, they had much more to say when they were asked to describe their experiences of intense rainfall. In many cases, these occurrences would be considered to be 'flooding', and in some cases even involved flood water entering their homes.

- "My garden has been flooded a few times. And sometimes the water sneaks under the gap of our entry door causing our carpet to get soaking wet. So we have put towels down to dry up and stop more water coming in"

In general, there was a lack of awareness about surface water flooding, and how heavy rain and flooding are linked simply by their intensity and the ability of local drainage infrastructure to cope. The manner in which this everyday nuisance flooding directly affects their lives, such as damp in their homes, waterlogged gardens, impacts on their mobility seem to be overlooked.

- "It's just obviously frustrating because you can't access the garden properly until it until it goes away. And then the dog gets muddy and wet"
- "I panic a little bit when it rains heavy because it means that I have to be really vigilant on my way to work or even make a detour. There are places, I won't be able to access with the wheelchair at all if it rains badly"
- "It doesn't really affect me as much, unless the school shuts and obviously we can't go down to the park, but other than - that's all it is"

Insight 3

Preparing for and coping with floods requires working together

Despite the fact that flooding knowledge and experience, and how flooding impacts on people is incredibly personal, we heard how coping with floods different groups and people to work together and help each other.

- "We did a great job [cleaning up after flooding]. Loads of people helped us to get rid of the water in the house, but you can't possibly deal with this on your own. It's too big of a job"

This can mean different things in different contexts. For example, many flooding problems require the intervention of outside organisations, such as Northumbrian Water or Wear Rivers Trust, who can carry out works to reduce flood risk through dealing with particular problems such as blocked drains.

In some cases local people were involved specifically, helping to avoid flooding through checking on drainage issues and helping keep infrastructure clean and functioning correctly.

- "Further down the street, there was a bloke that used to go up and clear the drainage"

However, at its most simple, working together meant the community helping each other to cope with the negative impacts of flooding by cleaning out properties and helping each other protect themselves.

- "I'm not sure if my mum rang us to come round? Yeah, because the water was coming right down [...] my brother in law came after the rain had stopped. [...] I phoned my sister telling her what has happened and to calm her down. And then the troops arrived"

Flooding has also catalysed community networks, bringing people together in the aftermath of incidents to help each other.

- "I mean, it's sort of it made us talk to people that we didn't normally talk to, at least for me anyway, further down the street, because they were out, you know, dealing with the same sorts of things."

People with the greatest network of connections were able to cope most effectively with flooding by mobilising more people to help and support them. Whilst familiarity with the organisations which have responsibilities for drainage and flooding helped other people to get help with clearing up.

Impacts of flooding on the local community

Similar to how the local community's experience and knowledge of flooding differs significantly, the human impacts of flooding are widespread. Flooded streets, homes and gardens, and damp all contribute to physical and mental health impacts, property damage and inconvenience. The range of human impacts and critical to consider when addressing flooding and designing mitigation interventions.

Projects like SuDS+ can help reduce the risk of flooding, raise awareness about flooding and how to deal with it, and empower community members to address the issues with responsible governmental bodies, thus fostering community resilience in the long run.

Heavy Rain

- Community members feel the need to be hyper-vigilant during heavy rain spells
- The potential of flooding causes anxiety
- Residents take flood preventive measures and place towels or quilts underneath doors or along their windows
- Worries about hygiene and drinking water contamination when drainage systems become overwhelmed

Flooded Streets, Potholes, and Sinkholes

- Disruption of traffic and public transport results in residents being forced to take alternate routes
- Residents fear the risk of damaging their cars and vehicles and not having enough funds to repair them, increasing anxieties



Flood incident at Memorial Park | Scott Laight



Flooding captured by local resident on mobile phone camera

Waterlogged and Flooded Garden/Allotments

- Residents can't use their garden until the water drains, which can take a long time
- Difficulties growing plants and crops, plants are stunted, or even die
- Allotments are destroyed and harvests lost
- Drainage responsibility and accountability are unclear meaning that tenants feel frustrated and let down by their landlords or local council



Unusable allotments

Flooded Greenspaces

- Greenspaces, such as open areas between streets and houses and public amenity areas like Memorial Park and football pitches, are inaccessible when waterlogged
- Polluted areas and areas prone to fly tipping create contaminated water, which spreads to greenspaces
- Concerns about litter contributing to flooding risks; worries of rubbish blocking existing drainage facilities

Damp

- Residents suffer from health issues related to damp and mould, such as allergies or asthma
- Visible damp and mouldy walls indoors can have a negative impact on occupants' mental health. Residents feel uncomfortable in their own homes and can experience anxiety and depression
- In some cases, landlords seem to be reluctant to take action to address damp issues, instead, some placed the blame and subsequent responsibility onto tenants
- Conventional solutions like opening windows to increase ventilation only have a limited effect
- Both tenants and landlords lack sufficient funding to effectively tackle damp issues

Flooded Houses

- Loss of belongings and valuables to flooding
- Financial consequences such as high cost of repair and maintenance, increase in insurance policies, while property value may decrease
- Uncertainty as regards insurance policies, how to ensure they are covered and how to proceed with making a claim
- Feeling isolated and alone due to a lack of infrastructure and support



Damp in the home

Sustainable Drainage Systems



SuDS Planter in South Moor

3

Beyond flood prevention — How sustainable drainage systems can improve the spaces we live, work and play

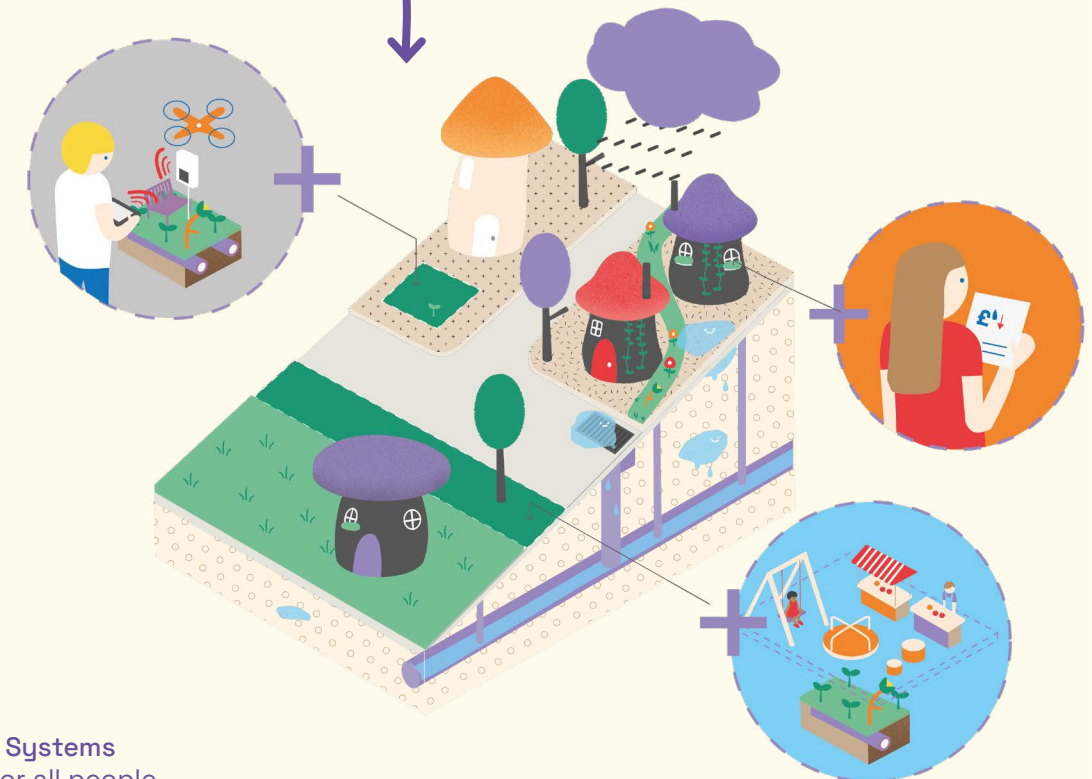
Climate change, urbanisation and population growth are all factors that have been contributing to an increase in flood events across the UK. Likewise, Stanley South is considered at a high risk of surface water flooding, which occurs when intense rainfall overwhelms local drainage systems. Once the drainage system's capacity is exceeded, the rain will sit or flow on the surface rather than drain away, causing floods on the streets. Conventional drainage systems are becoming less effective in coping with excess rainwater; without rethinking them, the number of flood events will continue to rise.

Sustainable Drainage Systems (SuDS) provide an alternative to traditional piped drainage, reducing flooding risks by managing surface water runoff in a way that mimics natural processes, keeping water closer to where it falls as rain, slowing down the rate at which it flows through the environment, and allowing some of it to evaporate or soak away. SuDS features can also provide more comprehensive benefits to local communities. For example, they can deliver multi-purpose amenity spaces and embed biodiverse green spaces into urban areas.

SuDS can deliver multi-purpose amenity spaces and embed biodiverse green spaces into urban areas

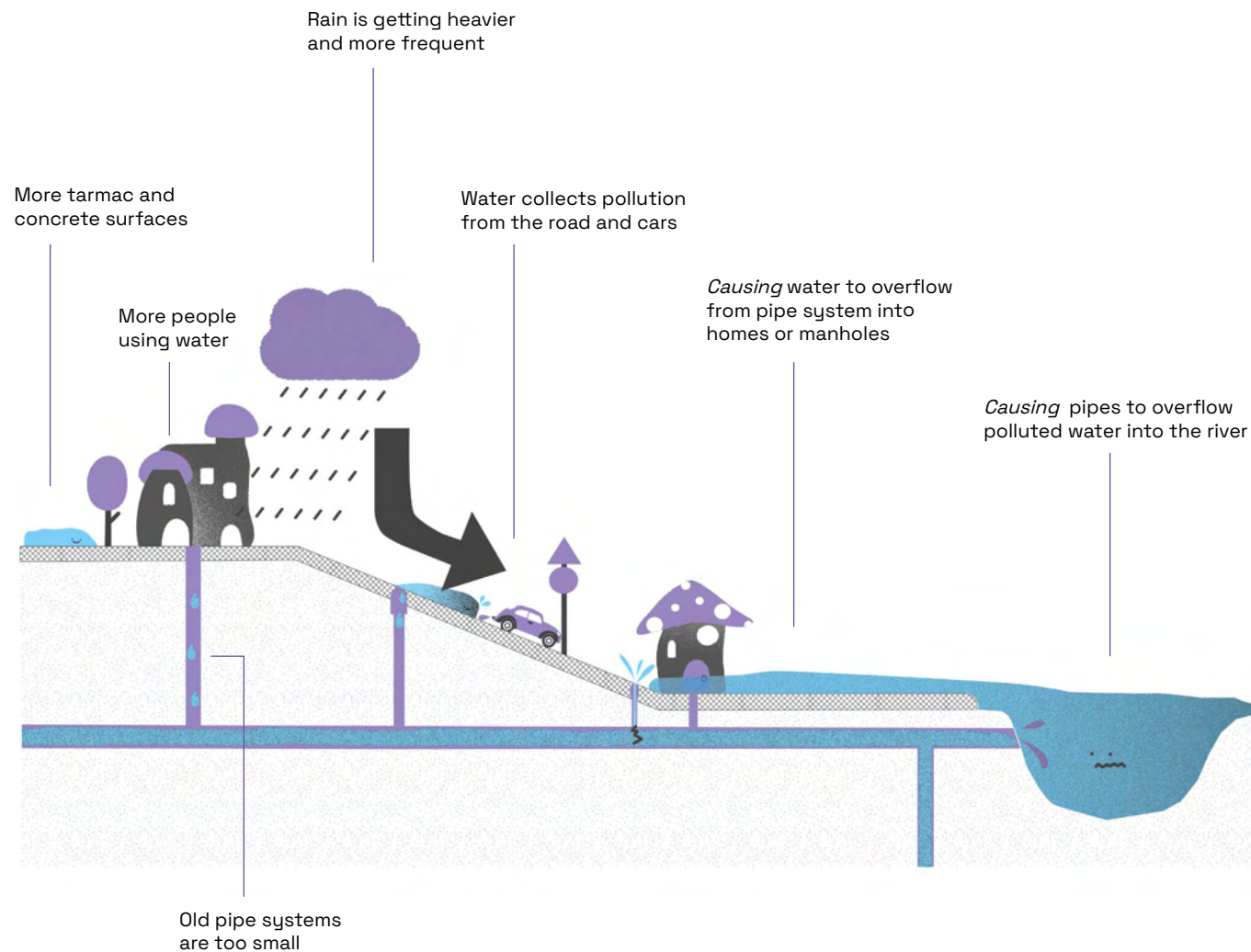
The use of SuDS is not new. Historically similar features were used to move water from one place to another or store it temporarily; for example, drainage ditches and stone barriers have been used for centuries to hold back water so it could soak into the ground and replenish groundwater and rivers. Today, sustainable drainage systems challenge the traditional idea of flood prevention infrastructures as solely designed to manage flood risk. Instead, it introduces a practice where surface water is regarded as a valuable resource and should be managed for maximum benefit to the local community. It considers the long-term flood risk, environmental, and social factors in decisions about drainage, offering new opportunities to improve the public realm and foster community resilience to the broader challenges of climate change and urbanisation.

Traditional Drainage Systems
Flood risk is worsening and
people are affected unequally



Traditional vs. Sustainable Drainage Systems

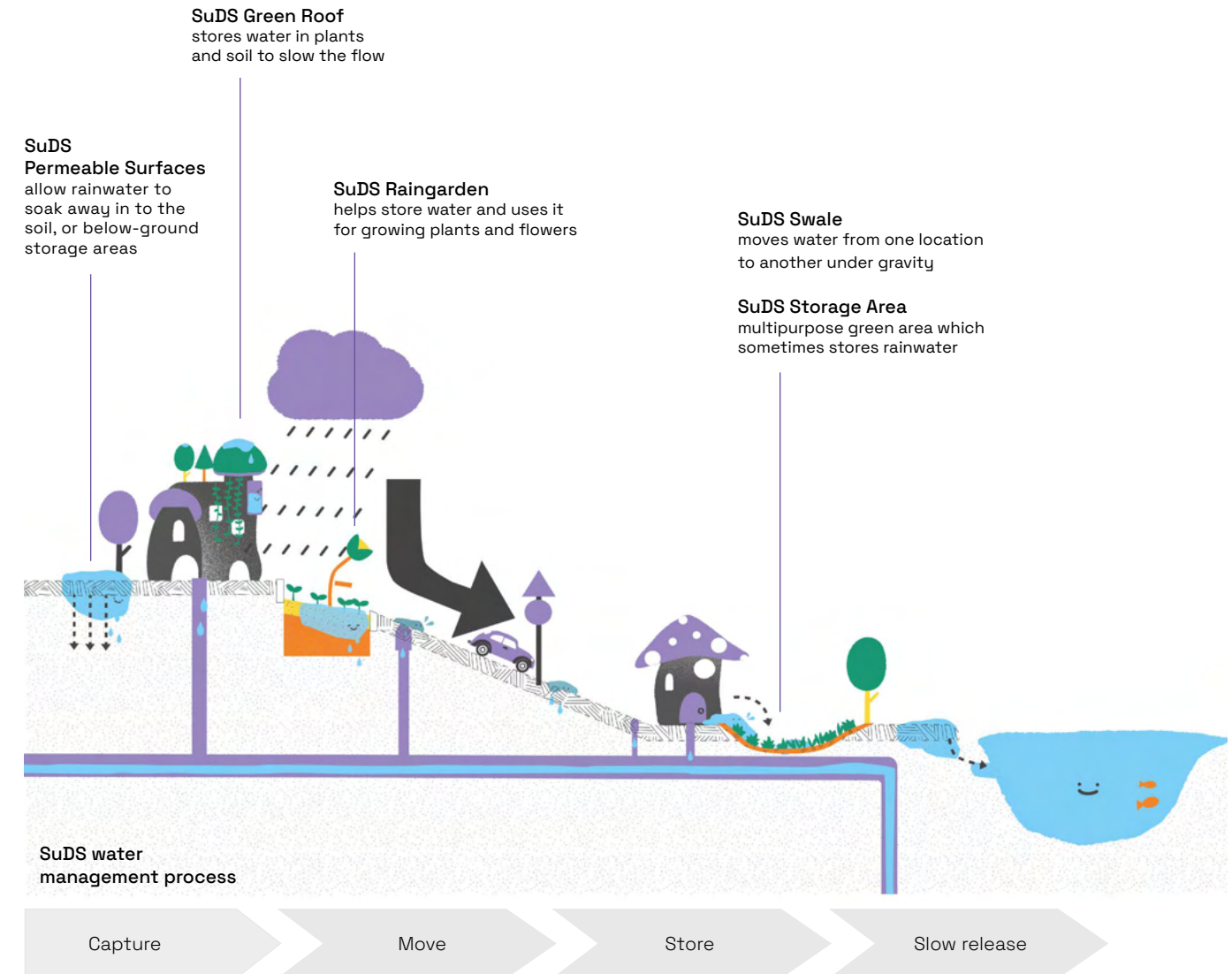
Traditional drainage systems move rainwater as quickly as possible from where it falls to the river (in Stanley, this is the Stanley Burn) or to the sewage treatment plant via on-street drainage gullies and underground pipes. In Stanley South, the rainwater is mixed with wastewater from houses and commercial premises in a combined sewer system; this is traditional for a town as old as Stanley. When the capacity of this network of gullies and pipes is overwhelmed by too much water the network overflows, causing flooding and river pollution.



Sustainable Drainage Systems adopt a different strategy to dealing with water, one which mimics the natural flow of water through an undeveloped landscape. Instead of moving it away from where it falls as quickly as possible, like traditional drainage, SuDS aim to keep water as close to where it falls as possible and move it slowly, ideally on the surface of the ground. This means it flows more slowly and some of it evaporates or soaks into the ground, both of which help to reduce the rapid flows of water which cause flooding.

By keeping water on the surface and moving it slowly through a series of different **SuDS features**, SuDS systems can help trap and remove pollutants and, in some circumstances, can be integrated into water reuse schemes. We call this the **SuDS Management Train**.

SuDS are often fitted to new developments, where there is plenty of space for features to be installed and where the drainage can be designed specifically to separate foul sewage from surface water. However, SuDS can also be retrofitted to existing urban areas and buildings to bring many of the same benefits to high-density urban areas affected by flooding and lack of diverse and accessible green spaces.



SuDS Features

SuDS systems use various features or components to trap, store and move water that falls as rain. Doing this can help manage the amount of water, improve the quality of that water, and deliver more expansive amenity and biodiversity benefits. Understanding the topography and local surface water discharge options is critical in identifying the most suitable combination of components.

SuDS schemes can be constructed using traditional engineering approaches such as underground concrete storage tanks and oversized pipes. However, many SuDS schemes adopt 'Nature Based Solutions' (NBS) or 'Blue-Green Infrastructure' in their designs.

Although referred to by several different terms, these all really mean the same thing, which is using actual natural processes and soft engineering, rather than simply simulating them using hard engineering.¹

There are many different SuDS features, and this SuDS+ project will explore innovative new technologies. However, for this report, we have categorised SuDS features into a smaller number of different types:



Green Roofs



Rain Gardens & Planters



Permeable Surfaces & Tree pits



Swales



Temporary Flood Plains



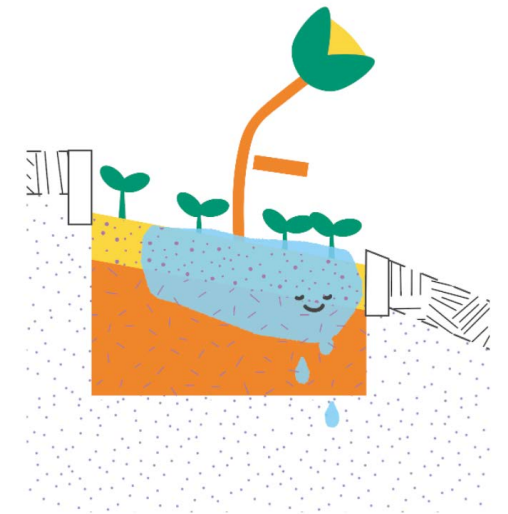
Wetlands & Ponds

Green Roof

Green roofs are specifically designed rooftops for buildings which incorporate green plants and mosses, which help trap water and release it slowly to downpipes. Sometimes green roofs can be built with artificial storage inside them to maximise the available storage. Not all roofs can be adapted to be green roofs because they need to be relatively flat and capable of taking the significant weight of the new roof. They are usually placed on large commercial buildings, where they can be incorporated into roof gardens, but sometimes they can be added to smaller structures, such as sheds and garages.

Rain Gardens and Planters

Rain gardens and planters collect rainwater straight from house or building roofs via downpipes and help store it for a little while before it runs away into the drain. They are usually small, sometimes the size of an individual raised flower bed but can be larger communal spaces that take water from multiple buildings. They can be used to plant fruit and vegetables or as recreational spaces, such as children's play spaces or community sitting areas.



SuDS Green roof | [Ratikova](#)



SuDS rain garden along a street | [Hillingdon Council](#)

¹Woods Ballard B, Wilson S, Udale-Clarke H et al. (2015) The SuDS Manual. Ciria, London, UK, C753.

Permeable Surfaces and Tree Pits

Permeable surfaces are an alternative to traditional tarmac and concrete that allow water to seep through the surface, either into a storage area beneath the ground or, where ground conditions permit, directly into the ground. Block paving and gravel are examples of permeable paving that can be implemented on various scales. In areas where the soil is impermeable, like in Stanley South, permeable paving is difficult but not impossible.

Tree pits are another way of capturing and handling water in large paved areas. Tree pits are trees planted within a large reservoir that is embedded into the paving. Water runs from the paving drains into the pit where it is stored and used by the tree.



Swales

Swales are open, vegetated channels used to move surface water from one location to another under the effect of gravity. They can be very small, only a few feet wide, or very large. By moving the water on the surface over and through vegetation, some water evaporates or soaks into the ground. Swales are only sometimes wet after heavy rain so that they can provide excellent amenity spaces.



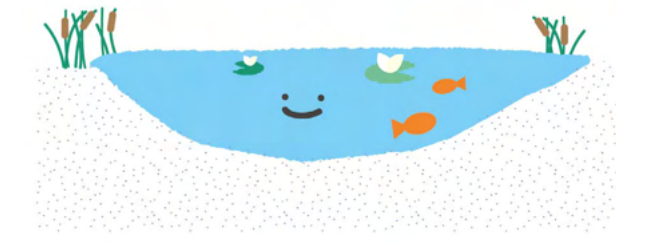
Temporary Floodplains

Temporary floodplains or flood storage areas are locations where excess rainfall can be stored during and after heavy rain through controlled flooding before releasing it slowly into the traditional drainage system. Depending on how much water needs to be stored, they can be quite small or really large. Because they are only sometimes wet and typically only infrequently fully flooded, they can be designed as multi-purpose spaces, such as children's play areas or sports pitches



Wetlands and Ponds

Wetlands and ponds are permanent wet areas with extra space to allow rainwater from heavy rainstorms to be stored temporarily before it runs away. They can range in size from small ponds that would fit in your garden to extensive networks of features. They can offer recreational opportunities, for example, for children to play and learn about nature and be valuable habitats for plants and animals.



SuDS Tree pit in a neighbourhood | [GreenBlue Urban](#)



SuDS Swale | [Didiunsw](#)



Holland Park Playground | [Henrietta Williams](#)



SuDS Pond | [Dutch Waterscapes](#)

SuDS+

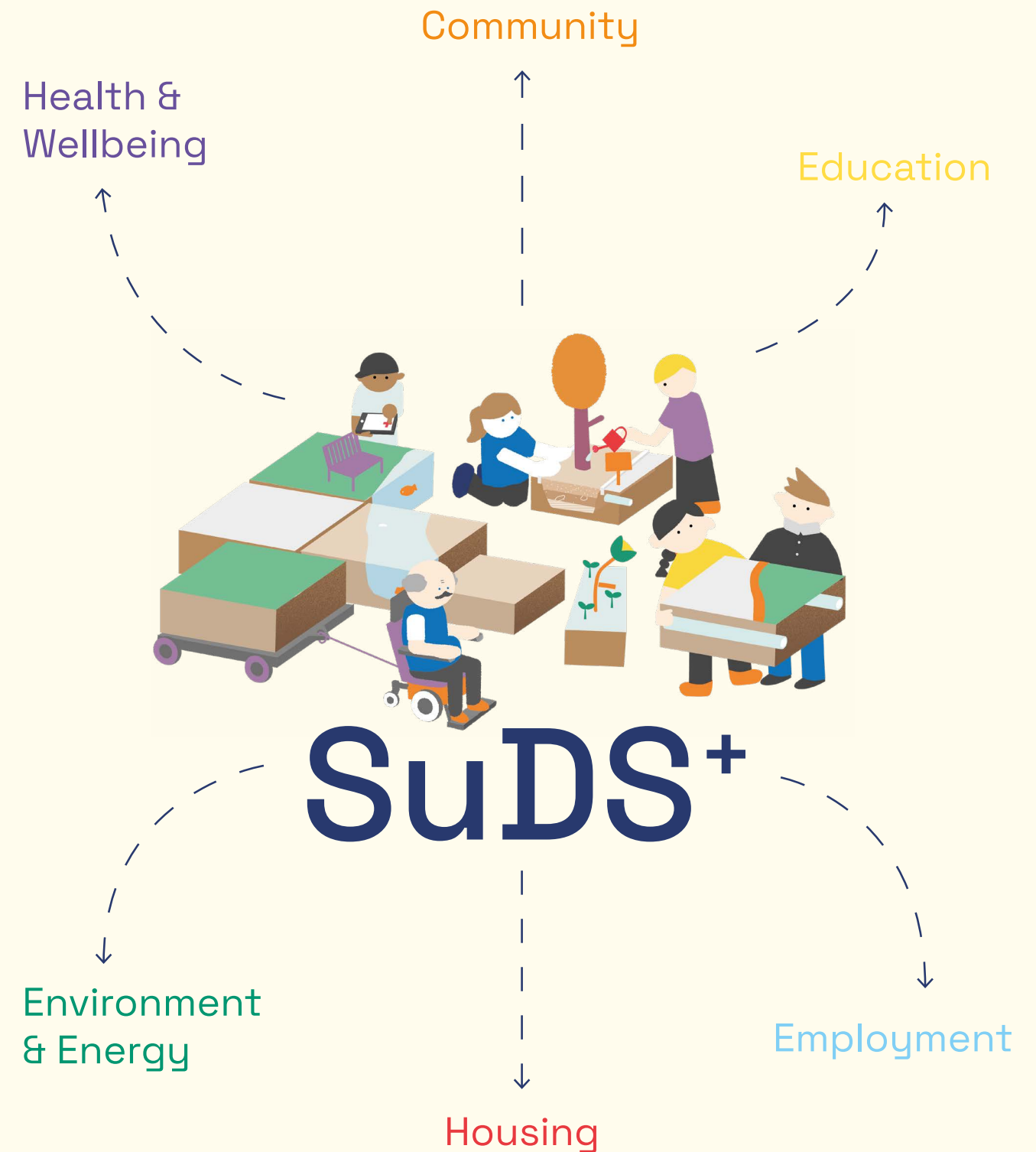
Creating benefits for the community

The ambition for SuDS+ is to extend the concept of SuDS further, by ensuring that any SuDS+ project meets as many stakeholder aims as possible, using SuDS and drainage as a method by which wider changes can be implemented. For example, we can think about SuDS+ not as being built to solve a flooding problem, but as part of an integrated urban design approach. If we do this, then the construction of SuDS features can contribute positively to the look and feel of streets, open spaces, and parks, whilst working together with local communities and stakeholders can allow us to open up new opportunities for community training, the creation of jobs, and other socio-economic and cultural opportunities.

If we think broadly about what SuDS might be for, we can look to enhance people's overall health and quality of life, including:

- Contributing to integrated green infrastructures
- Enhancing character/sense of place
- Improving the quality of space
- Providing amenity space
- Supporting biodiversity/ecological resilience
- Improving water and air quality
- Reducing air temperature
- Reconnecting people with natural systems
- Supporting community involvement and knowledge-sharing through education, engagement, and participation
- Provide new job opportunities and career pathways

Implementing SuDS+ means doing drainage and flood prevention differently. Rather than identifying a flooding problem and solving it, we need to think more broadly, and over a longer time-scale about what the money we spend on flood prevention can also do to make people's lives better. This is the SuDS+ philosophy.



Community-led solutions that go beyond traditional water infrastructure

Meet the community of Stanley South



4

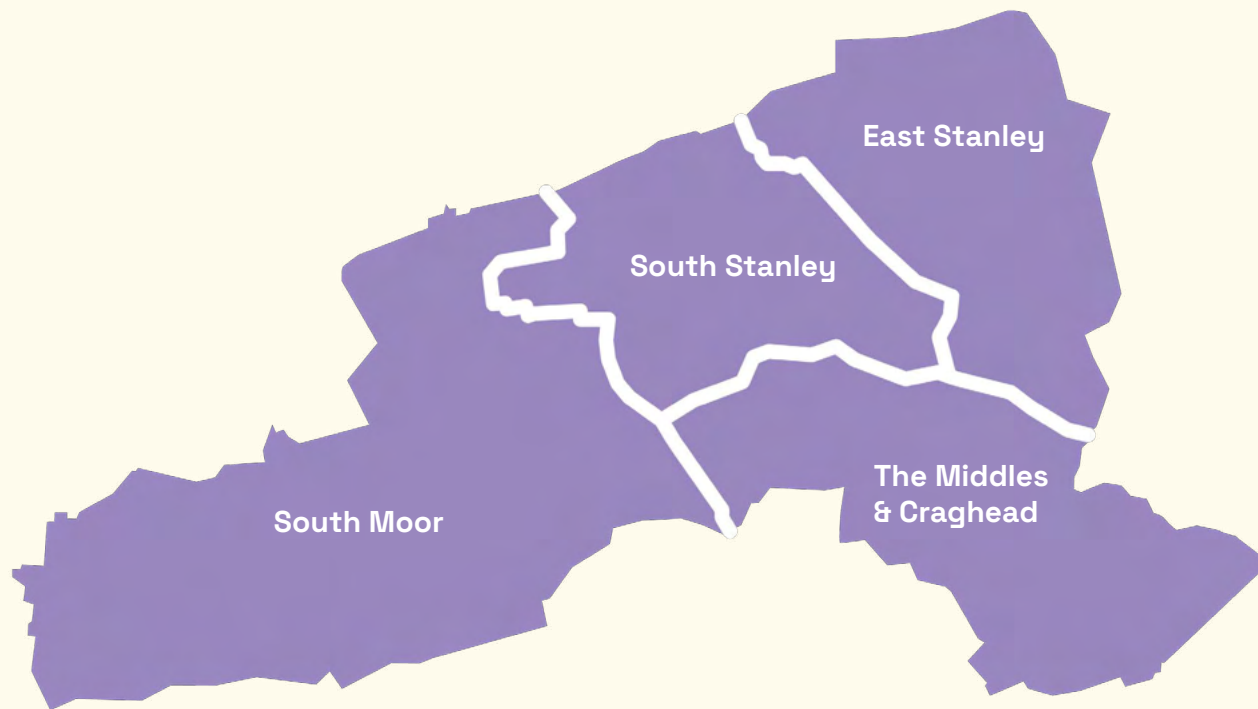
Stanley South

A strong community

The SuDS+ pilot area includes four Stanley South villages: Craghead, South Moor, Quaking Houses, and East Stanley. Growth of each village has seen them almost amalgamate into one another. Whilst each village has its identity and unique character, all four are connected through their 200 years of shared mining heritage, their positioning in a spectacular North East landscape, and most importantly, its people, and strong sense of community and togetherness.

Stanley at a glance:

- Population over 33,735
- 15,900 economically active residents
- 450 allotments in use
- 10.3% properties are socially rented vs. England average of 5.1%
- 26.6% of people has a limiting long-term illness vs. England average of 17.6%
- Fewer than 20% work locally in Stanley
- 7 active community centres & youth clubs
- 38.7% of households don't own cars or vans vs. England average of 25.8%



South Moor Memorial Park

Surrounded by nature

Open green spaces and hilly countryside surround Stanley. Its nature is greatly appreciated by the locals and visitors: "I feel like I can breathe here", "It feels healthy to be in touch with nature" - say residents. With expansive nature sites just on the doorstep, it provides opportunities for sports and leisure. The scenic Coast-to-Coast cycle path runs along the north of Stanley. Stanley also features magnificent landscapes and nature reserves, such as the ancient woodland in the Twizell Burn valley and re-meandering of the Stanley Burn.

While positioned in the midst of vast green, some residential areas are densely built, leaving almost no spaces for urban greenery and vegetation and creating a striking contrast to their surroundings.

With plenty of accessible allotments in the area, Stanley has a strong gardening culture. Because of that, events such as Northumbria Bloom have been a great success.

The best thing is we've got countryside right on our doorstep

Local resident



Green Corridor Trail



Agricultural fields

Sources: Community Insight, 2021; 2. SuDS+ Research 2022, 3. Stanley Masterplan Update by Durham, County Council November 2016, 4 Community Life Survey 2016-2017 by DCMS July 2016

Strong community spirit and networks

There is a strong community spirit and a shared sense of pride for people's kind character and generosity. Most people who live in Stanley, have been their all their lives, and many say that the local community is one of the reasons they don't want to leave Stanley.

Many in the community experience many social and economic challenges. Low educational attainment, limited career options and rising living costs perpetuate lower economic activity and impact people's physical and mental health. Informal networks and local community groups support residents in need, providing a range of services and programmes. Most groups gather in local community spaces, providing a sanctuary for people in difficult situations.

"People make Stanley unique. They are a great bunch of individuals and groups collectively. But they really stand up and take pride in where they live, even though they live in a deprived area"

Local stakeholder



Stanley Market

Limited economic opportunities

Stanley's local economy was historically based on coal mining industries that transformed the villages from farmland into industrial centres in the early 1800. The majority of the present-day employment opportunities come from the local retail sector, health and social work and manufacturing. Many people commute for work to neighbouring towns, such as Durham, Newcastle or Sunderland. However, low car ownership and lack of convenient public transport routes leave a high proportion of the population with limited work opportunities and career paths.

The community cherishes its young people and is hopeful for their brighter future. Local schools and academies share the ambition to help future generations to overcome existing barriers and give students a fair start.



Greenland Community Primary School

Local amenities

Housing is primarily back-to-back terraces or semi-detached council houses. Pubs and community centres are well-visited by locals. However, other public amenities are limited within the study area. With the absence of lively local high streets, residents from across the villages visit Stanley Front Street for shopping and leisure, or travel further afield to Chester-le-Street.

Stanley South transforms around spring and summertime, recovering from the harsh winter winds and rains it fills with flowers. Through the collective effort of the town council, residents and businesses, and via initiatives like Stanley in Bloom, spaces are beautified with flowers, street furniture and public art features. The primary aim is to make Stanley a place that people love and are proud of.

"I just love the way people react to each other up here is a lovely warm front of friendliness"

Local stakeholder



Stanley in Bloom flower bed

"Wherever you go, there is a little bit of history. You know when we're standing there's always a little bit of history. And because we built on history"

Local resident



South Moor Heritage Trail

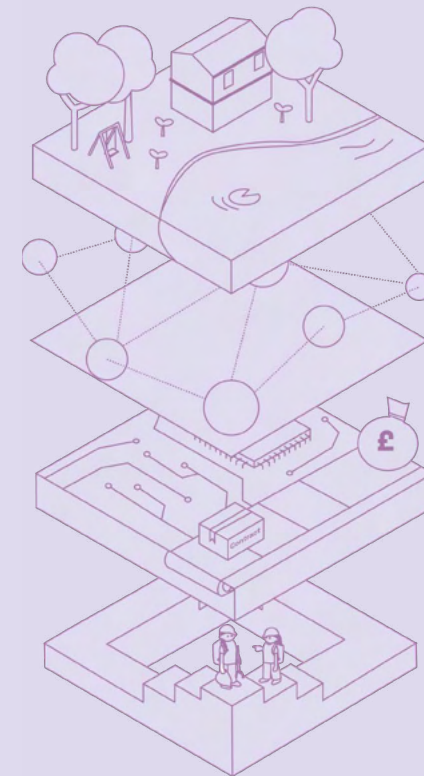
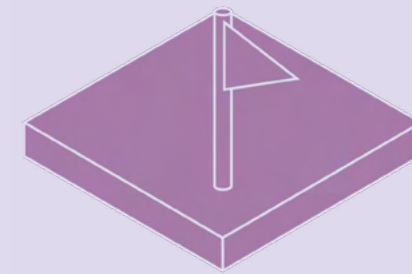
A celebrated mining history

Stanley's mining past and stories are proudly celebrated and expressed in public sculptures and historical artefacts dotted across Stanley. While young people are keen to preserve the collective past, many want to see some modernisation and new 21st Century amenities to represent the growing young population, and to make them more excited and engaged in their area.

Community Visions for Stanley South's Future



Local gardens in Craghead



5

Community Visions for Stanley South's Future

Introducing the vision

The ambitious community-led vision establishes the foundation for the SuDS+ project. It provides a north star to orient all forthcoming design interventions, ensuring these maximise the value created for the community. It makes tangible the range of challenges SuDS+ can address and the rich opportunities it might build upon.

The collection of seven vision statements have been developed with residents, businesses, communities and local stakeholders and informed by local data, research, visions and plans.

The vision has been written through deep engagement with a small group of community members who reflect a cross-section of the community. The next step is to share and validate these with a broader community audience inviting their views and contributions. The community engagement strategy (pg. 169) sets out a proposal for how more general engagement with the vision can be undertaken.

A series of goals accompany each vision statement, totalling 21. These describe the specific ambitions of Stanley South and can form the basis of a future evaluation criteria. By assessing proposed project activities or SuDS design options using this criterion, it is possible to identify the type of impact an intervention, or set of interventions, can have beyond flood prevention.

Prioritising Visions

With many vision statements to aspire to, community prioritisation can help to indicate which visions are most highly valued. Feedback from the participants so far, identified these as the top two priorities, though there was a fairly even distribution across all, indicating that different priorities are important for different members of the community.



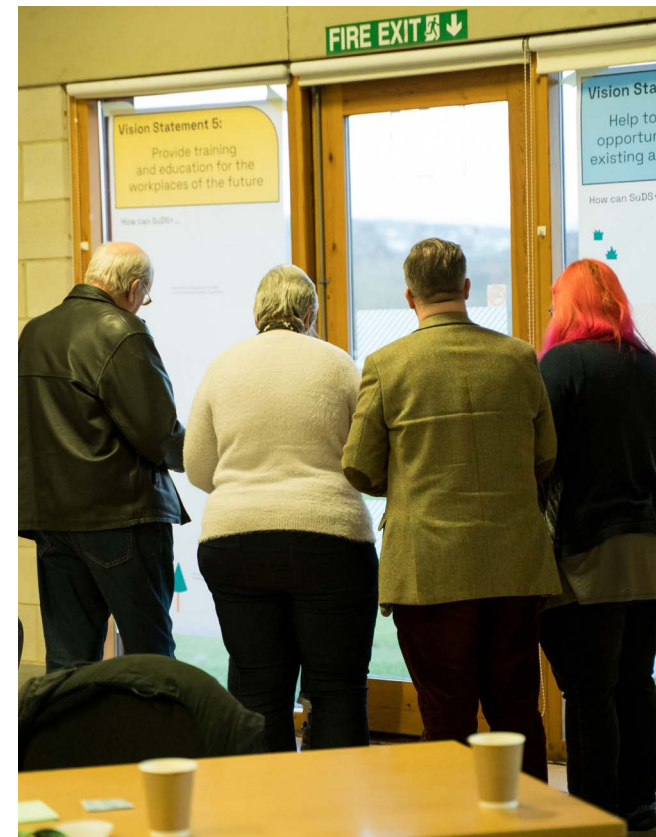
Vision Statement 2:
Create a sense of pride and ownership over the local environment

Vision Statement 4:
Strengthen local community-led networks, groups and services

Have your say!
Vote for your priorities



<https://stanleysuds.co.uk/get-involved-1>



SuDS+ Visioning Workshop



Validating Vision Statements with the local community

Vision Development Process

Community partner

Shaped the research approach and contributed to the vision creation

Existing review

Review of local data, research, visions and plans

Stanley Revised Area Development Framework (2007)

Green Corridor Masterplan (2007)

Stanley Masterplan (2016)

One-to-one interviews with residents, business, community organisations and stakeholders

Residents
Businesses
PACT House

Craghead Allotment Association

Just for Women Centre
Northumbrian Water
Karbon Homes
Stanley Town Council

Co-creation workshop with community members and stakeholders validate and develop the vision

Residents
Businesses
PACT House

Craghead Allotment Association

Just for Women Centre
Northumbrian Water
Karbon Homes
Stanley Town Council

Next steps

Engagement with a wider cross section of the community

Community Visions for Stanley South's Future



SuDS+ Vision Statements and Related Goals

An Overview

The seven vision statements, and 21 accompanying goals, represent the breadth of needs and opportunities expressed by the diverse group of engaged community members and stakeholders. These inform the direction for SuDS+, guiding what types of value can be delivered to the community beyond flooding resilience. A valuable SuDS+ intervention and process can materialise by designing to meet these goals.

Initial measures of success accompany each vision statement. These suggest how progress towards each vision statement could be monitored. These should be added to and developed further with the community.

Vision Statement 1: **Enhance community resilience to flooding**

- 1.1 Help to provide information and tools about flooding and responses
- 1.2 Help to mobilise communities to respond to flooding events
- 1.3 Empower communities to access local and wider networks and support systems

Vision Statement 2: **Create a sense of pride and ownership over the local environment**

- 2.1 Encourage respect and care of the area and help to prevent littering and antisocial behaviour
- 2.2 Encourage curiosity in local life and inspire people to shape their local community
- 2.3 Give people a stake in the community to foster connection with the public realm
- 2.4 Celebrate the local sense of pride in the place, community spirit, its histories and local stories

Vision Statement 3: **Create beautiful, vibrant and diverse public spaces accessible to all**

- 3.1 Create modern, attractive and welcoming spaces and activities for people of all ages and all needs
- 3.2 Make the area beautiful, clean, tidy and well-maintained
- 3.3 Revitalise existing nature sites and provide access to new ones on the community's doorstep

Vision Statement 4: **Strengthen local community-led networks, groups and services**

- 4.1 Support community and volunteer groups to continue to be inventive, and grow their resilience
- 4.2 Create new community-led services that are tailored to local needs
- 4.3 Pilot community decision-making processes in everyday life
- 4.4 Grow the community capacity to support and lead community initiatives

Vision Statement 5: **Provide training and education for the workplaces of the future**

- 5.1 Encourage children and young people to become agents of change
- 5.2 Educate and train community members to become SuDS champions and experts
- 5.3 Work with existing partners to create new training and education programmes

Vision Statement 6: **Help to create local job opportunities and support existing and new businesses**

- 6.1 Create rewarding and secure careers that are available locally
- 6.2 Inspire new businesses and ideas and give them an initial leg up

Vision Statement 7: **Support affordable living costs and improve the quality of housing**

- 7.1 Help to reduce the impact of rising costs of heating and food
- 7.2 Help to provide fit-for-purpose and healthy housing

Vision Statement 1: Enhance Community Resilience to Flooding

Responding to flooding events requires a whole community response. However, communities cannot be expected to do so without adequate support. They need to be provided with information and help to understand their flood risk and the potential impacts of flooding, be provided with the tools to protect themselves and others, and be able to draw upon resources and support from beyond the local area.

SuDS+ Goals

To achieve this vision statement, SuDS+ should work towards the following goals:

- 1.1 Help to provide information and tools about flooding and responses
- 1.2 Help to mobilise communities to respond to flooding events
- 1.3 Empower communities to access local and wider networks and support systems

SuDS+ Measures of Success

To assess the progress in achieving this vision, the following indicators could be measured:

- People and communities understand their flood risk, what this means for them, and are aware of appropriate strategies and tools for managing the risk
- Community groups and networks have been established or strengthened, links with flood management organisations have been made
- People and communities are able to access local information and networks of support to help them overcome challenges such as flooding



"We've got a few places that you know are definitely going to flood when it rains heavily. [...] I have seen a few times that people around here have had sandbags at their doors"

Local resident

Why do communities and stakeholders say this is important?



Flooding in South Moor Memorial Park

Enhance Community Resilience to Flooding Goals Explained



"I didn't know people would work on rain in England - because it is part of our culture"

Young local resident



"Identifying key people is important but so is succession planning for when people leave or give up"

Northumbrian Water Group



"You hear so many horror stories about insurance not paying out, but for us they were brilliant. They sent us two big dehumidifiers to dry it out. Some of our neighbours had trouble though, trying to get help or get insured again"

Local resident

✓ 1.1 Help to provide information and tools about flooding and responses

Increase local awareness and knowledge of flooding and preventative measures, like SuDS, through information, and designing tools to equip communities to respond to events. When identifying communication channels consider areas of internet poverty.

Design Challenges

- How can we help build knowledge and understanding of flooding in their local area and how it affects them directly or indirectly?
- How can we support people to become local experts in flood prevention?
- How can we support people to understand preventive measures and how they work?
- How can we capture and communicate local knowledge on flooding?
- How can we support people to understand the costs and processes involved in flood management?

Read more on Stanley South

There is a lack of awareness and knowledge of what flooding is, how the impacts can be mitigated and what happens after a flood event, which limits the effectiveness of responses and people's ability to minimise the impacts.

As people tend to associate 'flooding' with the extreme weather events seen on the news, smaller, persistent local instances like flooded roads, pavements, waterlogged gardens are often normalised as part of everyday life.

Those who experience major flooding often do not know what to do. To protect their property or belongings they rely on their instincts, using quilts or towels to stop the water, which have limited effect. In the aftermath, many don't know who to contact for support or how get the tools (e.g. sandbags) they may need in the future.

The range of infrastructure, like SuDS, that can help to reduce flooding events are poorly understood meaning people may not have confidence they will work.

✓ 1.2 Help to mobilise communities to respond to flooding events

Support people to come together before, during and after flood events. Facilitate peer-to-peer information sharing, and emotional and physical support systems. Ensure the resources are provided to support local action and involve people who are disengaged today.

Design Challenges

- How can we set up accessible communication channels to inform local residents about flooding?
- How can we support community members to self-organise and help to build local support networks?
- How can we grow awareness about the procedures that happen during and after a flood?
- How can we support local residents and business with flood insurance guidance?

Read more on Stanley South

Responding to a flood event in your home or business requires many helping hands. Those that could call upon the support of family or friends, were able to respond much more adeptly than those doing it alone. People with a physical disability often need extra help, or those who are not at home need to be notified.

After the event, sharing information between neighbours about insurance regulations helped one neighbour exercise their rights to be insured. In the longer term, people also play an important role in reassuring others who now feel anxious during heavy rain events. We saw that those who has experienced flooding before showed a greater sense of empathy for others - feeling for those that have lost memories or experienced property damage.

While ad hoc support is provided by neighbours and friends, a wider community effort that engages those not directly involved is needed to increase community resilience.

✓ 1.3 Empower communities to access local and wider support systems



Support communities to find and draw upon knowledge, funding and support from a the ecosystem of organisations addressing flood prevention and preparedness, and community resilience. Ensure they know who to contact for what, and what action to expect in return.

Design Challenges

- How can we help people access support from responsible local organisations and governmental bodies?
- How can community knowledge from Stanley be shared more widely?
- How can we connect the local community groups with a regional and national network of flood management groups?

Read more on Stanley South

While local communities play an important role in flood responses, they require support systems and need to draw upon information and learning from others further afield. Currently, people are often acting individually or ad hoc in small groups to respond to flooding, there is the potential to create joint-up community efforts and draw on the knowledge and resources locally, nationally and globally.

Today, many residents are deterred from seeking support from landlords or local authorities as they don't know who is responsible or whether any action will be taken.

Some community groups need funding, support securing funding, to install and maintain flood prevention measures on their own properties or in shared spaces. However, investments need to address flooding long term, the Allotment Association described installing a gravel path to reduce the mud caused by rainwater runoff from the golf course, saying "it cost a couple of thousand pounds last year, but it will need to be done again - it's never ending."

Meeting these Goals

The SuDS+ Goals for Vision Statement 1 are outlined here in further detail. Each explains the challenges and opportunities for Stanley South, which have informed the goal.

Guiding Innovative Designs

The accompanying sets of design challenges are intended to provoke context-appropriate and imaginative design responses to achieve each goal. As such, they should be used to inform the design of innovative SuDS+ interventions for Stanley South.

Vision Statement 2: Create a Sense of Pride and Ownership over the Local Environment

The way Stanley South's public realm looks and feels directly affects the community's quality of life and how they care for it. By giving people a stake in their local area, like engaging children to plant flower beds, groups have fostered a feeling that the public realm belongs to everyone. Sharing these stories widely can encourage curiosity from other residents and grow engagement.

SuDS+ Goals

To achieve this vision statement, SuDS+ should work towards the following goals:

- 2.1 Encourage respect and care of the area and help to prevent littering and antisocial behaviour
- 2.2 Encourage curiosity in local life and inspire people to shape their local community
- 2.3 Give people a stake in the community to foster connection with the public realm
- 2.4 Celebrate the local sense of pride in the place, community spirit, its histories and local stories

SuDS+ Measures of Success

To assess the progress in achieving this vision, the following indicators could be measured:

- Reduction in littering and anti-social behaviour impacting public spaces
- The number of people involved in local community groups, and use of community resources e.g. the library
- Processes and pathways for local decision-making and involvement in public realm works established and used by local people and community
- Improvement in the local and regional perception of Stanley South, new resources, groups, and events created to celebrate local history and stories

Why do communities and stakeholders say this is important?

If people are involved in something they will look after it

It can make the place look nicer

It's the **right thing to do** to take care of your place

Create a sense of pride & ownership over the local environment

People need to **feel connected to** and **benefit from** the community they are part of



"People make Stanley unique. They are a great bunch of individuals and groups collectively. They really stand up and take pride in where they live, even though they live in a deprived area"

Stanley Area Action Partnership (AAP)



Stanley Board School decorated by a local school and Stanley Town Council

Create a Sense of Pride and Ownership over the Local Environment
Goals Explained



"I've worked in anti-social behaviour with Neighbourhood Wardens, in prosecuting people for fly-tipping. And I'm very clear that the way forward is through community engagement and education. Enforcement is secondary to that"

Stanley Town Council



"They [paintings] brighten up the place - you walk past and you smile - the fact people will do stuff to make it beautiful is great"

Local resident



"People asked to have volunteer badges, then they didn't take them off. It wasn't to be identified because everyone knows them there, it is because they're proud of what they do"

Local resident

2.1 Encourage respect and care of the area and help to prevent littering and antisocial behaviour



Cultivate cultures of care for public spaces and natural environments by educating people of all ages about why they should take care of the places that they live. To do so, work with organisations already engaged in local issues and with people of all ages.

Design Challenges

- How can we minimise anti-social behaviour, vandalism and littering to reduce money spent on repairs?
- How can we communicate the value of caring for our environments?
- How can we help to encourage behaviour changes to cultivate cultures of care?
- How can we build upon a love for nature to increase care for the public realm*?
- How can we build upon existing initiatives that are tackling similar issues?

2.2 Encourage curiosity in local life and inspire people to shape their local community

Foster active community involvement and overcome pessimistic sentiments by providing the ways for people to grow confidence in contributing their ideas, and advertise opportunities and success stories across existing and new physical and digital channels.

Design Challenges

- How can we provide the support people need to get involved in local initiatives?
- How can we nurture confidence and give people opportunities to practice being an active citizen?
- How can we join up with other local activities, like clubs, festivals, community initiatives or council services?
- How can we communicate with people through existing channels, e.g. notice boards or newsletters?

2.3 Give people a stake in the community to foster connection with the public realm*

Align with resident, business and stakeholder priorities, and co-create local initiatives and spaces together with them, so that people are invested in, and contribute to, their success and longevity. Work with children to instil these values early and influence their families.

Design Challenges

- How can we give people influence over their spaces and community?
- How can we make it attractive and low effort for people to get involved?
- How can we align with the needs and goals of local partners, including businesses?
- How can we cultivate a sense of pride in contributing to the community?
- How can we work with local schools and connect to learning curriculum?

***Public realm** is a collective term for spaces that can be used by the public, it includes things like parks, streets and shared open spaces

Meeting these Goals

The SuDS+ Goals for Vision Statement 2 are outlined here in further detail. Each explains the challenges and opportunities for Stanley South, which have informed the goal.

Guiding Innovative Designs

The accompanying sets of design challenges are intended to provoke context-appropriate and imaginative design responses to achieve each goal. As such, they should be used to inform the design of innovative SuDS+ interventions for Stanley South.

Read more on Stanley South

While some parts of Stanley, like Low Ousterly Allotments, are well-loved and cared for, other places are littered, have plants stolen or attract anti-social behaviour. Residents shared stories of a wooden statue burnt in the woods or motorbikes spoiling flower beds. Such behaviours can create hesitance among about improvements like benches as residents and businesses worry it will worsen the issue.

Some locals suggest that to address this they would "get cameras everywhere", but those working on such issues, like Stanley Town Council's neighbourhood wardens, encourage change through education, by creating a sense of 'we'. Describing enforcement approaches as ineffective, they advise "not just go out and issue fixed penalty notices, but actually go to the schools and talk to them about why we should look after the environment."

Many people also connect with nature when walking their dogs, spotting animals or on family days out. These connections encourage acts of care and can be built upon.

Read more on Stanley South

Billboards in parks, posters in community centres or posts on social media can encourage engagement with local life. One resident learnt about SuDS on a noticeboard in South Moor Park. Sparking their curiosity, they contacted the Council to find out more.

However, getting involved can be intimidating, and for some, depression or anxiety can reduce their willingness and increase the support they need. When undertaking engagement, using familiar spaces, sharing what to expect and actively nurturing confidence can help.

Active citizenship among residents allows for a consistent dialogue and expands the pool of people contributing. However, cultivating this requires resetting feelings of pessimism about the future and the low expectations people can sometimes have of others. A teenage residents shared that, "Stanley has great potential, but people don't care about it." another one said, "I've lived here all my life; I know what people are like"

Read more on Stanley South

Creating the occasions for people to contribute to their own spaces, by working on them, or making donations, can be exciting and create a feeling of belonging. With local organisations like PACT House, many volunteers felt proud to be contributing, asking to wear volunteer badges. This feeling of ownership is also cultivated by trusting people with keys to their space, as well as allowing young people to decorate and name their own spaces, now called 'The Zone', from the saying "in the zone".

However, initially getting people involved is often hard. Aligning projects around the priorities and capacity of residents or businesses, and providing support through tools or people-power can help. Working with kids can also influence the family and create a lasting change as they grow up. For example, projects like the flower beds at Michael Heaviside Memorial by Bloemfontein Primary School and Stanley Town Council gave children and their families a stake in the spaces they passed by and begun a dialogue about nature and the climate.



"History is part of my culture - the whole of the Northeast was based on heavy industry, mostly coal, steel, and shipbuilding. The people still have the community spirit from then"

Local resident

2.4 Celebrate the local sense of pride in the place, community spirit, its histories and local stories

Garner support and embed 'Stanleyness' in new initiatives by keeping alive the industrial histories and nurturing enduring community spirit, resilience, and musical talents. Consider how this identity can evolve to reflect all residents and new emerging qualities.

Design Challenges

- How can we build upon shared histories and local stories?
- How can we amplify creative and musical talents?
- How can we join up with new and long-standing activities, like clubs, festivals, initiatives or council services?
- How can we welcome newcomers to the area?

Read more on Stanley South

The community spirit is a point of pride in Stanley South, though some people feel it is not as strong as it once was. Today, many feel great pride in organisations, like PACT House, who embody the welcoming and warm spirit and support those in need.

Across Stanley people connect through their shared histories and local words, like 'scran' for food. Coal mining stories are told through the South Moor Heritage Trail and in photos on the Craghead Past and Present Facebook page. War heroes, like Michael Heaviside, are celebrated. And local schools, like those in the Stanley Learning Partnership, teach local history lessons. People want this to be remembered otherwise "Stanley could disappear from the map" and it as it provides hope by "showing how as a community we've overcome issues, like the pit disaster, in the past."

The legacy of the mining heritage is felt through the community spirit, and creative and musical talents of people. Though these could be supported to flourish further.



↑ Reminiscent brick from the Shield Row Drift Mine found in South Moor Memorial Park ↓ Miners Lamp in Craghead



Miner's Memorial in Craghead

Vision Statement 3

Create Beautiful, Vibrant and Diverse Public Spaces Accessible to All

The Stanley South community is comprised of a vibrant mix of people of all ages and with many interests. To support this diversity, a variety of well-cared for and activated natural and built spaces are needed.

SuDS+ Goals

To achieve this vision statement, SuDS+ should work towards the following goals:

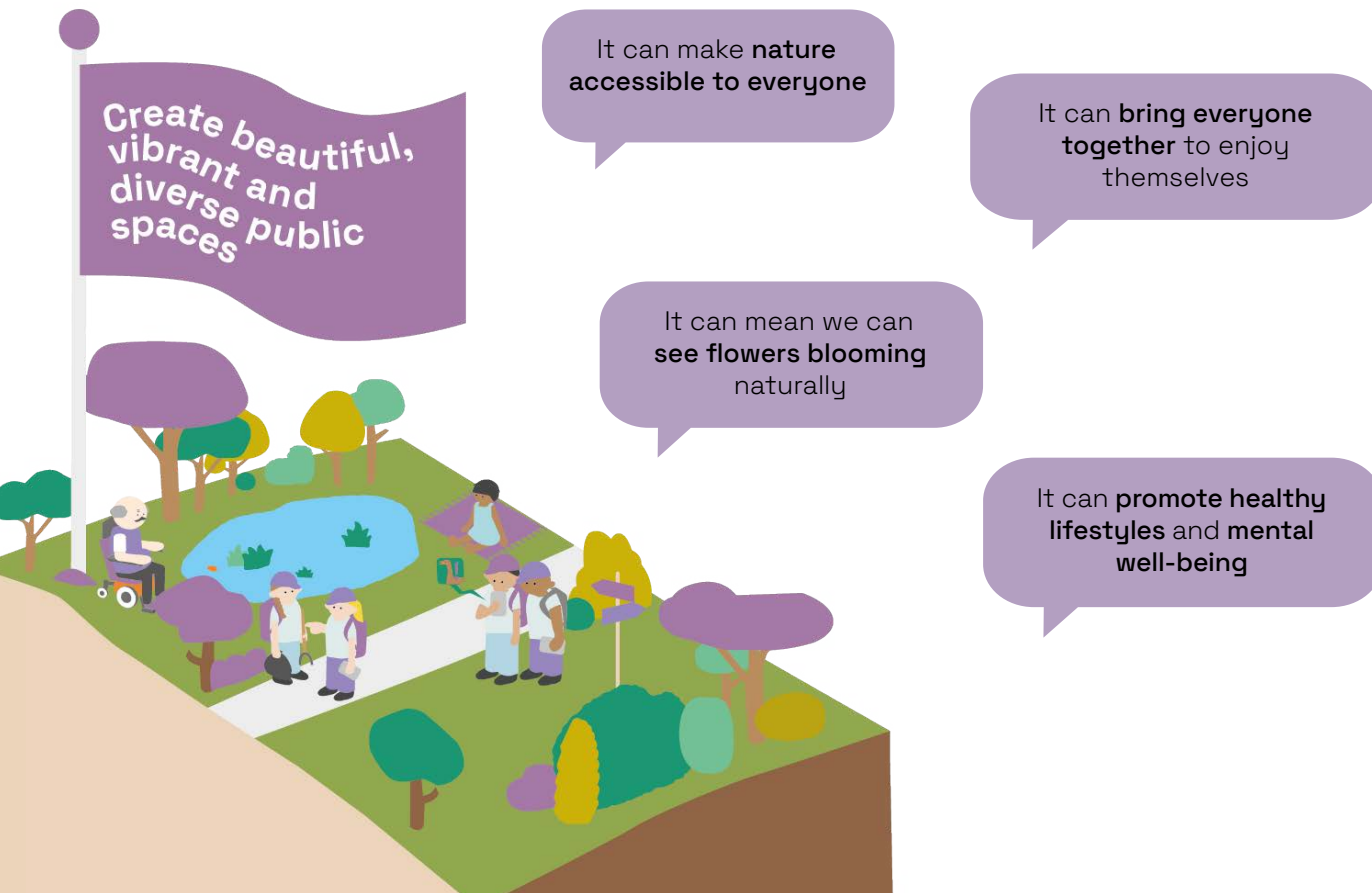
- 3.1 **Create modern, attractive and welcoming spaces and activities for people of all ages and all needs**
- 3.2 **Make the area beautiful, clean, tidy and well-maintained**
- 3.3 **Revitalise existing nature sites and provide access to new ones on the community's doorstep**

SuDS+ Measures of Success

To assess the progress in achieving this vision, the following indicators could be measured:

- Increased use of local public spaces by local people and communities, perceptions of the quality of public spaces improved
- Improvements in local peoples perceptions of the condition of their environment
- Improvements in the ability of local people to access nature sites, new opportunities for access to nature sites created.

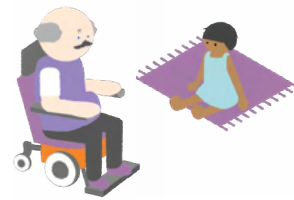
Why communities and stakeholders said this is important?



"It [soakaways] might be doing a function from flood point of view, but if it's covered in crisp packets, cigarettes bags, if it looks appalling. It doesn't do community any benefit if it's not looked after"

Stanley Town Council

Create Beautiful, Vibrant and Diverse Public Spaces Accessible to All
Goals Explained



"Stanley is a very old-school town, it needs to be modernised a bit. Stanley gets younger and younger. Average age is 40 now, and it used to be 80"

Local resident



"New diverse and attractive spaces are important as they bring everyone together and improve community living standards"

Local stakeholder



"I like to think what the forest could be - it used to have squirrels and all sort but now you barely see birds"

Young local resident

3.1 Create modern, attractive and welcoming spaces and activities for people of all ages and all needs



Co-design spaces and activities for the breadth of needs. Consider accessibility, all-season use, affordability, play, activation and amenity. Inventively design spaces for young people that supports self-expression, safety and deters anti-social behaviour.

Design Challenges

- How can we create spaces that are accessible and inclusive?
- How can we contribute to providing affordable activities for children?
- How can we design outdoor spaces that welcome community members year round?
- How can we provide modern amenities fit for the 21st century?
- How can we design spaces that discourage anti-social behaviour and are desirable places for young people to gather?

3.2 Make the area beautiful, clean, tidy and well-maintained

Invest in beautification of places and design for whole life cycle care. Consider the complementary roles that organisations, business and communities can take to reduce remediation work that is needed. Design to encourage behaviours that keep spaces clean.

Design Challenges

- How can we design spaces that are not only functional, but beautiful?
- How can we activate and bring to life unused land and public spaces?
- How can we ensure structures are in place for nurturing and maintaining spaces?
- How can we encourage local businesses to take a role in beautification and cleanliness of streets and public spaces?

3.3 Revitalise existing nature sites and provide access to new ones on the community's doorstep

Improve access to nature sites beyond Stanley and enrich the natural experience locally. Invite people into nature to nurture mental wellness, provide a contemplative or social backdrop, and provide a springboard for learning about natural and water systems.

Design Challenges

- How can we bring nature to people's door?
- How can we introduce activities and attractions to excite people and encourage them to spend more time in nature locally?
- How can we design nature areas to support people's mental health and well-being?
- How can we design outdoor nature areas for socialising and use by community groups?
- How can we create playful and explorative activities for children that share water and nature stories?



See **Problem Statement A.5 'A thin connection between people and natural systems impedes strong community stewardship roles'** for more on creating cultures of care for the environment (pg. 161).

Meeting these Goals

The SuDS+ Goals for Vision Statement 3 are outlined here in further detail. Each explains the challenges and opportunities for Stanley South, which have informed the goal.

Guiding Innovative Designs

The accompanying sets of design challenges are intended to provoke context-appropriate and imaginative design responses to achieve each goal. As such, they should be used to inform the design of innovative SuDS+ interventions for Stanley South.

Read more on Stanley South

To represent the diverse Stanley community and meet the needs of people of all ages, abilities, interests and over their lifetime, there is a desire for more varied spaces and exciting programming that activates them. Spaces might include tactile playgrounds, places to be active, safe spaces for young adults, tranquil spaces to enjoy alone, or lively spaces for adults and older people.

For some teenagers, desirable outdoor spaces might be "fittingly dirty - [spaces that] fit the environment, without fitting the environment." For others, welcoming indoor spaces might "not be a bit white spaces, more like a tea room, with carpet and soft chairs, and be easy to get to".

Distributed across the area and easily accessible, these environments should provide facilities for people with a range of sensory and physical needs and welcome people from all backgrounds. When selecting sites, consider current uses, as one resident said the council planted trees on a green that children used to gather and play.

Read more on Stanley South

While there are already existing initiatives that make Stanley South beautiful, there is an opportunity for more places to be activated and become new "beauty spots" and to be enjoyed by both locals and visitors.

Whether it is a flower planter on the doorstep of a house, public furniture (like a bench) on the high street, or public artwork in the park, these improvements can foster a positive attitudes and strengthen a sense of pride.

Regular maintenance is needed to ensure it remains a beautiful and valued community asset. As well as regular action to beautify spaces, attend to anti-social behaviour to reduce remediation efforts (see related Goal 2.1). Positive action needs to be supported by making it easy and affordable for everyone to do. One resident says "we are in a poverty area, people don't have the funds, so they would rather throw it [waste] into the woods. Why can't we have a skip amnesty? Where we all put our stuff outside every now and then."

Read more on Stanley South

People say that "the best thing is we've got is countryside right on our doorstep". Time spent in nature is described as essential for individual mental health and active participation. Local walks are enjoyed after a tough week, time is spent socialising while gardening, veterans walk together in groups, and people go on running with the local running club. A residents shares how "nature walks are so important". They say "if the walk is nice, it will give you endorphins and make you happy. If you are happier, then you are more likely to help others and the situation."

For young people nature spots can be a place to explore, rest, or listen to music alone or with friends. One young person would like "a pond with a bench to sit on and watch the water."

Building on the existing places and activities, there is a potential to maximise the use of the natural realm and make the local countryside more appealing and accessible, benefiting from Stanley South's unique location.

Vision Statement 4: Strengthen Local Community-led Networks, Groups and Services

Locally-run and -led services make people feel welcome and are able to dynamically reinvent themselves to respond to the evolving needs of the community. Comprised of local people, they often have an enhanced ability to relate to those they support, are a familiar and accessible face, and outlast any specific funding or initiative.

SuDS+ Goals

To achieve this vision statement, SuDS+ should work towards the following goals:

- 4.1 Support community and volunteer groups to continue to be inventive, and grow their resilience
- 4.2 Create new community-led services that are tailored to local needs
- 4.3 Pilot community decision-making processes in everyday life
- 4.4 Grow the community capacity to support and lead community initiatives

SuDS+ Measures of Success

To assess the progress in achieving this vision, the following indicators could be measured:

- Increase in membership and activity of the existing community and volunteer groups
- Creation of new community-led services
- Creation and testing of processes and procedures for community-led decision-making
- Local people and communities report willingness and ability to lead or support local initiatives

Why do communities and stakeholders say this is important?

It can enable the community to support each other

To have a say in what happens instead of complaining afterwards

Strengthen local community-led networks, groups and services

These can provide places to meet new people and reconnect with friends and family regularly



"The amount of arty people, musicians, the technologically minded, is absolutely astronomical. There are so many really clever people here. And a lot of them don't have the opportunity to work"

Local resident

Strengthen Local Community-led Networks, Groups and Services
Goals Explained



“Supporting community groups is important so that the community stays when funding leaves”

PACT House



“Local community-led organisations create more value than the top-down organisation”

Local resident



“It’s our community. It is pointless having people who aren’t affected making all of the decisions, as it will fail long-term”

Local resident

✓ 4.1 Support community and volunteer groups to continue to be inventive, and grow their resilience



Support and amplify the activities and services of existing community organisations. Strengthen existing networks and leverage these to multiply the impact of new initiatives. Build resilience by helping to quantify their value and attract investment.

Design Challenges

- How can we support community groups to support their resilience into the future?
- How can we support community groups to be flexible and innovative in addressing economic, social or environmental challenges?
- How can we support community groups to identify and value the unique social benefit they bring to strengthen funding applications?
- How can we support community groups to attract investment?

Read more on Stanley South

To maximise their impact, local community and volunteer groups, like the Just for Women Centre and PACT House, continually reinvent themselves to respond to the evolving needs of the people they support and stretching their services as far as they can. At PACT House they “leave the Wi-Fi running so people outside can access it.” As social and economic circumstances change, so do service demands. For example, COVID-19 required groups to navigate social distancing and online engagement.

While groups have extensive experience with fundraising, the sums available often aren’t sufficient for investments in improving spaces or addressing other issues, like flooding.

It is also not uncommon for groups to revolve around one or two organisers. With only a small pool of willing and able organisers, there can be a high burden on individuals and low resilience in the system to sustain the initiative in the long-term. People shared how groups had dissolved after an organiser had a lifestyle change, moved away or died.

✓ 4.2 Create new community-led services that are tailored to local needs

Build local services around local leadership and local staff to multiply the impact and increase the longevity of new initiatives. Explore how to build local capacity and support paid roles. Strengthen these through collaborations with other organisations.

Design Challenges

- How can we create community-led services that are “local by default”, i.e. create services that are for the community, by the community?
- How can community-led initiatives create local employment opportunities?
- How can we support community-led services in collaborating with other local organisations and public services?
- How can we facilitate a conversation between community members and community groups for sharing their needs and wants?

Read more on Stanley South

Locally-run and -led services are treasured for how welcoming they make community members feel. As the organisers and locals have experienced many similar circumstances they readily tune into the needs of locals. PACT House describes themselves as “real people supporting real people.”

Organisations running community engagement have also had the most success when the primary contact person was someone already embedded in the community, providing a consistent and reachable face and space.

Having a consistent presence in the community groups can facilitate an ongoing dialogue with people, and test the effectiveness of initiatives, and iterate more fluidly.

However, volunteer labour should not be relied upon. Explore creating new employment opportunities that recognises the value that is being created.

✓ 4.3 Pilot community decision-making processes in everyday life

Distribute decision-making between many voices in the community. Demonstrate the benefits of being involved and create opportunities for people to contribute their views. Recognise that some may be unfamiliar with doing so and require encouragement.

Design Challenges

- How can we promote and facilitate public participation in local decision making?
- How can we co-design new tools and processes with communities that allow everyone’s voice to be heard?
- How can we articulate the benefits of community involvement in decision-making processes?
- How can we encourage people to play an active role in community forums and committees?

Read more on Stanley South

Historically, decision-making power has been concentrated, and the structures have not been in place for communities to shape local priorities. There is a recognition around the world that there is a need to shift from top-down decision-making to more community-led processes.

In Stanley, local organisations like the Stanley Area Action Partnership (AAP), have created new formats to address this imbalance. Their Forum increases public participation by distributing decision-making power, including listening to young voices.

However, there is an opportunity to make this part of everyday life, and to accessibly and transparently involve everyone in small and big decisions about place-shaping. As many people have not participated in this way in the past, similar to Goal 2.2, consider how to build confidence and create the circumstances for people to get familiar with taking on this role.



See **Partnership Principles** ‘Routed-Locally’ and ‘Community-Led’ to explore services can be delivered through partnerships (pg. 128)

See **Problem Statement A6** ‘Not involving the community in SuDS decision-making leads to lack of engagement and care’ for more on decision-making (pg. 163)

Meeting these Goals

The SuDS+ Goals for Vision Statement 4 are outlined here in further detail. Each explains the challenges and opportunities for Stanley South, which have informed the goal.

Guiding Innovative Designs

The accompanying sets of design challenges are intended to provoke context-appropriate and imaginative design responses to achieve each goal. As such, they should be used to inform the design of innovative SuDS+ interventions for Stanley South.



"People come together when someone is passionate about something, we support each other"

Local resident

4.4 Grow the community capacity to support and lead community initiatives

Widen the network of active community members and their impact by investing in local people. Reduce the time, financial or mental barriers of getting involved, create a feeling that people are part of something, support upskilling, and support people into leadership.

Design Challenges

- How can we support community members to make the best use of local assets?
- How can we give people the confidence to get involved in or lead community initiatives?
- How can we provide community members with training to set up and manage community groups, including in recruiting volunteers?
- How can we reward people who are highly involved in community initiatives?

Read more on Stanley South

While people often value the contribution of community groups, many do not feel they have the capacity, time or the skills to be involved. One local says "I'm one of the fortunate ones that can volunteer as I don't need a wage."

Shaping the community is a collective effort. However, those running initiatives, can struggle to find people with the skills, motivation or transport to help. Capacity- and confidence-building, and growing decision-making and coordination skills, could increase involvement.

Learning together with others, can make the process less intimidating. PACT House offers training to staff members and volunteers in food safety. They say "it's a group effort, we learn together and help each other, making up for our learning disabilities." Such upskilling also allows organisations to do more with what they have. The Allotment Association said "we don't know how to run an [open] community garden, we come here do our stuff and that's it; the school wants to leave it open for everyone"



↑ Easter Raffle at PACT House
↓ Just for Women Centre



Coffee mornings initiative at the Craghead Village Hall

Vision Statement 5: Provide Training and Education for the Workplaces of the Future

People need the skills to be able to participate in new industries. Working with local community organisations who are already working in this space offers a great opportunity to co-develop new training and upskilling programmes that give people with the skills for more emerging industries. Further education for adults and children could be provided about SuDS to articulate their benefits and develop local expertise.

SuDS+ Goals

To achieve this vision statement, SuDS+ should work towards the following goals:

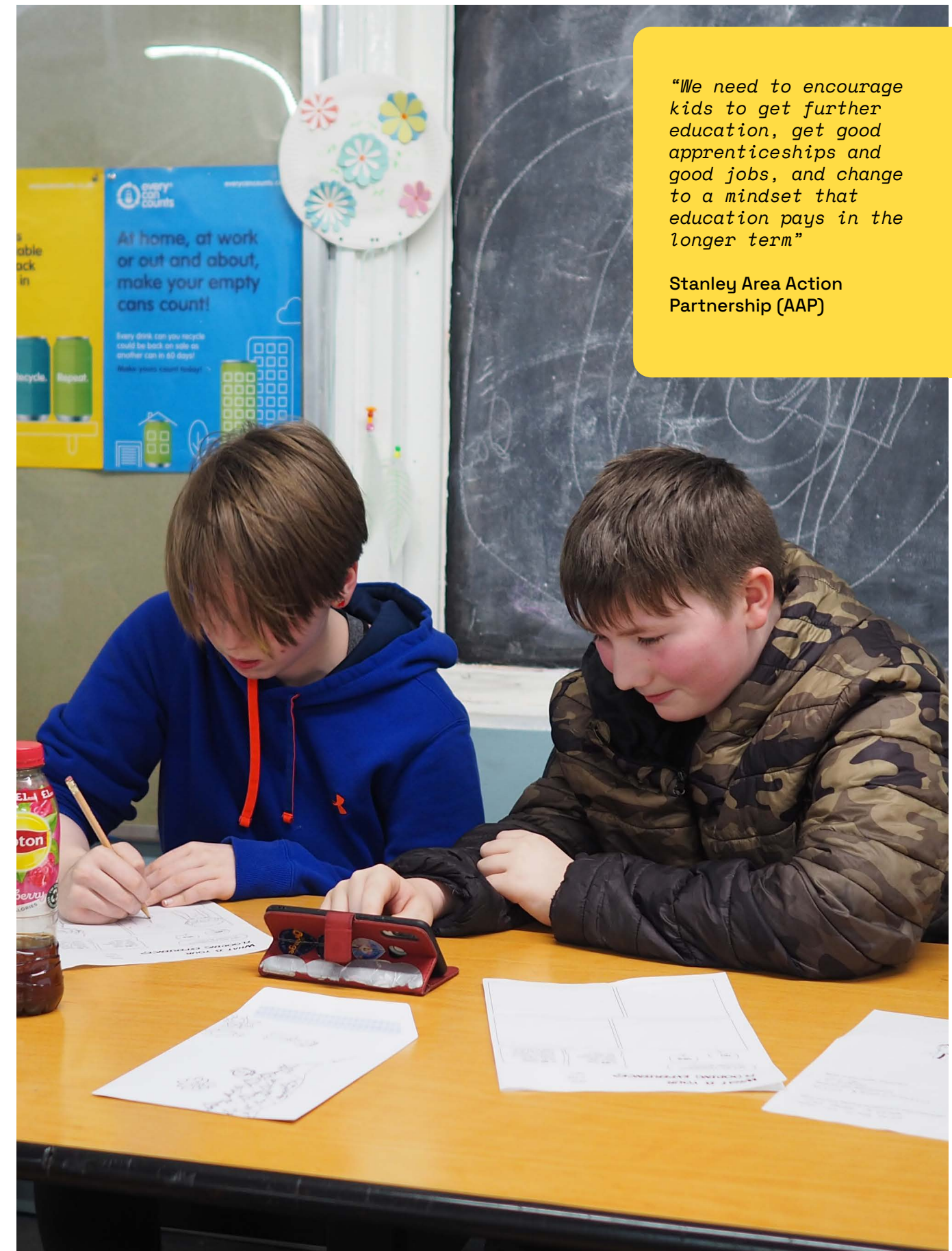
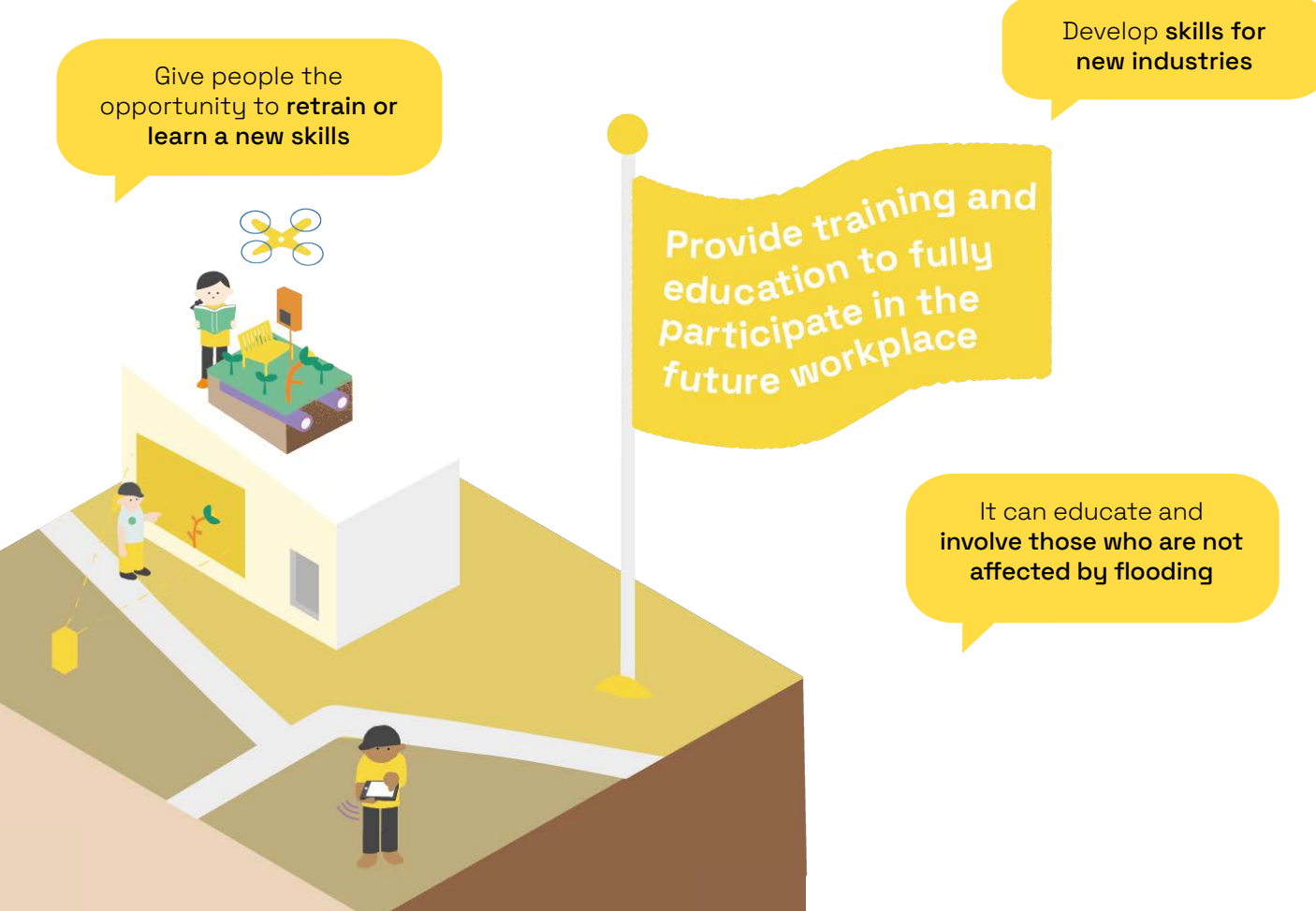
- 5.1 Encourage children and young people to become agents of change**
- 5.2 Educate and train community members to become SuDS champions and experts**
- 5.3 Work with existing partners to create new training and education programmes**

SuDS+ Measures of Success

To assess the progress in achieving this vision, the following indicators could be measured:

- Increased number of young people and children involved in local community groups and initiatives
- SuDS champions and experts appointed and active in facilitating SuDS+
- New training and education programmes created

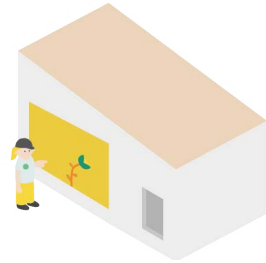
Why do communities and stakeholders say this is important?



"We need to encourage kids to get further education, get good apprenticeships and good jobs, and change to a mindset that education pays in the longer term"

Stanley Area Action Partnership (AAP)

Provide Training and Education for the Workplaces of the Future
Goals Explained



"I would love for my children to learn and be able to change their community for good. Make them aware of their impact on the world"

Local resident



"SuDS maintenance will be a vastly growing market. All new developments have SuDS"

Northumbrian Water Group



"I find training & educational programmes are aimed at certain ages brackets or unemployed. It completely alienates those in work who would love to perhaps retrain or learn a new skill"

Local resident

✓ 5.1 Encourage children and young people to become agents of change



Work with young people to increase knowledge on flooding and inspire them to be active in local decision-making around climate change. Build on existing initiatives and work together with local schools to enrich learning opportunities.

Design Challenges

- How can we work with local schools and build on existing environment- and community-related initiatives and events?
- How can we support young people to organise themselves around issues on climate change and sustainability?
- How can we empower young people to actively participate in decision-making about the local environment?
- How can we encourage people into teaching and support those who may be overworked?

Read more on Stanley South

Children and young people can be more perceptive and enthusiastic about nature. Investing in children's education can foster a future generation that cares for their environment and takes actions to improve it. Stanley Town Council said that "the most important thing is to get the young ones involved, because it's their future."

Many local schools and initiatives in Stanley already have programmes that engage children in indoor and outdoor environmental activities. However, there is a excitement to expand these programmes. This could be designing formal or informal educational activities or curriculum around nature, water cycles, climate change, and the community's role in building a sustainable future. There is also a potential to create closer links with expert organisations and businesses to enrich learning opportunities for children.

While early education about nature is well-developed, through initiatives like forest schools, these themes generally aren't followed up in secondary school. Some local teachers shared how they felt overworked, that dealing with the pupils' family issues and the lack of mental health support take a toll and lead people to leave teaching or disincenitise people from the profession – "not one student wants to be a teacher."

✓ 5.2 Educate and train community members to become SuDS champions and experts



Grow local knowledge of SuDS, how they work, their flooding benefits, and the value they can bring through education and training. Beyond initial awareness, support people to champion their learnings locally, and forge paths for developing expertise.

Design Challenges

- How can we teach young people about SuDS, water cycles and flooding issues?
- How can we teach people about the benefits of SuDS and turn sceptics into enthusiasts?
- How can we encourage or act as a springboard for local career ambitions in areas of sustainability and water management?
- How can we connect SuDS community projects across the UK with each other?
- How can people become local SuDS experts, contributing their insights to research?

Read more on Stanley South

Currently, as SuDS are not widely known about, community members are often not aware of their potential benefits. In some cases, there are concerns about whether SuDS could be hazardous or simply create inconveniences.

To grow awareness of the value they bring and allay any concerns, there is a need for a cross-section of the community - both those who experience flooding and those who do not - to learn more about SuDS.

Engagements could range from information and educational programmes on the SuDS benefits, to training local residents into more formal roles that support the SuDS delivery and operation throughout its lifetime. Should Stanley become an exemplar the expertise held locally could be drawn upon by a global audience.

For some young people "Stanley is their little world" and they have had little exposure outside of this. Consider how to connect young people to wider opportunities.

✓ 5.3 Work with existing partners to create new training and education programmes

Enrich local training and education activities with skills for careers connected with all aspects of SuDS, from maintenance, to monitoring. Alongside education, consider what other wrap-around help is needed, like early career support, to obtain new jobs.

Design Challenges

- How can we build on and expand existing training and education programmes?
- How can co-create programmes with the local organisations and community members?
- How can we ensure that programmes fit the diverse needs of people of all ages, abilities, skill levels and care giving roles?
- How can we provide skills programmes that align with new industries and tech trends?
- How can we facilitate local knowledge exchange?

Read more on Stanley South

Stanley has a strong support network of groups and organisations that work to get people into employment, providing support through skills attainment, qualifications, capacity and confidence building.

Building on this foundation, there is an opportunity to work with these organisations to co-develop new programmes that equip people with the skills relevant to the emerging industries and markets and set people up for new exciting jobs and careers. Providing early career support is also crucial for community members looking for a job change and needing help to establish their path.

When devising new programmes, the Just for Women Centre shared the value of a "full-package" approach to show people "this is what you can achieve". In their case, craft therapy is delivered with options to sell their wares in the shop or at markets, a van for transport, and a course on setting up a business and online marketing.

A past training programme for young people involved digging swales and earning a certificate. "It was a lot of work to do voluntarily so some didn't have the motivation to continue to the end". It is important to find something "they want to believe in [that makes them feel] 'I'm doing this, because I will get to [do that]'"

Meeting these Goals

The SuDS+ Goals for Vision Statement 5 are outlined here in further detail. Each explains the challenges and opportunities for Stanley South, which have informed the goal.

Guiding Innovative Designs

The accompanying sets of design challenges are intended to provoke context-appropriate and imaginative design responses to achieve each goal. As such, they should be used to inform the design of innovative SuDS+ interventions for Stanley South.

Vision Statement 6: Help to Create Local Job Opportunities and Support Existing and New Businesses

People need more rewarding and secure employment opportunities locally. New businesses need support establishing themselves and to create viable business models that can thrive despite locals having limited disposable incomes. Improved availability of local employment can also serve to role model future possibilities for youngsters, particularly those from families experiencing multi-generational unemployment.

SuDS+ Goals

To achieve this vision statement, SuDS+ should work towards the following goals:

6.1 Create rewarding and secure careers that are available locally

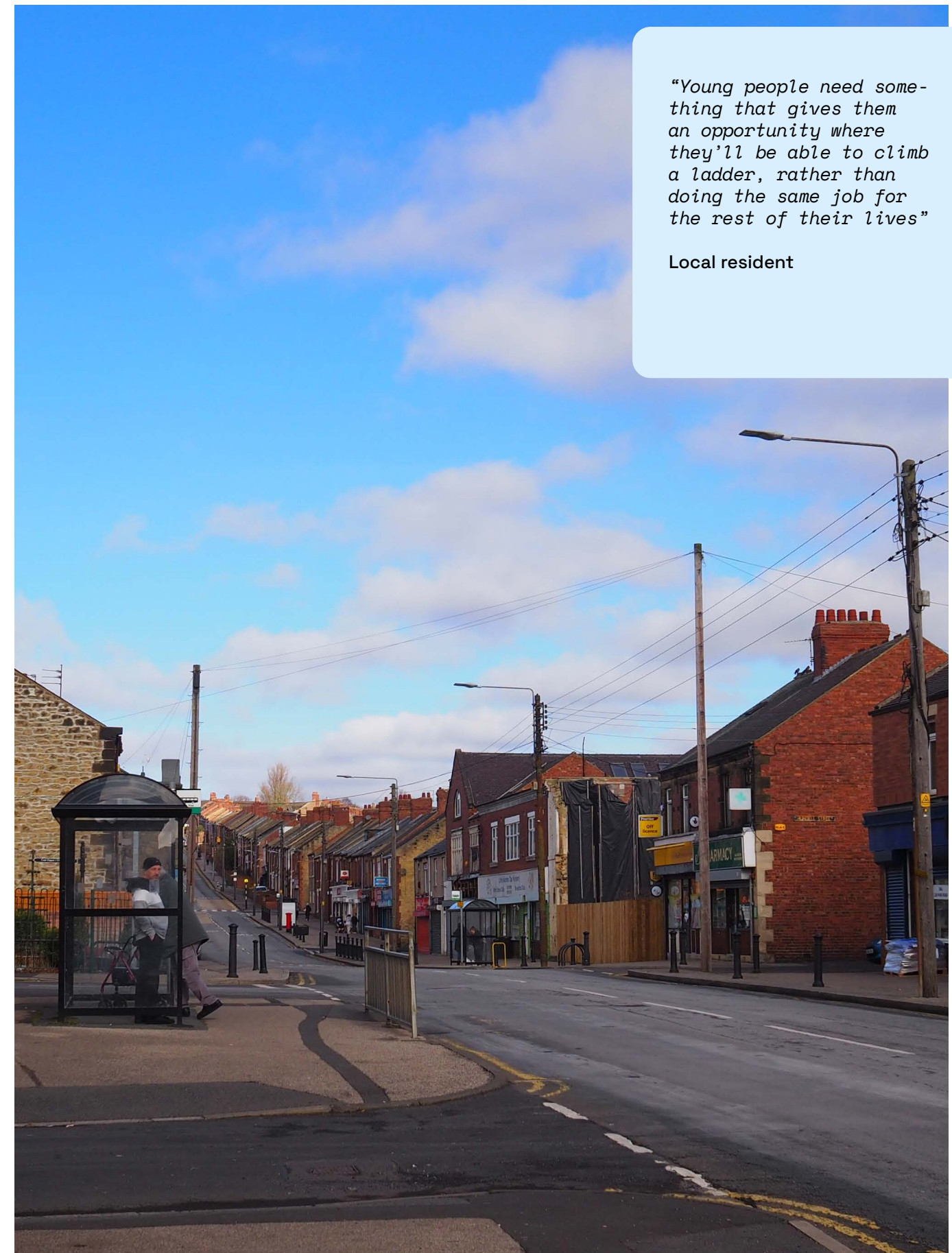
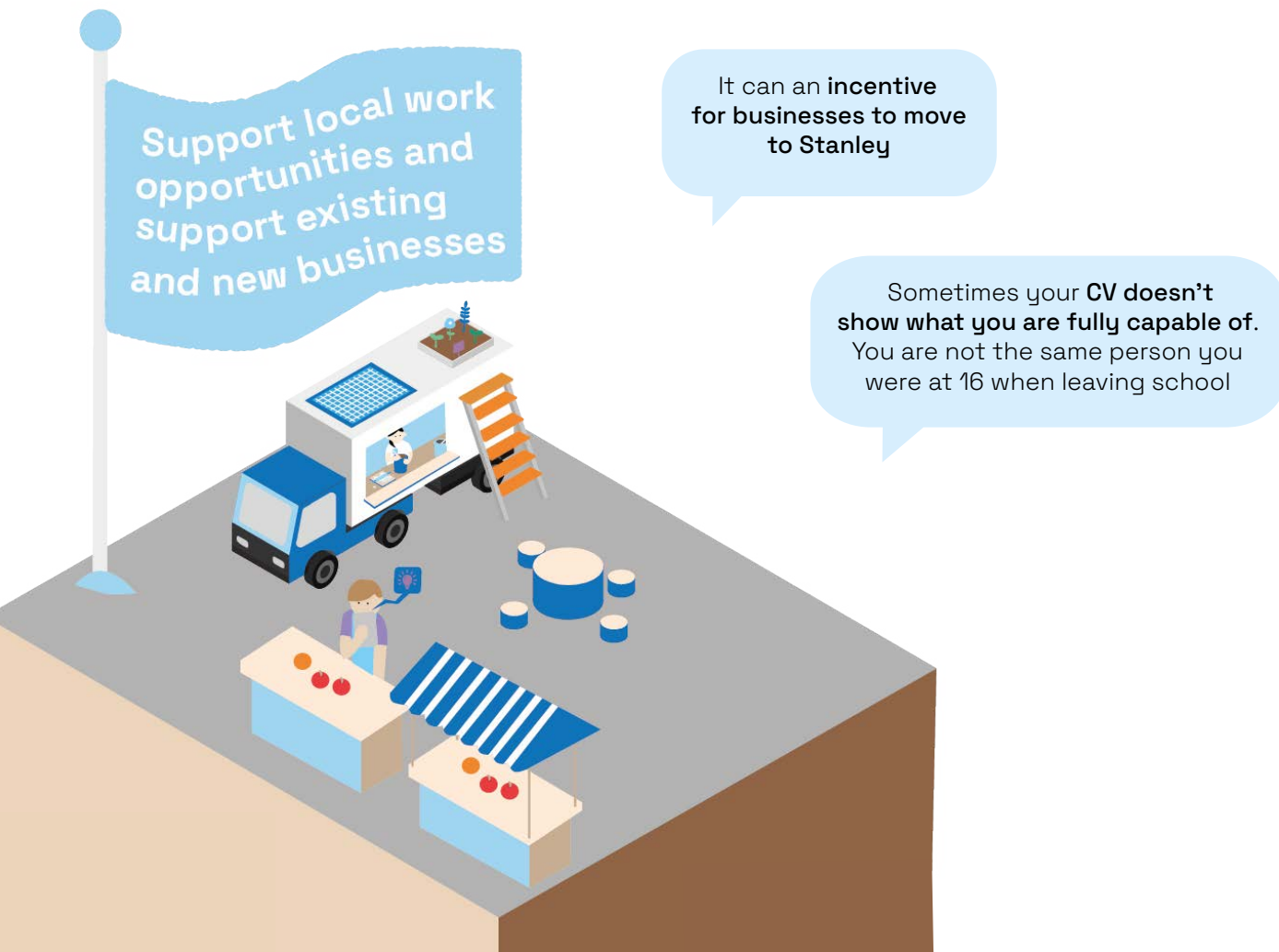
6.2 Inspire new businesses and ideas and give them an initial leg up

SuDS+ Measures of Success

To assess the progress in achieving this vision, the following indicators could be measured:

- The number of new jobs created in the local area linked to the project
- The number of new businesses established in the study area which are linked to the project

Why do communities and stakeholders say this is important?



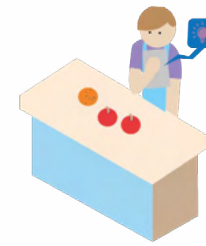
South Moor

Help to Create Local Job Opportunities and Support Existing and New Businesses
Goals Explained



"Career-wise at the moment I'm kind of at a crossroads. I just want a job that makes us [my family] happy"

Local resident



"There are a lot of empty shops in Stanley. Many shops that have opened, have closed down because they don't make enough money"

Local resident

✓ 6.1 Create rewarding and secure careers that are available locally

Support and amplify the activities and services of existing community organisations. Strengthen existing networks and leverage these to multiply the impact of new initiatives. Build resilience by helping to quantify their value and attract investment.

Design Challenges

- How can we create sustainable career paths for adults and young people that can be accessed locally?
- How can we provide opportunities for people to explore new jobs and career options assisting along the way with career advice, upskilling and training?
- How can we create jobs with more flexible work patterns for people balancing work and care responsibilities?
- How can increased employment locally inspire the next generation?

Read more on Stanley South

To create a lively and thriving place, it is crucial to provide rewarding and secure jobs for local people across ages, genders and qualification levels. As car ownership is low in the Stanley South area and public transport links are limited, there is a need for the jobs to be within easy reach.

While there are large employers in the retail sector, there is a desire for jobs in other industries and options that provide long-term career progression, especially for young people. For others, they would like to work in the voluntary sector. For one volunteer, "my ideal job is to be at PACT House - to give people guidance and do catering, but they don't have the funding."

Many are looking for a career change but often don't know where to start and what qualifications and training they could take to pursue a new path. Others are limited in job options, as they need flexible arrangements that allow them to balance work and childcare responsibilities.

Enhancing local opportunities can also support young people from fourth-generation unemployed families by making visible new possibilities.

✓ 6.2 Inspire new businesses and ideas and give them an initial leg up

Diversify and strengthen the local business offer by helping people to access quality properties at affordable prices. Careful consideration should be given to make local businesses viable when residents have little disposable income.



Design Challenges

- How can we create a 'safe' start for experimentation and entrepreneurship?
- How can we inspire a range of businesses and collectives that work towards a greener and more sustainable Stanley South?
- How can we encourage existing and new businesses with physical spaces to make the area feel more vibrant and lively?
- How can we make local business viable when residents do not always have disposable income to buy from them?

Read more on Stanley South

People in Stanley South have many ideas for new businesses, like "sweet shops". Still, this enthusiasm can be deterred by a lack of knowledge and skills to set up and run a business, high rents for low-quality commercial premises, a lack of funding, and possible financial risks.

Mental health challenges and child care needs can also prevent people from taking active steps towards their dream occupations. Despite this, there are successful initiatives like the Just for Women Centre, which provides the right help early on. Including confidence-building, business skills and other practical support to set a business in motion and help it succeed.

There is also a desire for local businesses to be more visible and connected. Business owners seek opportunities for networking to build their businesses, create new partnerships, apply for joint funding, and gain support to realise their ideas. There need to be more reasons for visitors to stop or stay to draw in spending power.



↑ Daisy Sparkles photography and printing service ↓ Just for Women Centre shop



Meeting these Goals

The SuDS+ Goals for Vision Statement 6 are outlined here in further detail. Each explains the challenges and opportunities for Stanley South, which have informed the goal.

Guiding Innovative Designs

The accompanying sets of design challenges are intended to provoke context-appropriate and imaginative design responses to achieve each goal. As such, they should be used to inform the design of innovative SuDS+ interventions for Stanley South.

Vision Statement 7: Support Affordable Living Costs and Improve the Quality of Housing

With the cost of living rising steadily people need support to reduce the cost of heating and food. Alongside, the current condition of many houses and community buildings needs to be adapted to ensure they are accessible, healthy and meet the many needs of diverse users.

SuDS+ Goals

To achieve this vision statement, SuDS+ should work towards the following goals:

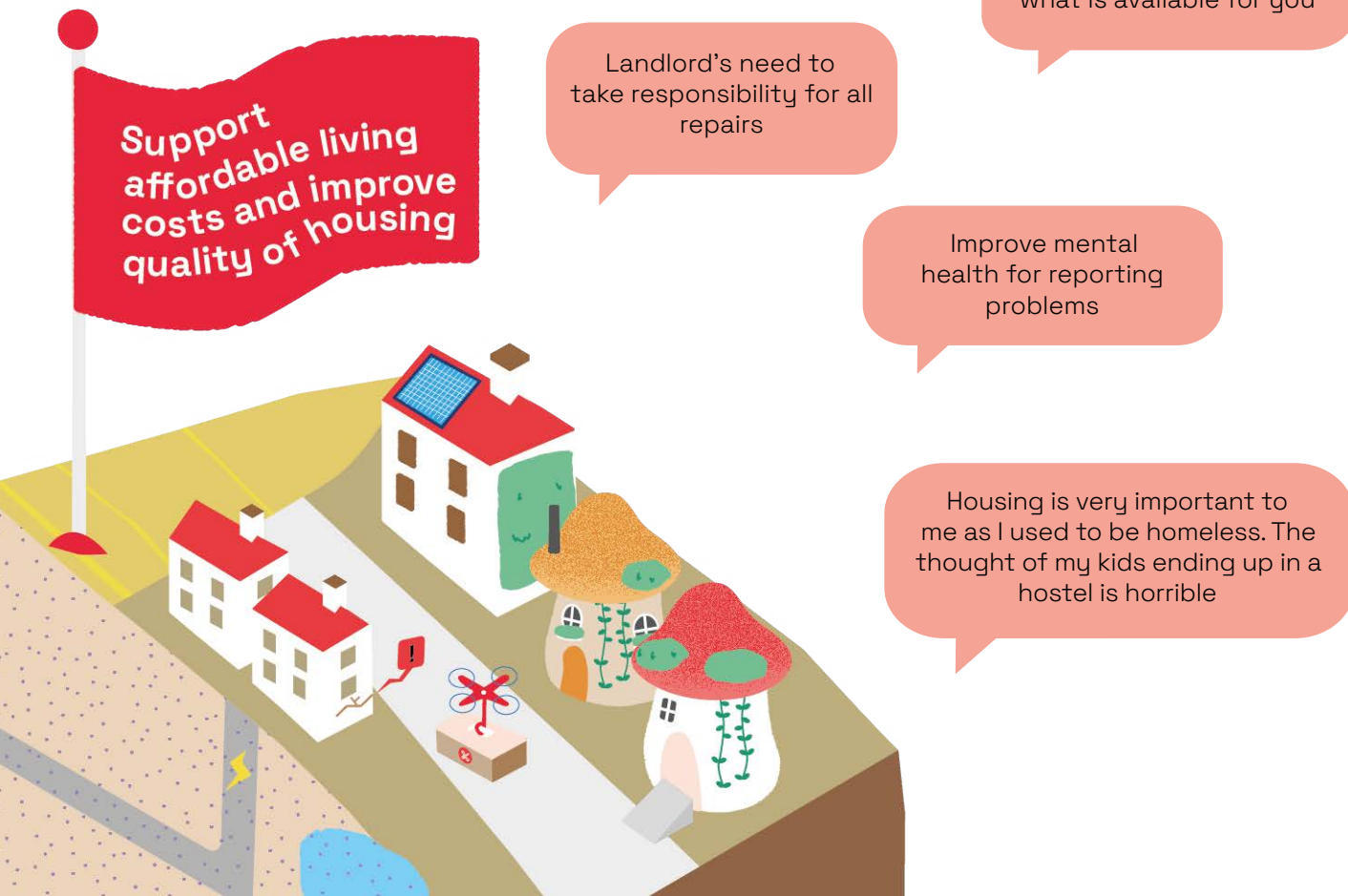
- 7.1 Help to reduce the impact of rising costs of heating and food**
- 7.2 Help to provide fit-for-purpose and healthy housing**

SuDS+ Measures of Success

To assess the progress in achieving this vision, the following indicators could be measured:

- Reductions in local peoples cost of living as a direct result of the project
- Local peoples perceptions of the quality of their housing, increases in the value of housing within the study area

Why do communities and stakeholders say this is important?



"Sometimes people come [to PACT House] just because they want to warm up. Many people don't have enough money to put the gas on in winter"

PACT House

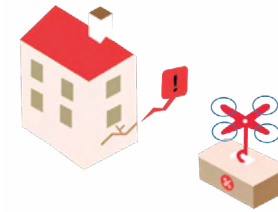
Street in South Moor

Support Affordable Living Costs and Improve the Quality of Housing
Goals Explained



"We are a working family, we don't have much savings. It's what I call 'work, yet poor' - you pay for everything and there is not much left"

Local resident



"We are in the same situation like many people who live around the area - our landlord lives in Westminster, doesn't do anything - they just want the money"

Local stakeholder

7.1 Help to reduce the impact of rising costs of heating and food



Lessen the impacts of the cost of food and heating on local people. Improve the energy efficiency of housing and businesses, through retrofitting. Ensure that residents can influence any home improvements and are respected in the process.

Design Challenges

- How can we improve housing quality and reduce running costs?
- How can we support the local production of food?
- How can we support local and sustainable energy generation?
- How can we ensure housing retrofitting is as painless for residents as possible?

Read more on Stanley South

Locals have been feeling the effects of rising costs of living, struggling to pay energy bills or food. For some, the cost of energy has increased by 50%, now costing more than rent or a mortgage. To gather tactics, some residents follow social media groups that teach them how to save money and food.

While residents are interested in energy saving measures, like more efficient boilers or LED lights, the cost in doing so is still a barrier. Poorly insulated houses and double glazing that can't keep out the strong storm winds, makes houses especially cold. Community spaces, like PACT House, can be a refuge for those seeking a warm space to spend time.

While retrofitted insulation has improved the warmth of houses, some residents felt that they had little to say in the installation process. Getting it for 'free' often limited their power to expect high quality and timely work from the contractors.

Meeting these Goals

The SuDS+ Goals for Vision Statement 7 are outlined here in further detail. Each explains the challenges and opportunities for Stanley South, which have informed the goal.

Guiding Innovative Designs

The accompanying sets of design challenges are intended to provoke context-appropriate and imaginative design responses to achieve each goal. As such, they should be used to inform the design of innovative SuDS+ interventions for Stanley South.

7.2 Help to provide fit-for-purpose and healthy housing

Improve housing through accessibility, spaces for neurodiverse people, and in via timely repairs of issues like damp. Support residents to advocate for improved responsiveness by landlords, and to challenge landlords refusing to do repairs if they are in arrears.

Design Challenges

- How can people be empowered to influence their living situation?
- How can we improve the accessibility of housing to increase the available options?
- How can we encourage tenants to keep reporting unhealthy living conditions to their landlords?
- How can we encourage landlords to make repairs in a timely manner?

Read more on Stanley South

In some areas, local housing does not meet residents' needs. Some housing is too small for the size of their family, or doesn't meet the needs of neurodiverse children, who can require multiple bathrooms or a sensory room. For those with mobility needs the accessible housing options limited. Other people's kids have been hurt by a broken garden wall, that was left unrepaired, despite reports.

Damp in housing is common too and often go unattended to by unresponsive landlords, or owners who aren't sure what to do. Despite reporting their concerns, some people are left living with extensive black mould. Those who have experienced flooding, can also experience damp in the aftermath, having to wait weeks for their properties to dry, which can exacerbate respiratory issues.

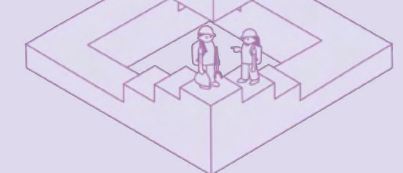
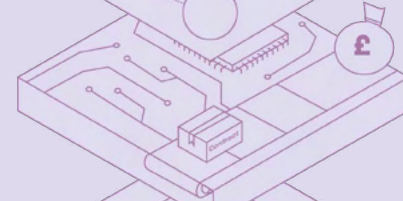
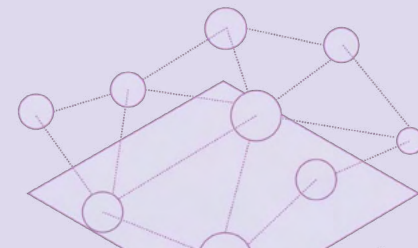
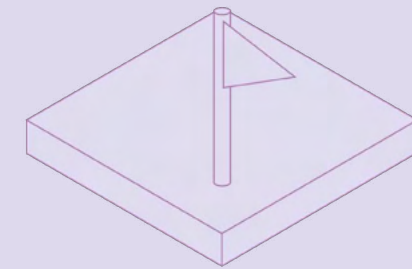
Unresponsive landlords, eventually discourage people from reporting their issues. However, as people are not permitted to improve their own homes, people can be stuck in poor conditions. Negligent "landlords say they won't put nice things in your review, or will tell you that he won't fix things until you pay the rent - but people can't catch up on rent if you're in debt. Then there's nothing you can do about it!"



↑ Home solar energy generation ↓ Rain gardens on Pine Street that were installed together with external wall insulation



Our Ideal SuDS Community Concepts



6

Community SuDS Concepts

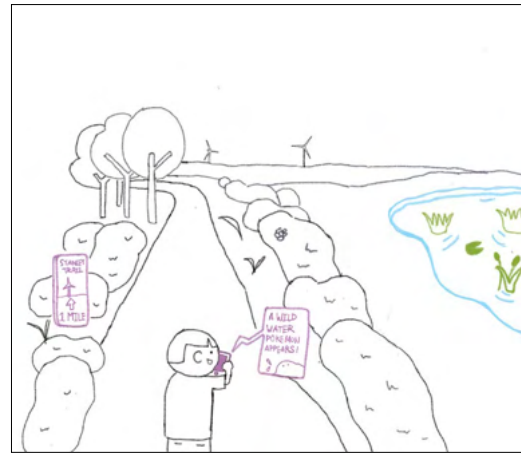
Concepts created through co-design workshops

A series of SuDS concepts were generated collectively by community members and stakeholders. Each concept responds to at least one vision statement, but many creatively address several. The four concepts illustrate innovative SuDS+ designs that create value for Stanley South. Not only have these groups thought of what can be created, but they have considered by whom and how they will work together. These initial ideas present a starting point for SuDS+ designs and can be a starting point and inspiration for the designs that will be developed throughout the programme.

Community SuDS Concepts



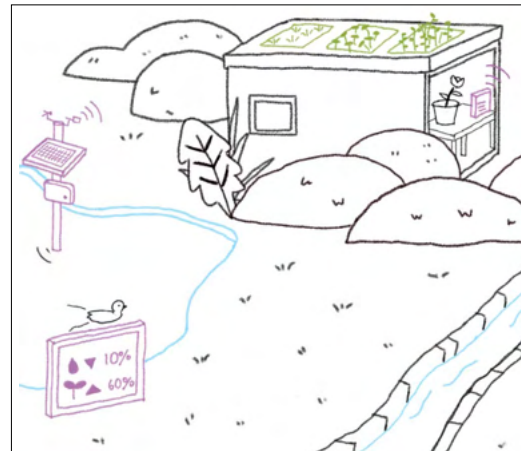
01 Edible SuDS
Places for community groups to grow food and to run educational and health and wellbeing community activities.



02 SuDS Learning Trails
A network of nature trails weaving through water bodies that invites local residents and visitors of Stanley South to discover and learn about the nature and heritage on their doorstep.



03 Sensory SuDS
A multipurpose playgrounds integrated with SuDS that encourage play with water.



04 SuDS Demonstrator
A learning centre and a botanical garden for showcasing SuDS technology, as well as environmental, social and economic benefits of SuDS+.

Co-creating our ideal SuDS community concept:

Establishing a shared understanding
As part of the community engagement, we ran two workshops stakeholders and community members. During these workshops, we gave an overview of the pressing local water challenges and how SuDS+ can potentially address them.



Developing SuDS+ ideas
After agreeing on a shared vision for the Stanley South, participants were asked to develop ideas of how SuDS+ can help achieve this vision. Groups generated concepts of SuDS+ amenities for different types of uses and users, building on their direct knowledge of local people and their needs.



Prioritising four concepts
Generated ideas were then grouped and synthesised into four core community concepts described in this section. In part two of the workshop, community representatives were invited to explore concepts further from the delivery perspective, specifically looking at which local partners should be involved to bring these ideas to life and sustain them into the future.

The concepts presented here are not exhaustive and serve as a 'taster' and an inspiration for the future project team and partners. They demonstrate possible SuDS+ designs and wider benefits it can achieve from the community's perspective. Concepts also demonstrate the co-creation process and the type of outputs that can be achieved by working together.



Co-creation workshops in the Craghead Village Hall

01 Edible SuDS



Places for community groups to grow food and to run educational and health and wellbeing community activities.


Repurposing existing roofs or other unused spaces for multipurpose facilities that incorporate food production, space for socialising, and educational and health & wellbeing amenities. Co-designed with the community groups, these new spaces aim to support these groups in delivering their existing services, inspiring new ones, and amplifying their positive impact.


The core function is small-scale food production to supply regular community meals with locally-grown fresh produce. In addition, these new community spaces include facilities for educational and recreational activities around sustainable living. Flexible in use, facilities change their programming throughout the day/ year, accommodating the evolving needs of the community groups and Stanley South residents.


Vision Statement:

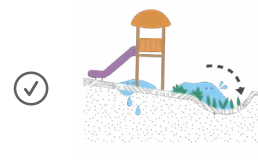
- 1
- 2
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- 7

SuDS Typologies:

- 

Rain Gardens & Planters
- 

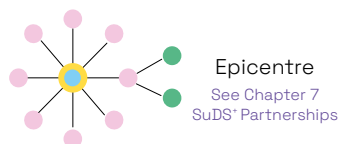
Green Roofs
- 

Permeable surfaces & Tree Pits
- 

Temporary Flood Plains

- Selected by community members
- Applicable typologies to be considered

Partnership Structure:



Concept aims

Through SuDS, this concept supports community groups by providing resources for their community services, increasing their capacity to assist the wider community. Sustainable water management can help to reduce the cost in the face of rising bills, while surplus from food production can create additional income.

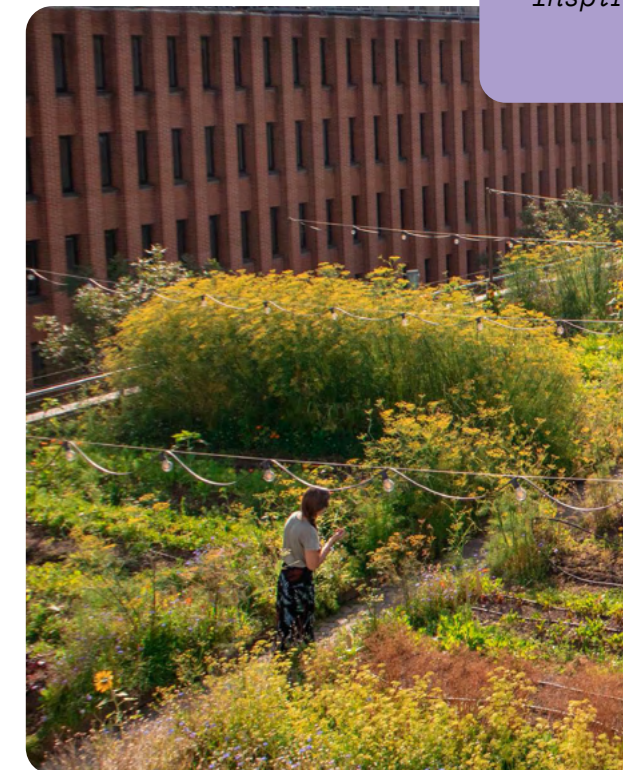
Who can be involved it and how

- Community groups – owning and running the space to support and expand their services
- Community members of all ages – socialising, volunteering, gaining practical experience of growing food from seed
- Schools and youth clubs – participating in educational activities about community support, food poverty and urban agriculture
- University students – conducting community-embedded research projects
- Allotment association – teaching community members about gardening and planting
- Volunteers’ and visitors’ children – having fun at the playground area while parents visit
- Karbon Homes – providing an ongoing support Connecting with contractors to help with practical skills
- Woodland Trust – providing resources and materials for building flowerbeds and furniture

Wider benefits created:

- Nurtures respect and ownership of the community
- Locally-produced food can help community groups to be more self-sustaining, as well as reduce carbon on refrigeration and transport
- Provides educational activities and life skills around gardening and food production
- Fosters intergenerational connections and exchange
- Raises awareness about sustainable living practices
- Provides practical and life skills for all community members

Existing Examples



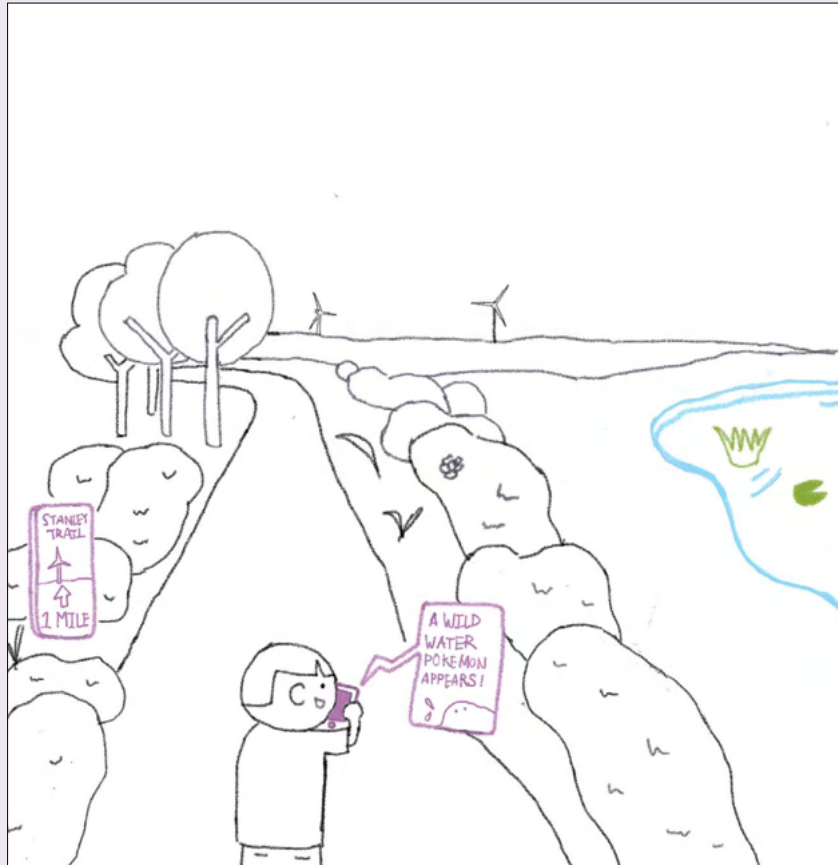
Urban Farming in Copenhagen | [Anders Hviid-Haglund](#)



Incredible Edible Todmorden | [Institute of Historic Building](#)

Get Inspired!

02 SuDS Learning Trails



A network of nature trails weaving through water bodies that invites local residents and visitors of Stanley South to discover and learn about the nature and heritage on their doorstep.

Supported by physical and digital wayfinding, the SuDS nature trails stitch existing nature sites and new SuDS locations into a series of interconnected trails.

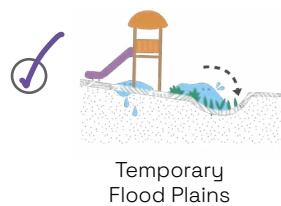
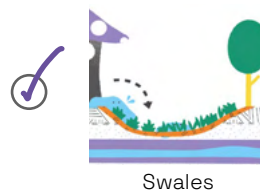
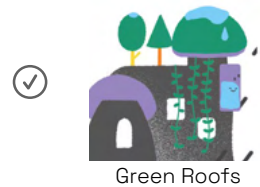
Practical and educational information dotted along the trails supports the guided walks and provides dedicated learning moments that encourage appreciation for nature, wildlife spotting, and foraging. These trails can be used by families seeking nature-based play, river- or forest schools to enrich their programmes, fitness groups and individuals for sports activities, or those seeking to restore and find quiet moments.

Along the way, simple amenities, like picnic tables and wooden seating logs, make it comfortable to visit. The clear and accessible routes, beautiful nature sites and fun learning experiences draw tourists for a day or a weekend.

Vision Statement:

1 2 3 4 5 6 7

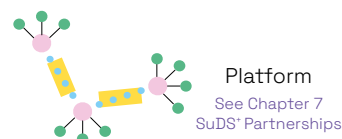
SuDS Typologies:



✓ Selected by community members

✓ Applicable typologies to be considered

Partnership Structure:



Concept aims

Through SuDS, this concept creates a new experience for locals to enjoy nearby green spaces, aiming to increase appreciation and care for local nature and encourage outdoor exploration. Through cultivating the love of nature in communities, Stanley's nature sites become well-maintained and more attractive for people to spend time in.

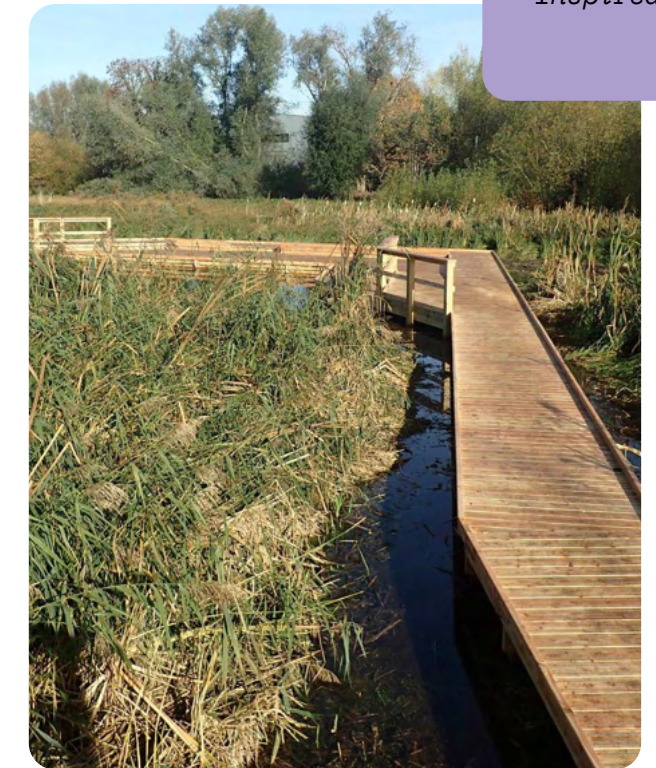
Who can be involved it and how

- Families with children – spending quality time together outdoors
- Schools and youth clubs on nature watch
- Visiting walkers and nature enthusiasts – appreciating the local nature site
- Fitness groups – organising outdoor sports activities
- Youth groups – engaging way to learn and interact with the local nature sites and wildlife
- Community groups – organising outdoor group activities, such as leisure day outs, picnics, geocaching, mental health walks
- Nature-based hobby groups (e.g. birdwatchers and wildlife photographers) – help to design the trails. When in use, help monitor and look after local wildlife and run educational activities
- Local businesses – opportunities to be part of the local supply chain during the construction; a place to promote local services

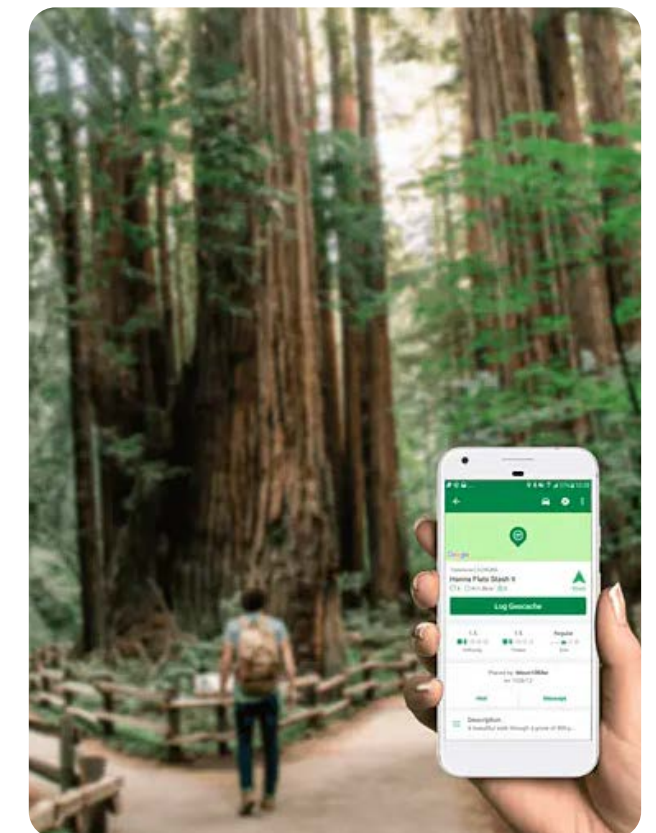
Wider benefits created

- Revitalises existing nature sites by providing a curated experience
- Strengthens environmental consciousness and respect for local nature
- Protects local wildlife and countryside by endorsing the national Countryside Code
- Has a positive effect on community wellbeing and health by encouraging exercise and active play
- Position Stanley South as a destination for nature-based tourism

Existing Examples



Morden Hall Park Boardwalk and Platforms | [Wild Deck Company](#)

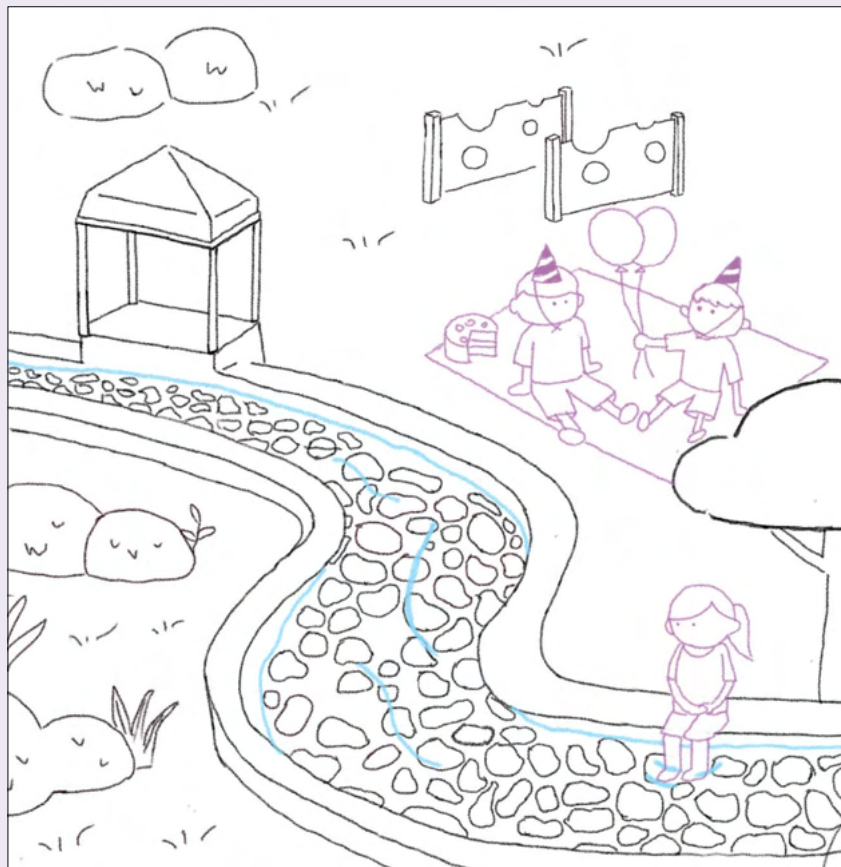


Geocaching in National Park | [Groundspeak](#)

Get Inspired!



03 Sensory SuDS



A multipurpose playground that is integrated with SuDS and encourages play with water.

Small- and medium-size pocket parks dotted around the pilot area foster a sense of togetherness and create clusters of liveliness. Close to people's homes, these are places to enjoy every day for play and special occasions, like picnics or celebrations. All are accessible by wheelchair and fitted with seating areas, tactile play areas, and swings and are flourishing with flowers in the Spring.

Some Sensory SuDS specialise in creating positive sensory experiences for neurodiverse people; others are activated with small kiosks selling snacks or providing toilet amenities. Swales and rain gardens weave between play spaces, creating opportunities for play with water. Larger SuDS features are wet only during heavy rain and otherwise offer multipurpose spaces for different activities.

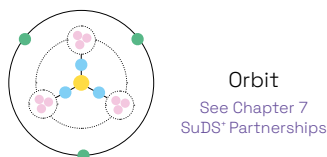
Vision Statement:



SuDS Typologies:

- Rain Gardens & Planters
- Green Roofs
- Permeable surfaces & Tree Pits
- Swales
- Temporary Flood Plains
- Selected by community members
- Applicable typologies to be considered

Partnership Structure:



Concept aims

SuDS scattered around the area serves as a network of interventions to reduce the impact of flooding while creating additional public amenities, such as children's play areas and beautiful green spaces for various community activities. With elements designed for neurodiverse children and people with special needs Sensory SuDS provide free attractive and easily accessible spaces.

Who can be involved it and how

- Children – outdoor play and exploration
- Friends and family – enjoying after school play and picnics
- Local residents – local green places to enjoy at any time
- Disability organisations – involved in co-design of the playground and bring relevant stakeholders together
- Nursing homes – older citizens who enjoy gardening help with planting and looking after flower beds and plants
- Artists – outdoor displays of artworks by local talents
- Wildlife charities – teaching about wildlife
- Probation – helping hands with manual work and maintaining the playgrounds
- Local businesses – providing practical skills and resources for maintaining the play areas
- Adult centre – co-design the space, and use for supporting mental health services
- Town Council – helping with building and maintaining

Wider benefits created

- Provides play spaces for neurodiverse children.
- Provides well-designed enticing spaces that are free, reducing the financial strain on families.
- Beautifies and brings life to empty spaces and greens the neighbourhoods.
- Creates shared communal areas for the residents to come together.

- Raises awareness about disability needs and equality
- Nurtures respect and ownership of the public realm
- Fosters intergenerational connections and exchange
- Creates opportunities to participate in improving the public realm locally (per street, neighbourhood)

Get Inspired!

Existing Examples

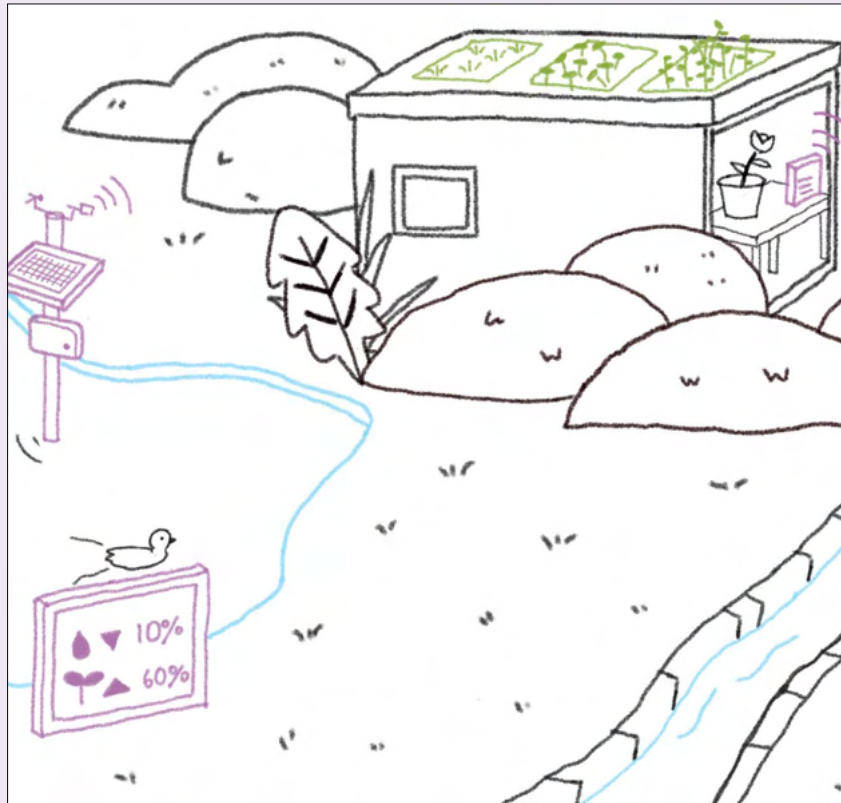


Bridget Joyce Square London | [Robert Bray](#)



SuDS infrastructure in Vauxhall | [Landscape Institute](#)

04 SuDS Demonstrator



A learning centre and a botanical garden for showcasing SuDS+ technology and its environmental, social and economic benefits.

It is a learning hub focused on promoting environmental and sustainable living, introducing visitors of all ages to SuDS, the water cycle, renewable energy, sustainability, and climate change topics.

Like a visitor centre, it invites people to explore different SuDS typologies in action. Dynamic information displays and interactive features show live statistics about SuDS performance and allow visitors to experience the mechanics of SuDS in engaging and memorable ways. The SuDS demos sit alongside other sustainable demonstrators, showcasing nature-based solutions, 'green' energy technology and house retrofitting.

Spilling out from the SuDS+ Demonstrator, the whole SuDS+ network and related community stories can be experienced through a self-guided tour that starts at the hub and connects other SuDS interventions in a trail weaving through the streets and natural sites of the Stanley South pilot area.

As a learning centre, it provides educational and upskilling programme pathways on sustainable infrastructure design, management, public education programmes as well as community partnership.

Vision Statement:

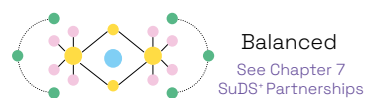


SuDS Typologies:



- ✓ Selected by community members
- ✓ Applicable typologies to be considered

Partnership Structure:



Concept aims

As a national centre of excellence, it showcases the SuDS innovation and attracts new investments, jobs and publicity for the Stanley South SuDS+ pilot. As a learning hub, it supports the local community members in providing training to establish new careers in the emerging job markets. The demonstrator centre also educates kids and students on sustainable lifestyles, achieving the vision of the younger generation becoming agents of change.

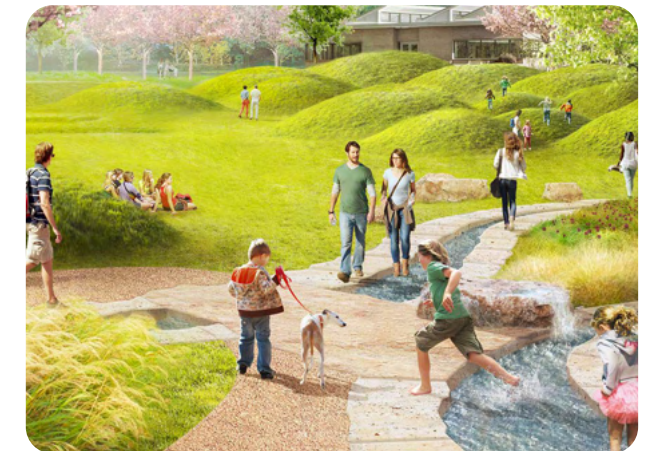
Who can be involved it and how

- Local residents – a family day out in a botanical garden with moments of interactive learnings
- Residents and visitors – learning about water and energy sustainability, SuDS+ pilot and 'green' technology. Classes and courses to acquire green industry knowledge and skills. Jobs programmes, seeking to connect people with new training and job opportunities
- Schools – joined up programmes with schools to provide playful and engaging teaching about ecology and sustainability
- Youth clubs – using it for learning activities
- Energy companies – showcase 'green power' technology. Co-fund the centre and public programming
- Local community groups – providing creative, business and life skills for the community members
- Local businesses – showcase 'green' and sustainable services and products.
- Green start-ups – co-working space, showcase their ideas, networking
- Libraries – providing advice and content for the demonstrator space, e.g. exhibits, reading materials
- Beamish museum – connecting local heritage, culture and future Stanley South narratives
- Karbon homes – knowledge share, link with tenants and other support
- DCC and Town council - overseeing the project

Wider benefits created

- Demonstrates all aspects of SuDS+ environmental, social and tech innovation
- Provides a testing ground for new SuDS
- Provides a place to learn about community-led environmental project
- Provides an educational space for learning about the environment and promoting sustainable living
- Creates learning moments and pathways
- Creates job opportunities

Existing Examples



Regenstein Learning Campus at the Chicago Botanic Garden | [Mikyoung Kim](#)



Malmö's Green Roof Institute | [Smart City Sweden](#)

Name your Concept:

Sketch your concept here:

Large empty dashed box for sketching the concept.







What is your concept about?

Large empty dashed box for describing the concept.

Vision Statement:

- 1 2 3 4 5 6 7

SuDS Typologies:

-  Rain Gardens & Planters
-  Green Roofs
-  Permeable surfaces & Tree Pits
-  Swales
-  Temporary Flood Plains
-  Wetlands & Ponds

How can this concept help to achieve the vision for Stanley South?

What specific SuDS typologies or existing space do this concept use?

Who will be the major users of your concept and how will they use it?

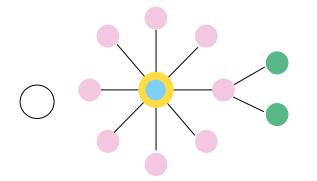
What are the benefits of this concept?

Who will be the potential stakeholders?

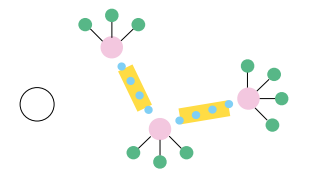
Four horizontal dashed lines for listing stakeholders.

Create your own!

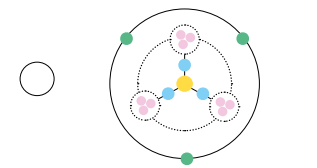
Partnership



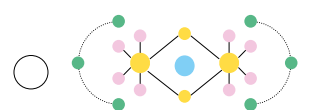
Epicentre



Platform

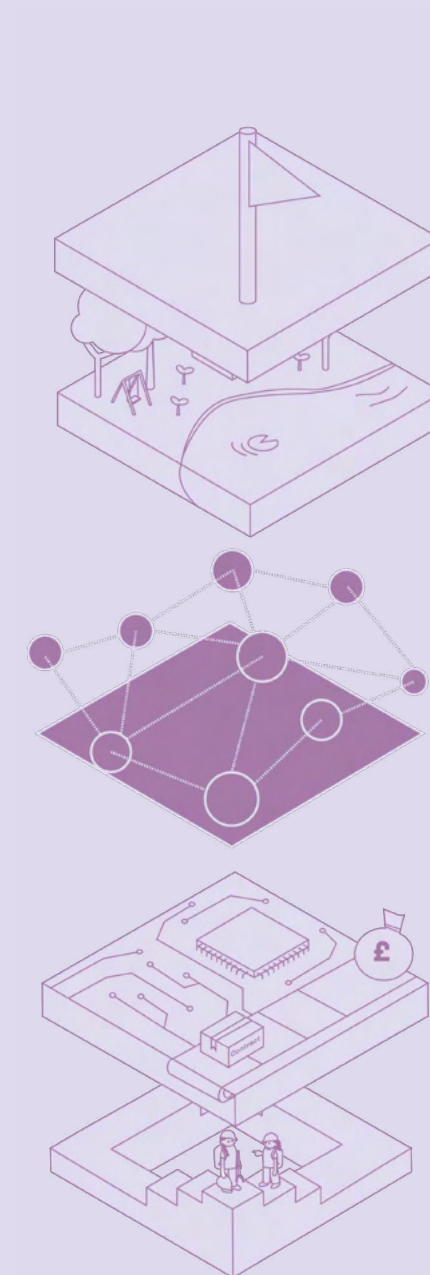


Orbit



Balanced

SuDS+ Partnerships



SuDS+ Partnerships

Caring for SuDS in the long term

SuDS interventions require a continuous stewardship and ongoing contributions over its lifecycle, including funding, maintenance and social activation. The physical components of SuDS need to be regularly inspected, cleaned, and repaired. Trees and plants need to be watered, pruned and replaced, grass cut, and the whole amenity must be kept clean and free of litter. In addition, SuDS+ will require various forms of programming and activation by people. Some SuDS fail in the long-term as they don't have sustainable adoption, ownership and maintenance structures in place, or if the ownership structure doesn't allow the community to participate meaningfully. Forming bottom-up community-led partnership structures can be a way to counteract these challenges long-term.

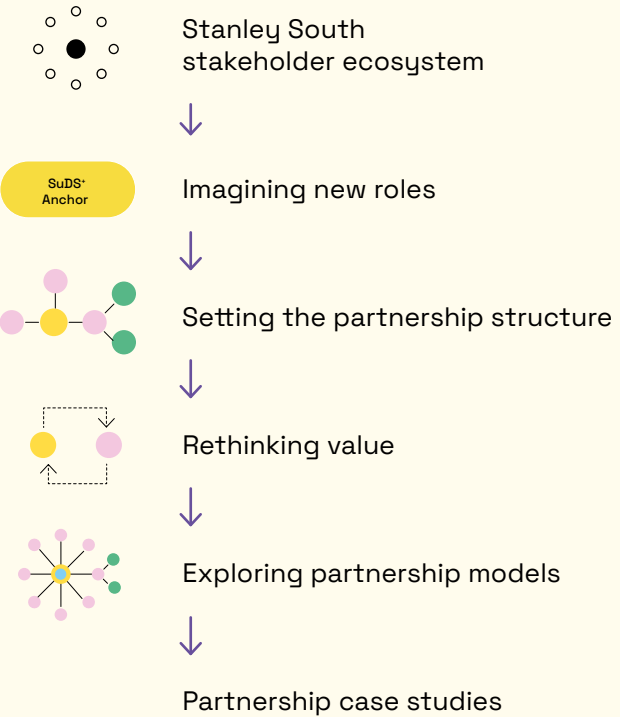
A partnership should create the right conditions for individuals, groups, and organisations to come together under a unifying goal. In a fair partnership, partners are involved in a way that allows them to fulfil their roles and generate an individual and a wider community value. For contributing parties partnerships can be a platform to voice their ideas and to be part of an exchange of value. Mutually-beneficial exchange is paramount for sustainable relationships and partners' involvement over the whole life cycle of a SuDS scheme.

As part of the first year of engagement, we have explored what a partnership supporting SuDS+ could be with the Stanley South community. This section sets out the qualities of a successful partnership, new roles, and the possible forms and structures that partnerships can take depending on the type of SuDS+ that is designed and the outcomes it needs to achieve.

The Partnership chapter builds from the engagement with the Stanley South community and SuDS stakeholders, which included interviews and co-design workshops. One of the workshops was specifically designed to facilitate discussion around partnerships, who needs to be involved, the roles stakeholders might take, and explore questions of value being exchanged. This section is an initial prototype and aims to provoke future discussion around the potential forms of community-led partnership. This needs to be scaled up and tested with wider community groups and stress-tested in response to more developed SuDS+ designs.

A partnership is a dynamic social system of individuals, groups and organisations that come together for a period of time around a shared interest, vision or goal.

Elements of Partnerships



SuDS Partnership Workshop

SuDS+ Principles for Partnerships

Guiding the project

The partnership principles illustrate how the overarching SuDS+ principles outlined in the introduction (pg. 25) can be applied to the SuDS+ partnership design and implementation.

Just as the SuDS+ general principles do, partnership principles set the aspirational trajectory of the project and articulate the project values. The project team, stakeholders and future partners can refer to the principles to establish a common ground on what the partnerships should achieve and principles of interactions.

The partnership definitions outlined on the right are derived from the Stanley South community interviews and engagement sessions. In many ways, these principles reflect the Stanley South ambitions described in the Vision Section. Principles have also informed the partnership's core elements, including the suggested roles, how they relate to each other, value exchange and partnership structures.

We encourage using these principles as a starting point when embarking on the partnership design and implementation journey. Agnostic of the configuration or scale, SuDS+ partnerships should carry the same community-led and social value-driven intent. Throughout the SuDS+ scheme's development, principles should be continuously referred-to to ensure that future partnerships evolve in accordance with the original intention. If written into every element of the partnership design, it has the potential to maximise the value for the community in every aspect.

SuDS+ Partnership Principles

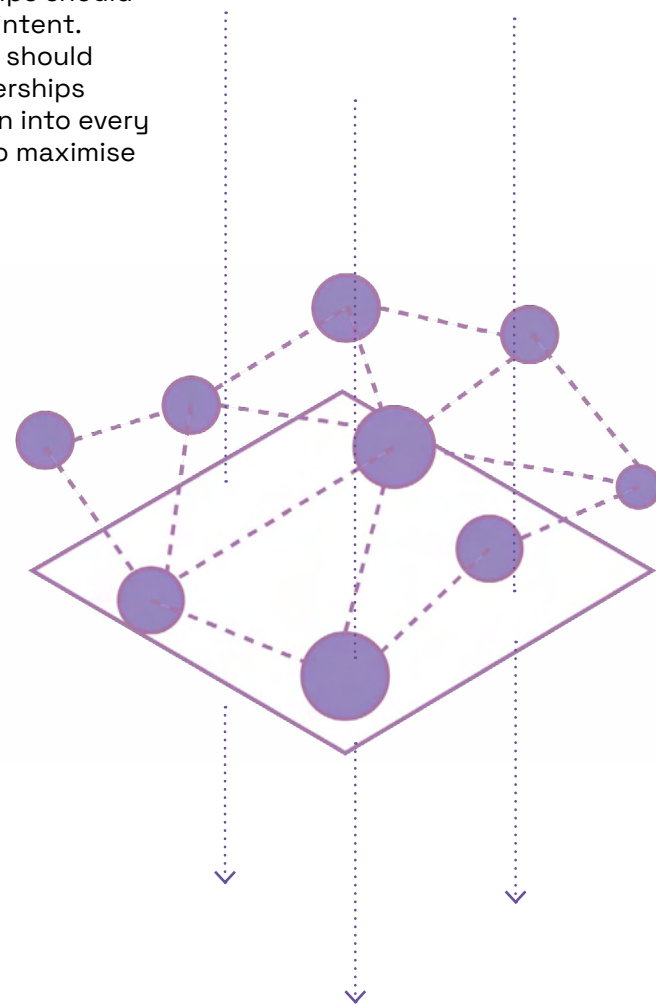


Figure 12 | SuDS+ Partnership Principles

Building a SuDS+ partnership that is....

<p>Community-led </p> <p>Community is a collaborator at every stage of the project</p> <p>Creating conditions where the community is empowered to be an active partner in visioning, design, implementation and operations of SuDS+, taking on leadership and supporting roles. Achieving this ambition requires mechanisms that allow the community to be involved flexibly, meaningfully and on their own terms.</p>	<p>Locally rooted </p> <p>For and by the local community</p> <p>To generate maximum benefit for the local residents and the place, the SuDS+ partnership ecosystem should represent the local community. Residents, local groups and organisations have deep knowledge of the place and people, and often come with an existing network of connections. This is paramount for creating a firm ground for future partnerships and will enable the SuDS+ ecosystem to be flexible and responsive to evolving local needs and priorities.</p>	<p>Reciprocal </p> <p>A fair give and take</p> <p>Relationships between SuDS+ partners should be equitable, cooperative and mutually beneficial. These relationships are formed around a common value, and feel personal and non-transactional. Partners feel like they are part of a fair interconnected exchange, where an act of giving comes with a sense of contributing towards a shared vision and communal welfare, as well as receiving something valuable for them in return.</p>
<p>Inclusive </p> <p>No contribution is too small, every contribution is important</p> <p>Each member of the community has something unique to bring to the project. Partnership structures and engagement mechanisms should allow for diverse contributions, such as personal life experience, skills, imagination or their own network. Forms of involvement, whether it is employment or occasional volunteering, should also be flexible, accommodating the needs of people in various living circumstances and across all life stages, e.g. single parents, carers, students, etc.</p>	<p>Trusted </p> <p>Transparency, trust and ways of safeguarding collective decisions</p> <p>Echoing all of the principles above, partnership engagement mechanisms should be designed to create transparency and accountability between the involved parties. On some occasions, this will require contractual agreements and tools to facilitate the value exchange. Often SuDS+ will encourage informal interactions and value exchange. Whether formal or informal, these interrelationships should be guided by established principles and code of ethics.</p>	<p>Amplified </p> <p>Amplifying existing strengths</p> <p>SuDS+ partnerships can be a vehicle for strengthening existing initiatives and connections, providing a platform and network of support to supercharge local services and talents. By strengthening the good things that are already in a place, the people, heritage, local community groups, and location, SuDS can significantly multiply the magnitude of impact.</p>
<p>Supported </p> <p>A helping hand every step of the way</p> <p>Partnership is an opportunity to grow, learn, explore, form new relationships, and initiate new things, from learning how to look after the plants to setting up a new enterprise. However small or big the goal may be, appropriate, easy to access and timely support is required along the journey to help the community to achieve their ambitions. If people are interested in being involved, but don't have expertise, they need encouragement, support and training.</p>	<p>Generating value </p> <p>Balancing personal and collective</p> <p>SuDS+ partnership presupposes that personal interests shouldn't outweigh the collective gain. Following this ethos, it is essential to delicately balance the shared social and environmental values with the individual material gains. This will ensure that financial profits don't disadvantage others in this partnership or compromise the social and ecological health of the place. The Partnership ecosystem should be designed to prioritise and advantage local stakeholders, so the generated value directly enriches the local economy and social life.</p>	<p><i>The Partnership Principles show how overarching SuDS+ principles can shape how partnerships can be formed and nurtured</i></p>

Stanley South Stakeholder Ecosystem

Working with local people and organisations

To establish a thriving community-embedded partnership it is important to connect local community members and organisations and to build upon successful initiatives. An ecosystem map documents stakeholders that may need to be considered and engaged throughout the SuDS+ project and further into adoption.

Stanley South's ecosystem of stakeholders is a diverse landscape of small and big, formal and informal groups and organisations. Each stakeholder has its unique function and area of influence. Most of these stakeholders operate in service of the local community, and their functions and offerings are structured around the needs of the local population.

Many stakeholders are interconnected, and support each other to deliver services and achieve common goals. There is also a level of interdependency between them, for example, smaller local groups often rely on funding and support from local authorities or external organisations. Organisations, such as Stanley Area Action Partnership (AAP) are in a position to mediate these relationships, and allocate grants across smaller groups and causes based on the collectively-agreed local priorities.

It is critical for the SuDS+ programme to form links with local stakeholders early on to ensure the longevity and sustainability of SuDS+ infrastructure.

National

Regional

Local

Regional & National Government

- North East Combined Authority

Public Services

- NHS
- Job centre
- Nursing homes
- Special Educational Needs and Disability (SEND)

Local Authorities

- Stanley Town Council
- Durham County Council

Fire & Rescue Service

Community Centres

- The Venue
- Churches
- St Stephens
- Craghead Village Hall
- Quaking Houses

Individual Members

- Younger people
- Older people
- Disabled people
- Artists
- Affected and not-affected by flooding

National Highway

Utility Companies

- Northumbrian Water Group
- Energy companies

Large Businesses

- Green and blue businesses (e.g. stormwater management solutions)
- Manufacturing
- Goods distribution (e.g. Amazon)

Charities & Not-For-Profit Organisations

- County Durham Community Foundation
- University of the Third Age (U3A)

Stanley AAP

Police & Neighbourhood Wardens

Schools

- Stanley Learning Partnership
- Consett Academy A Level students
- North Durham Academy

Sports & Other clubs

- Running, Golf, Football, Cricket, Netball, Indoor and Outdoor Bowls

Private Landlords & Landowners Networks

- High proportions of absentee landlords

Think Tanks

- The LEP (Local Enterprise Partnership) Network

Culture & Heritage

- Beamish Museum
- Online history archive

Local Community Groups

- Just for Women Centre
- PACT House

Youth Groups

- Stanley Young People's Club

Environmental Organisations

- National
- Woodland Trust
 - Durham Wildlife Trust
 - Environment Agency (EA)
 - Coal Authority
 - Royal Horticultural Society (RHS)
 - Royal Society for the Protection of Birds (RSPB)

- Regional
- Wear Rivers Trust

SuDS Networks

- CIRIA
- Susdrain

Local Businesses & Networks

- Local businesses
- Love Beamish & Stanley
- Do Business Network - North East Business Networking Group

Craghead Allotment Association

- Quaking Houses Allotment Associations
- South Moor Allotment Associations

Stanley South Initiatives & Events

Building on existing foundations

What makes Stanley South unique is not only its diverse stakeholders but also the many initiatives and events that make up the civic life in Stanley. Spanning across the civic, environmental and cultural areas, many of the initiatives, such as Stanley in Bloom or Greener, Cleaner, Stanley, convey similar environmental messages as SuDS+.

SuDS+ can work with local initiatives in a joined-up programme, helping to multiply the positive impact of the initiatives and the SuDS. Through shared visions and missions, and by building on the networks and public reach that local initiatives have established, these events can act as a platform to promote the SuDS innovation, environment-driven approaches and, in general, encourage active participation in topics around community-led decision-making and the environment.

Through engaging with community members and organisations, we have captured some of the local initiatives, focusing on those that are active within the SuDS+ pilot area. This initial list, should be added to and will likely continue to change beyond the point of writing.

Neighbourhood Improvement Project

New Karbon Homes initiative that aims to improve the quality of life for residents. Particularly improve residual household income through additional services, such as apprenticeships, skills and training, and environmental projects.

Civic Pride

Led by Durham County Council, this initiative supports residents to improve their area. Support includes loaning equipment for litter-picking and gardening, providing advice, as well as small funds allocated via Stanley AAP.

Greener Cleaner Stanley

A new initiative by Stanley Town Council (STC) that aims to promote key messages around ways to make Stanley a better place to live in.

Stanley in Bloom

A small initiative that focuses on beautifying and greening the area with the community. Their activities include planting and looking after the flowers, and helping to build public furniture, such as seating areas and flower beds.

Northumbria in Bloom

An annual community-centred horticultural competition that encourages local residents and community groups to participate in gardening and improving the public realm. It is a four-month event starting in spring, leading into the summer when Stanley South transforms into beautiful flowering villages full of colours.



Miners' Sunday Parade | [The Northern Echo](#)

Miners' Sunday Parade

A yearly parade of traditional miners' banners, musical performances and other community-focused fun activities to celebrate the local mining history and culture.

Outdoor Pop-Up Events

A range of pop-up family events across the pilot area, with large events across South Moor, and Craghead. Typically taking place during summer, these events can attract more than 500 attendees. Various local partners come together to provide fun,

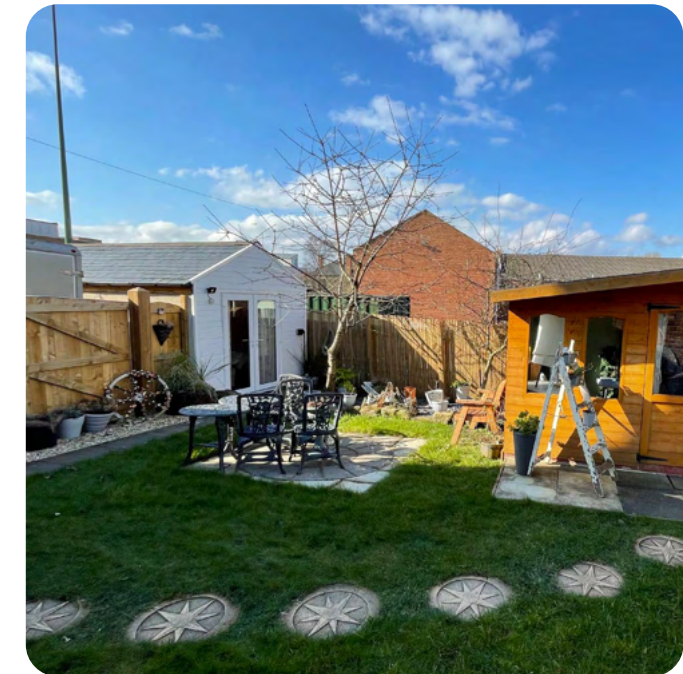
family leisure and educational activities.

Just for Women

Based near the town centre they provide counselling and therapy services for women and men of all ages. Some of their activities include art therapy, a business club, and well-being walks. The garden is their oasis of peace in which members can sit and enjoy the sun while eating a delicious piece of home-baked cake from the center's own cafe.

PACT House Services

A community centre on Front Street that runs a range of health and wellbeing services for anybody in need. These include community meals, a food bank, digital and life skills support,



Just for Women Centre



PACT House food bank



Stanley in Bloom

Neighbourhood Improvement Project	Civic Pride
	Greener Cleaner Stanley
<i>Civic & Public Realm</i>	<i>Environmental</i>
	Stanley in Bloom
	Northumbria in Bloom
Just for Women Services	Outdoor Pop-Up Events
<i>Health & Wellbeing</i>	<i>Culture & heritage</i>
PACT House Services	Miners' Gala

Are you interested in becoming an active partner within the SuDS+ programme?



<https://stanleysuds.co.uk/get-involved-1>

SuDS+ Partnership Roles

Many ways to be involved

A new partnership requires new roles and relationships. These roles can be diverse and dynamic and create many new ways for non-traditional stakeholders and the community to actively participate in SuDS+ throughout its whole life cycle. Fourteen new SuDS+ roles present the many different ways in which people can be involved. Informed by initial engagement work, the prototype roles, are a starting point to help prompt further dialogue between community partners and wider stakeholders about how they can be involved in the whole life cycle of SuDS.

The proposed roles are designed to:

1. Reflect the variety of inputs required for the SuDS+ to achieve its intended impact;
2. Represent the strengths that already exist and can be amplified within the community, such as existing services by local groups, or a plethora of local talents.

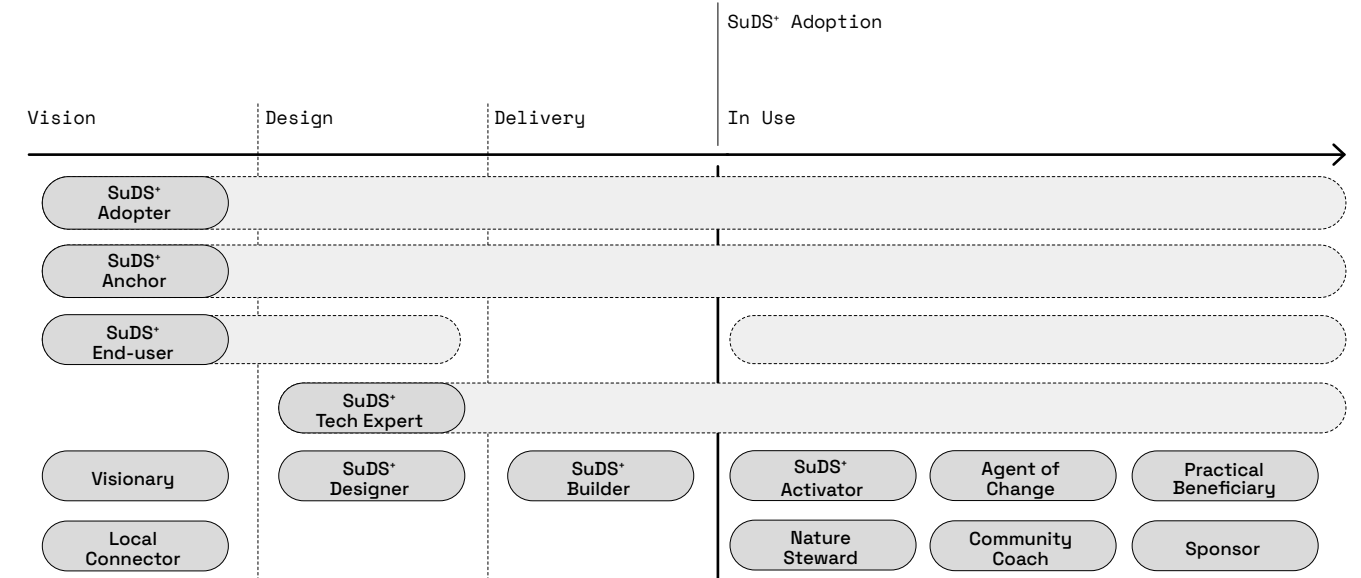
For example, community groups such as Just for Women, could enact the **Community Coach** role as they already provide residents with capacity

building activities and could expand their offering through forming a SuDS+ partnership. Alternatively, environmental initiatives could become a **Nature Steward** and help to encourage and mobilise community members to take care of the new SuDS infrastructures and habitats.

If adequate support is provided, all 14 suggested roles should be achievable for the local community. A **Visionary**, someone whose primary role is to contribute ideas may need little to no support, whereas a **SuDS+ Designer** or **Builder** requires professional training and expertise. Ranging in the level of formality, some roles, such as **SuDS+ Adopter** or **Anchor** are likely to be contractual engaged with legally binding responsibilities. Other roles, such as the **Agent of Change** or **Practical Beneficiary**, can be more informal, presupposing a voluntary contribution and ad hoc involvement. However, small or big, formal or informal, each contribution is unique and essential for the successful adoption and long-lasting maintenance of SuDS.

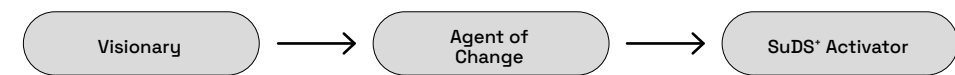
Roles Involvement Over Time

Some roles, such as **SuDS+ Adopter** and **Anchor**, are core partners and are expected to be involved throughout the whole lifecycle of the project. Other roles, such as **Local Catalyst** or **Agent of Change**, may only be involved periodically with increased contribution around a specific stage, such as **Visioning** or **In Use**.



Shifting Between Roles

Roles are not fixed, and partners may shift between the roles throughout the project or take on several roles.



Shared Maintenance Responsibilities

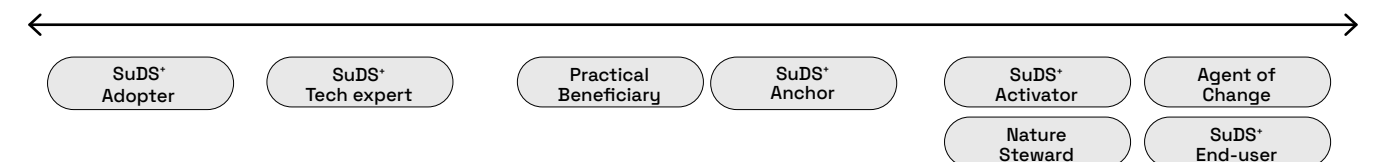
Some roles are well-placed to look after the SuDS+ intervention or initiative and potentially have a more distributed way to share the maintenance responsibilities. SuDS+ Adopter and Tech Experts could take a role to manage significant repairs and technical issues to ensure that SuDS+ performs its primary drainage function. While, SuDS+ End-user, Agent of Change, Nature Steward and Activator can play a part in caring for SuDS+, and providing support, such as gardening, keeping it clean and beautiful, inspections and problem reporting, and minor DIY projects and repairs.

Significant Maintenance

Annually / as required
(e.g. annual checks, significant repairs)

Everyday Maintenance

Monthly / weekly
(e.g. litter-picking, gardening, inspection of inlets/outlets)



SuDS+ Partnership Roles

14 initial possibilities

Visionary

Function of the role

Contributing their ideas and views on what the future of Stanley should be.

Why are they involved?

They care about the future of the place, although they might be not directly affected by the changes or new SuDS+ infrastructure.

Support needed

They need to be approached and informed about the opportunity to express their views and ideas. Tools for engagement that are accessible across all ages, digital literacy and educational attainment.

End-users

Function of the role

These are all people and groups that will be benefiting from the future SuDS+ amenities. These could be local residents, that use it daily, or occasionally, or be visitors.

Why are they involved?

As end-users they wish to have facilities that are tailored to their needs.

Support needed

Their main need is that provided facilities are designed to address their needs, which includes usability, accessibility and desirability. As end-users they are key partners during the Visioning and Design stages.

Local Connector

Function of the role

They are the main mediator between the local community and other project partners, bringing different parties together. They are local and are acting as a face and point of contact of the project, especially during early stages. They communicate the value of SuDS to local people contextualising it through local examples and speaking to relevant issues.

Why are they involved?

It may be an appointed formal role. They may be a community representatives, or they may have stake in the future infrastructure.

Support needed

Local Connectors are not SuDS technical experts, but they need to have a good understanding of the SuDS technology and the background of the problem.

Agent of Change

Function of the role

They are individuals or groups that are the heart and the hands of the project. Their contribution can be as small as litter-picking or planting flowers, setting up an example of active citizenship for other residents.

Why are they involved?

They care about the place, people and the environment and don't miss an opportunity to be of help when needed. They seek opportunities to meet new people and do new things.

Support needed

Everybody can become an agent of change. While some feel eager and ready to get their hands dirty, others need a bit of support in confidence and capacity building, equipping people with the right knowledge and a positive attitude.

Community Coach

Function of the role

They are groups and organisations that support local residents by providing capacity building, life skills, counselling, and education programmes, helping with issues around mental health, confidence and employment.

Why are they involved?

They intimately know the local community and the social and economic challenges people face. They are passionate about contributing toward a happy and capable community.

Support needed

As they are usually not-for-profit organisations they need continuous financial support that allows them to run their support centres and hire professionals to deliver their programmes and activities for a continuously growing audience.

Nature Steward

Function of the role

They are individuals of all ages that create and look after the living habitats, whether planting flowers, building a bug hotel in a rain garden, or keeping the local riverside free of litter. They watch and sense the health of the living environment and attend to it when needed.

Why are they involved?

Some are motivated by the aesthetic and social benefits of green spaces. Others are concerned with climate change and committed to creating a positive impact on the plant, animal species and their habitats.

Support needed

Equipped with innate enthusiasm, nature stewards may need all kind of practical support, including information, training, equipment and a network of similar-minded people.

SuDS+ Activator

Function of the role

SuDS+ is not a just regular water infrastructure, and the social activation is as important as the technical functions of flood prevention. Service providers, local enterprises, or active community members, they bring SuDS+ to life with community-facing programming.

Why are they involved?

SuDS+ provides them a platform for amplifying what they already do or for kick-starting their most daring ideas or ventures.

Support needed

Support they need will depend on type of the activation, but could range from financial support, to skills in how to set-up and run the initiative, as well as a network of supporters, such as Agent of Change.

SuDS Technical Expert

Function of the role

As industry specialists, they know SuDS technology inside and out. They provide technical expertise throughout all stages, from visioning to monitoring.

Why are they involved?

This is a formal role and they perform their contractual responsibilities.

Support needed

If the role is fulfilled by an external partner, they may need to build up familiarity with the local context and the community. Considering the unique format of SuDS+, they may also need to inform themselves about the social value SuDS+ intend to achieve, exciting their imagination and broadening their realm of the possible.

SuDS+ Adopter

Function of the role

It is a formal role responsible for ensuring that the SuDS feature performs its intended flooding resilience function. They provide remedial maintenance, such as repairs due to damage, replacement of the equipment, and any significant vegetation management that can not be performed by other partners.

Why are they involved?

They have taken on contractual responsibility for managing the SuDS infrastructure and are often the landowner.

Support needed

As the main responsible partner for the SuDS asset throughout its lifetime, they need ongoing funding, staff allocated to perform tasks, and technical expertise.

SuDS+ Anchor

Function of the role

They may not be the adopters, but they are the core partner around which the public amenity of SuDS revolves. They are responsible for the cultural and social agenda of the amenities. They closely work with the SuDS+ Activators and receive support from sponsors, practical benefactors, and other partners.

Why are they involved?

SuDS+ is a joined venture that amplifies the impact of their services and offerings.

Support needed

As a managing party of the routine maintenance, such as litter-picking, and planting, they may need small but regular grants to cover the costs for material resources and labour.

Sponsor

Function of the role

They are the financial benefactors of the SuDS+ amenities and activities. Their monetary contribution can range from a small personal donation to a large grant or bigger investment.

Why are they involved?

The project's values and aims resonate with their own. It may be part of their organisational role, social responsibility duty, or just based on their goodwill.

Support needed

They need to trust or have evidence that their donation or grant is being used towards a good cause and that it has a positive impact.

Practical Benefactor

Function of the role

They are local and external businesses that can provide practical skills, materials and resources.

Why are they involved?

It aligns with their ethos, such as contributing to the social good or betterment of the environment.

Support needed

Local residents can support the local businesses by acknowledging their positive contributions and becoming their customers.

SuDS+ Designer

Function of the role

This hybrid role is most likely to be performed by a range of specialists, covering civil engineering, hydrology, landscape design, product design and urban planning disciplines.

Why are they involved?

These are contractual roles involved during the design and delivery of the project.

Support needed

Similar to the SuDS technical expert, if not local, they need a good understanding of the local context as well as SuDS+ functions, value and future innovations.

SuDS+ Builder

Function of the role

Contractors that perform the construction and landscaping of SuDS and related amenities.

Why are they involved?

These are contractual roles involved during the design and delivery of the project.

Support needed

If not specialists in SuDS, this role may require a specialised training and expertise.

“You can only achieve this by working together”

Karbon Homes

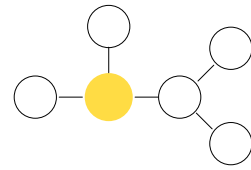
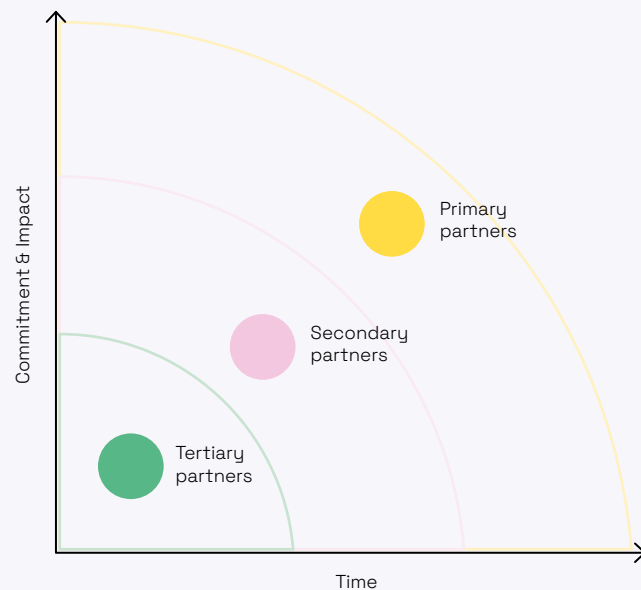
Partnerships Structure

Making connections

Partnerships can take different forms and structures. Typically, traditional forms presuppose more centralised and hierarchical structures. In contrast to this, inspired by a bottom-up community-led approach, SuDS+ aims to explore how non-hierarchical distributed systems can set a precedent for new forms of cooperation. Acting as a distributed intelligence, where each partner has a high degree of autonomy, these non-hierarchical structures can make the system more dynamic, resilient and responsive to change.

However, even without a single explicit entity that governs the relationship, there is a need for an underlying structure. On one hand, this structure needs to be flexible and adaptable and allow different partners to be involved on their terms, such as providing a different level of commitment, regularity of involvement, or type of value they give and take. On the other hand, the partnership will require an inbuilt structure around the core parts to ensure the long-term sustainability of the partnership.

In a simplified form, these parts of the structure can be described in three categories: **Primary**, **Secondary** and **Tertiary** partners. Primary partners are anticipated to be the most committed to the project, with a broader range of responsibilities and ongoing involvement. In contrast, secondary and tertiary partners can be involved only briefly and with a lesser anticipated impact.



Primary Partners

These are the principal partners or initiatives around which the SuDS+ functions and amenities revolve. These partners are more likely to be the SuDS+ primary end-users, space activators or/and maintainers. Although these are non-hierarchical systems, the primary partner is someone who is consistently driving the initiative forward, with the responsibility and support to do so.

Potential Roles

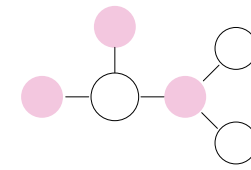
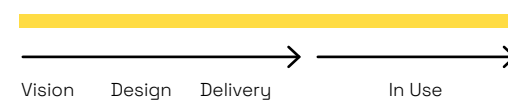


Example of Local Stakeholders

- Community Groups
- Local Authority
- Local Initiatives
- Water Utilities
- Land/Property Owners

When they are involved

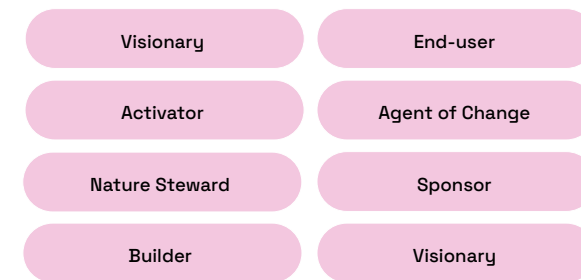
As the future end-users of SuDS, core partners need to be involved throughout all stages of the SuDS, including the vision and design.



Secondary Partners

A network of individuals, groups, and organisations directly involved in the life of SuDS+ amenities throughout its lifetime. Roles can range from users and volunteers to subject experts and funders. They can provide various support, depending on the value they give or receive from the SuDS+. While some partners may remain constant, others can change over time as the needs and services evolve.

Potential Roles

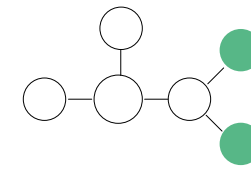
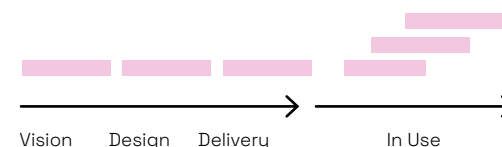


Example of Stakeholders

- Community Members
- Local Authority
- Local Businesses
- Schools
- Housing Associations
- SuDS Specialists
- Water Utilities

When they are involved

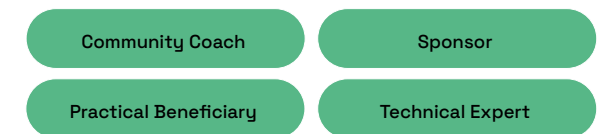
Their involvement is determined by the type of the contribution. While some partners main contribution will be when the facility is in use, others will be involved during the design or construction phases.



Tertiary Partners

These are peripheral groups or organisations that may have a specific interest in the project or established links with the primary and secondary partners. These could include local or non-local organisations, and their involvement can be short-term but impactful. Tertiary partners can also represent a dynamic layer of contributors that convene around a particular initiative for a period of time.

Potential Roles

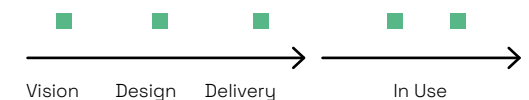


Example of stakeholders

- Charities & Not-for-Profit
- Large Business
- Business Networks
- Environment Organisations & Nature Trusts
- Culture and Heritage
- Public Services
- Universities
- Regional and National Government
- SuDS Networks

When they are involved

Typically these partners bring the utmost impact when a significant input is required, whether it is funding, institutional support or a technical expertise.



Value Exchange Explained

A partnership is a dynamic system that facilitates an exchange of value. One of the main principles of the SuDS+ partnership is that it is a multi-directional relationship allowing a fair exchange of incoming value and generated value.

Value is a relative unit that is often determined by the context within which it exists. In the context of the globalised economy, value is determined by the financial market. It is measured in relation to the supply and demand and, at times artificially created, scarcity and abundance of goods and resources.

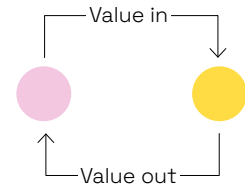
Within the local contexts, value can be re-defined and develop an independent measure that reflects local needs, collective priorities and availability of resources. The value exchange doesn't have to be transactional and monetary in nature, where each type of value input has a 'price'. **SuDS+ partnership proposes adopting a more fluid definition of value and forms of exchange that emphasises the idea of social and environmental value and therefore is not solely driven by economic benefits.**

In the context of the Stanley South community and SuDS+ infrastructure, the unit of value can be anything from an idea, a unique skill, knowledge or time that helps the community flourish and sustains the SuDS+ infrastructure.

"There is a spirit of volunteering in this village, I'm one of the fortunate ones that can do this as I don't need a wage. But if people can't donate the time, people donate other things like food and money"

Local resident

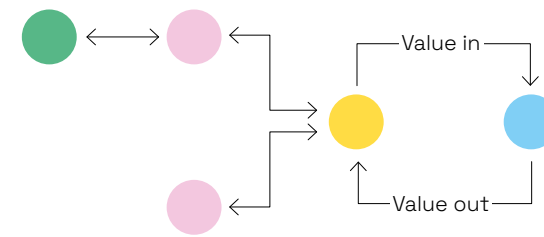
Value Exchange



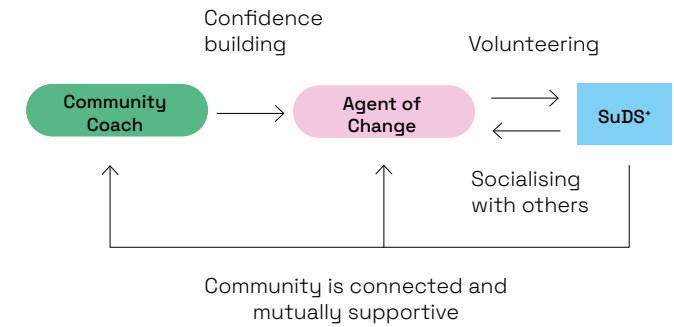
Legend:



Value Chain



Value Chain Example



Value in

Ideas

- Community voices & Representation
- Strategic direction
- Concepts
- Visions
- Designs
- End-user requirements

Skills & Knowledge

- Practical skills
- Technical expertise
- Creative skills
- Services
- Life experiences
- Local knowledge/ insights

Resources

- Tools
- Materials
- Products
- Assets
- Equipment

Time

- Time
- Attendance
- Participation
- Volunteering
- Helping hands
- Labour

Money

- Donations
- Grants
- Sponsorship
- Investment
- Membership fees
- Rents

Space

- Space
- Amenities
- Physical Infrastructure

Value out

Community

- Social cohesion
- Sense of belonging
- Higher levels of residents participation
- Community is connected & mutually supportive

Health & Wellbeing

- Socialising with others
- Spending time outdoor
- Motivation and sense of purpose
- Joy & fun

Civic

- Improved public realm
- Places for people to come together
- Pride in the place
- Sense of ownership
- Proactive citizenship

Capacity Building

- Learning opportunities
- Gaining new skills
- Confidence building
- Leadership opportunities
- Life skills

Environmental

- Reduced flooding
- Greener public realm
- Increased biodiversity
- Fostering environmental stewardship

Economy

- New business opportunities
- Employment opportunities
- Supporting local supply chains
- Encourage green businesses



Value story 1 Exchanging resources

Allotments are often a place of ingenious exchanges of skills and resources. Some tenants share their food produce with local schools during the Harvest Festival in September, educating children about food growing. Others build raised beds for other tenants reusing materials from skips. Even lama wool is exchanged in return for cutting the wool.

Value in

- Practical skills
- Materials
- Time

Value out

- Money
- Motivation and sense of purpose
- Community is connected & mutually supportive



Value story 2 Building capacity

To be an agent of change is not easy. Sometimes, even a humble act of doing something small requires knowledge, skills, and confidence. Some may need just a little encouragement and direction to become one. A community Coach can provide life skills and confidence for people to take the first step. SuDS+ technical expert can take over when a more specialised community training might be required.

Value in

- Life skills
- Practical skills

Value out

- Improving community capacity and resilience
- Confident active and happy community members
- Increased public participation



Value story 3 Indirect value exchange

Value exchange is not always direct or immediate. When we engage school children, for example, by showing them how to grow plants from seed, introducing the natural cycles and ecosystems, or making places beautiful and inspiring, we work to create long-term value. By working with the younger generation, we also indirectly influence their family members, allowing a further distribution of value and amplifying the impact.

Value in

- Knowledge
- Practical skills
- Time/Volunteering
- Funding

Value out

- Learning opportunities
- Fostering environmental stewardship
- Sense of purpose
- Pride in the place
- Sense of ownership
- Leadership opportunities
- Proactive citizenship

Partnership Typologies

Examples

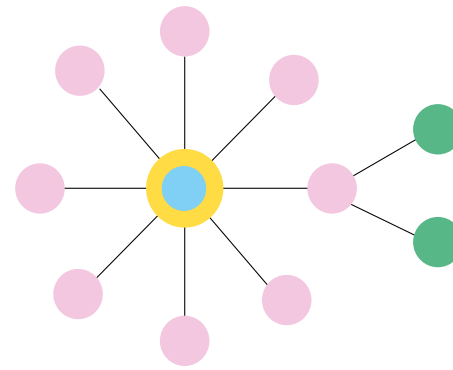
During the SuDS+ co-design workshop, the community explored how the four SuDS+ concepts (see pg. 104) they generated in the previous workshop could be realised. In groups, community participants discussed and documented their ideas about:

- What local partners should be involved to make the concept happen?;
- In what capacity should partners be involved? What would be their contribution?;
- What is their motivation?;
- How can partners work together to support one another and what value is being exchanged?

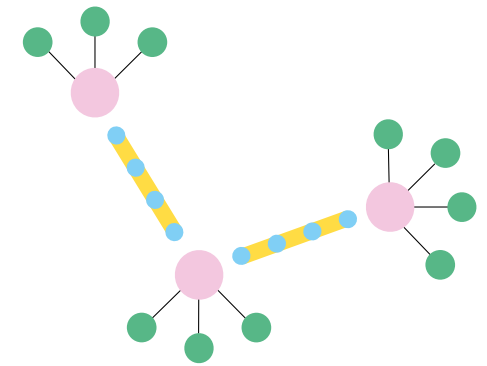
The exercise resulted in four distinct partnership typologies that formed organically around each of the SuDS+ concepts. At the workshop, participants created maps linking existing local stakeholders into a hypothetical cooperative networks, detailing the value being exchanged and interdependencies between the partners. Participants were also invited to challenge the sustainability of the imagined partnerships and assess its components and links from a perspective of potential vulnerabilities, ways these can be counteracted, and potential strengths and ways these can be amplified.

These maps were then distilled into four partnership models outlined in this section. Represented as network topology diagrams, they illustrate the essence of the partnership structure, where partners and SuDS amenities are depicted as nodes, and lines represent the relationship between the nodes. Each shape implies a unique configuration of relationship and how partners may interact with each other and with the SuDS+ infrastructure. The type of roles required to sustain the system is common across all four. However, how these roles relate to each other, the way they are organised, and type of stakeholders performing these roles varies in each configuration. The type of value that is being exchanged and the value generated is common across all four types.

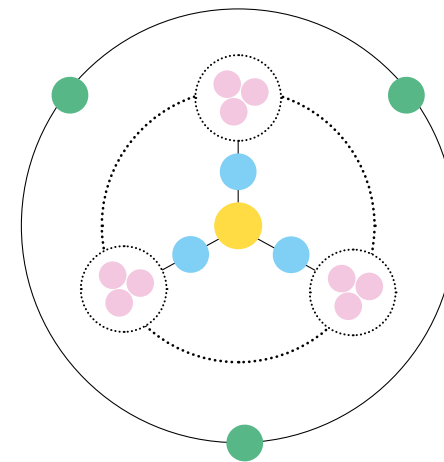
The outlined partnership typologies are not exhaustive and serve as an example of potential partnership formats. These need to be revised and developed further once the final SuDS+ designs, functionalities and locations are decided, so the optimal configuration of the partnership can be co-developed with the local community and stakeholders.



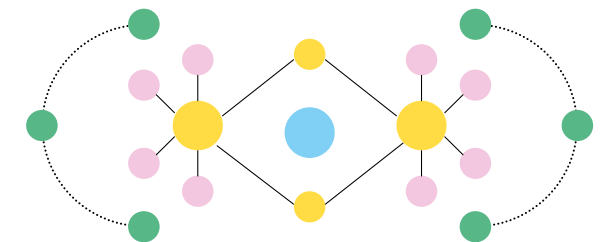
Epicentre



Platform



Orbit



Balanced

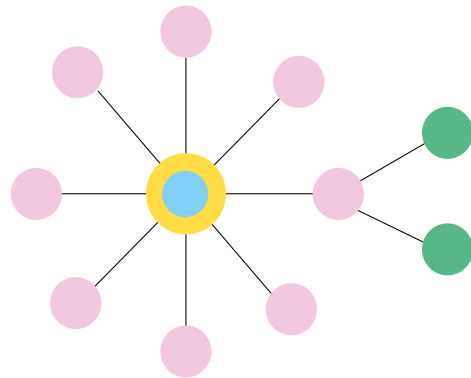


SuDS

While SuDS is not a partner per se, it represents a critical node around which a partnership structure can be formed. As its one of the most fixed parts of the system, the physical topology of SuDS infrastructure may influence the way the partnership system of stakeholders is organised.

The SuDS topology will vary, ranging from a single SuDS feature, to a network of distributed rain gardens, or a ribbon of interconnected SuDS and local nature sites. The SuDS physical design and its geographical distribution is likely to influence the form of a partnership structure, and how partners relate to each other on the organisational level.

Typology 1: Epicentre



Centred around an existing local partner with established connections, it brings a network of supporters under a shared goal of generating and amplifying social value for the community.

This partnership can be formed around an existing community group that is well-placed to take ownership and lead the operations and maintenance of SuDS+ amenities. As the primary end-user, they are the key contributor to the vision and design of the facilities.

Building on the partner's existing connections, this partnership can bring together an extensive and robust network of community members, funders and other beneficiaries that already support the group with its activities and services.

Strengths

If anchored around the existing group, it may come with strong connections with a wide range of partners. SuDS+ are designed and tailored to amplify the positive impact that community group already generates.

Vulnerabilities

Centring around a specific community group may disadvantage other groups from gaining support and competing for the same resources, such as funding.

Relying primarily on a single group can also mean that if the group is weakened due to changes in funding or staff, the whole initiative could be in jeopardy.

If the SuDS+ amenity doesn't serve the core partner's needs or overburdens them with unexpected work and spending, this may result in the core partner disengaging and relinquishing their role as SuDS Adopter.

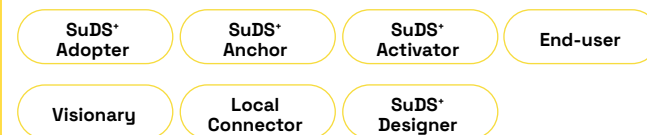
SuDS+ Type

Bespoke SuDS+ amenities that are designed to meet the needs of a specific community group. Could be any number of SuDS features as they need to be co-located with the community group premises, meaning the locality may dictate the type.

Partnership Roles

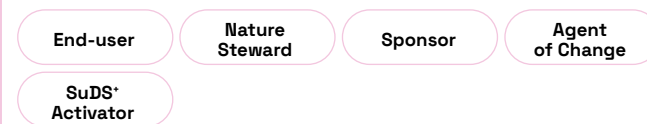
Primary Partners

Local community group



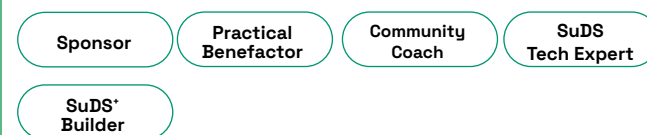
Secondary partners

Individual Community Members, Housing Association, Schools, Allotment Association, Youth Groups, Community Groups



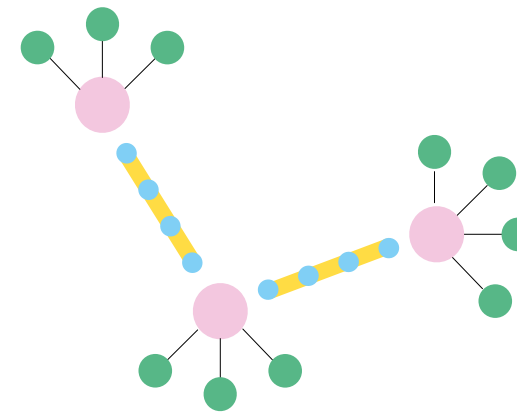
Tertiary partners

Local Businesses, Nature Trusts, Local Authority, Universities, Charities



Concept Reference: Edible SuDS

Typology 2: Platform



A dynamic partnership that is formed at different points in time through community events and activities that make use of the distributed SuDS+ infrastructure and amenities.

This distributed model is a dynamic system of partners that activate and look after the SuDS+ amenities. Activations occur at different points in time and across various SuDS that are dotted across Stanley South forming a network of nature sites. Existing and new community groups and initiatives can act as SuDS+ activators utilising SuDS as part of educational nature trails, wellbeing walks or sport activities, as well as potentially providing ad hoc maintenance activities, such as litter picking.

Spanning across different formats and temporality, these activations can be branded under a common theme of environmental care and value of nature.

Strengths

The dynamic nature of this partnership typology allows partners to be flexible and creative as to when, where and how they show initiative and with whom they collaborate. Using SuDS as a platform to form new partnerships, partners can expand or create new services, and thus provide the local community with a broader and richer offering on events and activities.

Vulnerabilities

As involvement by the 'activation' partners may be periodic and change throughout the year, there is a need for a consistent partner that will provide a remedial maintenance of the SuDS infrastructure and relevant amenities.

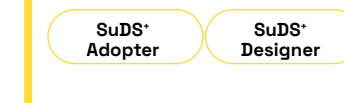
SuDS+ Type

Network of SuDS+ linked to walks and trails connecting SuDS and nature spots that are dotted across the residential area, parks and local countryside.

Partnership Roles

Primary Partners

Land owners
(e.g. Local Authority, Water Utility, Farmers, Nature Trusts)



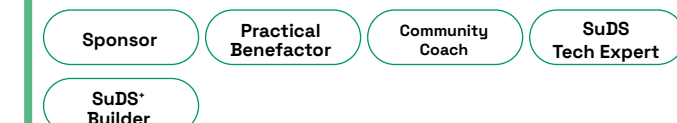
Secondary Partners

Events and Initiatives Organisers, e.g. Local Community Groups, Fitness Groups, Youth Groups, Nature Groups



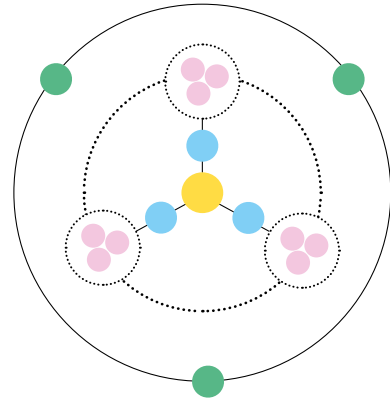
Tertiary Partners

Local Businesses, Nature Trusts, Local Community Groups



Concept Reference: SuDS Nature Trails

Typology 3: Orbit



While overseen by a single governing entity, smaller partnership are formed around specific SuDS+, as they come together to co-design facilities, use them, and share upkeep responsibilities.

This partnership can be formed between a lead partner who owns and manages the SuDS+ and a network of voluntary groups of residents that can provide localised support to the individual SuDS geographically connected to the group.

When in use, the lead partner can provide a 'hard maintenance' of SuDS, ensuring that it performs its primary functions and any significant repairs and improvements to the amenities. While, the residents' groups can take responsibility for keeping it clean and tidy, looking after the plants and activating it with community activities and small neighbourhood-scale events. Tertiary partners could provide specialised expert input during the facility's design stage, or funding and grants for its maintenance. Local residents are actively involved in the co-designing the future amenities to ensure that the SuDS 'plus' features respond to the end-user needs.

Strengths

Sharing the manageable care responsibilities with the local residents encourages a shared ownership and enables them to shape their spaces over time. SuDS+ amenities are tailored to the end-users needs. Consistent support from the primary partners. Benefiting from the organisational connections of the primary partners for funding.

Vulnerabilities

Shifting of priorities, loss of funding or changeover of staff within primary partners can reduce participation. Engaged people losing interest over time or no longer being able to be involved in supporting and looking after the facilities.

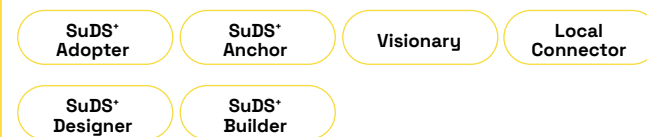
SuDS+ Type

A network of SuDS dotted across the residential areas providing useful public realm amenities for local residents, such as playgrounds and parks.

Partnership Roles

Primary Partners

Local Authorities, Housing Association



Secondary partners

Individual Community Members, Housing Association, Schools, Allotment Association, Community Groups



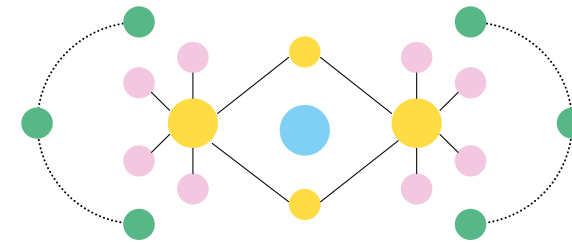
Tertiary partners

Local Businesses, Nature Trusts, Local Authority, Universities, Charities



Concept Reference: Sensory SuDS

Typology 4: Balanced



Formed of an equal partnership between the local community and institutions, this model plays on the strengths of both sides.

Based on a balanced relationship between two clusters it develops a mutually-beneficially partnership between institutional and community stakeholders. The critical linkages between these clusters can be local organisations or local service providers, such as Stanley AAP or housing association, to represent the community's voice. Linking partners can also be well-placed to provide funding for the community groups and be responsible for a broad programme of community development activities. Community plays a crucial role in visioning and using the final SuDS+ amenities, with less involvement around the design and construction.

Strengths

Potential to develop skills by investing in community groups, which could increase the employability of local people and attract jobs and investment in local businesses and industries.

Vulnerabilities

Majority of vulnerabilities relate to major organisations and the importance of maintaining the focus on the project in the face of changing priorities. This could include changing political party leadership at the Local Authority level, either DCC or STC, or changes in private companies, like the housing provider.

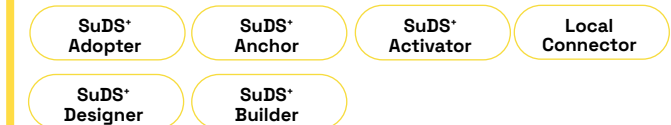
SuDS+ Type

This can take various forms, and be located within specific areas or distributed across the area.

Partnership Roles

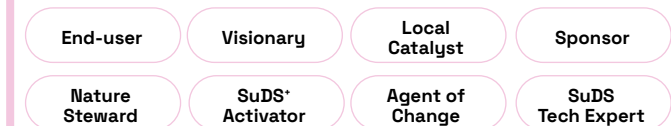
Primary Partners

DCC, STC, Local Community Groups/ Residents, AAP, Housing Association, Water Utility,



Secondary Partners

Local Residents, Community Groups, Schools, Elected Representatives, Clubs, Youth Groups, Nature Groups, Water Utilities



Tertiary Partners

Energy companies, Local Culture and Heritage, Local Businesses, Think Tanks



Concept Reference: SuDS Demonstrator

Case Study I

Augustinborg | Malmö, Sweden

A neighbourhood-scale climate adoption project that over 10+ years introduced various SuDS measures, including green roofs, retention ponds and ducts, green spaces and wetlands to counteract the flood problem caused by overflowing drainage systems. These delivered along with the public amenities to generate social and economic benefits, such as botanical gardens, a pool of cargo bikes, and own production of renewable energy via solar cells.

Stakeholders involved

- City Council
- Social housing company
- Residents
- Local Businesses
- Schools

Partnership approach

The project was carried out collaboratively by the city council and the MKB social housing company, with extensive participation by the residents. The participative nature of the project and the involvement of the residents in the planning and design of different components meant that there was little opposition, and it fostered sense of ownership and raised awareness of environmental and social issues among the residents. This provided opportunities for the area to tackle wider social issues while developing these nature-based solutions. An extensive and iterative process of

stakeholder engagement was also initiated during the design and execution of this project, involving a 'rolling programme' of consultation with local residents, representatives from the local school, practitioners, city authorities and local businesses.

Benefits created

- Unemployment fell from 30% to 6% (to Malmö's average); Participating residents have initiated a number of small- and medium-sized enterprises, increasing local employment opportunities
- Three new local companies were created as a direct result of the Eco-city project (Watreco - working on the open storm water management system, the Green Roof Institute, and Skåne's Car-Pool)
- 40 people were trained in sustainable practices, which helped them to find jobs
- Attractive, multicultural neighbourhood in which the turnover of tenancies has decreased by almost 20 per cent



Augustenborg Botanical Roof Garden | [Green Roofs.com](https://www.greenroofs.com)



Ekostaden Augustenborg | [Ellen Umanskaya](https://www.ellenumanskaya.com)

Case Study II

Moorlands Junior School | Greater Manchester, England

A small-scale innovative financing project that implemented SuDS measures, such as rain gardens, permeable paving, and infiltration trenches, to divert rain from the school's playgrounds, roofs and car parks from the public sewer and to achieve a reduction in surface area water charges as result. SuDS included features to be used by children and the wider community to learn about the water cycles, flora and fauna, and improve local biodiversity.

Stakeholders involved

- Moorlands Junior School
- DEFRA, United Utilities
- Natural course
- Stantec, Arup, Marshalls and Costain
- Wildfowl & Wetland Trust, British Geological Survey, Environment Agency
- Greater Manchester Combined Authority

Partnership approach

A partnership between the school and a range of partners. The school's Eco Council made up of student representatives was involved from the start of the project. Children and teachers were part of the design process feeding into the design of the SuDS, which ensured long-term sustainability of measures. A planting event introduced the school children and teachers to the rain garden and helped infuse a sense of ownership. The contractor provided training

for plant maintenance to the future caretaker as part of the works. The children of the school have fostered a sense of ownership for their green areas through helping to plant their new rain garden. As most SuDS measures are on the surface and can be managed using landscaping techniques, maintenance is delivered by the school as well.

Benefits created

- The school has reduced their water surface charge
- Sense of ownership for children
- Education and amenity- SuDS is used by children and the community for educational purposes to learn about water and the environment
- Biodiversity and habitat creation
- Demonstrator site for potential scale up across Greater Manchester

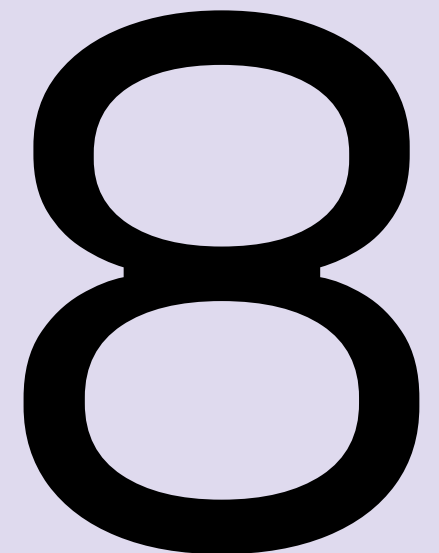
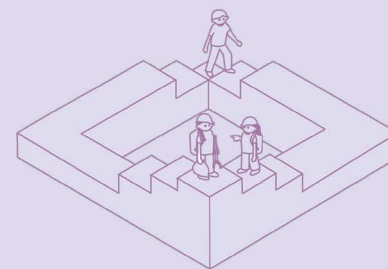
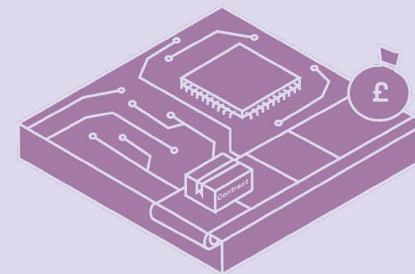
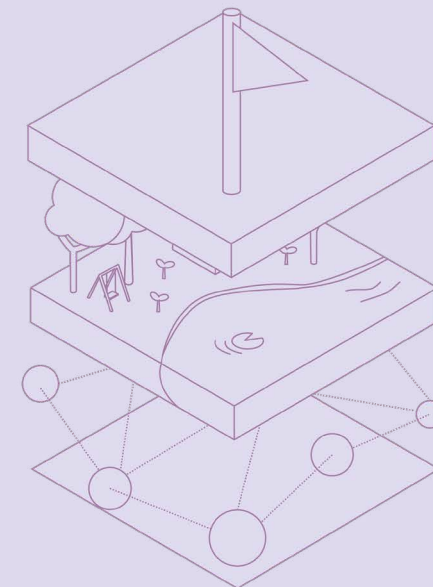


Moorlands Junior School SuDS | [Susdrain](https://www.susdrain.com)



Planting event with school children and business leaders | [Susdrain](https://www.susdrain.com)

Addressing System Barriers



Problem Statements

Deconstructing the problem

Managing flooding requires complex interactions between environmental, institutional and community systems. Tackling this problem in its totality would be challenging and potentially fruitless as many problems that have been tackled in this way have had limited success.

Instead of repeating this approach, the SuDS+ project focuses on deconstructing the problem into several smaller problems. Doing so can: reduce complexity and makes the problems easier to digest; create a positive culture around SuDS+ as frequent small wins increase positive sentiment and create a pattern that will increase interest and attract collaborators; and reduce overall risk to the process - if one part cannot be solved - but others succeed - the programme can still achieve successes.

The barriers for delivering SuDS+ type projects, have been divided into **11 problem statements** across the areas of **Design, Adoption and Monitoring**. The problems have been defined through community and stakeholder engagement, and desk research. This involved validating the proposed problem areas through discussions with experts within the project partnership and broader industry stakeholders including the Environment Agency, Rivers Trust, Northumbrian Water, Greater London Authority, United Utilities and Dark Matter Labs. Each brought a diversity of perspectives to inform the SuDS+ system redesign process.

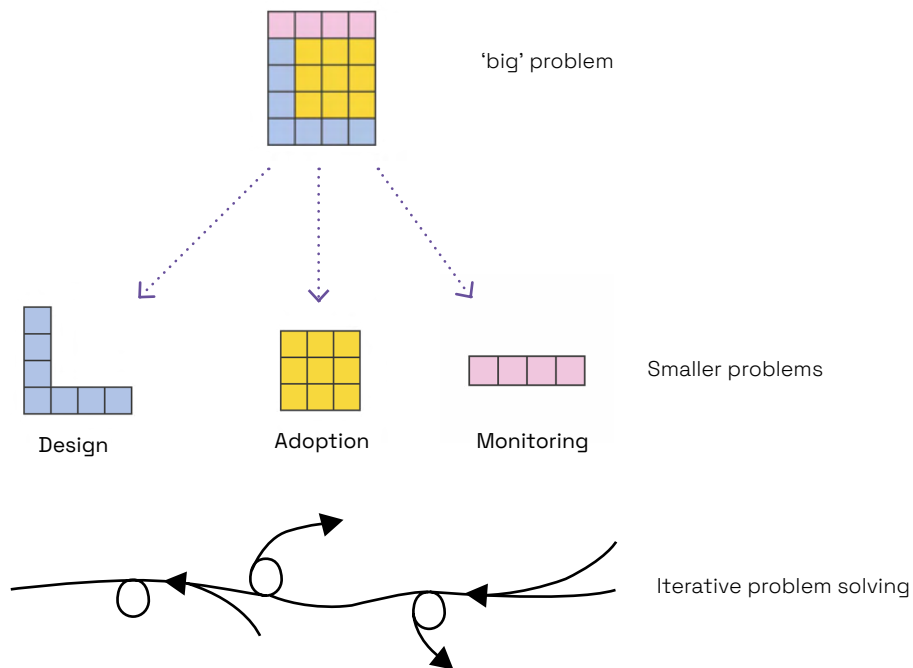


Figure 13 | Deconstructing the problem

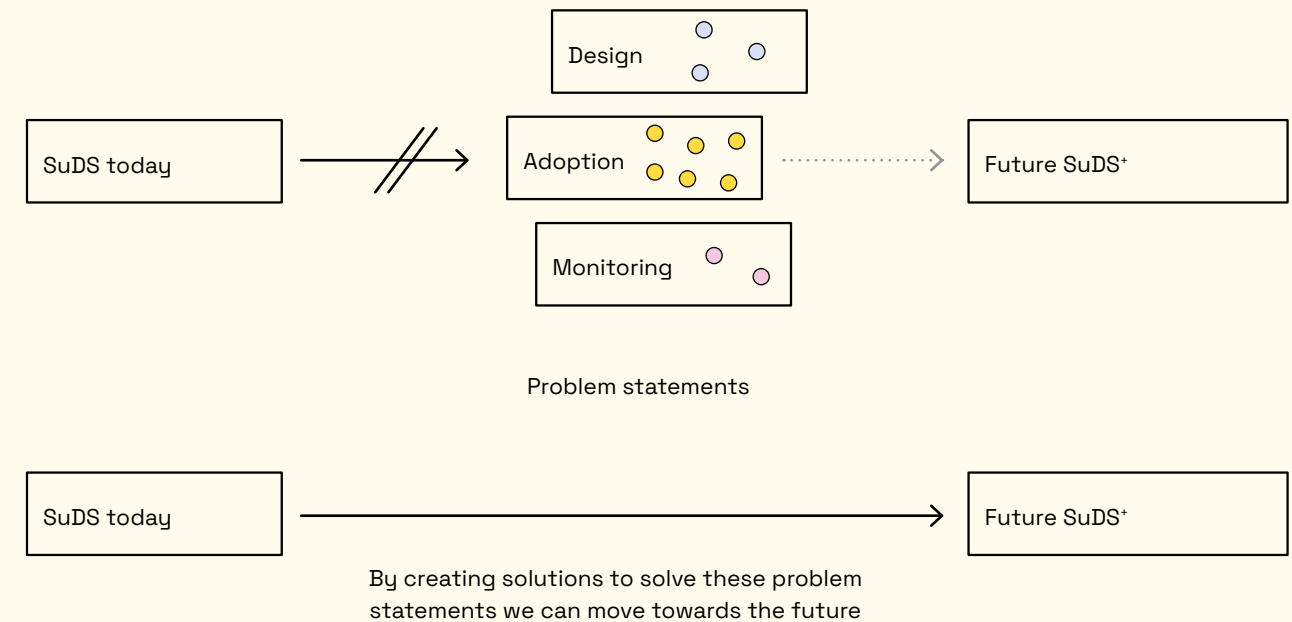


Drainage South Moor Memorial Park



Rain garden on Pine Street in February 2022

Transitioning from the status quo to the desired future

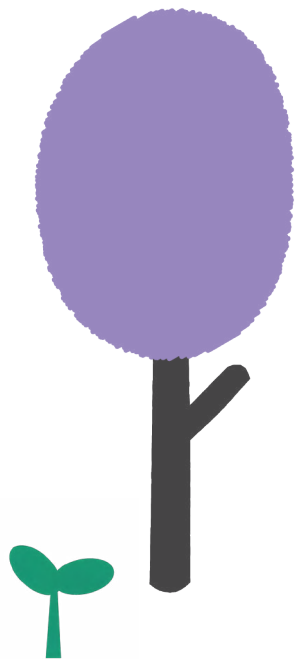


Problem Statement Overview

Design, Adoption, Monitoring

Six problem statements have been identified within each problem area: Design, Adoption and Monitoring. These problems are both technical and human in nature.

Each problem statement reflects one of the system barriers that is inhibiting the transition from the status quo to the proposed SuDS⁺ future. By addressing each through market-facing challenges, it becomes possible to realise a transition to a SuDS⁺ future.



Problem Area 1: **Design**

SuDS are much more than just a flood resilience device and it is key to recognise this at the outset of the design process of SuDS schemes.

- D.1 Bespoke SuDS design processes add complexity, uncertainty and limit uptake of SuDS at scale
- D.2 SuDS often don't design for wider benefits within a scheme, meaning these are rarely realised
- D.3 Without meaningful co-design of SuDS, communities often don't understand or value them

Problem Area 2: **Adoption**

To re-think how we design infrastructure systems from large centralised infrastructure towards climate resilient distributed infrastructure requires a re-think of our relationship with infrastructure itself.

- A.1 The total value of SuDS is under accounted for in current assessment approaches reducing the incentive to invest in them
- A.2 The providers and receivers of value through the lifecycle of SuDS are not recognised
- A.3 As SuDS are often considered individual assets, rather than connected systems, they don't reach their full potential
- A.4 Without mechanisms for sharing the value created by SuDS, stakeholder support cannot be sustained
- A.5 A thin connection between people and natural systems impedes strong community stewardship roles
- A.6 Not involving the community in SuDS decision-making leads to lack of engagement and care

Problem Area 3: **Monitoring**

SuDS projects need to fulfil certain functional requirements – which might be about flooding, water or air quality or recreation space and are typically designed to meet these requirements. These solutions need to be accompanied by robust data and analysis designed to track performance against these requirements.

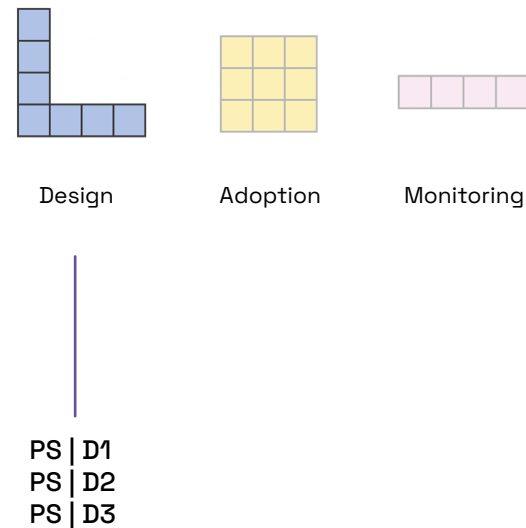
- M.1 The value generated by SuDS throughout their lifecycle is poorly or inadequately measured
- M.2 The value generated by SuDS is not communicated clearly and engagingly to all

Design: Problem Statements D1 – 3

In aspiring to SuDS+ designs that maximise value for the communities they intend to serve, there are several design-specific problems that need to be addressed.

Despite being well-established technologies, the uniqueness of every SuDS scheme (as just flood prevention measures) limits widespread implementation. Where SuDS are implemented, there are no standard details that make it simple to introduce other **wider benefits*** like amenity, into a scheme. Alongside, there are few participatory mechanisms that allow communities to inform and prioritise the types of 'plus elements' that are invested in within a scheme or to understand flooding.

It is only by addressing these three problems of, scalability, standardisation and community-participation that SuDS+ designs can create highly valuable and valued local assets.



“The best practice principles of multifunctional SuDS described in The SuDS Manual are rarely used as the basis for schemes submitted to planning.”

96% of authorities reported that the quality of submissions was either ‘inadequate’ or ‘mixed’. The Non-Statutory Technical Standards ought to be expanded to include water quality, biodiversity and amenity”

**Achieving Sustainable Drainage,
The Landscape Institute**

*Wider benefits

Sometimes referred to as the SuDS+ 'plus' elements are also expressed as supporting, provisioning, regulating and cultural ecosystem services. In addition to managing flows, volumes, and diffuse pollution SuDS can positively impact air quality, carbon reduction, recreation, education and other dimensions of community health and well-being which have monetary or non-monetary social value ([Susdrain, 2022](#)).

Problem Statement | Design 1 Bespoke SuDS design processes add complexity, uncertainty and limit uptake of SuDS at scale

Business as usual. Unlike traditional water infrastructure, SuDS design needs to take into account the local conditions and often bring together multiple partners through their lifecycle, meaning each one is designed anew.

Impact. As many designers and contractors are not familiar with SuDS-specific design constraints, projects are routinely delayed and highly costly, and there are typically fewer qualified practitioners in the market.

Accordingly, the bespoke nature of SuDS can impact on the design, procurement and implementation. For example, existing procurement frameworks can be unsuitable, meaning a designer or contractor on a highways framework might not be qualified to design a SuDS scheme. SuDS also require integrated working relationships between project designers and contractors to reduce the potential for re-design as site specific challenges can arise and impact the functionality of the SuDS.

Further, different SuDS features need different levels of expertise, from very specialist designs like a complex retention basin, to simpler interventions like downpipes or waterbutts. As a result, when designers without the required expertise are commissioned for a project via existing framework contracts, often remedial work is required, which can cause delays or additional costs.

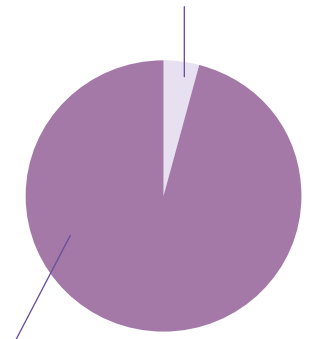
Such variability and complexity contributes to why SuDS are often not considered at the outset of flood risk project or widely implemented when other improvements to the urban realm are made.

Provocation for SuDS+
How can we simplify the design and delivery of SuDS to ensure they are considered at the outset of every infrastructure or masterplanning project?

“Commercial confidentiality meant external designers [with specialist SuDS skills] couldn't see the highways framework contract rates [agreed for materials]. As a result, the materials proposed were either not within the contract [cost envelope] or were not the best value option [compared to standard highways materials]. This led to extensive re-working of the design”

London Borough of Hammersmith & Fulham

Only £ 200 million is being spent on SuDS:
4% of total budget



Over 6 years, 2021 to 2027 there is £ 5.2 billion being spent on flooding infrastructure

Figure 14 | [UK Government, 2020](#)



Greener Grangetown in Cardiff | [Arup](#)

Problem Statement | Design 2

SuDS often don't design for wider benefits within a scheme, meaning these are rarely realised

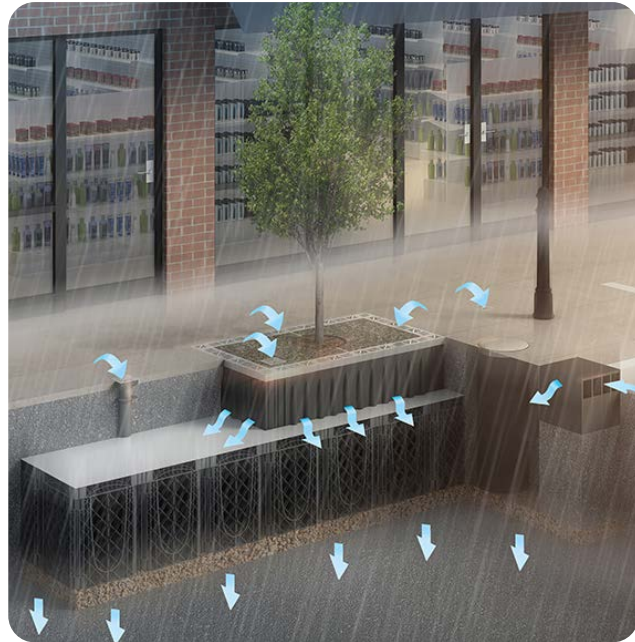
Business as usual. The primary aim of most SuDS projects is to reduce flood risk. Any other benefits are typically calculated after the design is done, and may not be deliberately designed for.¹ As a result, there are not well-established SuDS designs that provide guidance on how to 'design in' multiple benefits like biodiversity, amenity and carbon sequestration.²

Impact. By not considering these more comprehensive benefits at the outset of the SuDS scheme, it is harder to attract other possible partners to SuDS projects, like the NHS, housing developers or regeneration departments of local government. This means opportunities for partnership delivery are often missed, and SuDS schemes tend not to attract co-investment. This lack of investment to fund the delivery of wider benefits contributes to SuDS not being perceived as cost-beneficial.

Further, exemplar schemes that creatively design for more than just flooding benefits, do so in a scheme-specific way, without common frameworks to draw upon. Consequently, these types of SuDS schemes have higher embedded engineering costs, and can reduce the calculated cost benefit ratio and reduce the likelihood of implementation. Where existing modular designs for SuDS do exist, these tend to only focus on the below ground elements designed for flood risk management - and do not integrate elements able to address other community needs, like health or economic prosperity. The lack of investment from partners, and the higher design costs both contribute to SuDS not being delivered on the scale needed across the UK to become an instrumental tool for managing surface water.

Problem Statement A1 elaborates on the need for more comprehensive accounting of SuDS schemes.

Provocation for SuDS+
How can the multiple potential benefits of SuDS be designed into a scheme?



GreenBlue Urban ArborFlow System | [Green Blue Urban](#)



Cyclehoops | [Cyclehoops Ltd](#)
is street furniture designed to maximise on-street amenity and is the type of intervention that could be incorporated into a SuDS feature.

¹ Ashley RM, Digman CJ, Horton B, et al. (2018) Evaluating the longer term benefits of sustainable drainage. Proceedings of the Institution of Civil Engineers - Water Management 171(2). ICE Publishing: 57–66. DOI: 10.1680/jwama.16.00118.

² O'Donnell EC, Woodhouse R and Thorne CR (2018) Evaluating the multiple benefits of a sustainable drainage scheme in Newcastle, UK. Proceedings of the Institution of Civil Engineers - Water Management 171(4). ICE Publishing: 191–202. DOI: 10.1680/jwama.16.00103.

Problem Statement | Design 3

Without meaningful co-design of SuDS, communities often don't understand or value them

Business as usual. During the planning and design of SuDS the local community is typically only consulted on an ad hoc basis and often quite late in the design process, when their input or influence on the SuDS scheme is limited.

Impact. When communities aren't included in the process, they often don't understand the purpose of SuDS and can feel that designs don't fit local needs. Instead, they are sometimes considered to be "helicoptered in" by the local council or water company. This can negatively impact the relationships between the community, the local council and the water company and reduce the likelihood of public acceptance and successful adoption of SuDS.

Many communities across the UK have complex and nuanced historic relationships with flooding and the urban realm, which will impact how they understand and perceive SuDS throughout their lifecycle. By understanding these relationships, it is possible to design SuDS schemes to create new relationships with natural water systems and the sector.

Early and consistent engagement is needed throughout the design process, from feasibility studies through to detailed design in order to ensure the views of the community inform SuDS designs and encourage a sense of ownership.³ It is critical for a diversity of views and knowledge types to be actively sought.

Beyond functional value, it is important for SuDS and Green Infrastructure to enhance the aesthetic appeal of places to be accepted by the communities, something which requires close collaboration between designers and communities who have different perceptions about what 'looks good'.⁴

³ Frantzeskaki N (2019) Seven lessons for planning nature-based solutions in cities. Environmental Science & Policy 93: 101–111. DOI: 10.1016/j.envsci.2018.12.033.

⁴ Barclay N and Klotz L (2019) Role of community participation for green stormwater infrastructure development. Journal of Environmental Management 251: 109620. DOI: 10.1016/j.jenvman.2019.109620.

"Good stakeholder and community involvement in the design... includes assessing and responding to diverse (actor) needs and requirements, especially those of vulnerable social groups that affect and/or are affected by the NBS [nature-based solutions] and their outcomes (i.e. migrants, elderly people with disabilities, etc.), but also including different types of knowledge, such as scientific, local, tacit or experiential knowledge"

Bettina Wilk, proGReg

Engagement challenges from other projects:

Overcoming histories of tokenistic engagement
When setting up the Newcastle Parks Trust to care for and sustain greenspace in Newcastle, the team undertaking the consultation struggled with "getting people to believe that it was not tokenistic" and that the citizen voice was valued and could have impact.

Not representing the interests of multiple groups
In the retrofit of the 1.2km path to create a green corridor between two parks in Barcelona, Spain, called the Passeig de Sant Joan, citizen engagement was performed too late to impact the design. Citizens were not included in the design phase of the work, and instead were presented with a final plan. As a result, the final design was criticized for advantaging businesses more than citizens.

Provocation for SuDS+
How can we involve communities in the design of flooding infrastructure to raise awareness around SuDS, encourage a feeling of ownership, and ensure designs reflect community priorities?

See **Vision Statement and Related Goals**
Goal 1.1: Information and tools about flooding
Goal 2.2: Inspire people to shape their local community
Goal 2.3: Give people a stake in the community (pg. 76)

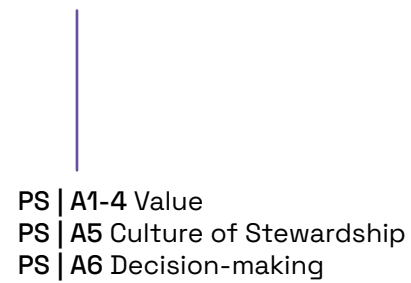
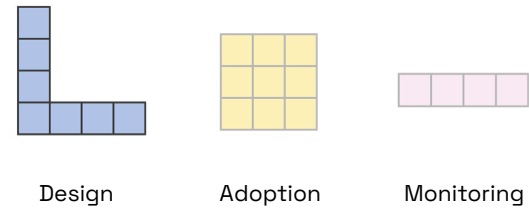
See **Community Engagement Strategy** (pg. 169)



Adoption: Problem Statements A1 – 6

For SuDS+ schemes to be sustainably adopted and maintained over the long term, several problem areas need to be addressed: **Value, Culture of Stewardship, and Decision-Making.** By addressing these three problem areas it is possible to create SuDS+ schemes that provide value to all stakeholders and remain sustainable in the long-term.

- Value | A1-A4**
 The range of comprehensive benefits that a SuDS scheme can create needs to be valued. The value created needs to be able to be captured and transferred throughout the whole lifecycle of an asset. This is an essential underpinning of any partnership around a SuDS feature.
- Culture of Stewardship | A5**
 Communities are increasingly separated from nature, which reduces their understanding of the importance of SuDS and the benefits they bring and can decrease their desire to engage with SuDS through their lifecycle.
- Decision-making | A6**
 Currently, not all stakeholders are engaged and have their views represented equally in the decision making process. Without representation, schemes can fail to receive broad stakeholder and community buy-in.



Transfer of ownership happens formally, but the necessary funding and support is not provided.

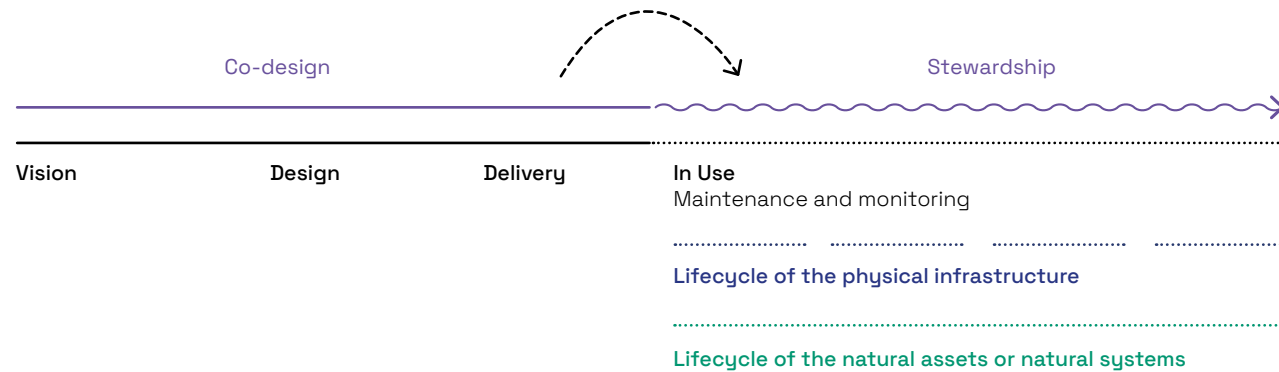
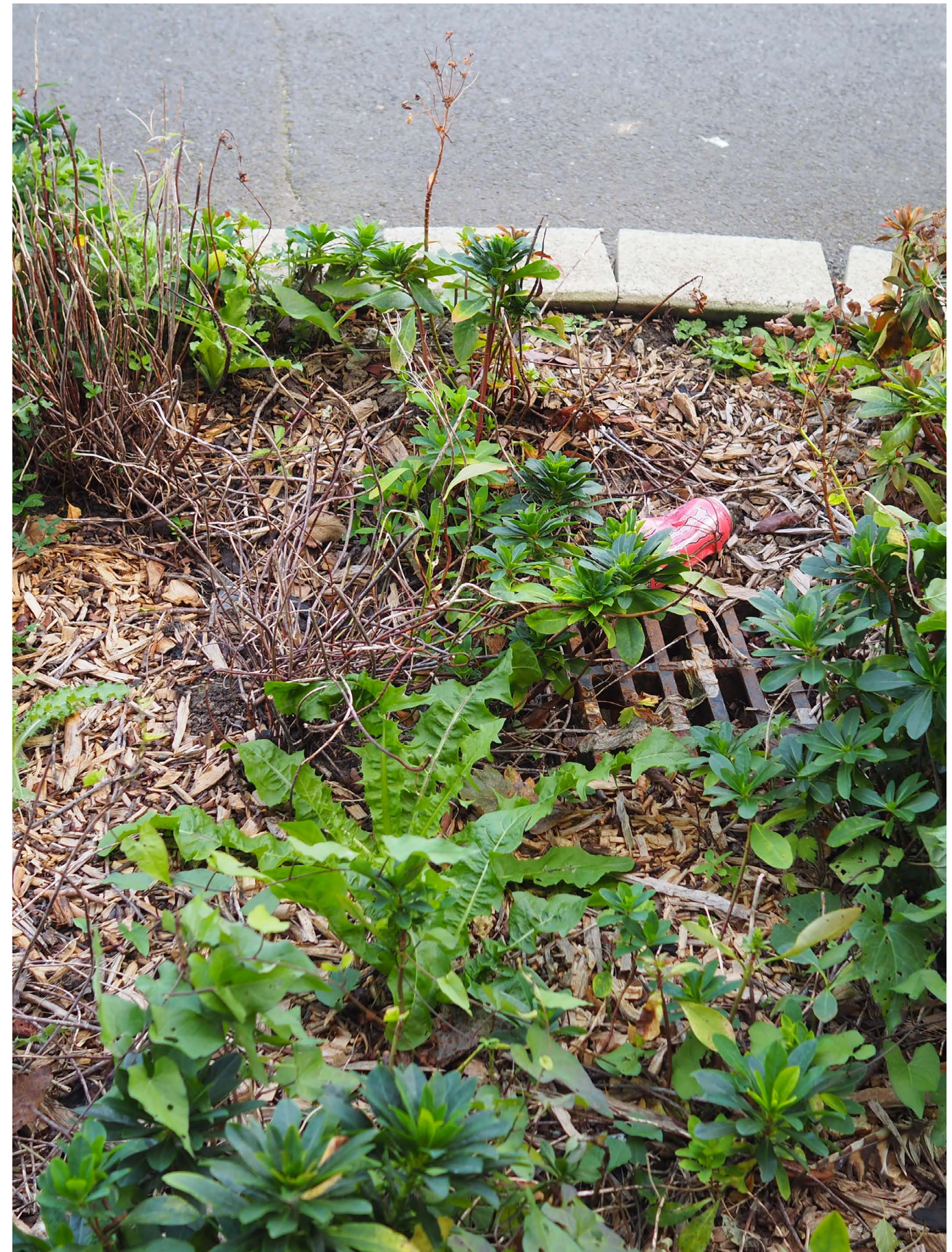


Figure 15 | Current asset life cycle for SuDS



Adoption: Value of SuDS Problem Statements A1 – 4

The full range of benefits of SuDS are often not released for all stakeholders, in particular communities who are typically not considered in the adoption of SuDS. This is partly because of how SuDS are valued and how this value is transferred between stakeholders. The challenges related to the value of SuDS, can be unpacked into four elements:

- **Quantifying value | A1**
Today there is no standard way of assessing the multiple financial or non-financial benefits created by SuDS. This can lead to a lack of consensus between stakeholders about the value SuDS can generate.
- **Identifying value | A2**
The value individual stakeholders provide and receive is not attributed to them and there is no current way for representing these exchanges.
- **Aggregating value | A3**
SuDS schemes are often viewed as individual assets delivered at the street level. They are rarely considered systems at a town or city scale. When compared to traditional water infrastructure systems, single SuDS units, can appear less impactful and be undervalued.

- **Exchanging value | A4**
There are limited ways of recognising or transferring SuDS value between stakeholders, which undermines partnership between these actors. As it doesn't allow for sustainable financial models to support the on-going activities of these partnerships outside of one-off financial contributions or the expectation that stakeholders take part without compensation.

These aspects of value are inherently interlinked and inform one another. By addressing these together, new distributed and democratic relationships can be formed. And it becomes possible for a full range benefits to be shared between institutions and the community across the lifecycle of SuDS features.



Figure 16 | Capturing the full value of SuDS

“For too long we have valued trees as costs, As a result, fifty percent of urban trees don't survive after 10 years of life, while the benefits generated by those same trees peak after 50 years. Trees are valuable assets. To reach our climate targets, and generate real environmental, social and economic benefits, we need to improve the planting and maintenance of trees in thriving urban forests”

Trees As Infrastructure Blue Paper

Problem Statement | Adoption: Value of SuDS | A1 The total value of SuDS is under accounted for in current assessment approaches reducing the incentive to invest in them

Business as usual. There is a lack of standardisation in the assessment and calculation of the monetary and non-monetary benefits of SuDS features over their lifecycle. This is exacerbated by a frequent failure to effectively account for the multiple benefits of SuDS beyond flood risk reduction.⁵

Impact. A lack of standard assessment methodologies results in a lack of consensus on the scale of benefits, both financial and non-financial, provided and received by different stakeholders and decisions are made without full consideration of the wider benefits a SuDS scheme may bring.

While there are well-established processes for quantifying the value of ecosystem services, for example the CIRIA B£ST tool, this is often not undertaken in a systematic way at the beginning of a project. As a result, proposed scheme options that create wider-benefits can be under-valued and not progressed, and the breadth of stakeholders invested in these wider benefits are not included in the design process, limiting innovation in SuDS+.

In the London Strategic SuDS Pilot Study, undertaken in 2021, the Greater London Authority and consultancy Arcadis calculated these at the project outset and found the health and amenity benefits far surpassed the flood benefits, when considering wider benefits as well the cost-benefit ratio rose from around 1.5 to between 3 and 30.

“These environmental services [air quality improvements, carbon reduction, recreation, education and other elements of community health and wellbeing having monetary or intangible social value] are of interest to a vast pool of Beneficiaries; corporations looking to offset their emissions and invest in local communities; water utility companies can rely on urban forests to retain water and sustain water quality; local governments and insurance companies can benefit from increased natural flood management; healthcare providers can benefit from preventative healthcare measures such as clean air; communities can grow. Food and improve their social and mental well-being”

Dark Matter Labs & Lucid Minds

“The socio-economic benefits (inc. physical & mental health, land values etc.) were determined to outstrip flooding and natural capital benefit by up-to an order of magnitude for some scenarios evaluated. This demonstrates the underlying holistic value of SuDS to urban communities and that, while flood mitigation generates a significant case for investment, in many cases it will be a secondary factor”

Simon Ainsley, Arcadis,
referring to the London Strategic SuDS Pilot Study

Provocation for SuDS+
How can the full value of SuDS features, monetary and non-monetary, be calculated over their lifecycle at the outset of the design process to encourage investment in SuDS from a range of stakeholders?

⁵ Vincent, S., Radhakrishnan, M., Hayde, L. and Pathirana, A. (2017). Enhancing the Economic Value of Large Investments in Sustainable Drainage Systems (SuDS) through Inclusion of Ecosystems Services Benefits. Water, [online] 9(11), p.841. doi:10.3390/w9110841.

Problem Statement | Adoption: Value of SuDS | A2
The providers and receivers of value through the lifecycle of SuDS are not recognised

Business as usual. During a SuDS project a selection of wider benefits, normally financial, might be calculated at the beginning of a project. This is then recorded within a Outline Business Case, but is not used to prompt conversations between the stakeholders who are expected to provide or receive these benefits.

Impact: As these benefits typically do not inform conversations between stakeholders they are not formally attributed to each. Consequently, SuDS projects are usually still funded by single organisations and the full benefits are not realised by the multiplicity of impacted stakeholders.

By not formally attributing the provision or receiving of value between different stakeholders, the benefits projects can create are often undervalued.

In February 2022, the UK Government announced a 'national plan for sport, health and well-being'. This plan recognises the impact of sports more widely and the positive impact they can have on health, well-being and subsequently the NHS. Joined up thinking of this kind, multiplies the number of benefits, stakeholders and funding available for initiatives. The Levelling Up agenda also requires infrastructure to provide a service, like flood risk reduction, while also creating job opportunities or health improvements. Only by assigning value to different stakeholders can this be achieved.

"The national plan would form an overarching framework document which would set out the government's vision, aims and objectives over a multi-year period and would bring together disparate strategies covering physical activity, health promotion, planning, housing, education, transport and more"

UK Government announcing the cross-sectoral approach to the National Plan for Sport, Health & Well-being

"With planned investment and a commitment to levelling up the economy from the UK Government, we must make sure our sector is equipped to deliver social value through infrastructure delivery and operation"

Professor Sadie Morgan,
 OBE National Infrastructure Commission

Provocation for SuDS*
 How can the providers and receivers of different forms of value over the lifecycle of SuDS be recognised to ensure that fair decisions are made about investment through their lifecycle?

Problem Statement | Adoption: Value of SuDS | A3
As SuDS are often considered individual assets, rather than connected systems, they don't reach their full potential

Business as usual. SuDS schemes are typically delivered by single organisations in the way a centralised flood defence, like a flood wall or a storage tank, might be.⁶ As a result they are treated as individual projects or features and not considered at a system scale.

Impact: This leads to disconnected decision-making, and undervaluing of SuDS, and often results in effort being duplicated by different stakeholders. In a town, a water company can often be implementing a SuDS scheme in the street next to one being delivered by the local council. This is because organisations are held accountable for **outputs** as opposed to **outcomes**. A water company's targets are focused on reducing overflows from specific Combined Sewer Overflows, while a council is responsible for localised flooding problems, rather than taking a joint approach to human or environmental health.

When SuDS are implemented they tend to be centrally managed schemes, focused on a street or single asset, and delivered by one organisation. The result is many individual SuDS infrastructure units that don't act together as a system, and therefore do not deliver substantial flooding, social environmental or economic benefits.

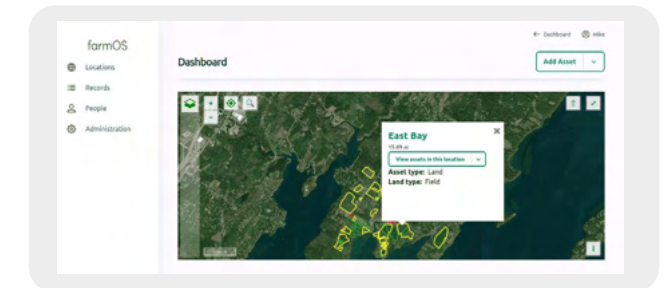
As a result of not considering the system-view of SuDS, no common formats for collecting and reporting data on SuDS have been created. Without this, it is difficult for joined-up decisions about SuDS to be made by multiple stakeholders, or for the full value of them to be communicated.

In other industries, ways of managing assets at a regional scale are being implemented. In the United States agricultural sector, Farm-OS is a free and open-source web-based farm management and record keeping system. It acts as a platform for farmers to create custom modules for decision support tools, observation tools and agricultural internet of things devices. This provides farmers with a open, collaborative way of intelligently managing their farm.

In London, the Mayor's Office has created an oversight role, to coordinate drainage and flooding projects across London. This supports London to make informed decisions about SuDS across the city.⁷

Systems-based approach to delivery - water-focused OBER [Outcomes Based Environmental Regulation] would incentivise companies to take a systems-based approach to identifying solutions. For built solutions, companies would likely have to pay for permits for additional negative externalities, reducing their attractiveness, whereas nature based solutions would generate credits, boosting their attractiveness. This is a big step towards more efficient delivery of the 25YEP [25 Year Environment Plan]"

Wessex Water,
 Outcomes Based Regulation report



FarmOS, an application for farm management | [FarmOS](#)

Provocation for SuDS*
 How can SuDS be treated as a system, rather than as disconnected assets or schemes to enable a proper assessment of the full value they are providing to all stakeholders?

⁶ Rollason, E., Cotterill, S., Shriya, P, and Bracken, LJB (in preparation) Sustainable Drainage Systems (SuDS) in the UK: an evaluation of current practice and recommendations for future uptake

⁷ [Mayor of London.\(2022 \). Surface water.](#)

Problem Statement | Adoption: Value of SuDS | A4

Without mechanisms for sharing the value created by SuDS, stakeholder support cannot be sustained

Business as usual. After a SuDS feature has been built they will typically be adopted by a single stakeholder, often the local authority or a water company. This adopter is responsible for ongoing maintenance and ensuring the feature continues to create the value it was designed to.⁸ There are no established mechanisms for capturing and transferring value generated over the lifecycle of an asset between multiple stakeholders.

Impact: Without a mechanism for transferring value, there are few incentives to sustain the asset in such a way that it continues to deliver multiple benefits for the whole SuDS lifecycle. It also prevents the development of innovative financing models for the construction and on-going maintenance of SuDS.

Where SuDS are adopted by a single organisation there are often uncertainties around the ongoing cost of maintenance. Without clarity, there can be a perception that the lifetime costs of SuDS are greater than the actual costs, which shrinks the scale at which they are implemented.

With an existing model for adoption that does not enable stakeholders to give or receive value, financial or otherwise, innovative financial or legal constructs cannot be developed. These could include green finance models like community investment vehicles, perpetual income bonds or the sale of ecosystem services credits.

In the Wyre Catchment in Lancashire, the Rivers Trust and other partners established the Wyre Catchment Community Interest Company to raise £850,000 of financial investment to fund Natural Flood Management interventions through the sale of a green bond. This bond was backed by a commitment to pay for the flood risk reduction over several years by the Environment Agency and the water company. Large organisations committing to making this payment de-risked the investment in Natural Flood Management and encouraged new investors who otherwise wouldn't have paid for the project.

"The scale of future environmental challenges means we must collaborate with partners and collectively take responsibility for protecting, improving and valuing our shared environment."

"We hope that the Wyre NFM [Natural Flood Management] project demonstrates the commercial viability of such projects to the investment community. We will then work with others in the finance sector to catalyse the scaling up of further similar projects both in the UK and around the world."

Emma Howard-Boyd,
Chair of the Environment Agency

"Farmers, and the organisations that serve them, can start using Farm-OS v2 for their data management today! And we can start working as a community on all of the big ideas that we've been preparing for"

Michael Stenta,
Farm-OS describing what can be enabled by creating an open platform

Provocation for SuDS*
How can the full value of SuDS be recognised and shared to create long-term sustainable models for their delivery and adoption?

⁸ Environment Agency (2013) An assessment of evidence on Sustainable Drainage Systems and the Thames Tideway Standards. October. Bristol.



Tree pit on Poplar Street, Stanley South

Adoption: Culture of stewardship Problem Statement A5

Biological ecosystems are fundamental for our natural and built environments. However, contemporary city-making is more often designed to separate people from nature.⁹

Short-sighted urban planning and extractive approaches to natural systems have shifted people's perceptions of natural environments from living self-sustaining systems with their own agency to often a mechanised rigid subordinate system at the service of the place or infrastructure. Such a one-sided relationship undermines the value of the natural ecosystem and its transformative potential in place-making and the well-being of both the human and biological communities.

To counteract this, there is a need to create and introduce new narratives and forms of interrelating with the natural environment that is not extractive. We need to nurture 'ecological collaborations' that promote a culture of care and reciprocity between human and biological 'kins' to shift the focus from nature being a commodity or a resource and people being passive 'users' of that resource.¹⁰

As the result, the culture of care can nurture new attitudes toward nature-based interventions such as SuDS, fostering a shared sense of respect and responsibility. Suppose SuDS is perceived not just as drainage or water infrastructure but a micro-world of 'animated' beings with plants, trees, birds, insects and aquatic life that all together enrich local biodiversity, help to absorb excesses of water, act as carbon sequesters, and create precious tranquil spaces that enhance human well-being. It may then increase the sense of stewardship and life-lasting cooperation between the nature and the human communities.

Positive feedback loops for SuDS

The smaller loop, A, shows how an increased understanding or learning fosters increased community and environmental resilience and improvements in health & wellbeing. The larger loop, B, shows how increased understanding of nature's powers and practical benefits leads to the prolonged operational life of SuDS due to the proactive collective care and more SuDS deployment. This leads to more benefits continuously created, enhancing community life and welfare.

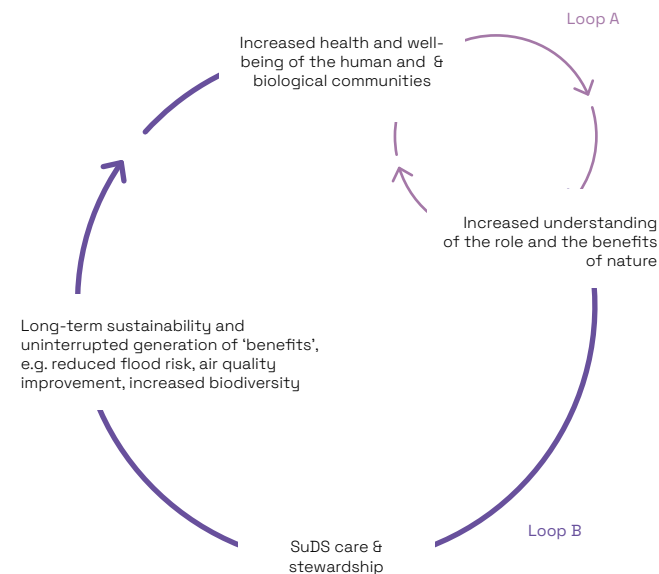


Figure 17 | Positive feedback loops for SuDS

"Restoring the land without restoring the relationship is an empty exercise. It is the relationship that will endure and relationship that will sustain the restored land. Therefore, reconnecting people and the landscape is as essential as re-establishing proper hydrology or cleaning's up contaminants"

Robin Wall Kimmerer, Braiding Sweetgrass

"If you feel that creatures that live in the place are happy, then you will be happy. You can literally taste it. It's the difference in the ground, in the soil"

Local resident

⁹ New Economics Foundation. (2022). Exposed: The collapse of green space provision in England and Wales. [online] Available at: <https://neweconomics.org/2022/05/exposed-the-collapse-of-green-space-provision-in-england-and-wales> [Accessed 24 May 2022].

¹⁰ Van Horn, G., Kimmerer, R., Hausdoerffer, J. (Eds.). (2021). Kinship: Belonging in a World of Relations. Illinois: Center for Humans & Nature

Problem Statement | Adoption: Culture of Stewardship | A5 A thin connection between people and natural systems impedes strong community stewardship roles

Business as usual. From school age up to adulthood there is very little education of the benefits of nature and the different functions it serves. When SuDS are designed and built there is little engagement with the community about what the purpose of the SuDS are and after they have been built there is no ongoing training and education about the needs of the SuDS.

Research indicates that one in eight households has no access to a private or shared garden, and, people on low incomes, are less likely to live within a 5-minute walk of a green space (46% of those with an annual household income under £15,000 compared to 70% of people with an annual household income over £35,000).¹¹

Impact: By not informing the community of the benefits and needs of SuDS it reduces their connection to them and can lead to schemes which are unloved and under-appreciated.

A school class in the UK is much more likely to be taught about the industrial revolution than the benefits of a tree. By not educating people about the benefits of nature it creates a culture of disconnection. The Birmingham & Black County Wildlife Trust worked with University College London (UCL) to understand the positive impacts of learning about nature and found there to be significant benefits of just being in 'green space'.

This disconnection is reinforced by our current infrastructure, where pipes are hidden underground and green spaces are covered in tarmac to make space for cars. SuDS are designed to functionally mimic natural processes, the trees in a rain garden are there to absorb water, the soil to let it soak away and clean it and the leaves to absorb carbon and make a place to local biodiversity. If this is not understood by the community, then they cannot see the benefits.

¹¹ Holland F (2021) Out of Bounds - Equity in Access to Urban Nature. Groundwork UK. Available at: <https://www.groundwork.org.uk/wp-content/uploads/2021/05/Out-of-Bounds-equity-in-access-to-urban-nature.pdf> (accessed 6 May 2022).

Proper stewardship can also provide the mechanism for 'green jobs' and 'green skills'. In Flint Michigan they have had major challenges with water quality, as a response the local community set up the Flint Community Lab, run by young people in Flint. The first aim was to heal the trauma of the water crisis, but as a result the young people have developed new lab skills which has helped them go to college or to get jobs.

"The children showed an increase in their personal well-being and health over time; they showed high levels of enjoyment and an increased connection to nature"

Birmingham and Black Country Wildlife Trust



Flint Community Lab | Sarah Schuch

Provocation for SuDS*
How can knowledge about local nature be embedded into communities to create a deeper connection to the local environment?

See **Vision Statement and Related Goals**
Goal 2.1 Encourage respect and care of the area and help to prevent littering and antisocial behaviour (pg.76)

See **SuDS* Partnerships**
To explore new roles, like 'Nature Steward' (pg. 128)



Adoption: Decision-Making Problem Statement A6

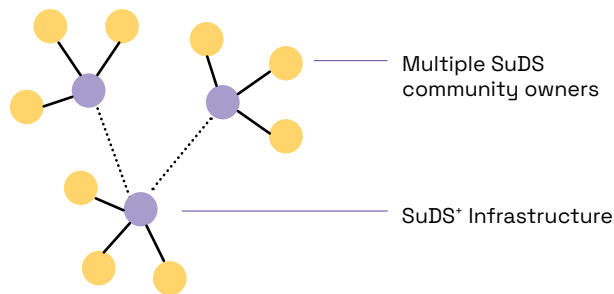
For SuDS+ to deliver diverse benefits to all stakeholders, especially the community, equitable participation in the decision-making process is needed.

Participation in planning activities is crucial for public support and the credibility of any decisions made about SuDS. Participation fosters a feeling of ownership and also ensures that SuDS are implemented that meet the needs of communities as well as other stakeholders.

Without doing so, SuDS schemes can be implemented that are not accepted by the community over the long-term and that don't provide value to their full potential. Past failures of SuDS, then creates an onwards reluctance by the community to participate in decision-making processes.

"It's our community. It is pointless having people who aren't affected making all of the decisions, as it will fail long-term"

Local resident



Decentralised ownership and decision making is where the authority to make decisions is distributed throughout a larger group

Figure 18 | Decentralised governance

¹² Rollason, E., Cotterill, S., Shriv, P. and Bracken, LJB (in preparation) Sustainable Drainage Systems (SuDS) in the UK: an evaluation of current practice and recommendations for future uptake

¹³ Frantzeskaki N (2019) Seven lessons for planning nature-based solutions in cities. Environmental Science & Policy 93: 101-111. DOI: 10.1016/j.envsci.2018.12.033.

¹⁴ Co-creating urban green infrastructure connecting people and nature: A guiding framework and approach. Journal of Environmental Management 233: 757-767. DOI: 10.1016/j.jenvman.2018.09.083.

¹⁵ [The Involve Foundation.\(2022\). UK climate change citizens' assemblies & citizens' juries](#)

Problem Statement | Adoption: Decision-Making | A6 Not involving the community in SuDS decision-making leads to lack of engagement and care

Business as usual. Decisions about SuDS schemes are typically made by a water company, the local council or a housing developer.¹² Communities and other smaller stakeholders are typically only consulted on an ad-hoc basis and after designs are nearing finalisation.

Impact: Without community views, one-sided decisions about SuDS can be made, where the benefits generated favour the larger decision-making organisation. Not seeing themselves represented or invested in the projects leads to a reluctance to care for and maintain SuDS throughout their lifecycle. It can also lead to disengagement by the community, as they don't feel like their views hold importance and remove themselves from the discussion.^{13,14}

Similarly, the views of smaller SuDS stakeholders, like local businesses or healthcare providers, are also often not captured or represented. Rather than decisions being undertaken collectively, the needs of one dominant stakeholder often overwhelm the needs of others. This can partly be explained by the current regulatory approach in the UK, which incentivises water companies and local councils to operate separately to deliver their outputs rather than coming together to deliver outcomes collectively.

Recognising the limitations of centralised decision-making, there are shifts towards new forms of distributed governance where the authority to make certain decisions is devolved locally. This allows decisions to be made more efficiently, it increases accountability and buy-in and can make decisions more locally relevant. There are various new technologies being implemented to enable this, an example is Quadratic Voting which provides a way to capture the views equally of all stakeholders by increasing the 'cost' of each additional vote and making the importance of other factors, like money, less relevant. For SuDS infrastructure this can enable more locally driven decision making about where they are, what they look like and how they are managed and maintained.

By not encouraging decision-making that equally and equitably represents the views of all stakeholders SuDS scheme can fail to generate the benefits they have the potential to, disengage the community and smaller stakeholders and reduce the scale at which they are taken up.

"By involving people in decisions - especially those most affected - decisions are more likely to be legitimate, effective and sustainable. In short, they're going to be better"

Emily Graham, Involve

Citizen Engagement on Climate Policy:

2019 saw many local authorities across the UK declare a climate emergency. Many national and local governments turned to deliberative democratic processes to meaningfully engage with members of the public to inform appropriate responses to the climate crisis.

A citizens' assembly is a group of people who are brought together to discuss an issue or several issues and conclude what they think should happen. The people who take part are chosen to reflect the wider population – in terms of demographics. Citizens' assemblies give members of the public the time and opportunity to learn about and discuss a topic before reaching conclusions. Assembly members are asked to make trade-offs and arrive at workable recommendations.¹⁵

In 2021, a similar initiative called The Social Housing Tenant's Local Climate Jury was run in the North of England. Karbon Homes and six other housing associations brought balloted residents together to discuss "how can tenants, social housing providers, and others work together to tackle climate change in our homes and neighbourhoods?". The resulting report sets out a series of resident recommendations.

Provocation for SuDS+
How can the views all stakeholders be included fairly into the decision making process for SuDS throughout their lifecycle?

Monitoring: Problem Statements M1 – 2

For SuDS+ schemes to remain valuable and retain support in the long-term their impact needs to be measured and communicated to community and stakeholder audiences.

SuDS projects are designed to deliver additional benefits beyond flood prevention, such as enhancing health and quality of life via better water and air quality or improved amenity and biodiversity . Ongoing funding can be dependent on demonstrating that these benefits are being created. However, today the performance and value being generated by SuDS are often not measured, or are poorly measured and reported to stakeholders or communities.

Measuring and communicating the value of SuDS assets can build confidence for future investments and grow public awareness of their value.

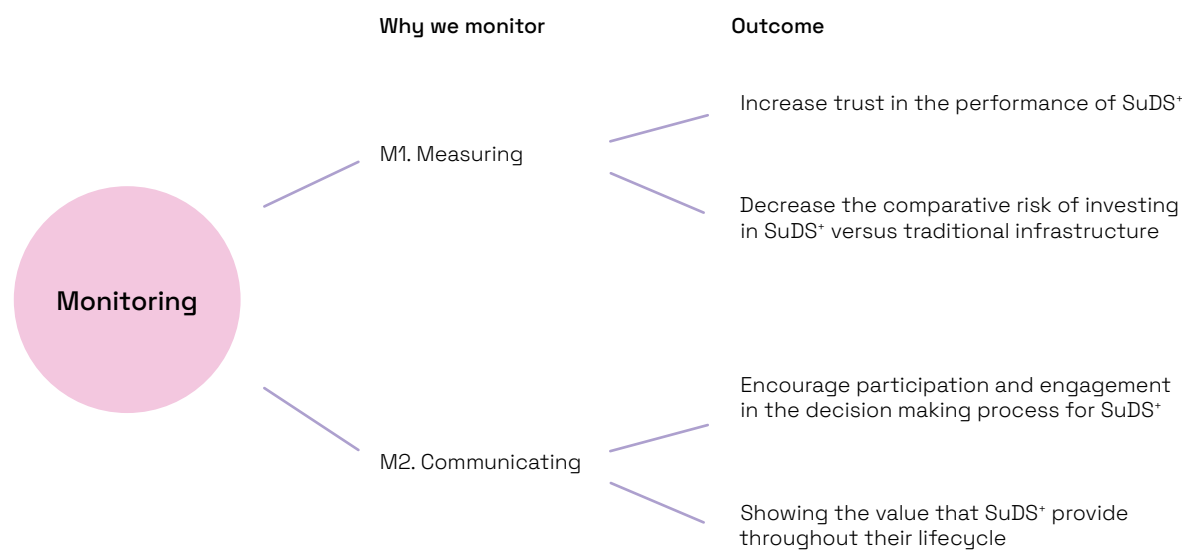
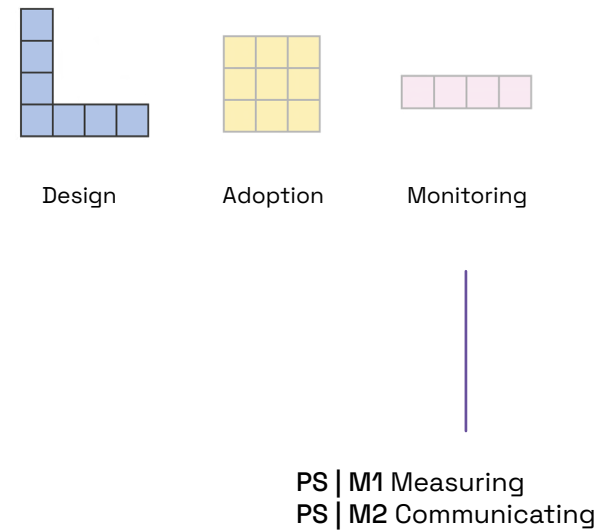


Figure 19 | Monitoring Outcomes

Problem Statement | Monitoring 1

The value generated by SuDS throughout their lifecycle is poorly or inadequately measured

Business as usual. SuDS projects are often implemented without any monitoring approach or tools, like sensing equipment. If sensors are fitted, they typically only record the primary drainage function of a piece of SuDS infrastructure.^{16,17}

Impact. Without any accurate data on the performance of SuDS, it is impossible to assess the value they are providing and how they are performing throughout their lifecycle.

This lack of performance data makes SuDS appear a riskier investment for potential funders who consider grey solutions more reliable. This perceived risk is reduced when there is standardisation in data collection and verification processes linked to innovation in technologies, like biodiversity monitoring through eDNA and satellite monitoring. A wider range of investors tend to participate.

Further, for communities, a lack of evidence around the performance of SuDS can lead to a lack of trust that the SuDS are delivering the promised benefits.

"[SuDS] can be a key tool in the management of extremes of rainfall, due to their capacity to attenuate and treat surface water. Yet, implementation is a complex process, requiring buy-in from multiple stakeholders. Buy-in is often undermined by a lack of practical evidence and monitoring of implemented SuDS."

Sarah Cotteril - Durham University

"The perception that nature-based solutions are a high-risk investment is preventing the deployment of capital at the scale needed."

Chatham House

"College students are participating in the program as Lab Technicians, learning how to process and analyze drinking water samples using sophisticated equipment and technology. This hands-on experience provides valuable and practical experience for future jobs and enhances academics"

The Flint Development Center

¹⁶ Cotterill S and Bracken LJ (2020) Assessing the Effectiveness of Sustainable Drainage Systems (SuDS): Interventions, Impacts and Challenges. *Water* 12(11), 11. Multidisciplinary Digital Publishing Institute: 3160. DOI: 10.3390/w12113160.

¹⁷ Melville-Shreeve P, Cotterill S, Grant L, et al. (2018) State of SuDS delivery in the United Kingdom. *Water and Environment Journal* 32(1): 9–16. DOI: 10.1111/wej.12283.

**Provocation for SuDS+
How can the many benefits of SuDS be monitored throughout their lifecycle?**

Problem Statement | Monitoring 2
The value generated by SuDS is not communicated clearly and engagingly to all

Business as usual. The benefits of SuDS are rarely if ever, communicated to communities or other stakeholders through the SuDS lifecycle. If it is, it is not done in suitable metrics or formats to be informative and useful.¹⁸

Impact. Not communicating the value of SuDS in accessible and relevant formats reduces the willingness of the community to engage in the design and adoption. It can also reduce the appetite for broader implementation of SuDS by stakeholders or investors who cannot see the total value.

Attempts at monitoring in past SuDS projects have not considered the correct formats and channels for communicating the findings with residents, leaving data in inaccessible formats, shared only in academic contexts or behind paywalls.

Suppose data collected on the performance of SuDS schemes is in inconsistent formats or does not record suitable metrics. In that case, it cannot be used to communicate the value of SuDS investments. Without easily usable evidence, SuDS cannot be considered an investable asset or put on the balance sheet of water companies or local councils to increase the scale they are delivered on.

By creating open, transparent and engaging communication that draws upon performance metrics and methodologies, the full benefits of SuDS⁺ can be realised.

Provocation for SuDS⁺
 How can the many benefits of SuDS be communicates accessibly and engagingly to all stakeholders throughout their lifecycle?

¹⁸ Mok, S., Mačiulytė, E., Bult, P.H. and Hawxwell, T. (2021). Valuing the Invaluable(?)—A Framework to Facilitate Stakeholder Engagement in the Planning of Nature-Based Solutions. Sustainability, [online] 13(5), p.2657. doi:10.3390/su13052657..

“Development of specific metrics, methodologies and standards that are capable of addressing the multiple impact outcomes across a wide range of NBS [Nature-Based Solutions] interventions is required to enable comparative assessment between NBS projects”

Financing Earth,
 A Market Review of Nature-Based Solutions

“Oberlin’s Environmental Dashboard website was set up to educate, motivate and empower the city’s community in transforming its ecological impact. Public data displays in the city library, in public buildings, and online show in real time the city’s water use, electricity use, and the health of its river. One July evening, as I browsed the website from my UK home over 3,500 miles away, I could track minute-by-minute Oberlin’s local ecological flows: the real-time carbon emissions produced in the city per person that hour, the volume of drinking water used and of wastewater treated, and even the oxygen levels in nearby Plum Creek as the stream flowed past”

Kate Raworth, Doughnut Economics

“They said that there would be data collected for the SuDS on Poplar Street, but we never saw it, it just ended up in an academic paper somewhere”

Local resident

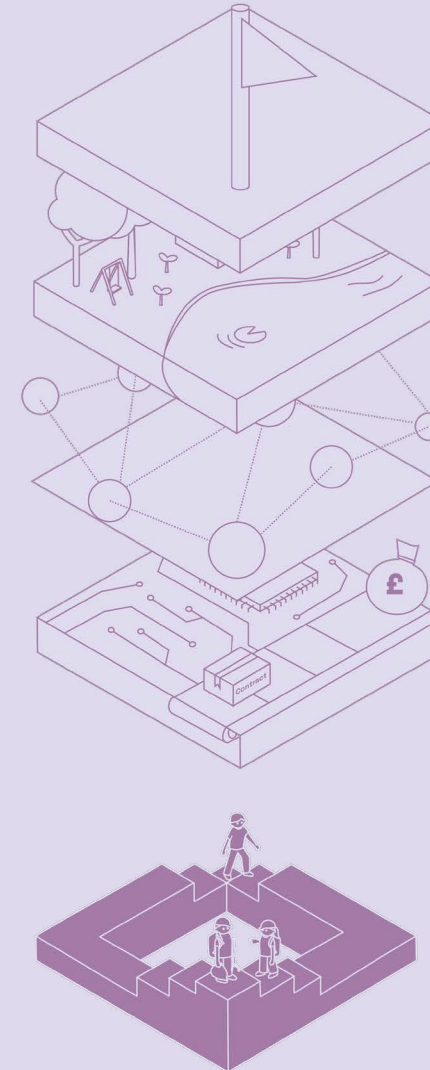


Oberlin Environmental Dashboard



Researcher taking notes in Stanley Memorial Park

Community Engagement Strategy



9

Community Engagement Beneficial for all involved

Community engagement is based on the democratic idea that everyone affected by an issue that impacts their community should have a say in the decision-making around it. It is understood as a strategic process whereby governments and organisations provide citizens with the necessary tools to get involved in decision-making and encourage them to discuss, assess and contribute to policies, services, and projects.¹ For governments and organisations, it's about listening to and working with communities to build long-lasting partnerships and develop meaningful and sustainable solutions to complex issues. Effective and well implemented community engagement can help to build momentum behind a project and lead to more equitable and sustainable outcomes. The earlier the community gets involved in a project, the greater the long-term success of a project will be, because it:

1. Builds trust between project partners and communities;
2. Increases local support for the project and encourages engagement in future projects;
3. Enables better decisions to be made;
4. Generates buy-in and acceptance by the greater majority;
5. Improves cost-effectiveness and adds economic value
6. Delivers politically robust projects and plans.^{2,3,4}

SuDS⁺ recognises the importance of meaningful and inclusive community engagement and seeks to place the decision-making power into the hands of the local community. By designing the engagement strategy in line with the SuDS⁺ principles (pg. 24), the project's long-term ambition is to support the local community with the necessary functional capabilities to fully participate in decision-making processes that affect their everyday lives.

The next page describes the benefits of community engagement in more detail. Followed by an introduction on how water infrastructure projects usually engage with communities and how SuDS⁺ aims to make a difference through purposeful participation. Next, there is an overview of the engagement activities run in Year 1 of the project. Each is organised in key themes and the main takeaways are shared for future work.

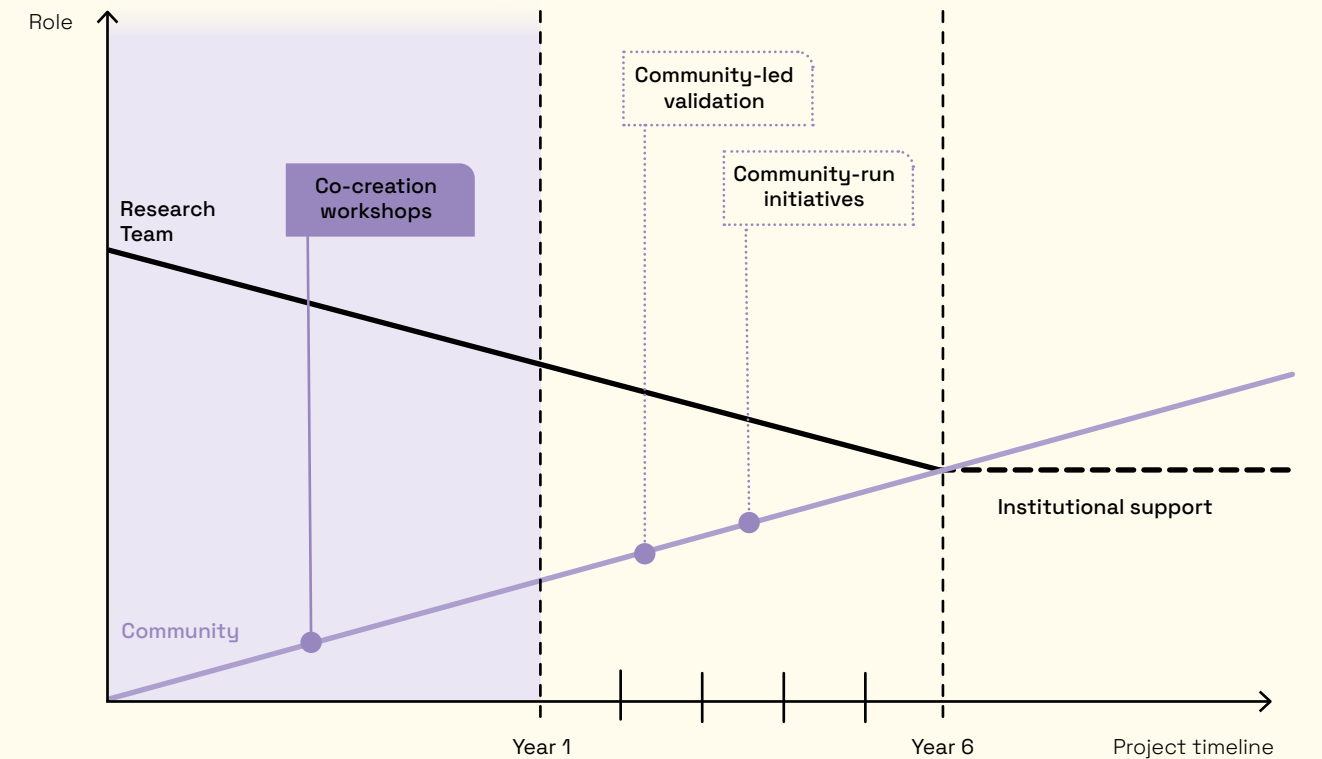
¹Lodewijckx, I. (2020). [The difference between citizen engagement and participation. CitizenLab.](#)

² Bell, R., Khan, M., Romeo-Velilla, M., Stegeman, I., Godfrey, A., Taylor, T., Morris, G., et al. (2019). Ten Lessons for Good Practice for the INHERIT Triple Win: Health, Equity, and Environmental Sustainability. *International Journal of Environmental Research and Public Health*, 16(22), 4546. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/ijerph16224546>

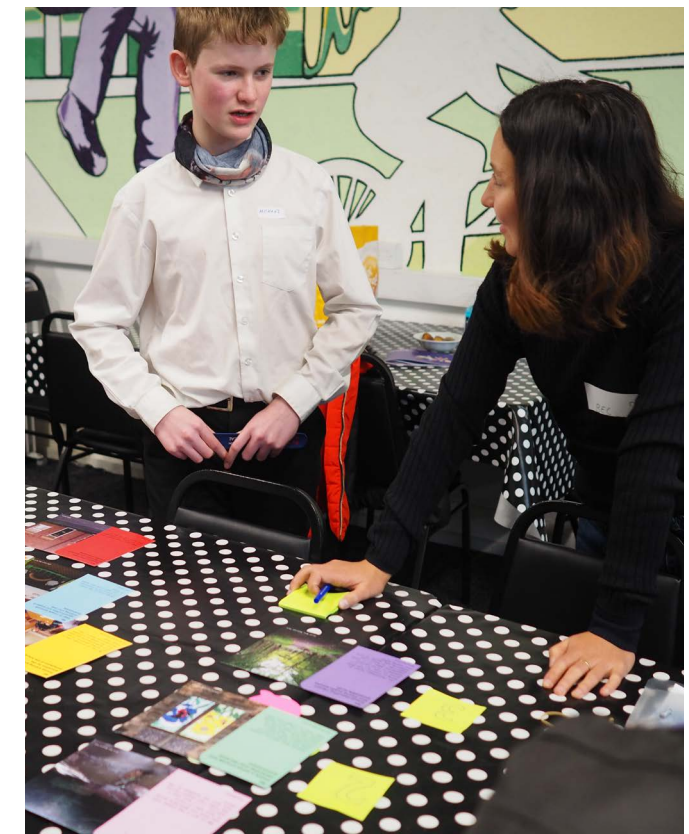
³ Chan, T., Kihlslinger, R., Hare-Grogg, J., Jensen, M., Conn, R. (2018). *Step-by-Step Guide to Integrating Community Input into Green Infrastructure Projects*. Washington, D.C: Environmental Law Institute

⁴ Crozier, M. (2017). *5 Reasons Why Community Engagement Matters*. [Bang the Table.](#)

The research and engagement approach was guided by the idea of upskilling and sharing power between the team and community throughout the life of the project



SuDS⁺ Visioning Workshop



Pop up workshop PACT House

Benefits of Community Engagement

Why it matters

Community engagement is not only desirable, but essential for developing sustainable projects that reflect the interests and concerns of potentially affected people, groups, and other stakeholders.⁵ It also helps to develop a new narrative and move away from the idea that sustainable policy is “elitist”, instead demonstrating that local communities are crucial to bringing about transformative action from the bottom-up, and that this action impacts everyday lives. Embedded and effective community engagement unlocks tangible benefits and strategic value for of all participants – including decision makers, but above all it:

1. Builds trust between project partners and communities

The better and more accurately informed and involved a community is, the more likely they trust the institution or organisation engaging with them. Building trust is a challenging task, especially when communities have felt let down by previous engagement efforts. It takes a long time to build it and a very short time to lose it. Therefore, it is essential to ensure that the engagement process is truly transparent, accessible, and inclusive; and participation must be meaningful and not tokenistic, i.e. people’s contribution must have a meaningful impact on the project. By communicating clearly and openly, providing engagement opportunities that reflect the community’s readiness to engage (e.g. availability or wheelchair accessibility) and supporting local capacity-building through knowledge-exchange, for example, community engagement can help to build trust between public authorities and communities and ensure that actions are locally relevant and supported.

2. Generates buy-in and acceptance by the greater majority

Consensus is very challenging to achieve when a project is trying to meet the aims and aspirations of diverse stakeholders, including community members. Some people might be happy with the solutions which the project comes up with and some might not be. However, if decisions are based, in part, on a founded community engagement process, then it is more likely that people will understand and accept the decisions made. In this way, public participation improves the legitimacy of decisions. Research has shown that people who believe a decision is based on public input tend to rate the decision more favourably than those who were told the same decision was based only on expert opinion.⁶ Involving people across different groups (age, gender, ethnic, socio-economic) meaningfully in the planning, developing, and maintaining of initiatives creates a vested interest in the success of these initiatives and encourages their active use and acceptance.⁷ Community engagement is most successful when a reciprocal partnership exists and power or control is held effectively within the community.

3. Enables better decisions to be made

A project will have greater social impact if we harness ideas from the people who are closer to the problem we are trying to solve.⁸ People are the experts in their own lives. By valuing the expertise that community members possess via their lived experience and centring engagement efforts around it, we can develop innovative approaches that reach the target group and effectively meet many of their needs.⁹ Drawing on local knowledge creates solutions that are more practical and

⁵[AP2 International Federation. \(2017\). IAP2 Core Values.](#)

⁶[Arvai, J.L. \(2003\). Using Risk Communication to Disclose the Outcome of a Participatory Decision-Making Process: Effects on the Perceived Acceptability of Risk-Policy Decisions. Risk Analysis, 23: 281-289. https://doi.org/10.1111/1539-6924.00308](#)

⁷[INHERIT.\(2019\). Inclusive community engagement.](#)

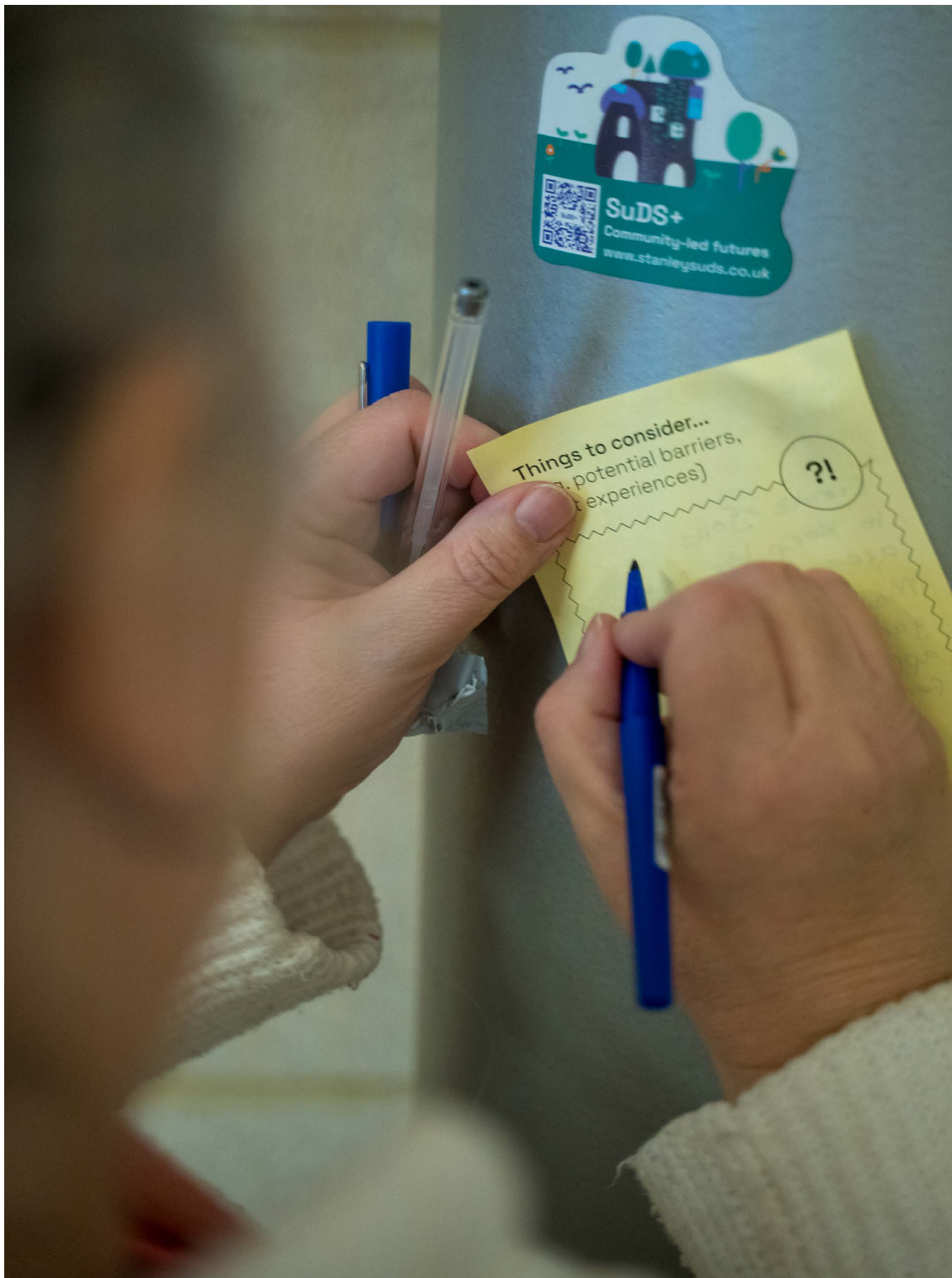
⁸[New Citizenship Project. \(2022\). Everyday Participation. A toolkit for the co-operative movement.](#)

⁹[Dholakia, A. \(2020\). Community Engagement and the Expertise of Lived Experience.](#)

effective. Communities are experts in local issues, concerns and histories and are brimming with ideas. Locals, for example, have a better idea about how to design engagement activities so that their friends, family, and neighbours are more likely to get involved. They can also help to identify existing community resources and assets on which the project can build or uncover design opportunities by creating links between issues, people, and services that are invisible without deep local knowledge. For example, complaints about graffiti linked with a lack of spaces for young people to express themselves creatively, could give rise to a SuDS+ mural initiative with an artist in residency who teaches community new creative skills.

Local knowledge as a catalyst for creative and innovative ideas





4. Increases local support for the project and encourages engagement in future projects

Communities will show a greater level of support for a project if they are involved from the outset and included on a regular basis.¹⁰ Engagement tools and techniques should encourage active contributions from diverse groups, including vulnerable or marginalised voices, to ensure that project deliverables are inclusive and representative. Including different perspectives can lead to greater sense of community ownership and a desire from community members to become long-term stewards of the project. By participating in the project, people can learn about and see the benefits of a sustainable drainage systems first-hand, which could translate into support for similar projects in the future.

¹⁰ [Crozier, M. \(2017\). 5 Reasons Why Community Engagement Matters. Bang the Table.](#)

5. Improves cost-effectiveness and adds economic value

Developing and implementing a successful community engagement strategy costs money. There is the need to dedicate time and resources to identify local cultural assets and to train community members with new skill areas like ideation or facilitation to support meaningful involvement for everyone participating.¹¹ However, the positive impacts far outweigh the costs and these can be reduced as organisations and communities gain experience over time.¹² When done correctly, community engagement can add economic value both through the mobilisation of voluntary contributions to deliver regeneration and through skill development, which enhances the opportunities for employment and an increase in community wealth.¹³ Community members, for example, can assist with project maintenance and monitoring, allowing local governments and organisations to focus their attention on other issues that require technical expertise.¹⁴ This means that local governments can stretch their limited resources further, but it does not imply that a project should solely rely on volunteering. It is important to recognise and reward the value created through community contributions, and explore creating official roles.¹⁵ By encouraging collaborative partnerships, community engagement can unlock resources such as new funding streams from stakeholder investment that otherwise would have been untapped. For example, a community member might have links to an outdoor gear manufacturer that is interested in sponsoring wayfinding signage along the SuDS+ nature trail. Local communities can also help to overcome barriers and avoid political land mines, like misrepresentation of community groups or partnering with a divisive stakeholder, that may prove very costly and set the project back by months or even years.¹⁶

^{11,16} [Andersson, E., Fennell, E., Shahrokh, T. \(2011\). Making the case for public engagement. London, UK: Involve.](#)

¹² [Staley, K. \(2009\). Exploring impact: public involvement in NHS, public health and social care research. Eastleigh, UK: Involve.](#)

¹³ [Heywood, F., Wilson, M., Taylor, M., Wilde, P., & Burns, D. \(2004\). Making community participation meaningful: A handbook for development and assessment.](#)

¹⁴ [Chan, T., Kihlslinger, R., Hare-Grogg, J.; Jensen, M.; Conn, R. \(2018\). Step-by-Step Guide to Integrating Community Input into Green Infrastructure Projects. Washington, D.C: Environmental Law Institute](#)

¹⁵ [INHERIT.\(2019\). Inclusive community engagement.](#)

6. Delivers politically robust projects and plans

Engaging otherwise disconnected stakeholders in shared dialogues can deepen their understanding of one another's needs and contributions. Expectations can be managed more efficiently by forging productive partnerships and coalitions that help to leverage existing community assets and resources for your project. With greater buy-in, projects are less susceptible to legal challenge, to being reversed or revised at the final approval stage, or to being repealed as soon as new elected representatives take office.

SuDS+ Community Engagement Activities and Methods

Engaging communities in the decision-making process around blue-green infrastructure is not new. Many water management projects have recognised the benefits of involving communities in various ways. However, engagement is distinct from consultation. Many organisations say that they have a community engagement strategy when they mean that they have a consultation strategy. Public institution scholar Bernadette Lynch describes this common practice as “empowerment- or participation-lite”: participation is heavily controlled and choreographed, and usually intended to identify the community’s preference for, or to ‘sell’, a preferred option.^{17, 18, 19} Policies and practices are based on ‘helping-out’ and ‘doing-for’; Community partners treated as ‘beneficiaries’ rather than ‘active agents’.²⁰ A participation-lite approach often leads to a feeling of dissatisfaction and scepticism towards the project as people feel their contributions only serve to affirm a predetermined decision.

“[It is] not a question of ‘inviting people in’... it is rather about saying “We can’t do this without you - we need you!”²⁰

SuDS+ seeks to establish a “purposeful participation” approach, whereby we plan, design, implement and maintain sustainable drainage systems **with** the local community, not **for** them. We rely on the buy-in of the Stanley South community and local stakeholders to successfully deliver the project over the coming years and produce equitable and sustainable solutions that address wider social issues beyond flood prevention. We aim to set an example of how water infrastructures can function as a catalyst to improve people’s quality of life – mental and physical well-being – contribute to local economic growth, and build holistic community resilience. This is an example that we intend to be scalable and applicable across the UK and globally. If we do not recognise our community partners as active agents and engagement remains purely extractive*, we risk wasting time, resources, and money.

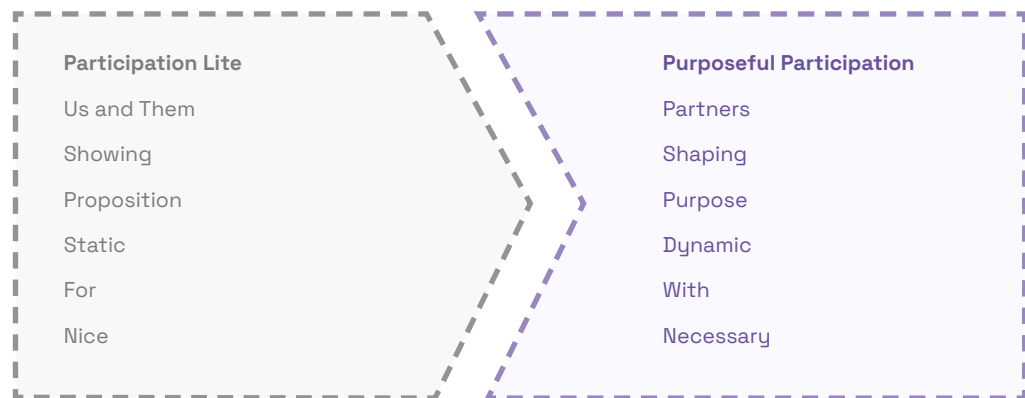


Figure 20 | Participation Lite vs. Purposeful Participation²¹

^{17, 20} Lynch, B. (2013). *Whose cake is it anyway? - A collaborative investigation into engagement and participation in 12 museums and galleries in the UK.*

¹⁸ Rollason, E., Bracken, L., Hardy, R. Large, A. (2018). *Evaluating the success of public participation in integrated catchment management.* *Journal of Environmental Management*, Volume 228, p. 267-278. <https://doi.org/10.1016/j.jenvman.2018.09.024>.

¹⁹ Warner, J. (2011). *Flood planning: The politics of water security.* Bloomsbury Publishing.

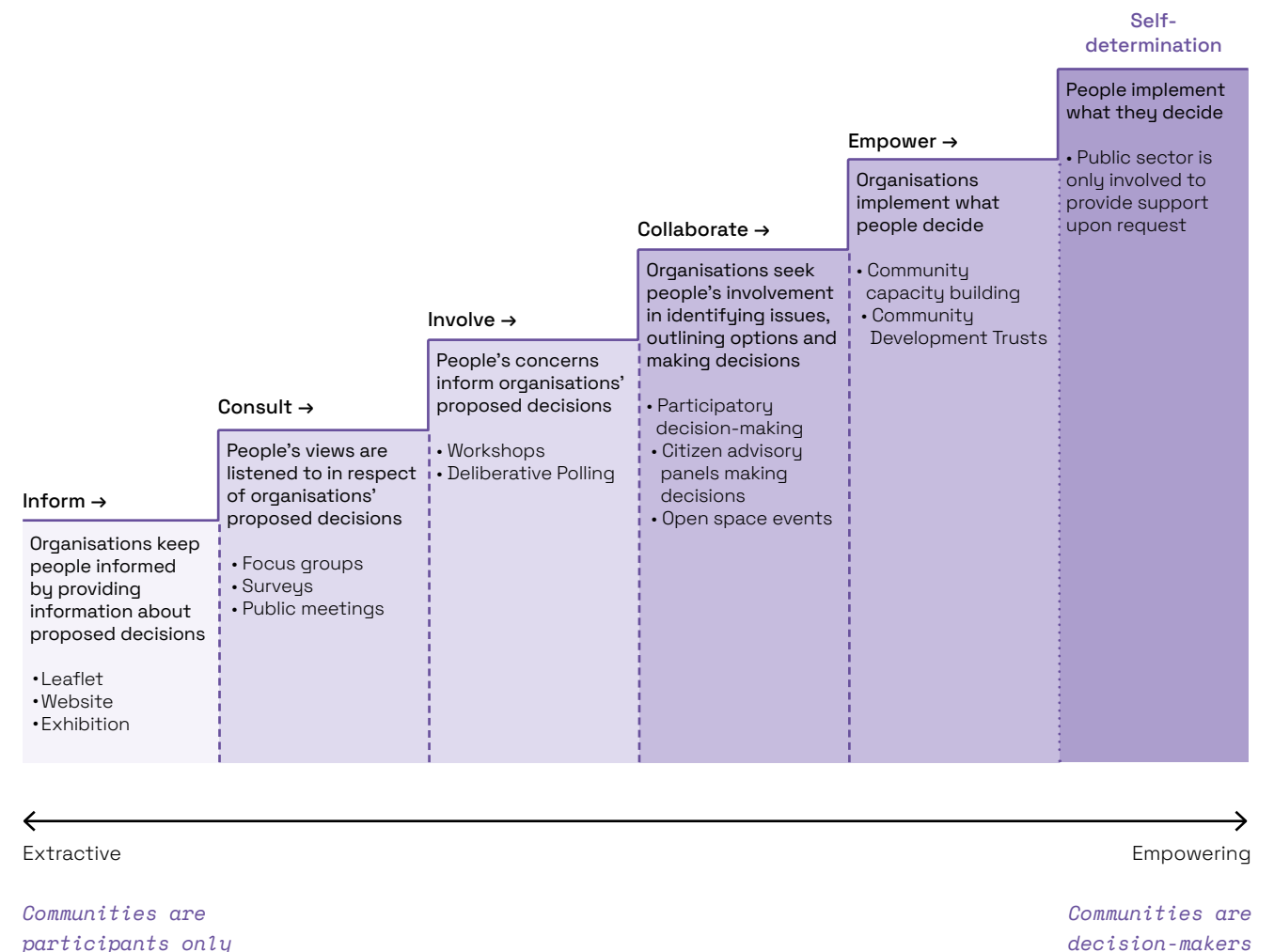
²⁰ Lynch, B. (2015). *Our museum: a five-year perspective from a critical friend.* London: Paul Hamlyn Foundation.

²¹ New Citizenship Project. (2022). *Purposeful Participation: Purposeful Participation: A Fieldguide and Toolkit for Cultural Entrepreneurs.*

* Engagement Methods:

Engagement methods range from simple information sharing to active participation, and finally to empowerment, which places the control in the hands of the public. Another way to categorise participatory approaches is along a scale from “extractive” to “empowering”.²² Extractive tools, or tools used in an extractive way, retain power in the hands of the organisation running the project. Empowering tools, or tools facilitated in an empowering way, hand power over to the participants.

It is not that one end of the scale is better than the other, simply that they achieve different things. It is important to select the right approach for the job and avoid creating the expectation of community empowerment if our methods and attitude do not permit any meaningful transfer of decision-making control.²³



²² VSO. (2010). *Participatory Approaches: A facilitator’s guide*

²³ Community Planning Aberdeen. (2016). *Engagement, Participation and Empowerment Strategy 2016.*



The ambition of SuDS+ is to establish a community-based approach for designing, delivering, and monitoring SuDS that provides wider benefits to the local community. To achieve this, the project relies on the community's support as only their local knowledge and lived experience can provide the answers to the important questions that the project is aiming to address. Questions such as: What needs to be put in place for community members to look after SuDS?; What are existing community assets on which the project can build?; And, what does the community consider a "wider benefit"? – must be explored in collaboration with the local community for the project to deliver sustainable outcomes.

Therefore, SuDS+ has involved the Stanley South community and local stakeholders from the outset on a regular basis and used their input to tailor the engagement activities to their needs ensuring that they can fully participate and contribute. So far, we adopted a relatively small range of methods targeted at collecting information on the specific topics we wanted to understand to help start the project. To build on this momentum and to bring a much larger group of people into the SuDS+ process, the project is carrying out a long-term programme of activities to help gather data and shape the development of SuDS+ in Stanley South.

To explore the many aspects within this problem space, activities will be concentrated into four key themes:

Key Theme 1:
Exploring Flooding

Key Theme 2:
Setting the Vision

Key Theme 3
Co-Designing SuDS+

Key Theme 4:
Working Together

Activities and Learnings

Exploring Flooding

The widespread flood risk in the Stanley South study area often manifests in small-scale localised flooding and drainage issues. Such events can harm people, even when they do not cause damage to homes and businesses. Gathering this evidence helps build a picture of the local flooding context and sheds light on the many ways peoples' lives can be impacted. Informed by local accounts, we can effectively identify locations where SuDS are most needed and measure their effect once they have been built.

SuDS* Activities

Our partners gathered statistics and developed a numerical model on how Stanley is likely to be affected by flooding. To understand the human experience of the flooding events described in this data, our engagement activities were designed to gather rich insight into the impact of flooding to people's everyday lives.

Examples:

- Graphic Elicitation
- Walking Interviews
- Mapping

Learnings

As experiences of flooding vary, the level of awareness and knowledge of flooding issues ranged from no consciousness to deep personal experiences. Therefore, engagement activities had to inform people of flooding risks and share local stories. In-depth knowledge of the local geography was valuable for providing contextually relevant examples fluidly throughout engagements. Collecting and sharing photo accounts of flooding accelerated comprehension among those who had not encountered flood events before.

Many people did not associate their experiences with the term "flooding", however the term "heavy rain" prompted people to share further accounts.

Visual activities were particularly successful in engaging younger people in conversations about their flooding experiences.

²⁴ Bangoli, A. (2019). *Beyond the standard interview: the use of graphic elicitation and arts-based methods*. *Qualitative Research*, 547-570.

²⁵ Kinney, P. (2017). *Walking Interviews*. Guildford: Department of Sociology, University of Surrey.

Activity in Focus: **Draw your Experiences** through Graphic Elicitation Small groups

Providing a comic strip template, primary school children were encouraged to share their experiences of flooding in Stanley South. Graphic elicitation helps to capture the perspective, stories, and ideas of younger community members and is a more engaging activity than written or verbal methods.²⁴ The drawings are an easy entry point to have further conversations with children and teenagers about flood incidents, SuDS and environmental issues.



Activity in Focus: **Walking Interviews** One-to-one

Stanley South community members were invited to take the project partners for a walk around their local area to point out the places where they encountered flooding. Walking interviews help to gain a better understanding about how individuals locate their social networks and express their sense of community in relation to (local) places. In comparison to traditional sit-down interviews, walking interviews give interviewees more control over the data collection process, as they pick the route and decide which aspects of their local area (and their lives within it) they want to reveal. It also allows participants to feel more comfortable with the research process as it is being conducted in a geographical location that they are familiar with. Thus, it reduces power imbalances.²⁵

- Tips on interviewing:
- Employ empathy and remain neutral by suspending judgement or your own beliefs. Assure people that there are no right or wrong answers.
 - Tailor the interview process to the needs of the interviewee; provide breaks and the option to split an interview into shorter sessions.
 - Avoid jargon. Use the same words as the interviewee, they shouldn't need to translate what you say.
 - Treat sensitive information carefully. Don't probe into potentially emotionally triggering experiences.
 - Interviews with children present are best conducted in person or with childcare. It can be hard for parents to balance giving their children attention and remaining engaged in an online interview.

Activities and Learnings

Co-Designing SuDS⁺

Our project will involve designing and installing SuDS features within the Stanley South study area. These need to be designed in partnership with SuDS specialists and the communities who will live alongside, interact with and benefit from them. As they could take many forms, generating ideas together ensures these are contextually rooted and community-led.

SuDS⁺ Activities

We worked with community members and stakeholders to develop four ideal SuDS Community Concepts based on local needs, interest and vision for their community future.

Examples

- Co-design workshop
- Mapping

Learnings

Design-based activities can help to unleash creativity. Community members shared countless ideas through the guided workshop activities. This encourages us to think how we can deliver more of this design workshop to a wider audience or disseminating the workshop materials more widely to create new SuDS concepts.

When engaging new groups of individuals next be aware of potential scepticism and hesitation towards design approaches, avoid jargon and adopt the language of the local community to facilitate their ideas. Catch-all terms like “green space” can be further explained with examples like woods, parks and gardens.

Attracting people to new engagements is difficult. For some, making their children proud can be a motivation for joining. Hosting activities locally and in familiar locations can reduce access difficulties. Where mental health problems are prevalent be aware that this can exacerbate anxious or hesitant feelings. Be aware that people may feel anxious all day in the lead up to events or practice visiting unfamiliar venues.

When recruiting people, use platforms and channels that communities already use. We learnt that Facebook and word of mouth are widely used for local communications. Need to consider how to use these channels effectively, while managing any unconstructive feedback.



Focus Area

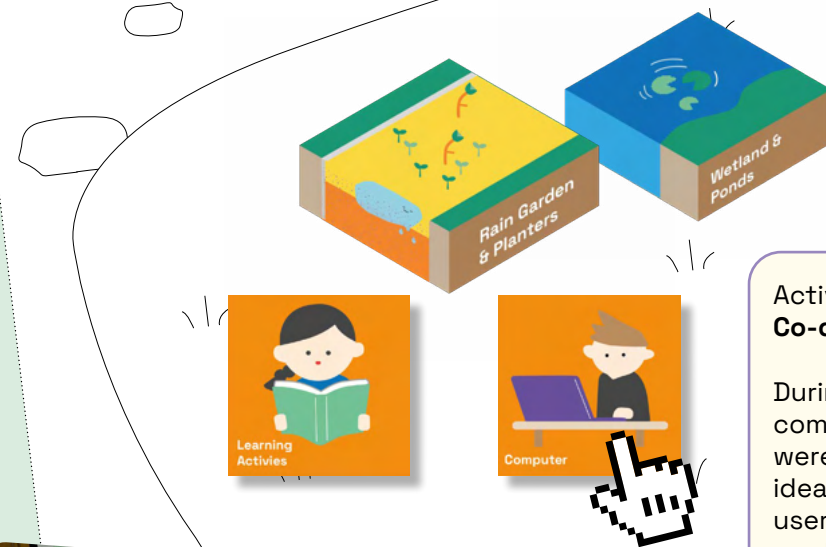
Vision Statement



Activity in Focus:
Mapping

One-to-one or in groups

A map of Stanley South was used to engage the local community in a conversation about what they like or dislike about their area and where they would like to see improvements being made. Mapping also helps identifying existing community assets on which the SuDS⁺ can build on and allows locals to see and understand their community in different ways.



Activity in Focus:
Co-design workshop

Large groups

During the SuDS⁺ co-design workshop, community members and stakeholders were encouraged to co-create initial design ideas for SuDS⁺ and to identify their future users. Participants were given a set of cards featuring different SuDS typologies and community assets to create their “Ideal SuDS concepts”. They also had the chance to add further assets and users by using blank cards. The ideas generated in the workshop provide a starting point for future SuDS designs and function as a visual reference on the community’s aspiration for their local area.

A co-design workshops is a good example for a more creative approach to problem solving and gives community members the chance to develop their creative skills.



Tips on co-designing:

- Let the group dynamics evolve.
- Expect people to have reservations about their creative abilities and encourage them to have a go. Show them the work of others to increase their motivation.
- Provide written instructions and further information on SuDS typologies. This allows everyone to be on the same page and can prevent misunderstandings.
- Invest time in training and empowering local facilitators – make them the visible front end of the programme.
- Create opportunities to provide learning moments or digital upskilling through engagements, providing exposure to new industries and technology as appropriate.

Activities and Learnings

Working together

SuDS+ requires people, community organisations, and authorities to work together in designing, delivering, and maintaining their infrastructure to maximise benefit for everyone. We have started to explore different options for how this partnership might be managed, but as our project progresses, we will need to develop actual processes and practices of collaborative working; we can only do this by working together with individuals, communities, and stakeholders.

SuDS+ Activities

We worked together with community members and stakeholders to explore different models of what working together to deliver and sustain SuDS+ might look like. We also began to think about what value different stakeholders might contribute and take from SuDS+ schemes.

Examples

- SuDS+ Partnership Workshop
- Pop-up activities

Learnings

Pop-up activities are insightful for researchers to understand the needs and characteristics of local community groups. As they are informal, not as much time is needed to arrange or recruit people. They can be dynamically planned and allow us to engage people who may not be interested or able to participate in the more extensive, more formal workshops. Simple materials like the project overview booklets were used effectively as conversation starter tools. Outside of the designed partnership workshops, these pop-up activities helped us understand the roles these organisations can take in the SuDS project, and to map a partnership ecosystem.

While we have made a start with engaging people. Some conversations will happen slowly and require building relationships with people over time. Local organisations can play a role in facilitating this ongoing dialogue. Places like PACT House's coffee space lend themselves to these encounters, helping to overcome the barriers to sharing.

Activity in Focus: Partnership Workshop

Large groups

The SuDS+ partnership workshop was specifically designed to facilitate a discussion around partnerships. Community members and local stakeholders together explored the potential individuals, groups and organisations which could partner up and work together during different project stages of the SuDS+ community concepts (pg. 104). Using these concepts are a prototype, community members were able to generate specific and locally relevant partnerships and define what makes an equitable and sustainable partnership.

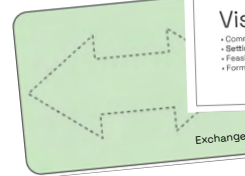
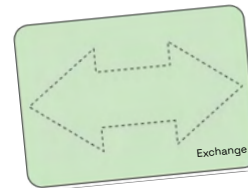


Activity in Focus: Pop-up activities

Small or large groups

Pop-up activities are informal activities arranged at short notice to take advantage of existing events or locations where we think we might be able to talk to lots of people in a relatively short time. Stalls at markets, exhibitions, or outside larger shops are good locations for pop-up activities, as are informal sessions in youth clubs or schools with specific groups of young people. Pop-up activities are usually used for advertising the findings from ongoing research or for collecting small pieces of information from lots of people, for example, asking people about where flooding happens in their neighbourhoods or voting on priorities for different options.

Exploring Partnership:



Who should be involved?
How should they be involved?
Why do they want to be involved?
When could they be involved over the course of the project & what would they do at each stage?

Concept No: 1 2 3 4

Tips on partnership workshops:

- Compensate workshop attendees for their time. This can include payments for childcare, meals, and taxi vouchers so that attendees are not out of pocket when attending engagement sessions. Compensation can help to remove participation barriers and supports fairness between researchers and community researchers, ensuring both are paid for their time.
- Facilitate enough to get the activity started and keep it moving, but resist the temptation to impose your own ideas of potential partnerships. The purpose of the activity is to record the ideas of the group.

Creating thriving communities with SuDS⁺

The SuDS⁺ project aims to establish a community-based approach for designing, delivering, and monitoring Sustainable Drainage Systems (SuDS) that provides multiple benefits to the local community and their environment.