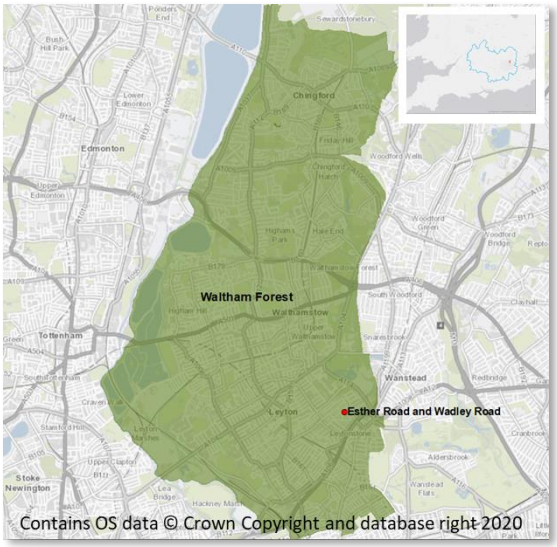
Case Study 1 – Waltham Forest

Area Context: Known flooding location with severe surface water flooding during the July and August 2021 extreme rainfall event. Several properties also experienced internal flooding. There are several flood action groups within this location that are supported by the National Flood Forum and the Borough Council. Residents in the area were previously given the opportunity to have rain gardens and a permeable road installed as part of a flood mitigation strategy. However, this did require the loss of parking spaces and for this reason the Wadley Road residents preferred not to have the SuDS installed within their street. The local soil type, London Clay is poor draining limiting the efficacy of natural absorption systems



320 people
140 households

Outer London Borough (City)

66/95% Flats
34/5% House

66/84% rented
34/16% owned

Predominantly 25-40 years old

Approach

Partner engagement, aggregator engagement (local flood forum), leading to engagement of Community Champions (CC): Householder CC digital engagement, door to door follow up.

Engagement with local groups and partnerships such as Thames 21, identified The Local Flood Forum as the community/cohort most likely to adopt water harvesting, with a clear concern that could be addressed by the placement of attenuating water planters.
Focus Groups: low historic adoption of water butts with low levels of interest to have water butts on their properties. Engagement to communicate the benefits of rainwater capture at property level.
On boarding & Engagement: Focus groups were followed up in quick succession with social media invitations, door to door leaflets with installation FAQs and the QR Code to the Our Rainwater platform. Householders were also provided with an email address to respond to share any queries.

As a result of this approach, 60 Rainwater planters were offered to the community by Thames Water and a further 10 planters were offered by the Catchment Partnership. A campaign by the Waltham Forest Borough Council has led to the placement of over further 200 leaky butts in the Borough (however these cover a wider area than the target catchment).

Engagement with community cohort for adoption raised awareness/engagement on the importance of rainwater capture for stormwater management and conservation, fostering a sense of community and active participation and promotion of the project. Within 2 weeks over 90% of the available planters had been "committed" through initial engagement with the Our Rainwater platform, presenting a healthy funnel of stated commitment. However, the number of residents who progressed through the platform to installation was disappointingly slow and low, as shown by Figure X

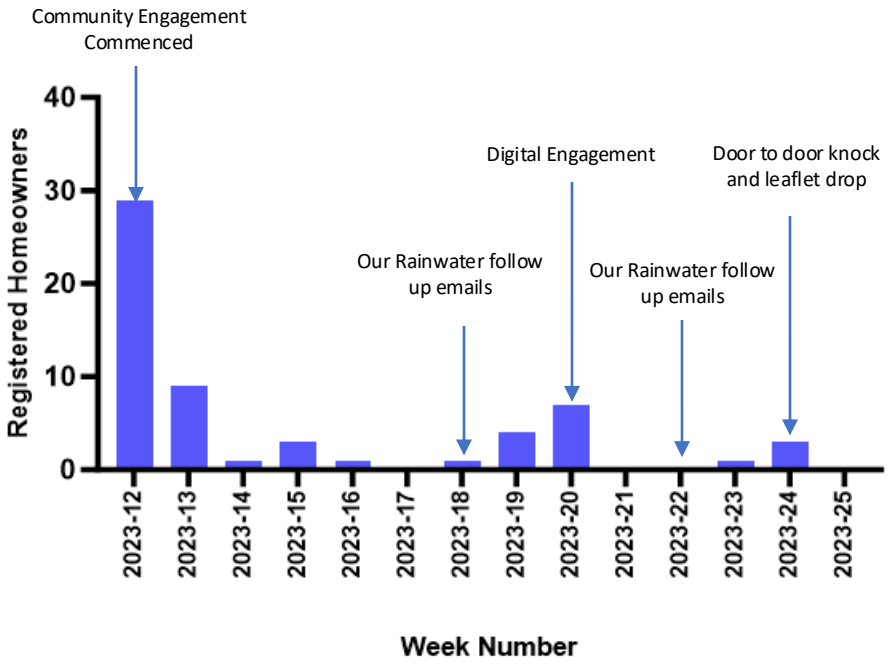


Figure 3 Number of eligible sign ups and engagement activity timeline in Waltham Forest

61 Eligible Sign Ups

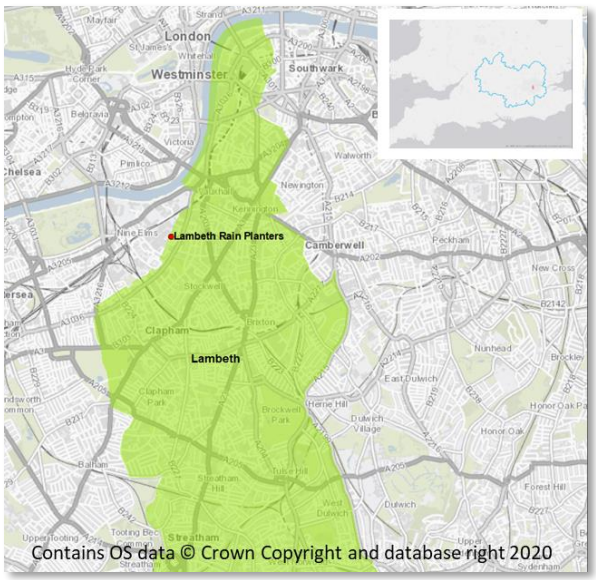
27 Installed

Challenges and Lessons Learnt

1. *Community Concerns:* The probability of further flooding, time and uncertainty for an engineered hard solutions and the opportunity, cost and ability to act as individuals to protect their properties.
2. *Adoption:* the short timescale, and attenuation similar to network storage or green space was of interest to the community. Adoption of water butts empowered personal responsibility for improving their resilience to flooding. The focus groups concluded their commitment to encouraging other residents within their immediate vicinity to adopt to achieve higher levels of community personal and community resilience was important for adoption.
3. *Engagement:* Co-ordination with other campaign groups and "buyers" within target catchment likely to increase adoption. The positive community response lead directly to interest and co-delivery with other groups such as the Local Authority and the local catchment partnership, including Thames 21 (a further 10 rainplanters, Catchment Partnership; >200 rainplanters, Waltham Forest Borough Council). The stated involvement of these wider community groups would enable further waves of adoption by other cohorts.
4. *Engagement:* Door to door engagement identified community awareness of the project initiative suggesting that advocacy of local champions through social media had a positive effect, resulting in further take up by the flooding concern cohort, and notably, local empathisers (residents who were not unduly concerned about the likelihood of flooding of their own properties but empathised with the plight of neighbours).
5. *Engagement:* Clear research and funnel management and engagement methodology required, including live revealed preference feedback to dynamically improve the engagement process
6. *Adoption:* Over commitment within funnel would counter issues of dropouts and enable more efficient installations
7. *Installation:* Construction ongoing at pilot location as part of the flood mitigation strategy led to logistical difficulties due to distanced parking for installation. Working with Borough Council enabled mitigation by providing parking permits where possible.
8. *Installation:* Properties such as terraced houses that do not have separate downpipes draining their roofs, or households that share a downpipe with neighbours, lead to instances of permissions not granted for rain planter installation.

Case Study 2 - Lambeth

Area Context: Lambeth has an estimated population of 318,000 and is the "fourth most densely populated of London's 33 local authority areas[2].
Lambeth has a complex history of flooding from several different sources such as fluvial, tidal, groundwater, surface water flooding and sewer surcharging, where "up to 43,740 residential properties are at risk of flooding during a rainfall event that has a 1% chance of occurring in any given year"[3] and is "ranked 3rd out of 32 London Boroughs for the least available sewer capacity"[4].
Surface water flooding is the primary flooding type in this area. The community was aware of the importance of rainwater capture for stormwater management and water conservation. The residents are known to have an interest in gardening.



800 people
370 households

Inner London Borough (City)

79% Flats
21% House

60% rented
40% owned

Predominantly 20-39 years old

Approach

Community engagement day: this raised awareness/engagement on the importance of rainwater capture for stormwater management and conservation, fostering a sense of community and active participation, encouraging householders to sign up to the platform and promoting the work being carried out by collaborating partners on the project.
Initial engagement with Lambeth Borough Council to understand the study area provided insight into the experience and activities carried out in this area and included a community engagement day to communicate flood risk assessments following an extreme flooding event in the last 2 years. Through the initial engagement, it was suggested that a similar approach was carried out and community champions were suggested (Crimsworth and Thorparch Residents Association (CTRA) that may be able to assist with the sign up process. The community engagement day created a 'buzz' in the community and offered an opportunity to find out how the rainplanter worked and how they could sign-up for a free rainplanter and the opportunity for installation on the day. Door to door engagement was carried out to promote the engagement day and to encourage residents to sign up to the scheme.

Community Champions: Residents Association engaged as Community Champions, carrying out engagement activities via social media, community notice board and door-to-door visits.
The Lambeth BC supported the initial engagement with the CTRA and they were provided with a timeline to delivery and installation of rainplanters in the community. CTRA engaged with residents through email, WhatsApp and on the community board and was supported by Our Rainwater, leading to sign-ups on the Our Rainwater Platform (Figure X).

Case Study 2 - Lambeth

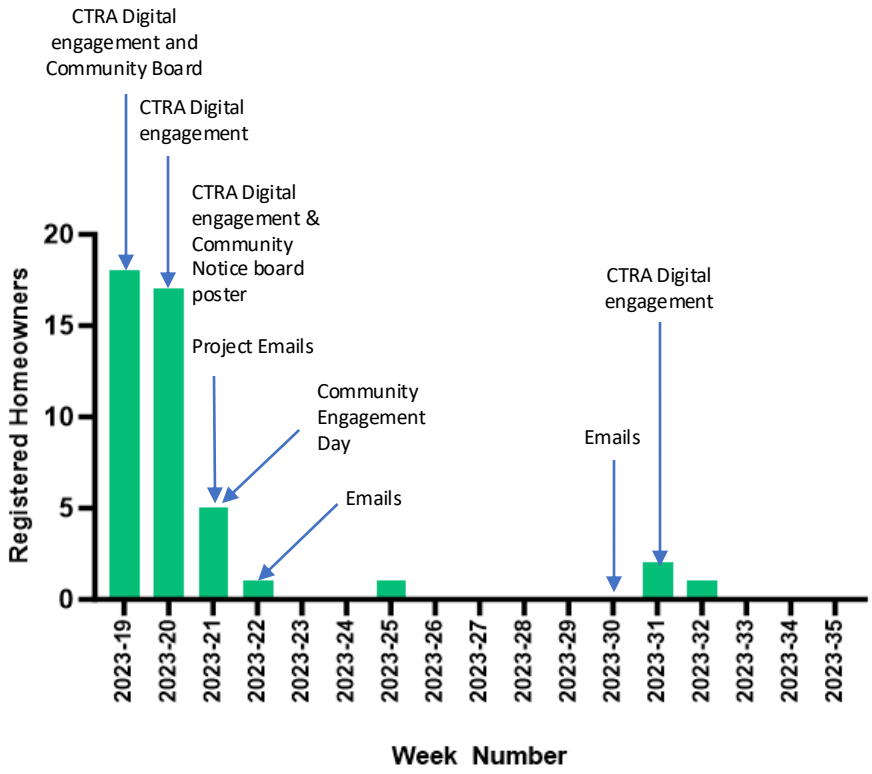


Figure 4 Number of eligible sign ups and engagement activity timeline in Lambeth

56 Eligible Sign Ups

34 Installed

Challenges and Lessons Learnt

1.Timescale: Findings from the installer conversations highlighted a need to reduce the timescale between community engagement, the sign-up process and installation to ensure a seamless transition for householders

2.Communication: Clear, consistent terminology when communication with householders is needed to reduce confusion (i.e. water butt vs rainwater planter), emphasising the planter function in slowing water flow into drainage systems.

3.Engagement: Community engagement day was very positive, aligning different organisations and promoting rainwater planter installation and creating a "buzz" in the community. This had positive feedback from householders.

4.Installation: The rainwater planter used was very adaptable to different property installation requirements, however more time for installation training is required before installation at properties.

5.Installation: Time at each property visited from homeowner engagement to fitting of the planter took 65 minutes equating to a maximum of 5 installations per day possible.

6.Withdrawals & Ineligibility: This was predominantly due to a lack of space available and permissions required to install.

7.Rain planters: Positive feedback for the rainwater planters installed. There was householder interest in traditional water tanks and increased storage for dry periods with consideration to provide traditional tanks alongside rain planters. Each rainplanter was planted with a selection of annual plants and householder feedback was very positive with comments such as '… the plants were the icing on the cake and presents something impactful and visual.'

8.Several householders mentioned how useful it was to meet the person scheduling their installations, and to ask further questions about the sign-up process. They were also pleasantly surprised that it was a 'real person'.

Case Study 3 - Cirencester

Area Context: Cirencester is a market town in Gloucestershire on the western edge of the Thames Valley wastewater region and has long term and complex issues with flooding. Groundwater infiltration into the sewer network, surface water runoff, fluvial flooding and downpipe misconnections of surface water into the foul sewerage network are contributing factors to sewer flooding within the town.
In June 2021 the Farming and Wildlife Advisor Group (FWAG) engaged with homeowners to address the problem of roof misconnections into the foul sewerage by encouraging homeowners to have rain planters installed. 250 properties were engaged with limited sign up of 33 properties agreeing to installations.

6100 people
3000 households

Market Town

35% Flats
65% House

48% rented
52% owned

Predominantly 50-54 years old

Approach
A specific target in Cirencester was to endeavor to prioritise installations for properties that had their downpipes incorrectly connected to the foul network. Engagement in Cirencester had already been found to be a challenge due to factors such as a lack of space in a previous downpipe disconnection scheme that was delivered by the Farming and Wildlife Advisory Group (FWAG). This engagement sought to address the problem of roof misconnections into the foul sewerage network by encouraging homeowners to have a rain planter installed, however there was limited sign up by residents. Cirencester was chosen as a case study to gain a greater understanding of resident's motivations regarding the adoption of rainplanters and to quantify the holistic value of 'downpipe disconnections'.

Door knocking: The initial approach used in Cirencester was targeted letter and leaflet dropping as part of a door knocking engagement strategy. This approach was intended to allow for direct communication and engagement with the residents in an effort to understand the perspectives and opinions of the local residents.

Digital engagement: A digital engagement strategy was utilised allowing for a very scalable and agile approach to drive interest and sign-ups in the community. This approach provides a far less resource-intense strategy that allowed users to be directed to the online sign-up page straight from any content that they engaged with. This digital approach also allowed for the messaging to be shared by members of the community to other online spaces, expanding the reach and impact of the strategy.

Case Study 3 - Cirencester

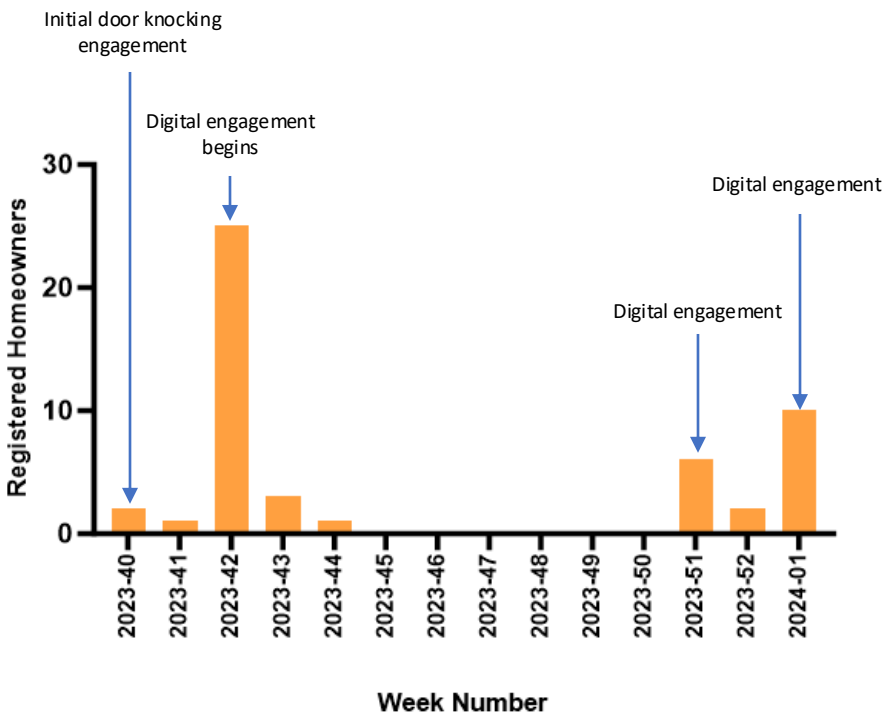


Figure 5 Number of eligible sign ups and engagement activity timeline in Cirencester

50 Eligible Sign Ups

16 Installed

Challenges and Lessons Learnt

1.Timescale: The installation team mentioned that having as much notice as possible as to when and where they would be required to complete installations was important. They also expressed that getting as much detail as possible regarding the requirements in terms of materials for the installation was important so that time was not wasted getting new materials after they had arrived on site.

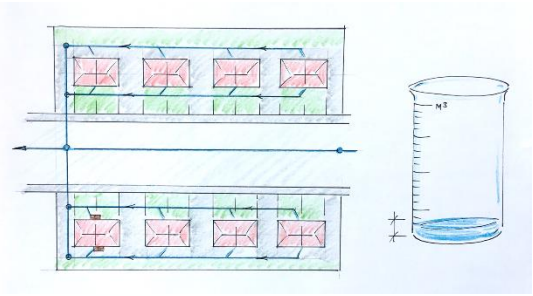
2.Communication: There was a tradeoff observed between whether to outline the specific roads included in the scheme in engagement materials and on the website. When the exact roads were mentioned in engagement materials, this stopped people from signing up even though they may be eligible for future schemes. On the other hand, not clearly detailing the exact roads that were eligible seemed to result in an increase in negative responses from people who had signed up but found that they were not eligible for the scheme.

3.Engagement: Initially relying on door knocking and leaflet drops was far more time-consuming and resource intensive than the subsequent digital approach that was prioritised.

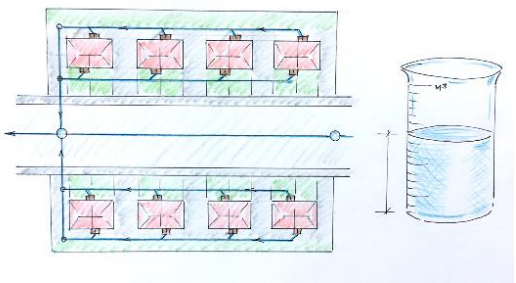
4.Installation: Installations were largely successful, however, finding an available parking space was often a challenge for the installation team. There also seemed to be more variety in the pipework than in other locations which led to extra complications in some cases.

5.Withdrawals & Ineligibility: This was mostly due to a lack of space, however it was not uncommon for properties to already have water butts installed which limited the potential for installations at some properties. Further to this, issues with asbestos pipework, particularly on City Bank View was a significant obstacle at affected properties.

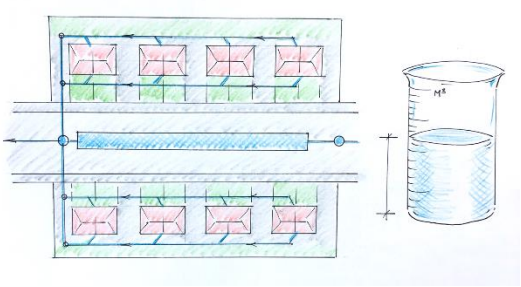
6.Rain planters: Properties having sufficient available space was a challenge faced in Cirencester. In cases where the gardens were not spacious enough to install a rain planter an installation option that required less floor space would have been beneficial.



A single planter in a catchment provides minimal storage and impact



Widespread roll out of planters in catchment could provide considerable rainwater storage and impact



Widescale roll out of community rainwater management may be able to provide comparable storage to conventional storage solutions

Photo of Rainplanter
(Photo courtesy of Ben Coles, 2023)