# The influence of citizen participation on climate behaviour in the Stadsbeek project

*Inventory of participation measures*

**Report drawn up by the University of Twente, commissioned by the municipality of Enschede**

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# Content

# 1. Introduction

## 1.1. Background

During the heydays of the textile industry in and around Enschede, water pumps of the textile factories kept the groundwater level low. This made it possible to build the neighbourhoods Stadsveld and Pathmos in the lower-lying areas of Enschede. When the textile industry left, an increase in groundwater nuisance was reported as a result. Other factors that have contributed to an increase in groundwater levels and water nuisance are: the combination of an increase in paved surfaces, more frequent and heavier rainfall events and the location of the two neighbourhoods (at the foot of the East Twente Ridge on which Enschede is built). As a result, residents, businesses and other organizations (from now on: citizens) are confronted with water in crawl spaces and (leaking) cellars. At various locations, even the wooden floors of houses are rotting and moisture is causing problems in the houses. This nuisance occurs mainly during periods of heavy rainfall. This process is reinforced by climate change, which is accompanied by an increase in the severity and frequency of heavy rainfall.

The Stadsbeek project was set up to tackle these water problems. A combination of infiltration and drainage pipelines, water storage facilities and the construction of the Stadsbeek itself must ensure that the groundwater level is lowered and the water is stored during heavy rainfall, after which it is discharged. The basis for the project was laid in 2011 when the construction of a Stadsbeek came into the picture as an alternative to a storage and settlement basin, particularly because it would add more quality to the public space. Moreover, this project does not stand alone. In the same period, in response to an extreme rainfall event that caused flooding (2010) and the Administrative Agreement on Water (Administrative Agreement Water, in Dutch: Bestuursakkoord Water) (2011), the municipality started a testing ground for risk-driven water management (2012), exploring bottlenecks (2012-2013) and drawing up a water vision "Water connects (in Dutch: Water Verbindt)" (Gemeente Enschede, 2012).

For the Stadsbeek project, after an extensive preliminary study - in which citizens were also closely involved - the choice was made to restore one of the original water streams that once ran through Enschede. After the municipal council gave its approval for the development and preparation of the Stadsbeek in May 2013, the route of the water stream was determined. A plan was also drawn up with attention to the feasibility, the source of financial resources, and the support base among citizens. In 2015, the municipality also started informing and involving citizens in the planned project, among others through newsletters. In December 2015, the municipal council gave final approval to the plans for the Stadsbeek project (for more information, see Groenia, 2019).

The implementation of the first part of the Stadsbeek project started in 2017. Meanwhile, the third and final part of the Stadsbeek project is also being implemented. For the implementation and evaluation of this last part, the municipality together with water board Vechtstromen submitted a successful subsidy application to the implementation programme of the Delta Programme Spatial Adaptation (DPRA). In the context of this subsidy and the desired development of knowledge, a study is running parallel to the implementation of measures in which researchers of the University of Twente, commissioned by the municipality, are mapping the effects of resident participation. This report was written within the framework of this research project.

## 1.2. Research project

A municipality cannot achieve a climate-proof living environment on its own. To implement measures, support is needed. Moreover, citizens themselves can take measures, for example by replacing paved surfaces with greenery. In the Stadsbeek project, citizen participation played an important role. Both during the preparation and the execution of the project, a multitude of participation measures were used. The aim of this research project is to gain knowledge and insight into the effect of measures to involve citizens. In the research we want to answer the following question:

*To what extent do the participatory measures applied in the Stadsbeek project contribute to citizens implementing climate adaptation measures on their own property?*

To determine the extent to which participatory measures have actually contributed to the implementation of climate adaptation measures by citizens, we do not take participation only into account, but also of other factors, such as age, level of education, experienced floods and income level. The type of climate adaptive measures that are useful depends on the nature of the problem. In Pathmos and Stadsveld, citizens mainly experience rainwater nuisance and groundwater nuisance. This study therefore focuses on the climate adaptive measures that relate to these problems. Examples of climate adaptive measures for rainwater nuisance are the 'greening' of the house and garden (replacing tiles with plants, facade garden, green roofs), disconnection of the rain pipe, and the construction of a pond or wadi. For groundwater nuisance, these include drainage and waterproofing the crawl space and basement.

We present the results of the research in two parts. The first report is the current report, in which we have inventoried, categorised and visualised the participation measures. The second report answers our research question. In this report, we will elaborate on the design and results of a survey that we will distribute among citizens in the neighbourhoods Stadsveld and Pathmos.

The main objective of this research is to find out to what extent, and which applied participatory measures, have proven effective in persuading citizens to take climate adaptation measures. This will provide not only scientific but also practical knowledge. The municipality can incorporate the lessons learned in future projects and programmes that have an impact on public space. And under the umbrella of the DPRA, we are building knowledge that other authorities can use to their advantage.

## 1.3. Analytical framework

In order to map the different participation measures that have been applied in the Stadsbeek project in a systematic way, we make use of the work of Dietz and Stern (2008). Dietz and Stern define five elements that help to categorise participation measures: breadth (who participates?), intensity (effort of participation), influence (effect of participation), phase (when do people participate?), and goals (why participate?). Sarzynski (2015) further elaborated on these five elements, see Figure 1. Below this figure we explain the different elements.

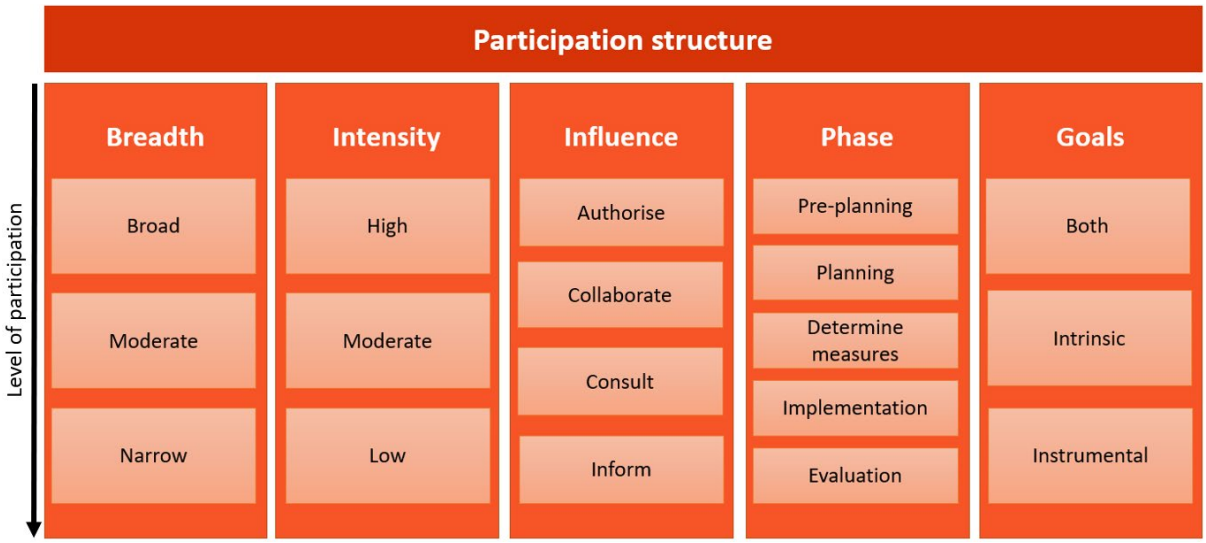


*Figure 1: Analytic framework of participation (Dietz and Stern, 2008, edited by Sarzynski, 2015)*

The breadth of participation indicates to what extent the participation measure was used to reach a broad or narrow group. Examples are: (i) broad; a newsletter that reaches many citizens (all citizens of the two neighbourhoods), (ii) moderate; a design session with a group of citizens (who live in a certain part of the neighbourhood, and have indicated an interest in participating in the decision-making process), (iii) narrow; project leaders and involved parties who take a decision.

Intensity looks at how often and how long different participation moments take place and last. In other words, how much participation takes place. For example, the intensity of a co-design session is higher than when a resident receives a newsletter.

Influence refers to what happens when citizens participate. In information meetings, citizens are only informed. These meetings can also be used to actively collect input from citizens (consultation). During co-creation sessions (such as the design sessions) the municipality and the citizens work together, but the goals and forms are largely predetermined. Authorisation occurs, for example, when an expert committee is set up to give binding advice.

A fourth element of participation concerns the phase in which inhabitants participate, also called the openness of the process. With this element, more value is placed on processes in which citizens are involved at an early stage (from pre-planning, or even thinking along about the objective and the form of participation) and remain involved throughout the various project phases.

With regard to goals, a distinction is made between the intrinsic and instrumental value of participation. An intrinsic aim of participation can, for example, be the integration of public values in decision-making. An instrumental aim of participation can be to improve the quality of decision-making or to solve conflicting interests.

## 1.4. Methods

For this part of the study, we applied a number of research methods. First of all, we made an overview of the participation measures per phase and per type of work (preparation and execution). To make this overview we have analysed all 17 newsletters of the Stadsbeek project (period 2015-2021) and interviewed people involved (period December 2020 - February 2021, see appendix). We also used subsidy applications, looked into the Bouwapp (building application with data about the project) and were able to build on previous research by Susan Groenia (2019).

In the second part of the study we want to find out which factors are of influence with regard to the climate adaptive behaviour of citizens. These factors can be used to predict which citizens will take more climate adaptive measures, and how certain groups of citizens can best be approached to positively influence their climate adaptive behaviour. The results of the literature study and the survey will be used to test the hypotheses. The results of the literature study and the survey are part of the second part of the report.

## 1.5. Outline

In Chapter 2 we give an overview of the participatory measures applied in the Stadsbeek project. We give a visual summary of the participation process and explain it. We conclude this report with a short conclusion. A list of interviewees is included in the appendix of this report.

# 2. Inventory of participation measures

In this chapter we present an overview of the participation measures that have been applied in the different phases of the Stadsbeek project. The participation measures are summarised in the visualisation on page 8. In paragraph 2.1 we explain the participation measures per phase. In line with the course of the Stadsbeek project, a distinction has been made between the following phases (see also Figure 2):

**Phase 0**: Create support for project idea Stadsbeek among citizens and municipal council.

**Phase 1**: Construction Stadsbeek: part Rembrandtlaan & Bruggertstraat.

**Phase 2**: Construction Stadsbeek: part B.W. ter Kuilestraat & Pinkeltjesplein.

**Phase 3**: Construction Stadsbeek: part Elferinksweg.

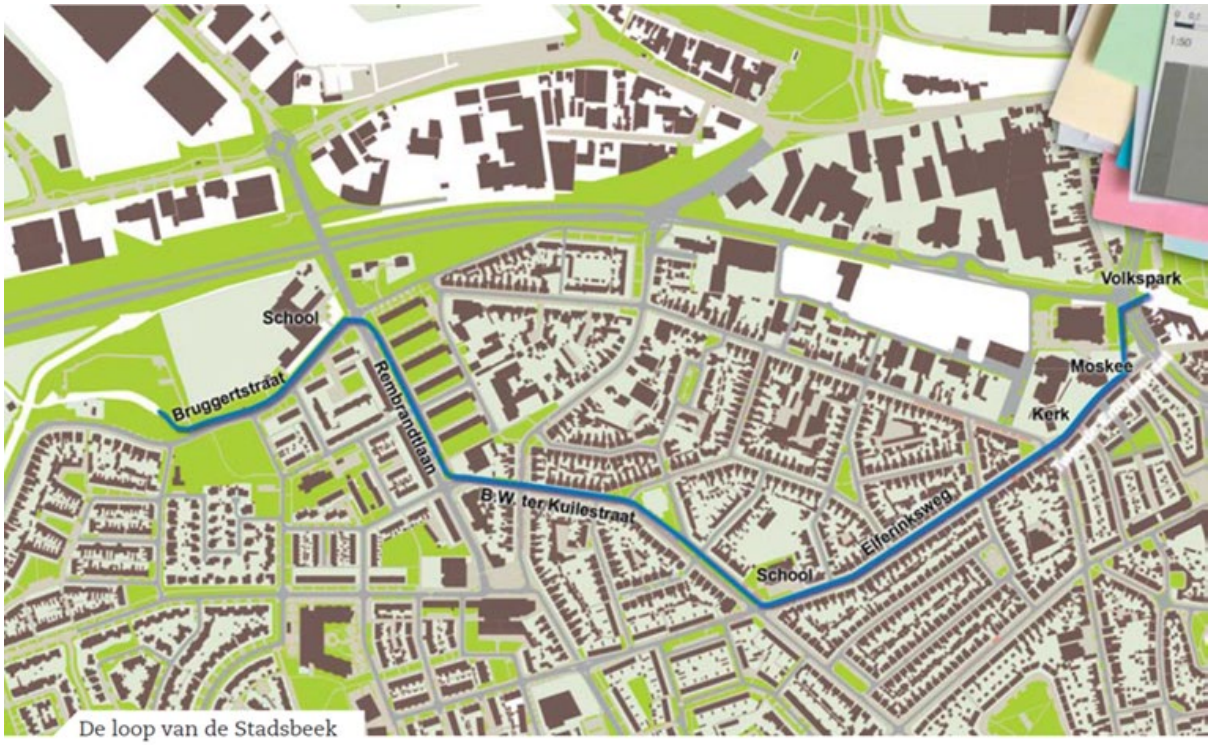


*Figure 2: Traject of the Stadsbeek including the streetnames where the Stadsbeek passes through (Gemeente Enschede, 2015)*

For each phase, we make a distinction between the participation measures during the preparation and implementation phase. In the visualisation on the next page, the participation measures are presented. The numbers on the timeline at the bottom of the visualisation correspond with the appearance of the newsletters. In the visualisation we distinguish between preparation and execution and between participation measures that concern public land (construction of infiltration and drainage pipes, water storage areas on public land and the Stadsbeek) and private land (disconnection of rain pipes and water storage on private land). Moreover, the majority of the participatory measures relate to the construction of the Stadsbeek.

# Participation measures applied in project Stadsbeek phase 0 - 3

## Phase 0

2015
Informing & creating support

### Subjects:

- Information meetings.
- Media channels are being set-up.
- Design evenings together with residents.
- Inventorise interest for project "actief burgerschap".
- Walk-in evening for the design.
- Inventorise water nuisance.
- Exploration of coupling possibilities.
- Exploration for additional water storage measures. Pinkeltjesplein and gardens Rembrandtlaan are added to project Stadsbeek.

## Phase 1

2016 - 2018
Bruggertstraat & Rembrandtlaan

### Preparation:

Public terrain

- Information evening drainage.
- Information evening start Stadsbeek.
- Design gardens Rembrandtlaan.
- Walk-in evening with final design Stadsbeek.
- Involving residents in the project.

Private terrain

- Collaboration NMO and residents in Rembrandtlaan.

### Execution:

Public terrain

- Information about delay in construction works.
- Information about planning and accessibility.
- Results are celebrated with residents and the municipality.

Private terrain

- Municipality and residents work together for funding and construction of Rembrandtlaan.
- Call for more adaptation and mitigation measures.

## Phase 2

2017 - 2020
B.W. ter Kuilestraat & Pinkeltjesplein

### Preparation:

Public terrain

- Involving stakeholders in designs Pinkeltjesplein.
- Information and consultation meetings for construction works of bridges.
- Final design Pinkeltjesplein is shared with stakeholders and residents.
- Involving residents in the project.

### Execution:

Public terrain

- Information about construction works for bridges is distributed.
- Information meetings about progress construction works and planning.
- Criticism of residents on half-paved surfaces is taken into account and a solution will be found.

Private terrain

- Call for more adaptation and mitigation measures.

## Phase 3

2020 - 2021
Elferinksweg

### Preparation:

Openbaar terrein

- Building Team is composed (contractor, cable and pipeline companies & communication office).
- Residents are informed about tree felling and are invited for an information meeting.
- Digital meeting to present Building Team and plans.
- Involving residents in the project.

### Execution:

Public terrain

- Via the Bouwapp and newsletters residents are informed about construction works and planning.
- Neighbourhood concierge is appointed for Elferinksweg.

Private terrain

- Neighbourhood concierge visits residents to promote disconnection on rain pipes.
- Call for more adaptation and mitigation measures.

### Timeline newsletters

## 2.1. Overview and analysis of participation measures

Based on interviews with various parties who have a role in the realisation of the Stadsbeek and the newsletters sent by the municipality to citizens and those involved, the participation measures per phase are described below.

### Phase 0

Due to the worsening water nuisance that the citizens of the Pathmos and Stadsveld neighbourhoods had to deal with in recent years, the municipality decided to look at solutions to solve this situation. After a thorough preliminary investigation had determined the bottlenecks for groundwater and rainwater nuisance, a Master Plan for Water was set up by the municipality in which integral design was central. Although the original idea within the municipality was to build a storage sedimentation basin, an alternative was eventually chosen: the Stadsbeek project. The initiative of a project manager and landscape architect to restore one of the original city water streams quickly gained support within the municipality. During several information meetings, citizens were informed about the causes of the water nuisance, the fact that it could get worse in the coming years, and a possible solution. As a result of these meetings, there was also support among the citizens. This resulted in the first information meetings about the Stadsbeek being organised in February 2015. Citizens were provided more information about the current situation and a possible solution was presented[1]. A website, an information line, and an e-mail address were also set up to keep citizens informed of possible developments of the project. Newsletters were distributed regularly. During the first meetings, citizens could register to help design the Stadsbeek. Citizens were also given the opportunity to start their own initiatives. From the start (and throughout the preparations and execution phase), efforts were made to reach a broad public by sending newsletters to the citizens of the two neighbourhoods (**Breadth**; broad, **Phase**; participation through all phases). With the information meetings, the municipality reaches a narrower public (**Breadth**), but this increases the intensity and there is room for consultation (**Influence**).

During Phase 0, six design evenings were organised where an average of 10-15 citizens worked together with a landscape architect on the design of the Stadsbeek. Through an iterative process with several meetings, a design was finally chosen and the project was divided into three phases. A plan was then drawn up explaining that the plan was feasible, where the financial resources would come from, and that there was sufficient support among citizens. This plan was then presented to the council in 2015 and, together with the participatory process with which the project was initiated, ensured that Project Stadsbeek could count on approval and broad support within the council. The design evenings in this phase are characterised in particular by a high **intensity** of participation and a high **influence** of the participation measures. Although the measures were fixed, as well as certain parts of the design, the municipality gave citizens room to think along and help shape the design. The **goal** of the design evenings was both instrumental (refining the design of the Stadsbeek with input from citizens) and intrinsic (adding public value to the design process for support).

During Phase 0, an inventory of water problems was also carried out, and it was decided to construct an infiltration/drainage system in seven streets that would eventually be connected to the future Stadsbeek. Finally, together with a primary school, a church and a mosque, it was examined whether there were possibilities to connect other things as well. Among other things, this led to the schoolyard of the primary school being redesigned and 'greened'. The renovation of the Pinkeltjesplein was also added to the project.

[1] Just like the phases, the idea of the Stadsbeek was split up into three parts, during which three information meetings were organised with an average of 100 citizens per evening.

## Phase 1

Phase 1 of the Stadsbeek project includes work in the Bruggertstraat and Rembrandtlaan. The construction of the drainage in seven adjacent streets (Plataanstraat, Lindestraat, Populierenstraat, Beukstraat, Esdoornstraat, Kastanjestraat, Josinkmorsplein) is also part of this phase. In Phase 1, the municipality decided on a regular implementation. This means that the municipality initiates a tendering procedure based on a predetermined plan and design. Costs are an important factor here.

The preparations for Phase 1 started in April 2016. The municipality organized information evenings for the citizens of the streets where the drainage system would be constructed and for the citizens of Bruggertstraat and Rembrandtlaan to announce the start of project Stadsbeek. During the preparations a walk-in information evening was organised during which the final design for the Stadsbeek was presented. The walk-in- and information evenings have an average **Breadth**, low **Influence** (informing and consulting), moderate **intensity**, and mainly serve the purpose of keeping the inhabitants involved in the progress (instrumental).

In phase 0, in addition to the Pinkeltjesplein also the inner gardens between the Rembrandtlaan flats have been identified as an opportunity for realising additional water storage measures. These gardens are owned by the Owners' Association (VVE) and are not public space. There was much enthusiasm among citizens to make the inner gardens more attractive. For the municipality, the inner gardens offered an opportunity to disconnect the rainwater runoff from the flats and construct water storage areas in the gardens in between the flats. In 2016, citizens created designs together with NMO (Nature and Environment Overijssel). The first two (of the six) gardens were actually constructed in 2017 with provincial funding. Subsidy was thereafter applied for the construction of the four other gardens as well. The collaboration with the VVE and citizens was a new form of citizen participation for the municipality. With the help of the municipality, NMO and the province, citizens themselves started designing water-storing measures that would improve the quality of their living environment. This activity is characterised by high **Intensity**, narrow **Breadth** and very high **Influence**.

The start of implementation of Phase 1 was in mid-2016, with the installation of drainage in the seven previously mentioned streets. The start of the construction of the Stadsbeek was in March 2017. Through a newsletter, citizens were informed that the work would begin. Thereafter newsletters kept citizens informed of progress and planning. In addition, citizens were encouraged (via the newsletter) to work on sustainability and climate adaptation themselves during the construction. When construction was finally completed, this was celebrated with the citizens and those involved. The implementation of Phase 1 is characterised by low **Intensity**, broad **Breadth** and limited **Influence**.

## Phase 2

For Phase 2 the municipality also opted for regular implementation, which is the same procedure as in Phase 1. In Phase 2, a change of municipal project manager took place. This change initiated a split between the preparation and implementation phases. Because the new project manager had not attended the information and consultation meetings organised in Phase 0, this posed a challenge for Phase 2.

The first preparations for Phase 2 were set up in March 2017. Around the same period, design sessions were also organised for Pinkeltjesplein[2]. Local citizens of Pinkeltjesplein were able to express their wishes about the new design for Pinkeltjesplein (high **Influence**, medium **Intensity**, narrow **Breadth**). Specific preparations for the implementation of Phase 2 began in July 2017, when citizens were informed about the upcoming work and the bridges via a newsletter and an information meeting.

[2] This activities are partly part of the information and consultation sessions of Phase 0.

Apart from general newsletters and the presentation of the final design of the Pinkeltjesplein, few other activities were organised between the summers of 2017 and 2018. In June 2018, the start of the construction activities was finally announced.

During the implementation of Phase 2, apart from a few information meetings on planning and progress, there was little focus on organising participation. When the work was completed, the citizens' opinions were sought (**Influence**: consultation, **Phase**: implementation). Several comments were received, including criticism of the semi-surfacing, which caused inconvenience to citizens. The municipality and the contractor took this criticism on board and various aspects within the project were adjusted, including the type of semi-paved surface.

Fase 3

With the challenges of Phase 2 in mind, including some delay in the work (due to the fact that the relocation of various cables and pipes took more time and only then the water stream was laid) and additional nuisance for citizens, the municipality decided to adopt a different approach for the preparation and implementation of Phase 3. Dura Vermeer was appointed as the contractor for the construction of the Stadsbeek in the Elferinksweg because they proposed an integral total project approach (preparation and execution). This integral approach meant that instead of having different contractors for the construction of the Stadsbeek and the relocation of cables and pipes underground, a Building Team (Bouwteam) would be set up in which both parties would be represented. Dura Vermeer also engaged the communications company COMcept to ensure that clear communication with citizens was guaranteed at all times, and an environment manager was appointed. This meant that during the implementation in Phase 3, there was more room for participation (**Phase**: participation during implementation)

During the preparations, the Building Team sent out various newsletters to the citizens to keep them informed of the progress of the preparations and the planning. In April 2020, the environmental manager sent a letter to the citizens of the Elferinksweg to inform them about the chopping of the trees in the street. This letter was also used to invite citizens to an information meeting. However, due to the corona pandemic it was not possible to organise a physical meeting and eventually a digital presentation was prepared in which all parties of the Building Team introduced themselves and more context was given about the project. Questions from citizens were answered immediately during the digital presentation. The BouwApp was also introduced. With the BouwApp, citizens are kept informed of developments at the building site and they are also invited to contribute with for example photographs of the building site or to report any inconvenience. The BouwApp gives a wider **Breadth** than information meetings where citizens have to be physically (or digitally) present.

In the end, the implementation of Phase 3 started after the 2020 construction industry holiday and, via the BouwApp, citizens were kept informed of the work 2-3 times a week. The **Intensity** of participation therefore increased during the implementation of Phase 3. In October 2020, a neighbourhood concierge was also appointed who will visit citizens to answer questions and solve possible problems. The neighbourhood concierge’s job is to help out at the workplace and in the neighbourhood where necessary and to find out what is on the citizens’ minds. By appointing the neighbourhood concierge, more opportunities are created to consult citizens in an accessible way. In January 2021 the neighbourhood concierge also visited all the citizens to promote the disconnection of the rain pipes in the Stadsbeek. The citizens of Elferinksweg responded positively to this. Although disconnection was currently only discussed with the citizens of Elferinksweg, plans have been made to promote disconnection in the other streets as well.

## 3. Conclusion

Throughout the phases, the municipality of Enschede used various participation measures. The breadth, intensity and influence of participation differed per project phase. From the beginning, the municipality has focused on informing a large group of citizens (broad breadth). As many inhabitants of the two districts as possible were kept informed of the developments of the Stadsbeek project. In phase 0, much attention was paid to intensive participation with significant influence (design evenings) to generate support for the project. This high intensity of participation can also be seen in the planning stages of the Pinkeltjesplein (phase 2). In phase 3, extra attention was paid to keeping citizens involved during the execution of the work. In this phase, an environmental manager, the BouwApp, and the neighbourhood concierge were deployed. During the implementation of Phase 3, investments were made to keep the citizens involved in several ways, both with a broad and narrow breadth.

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Gemeente Enschede (2012), *Watervisie. Visie Enschede (2013-2025): Water verbindt.* Published December 2012.

# Appendix: list of interviewed persons

- Sylvia Schot-Vos, Project leader for the Stadsbeek project and policy advisor at the Municipality of Enschede
- Henk Vischer, Landscape Architect at the Municipality of Enschede
- Jaap Batenburg, Senior Project Leader at the Municipality of Enschede
- Mariëlle Schrijver, Communication advisor at COMcept
- Frank Glaubitz, Environmental Manager at Dura Vermeer