



**ACT 3.226  
PROPOSAL**

**MARCH 2024**

# Greening

## Schiehaven-Schiemond

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Cover: Aerial Image of Schiehaven-Schiemond (*Google Earth*, n.d.)

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## Executive summary

The Schiehaven-Schiemond area is an old harbour area of Rotterdam that has long lost its function. In recent years, the surrounding area has slowly transitioned from an active port area to a neighbourhood. Schiehaven Schiemond is the last open lot in the area and plans have emerged to also build residencies here. We want to investigate what nature inclusive solutions that are feasible can be utilized in the Schiehaven-Schiemond area to make the area more liveable. Local residents and the municipality both have differing visions for the area, and we want to provide three options that are both feasible and nature inclusive. We want to inspire the municipality and the residents and provide our scenarios in an appealing report, providing a presentation in the neighbourhood of Schiehaven-Schiemond where we will explain our findings. We plan to allocate a grand total of 1168.5 hours to the project, divided over all group members. We also expect a total expenditure of 484.40 euros, which includes mainly travelling costs and printing costs for flyers we want to provide at the site where we will present our findings. Our team has varied expertise among disciplines. Most of our expertise is focussed around nature based solutions that can be applied in the future. All members of our group also have their individual expertise. Hence, we have expertise in hydrology and using green blue infrastructure to mitigate urban heat, Plant use and development of plant involved systems, urban ecology and policy processes and nature conservation and restoration.

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# Context and Vision of Commissioner

## Introduction

The Netherlands are facing a large housing crisis, and cities are struggling to build more houses. Rotterdam is no exception to this. The municipality is planning to build in Schiehaven Schiemond to tackle this problem. According to local organizations M.A. Intorno and Rotterdam Natuurlijk, the municipality focussed too much on building homes and is missing key aspects. There are already a lot of building projects in the M4H development and building plans might fit that area better (*Gebiedsontwikkeling - M4H Rotterdam*, 2023). Schiehaven Schiemond provides one of the last area's where a broad overview of the horizon remains. M.A. Intorno argues that the municipality could do more to implement the need of local residents, climate resilience, nature inclusiveness and maintain the cultural and historical uniqueness of the area. Therefore, the M.A. Foundation Intorno from Rotterdam contacted the WUR Science Shop to create an area vision for Schiehaven-Schiemond where these aspects are addressed.

Schiehaven-Schiemond is located in the area of Schiemond and Delfshaven which has a long cultural history with its first origin in 1389, when it was still part of the port belonging to the city of Delft. In the 20<sup>th</sup> century Schiehaven-Schiemond developed into a diverse and multicultural neighbourhood as part of the Port of Rotterdam. After the Second World War Schiehaven was modernized and since 2018 it is no longer used as a part of the Port of Rotterdam. Until this day, Schiehaven-Schiemond is a very diverse and multicultural neighbourhood with industrial feeling and historic buildings.

In a stakeholder meeting in early 2023, facilitated by students of Wageningen University, local residents shared that they want to maintain the cultural and historic aspects of the neighbourhood. They would also like to see a more integrated neighbourhood where different functions are unified, such as sports, recreation, creativity and living. Additionally, they indicated the wish to increase the connectivity with the rest of the city and the social cohesion within the neighbourhood.

Most importantly, residents talked about the need for more blue-green infrastructure in the neighbourhood. Especially this aspect is interesting to include in the development of the area as including nature can lead to a higher quality of living, counter the loss of biodiversity, and has lots of other benefits (Weppelman et al., 2024).

## Vision of commissioner

By investigating and presenting an own vision for the area, M.A. Intorno wants to show the municipality a more nature inclusive way of refitting the area, where there is room for a more blue-green environment that may be combined with the realization of housing. This blue-green vision would include greenery in the area, as well as preserving existing animal presence and migration routes. The rich heritage of the port area also needs to be underpinned.

Our commissioner is Marcel Pleijte, he assists M.A. Intorno (Cor Flach) in creating a vision for the Schiehaven-Schiemond area. He does this using his knowledge of partnerships between public and private and his expertise on policy processes, concentrated on spatial planning. He has a large understanding of the problem. Roel During is a policy and social innovation expert and has a lot of know-how about the government apparatus of the Rotterdam municipality. He has useful connections to support the project.

The organization M.A. Intorno disagrees with the plan that Rotterdam's City Development Department proposed for Schiehaven Schiemond. The municipality tried to realize more than 1000 apartments in the area, building in a more traditional way. This was not feasible, due to resistance from residents about the lack of participation and financial constraints. The first improvement to the original plan that the commissioner mentioned was to have less 'anonymous' high-density buildings, which are already very common in Rotterdam. Based on this, we conclude that the attractiveness of the neighbourhood is the goal of the commissioner.



## Project problem definition and stakeholder

Following the vision of the commissioner, the next question would be how nature-inclusive development could deliver an attractive neighbourhood. The identity of the area can contribute a lot to attractiveness of the area. The apartments previously planned for the Schiehaven Schiemond lot were neither very distinct nor attractive or helpful to solve the housing problems Rotterdam faces. We want to include local heritage and identity in our plans. We identified from a previous stakeholder meeting with residents (WUR students, 2023) that attractiveness is a measurement of liveability, which in this research is the problem we need to pursue as shown in **Figure 1**. Liveability is the common theme that comes up in the facilitation session organised by a group of WUR students in 2023 with the residents of Schiehaven-Schiemond.

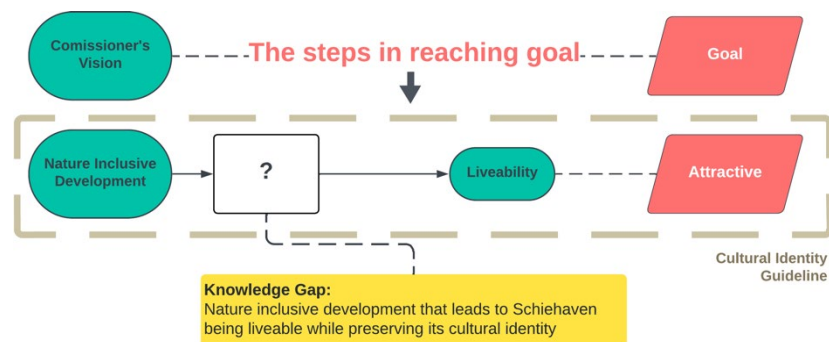


Figure 1 Knowledge Gap Model. We took the initial concern of the commissioner of the lack of attractiveness in the plan and the need to include nature in the development and frame it as a problem of liveability.

### Problem Statement

The previous development plan proposed by the municipality is perceived by M.A. Intorno to be decreasing the liveability of the Schiehaven-Schiemond neighbourhood. The problem is that nature inclusive urbanization ideas are not yet explored regarding their technicalities and how, feasibility, and cost effectiveness; to provide a nature-inclusive development plan which increases liveability to the Schiehaven-Schiemond neighbourhood.

### Stakeholders

In this chapter we will elaborate on what the different stakeholders are in the development of Schiehaven Schiemond, with a focus on nature inclusivity. The shortlist based on the most relevant stakeholders is discussed and visualized in a model on how they interact (figure 2). The longlist of stakeholder is discussed and summarized in a table in appendix I.

**Cor Flach and his Intorno Foundation** are an unorthodox actor, namely a promoter of the arts and culture residing on ship in Schiehaven Delfshaven. However, they are highly involved in the development of the neighbourhood, and they are highly interested in knowledge on nature inclusive urbanization options. Since M.A. intorno is a small non-governmental organization, they have little influence on the development of the area. They participate with local residents to include their needs. Furthermore, M.A. Intorno commissioned the Science Shop and cooperate with the organization Lloyd 010 and Rotterdam Natuurlijk. The building department of the municipality does not want to cooperate with them, while there might be an option to cooperate by influencing the council that oversees the department.

**The Municipal Council (gemeenteraad)** is the legislative power of the municipality, consisting of members from different political parties voted for by Rotterdammers. This stakeholder controls the college of aldermen and mayor (college van burgermeester en wethouders (B&W)) which has the executive power of the government and oversees the building department. Moreover, the municipal council provides governance outlines and votes on policy documents and plans put forward by the college of aldermen and mayor. Therefore, they decide on the approval of the development plan for Schiehaven-Schiemond (gemeenteraad Rotterdam, n.d.). Through political interference by citizens,

they can influence the B&W in their decision making. In the coalition deal 2022-2026 approved by the municipality it was agreed to turn Rotterdam in a greener city (Gemeente Rotterdam, 2022).

**The Municipal building department** is the main stakeholder in the development of Schiehaven Schiemond (Personal communication with Marcel Pleijte). They are responsible for making a development plan for the neighbourhood. Their main interest is realizing homes and are critiqued for having a top-down approach to realize it. While there seems to be some participatory processes occurring with local residents and other stakeholders. However, they do not seem to actually use this input.

**Project developers** execute the development of Schiehaven Schiemond. Since economic values are the main driver, they are interested in realizing houses with high profitability. Therefore, construction firms in general have little interest in nature inclusive urbanization (Axelsson & Granath, 2018). However, there are also construction firms that profile themselves as green, focusing on climate-adaptive and nature inclusive construction (KAN bouwen, n.d.). Executive organizations are also experts, thus have some power over the municipal building department. Additionally, in this area ERA contour is a party with large influence, since it owns together with the Municipality of Rotterdam, the plot of the Schiehaven-Schiemond area.

**Ecology / nature organizations.** Apart from the large open waterbody, there is little nature. The land mainly consists of concrete and stone. Additionally, the transition between the water and land is very abrupt. Therefore, nature would benefit from the improvement of the blue-green environment with nature inclusive urbanization. The needs of ecological improvement are voiced by nature organizations. In general, with urban development projects, the benefits of nature inclusive urbanization are already well known and there are already high nature-inclusive ambitions (Gemeente Rotterdam, 2022). Still in the translation of nature-inclusive ambitions to a development plan, nature-inclusive ambitions are insufficiently realized (SIGS, n.d.). Nature organizations have limited influence over this.

**Experts** on nature inclusive urbanization can shape the project with their knowledge. Especially, in translating nature inclusive ambitions to practice (SIGS, n.d.). On top of that, expert input adds credibility to the project. Since outside experts won't be affected by the development they will have little interest, no benefit and form no coalition.

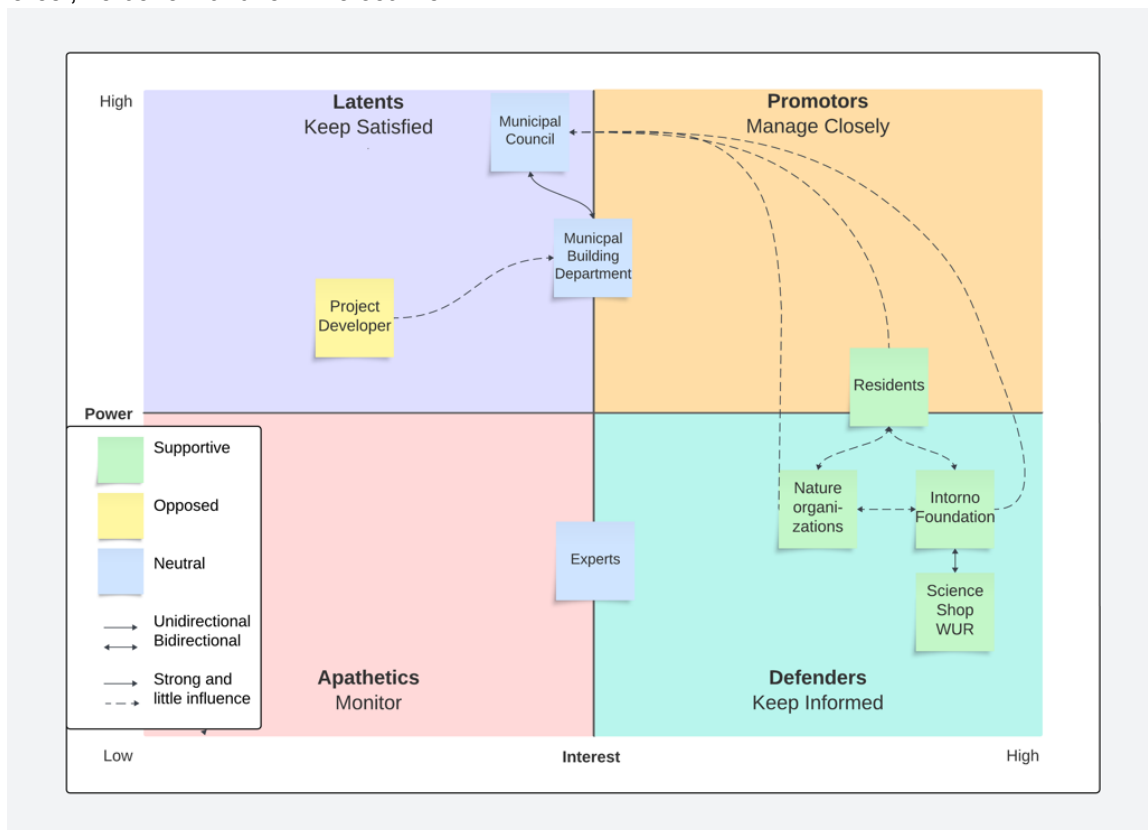


Figure 2: A power interest-diagram for the main stakeholders involved in nature inclusive development of the neighbourhood Schiehaven-Schiemond in Delfshaven Rotterdam.

**Residents** are the people living in the neighbourhood and they are most affected by its development. Thus, they have some interest in how the neighbourhood develops. Based on a stakeholder meeting with WUR students, they are supportive of including blue-green infrastructure in development. Since the municipal council should represent the residents, the residents have some influence over them. This influence over the council becomes stronger when forming a united front, with foundations that have residents in their best interest, like Intorno Foundation.

**The WUR Science Shop** works with non-profit social organizations by organizing free research projects that answer their questions. They were approached by the Intorno foundation. Marcel Pleijte and Roel During work together on assisting Intorno foundation. Marcel Pleijte is the main commissioner of the project.

## Integrative project purpose and research questions

How nature inclusive urbanization leads to liveability and result in policy decision?

Liveability is the quality of life in the neighbourhood, which is measured by physical and mental wellbeing (Mouratidis & Yiannakou, 2022). One of the things that scientists found to correlate with liveability is the presence of green spaces. According to De Vries and Verheij (2022), children use less ADHD medication when more greenery is present in the surrounding environment (Vries de & Verheij, 2022). They also found that residents suffer less from anxiety disorders in environments with more natural elements (such as greenery or water), than in areas with fewer natural elements. Besides the apparent health and psychological benefits, adding greenery is also what the residents wanted according to the facilitation meetings. “The group felt that green-blue infrastructure is a missing element in Schiehaven-Schiemond” was mentioned by the notes (Wit et al., 2023).

With our expertise regarding plants, water, climate, and ecosystems, we believe we could provide a significant contribution in inspiring building a green Schiehaven and a strategy for the struggles to turn it into policy. We developed a conceptual model in **Figure 3** which shows the citizen initiative which in order to lead to a policy decision must head into a political blackbox which we are yet to decipher. This is also a thing that we will tackle in our research, should the people of Schiehaven champion e.g. Healey’s collaborative planning effort or Flyvbjerg’s as a struggle and power conflicts (Healey, 2003).

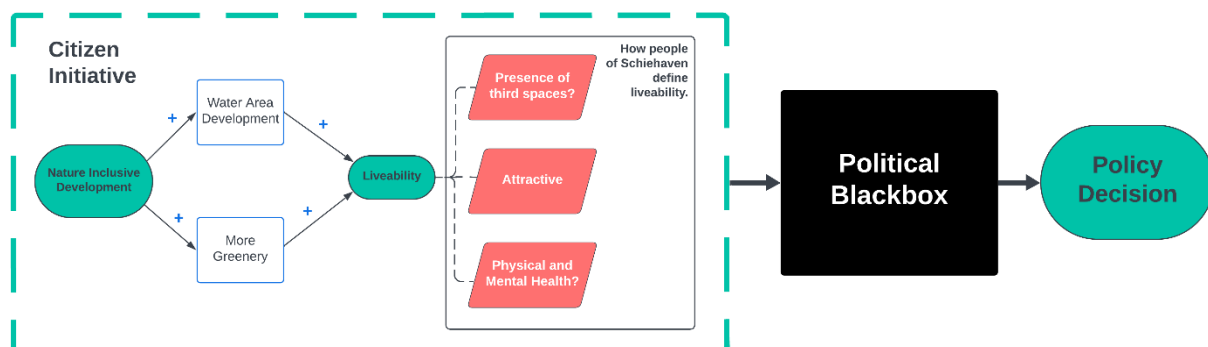


Figure 3 Conceptual Model

### Purpose

Inspire for nature inclusive development of Schiehaven-Schiemond for a more liveable city.

### Our contribution

We develop a report, that will function as an inspiration for the “Area ambition document of Municipality Rotterdam, December 2024”. This contemplates creating inspiring scenarios that integrate nature into the Schiehaven-Schiemond area by cataloguing and ranking different measures. To fit the inspiration document to the context we will also investigate why the former plan of the municipality was rejected, what the policy and spatial planning practices are, and how existing features and activities in the area



can be integrated. Moreover, inspiration will be withdrawn from other port areas in both Rotterdam and other cities.

For these purposes, we integrate our domain knowledge on ecology, hydrology, nature policy, nature conservation and climate resilience.

### Ethical implications and disclaimer

Voluntary participation, informed consent, anonymity, confidentiality, potential for harm, and communication of the results are considered over the full length of the ACT Project. Furthermore, there are no conflicts of interest for all team members.

In Schiehaven-Schiemond, we should focus on legal implications when it comes to covenants for the climate-proof building covenant. The municipality of Rotterdam should consider this when they think of a plan.

Ethical implications will be to inform and involve all relevant stakeholders and residents should have the ability to be near to greenery. In the conclusions we will provide multiple inspirations for solutions, we will not formulate an advice on what to do. As Wageningen students with a passion for nature we might be biased in pushing nature into the development of Schiehaven-Schiemond. Additionally, the outcomes for nature inclusive development can have unwanted side-effects like increased housing prices. Therefore, only benefitting the wealthiest.

### Research Questions

Main Research Question:

*How can nature be included in the development of Schiehaven-Schiemond to improve the liveability?*

Sub Research Questions:

1. What are the current developments of Schiehaven-Schiemond?
2. To what extent does greenery influence the liveability in a city?
3. What can we learn about nature inclusive urbanization from other port areas in Rotterdam and other cities?
4. What are the different criteria involved in assessing the feasibility of nature-inclusive measures?
5. How do the different measures influence liveability and how do they compare to one another?
6. What scenarios can we develop based on the different measures?
7. What are possible policy and spatial planning practices to realize the scenarios?



## Output

The overview of our output and activities are visualized in **Figure 4**.

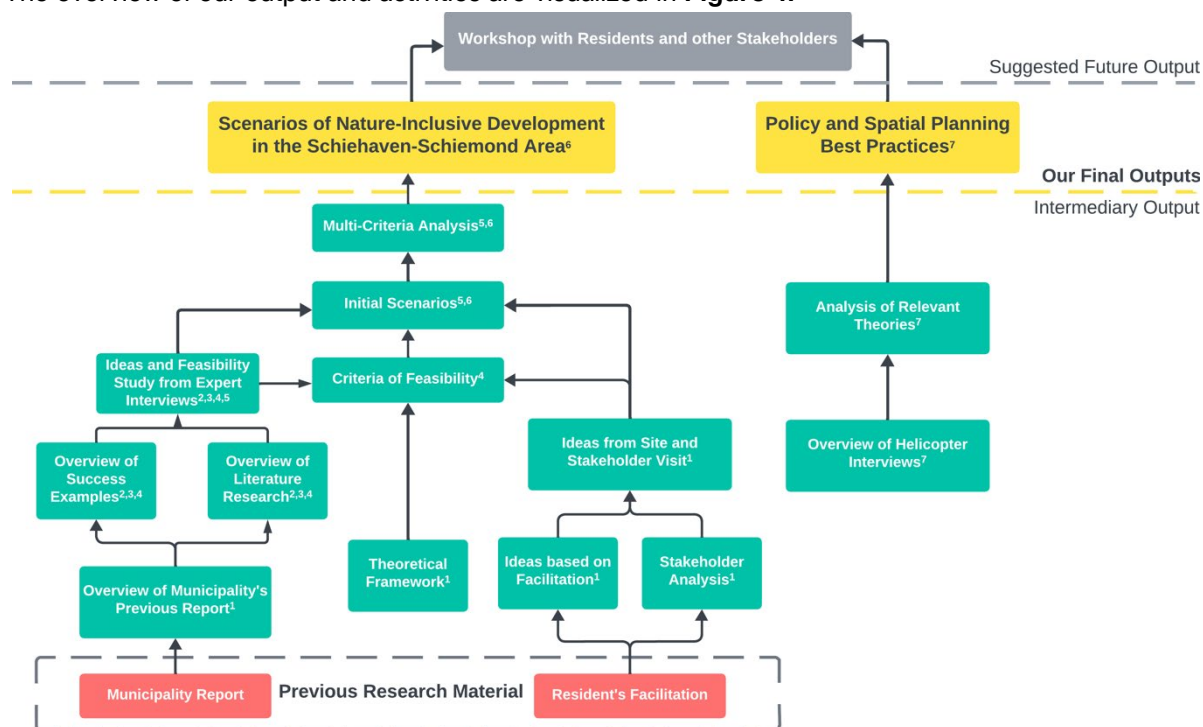


Figure 4 Output and Activities Overview. The numbers in superscript link the output to their research questions.

Final Output: An inspiration report containing three scenarios of nature inclusive urbanisation in the Schiehaven-Schiemond area. It will come in terms of a report, a flyer, and a presentation. The report will be targeted at the commissioner, municipality, and the developers. The flyers and the presentation are targeted at residents and stakeholders in the area.

The final report will provide:

- About Schiehaven-Schiemond: An analysis of the project area in terms of function, stakeholders, and landscape. The history of the area and the original plan by the municipality **(RQ 1)**
- (Scientific) background information on how greenery creates better liveable spaces **(RQ 2)**
- An overview of multiple nature-friendly measures that can be applied in the Schiehaven-Schiemond area, including examples of successful projects in other port areas worldwide **(RQ 3)**
- A multiple criteria analysis (MCA) of the possible measures, showing the feasibility of each option based on e.g. ecological value, feasibility in terms of policy and costs, recreation, housing, etc. **(RQ 4,5)**
- Three different scenarios of nature-inclusive development in the Schiehaven-Schiemond area **(RQ 5,6)**
- Recommendations on policy and spatial planning **(RQ 7)**

The flyer will provide:

- An overview of three different scenarios of nature-inclusive building
- A distilled conclusion of the report (advice)
- A fun game where readers can pick their ideal scenario

The presentation, which consists of slides and an oral presentation will include:

- A brief introduction to the research and project area
- A summary of why building nature-inclusive is relevant
- Three different scenarios of nature inclusion and visual examples

## Activities and Research Methods

In this paragraph, the activities and research methods that will be used to answer the sub-research questions are listed in chronological order of execution. An overview of the activities and research methods is provided in the Logical framework in the Appendix 2.

### **Study the outcomes of the facilitation session performed by other WUR students and developing a stakeholder analysis (RQ1)**

- Involvement of local residents is an important aspect of this project. By studying previous research done in this area, we know more about the needs and wishes of inhabitants. This helps us to understand the problem and clarify our goals.
- The research method used for this activity is doing a literature review of the report. This information will be correctly referenced when used in the report.

### **Study the outcomes of the rejected report of the municipality (RQ1)**

- As the municipality is one of the most important stakeholders in the area, we want to know what their initial plans for the area were. By studying their report, we can get familiar with the initial plans and intentions, which help us to understand the problem better and if needed we can integrate certain aspects into our report.
- The research method used for this activity is again doing a literature review of the report, which is elaborated on earlier in this paragraph.

### **Visit a meeting of “commissie bouwen, wonen en buitenruimte” in Rotterdam (RQ1)**

- By visiting a meeting with the municipality and a commission that wants to create a green space in the project area, we can get an insight into the dynamics between stakeholders and meet people involved in the process. By visiting this meeting, we hope to learn about the history of project development in the area and meet stakeholders that can provide us of information for our research. We will take notes during the meeting.
- The research methods used for this activity is observation, where we will physically attend the meeting and observe the conversations and dynamics between stakeholders. When meeting people, we will conduct non-structured interviews as we do not know who we will be talking with in advance. We will take notes during these interviews and ask if we can use the personal communication for the report. In case we are not able to visit the meeting, we will contact someone that was there and ask for notes. In case the meeting is cancelled, we will contact the meetings participants separately for interviews.

### **Visit the project area with the commissioners (RQ1)**

- By visiting the area, we will get familiar with the landscape and the atmosphere of the project area. We will also be able to get a sense of the preferences of the commissioners for the area.
- Research methods are again non-structured interviews with the commissioners as explained earlier, and field observations. When visiting the project area, we will observe the surroundings and the landscape features. We will take pictures of interesting places that we can reference to later in the report. In case we are not able to visit the project area we will use Google Streetview and Google Earth for observations of the area and contact Cor for an interview about the area.

### **Find a suitable theoretical framework for planning and policy for the research (RQ1)**

- As our research is a work of urban planning and inspiring policy implementation of nature inclusive measures in urban areas, we want to work under relevant theoretical frameworks which gives us an idea/model of how the process work, these in turn shapes the necessary steps and strategies that we will take.
- For this activity, we will conduct literature research to which framework fits best for the Schiehaven-Schiemond context.

### **Conduct literature research on the effect of nature-based solutions on the liveability (RQ2,3&4)**

- As our report needs a scientific background, we will conduct literature research to show the advantages of nature-based solutions. We need scientific proof of the advantages of building

with nature in the city across multiple scales. We will also gather examples of measures from the literature that can be included in the MCA.

- For this activity, we will conduct literature research as well, which is explained in the previous activity description. We will make use of search queries like: “nature-based solutions” “review of green nature friendly measures” and “blue-green infrastructure” to find relevant articles. In case we struggle to find relevant literature, we will ask our academic advisor for inspiration, as he is experienced with literature about building with nature.

#### **Finding examples of successful nature integration in port areas (RQ2,3&4)**

- By looking for successful examples of nature inclusion in urban port areas, we can gather inspiration for our own project. The examples can also be used as background information in our introduction. We will also gather examples of measures which we can include in our MCA.
- The research method used for this activity is conducting literature research, including searching for academic literature, case studies and articles within this subject. We will use online databases like Scopus and Google Scholar and search with queries like “nature integration” and “urban port areas” “case studies” and make use of the references. Useful literature will be summarized and referenced to correctly. We will keep track of our references with an online reference manager Mendeley.

#### **Interview experts about the feasibility of measures and inspiration (RQ2,3,4&5)**

- Meeting an expert in the research area of sustainable development will improve our knowledge of building in port areas. We will ask the experts for good practices and propose some of the measures we had in mind.
- We will ask experts within the field of nature inclusive urbanization that work at the WUR for an interview. We will find them on the website of the WUR or ask acquaintances from landscape architecture for a recommendation. We will make an interview guide with all the questions we want to ask and set an objective of the conversation. We will send a summary of the interview to the concerned person afterwards. If the person agrees, we can use their personal communication as a reference throughout the report.

#### **Establish the most important criteria for assessing the feasibility of measures (RQ4)**

- The criteria on which the measures will be assessed need to be established for the MCA. We will look for comparable examples from the literature, and
- We will look for examples of multiple criteria analyses from comparable case studies in the literature.

#### **Scenario Building (RQ5,6)**

- To provide multiple options of including nature in the development of the area, we will define multiple scenarios. These scenarios will be different from another based on certain conditions, for example the amount of money available or the number of houses built in the area. We need to define these conditions, and then place the measures in the different scenarios. Based on the outcome of the MCA we will select the most suitable measures for each scenario.
- The research method used for scenario building will be implement the results of the MCA and conduct literature study on how to implement the different results. Combined with interviewing experts.

#### **Carrying out a Multiple Criteria Analysis (RQ5,6)**

- The possible measures that come out of the literature research and will be assessed on feasibility with an MCA. The measures will get a score on each criterion which results in an aggregated score, which gives the option to compare and rank the measures.
- We will use literature examples on how to do an MCA. We also want to carry out a sensitivity analysis, where we check the robustness of the outcomes by changing criteria weights and scores and see how the outcomes differ. In case an MCA will take too much time, we will focus on building scenarios with qualitative research aspects.

#### **Formulate an advice based on proven policy and spatial planning practices (RQ7)**



- To give a recommendation about how to implement the scenarios, we will propose policy and spatial planning practices. This step is done to define processes that are needed to implement the earlier presented measures. As these processes are complicated, we will not provide a detailed action plan, but come with recommendations based on expertise backed up with literature and existing policy documents.
- We will conduct 'helicopter interviews' which refers to talking to experts that have developed a helicopter view on situations like these. We will start with our academic advisor, as he is an expert in building with green and bringing it into practice with multiple stakeholders. Roel During and Marcel Pleijte also have expertise in policy practices regarding greenery, and we can consult them as well. We will use scientific theories from literature and legal documents to back up our arguments.

## Project management

### Our Team:

Our team has a broad background in the natural sciences, with knowledge about ecology, climate resilience, urban climate, hydrology, nature conservation, food systems, agriculture, and nature policy. So technical knowledge will be one of our headlines.

Table 1: Team description of all the group members including roles, background, and value to the group

Name	Role	Background	Value to the group (Background and qualities)
Joshua	Member: I will contribute mainly to the content. Same yields for going to general skill meetings for members, e.g. Social Science workshop	BSc Soil, Water and Atmosphere, MSc Earth and Environment - > Hydrology	A background in Hydrology and a bit in Urban Heat Island. This can be of value to a harbour area where water is of importance, also water quality needs to be taken into account. I have the qualities: <ul style="list-style-type: none"> <li>- pro-active attitude and approach</li> <li>- critical view of the content</li> <li>- Getting people together</li> <li>- Contribution to professional oral presentation</li> </ul>
Pepijn	Manager	BSc plant sciences and MSc Resilient Farming and Food Systems	Scientific background in analysing and designing agricultural/silvicultural production systems. Which can be useful for assessing the feasibility of greenery in the development of Schiehaven Schiemond. I have the qualities: <ul style="list-style-type: none"> <li>- Ability to synthesize and bring the core message</li> <li>- Think critically</li> </ul>
Hylke	Secretary	BSc Plant Sciences and MSc Plant Sciences --> Genetic resources	I have a background that is mainly focussed on agricultural plant use and plant breeding. I think knowledge of greenery is very useful when having a project that revolves around future proofing and greening the Schiehaven area. It is useful to know what plant races or plant species are more or less suitable for the region and what benefits or drawback inclusion of certain plant species can bring with them. I have the qualities: <ul style="list-style-type: none"> <li>- Accept and use feedback</li> <li>- Collaborative attitude and approach</li> </ul>
Gerald	Member	BSc Biology MSc Forest and Nature Conservation	I am familiar in working with urban ecology and biodiversity including ways to enhance it and its positive impacts for human life. Currently I am specializing in



			conservation policy, delving in subjects of policy processes, discourse, and contextualization of power. I have the qualities: <ul style="list-style-type: none"> <li>- High commitment to the project</li> <li>- Awareness for ethical implications</li> </ul>
<i>Pasha</i>	Controller	BSc and MSc. Forest and Nature conservation	I have a background in ecology and nature management, including how to restore natural landscapes. Next to this I have experience in financial management and time management, these will come handy in my task as controller. I have the qualities: <ul style="list-style-type: none"> <li>- Contribute to the procedural side of the teamwork</li> <li>- Pro-active attitude and approach</li> <li>- High commitment to the project</li> </ul>
<i>Tim</i>	Member	BSc Env. Sciences & MSc Urban Env. Management	I have a background in Environmental Sciences and Urban Environmental Management. I know about Blue-Green infrastructure, and I have seen several examples on how to build with nature in the city. I have the qualities: <ul style="list-style-type: none"> <li>- Contribution to professional oral presentation</li> <li>- Clear communication</li> </ul>

## 2: Planning:

Table 2: Gantt table of planning of the project. The time available per person is based on the hours reserved for ACT excluding non-project related activities (BPD and manager meetings). Pepijn van Hees has a little less time than the other group members as he has manager meetings. Weeks 3 and 4 are shorter due to Easter. In week 3 and 8 we have part time but travel to Rotterdam on a full-time basis, we compensate for this in other weeks.

Week	1	2	3	4	5	6	7	8	Total
<b>Time availability</b>									
Gerald Yudha Putra	8	19	16	26.5	38	40	38	10	195.5
Hylke Schakel	8	19	16	26.5	38	40	38	10	195.5
Joshua Leusink	8	19	16	26.5	38	40	38	10	195.5
Pasha Weken	8	19	16	26.5	38	40	38	10	195.5
Pepijn van Hees	8	17.5	14.5	26.5	38	38.5	38	10	191
Tim Olthof	8	19	16	26.5	38	40	38	10	195.5
Total Team availability	48	112.5	94.5	159	228	238.5	228	60	1168.5
<b>Project activities</b>									
Introduction to project	24								24
Proposal	24	112.5	46.5						183
Literature study on background				60					60
Literature study on nature-inclusive				60					60
Literature study on criteria				19	56				75
Performing MCA					100				100
Interviews with experts				20					20
Designing scenario's					72	145			217
Fieldtrip to Rotterdam			48					30	78
Writing report						93.5	180		273.5
Work on final presentation							48	30	78
Total project demand	48	112.5	94.5	159	228	238.5	228	60	1168.5

## 3: Communication

For communication with external parties, we have made a clear division. We have a communication person that keeps all contact with the commissioner(s) and for affairs regarding other ACT groups and our coach the secretary will communicate. For the budget, the controller will send mails to the financial supervisor of our group, regarding questions about money he will however pass his questions to our communications person, who will add them with other existing questions, so the commissioner does not get flooded with e-mails. Below an overview is shown in the table that shows who will act when



communication is required. While it indicates the most likely way of action it might be possible sometimes contact is shifted to another group member. We will however try to keep one consistent contact person per external party to keep communication lines clear. This way the external parties know who to contact and our group knows who to ask.

Table 3: Communication overview table

Contact with:	Communication by:
The commissioner(s)	Communication person (Joshua)
The academic advisor	Communication person (Joshua)
The coach	Secretary (Hylke)
Other ACT groups (internal WUR communication)	Secretary (Hylke)
Financial supervisor	Controller (Pasha)
All other parties	Communication person (Joshua)

Currently, we have two standing appointments with our commissioner. For both appointments we will travel to Rotterdam. During the first appointment we will visit a meeting of the municipality council and later meet with stakeholders and/or residents of the area we will be working on. During our second meeting in Rotterdam, we will present our findings to the residents of the area, another ACT group, and our commissioner. Further agreements regarding intermediate products have not yet been made. During our intake with the commissioner, we asked for a number of background documents, which were given to us and when we have any further questions or require more documents, we are free to contact them. Below is a small schedule with current appointments (with the commissioner) that are not part of the regular ACT-schedule, they can however also be found in the ‘planning’ section of this proposal:

Table 4: Appointments with commissioner

Date:	Starting time:	Appointment:
27 <sup>th</sup> of March 2024	9:30	Visit a municipality meeting in Rotterdam
30 <sup>th</sup> of April 2024	-	Presentation of final findings in Rotterdam

Our final findings will be presented in a final report that has an attractive layout and is easy to read. A presentation will show the findings in a more graphical way, and we will also create a flyer that can give clear, concise information and can be given to people attending the presentation.

We currently don’t have any restrictions on information sharing. Our entire group is able to see all information that was provided and according to the commissioner, this project is no secret and hence the final results of our work will become public. However, we will always share with our commissioner what information we share and when.

#### 4: Budget

During the project we expect to make some costs. These mainly consist of travelling costs to travel to Rotterdam by train. Next to this we expect to spend some of the budget on printing costs for the final reports and flyers to hand out to the residents. Lastly, we expect to spend some of the budget on buying coffee and cookies for externals, the commissioner and coach for example. Leading to a total expected budget of € 484.40. The signed budget is in the appendix.



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# Appendix

## Appendix I: Stakeholder Longlist

**(the ones that are part of the shortlist are underlined)**

- **Cor Flach and his Intorno Foundation** are an unorthodox actor, namely an opera company residing on ship in Schiehaven Delfshaven. However, they are highly involved in the development of neighbourhood and are highly interested in knowledge on nature inclusive urbanization options. Since they are a small non-governmental organization, they have little influence on the development of the area. They participate with local residents to include their needs. Furthermore, they commissioned the Science Shop and cooperate with the organization Lloyd 010 and Rotterdam Natuurlijk. The building department of the municipality does not want to cooperate with them, while there might be an option to cooperate with the government through the council that oversees the department.
- **The Municipal Council (gemeenteraad)**, is the legislative power of the municipality, consisting of members from different political parties voted for by Rotterdammers. This party controls the college of aldermen and mayor (college van wethouders en burgermeester (B&W)) which has the executive power of the government and oversees the building department. Moreover, the municipal council provides governance outlines and votes on policy documents and plans put forward by the college of aldermen and mayor. Therefore, they decide on the approval of the development plan for Schiehaven-Schiemond (gemeenteraad Rotterdam, n.d.). Through political interference by citizens, they can influence the B&W in their decision making. Already the coalition deal 2022-2026 approved by the municipality it was agreed to turn Rotterdam in a greener city (Gemeente Rotterdam, 2022)Klik hier om tekst in te voeren..
- **The Municipal building department** is the main stakeholder in the development of Schiehaven Schiemond (Personal communication with Marcel Pleijte). They are responsible for making a development plan for the neighbourhood. Their main interest is realizing homes and are critiqued for having a top-down approach to realize it. While there seems to be some participatory processes occurring with local residents and other stakeholders, it has not been sufficient. For example, the initial development plan was dismissed partly due to lack of stakeholder participation and support. For execution and expertise, they need to collaborate with construction firms.
- **Project developers** execute the development of Schiehaven Schiemond. Since economic values are the main driver, they are interested in realizing houses with high profitability. Therefore, construction firms in general have little interest in nature inclusive urbanization (Axelsson & Granath, 2018). However, there are also construction firms that profile themselves as green, focusing on climate-adaptive and nature inclusive construction (KAN bouwen, n.d.). Executors are also experts, thus have some power over the municipal building department.
- **Ecology / nature organizations**. Apart from the large open waterbody, there is little nature. The land mainly consists of concrete and stone. Additionally, the transition between the water and land is very abrupt. Therefore, nature would benefit from the improvement of the blue-green environment with nature inclusive urbanization. The needs of ecological improvement are voiced by nature organizations. In general, with urban development projects, the benefits of nature inclusive urbanization are already well known and there are already high nature-inclusive ambitions (Gemeente Rotterdam, 2022) . Still in the translation of nature-inclusive ambitions to a development plan, nature-inclusive ambitions are insufficiently realized (SIGS, n.d.). Nature organizations have limited influence over this.
- **Experts** on nature inclusive urbanization can shape the project with their knowledge. Especially, in translating nature inclusive ambitions to practice (SIGS, n.d.). On top of that expert input adds credibility to the project. Since outside experts won't be affected by the development they will have little interest, no benefit and form no coalition.
- **Residents** are the ones living in the neighbourhood and are most affected by its development. Thus, they have some interested in how the neighbourhood develops. And based on a stakeholder meeting with WUR students, they are supportive of including nature in nature inclusive development. Since the municipal council should represent the residents, the





residents have some influence over them. This influence over the council becomes stronger when forming a united front, with foundations that have residents in their best interest, like Intorno Foundation.

- **The WUR Science Shop** works with non-profit social organizations by organizing free research projects that answer their questions. They were approached by the Intorno foundation. Marcel Pleijte and Roel During work together on assisting Intorno foundation. Marcel Pleijte is the main commissioner of the project.
- **Marcel Pleijte** is a senior researcher and works for the WUR Science Shop. He often deals with agricultural planning and water policy, but his main topics are governance, partnerships between governments and private actors. He is the commissioner of the project.
- **Roel During** is a policy analyst and also works for the science shop together with the commissioner Marcel Pleijte on the project.
- **The national and provincial government.** There are not enough houses built in the Netherlands. Therefore, the government made deals with provinces to build 900.000 homes by 2030 (Rijksoverheid, n.d.). It is up to the municipalities to fill the promises of the province. Additionally, the province pledged to perform sustainable city development, which was signed by, among others, the municipality of Rotterdam. Therefore the national and provincial government have no direct interest, power or benefit from the project but do have a role in pressuring the municipality to build more houses sustainably.
- **Rotterdam Natuurlijk** is another organization that is involved in the quarrel. They are even more obstructive against the municipality ideas: they want a park in the area instead of buildings. Therefore, are highly interested and supportive of nature inclusive urbanization. Just as Intorno foundation it is a non-profit non-governmental organization that has little power to influence decision on the development of the area. However, it has a partnership with Intorno foundation and Lloyd 010, and seeks collaboration with local residents.
- **Neighbouring residents:** In the neighbouring areas there is little greenery. Therefore, neighbouring residents would highly benefit from more greenery. However, since they are not residing in the area, they would have less influence
- **Future residents:** want to reside in an attractive and liveable environment. Greenery would highly contribute to this. However, for these future residents sufficient social housing should be present, which can only be built if the costs and profits of the overall developments equal out. Greenery increases the value of houses, so the extra profits from the more expensive houses could compensate for the social housing costs.
- **Lloyd 015 foundation:** is another small foundation working together with Rotterdam Natuurlijk and Intorno foundation on the improvement of the development plans for Schiehaven Schiemond.
- **Tourists:** Might visit the area. Especially, when the area stands out from the rest of Rotterdam which could be realized with a nature-inclusive development. Therefore, tourists would benefit from a nature inclusive urbanization. However, unless the plans will be revolutionary, tourists will have little interest in the development. Additionally, they have practically no power to influence the development.
- **History and culture organizations:** Would strive for protection of the history and culture of the area. Therefore, nature inclusive development should not come at the cost of conserving the history and culture. As, non-profit organization they have low power to influence but can become more powerful when forming a coalition with other stakeholders. Furthermore, they could strive for protection of historic and cultural aspects legally.

Table 5: Stakeholder longlist with their role, interest, power, standpoint, and potential coalition formation in nature inclusive urbanization.

<b>Stakeholder</b>	<b>Role</b>	<b>Interest</b>	<b>Power to influence</b>	<b>Standpoint on nature inclusive urbanization</b>	<b>With whom they form a coalition</b>
<b>Cor Flach/ Intorno Foundation</b>	Commissioner of commissioner	Very high	Low	Supportive	(Residents, nature organizations and municipal council)
<b>Marcel Pleijte/Science Shop WUR</b>	Commissioner and advisor Intorno foundation	High	-	Supportive	Already work for Intorno foundation
<b>Residents</b>	Live in area and have influence	High	Medium	Supportive	(Intorno Foundation, nature organizations and Municipal Council)
<b>Municipal Council</b>	Administrative body that approves the development plans	Medium	High	Neutral	Municipal Building Department
<b>Municipal Building Department</b>	Department responsible for the development of the area	Medium	High	Neutral	Municipal Council
<b>Project developer</b>	Executers of the development plan	Low	Medium	Opposed	(Municipal Building Department)
<b>Nature organizations</b>	Represent the needs of ecology	Very high	Low	Positive	Stichting Intorno, Residents (and municipal council).
<b>Experts on nature inclusive urbanization</b>	Provide advice and credibility	-	Low	-	-

<b>Roel During</b>	Partner commissioner	Very high	-	Positive	-
<b>Rotterdam Natuurlijk</b>	Partner commissioner of commissioner	High	Low	Positive	-
<b>Lloyd 015</b>	Partner commissioner of commissioner	High	Low	Positive	-
<b>Neighbouring residents</b>	Make use of the area	Medium	Low	Positive	-
<b>Future residents</b>	Will live in the area	Low	No	Positive	-
<b>Tourists</b>	Will be visiting the area	Low	No	Positive	-
<b>Province</b>	Influence the municipality	Low	Low	Positive	-
<b>History/culture organization</b>	Advocate for maintenance of historical/cultural value of area	High	Low	Neutral	-

## Appendix II: Logical framework

Table 6 Logical Framework

	Summary	Indicators	Evidence	Assumptions
Commissioners goal	<i>Investigation on good practices and success factors for nature-inclusive urbanisation in the district Schiehaven-Schiemond.</i>			
Team's purpose	Inspire for nature-inclusive development of Schiehaven-Schiemond for a more liveable city.			
Outputs	<p>A. Report &amp; Presentation containing:</p> <ul style="list-style-type: none"> <li><u>a.</u> Background <ul style="list-style-type: none"> <li>i. History of area</li> <li>ii. Previous Stakeholder analysis</li> <li>iii. Previous plan municipality</li> </ul> </li> <li><u>b.</u> Theoretical Framework <ul style="list-style-type: none"> <li>i. Planning and policy</li> <li>ii. Greenery effect on liveability</li> <li>iii. Nature-based solution in other cities or areas</li> </ul> </li> <li><u>c.</u> Scenarios of nature-based urbanisation <ul style="list-style-type: none"> <li>i. Three scoped scenarios</li> <li>ii. MCA</li> </ul> </li> <li><u>d.</u> Policy and spatial planning recommendation</li> </ul> <p>B. Flyers for the inhabitants containing:</p> <ul style="list-style-type: none"> <li><u>a.</u> Overview of the three examples</li> </ul>	<p>A. .</p> <ul style="list-style-type: none"> <li><u>a.</u> Concept chapter finished end-week 6.</li> <li><u>b.</u> Concept chapter finished by end-week 6.</li> <li><u>c.</u> Concept chapter finished mid-week 7</li> <li><u>d.</u> Concept chapter finished mid-week 7</li> </ul> <p>B. Flyers are finalised - by 25 of April</p> <p>C. Final presentation is ready by 26 of April</p>	<p>A. .</p> <ul style="list-style-type: none"> <li><u>a.</u> The chapter is finished and added to the report</li> <li><u>b.</u> Chapter is finished and added to the report</li> <li><u>c.</u> The MCA and the three scenarios are worked out and added to the report</li> <li><u>d.</u> Recommendations on the policy and spatial planning for the Schiehaven-Schiemond area.</li> </ul> <p>B. Flyers send to the printing shop at least by 26 of April.</p>	<p>A. The outline that we provide gives a good picture of the background of the Schiehaven-Schiemond.</p> <p>A. c.i.: The MCA consists of only a minimal analysis due to possible time constraints.</p> <p>B. The flyers are understandable for the people and the main message is conveyed</p> <p>C. The presentation is clear for the larger group and conveyed to the commissioner.</p>

	<p><u>b.</u> Short explanation of the plan</p> <p>C. Presentation</p> <p><u>a.</u> Background of nature-inclusive urbanisation</p> <p><u>b.</u> Relevance of nature-inclusive urbanisation</p> <p><u>c.</u> Three scenarios on nature-inclusive urbanisation</p>		<p>C. Presentation is sent to Commissioner by 29<sup>th</sup> of April</p>	
Activities	<p>A. Report &amp; Presentation containing:</p> <p><u>a.</u> Literature research</p> <p><u>b.</u> Theoretical Framework</p> <p>i. Literature research + conversation with an employee of “Commission Building, Living &amp; Outdoor Space”</p> <p>ii. Literature research + Conversation with experts on nature-inclusive urbanisation</p> <p>iii. Literature research</p> <p><u>c.</u> Scenarios of nature-based urbanisation</p> <p>i. Based on the above mentioned we define 3 scenarios and elaborate on them</p> <p>ii. Define criteria for MCA based on literature research</p> <p><u>d.</u></p> <p>i. Use literature and policy documents.</p> <p>ii. perform helicopter interviews.</p>	<p>A. .</p> <p><u>a.</u> Search for enough literature providing insight on the topic and history.</p> <p><u>b.</u> .</p> <p>i. Go to the city council meeting on 27-03. Try to speak to the stakeholders involved during this meeting.</p> <p>ii. Make appointments with experts in week 4.</p> <p>iii. Search for enough literature and use documents from academic advisor</p> <p><u>c.</u></p> <p>i. Define which 3 scenarios we want to discuss and work them out</p> <p>ii. Define the criteria and decide on the</p>	<p>A. .</p> <p><u>a.</u> .</p> <p>i. The background chapter is finalised and added to the report</p> <p><u>b.</u> .</p> <p>i. Attend the meeting and provide a summary of the meeting at least by end of week 4.</p> <p>ii. List of experts is on teams The appointments are made The summary of the conversation is in the team's folder.</p> <p>iii. Report and overview of practices in other cities</p>	<p>A. <u>a</u>,<u>b</u> –</p> <p><u>b.</u> i.: At least one conversation with an employee ii.: at least one conversation with an expert on nature-inclusive urbanisation, either from a consultancy or from the WUR.</p> <p><u>c.</u> i.: Minimally perform a qualitative MCA on a basic set of criteria.</p> <p>ii. -</p> <p>A. -</p> <p>B. -</p>

	<p>B. Flyers  <u>a.</u> Design a flyer and add right text</p> <p>C. Presentation  <u>a.</u> Make an overview presentation based on the report</p>	<p>extensiveness of MCA before mid-week 6.</p> <p><u>d.</u>  i. Recommendations are written about policy and spatial planning, where relevant literature  ii. Plan helicopter interviews with experts in week 4.</p> <p>B. Flyers contains the information  C. Presentation is made and</p>	<p><u>c.</u> .  i. 3 scenarios are defined and worked out.  ii. MCA is performed and the Excel is available on teams</p> <p><u>d.</u> A chapter with recommendations about policy and spatial planning is added to the report</p> <p>i. The document is available on the teams  ii. A meeting is planned, and the summary is provided in the Teams folder.</p> <p>B. Flyers is in Teams folder  C. Presentation is in Teams folder</p>	
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### Appendix III: Budget

Financial Budget ACT			
Project title	Future proofing Schiehaven-Schiemond-Delfshaven port areas; how to inspire for nature-inclusive urbanization		
ID nr	3,226		
Controller	Pasha Welken		
Period	5		
<hr/>			
Code	Expenditures in €	Estimation	Realisation
1	office equipment	€ 0,-	
2	copy and print costs	€ 60,-	
	End report (€20) and flyers (€40)		
3	telephone costs	€ 0,-	
	No costs		
4	traveling expenses	€ 354.40	
	Train to and from Rotterdam (2 * 4 * 2 * €22.15)		
5	other costs	€ 20,-	
	External meeting with coffee, cookies and cake		
	<b>Total Expenditures group</b>		
	overhead costs*	50 €	50 €
	<b>Total Expenditures</b>	<b>€ 484.40</b>	
<hr/>			
	* 50 € overhead costs paid by the commissioner (on top of the expenditures of the group) payment is based on actual costs, calculated at the end of the course		
	Commissioner	Financial Controller	
Name	Marcel Pleijte		
Signature			
Date	25-3-2024		

*Budget Form Signed by Commissioner*