



# Open to water

A search towards an integral approach to live in areas that are allowed to flood on the southern side of Dordrecht.





# 1. INTRODUCTION



# Location

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# The island of Dordrecht

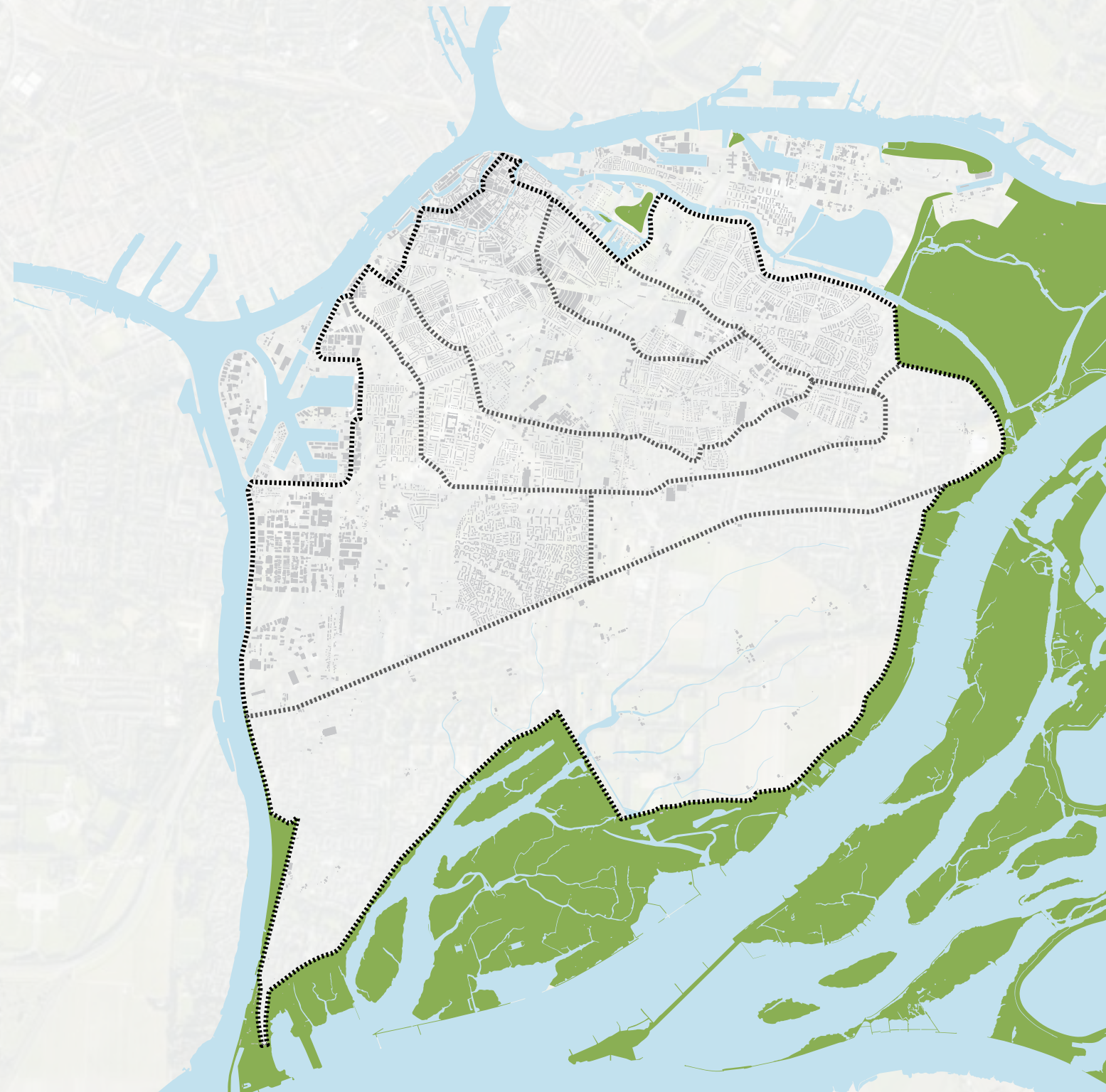






Foto: M. Harmans









Foto: R. Boon

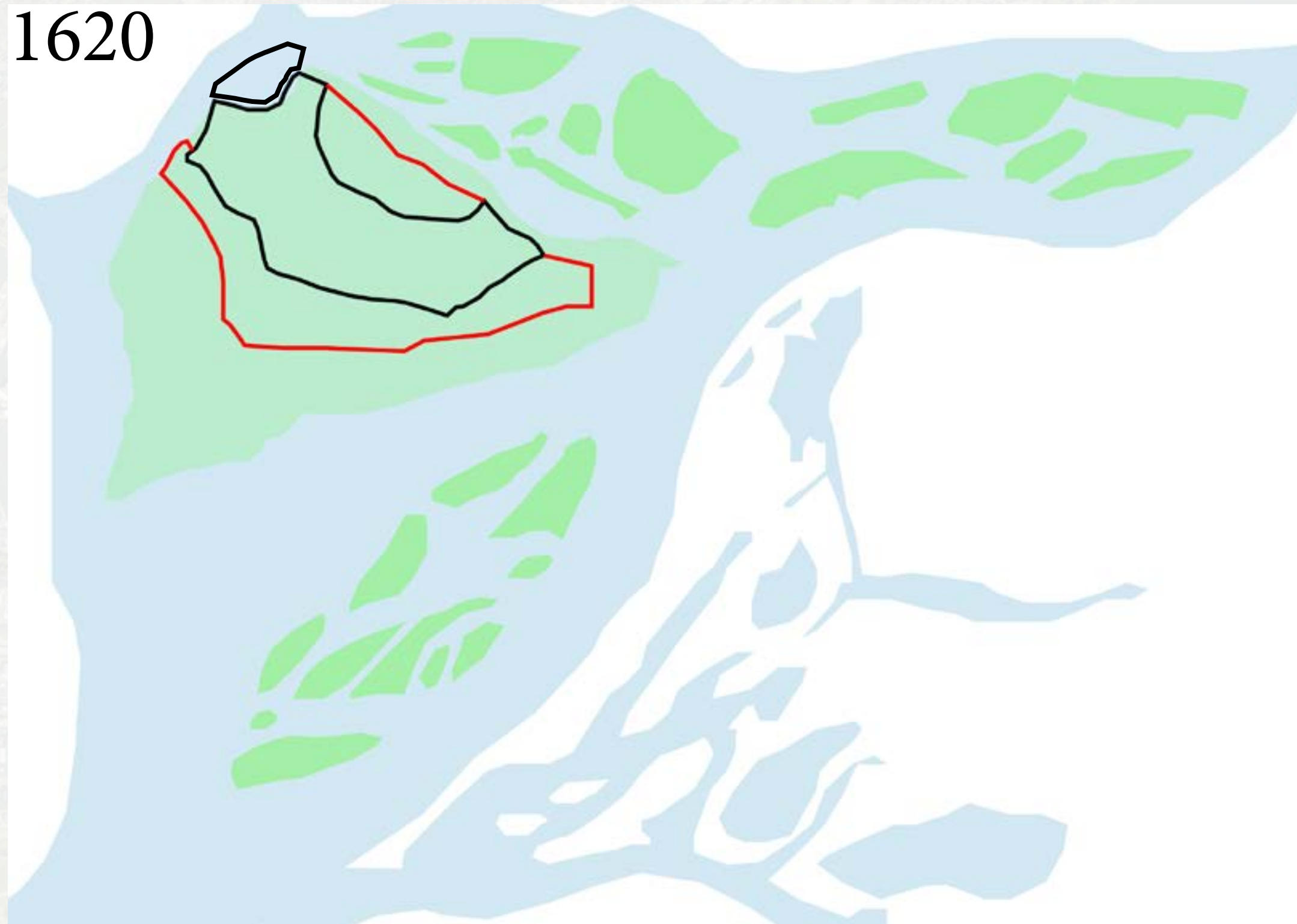
# History island of Dordrecht



# History island of Dordrecht



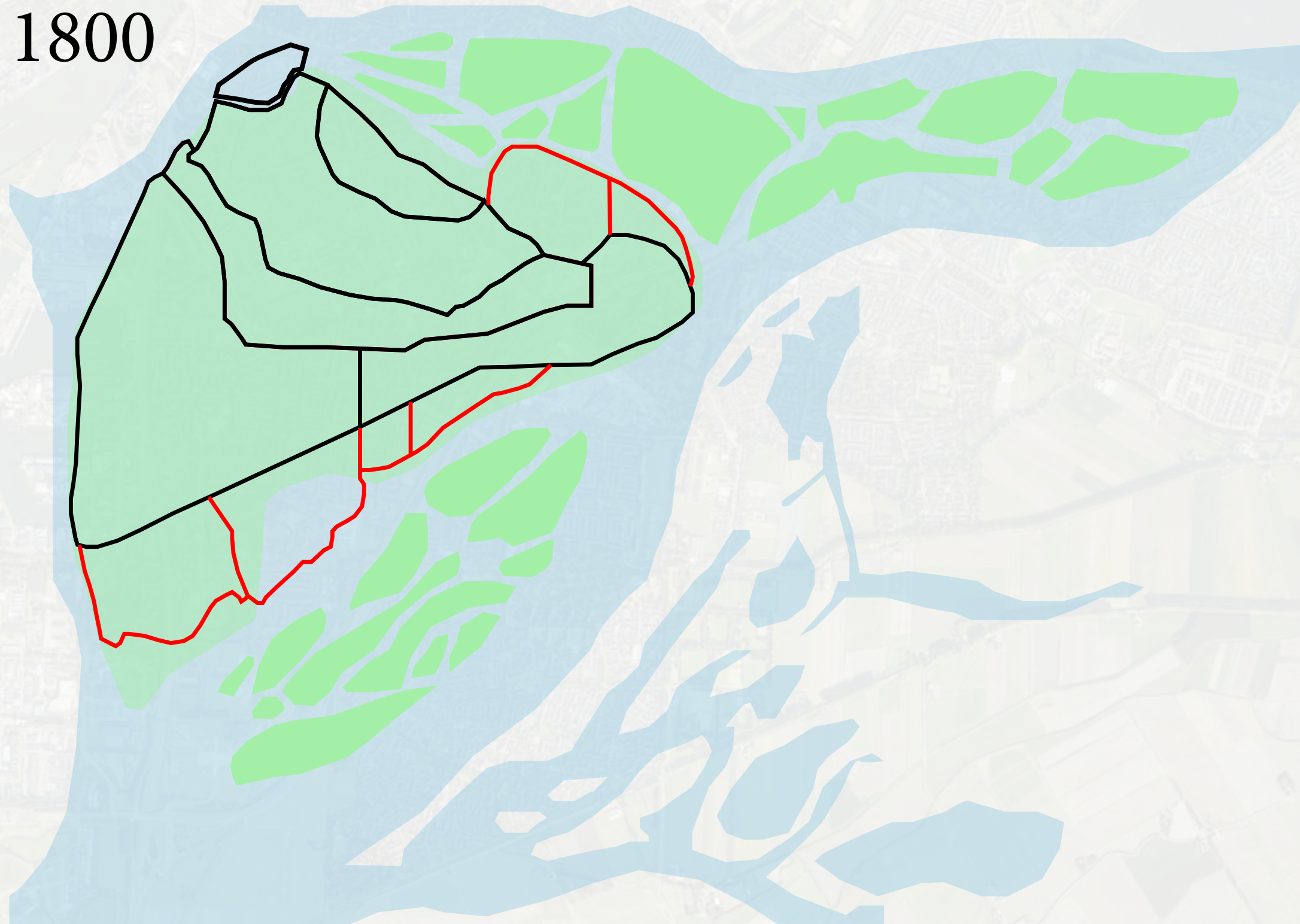
# History island of Dordrecht



# History island of Dordrecht



# History island of Dordrecht



1800

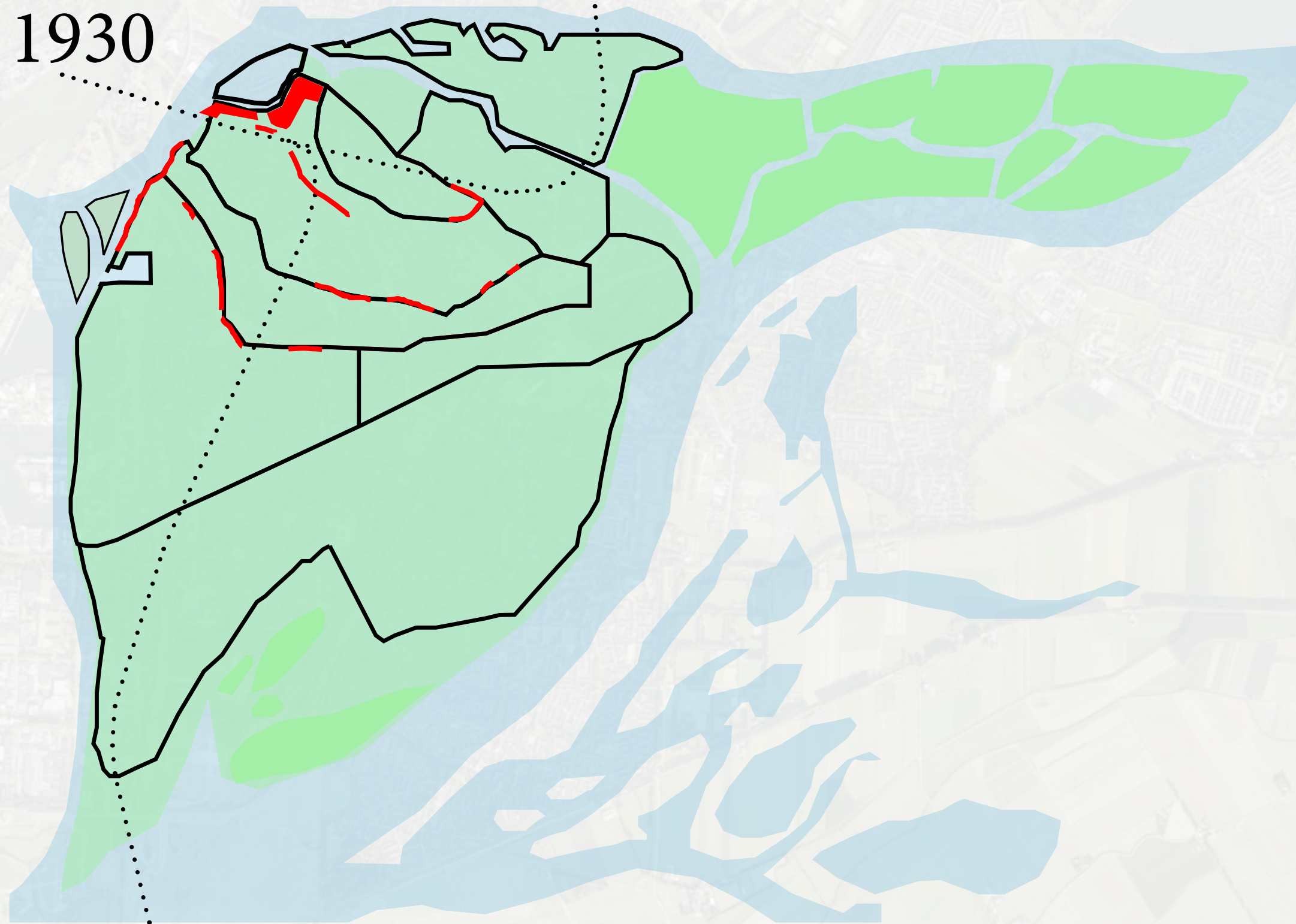


# History island of Dordrecht

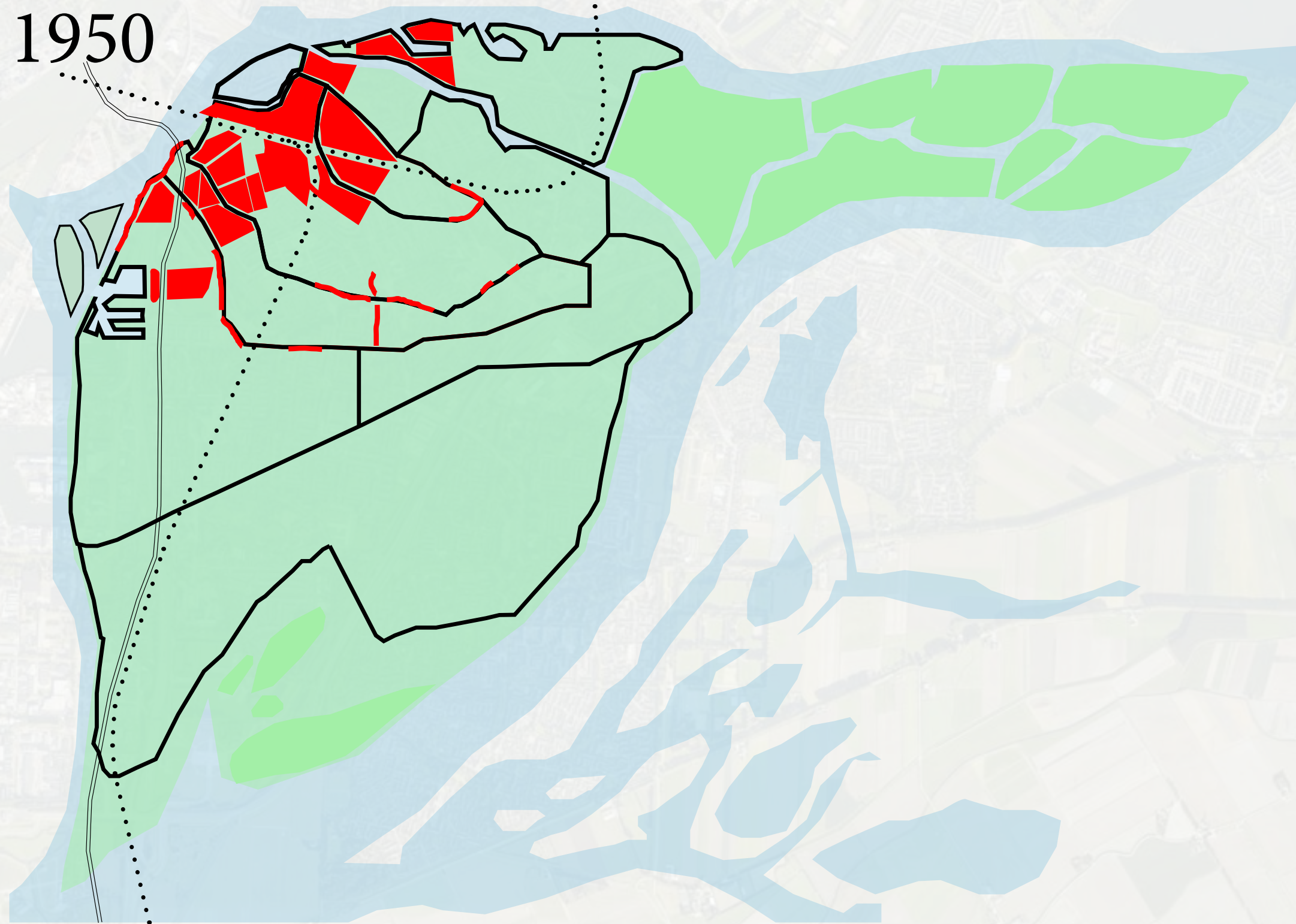




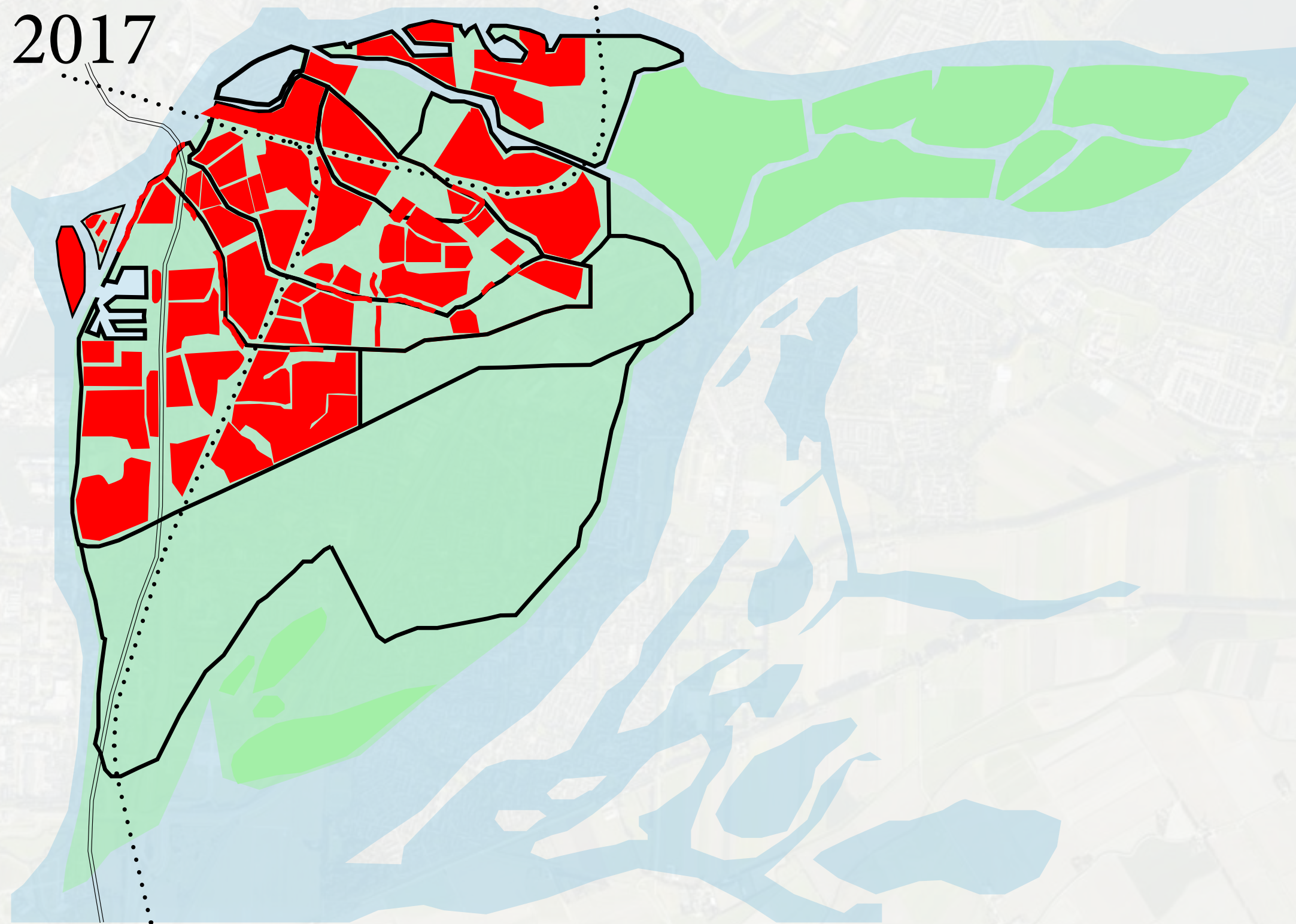
# History island of Dordrecht



# History island of Dordrecht



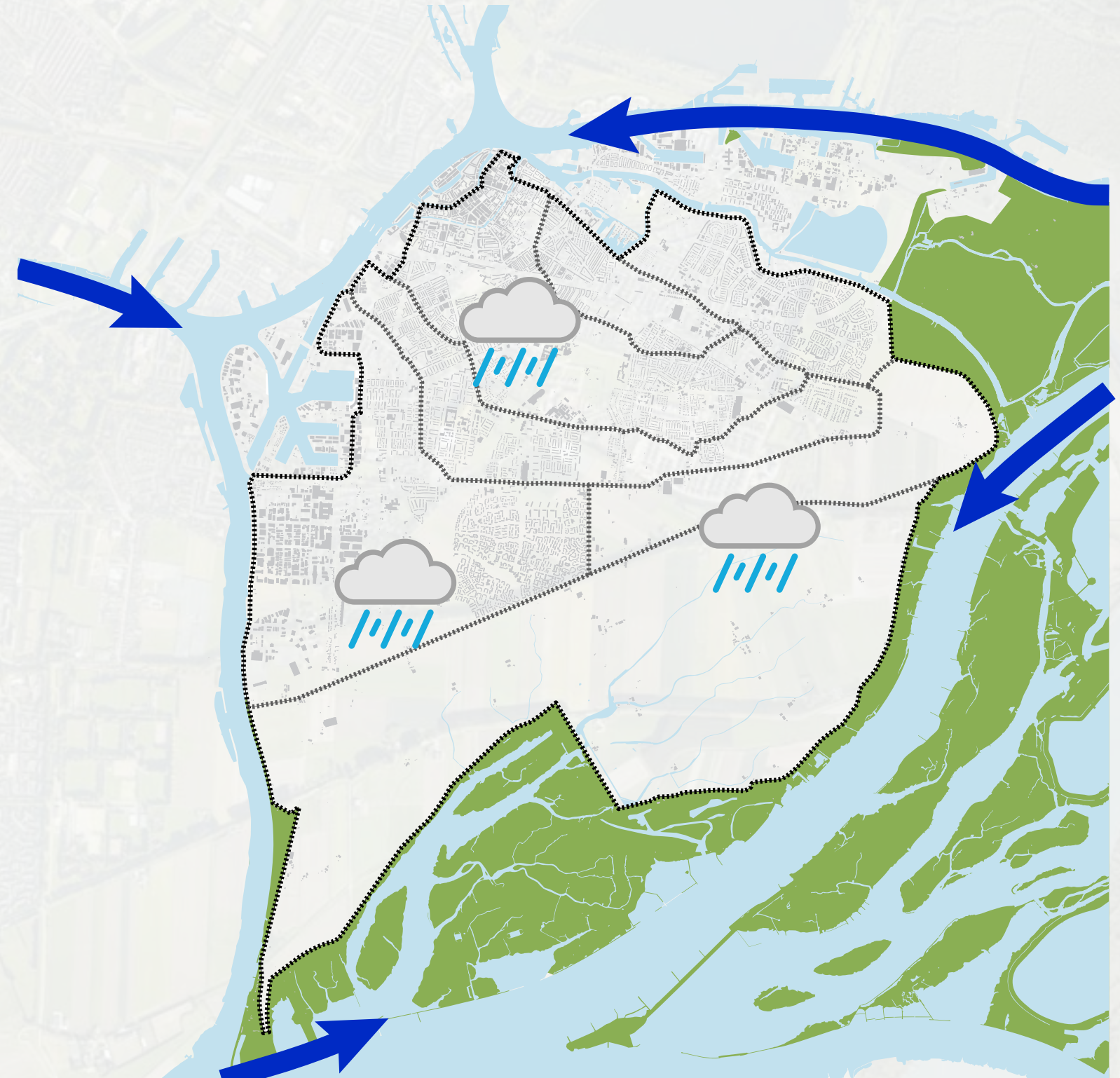
# History island of Dordrecht



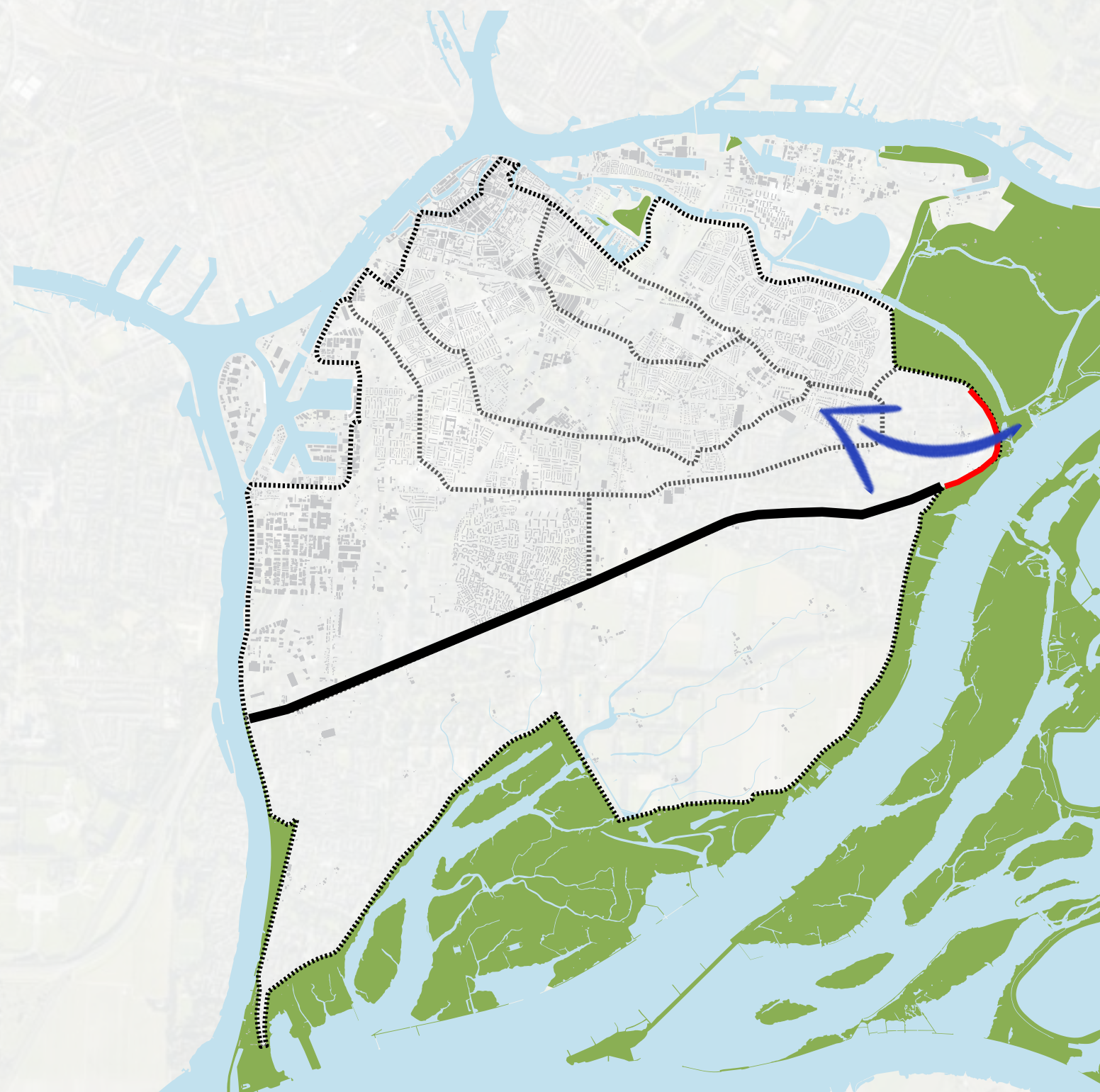
## 2. RESEARCH FRAMEWORK



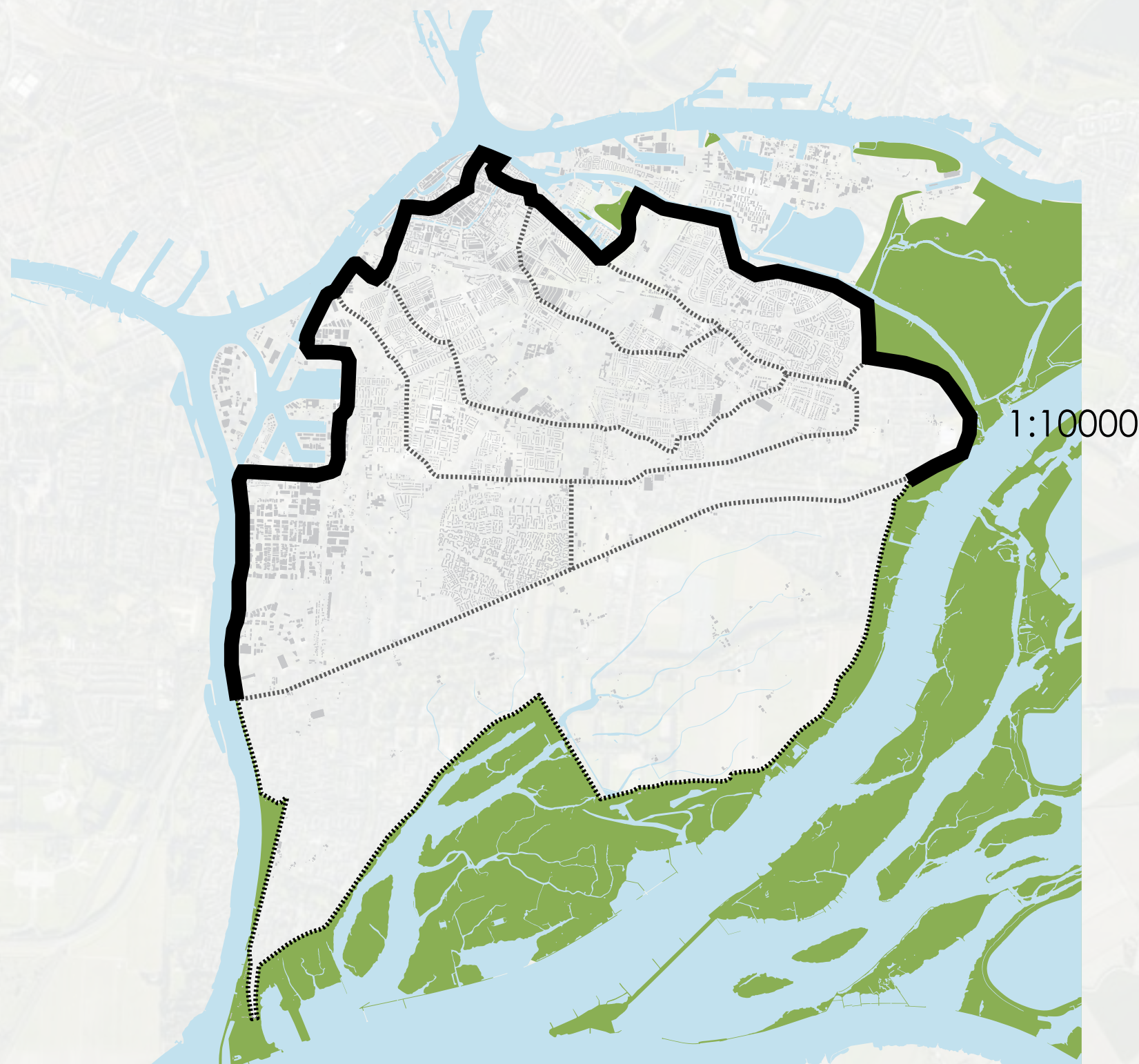
# Increased water pressure from different sources



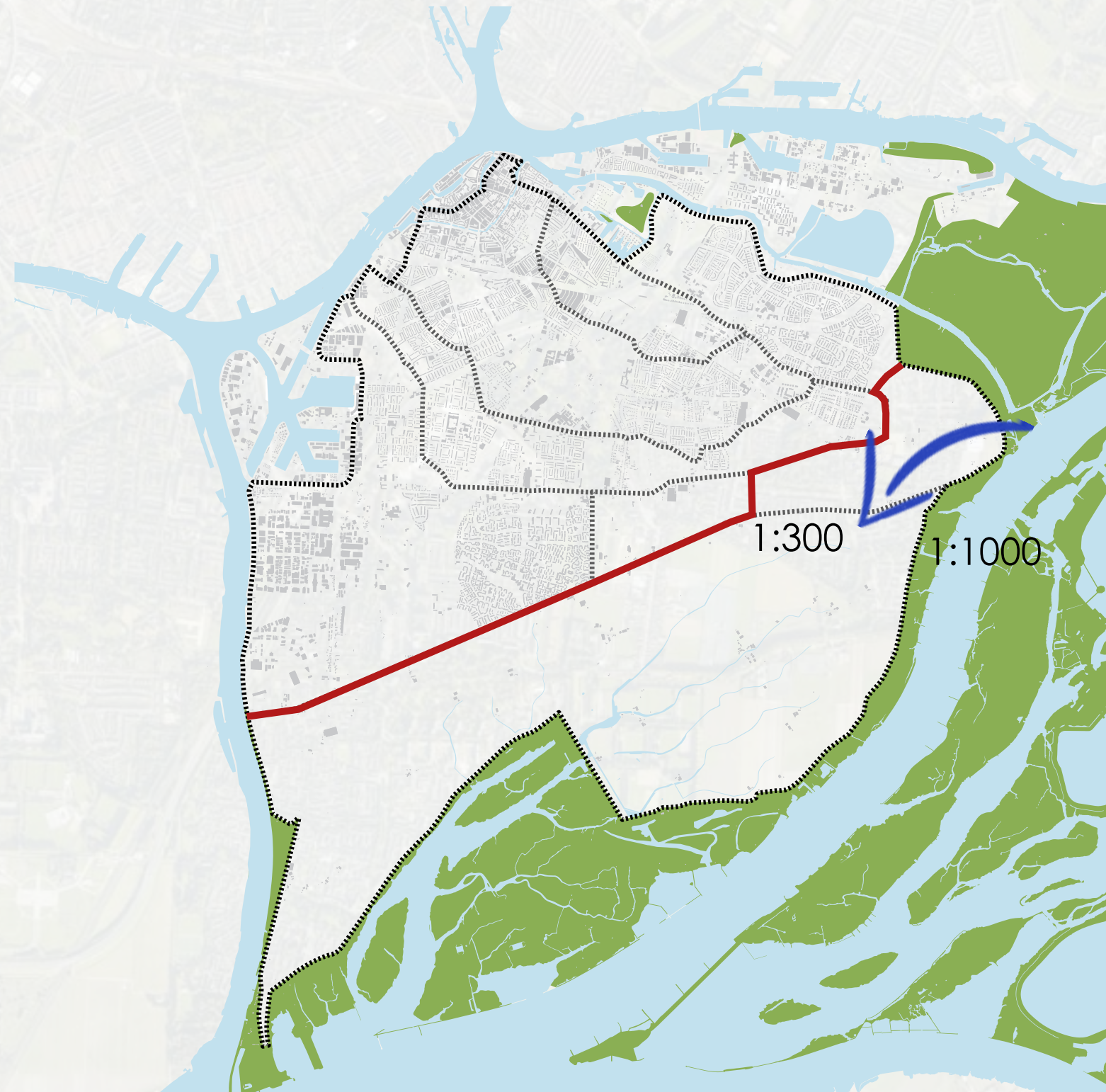
# Flooding scenario



# Deltaplan 2014

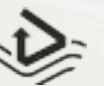


# MIRT proposition

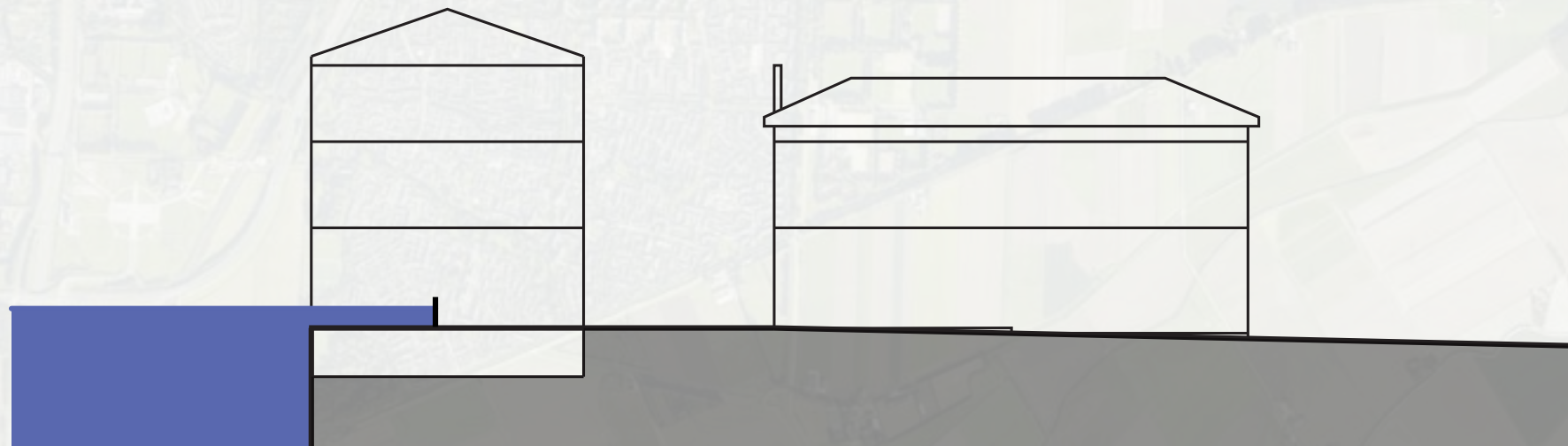




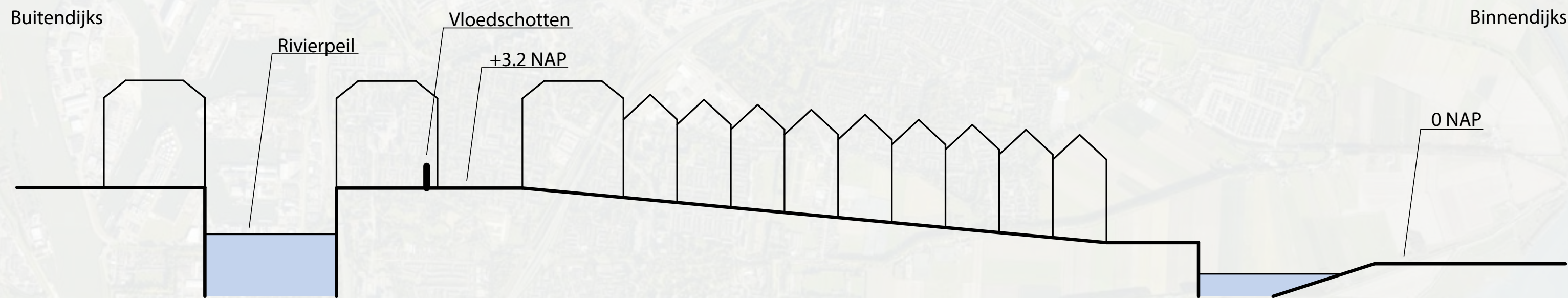
# Water pressure



# Situation Voorstraat



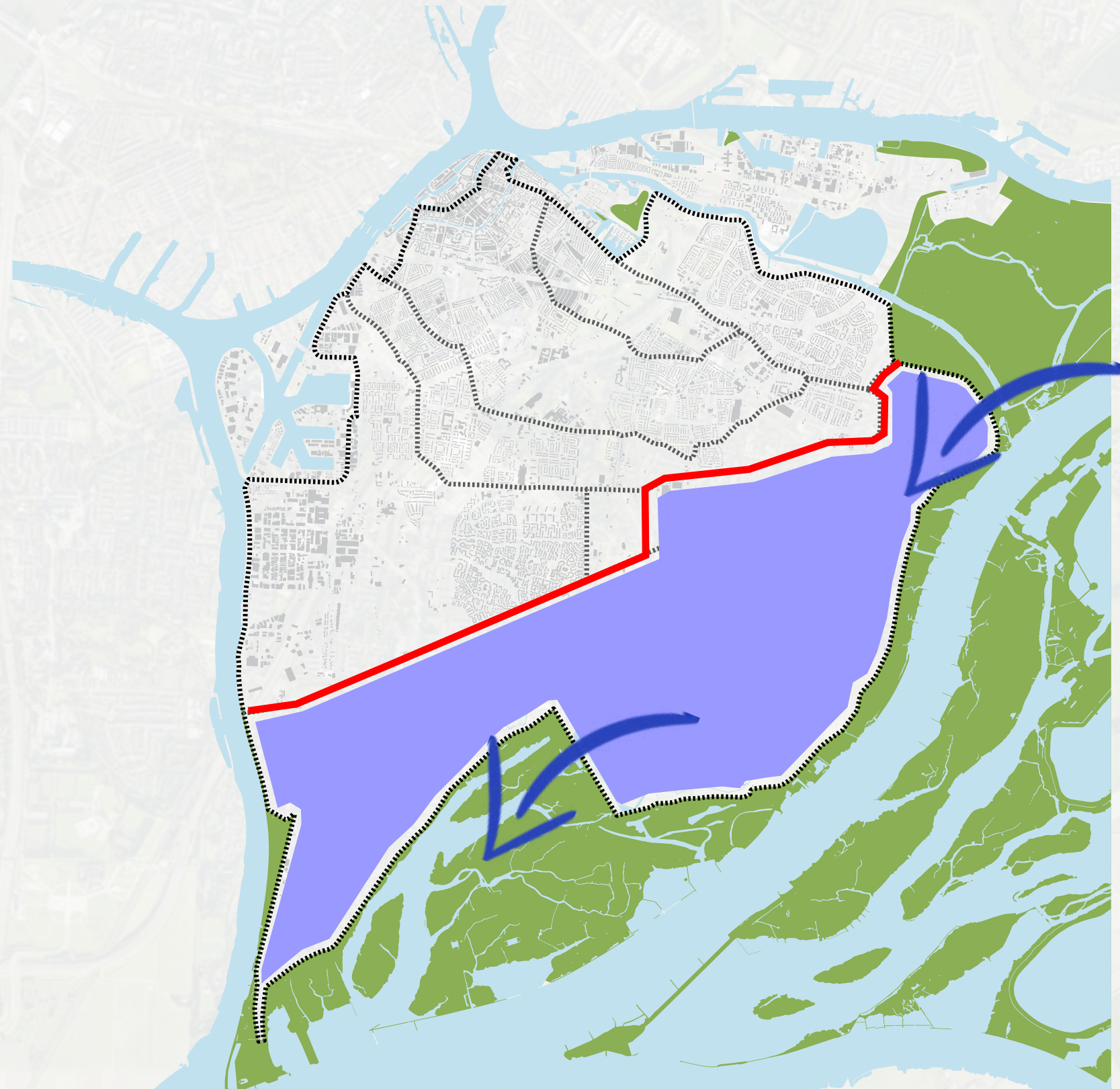
# Situation Voorstraat



# Emergency flood barrier Voorstraat



# Room for the river concept



# Situation island of Dordrecht



# Reducing water pressure along the Drechtsteden

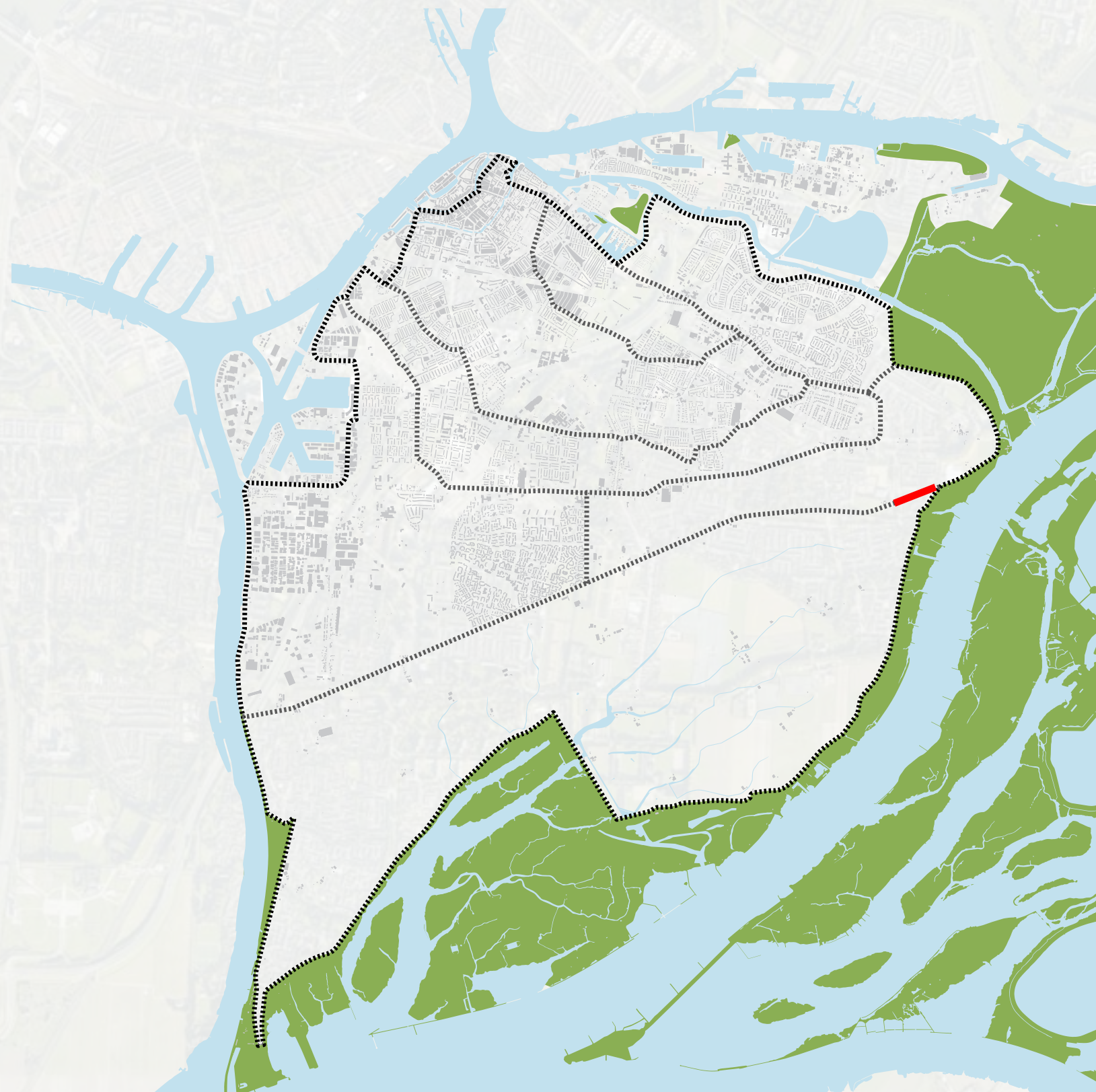


# Reduced water levels Merwede river

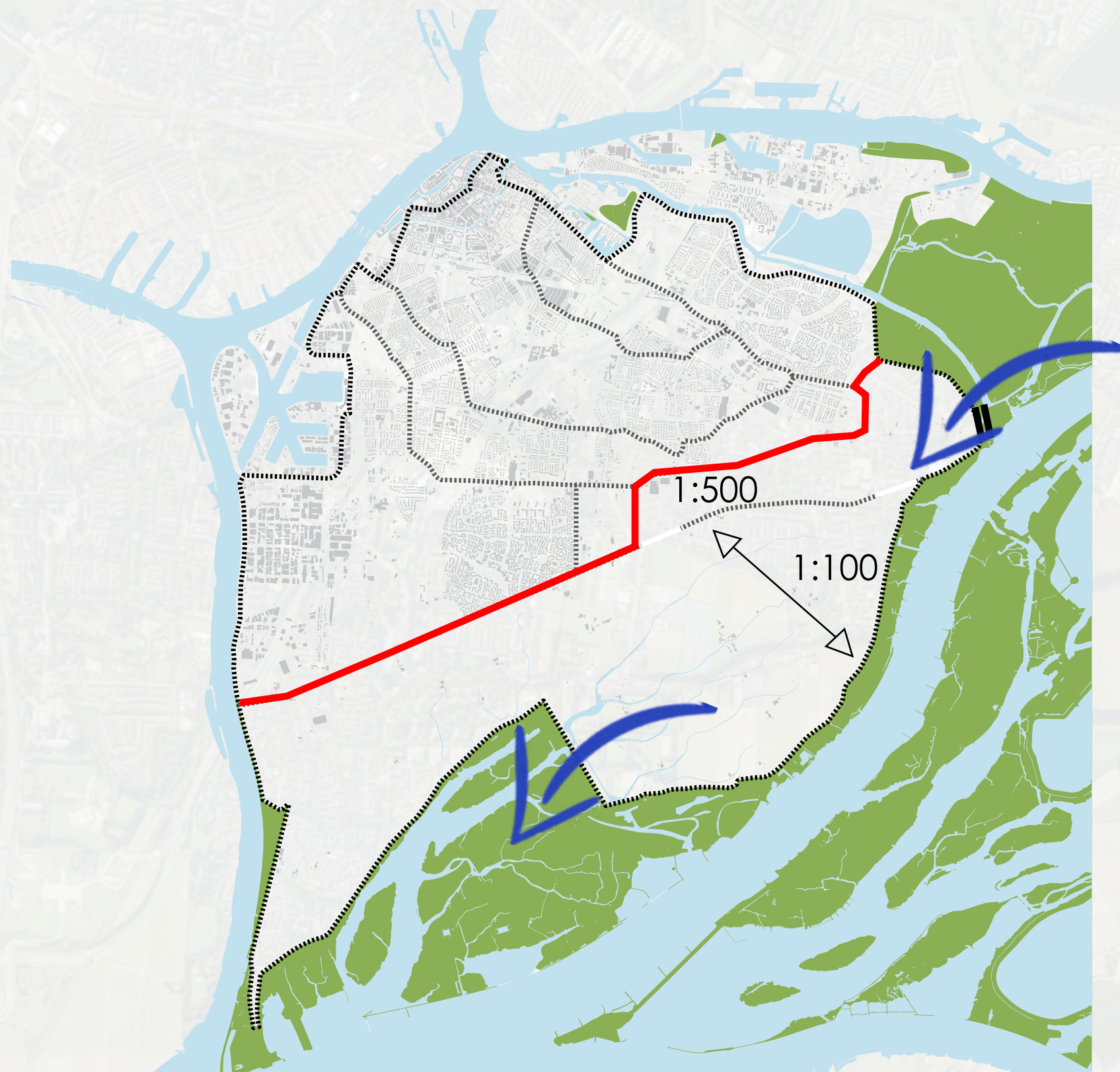




# Phase 1 - Opening in the dike



# Phase 2 - Primary and secondary dike function swap



# Room for the River - Zwolle

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Foto: rvdz zwolle.nl

# Room for the River - Cortenoever and Voorsterklei



Foto: ruimtevoorderivier.nl



# Room for the River - Noordwaard



Foto: bvkoek.nl



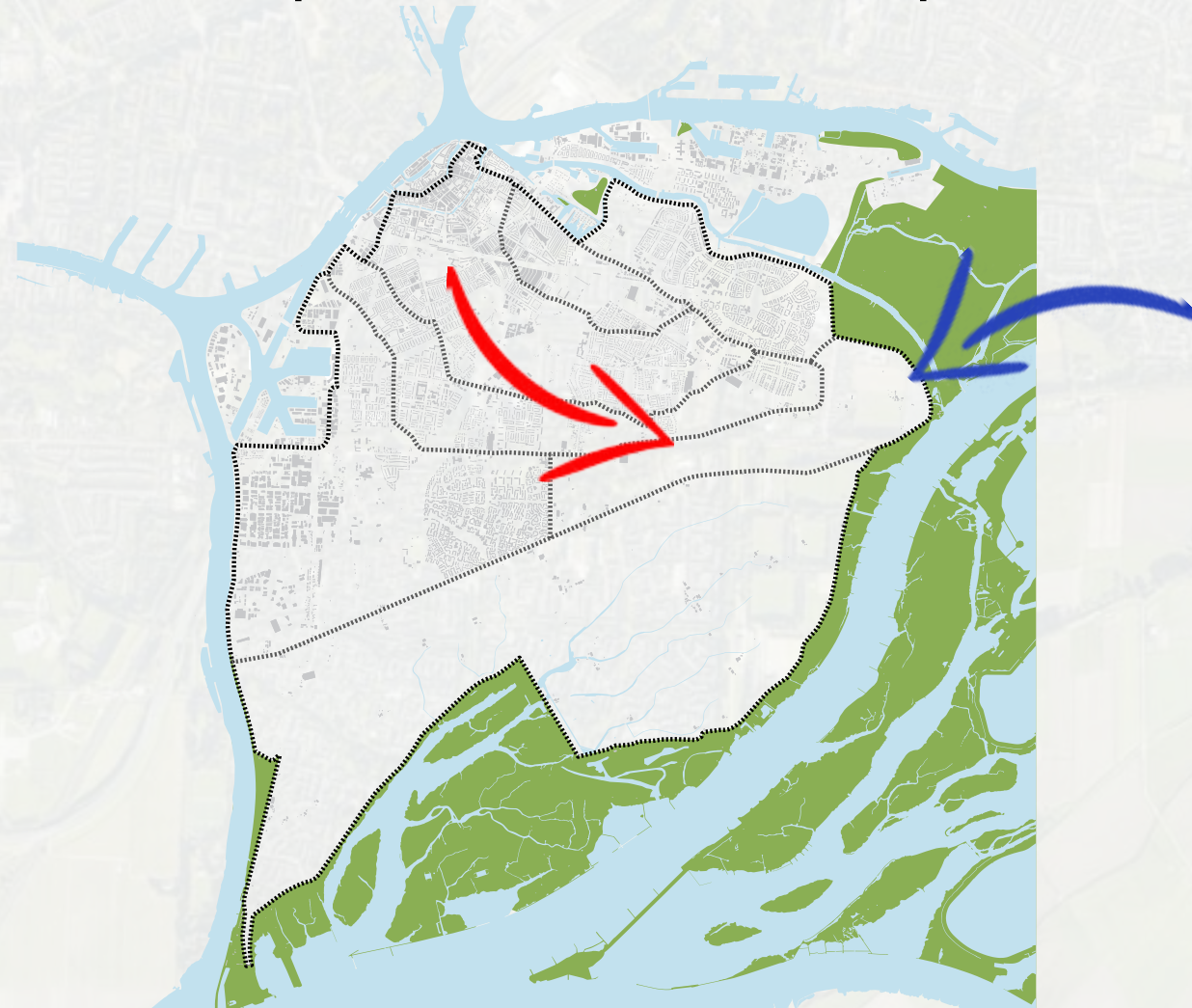
# Room for the River - Typical solution



## Research question

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How can floodability of an area be combined with urban expansion and spatial quality?



# 3. RESEARCH BY DESIGN





## Research concept

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Implications of  
the city structure  
for the location.



Implications of  
water for the  
location.

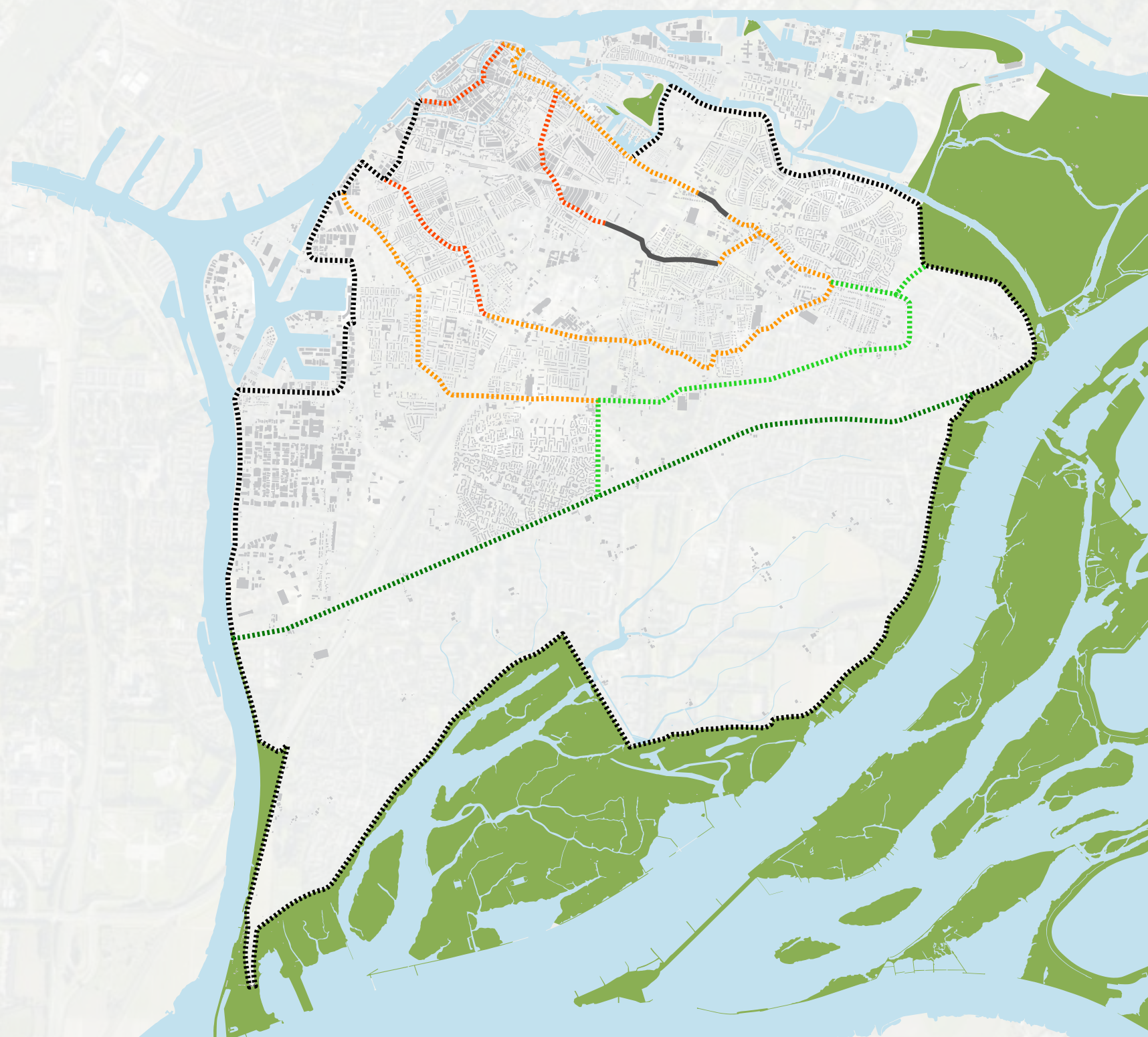
Aspect

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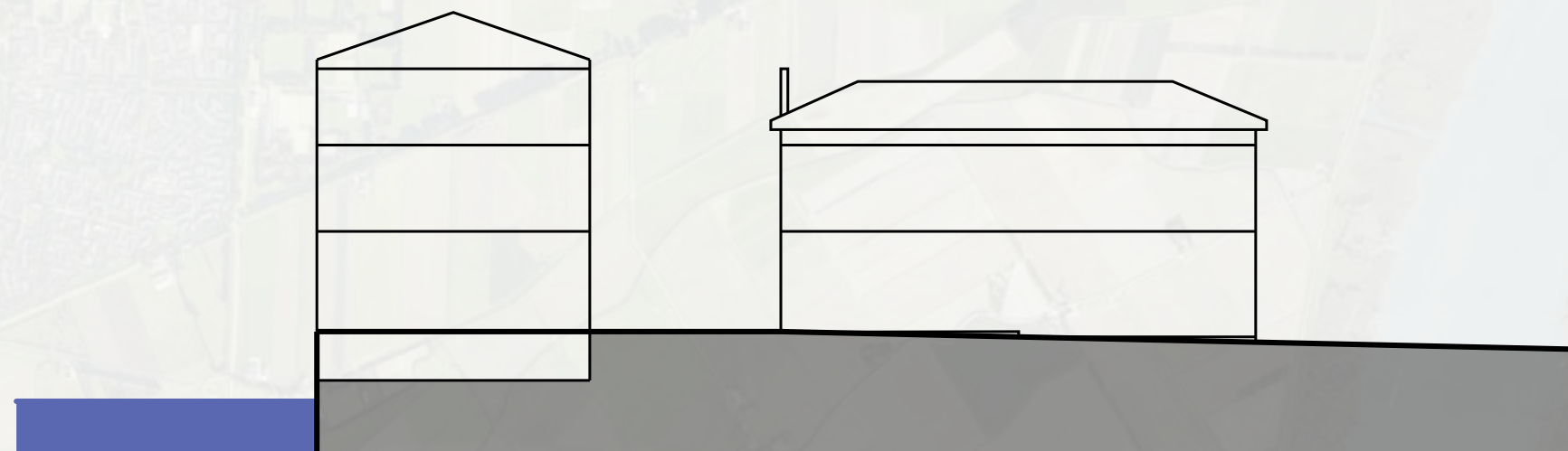
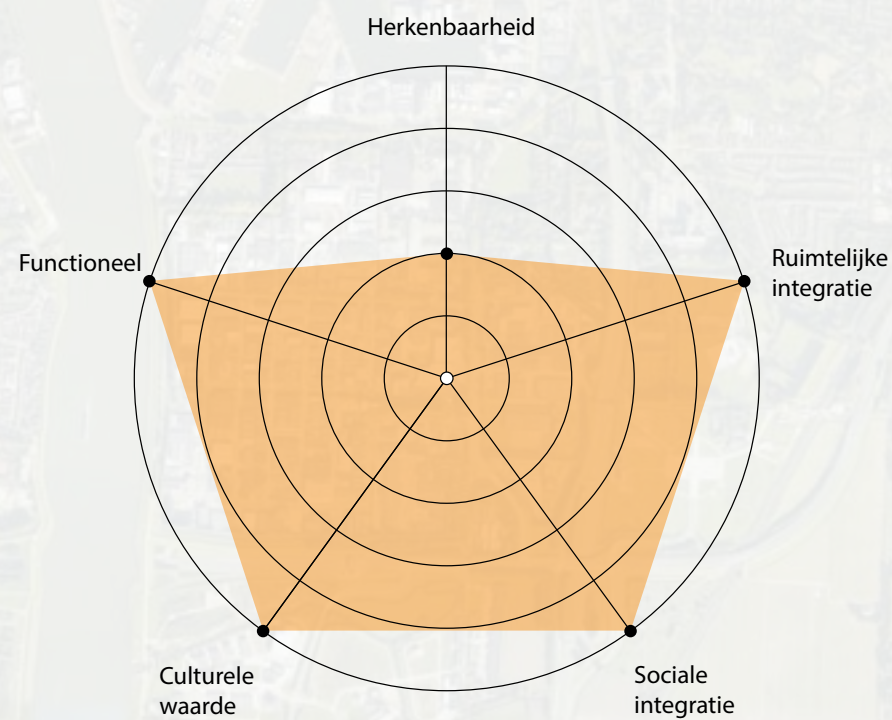
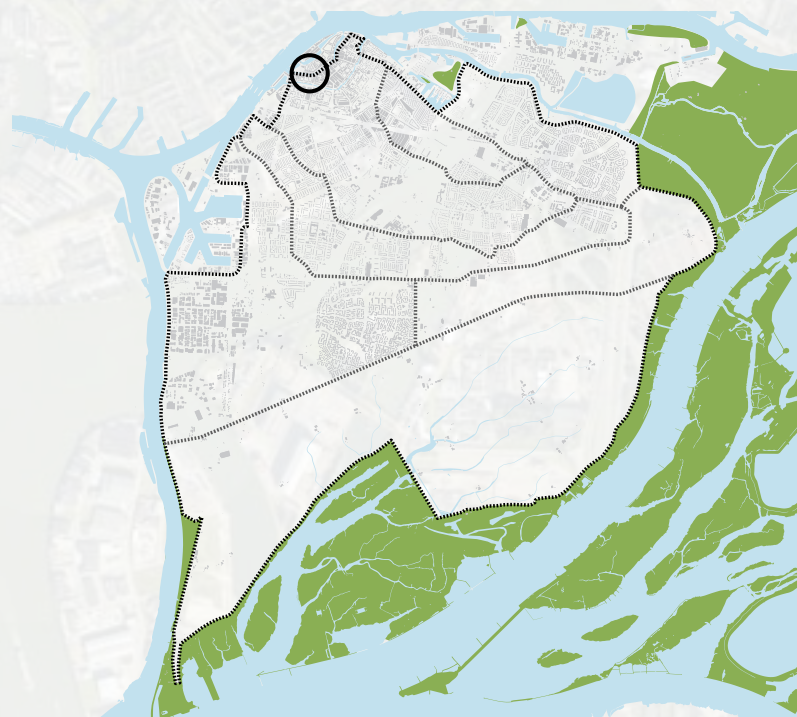
## 3.1 CULTURAL RELEVANCE



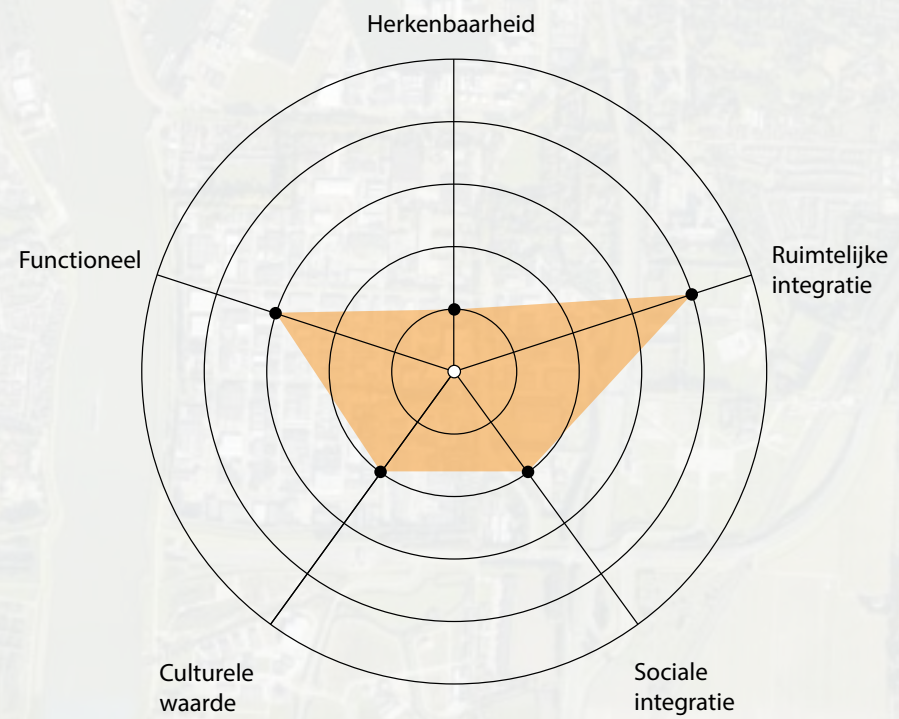
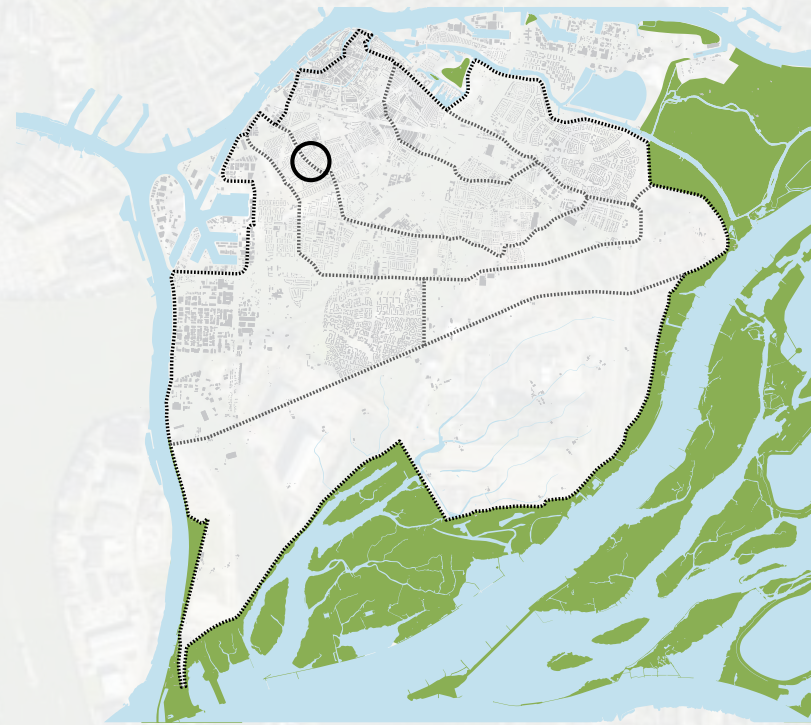
# Back to the dikes



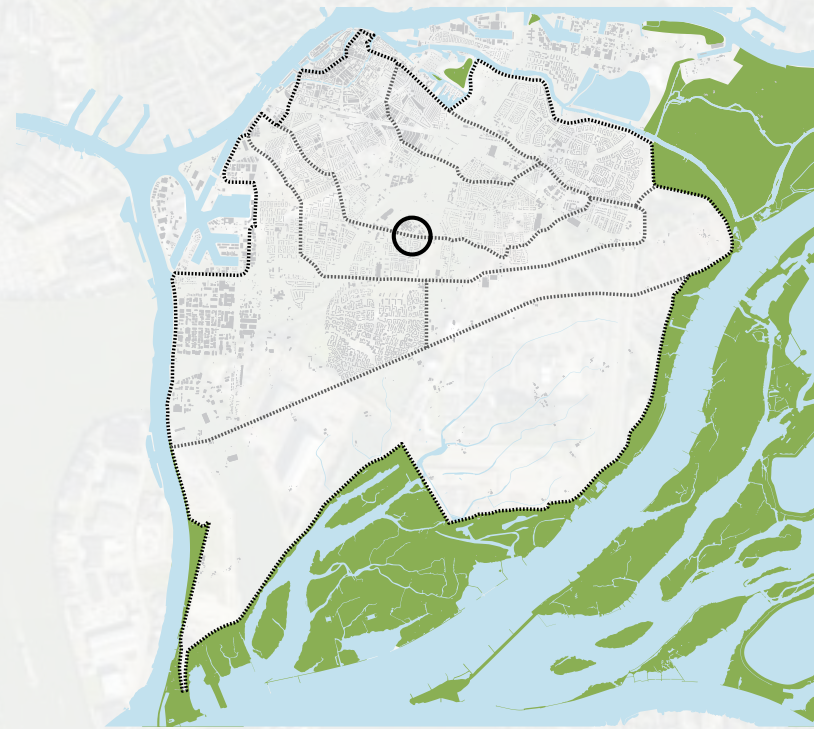
# Dijksituatie - Voorstraat



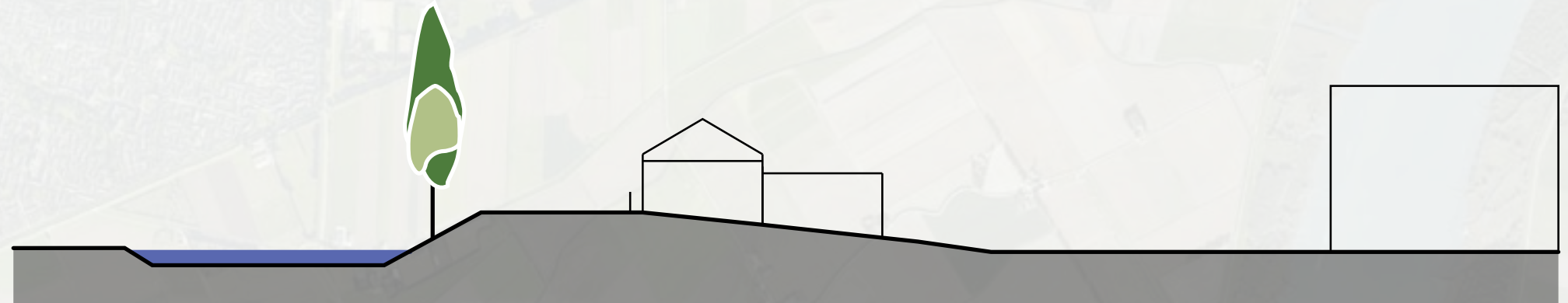
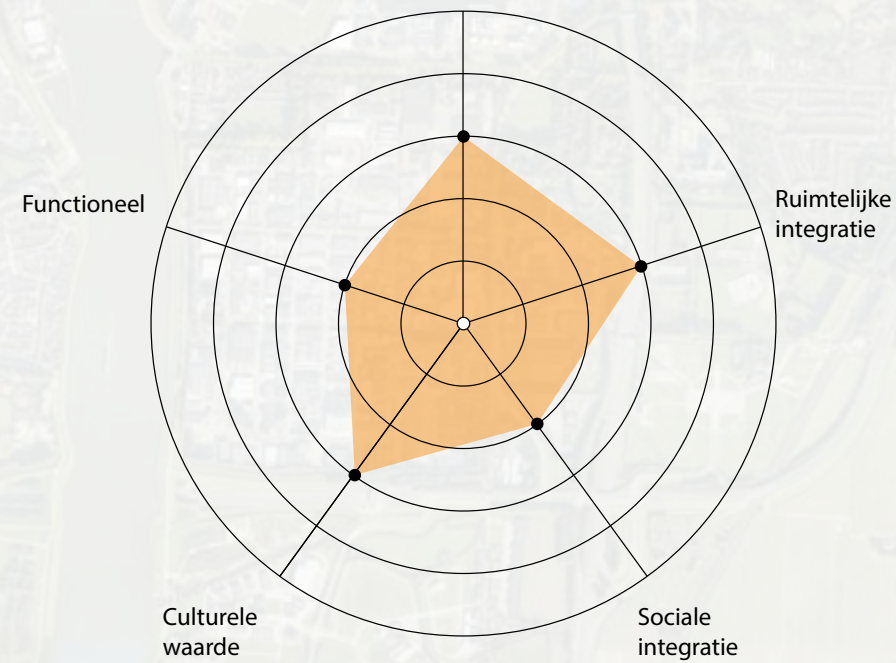
# Dijksituatie - Brouwersdijk



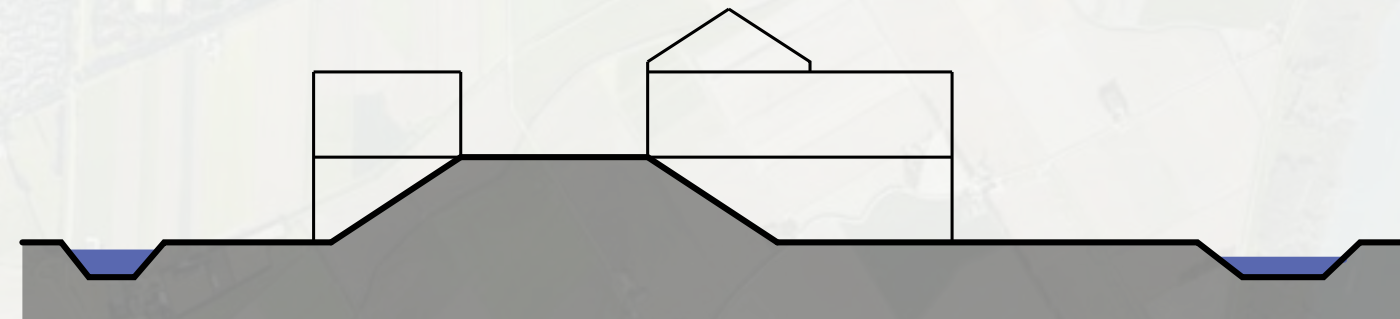
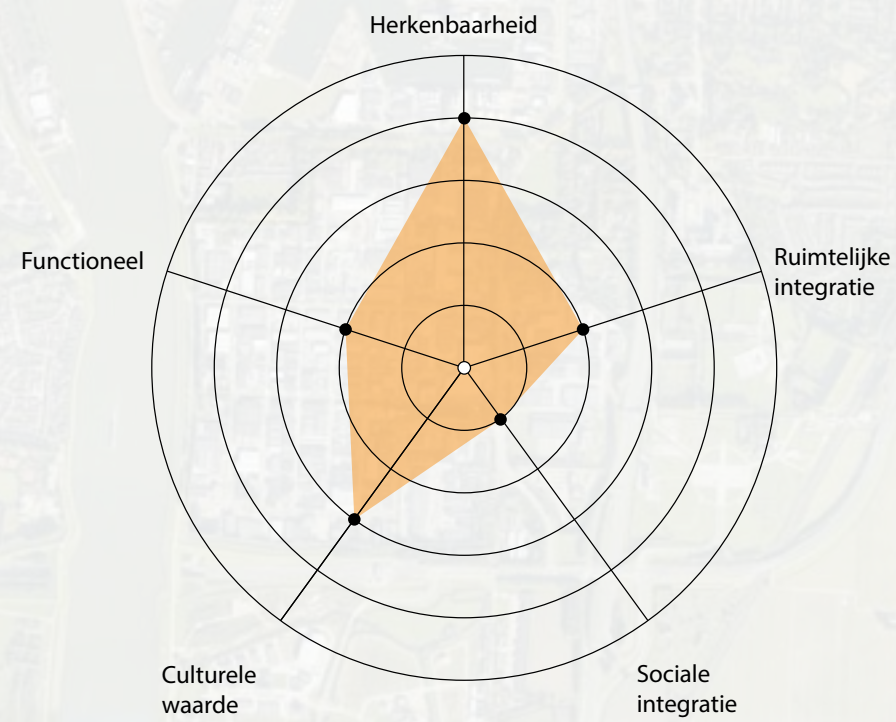
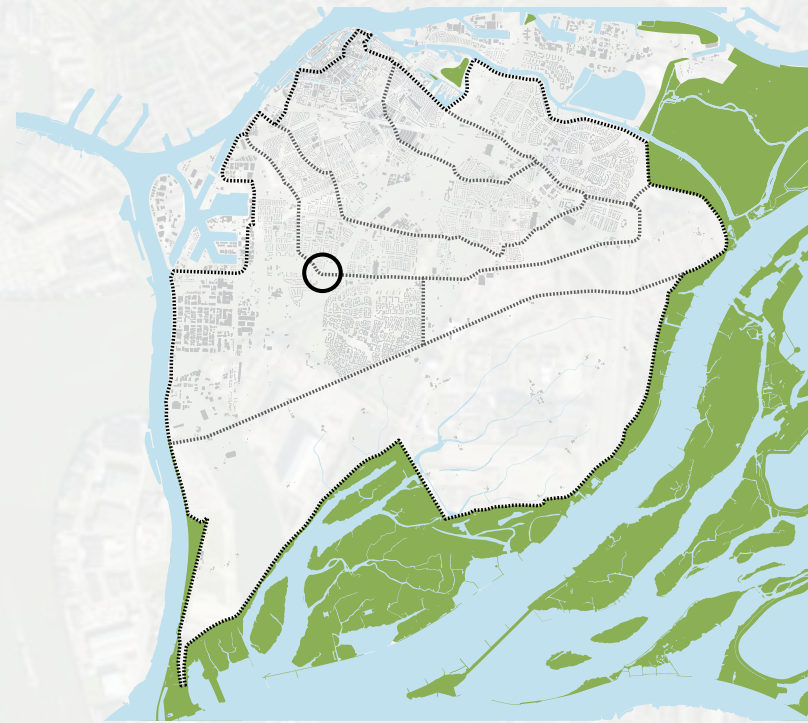
# Dijksituatie - Oudendijk



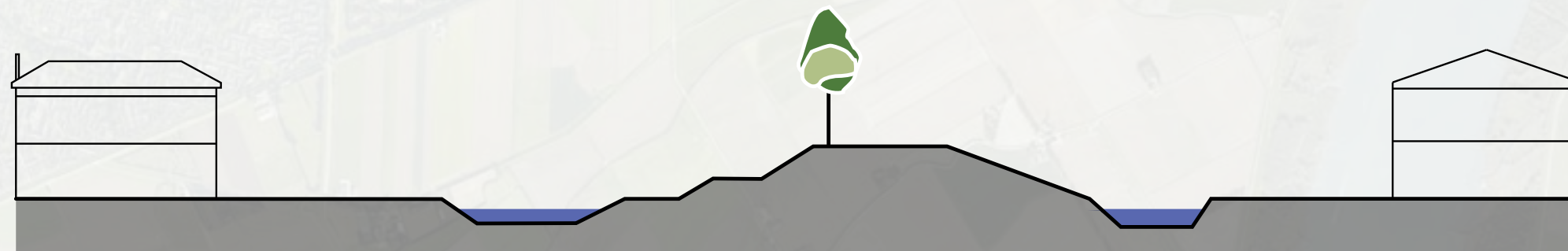
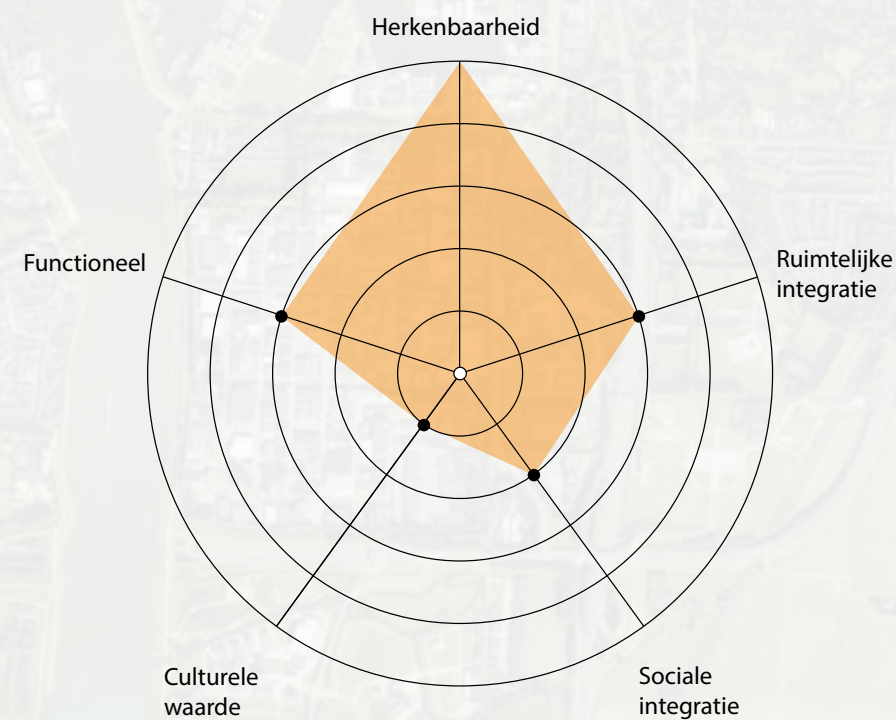
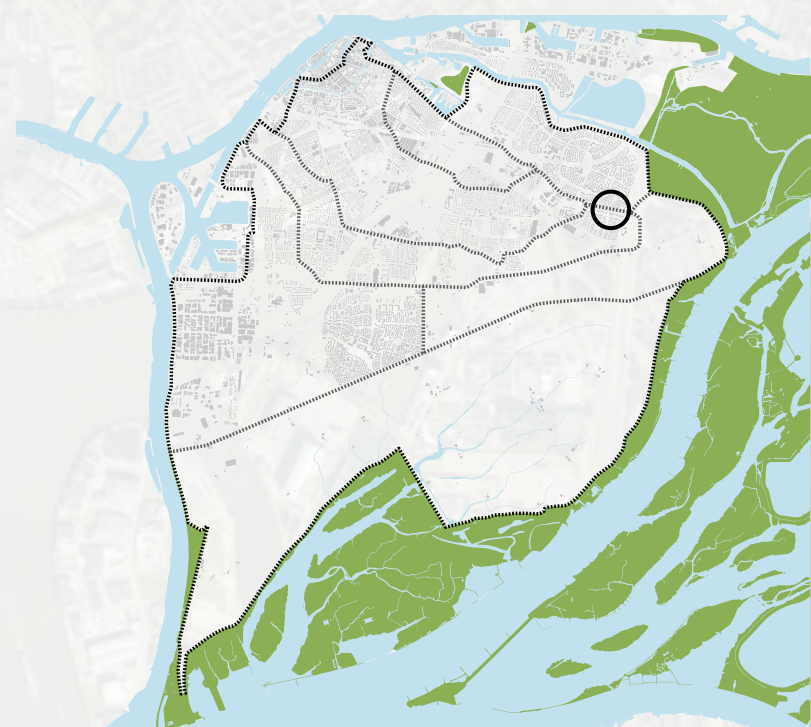
Herkenbaarheid



# Dijksituatie - Zuidendijk 1

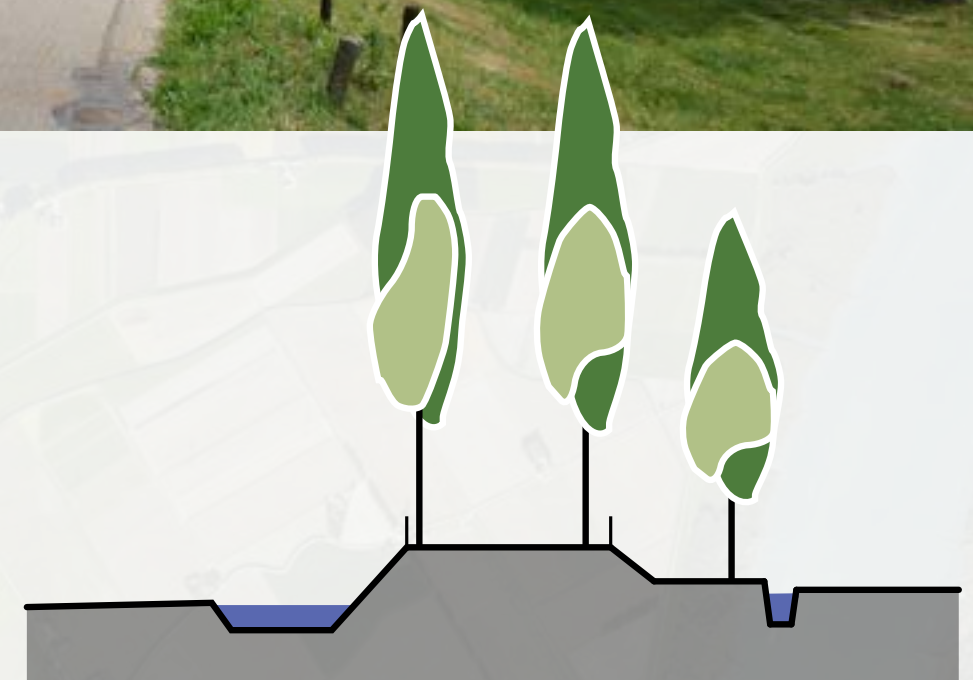
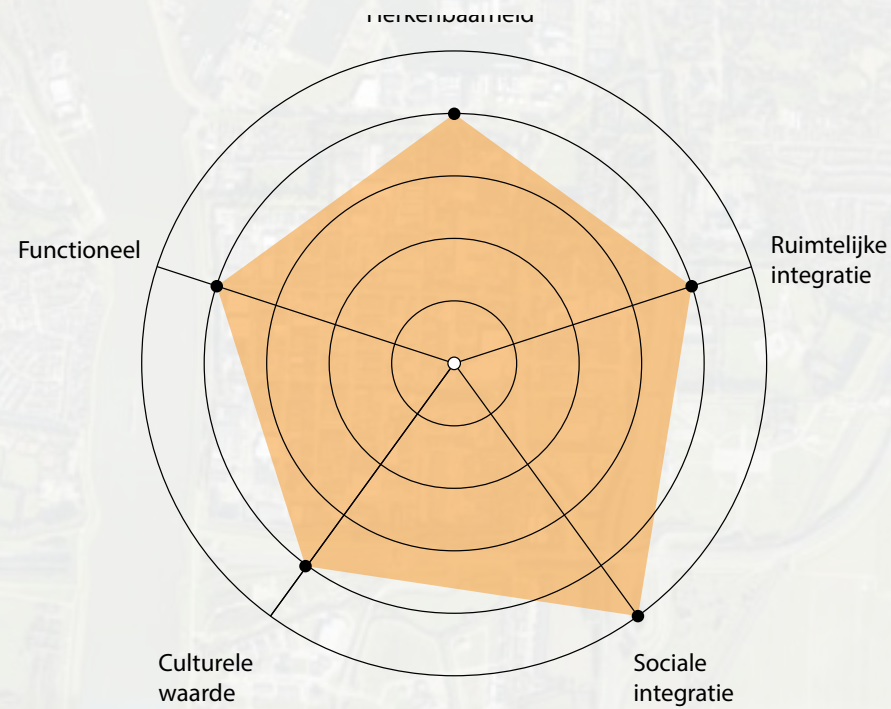
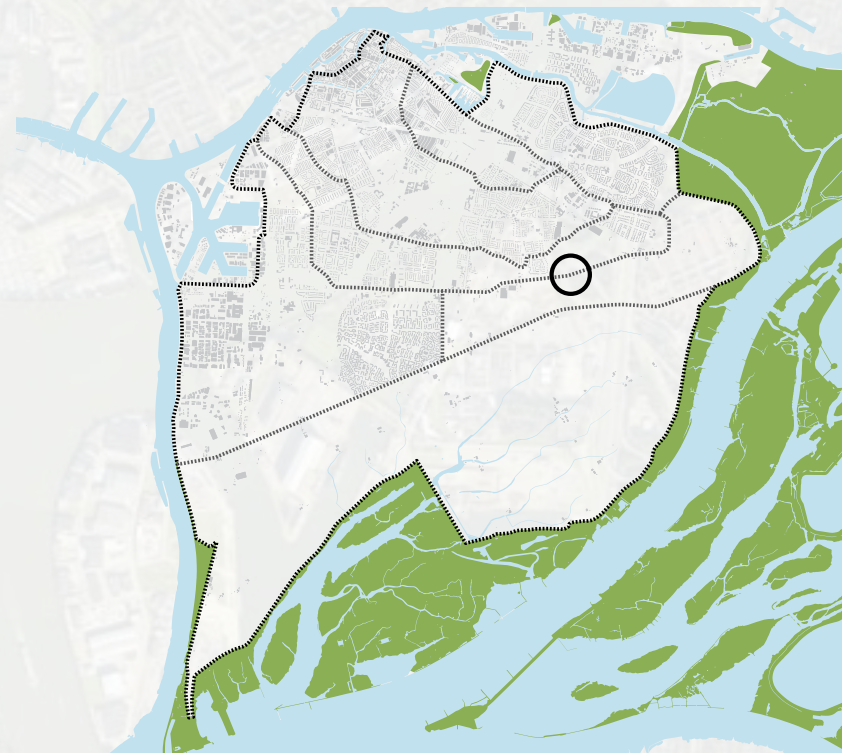


# Dijksituatie - Noordendijk

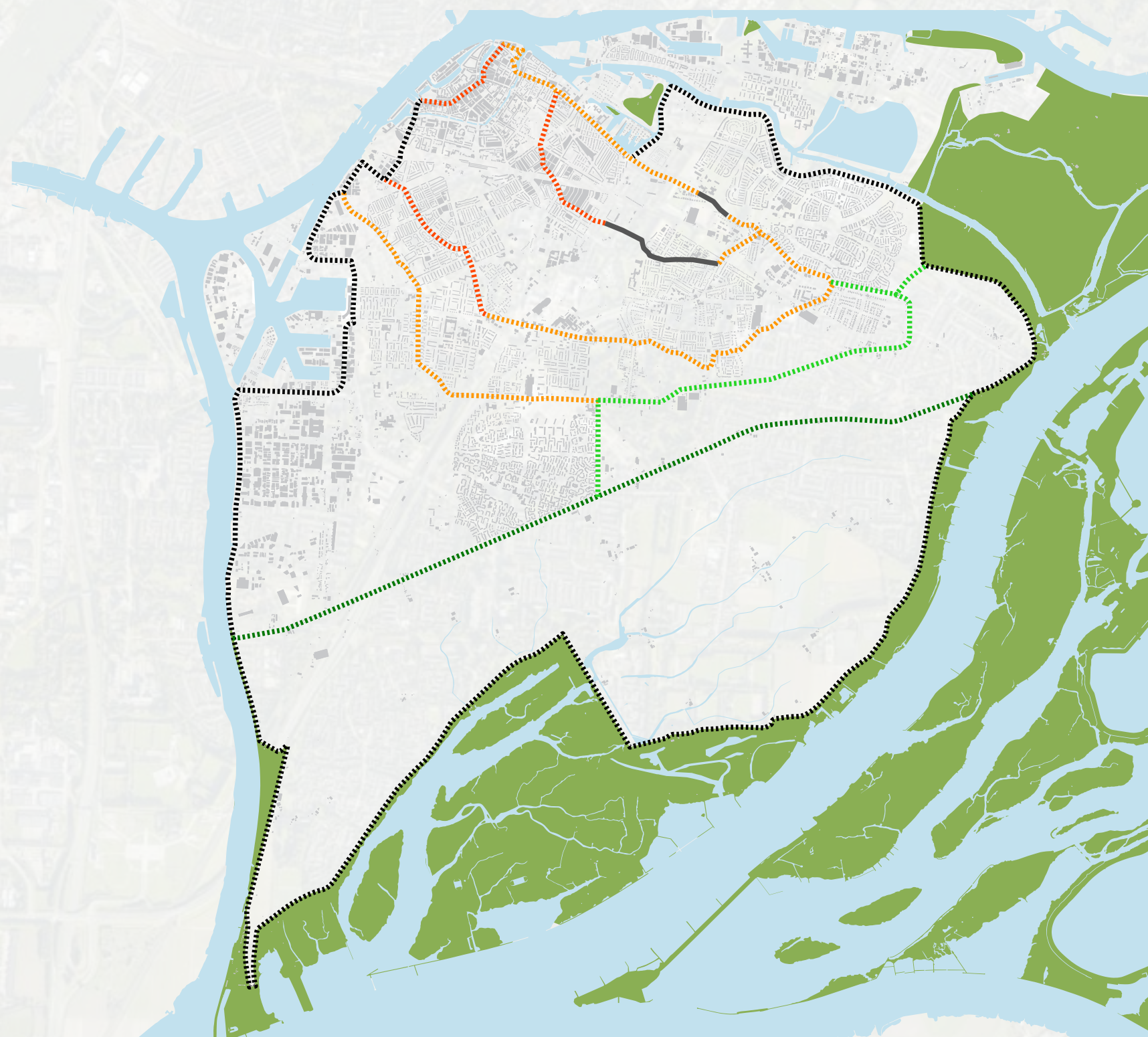




# Dijksituatie - Zuidendijk 2



# Dijksituation - Urban integration of dike



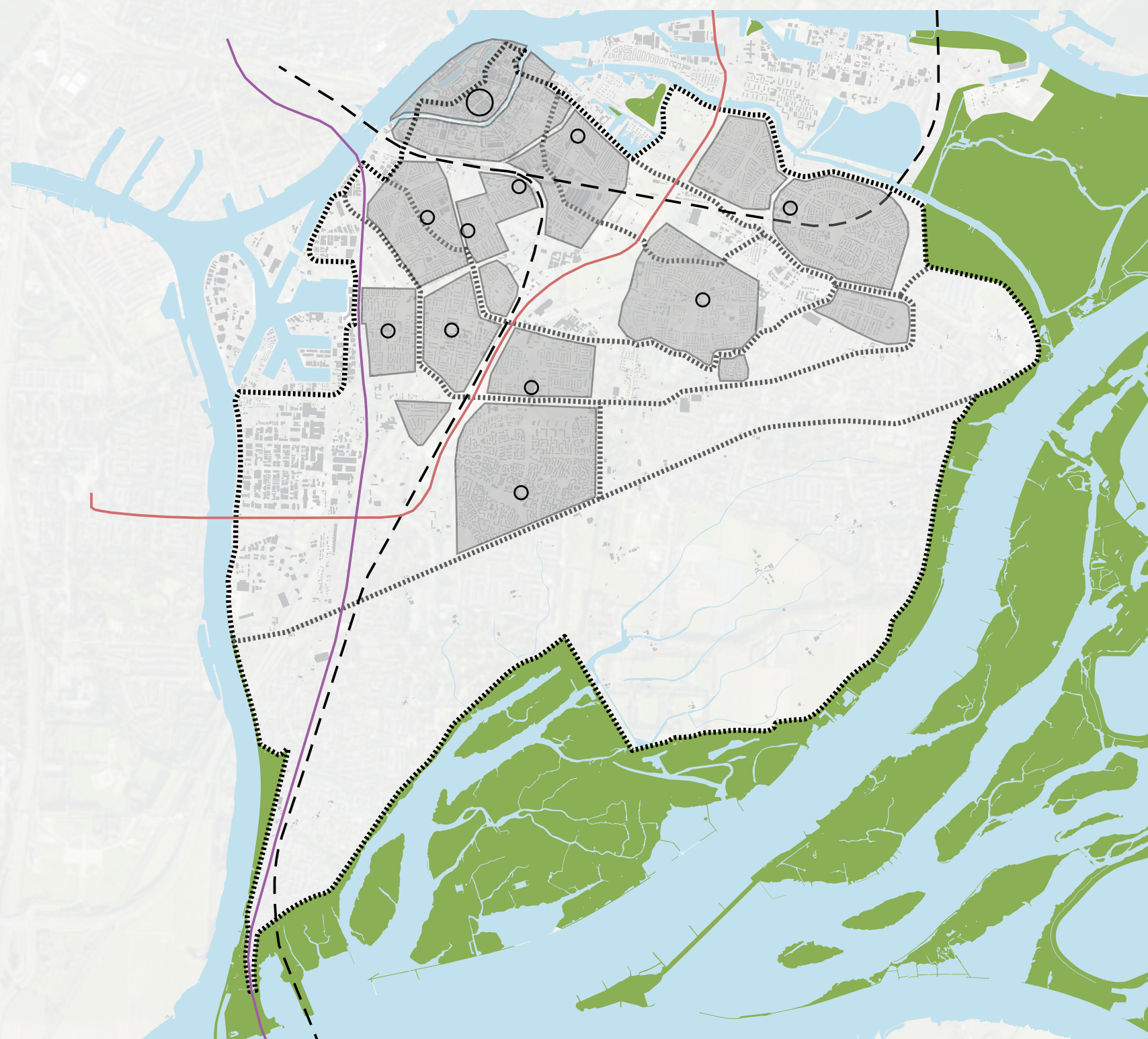
Aspect

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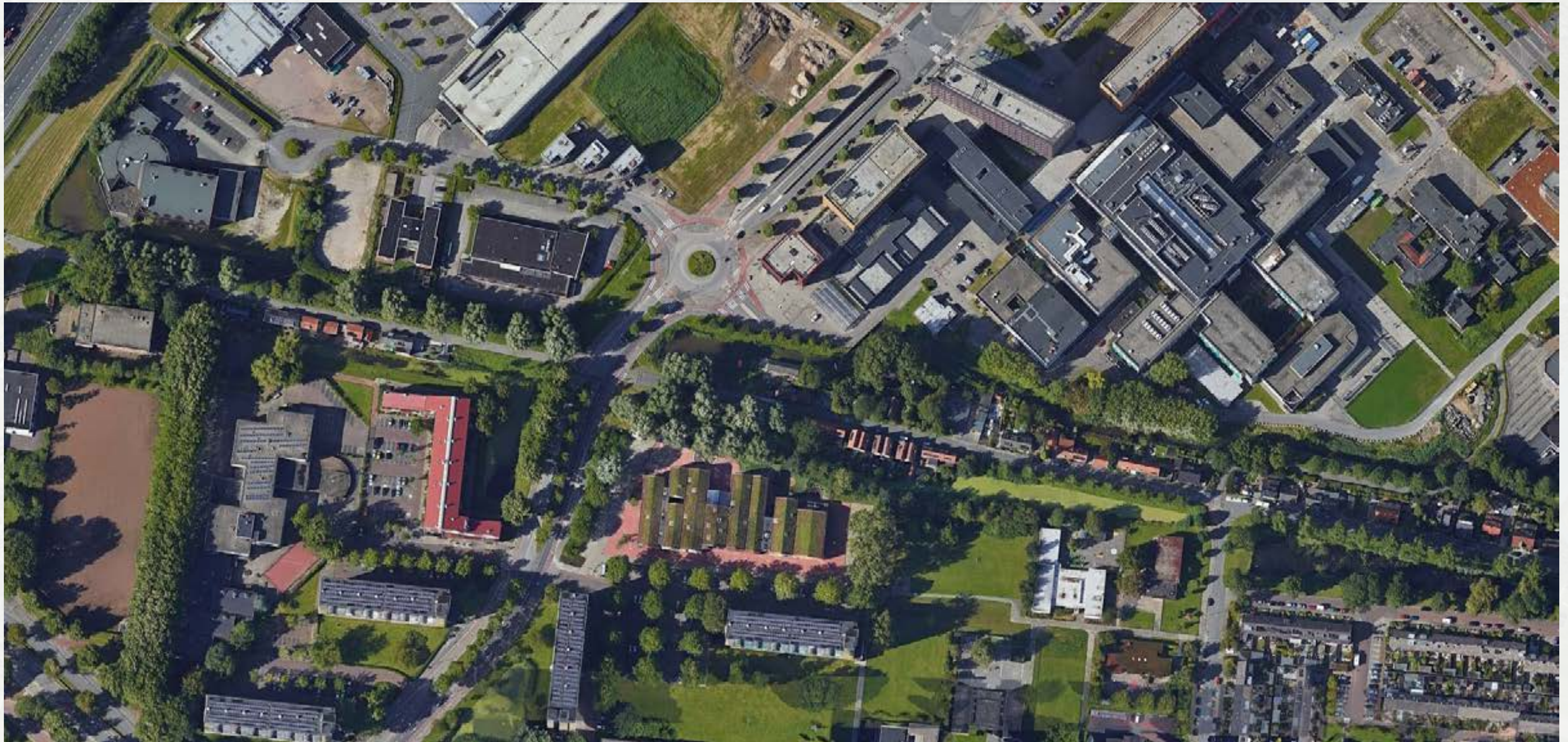
## 3.2 SOCIAL CONNECTIVITY



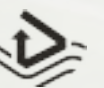
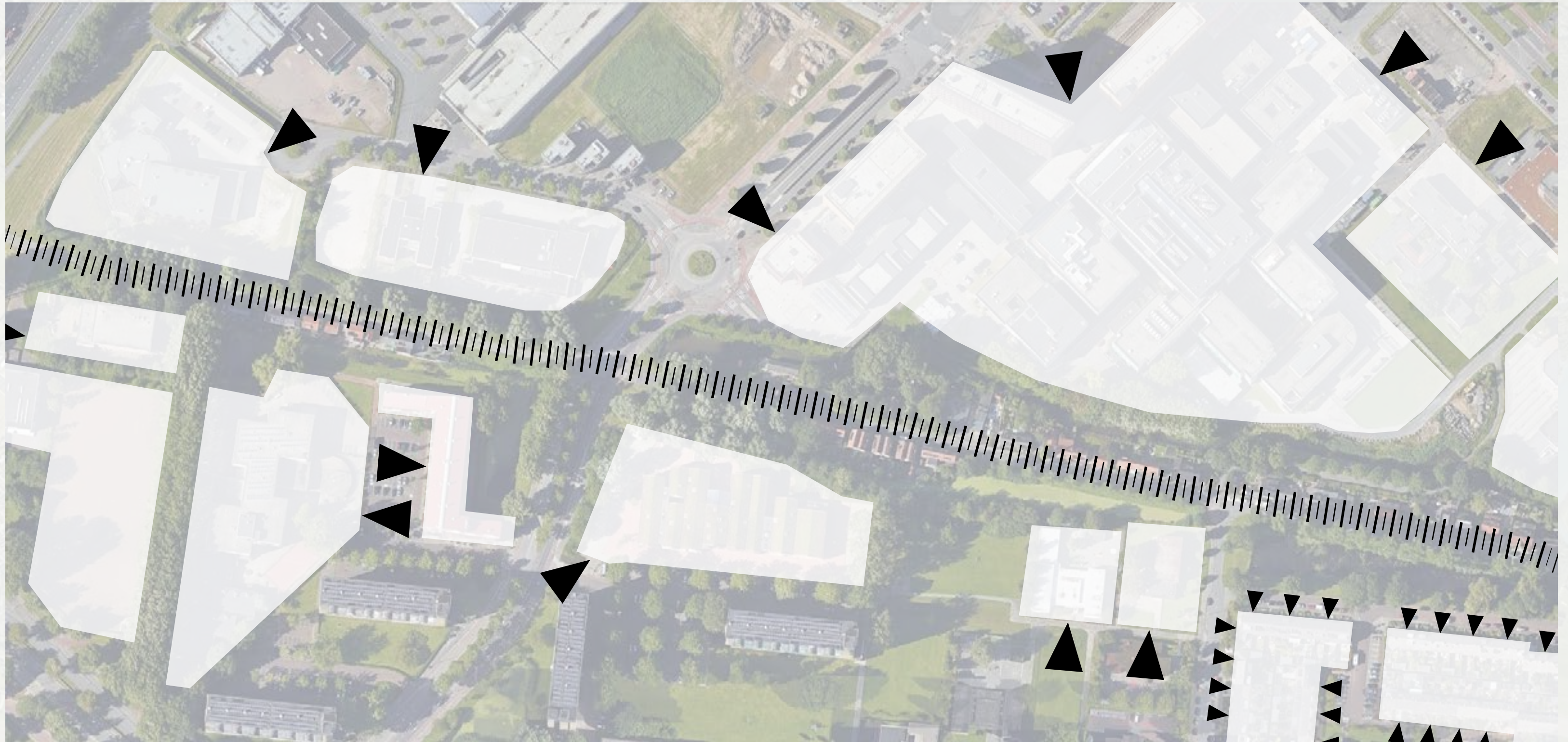
# Islands of Dordrecht



# Denying the dike



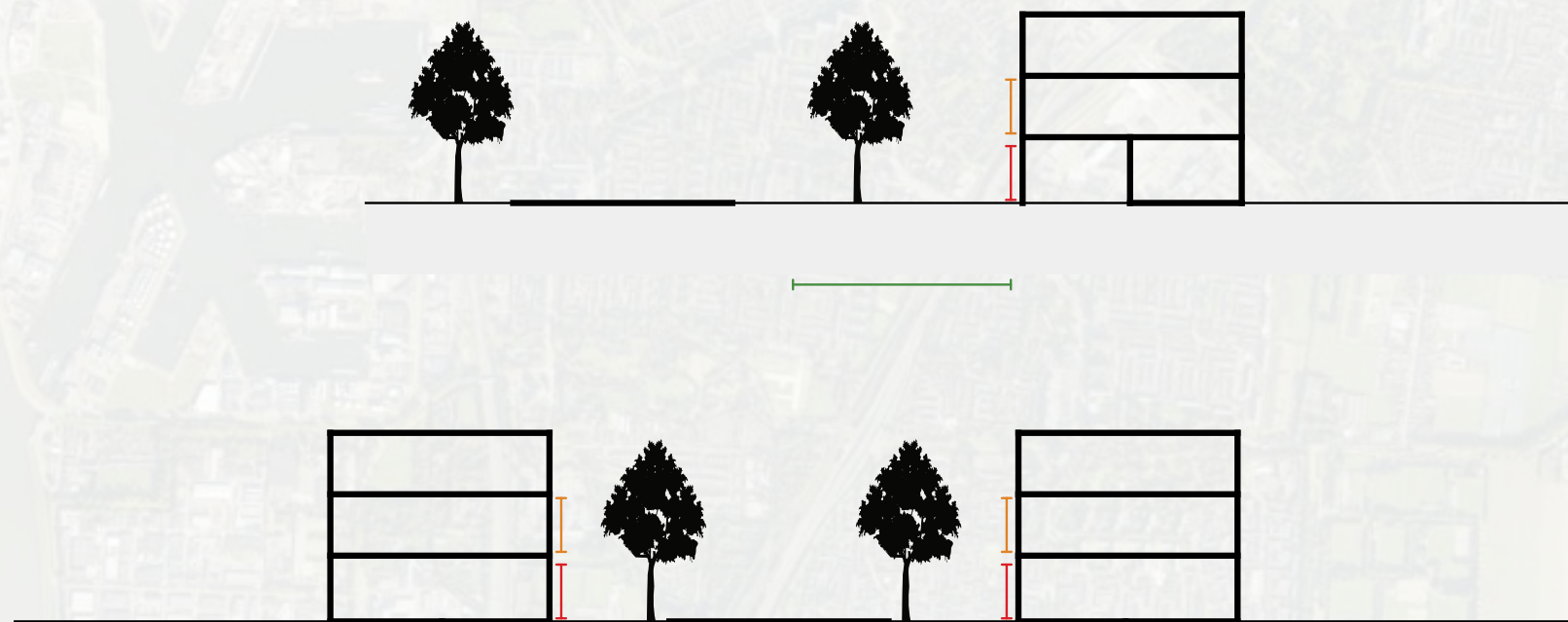
# Denying the dike



# Social integration - Connection to dike

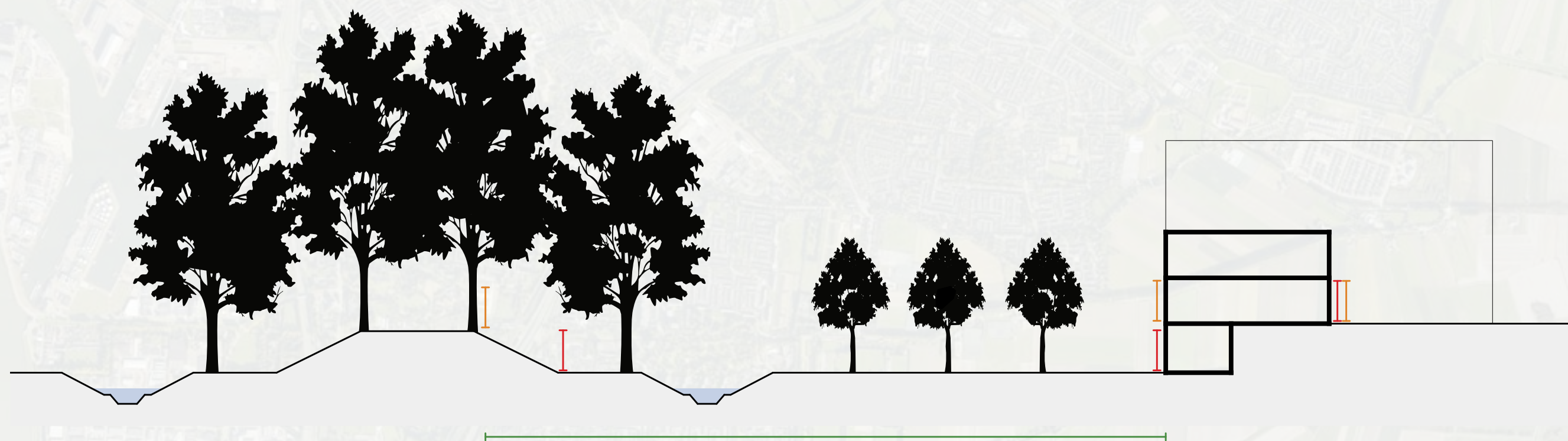


# Social integration - Connection to dike





# Social integration - Connection to dike



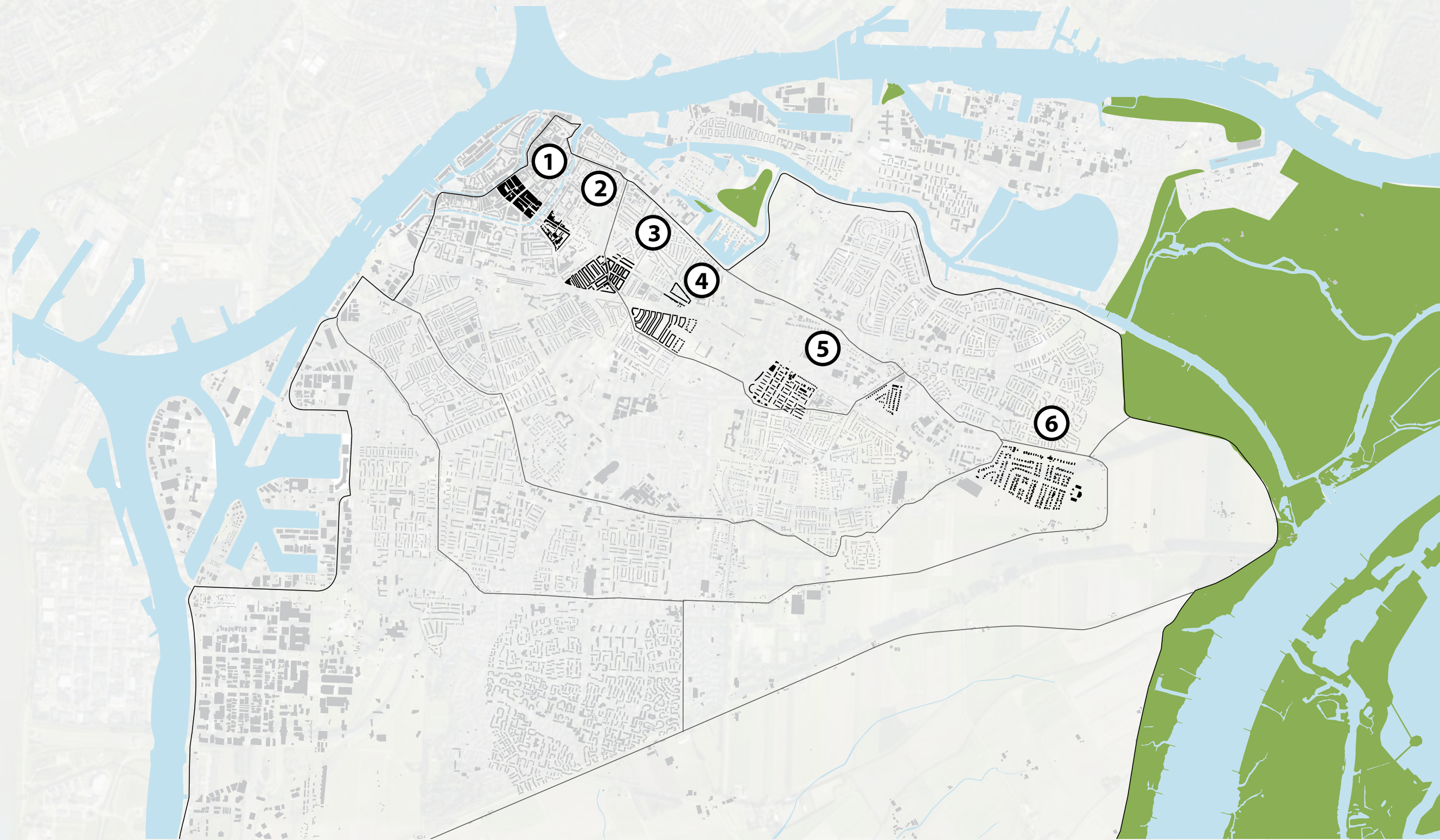
Aspect

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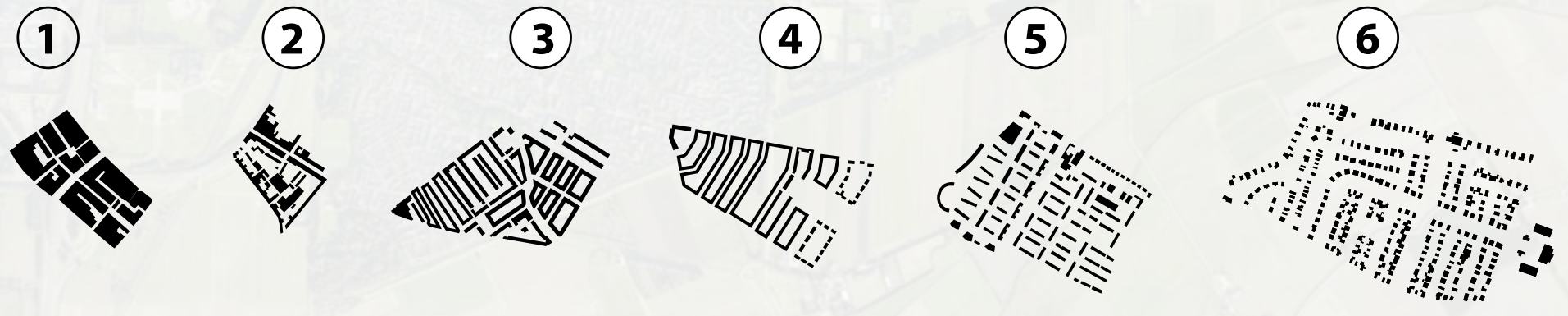
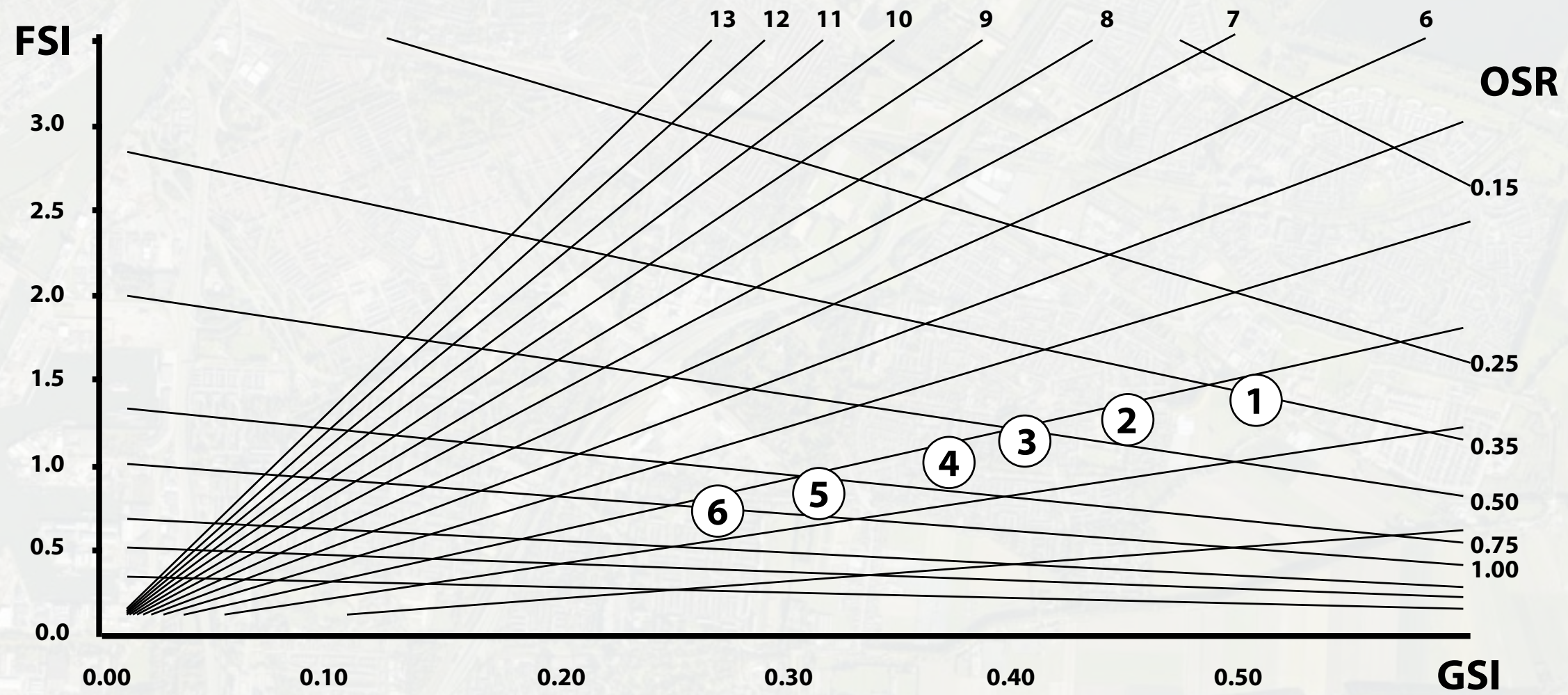
## 3.3 DENSITIES



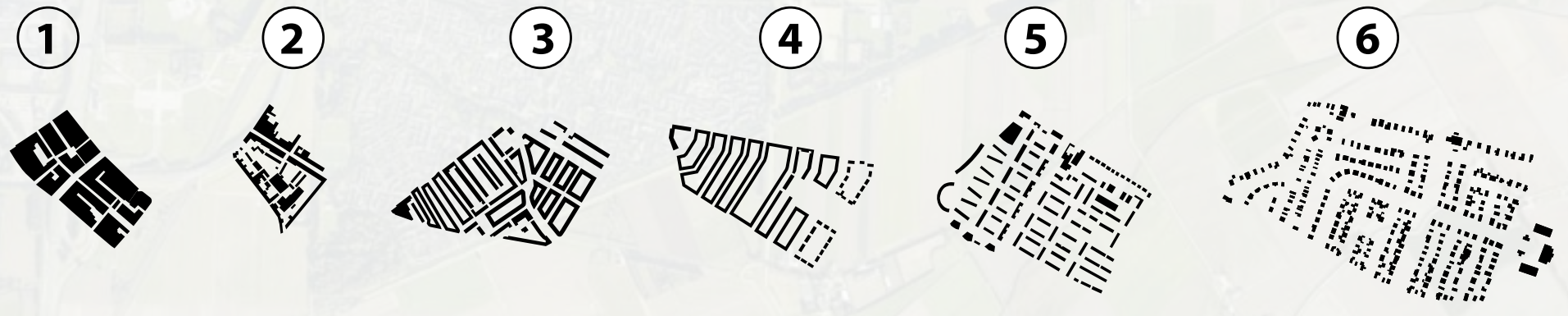
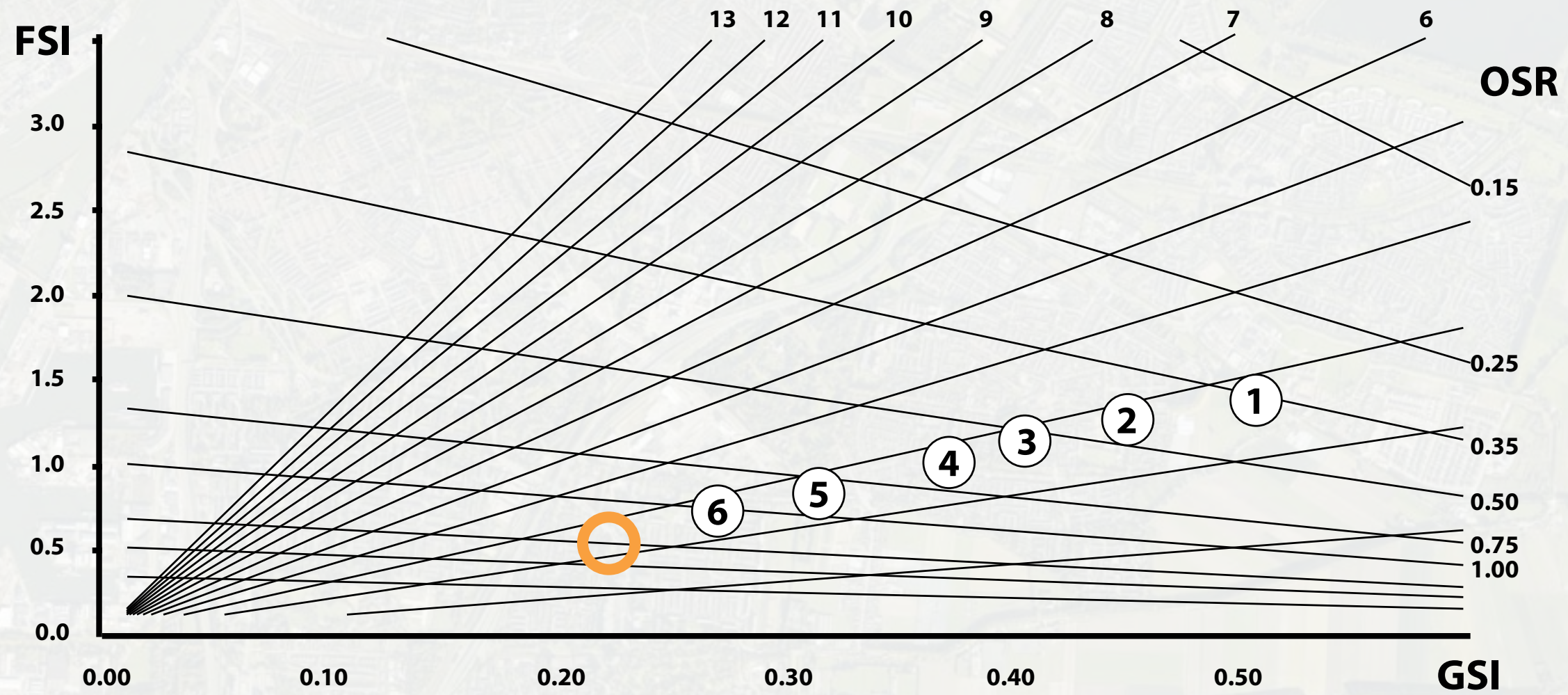
# Urban composition - Densities



# Urban composition - Densities



# Urban composition - Densities



Aspect

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## 3.4 GREEN STRUCTURES



# Green structures - Space

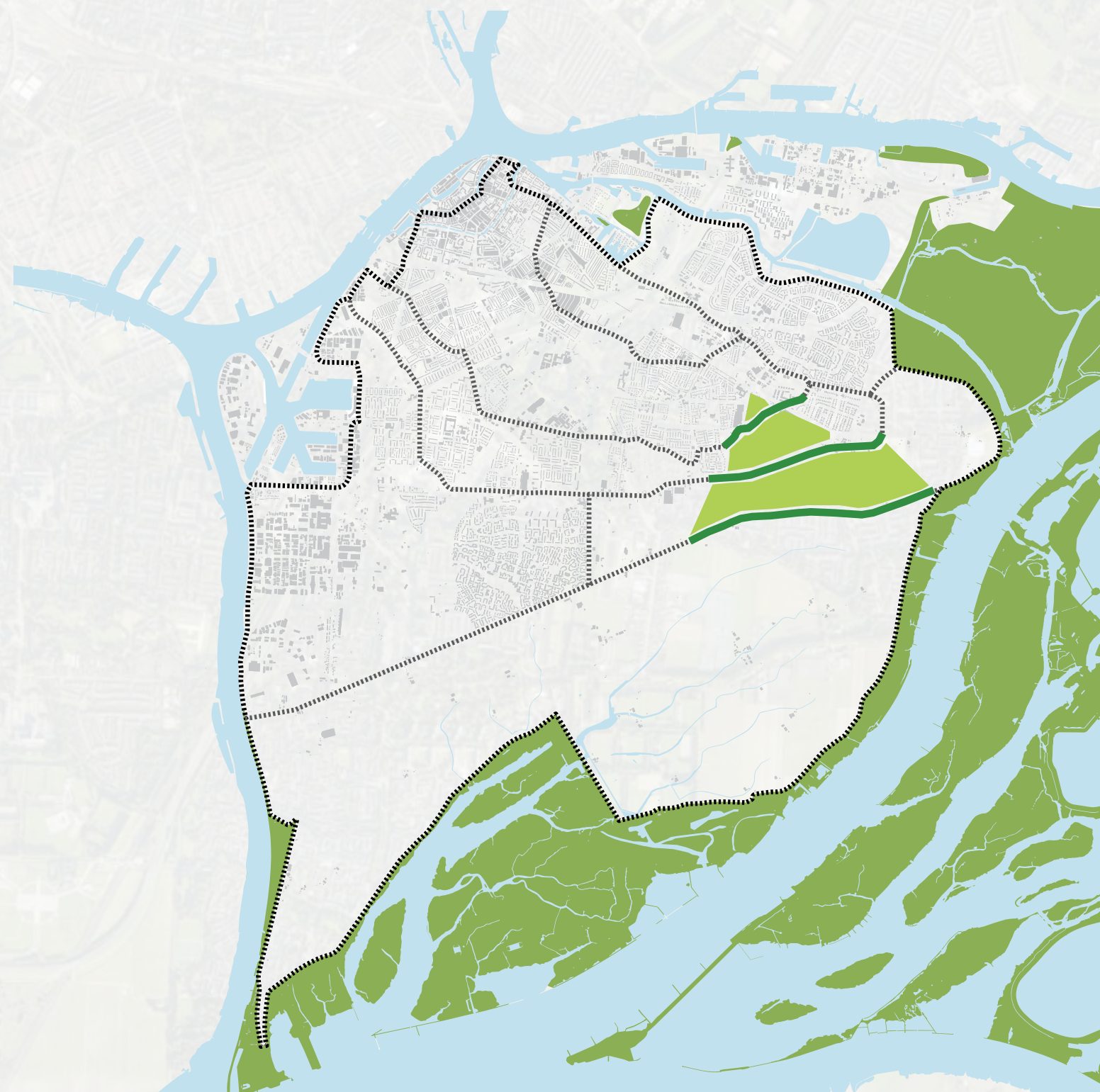


# Flooding - Leftover space

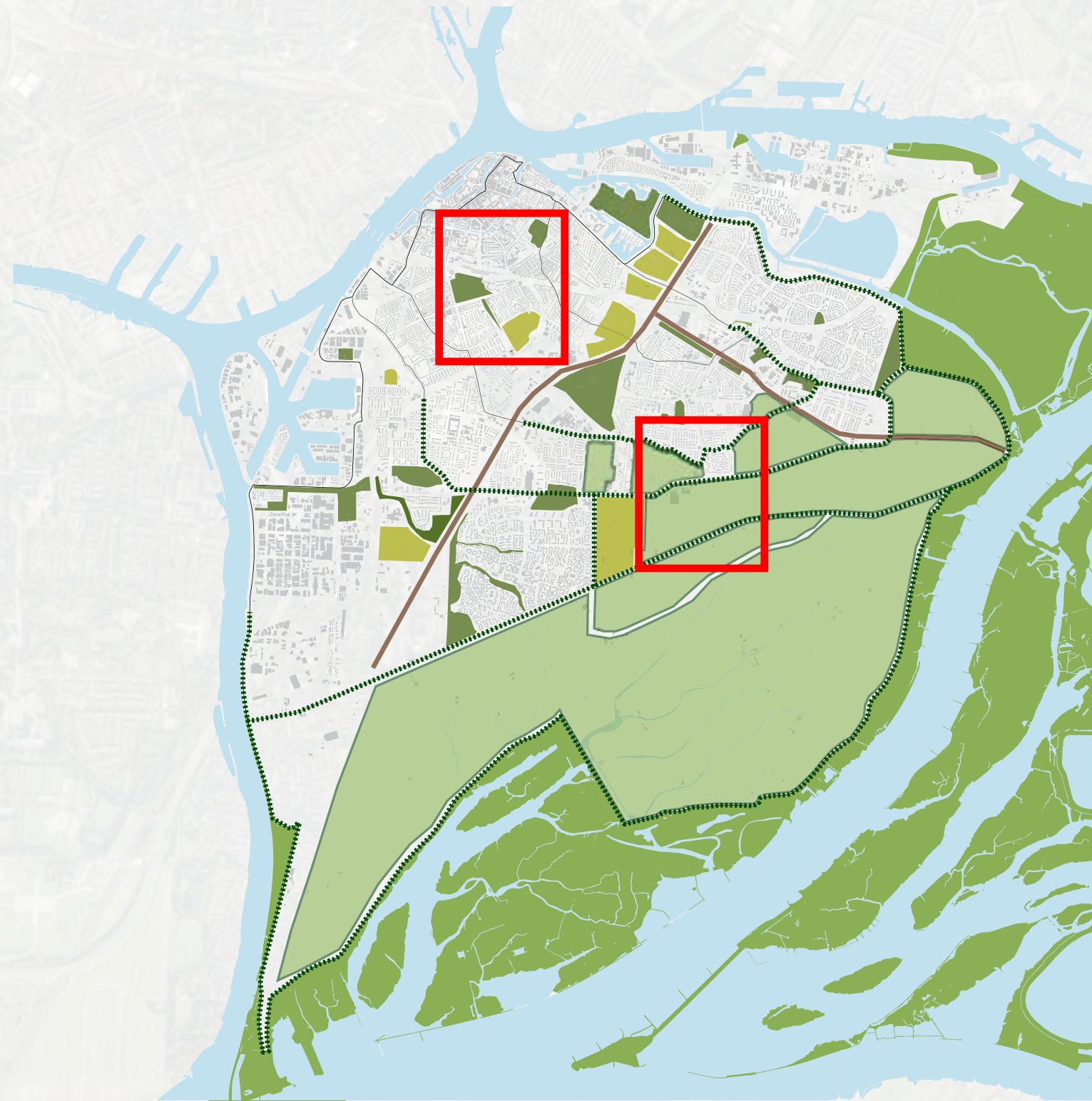




# Dikesituation - Unique location



# Green space in the city towards city in the green space



Aspect

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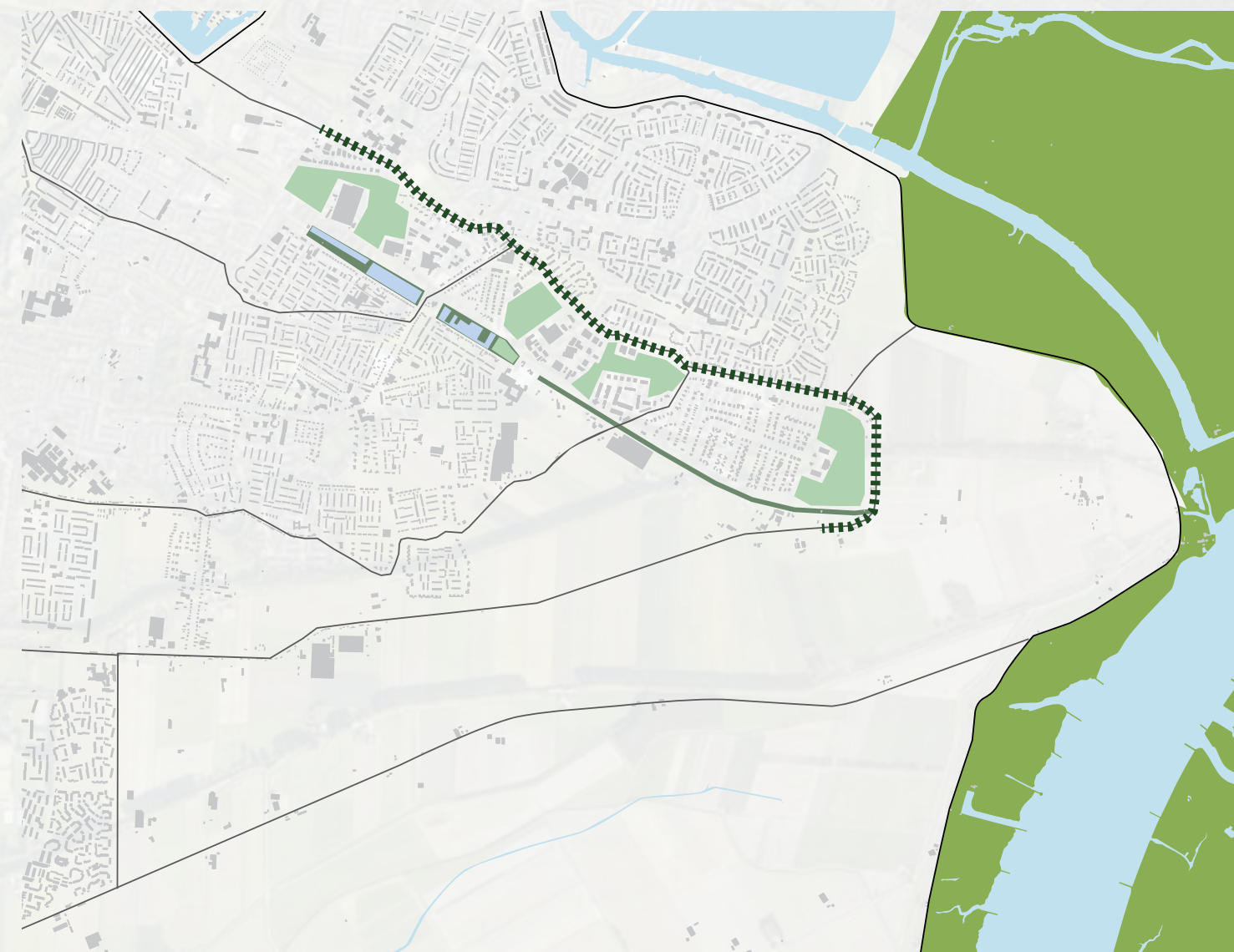
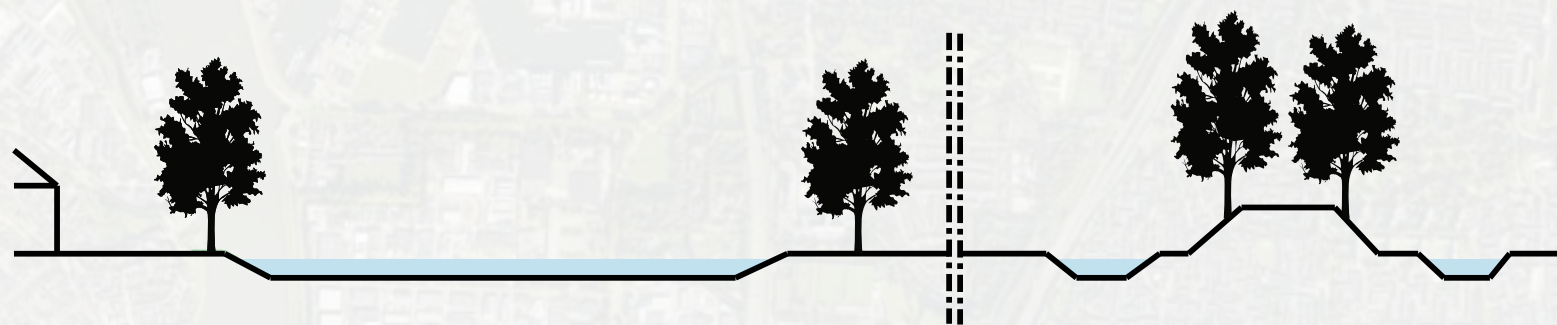
## 3.5 ECOLOGICAL STRUCTURES



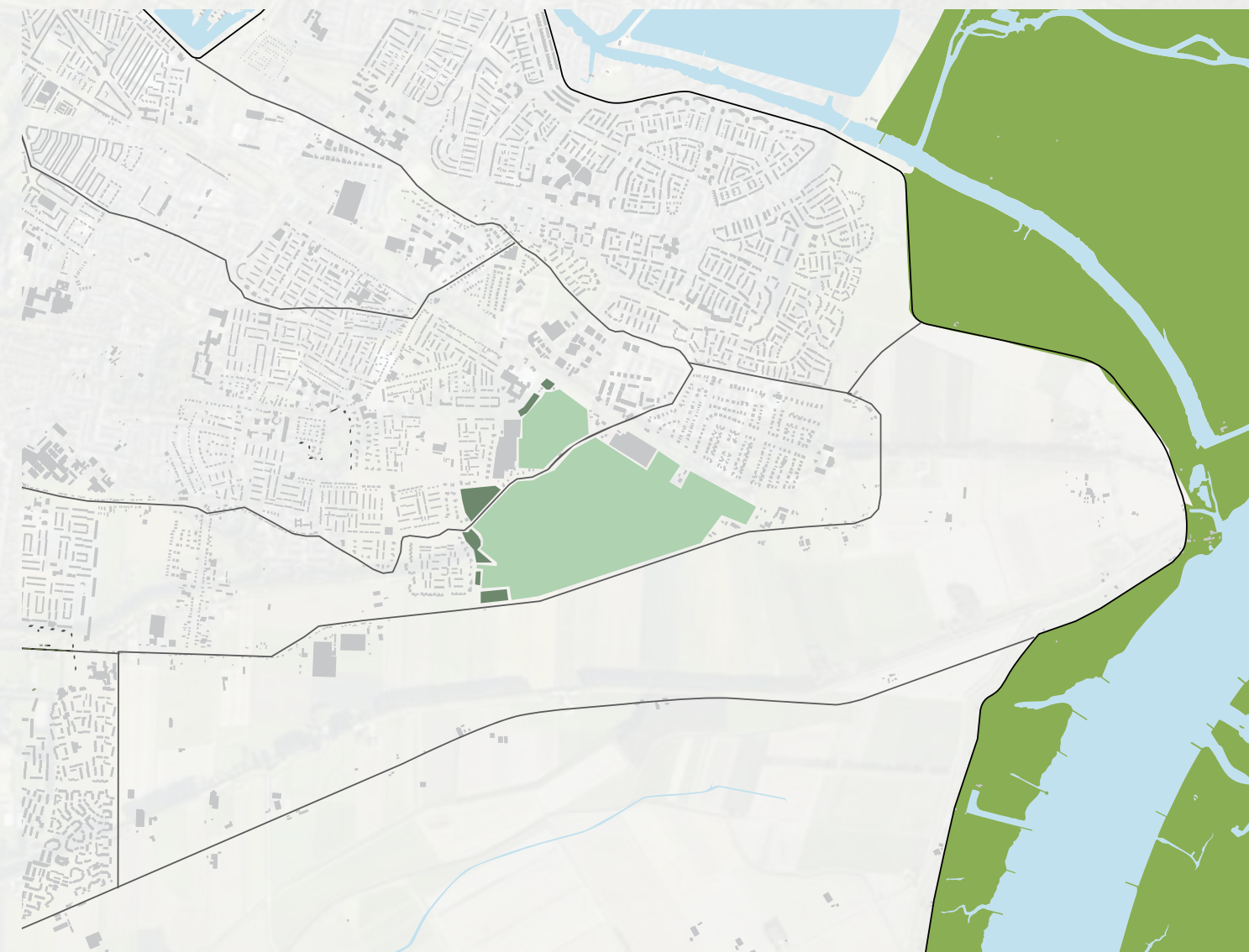
# Ecological structures



# Ecological structures - Corridor



# Ecological structures - Aloijzenzone



# Ecological structures - dike-ints



# Ecological structures - Dordtwijkzone

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Aspect

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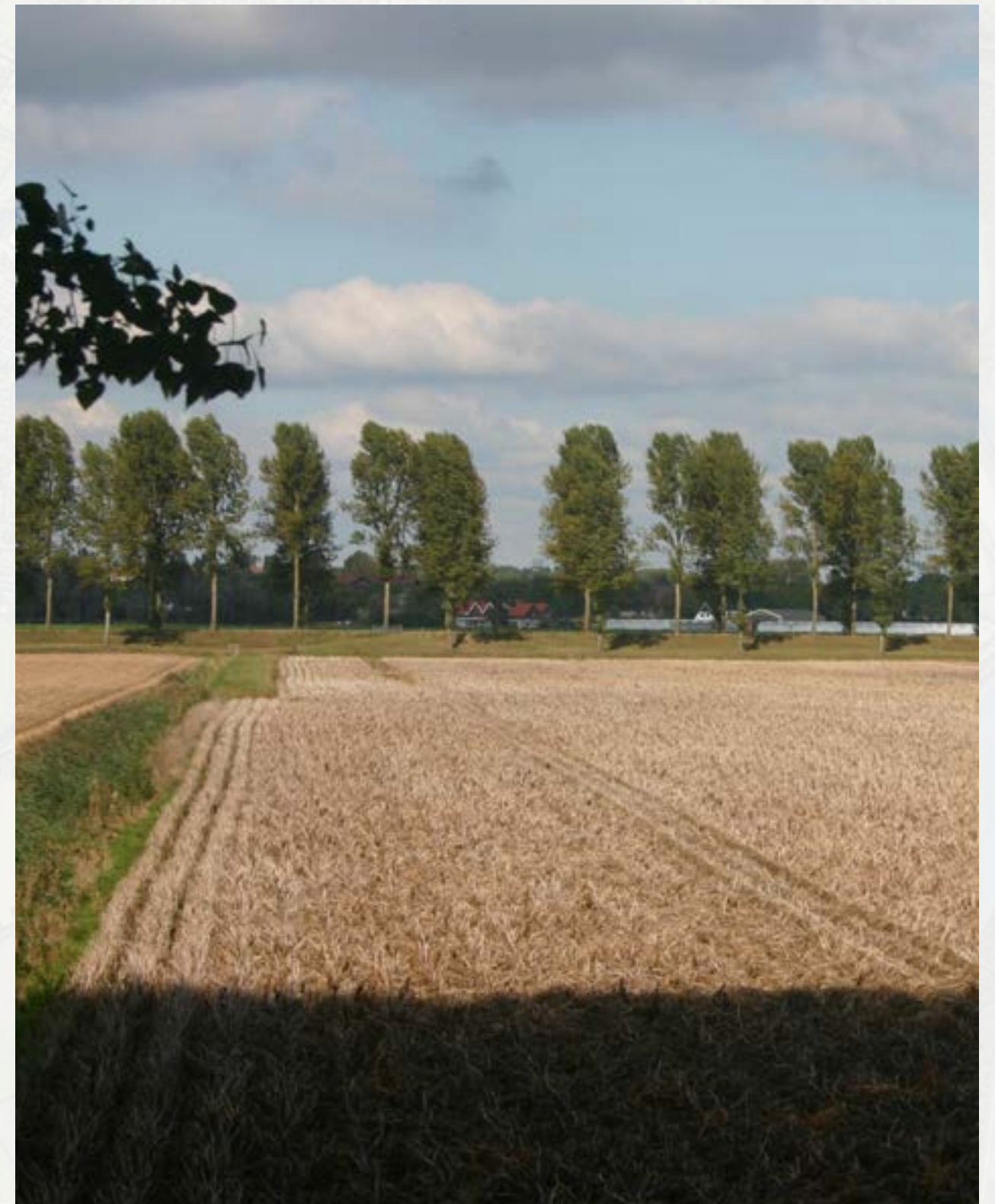
## 3.6 SPATIAL IDENTITY LOCATION



# Spatial characteristics location - Duality of angles and straights



# Spatial characteristics location - Farsights and close proximity



# Spatial characteristics location - Farsights and close proximity



# Spatial characteristics location - Dominant polder allotment



# 4. WATER SAFETY PLAN



# Multilayer safety approach



3. Disaster management

2. Sustainable spatial planning

1. Prevent

# Multilayer safety





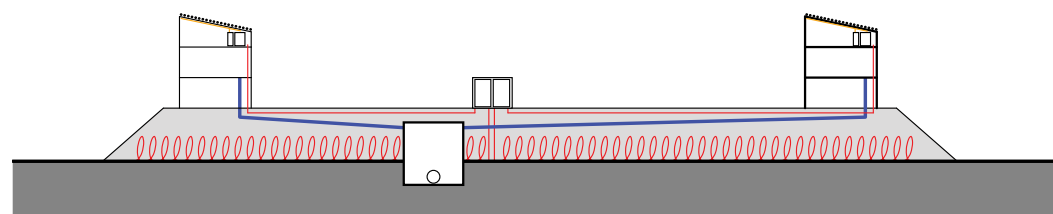
# Multilayer safety - layer 1



# Multilayer safety - layer 2



# Multilayer safety - layer 3



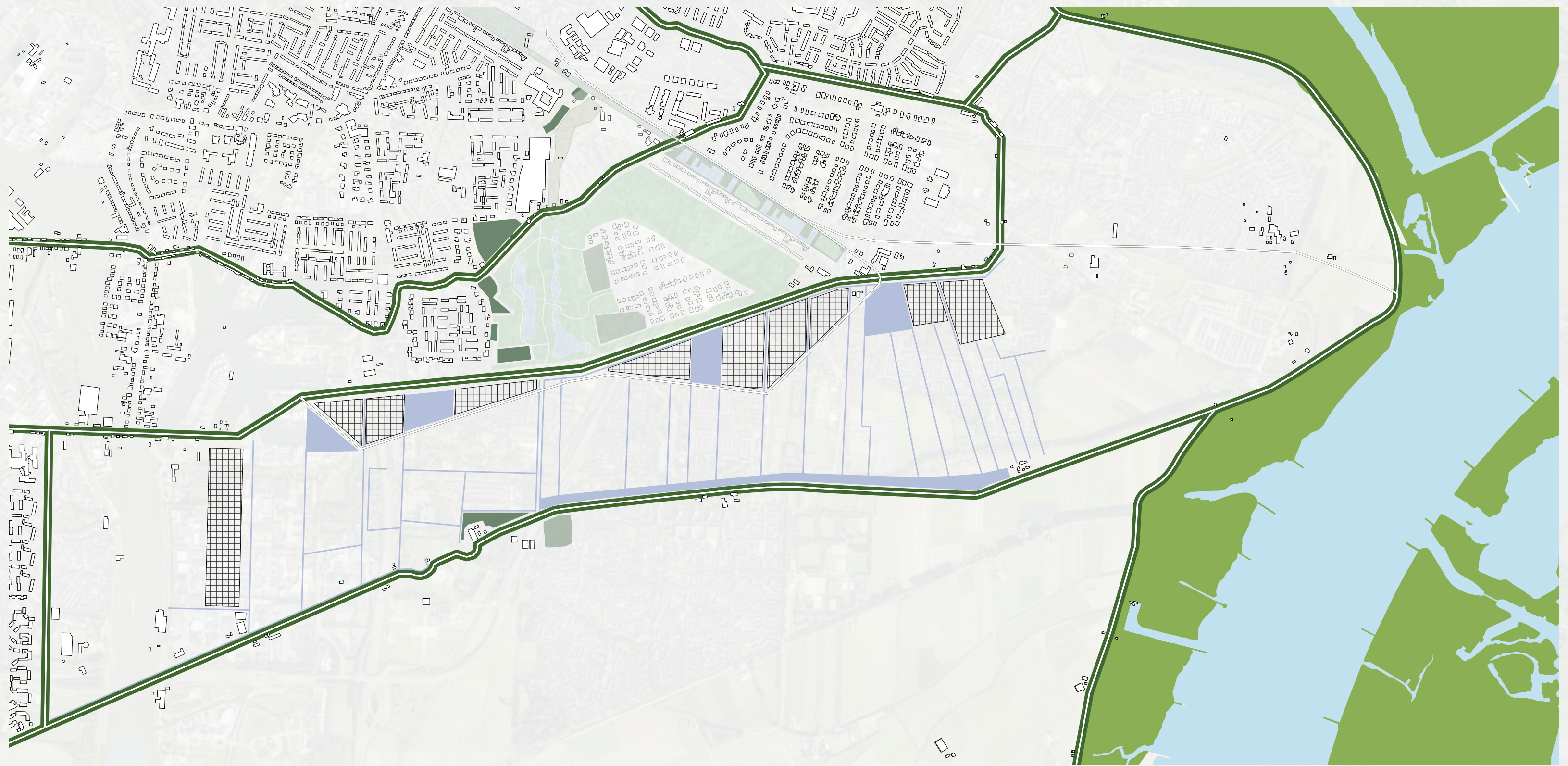
# Multilayer safety - future layer 1



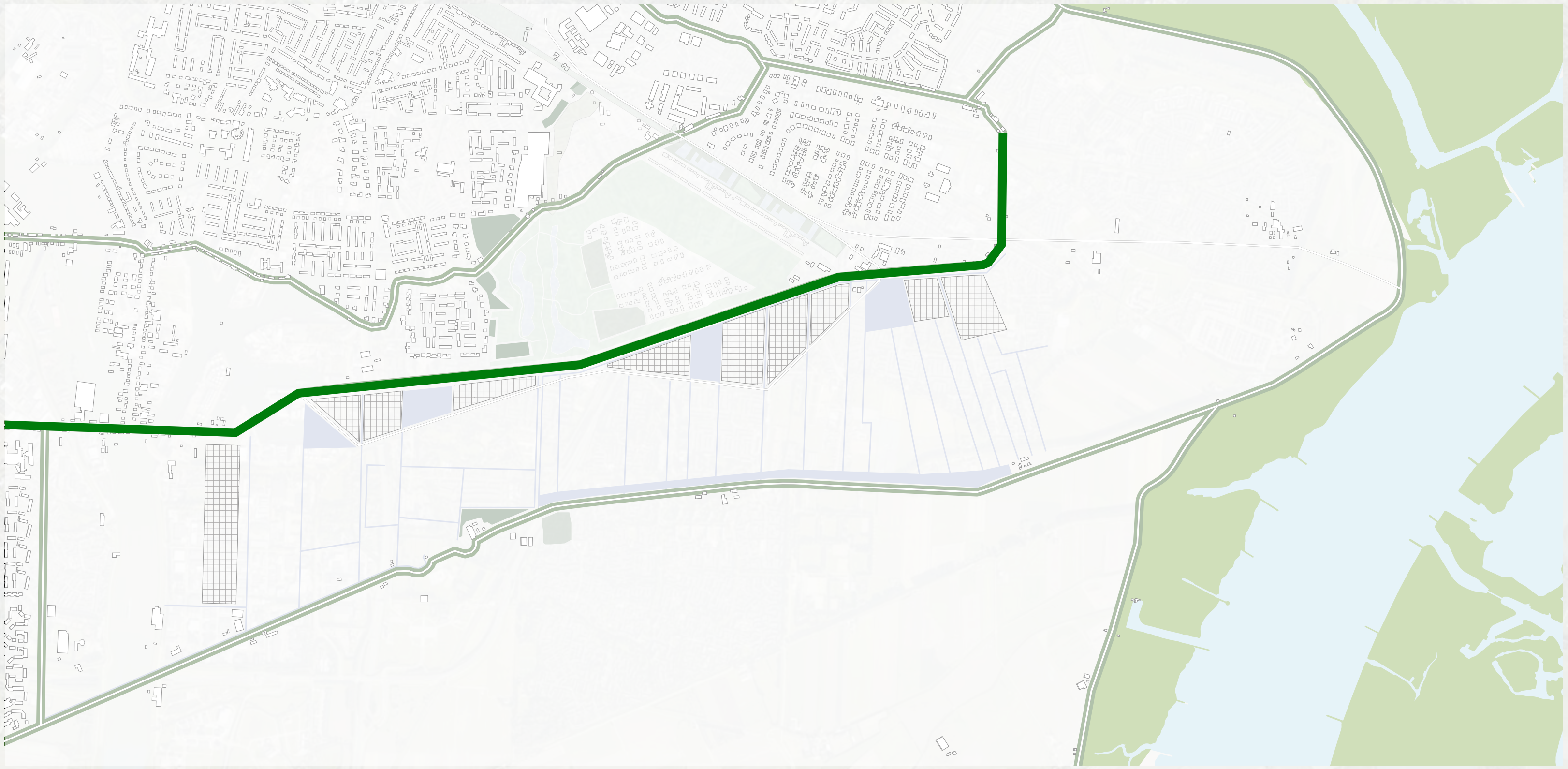
# 5. DESIGN



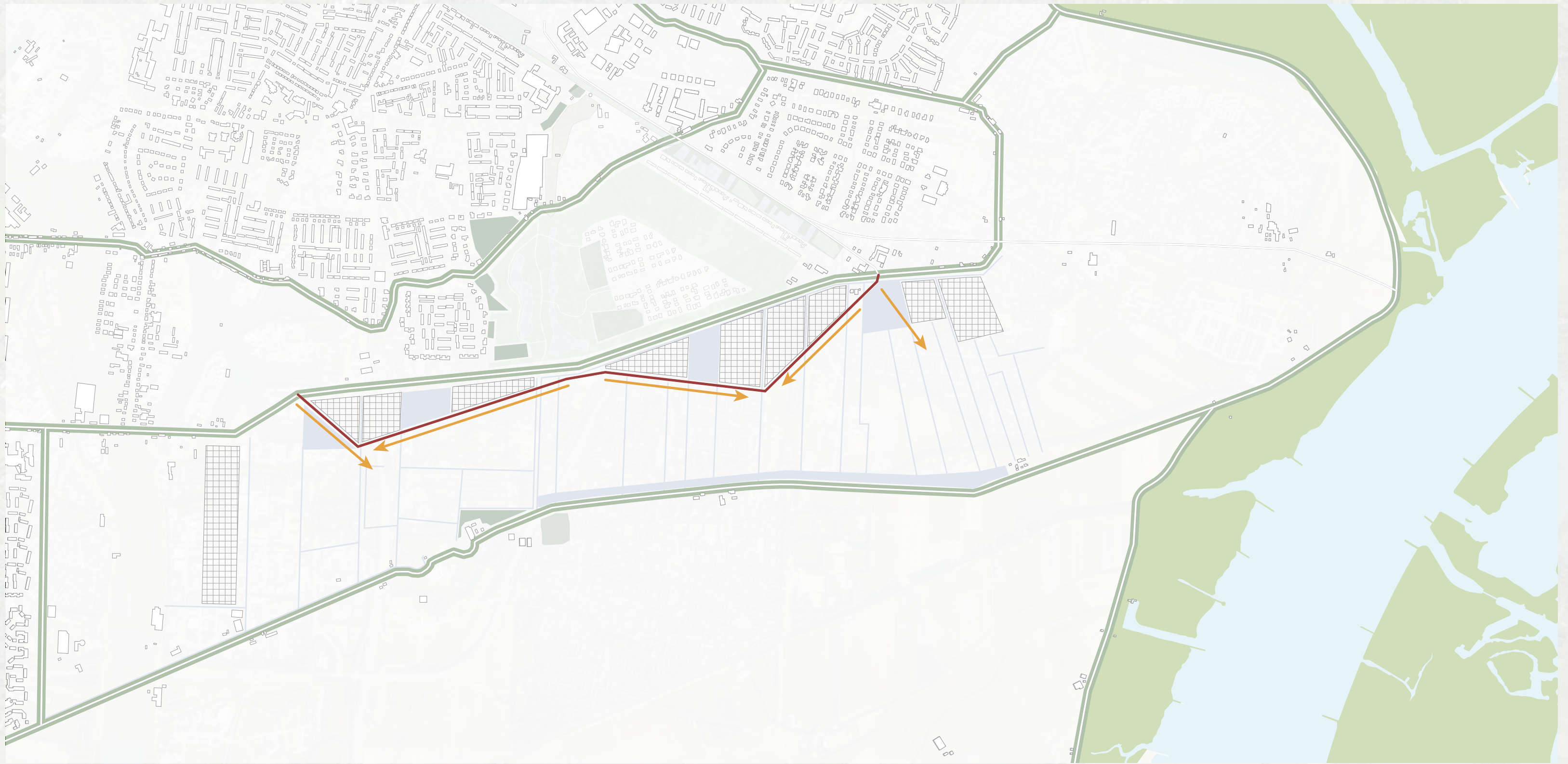
# Framework



# Framework - Dike as leading element



# Framework - Sightlines





# Framework - Polderstructure

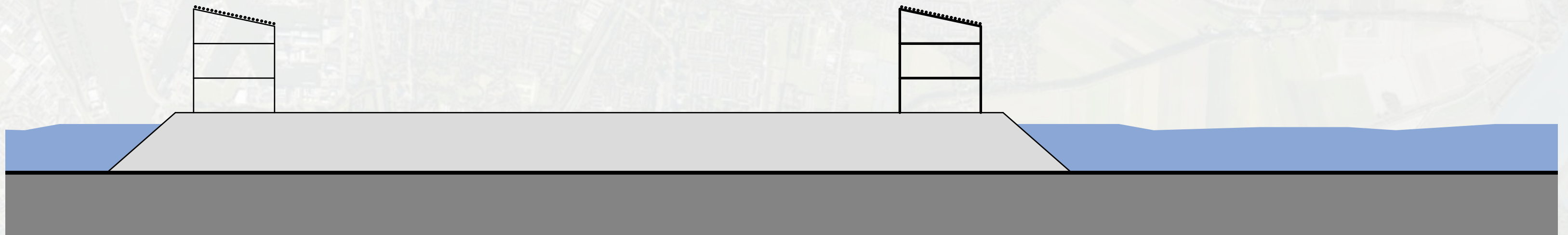


# Framework - Ecological connection

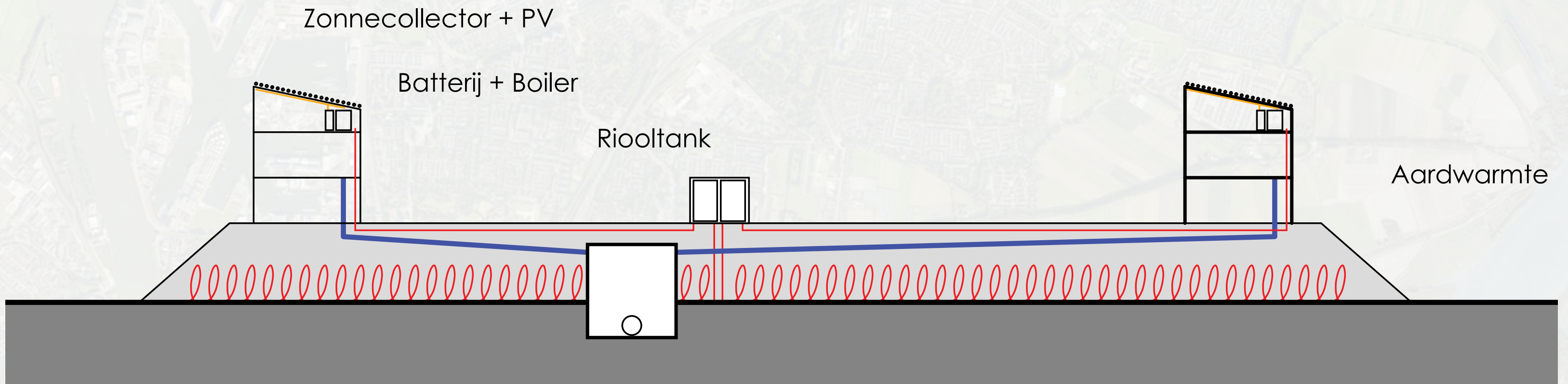


# Mound - Dry feet

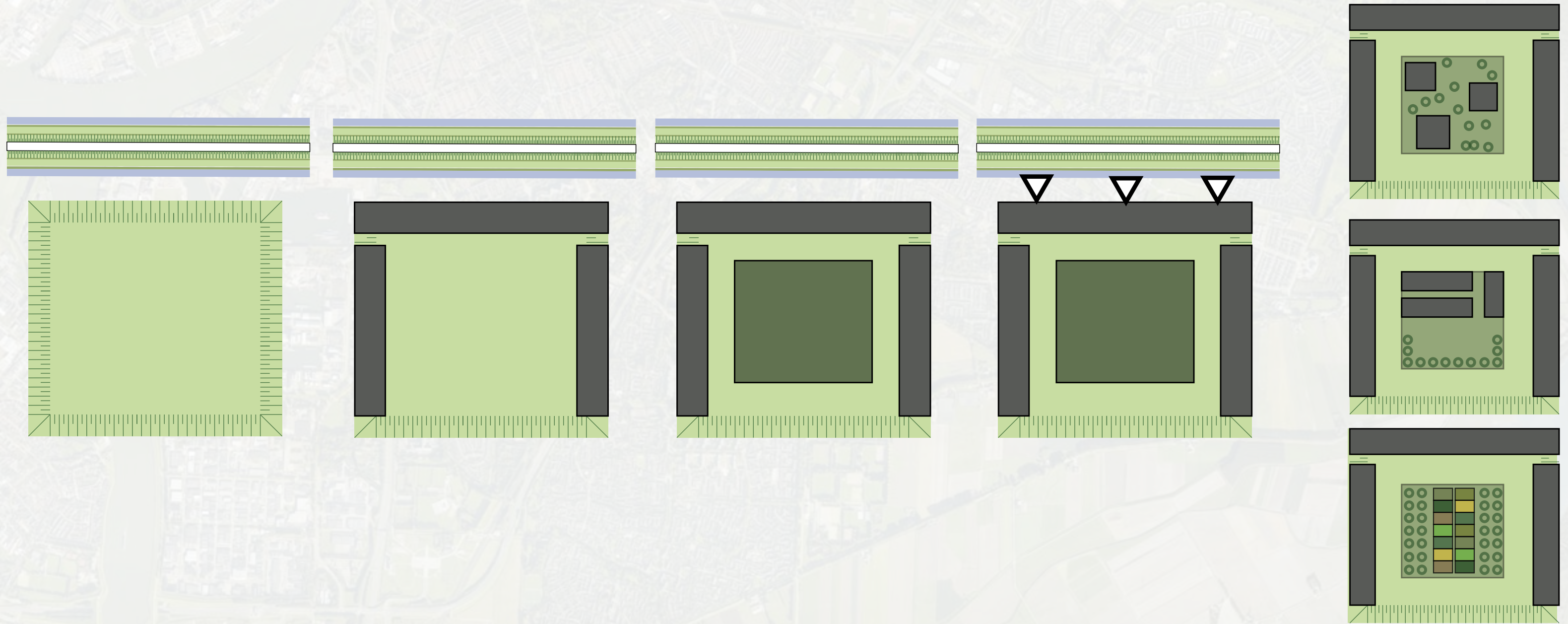
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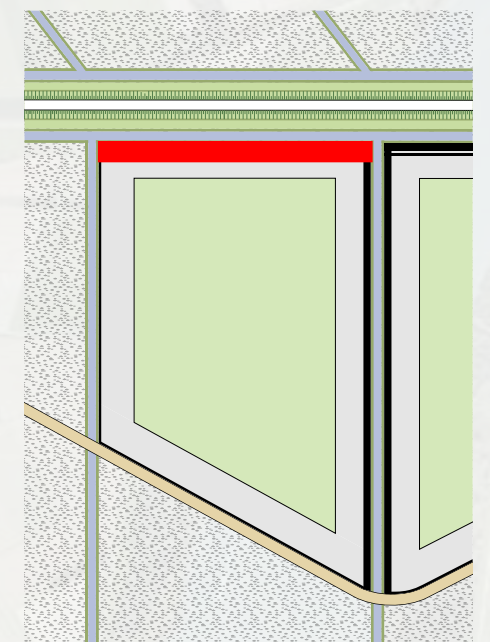
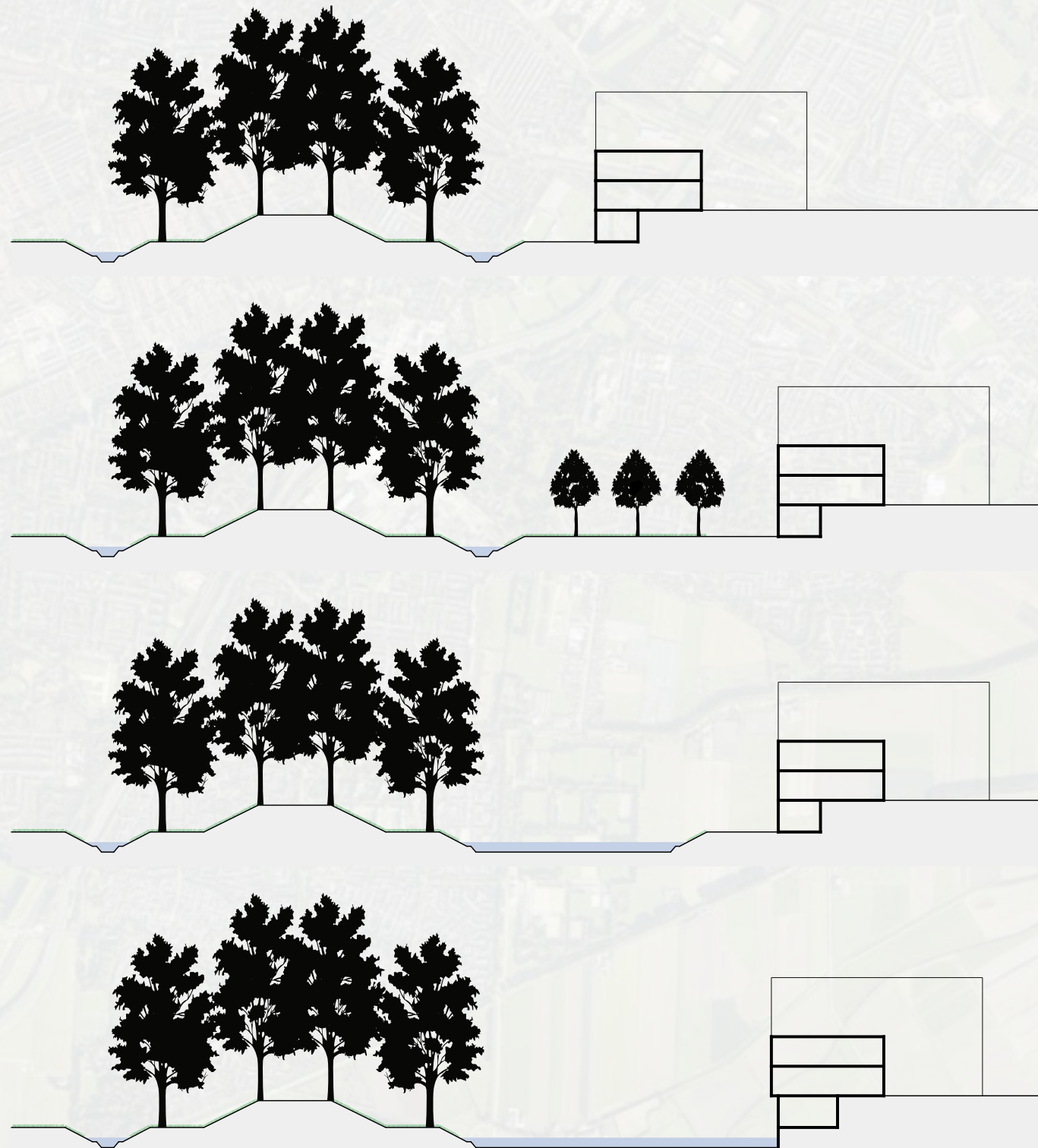
# Mound - Self reliance / sustainability



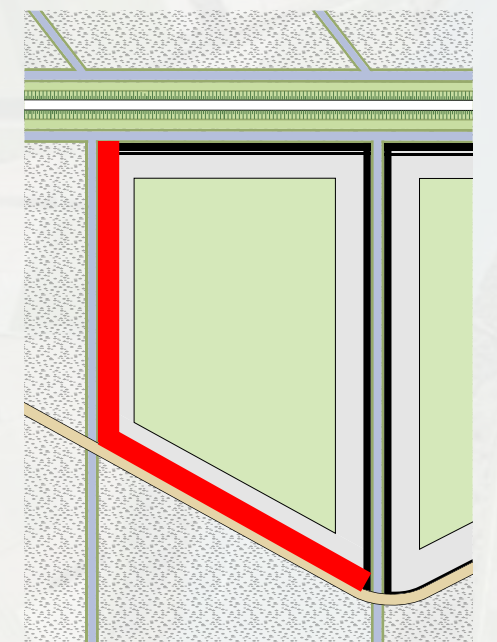
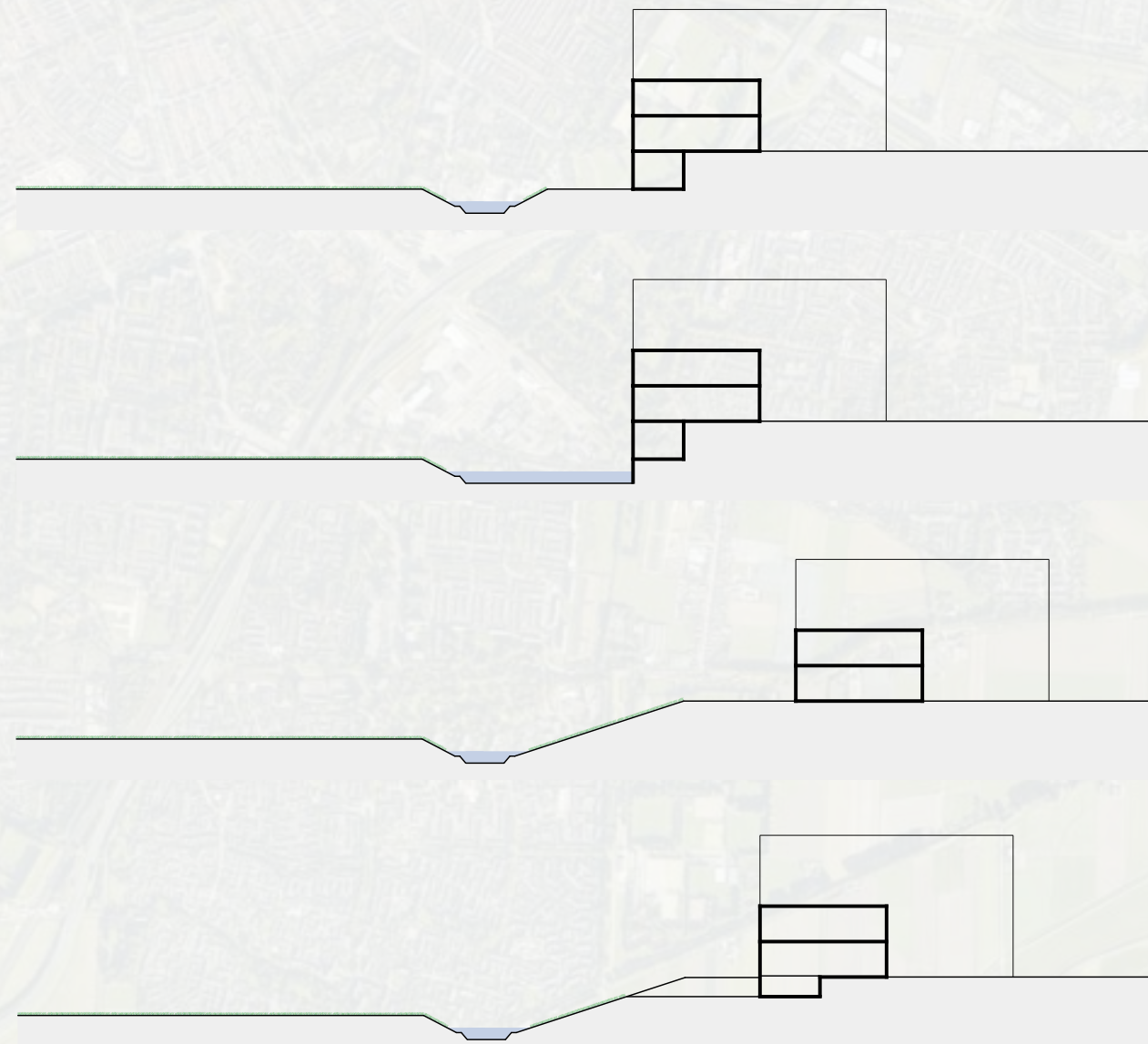
# Mound rules - Composition



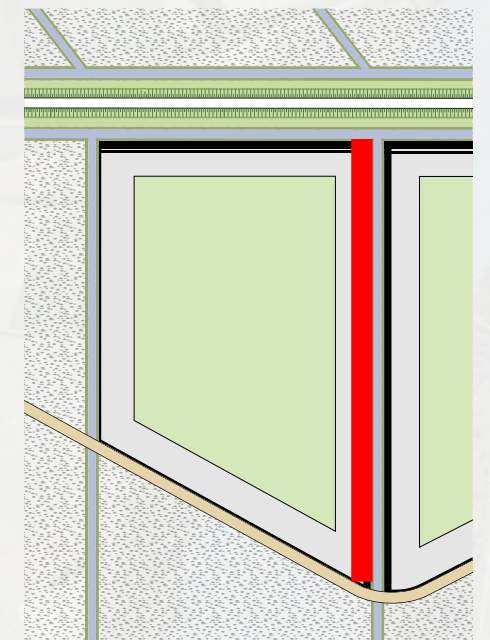
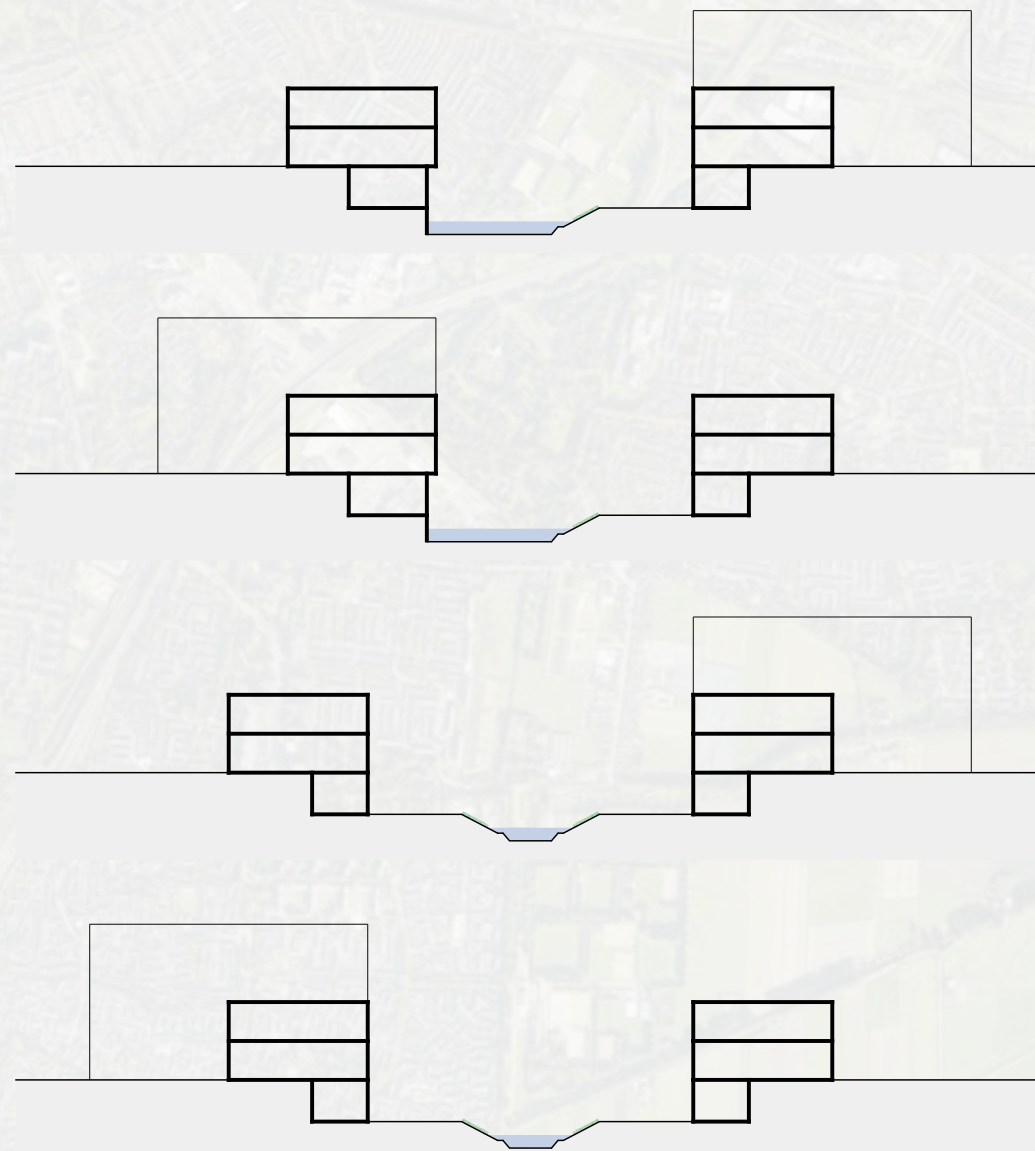
# Mound rules- Borders dikeside



# Mound rules- Borders landscape side

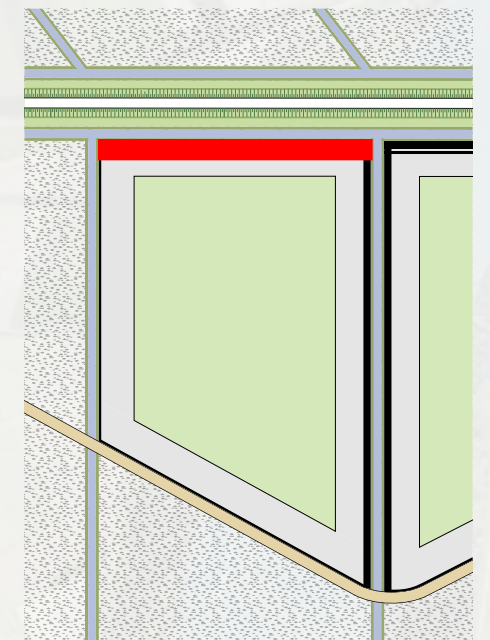


# Mound rules- Borders mound to mound

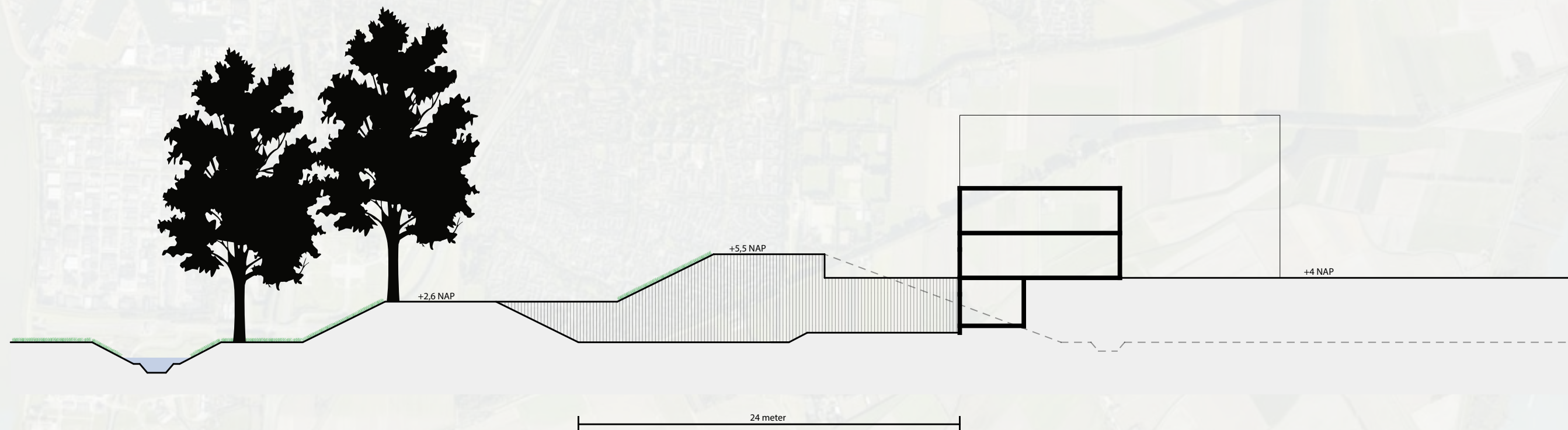
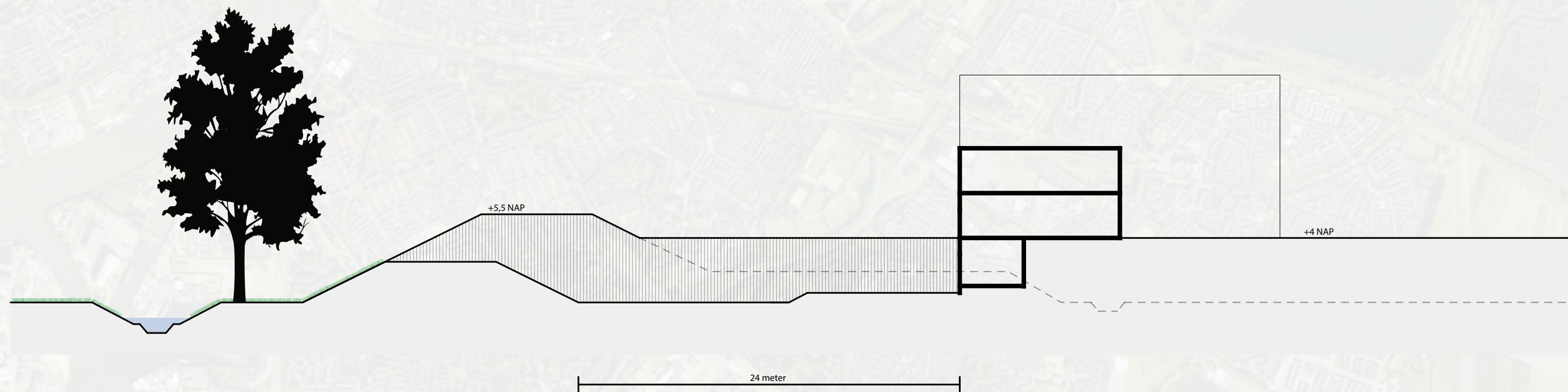




# Mound rules - Connection to dike



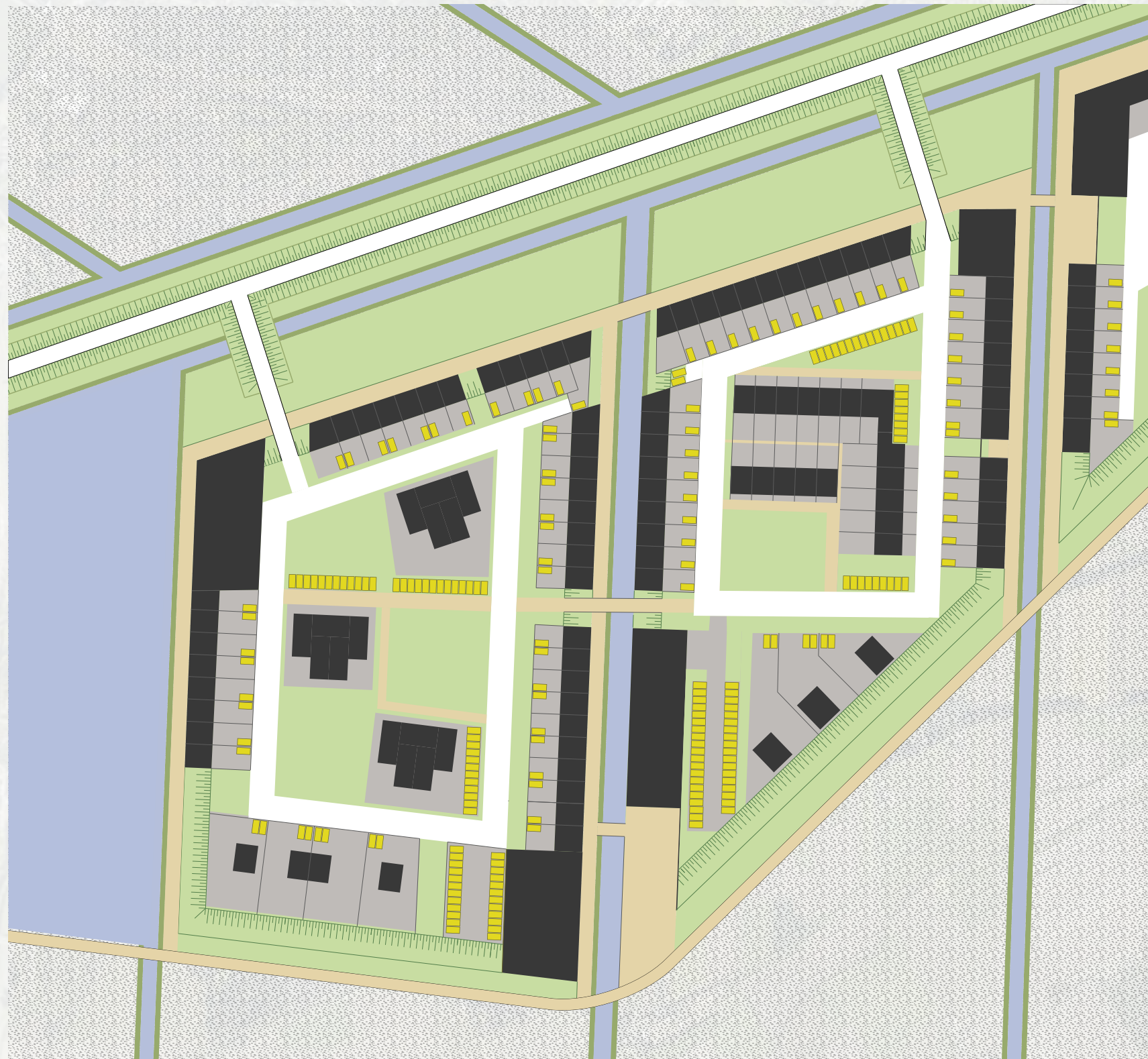
# Dike mound connection



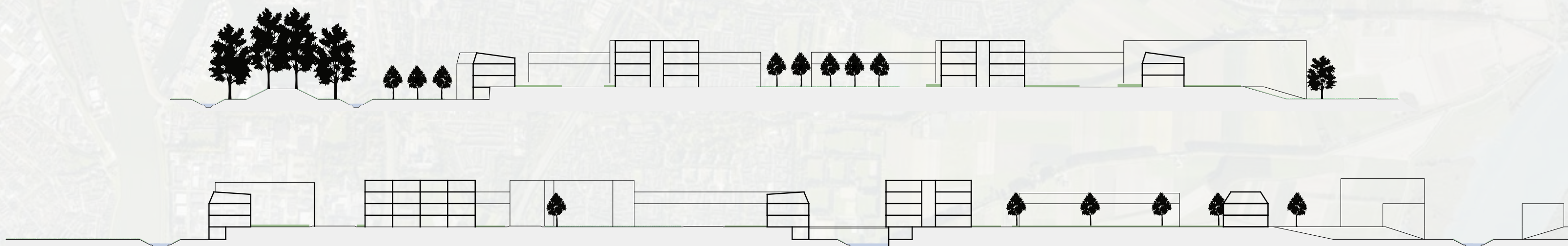
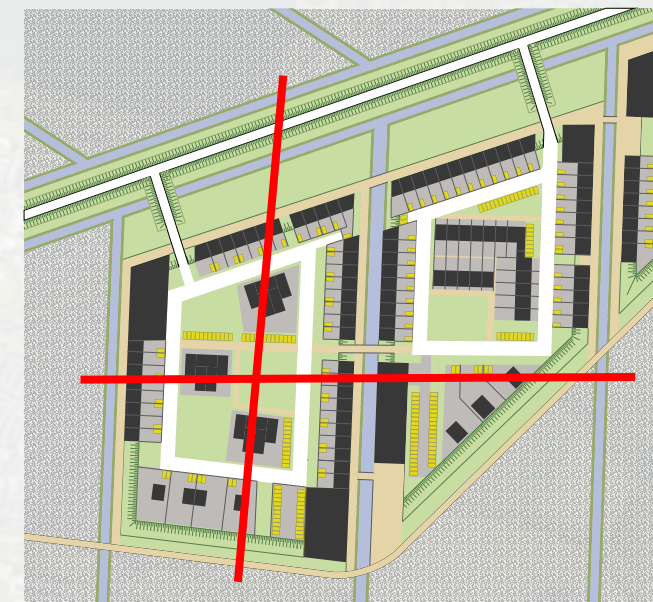
# Possible fill in



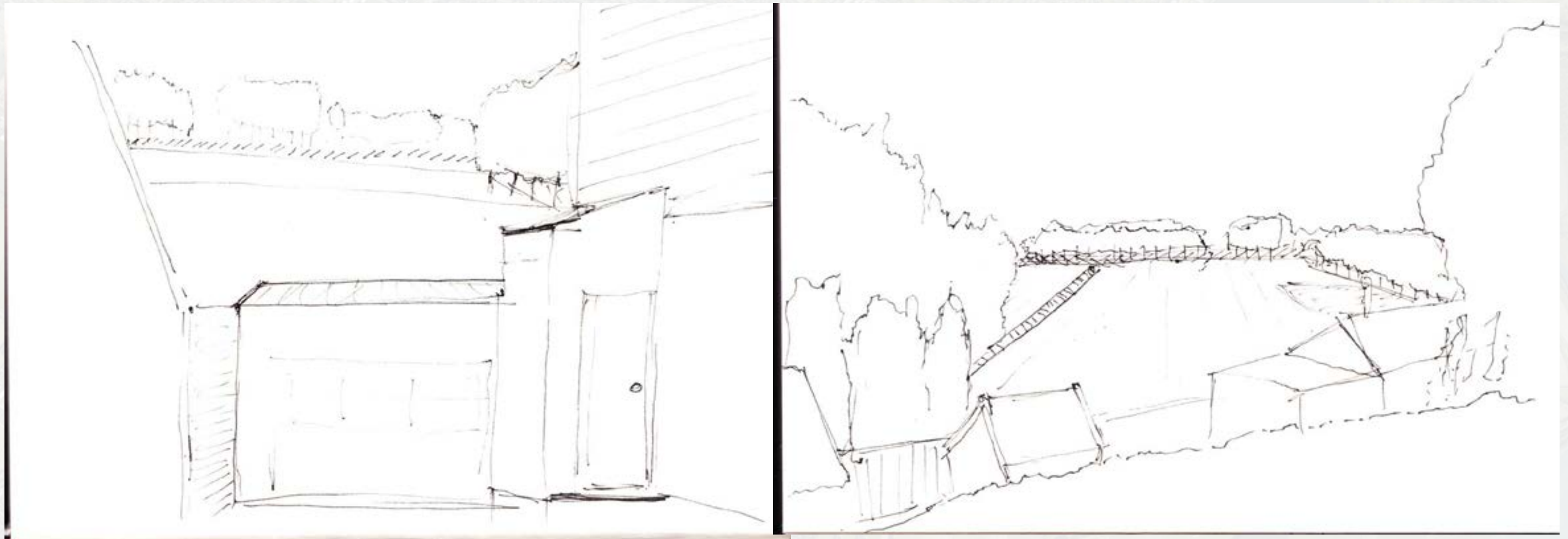
# Detail possible fill in



# Sections of fill in



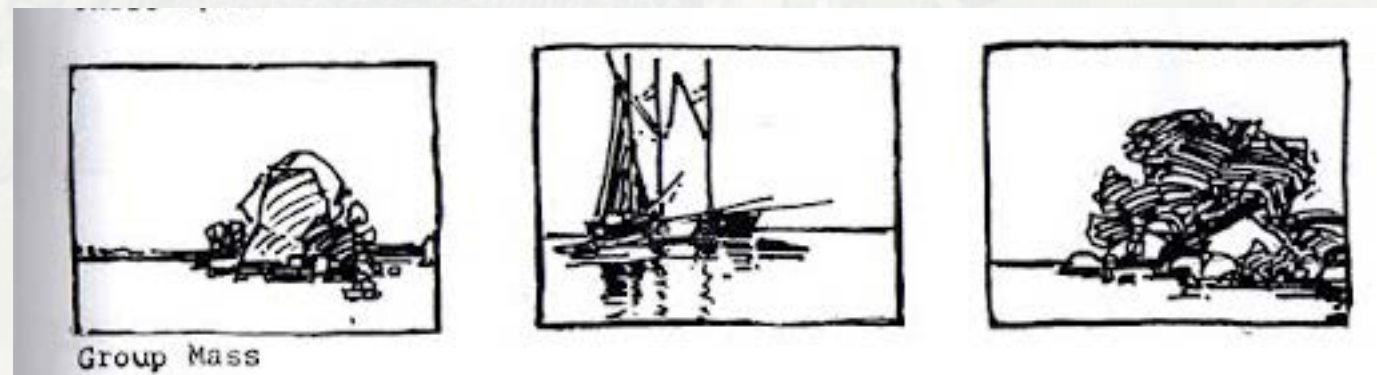
# Spatial compositions on location - Tunnel



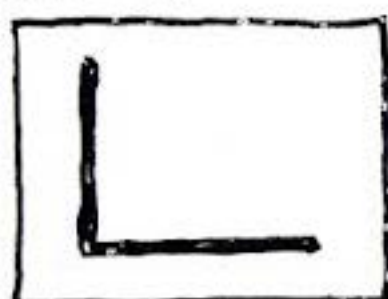
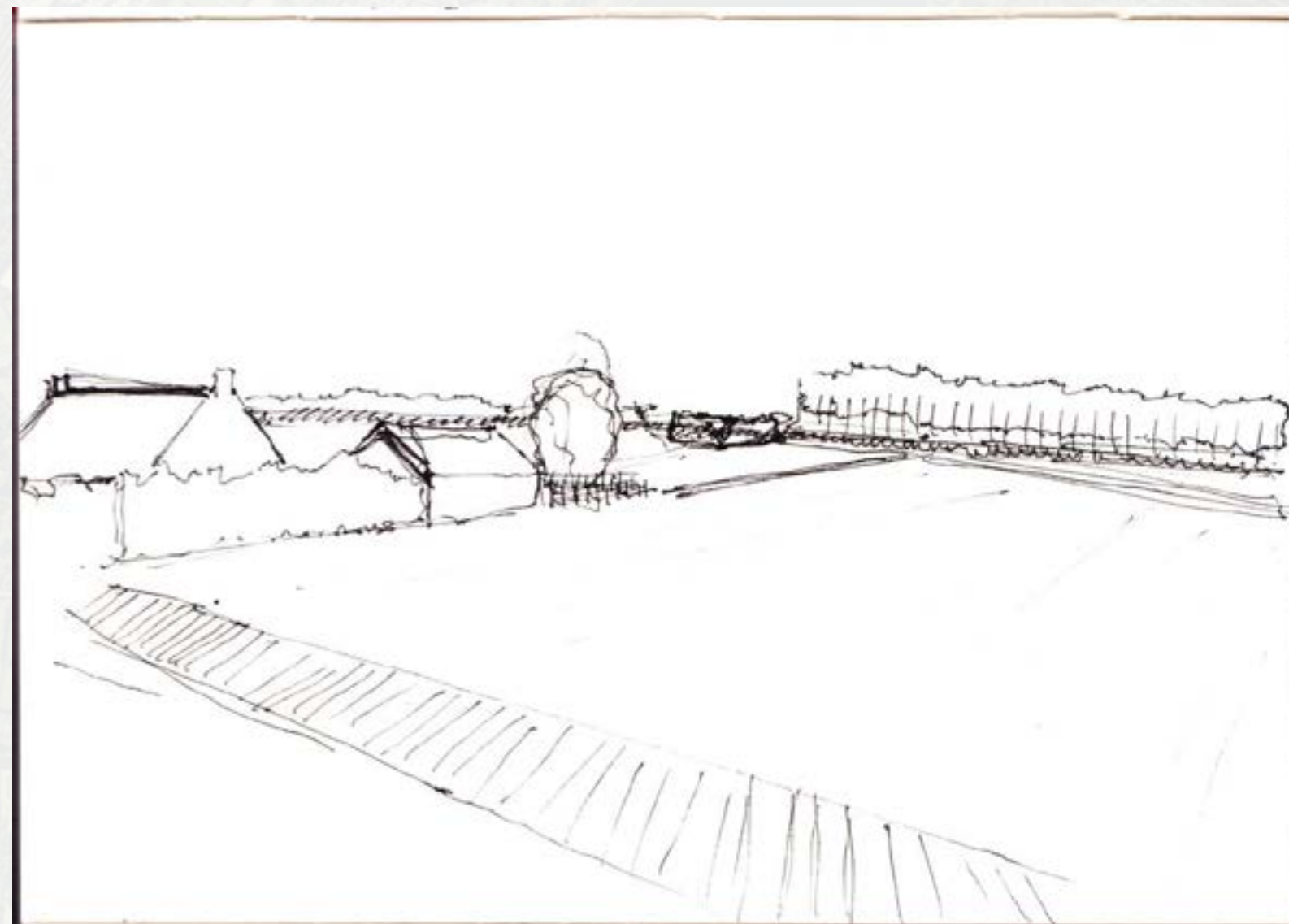
tunnel



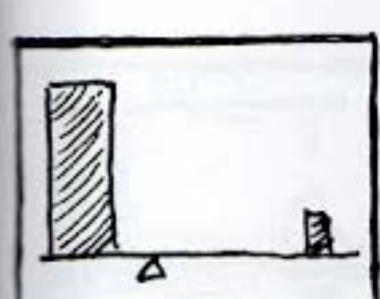
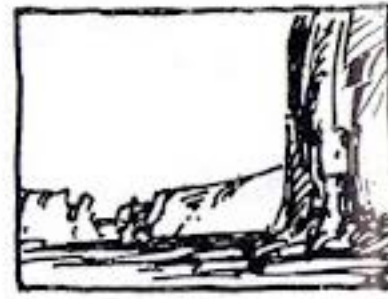
# Spatial compositions on location - Group Mass



# Spatial compositions on location - Ell / Steelyard



Ell or Rectangular

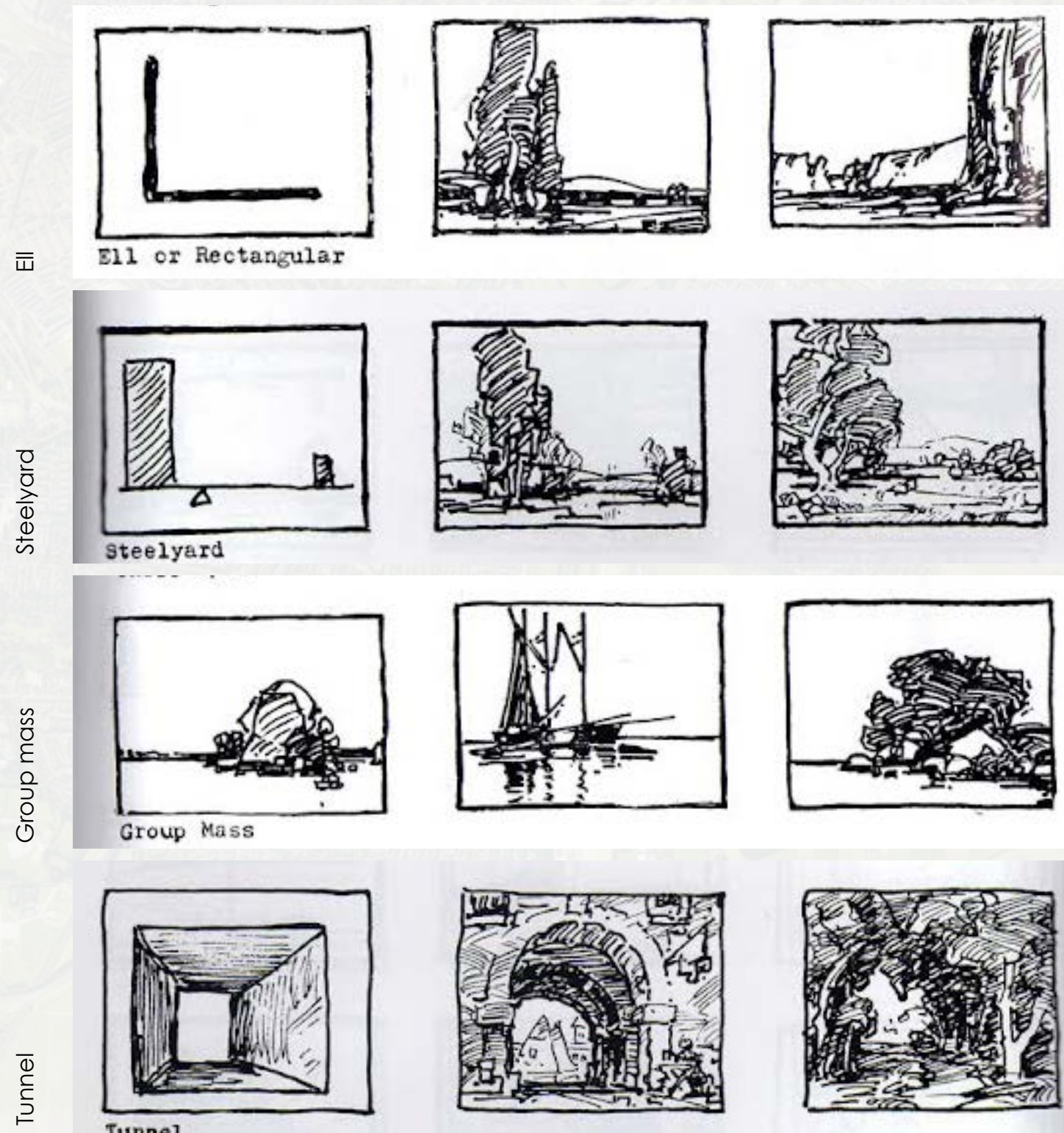


Steelyard





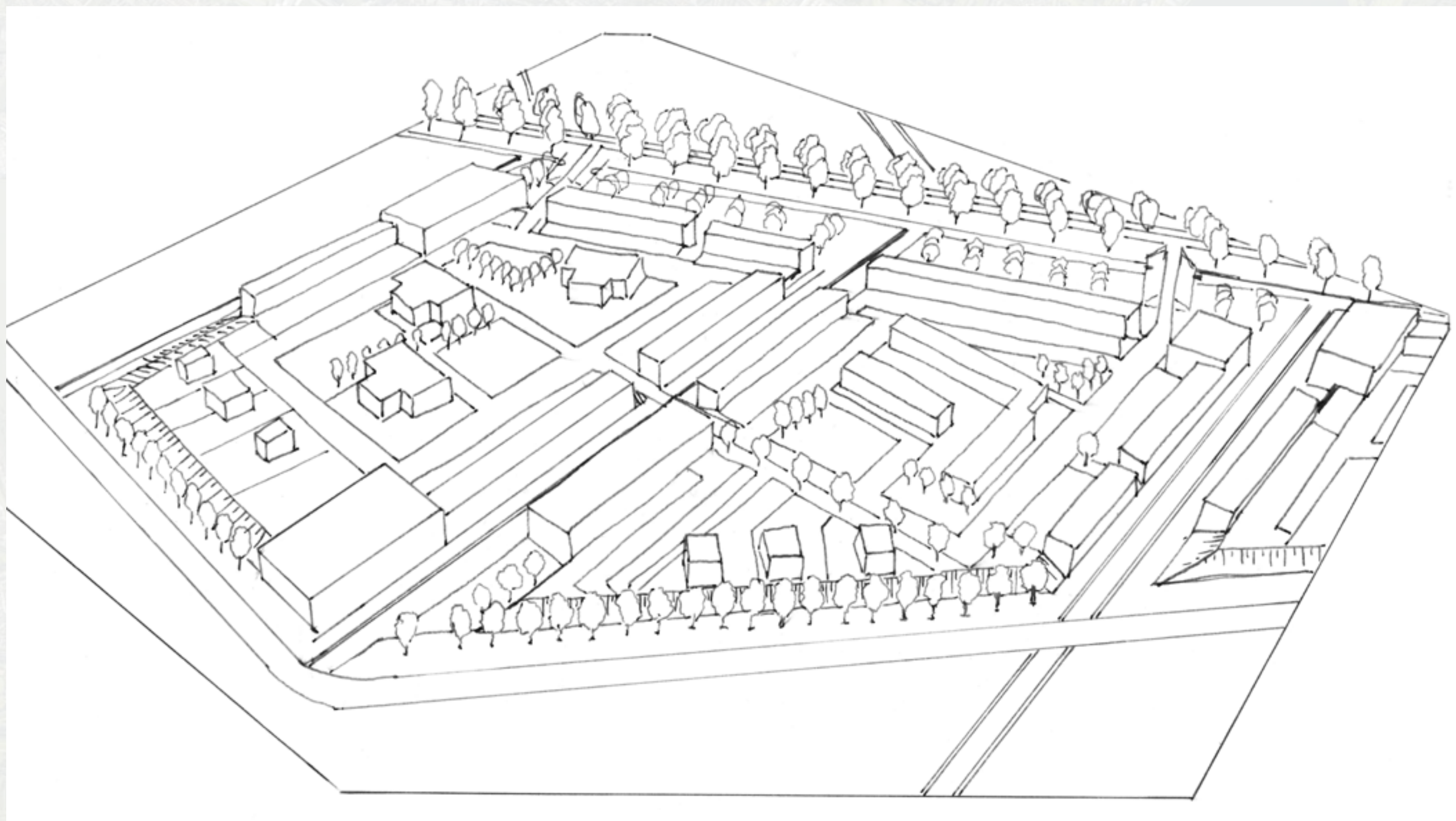
# Painting compositions (Payne, E., 2005)



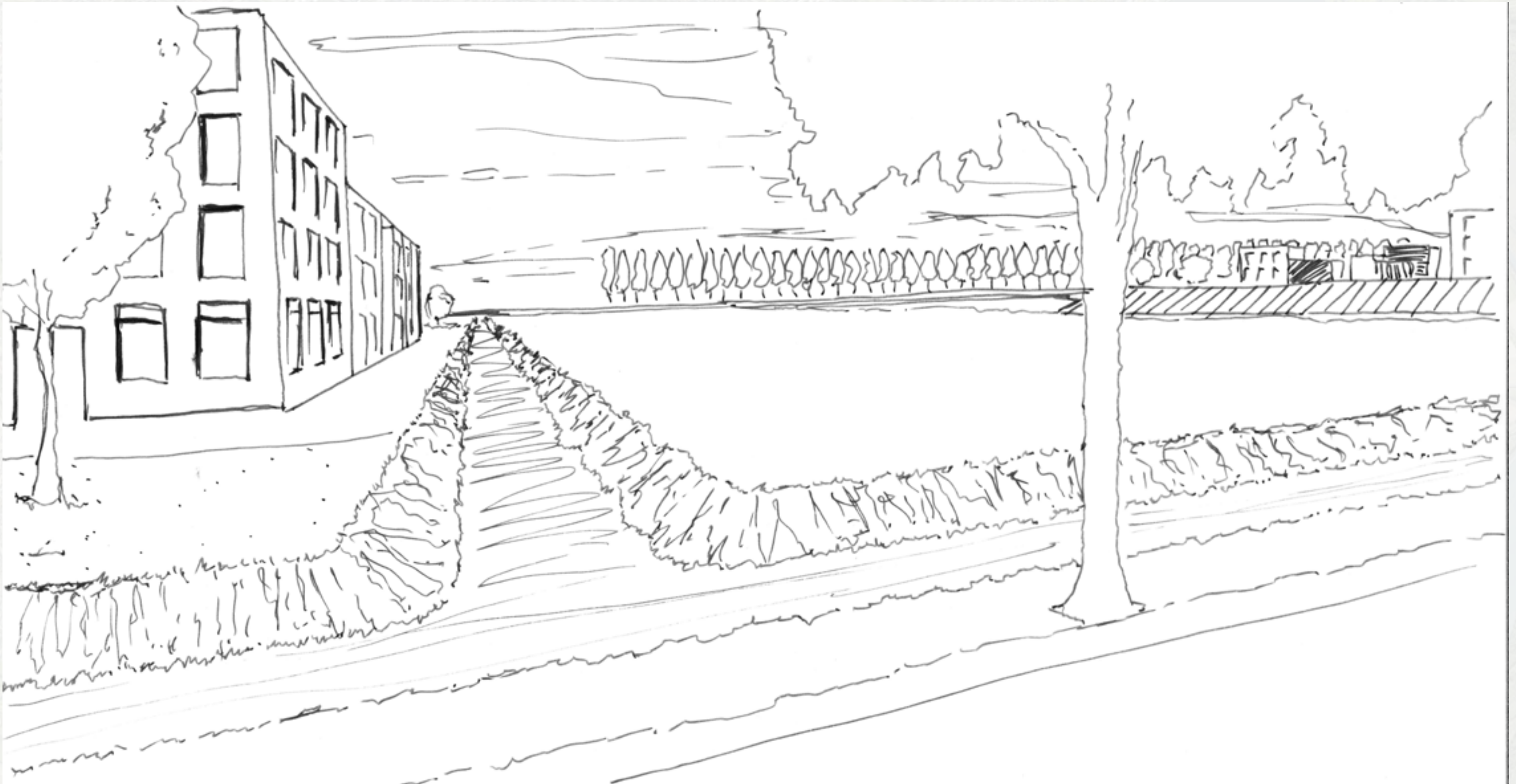
Edgar Payne (2005), Composition of Outdoor Painting



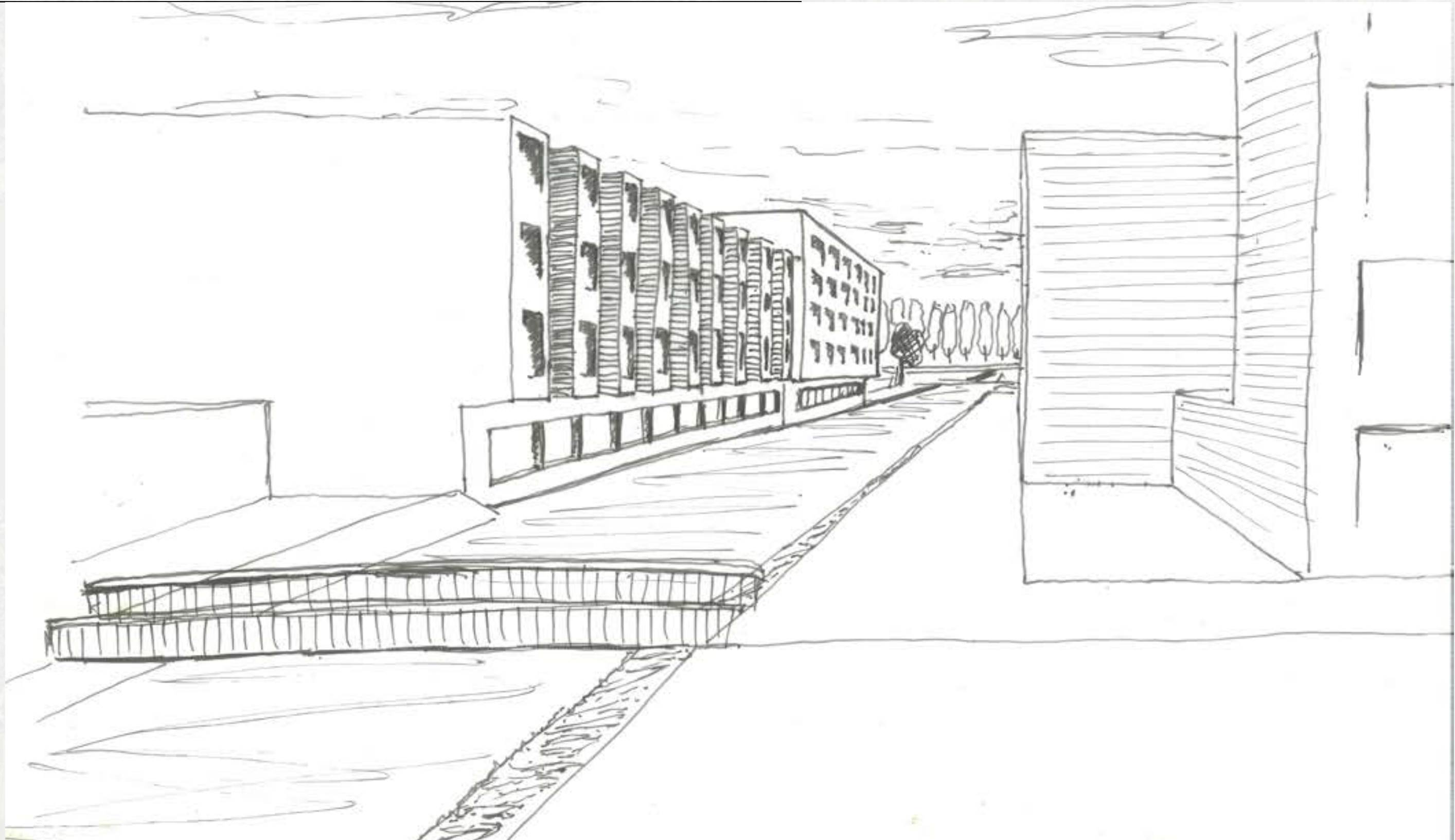
## Fill in sketches



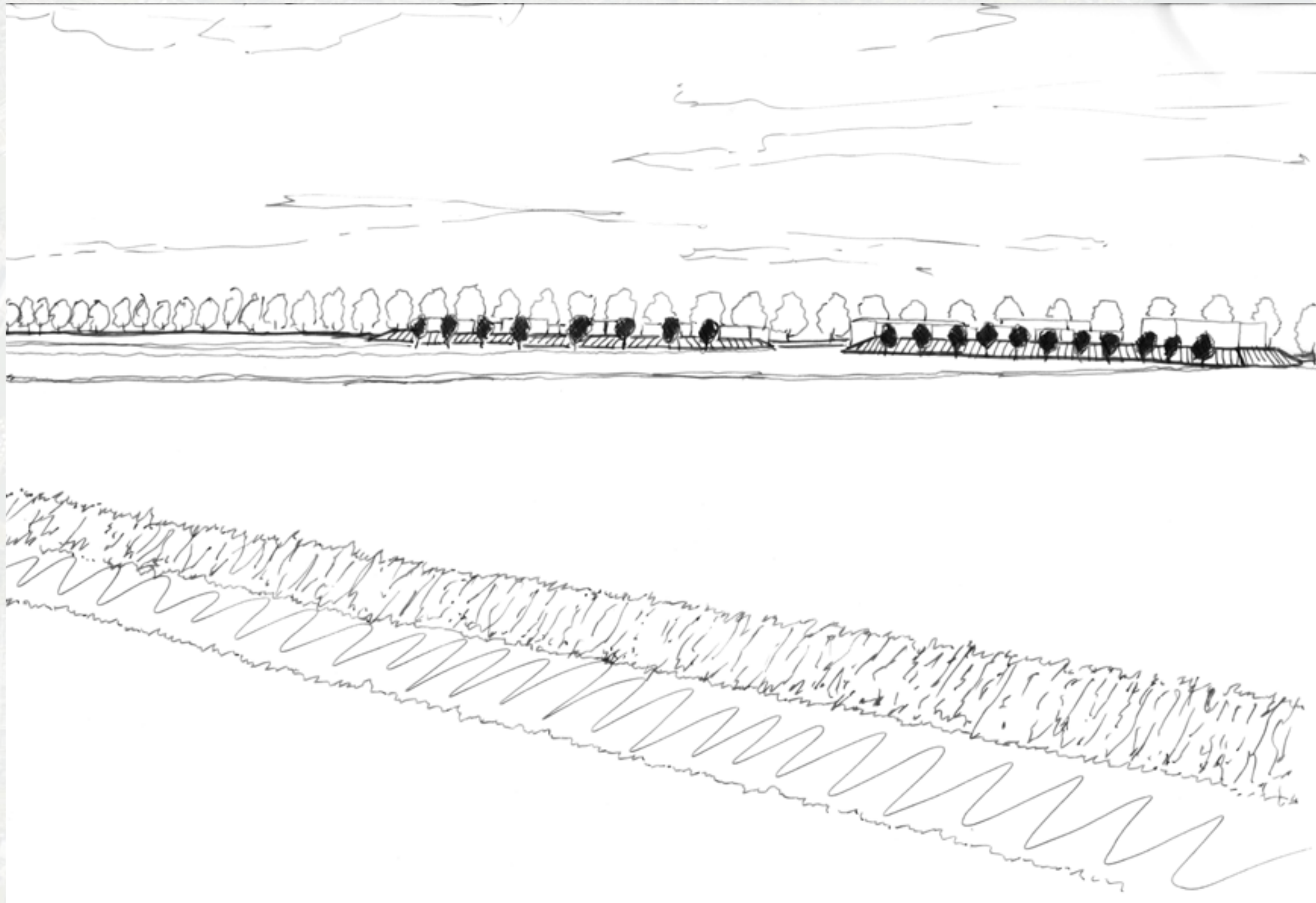
## Fill in sketches - Side of mound to landscape



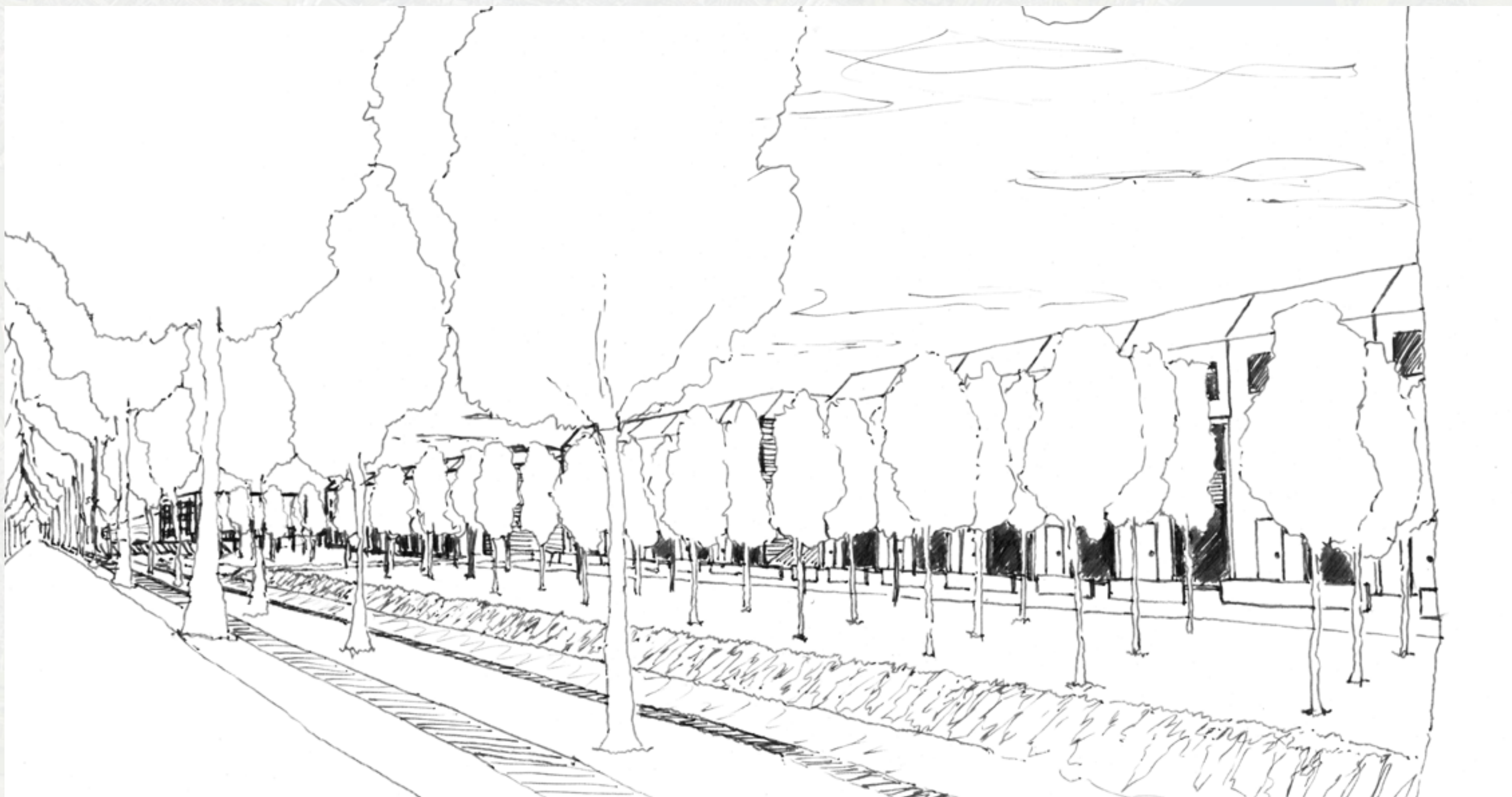
# Fill in sketches - Adjacent mounds



# Fill in sketches - Mounds from parallel dike



# Fill in sketches - Mound from closeby dike



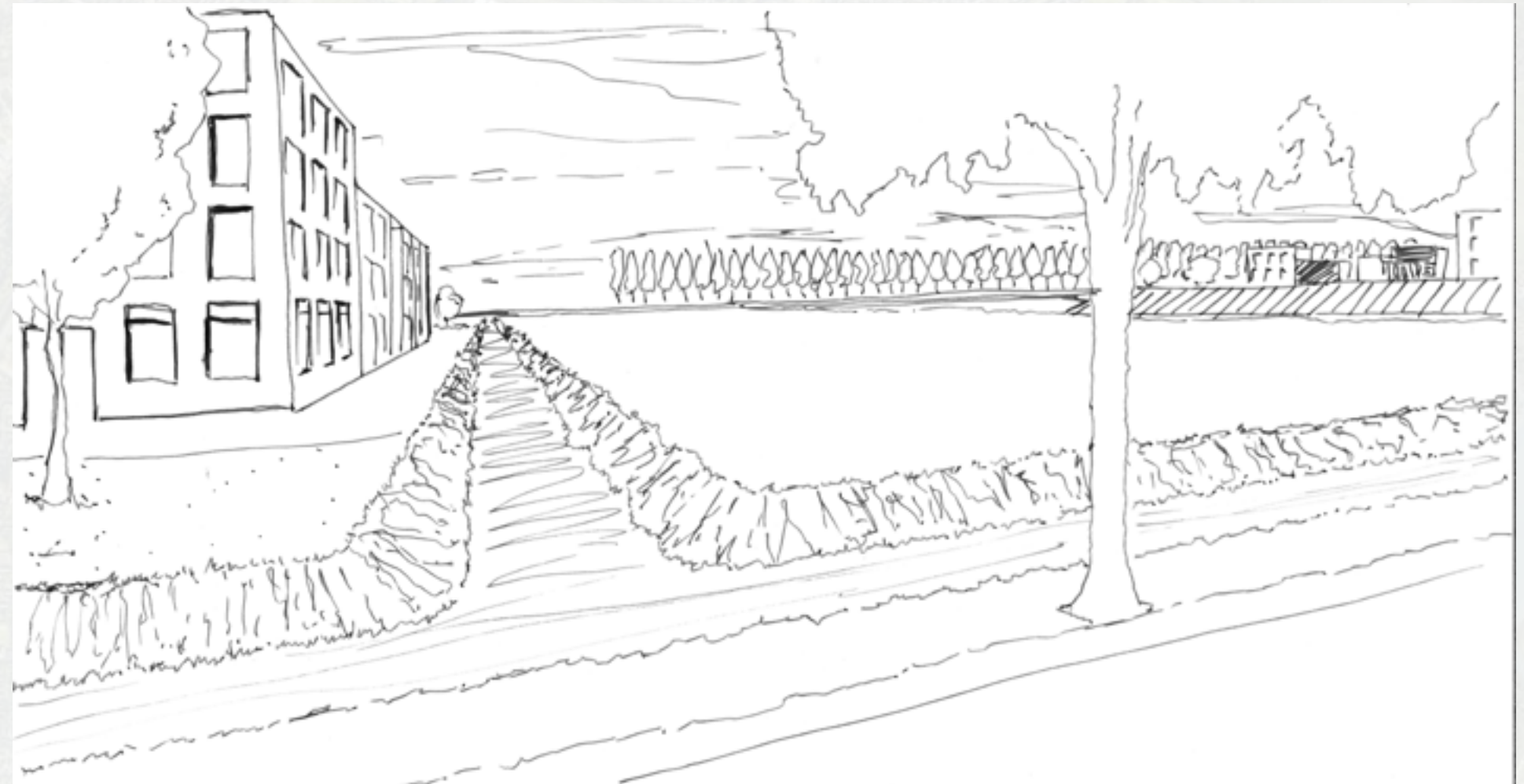
Aspect

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# 6. REFLECTION



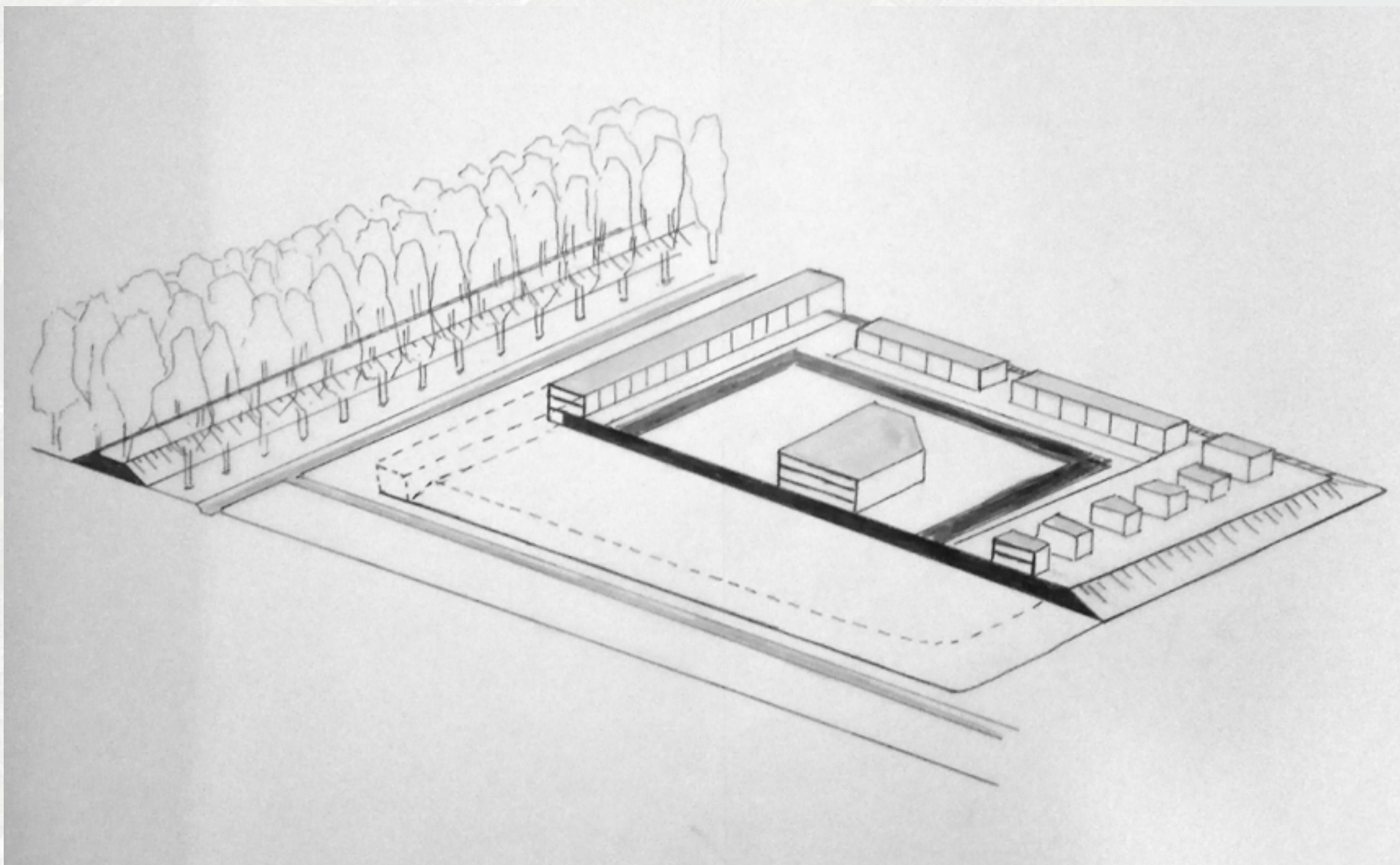
# Reflection





# Reflection

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# Reflection



THANK YOU

