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awarding institute:  
Delft University of Technology

# MOVEMENT IN THE SHOPPING MALL

Winkelcentrum Schalkwijk, Haarlem



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**Tutors:**

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L.G.K. Spoormans



# DESIGN CASE

Winkelcentrum Schalkwijk, Haarlem





# PROBLEM STATEMENT



(Noord-Hollands archief, 1976)

**1976**



**2023**

# PROBLEM STATEMENT

Vacant store fronts



2023

(Noord-Hollands archief, 1976)

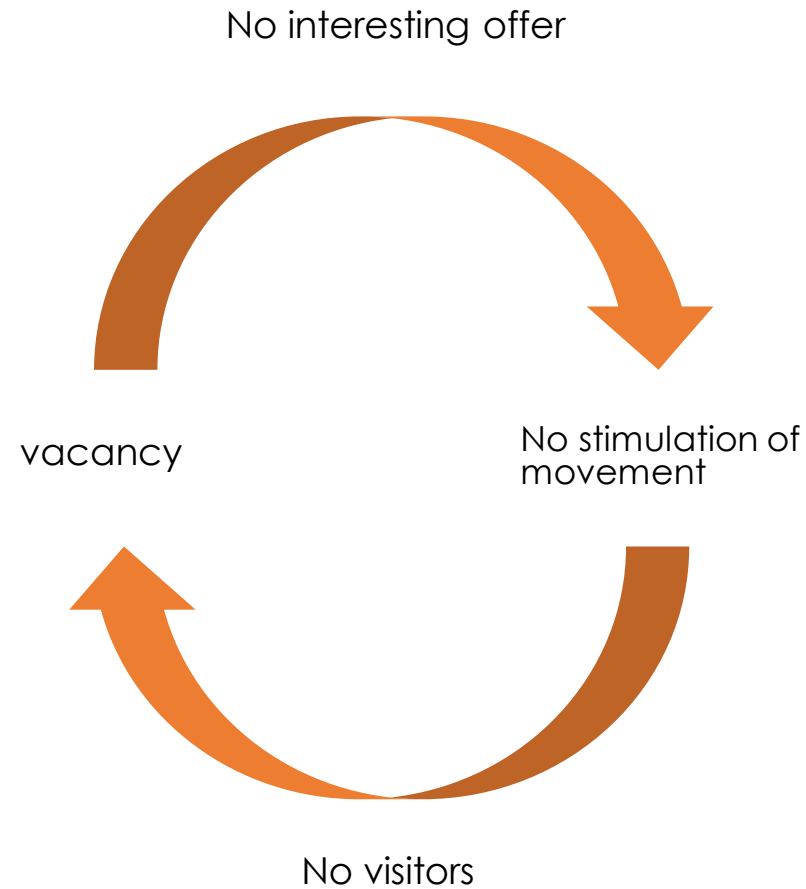


# PROBLEM STATEMENT

vacancy & lack of exercise



**6-7%** vacancy in **retail**  
(CBS, 2022)



**56%** of the adults  
with **lack of exercise**  
(CBS, 2018)

**45%** of the children  
with **lack of exercise**  
(CBS, 2018)

## RESEARCH QUESTION

What are the different **movement** patterns in the **shopping mall**?



# RESEARCH CASES



## Schalkwijk

1969

116 stores



## Bogaard

1963

100 Stores

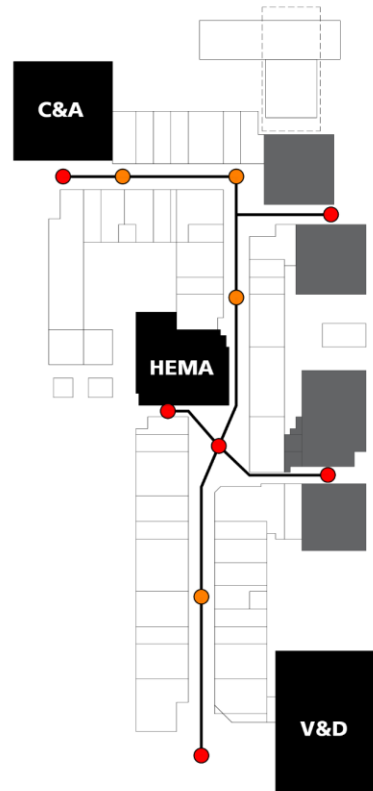
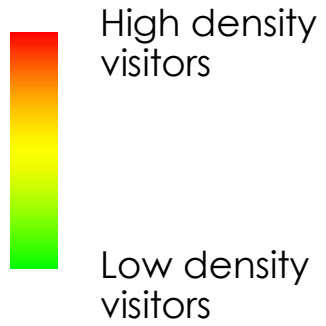
Haarlem

Rijswijk

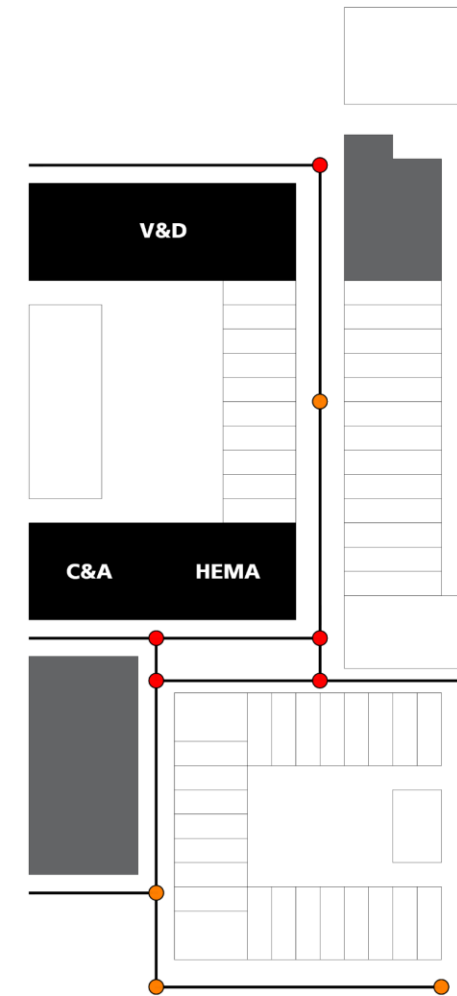


# ORIGINAL CONCEPT

Visitor density node Diagram



Schalkwijk 1970



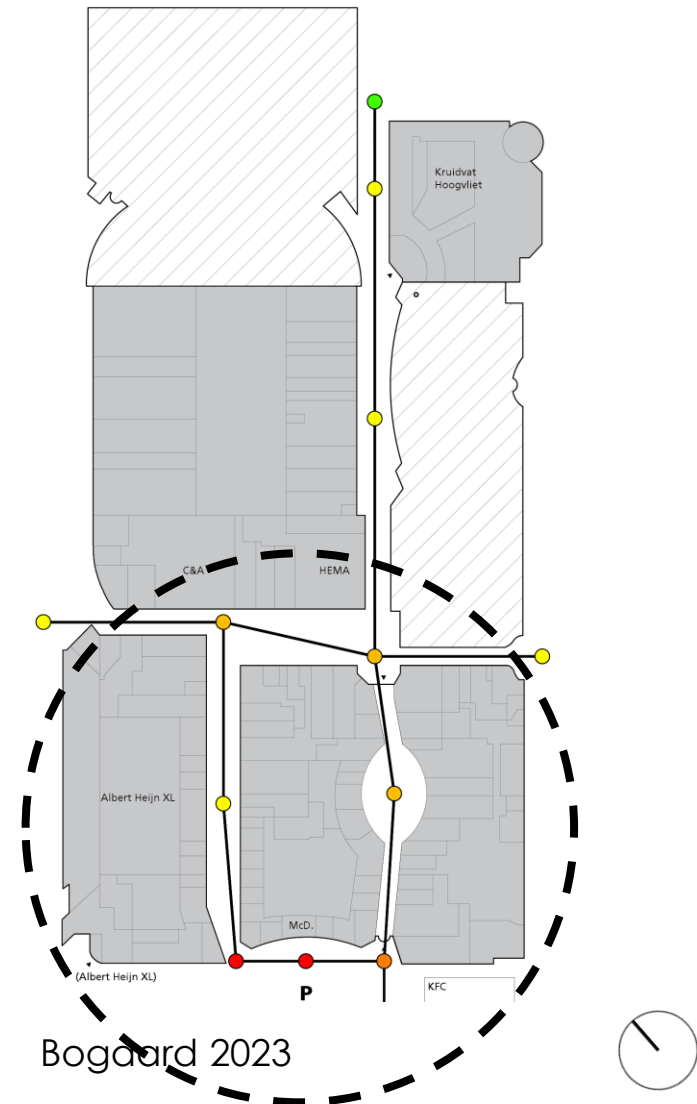
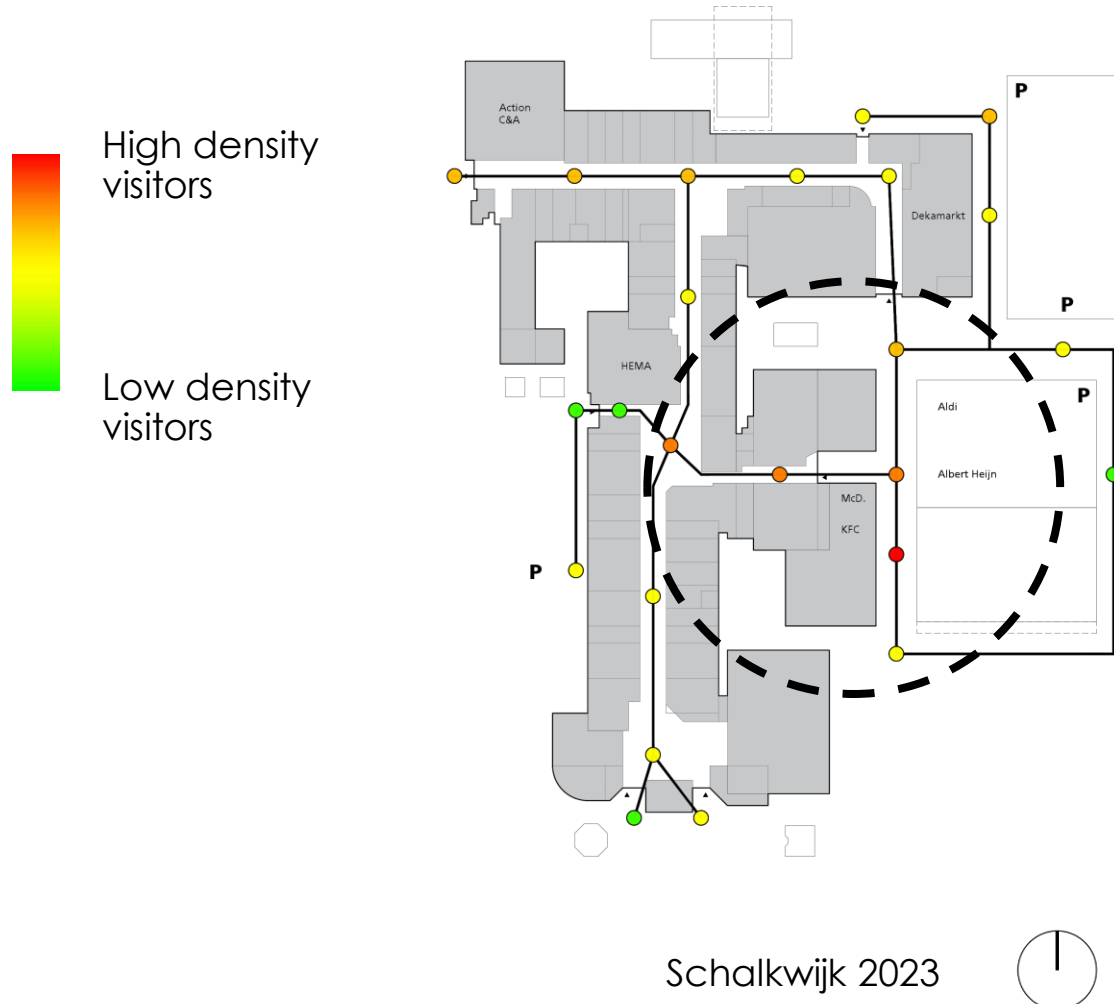
Bogaard 1965





# CURRENT MOVEMENT PATTERNS

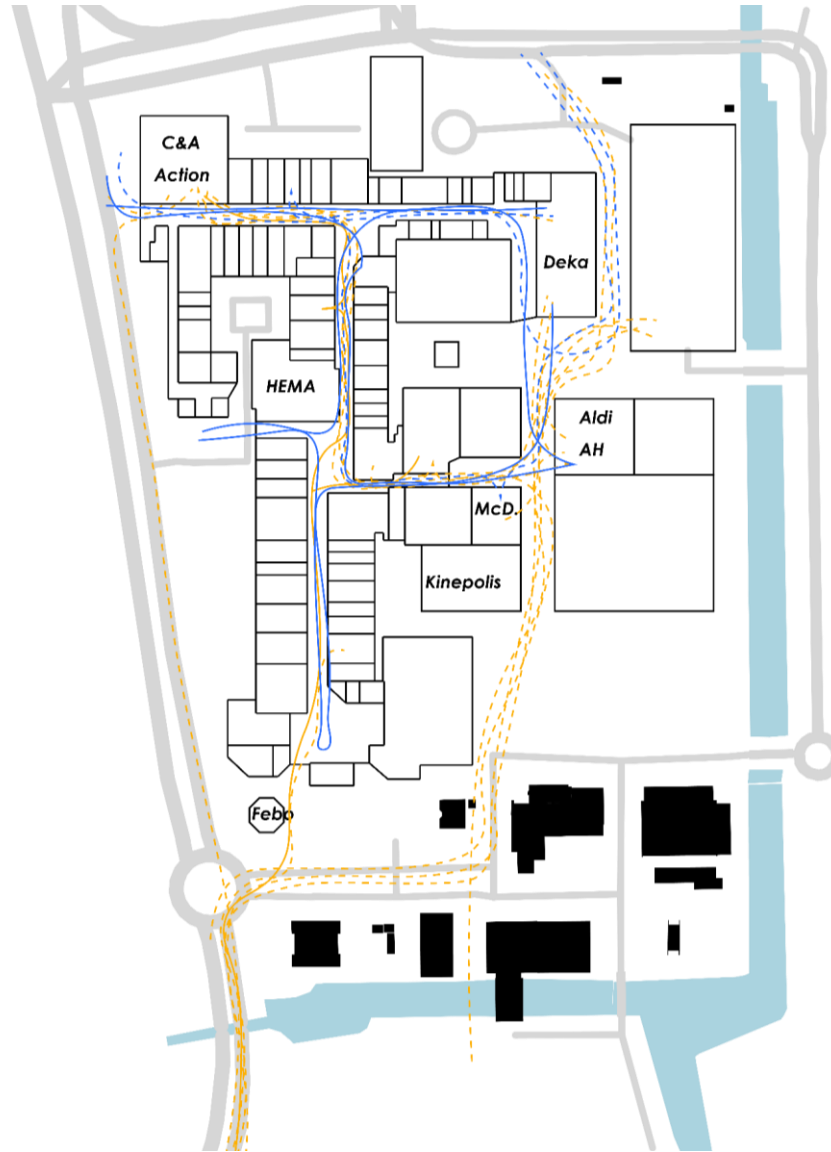
Visitor density node Diagram



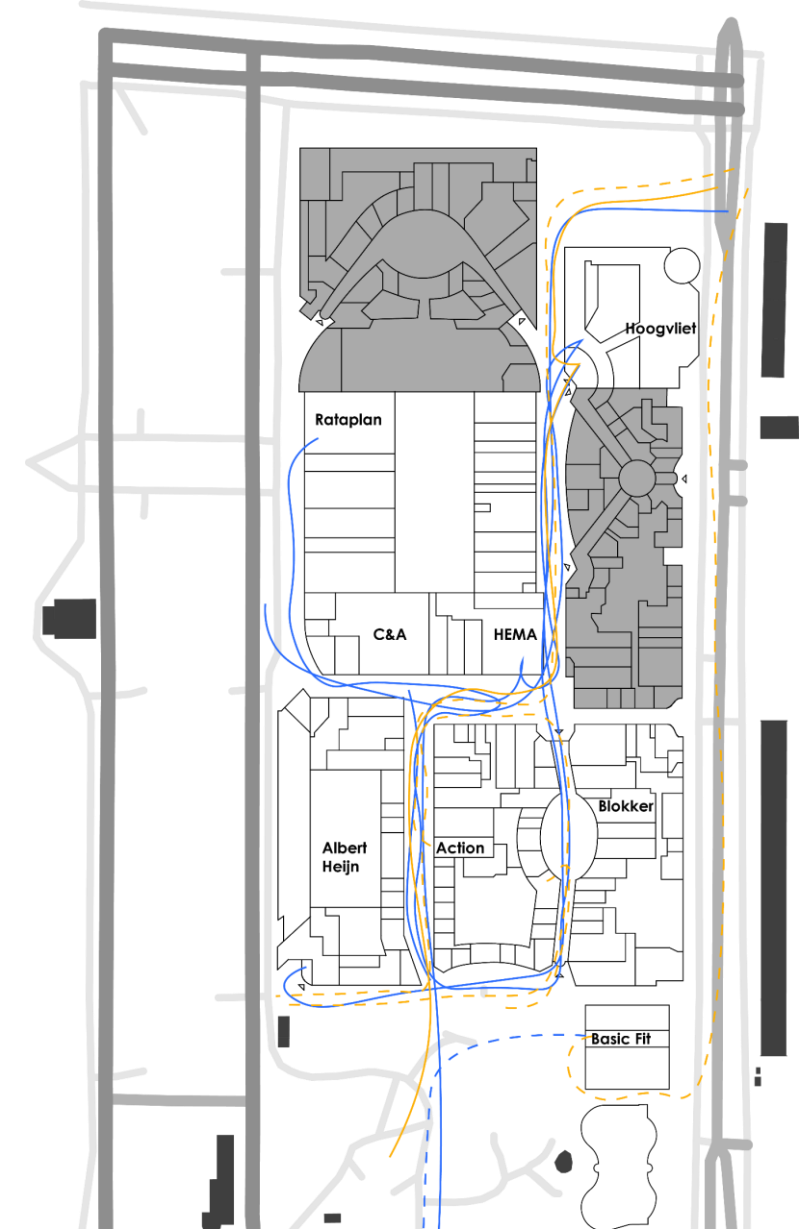
# ROUTING IN THE MALL

Drawn on map

- Age 50+ slow shopping
- - - Age 50+ specific visit
- Age 15 - 50 slow shopping
- - - Age 15 - 50 specific visit



Schalkwijk



Bogaard



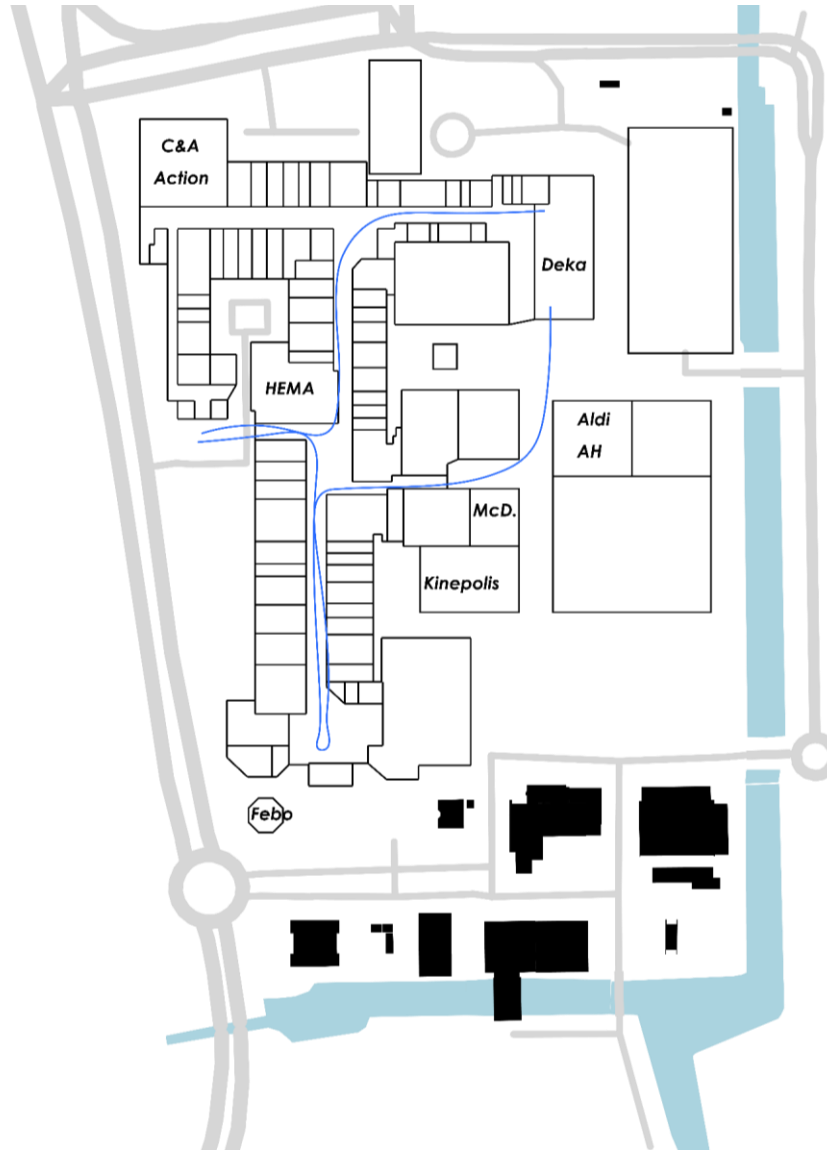


# ROUTING IN THE MALL

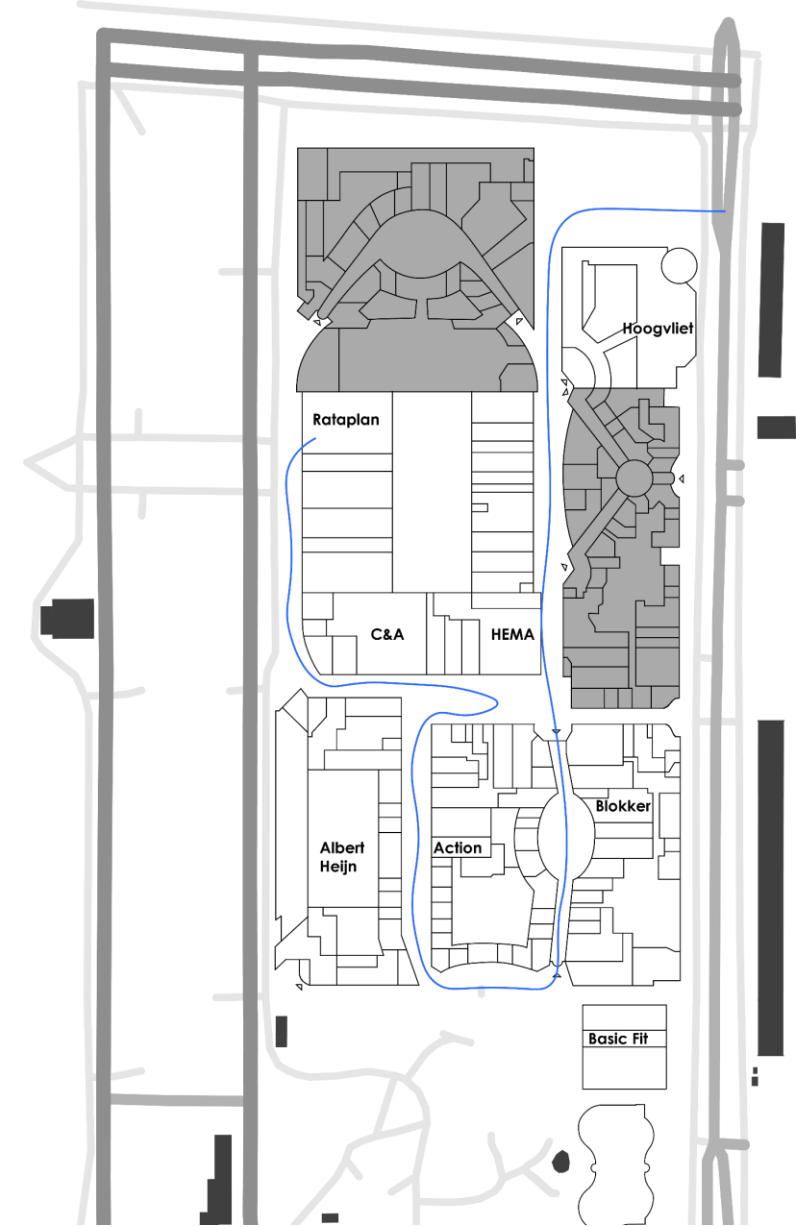
## Conclusions

— Age 50+ slow shopping

- Slow shopping
- Looking around
- Meeting
- Social Activity
- Day out



Schalkwijk



Bogaard

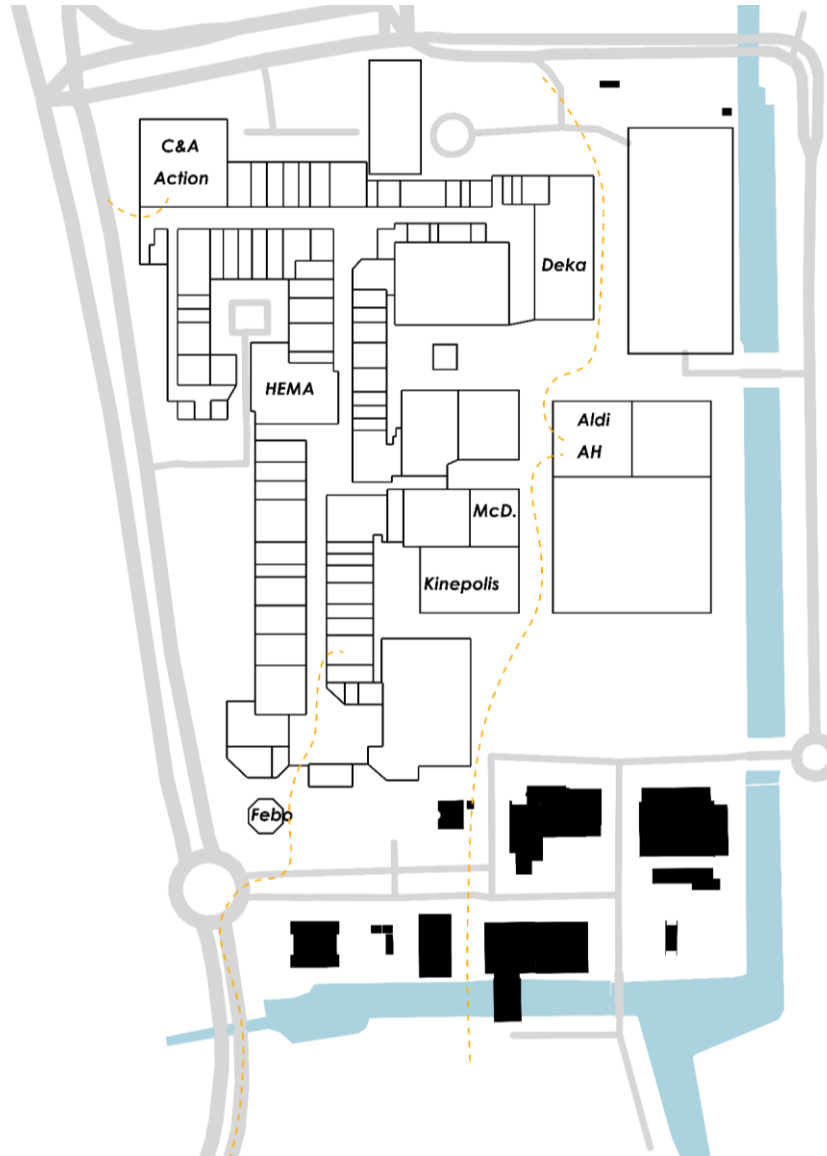


# ROUTING IN THE MALL

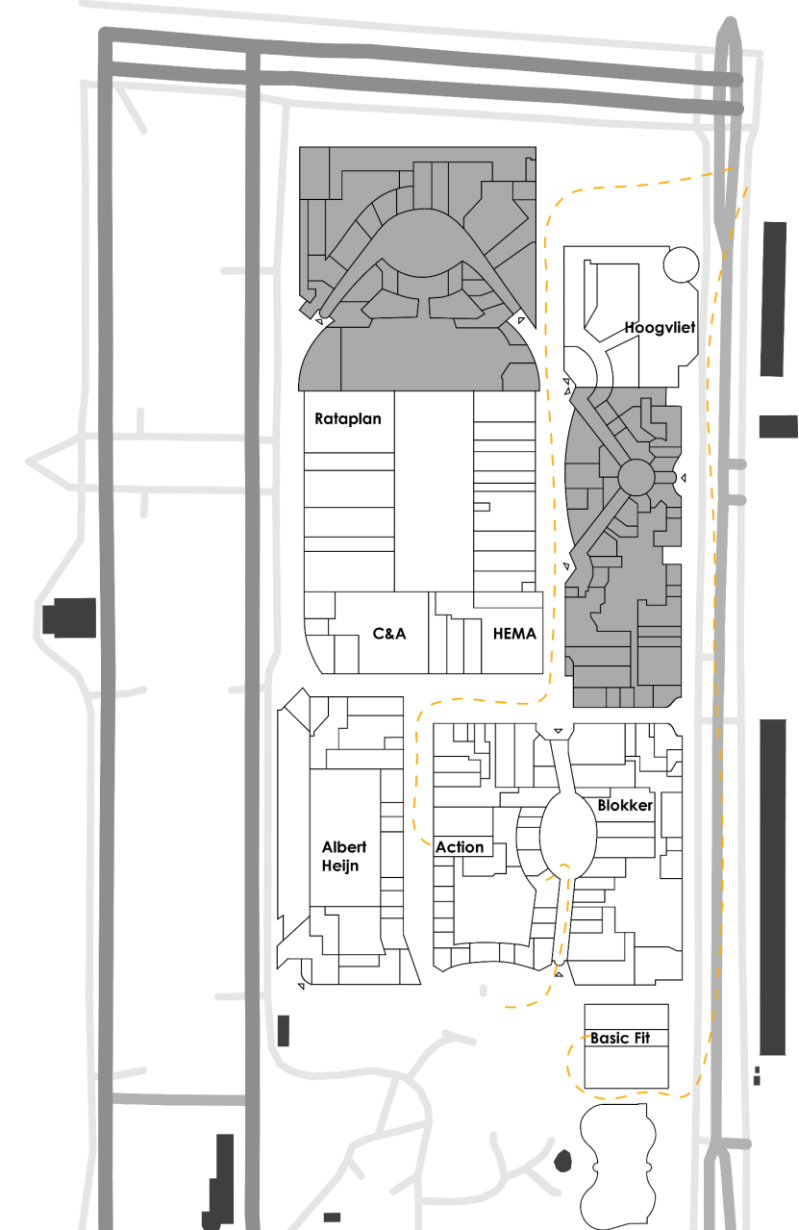
## Conclusions

----- Age 15 - 50 specific visit

- Specific visit
- Rushed
- In and out
- Supermarket



Schalkwijk



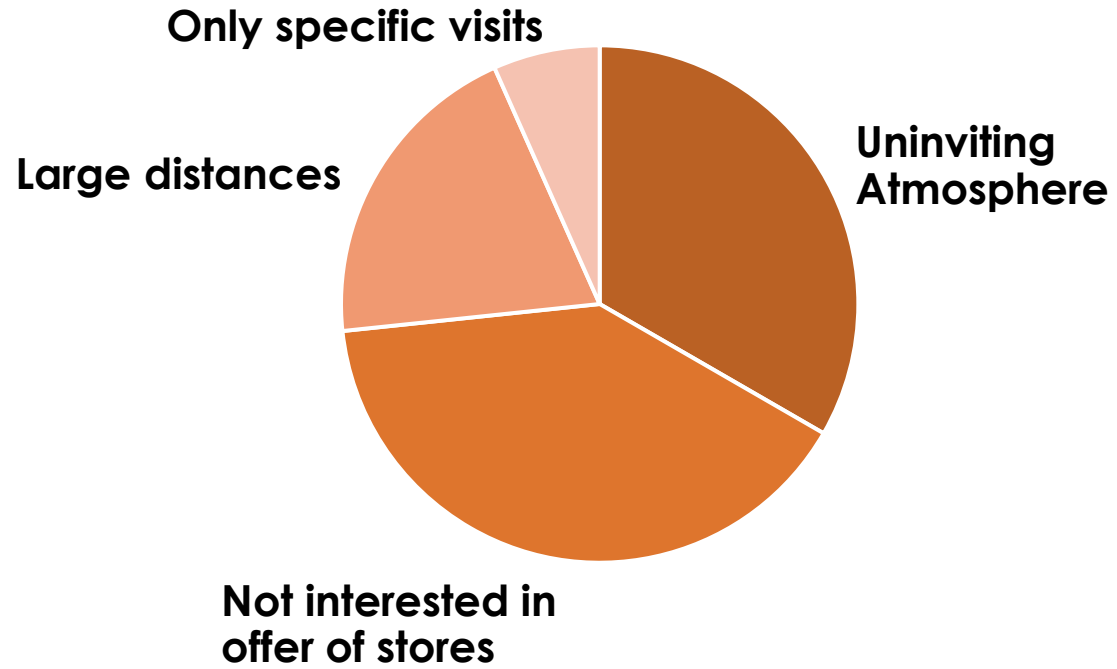
Bogaard



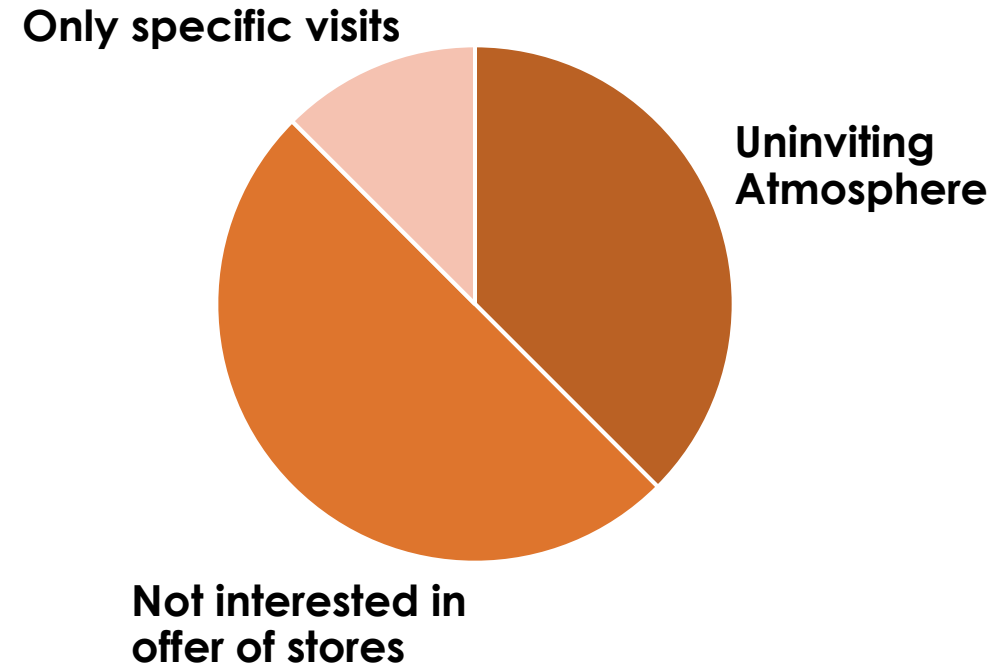


# WHAT DOESN'T STIMULATE MOVEMENT

Interview results



Schalkwijk



Bogaard

# WHAT STIMULATES PHYSICAL MOVEMENT

Interview results



## LITERATURE ON ACTIVE DESIGN

**Cycling and Walking**

all visitors

**Play**

children

**Sports**

youth-middle aged

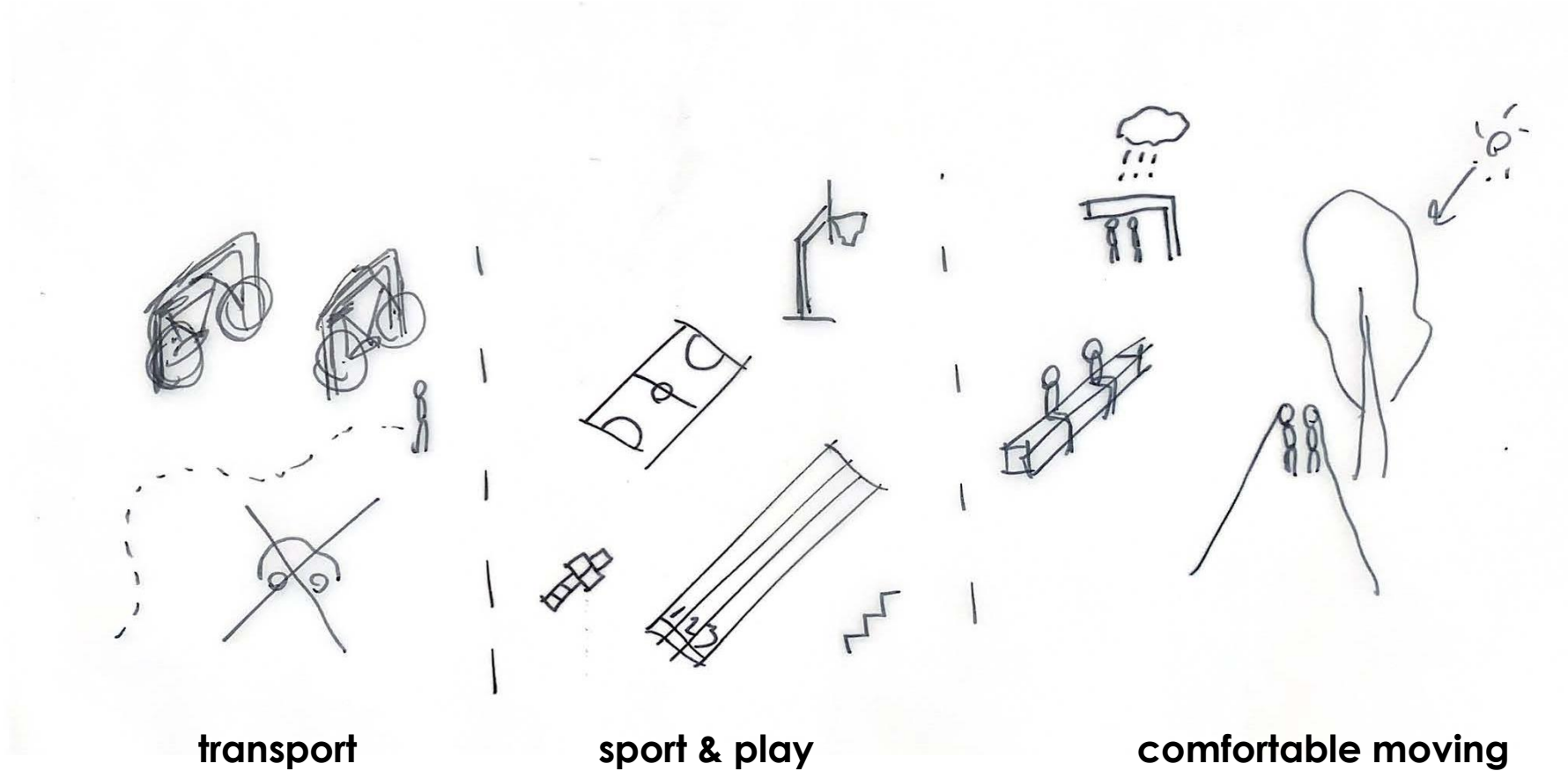
**Leisure**

elderly



# Design Strategies

Design strategies to stimulate movement in the shopping mall



# SCHALKWIJK

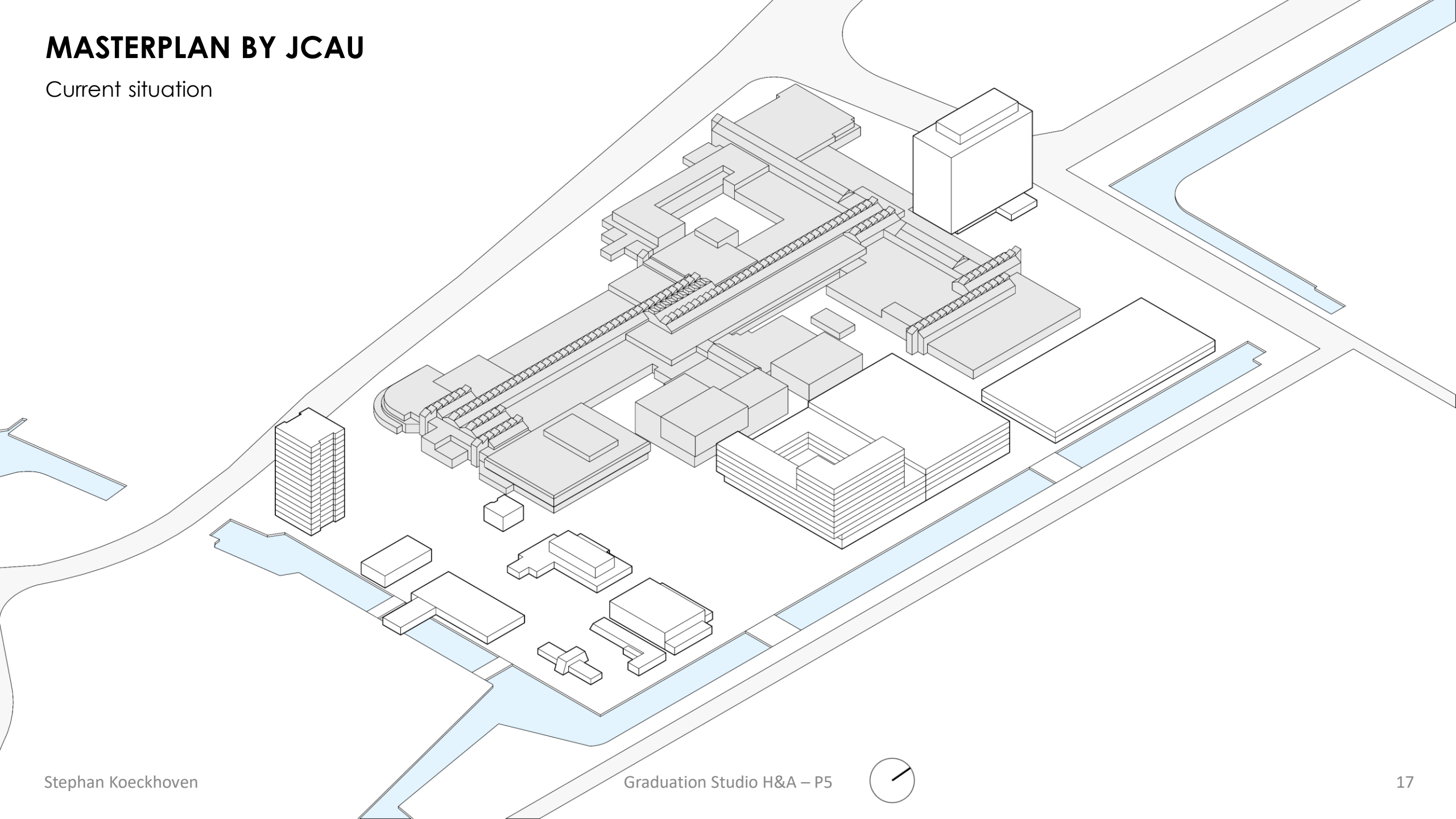
The mall as heart





# MASTERPLAN BY JCAU

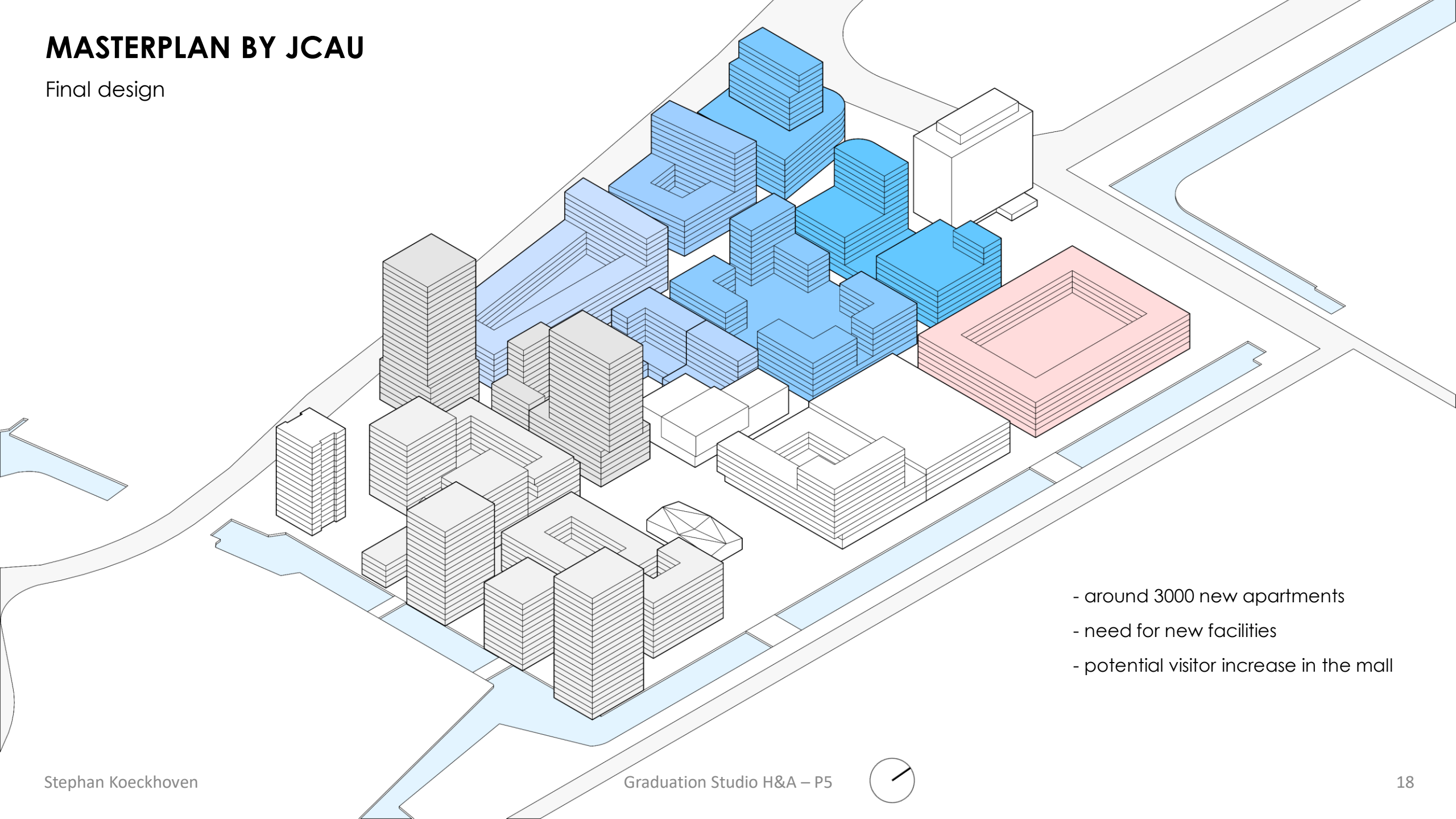
Current situation





# MASTERPLAN BY JCAU

Final design



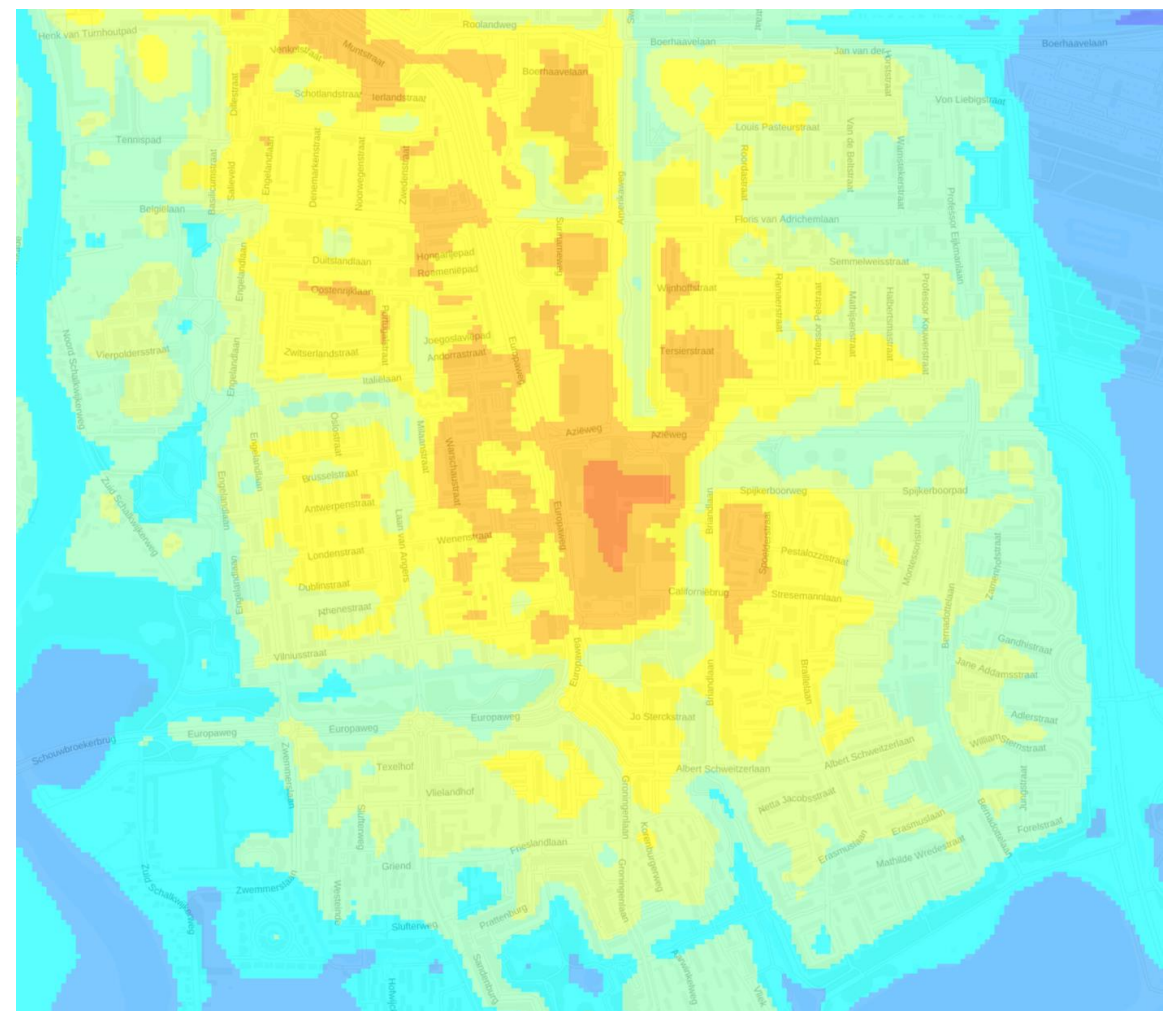
- around 3000 new apartments
- need for new facilities
- potential visitor increase in the mall



# Urban heat map



Lack of green areas, mostly pavement



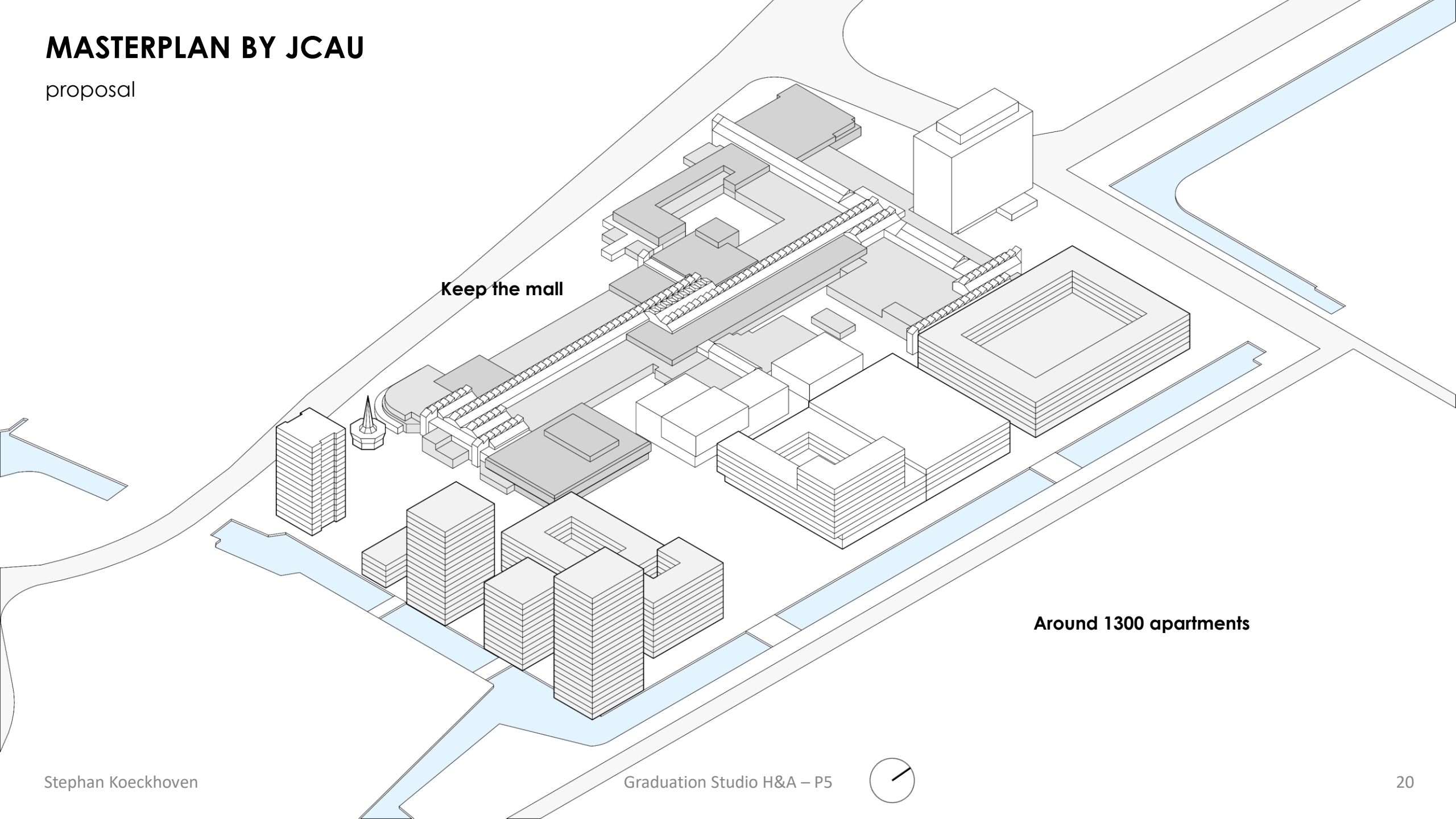
The mall as urban heat center





# MASTERPLAN BY JCAU

proposal



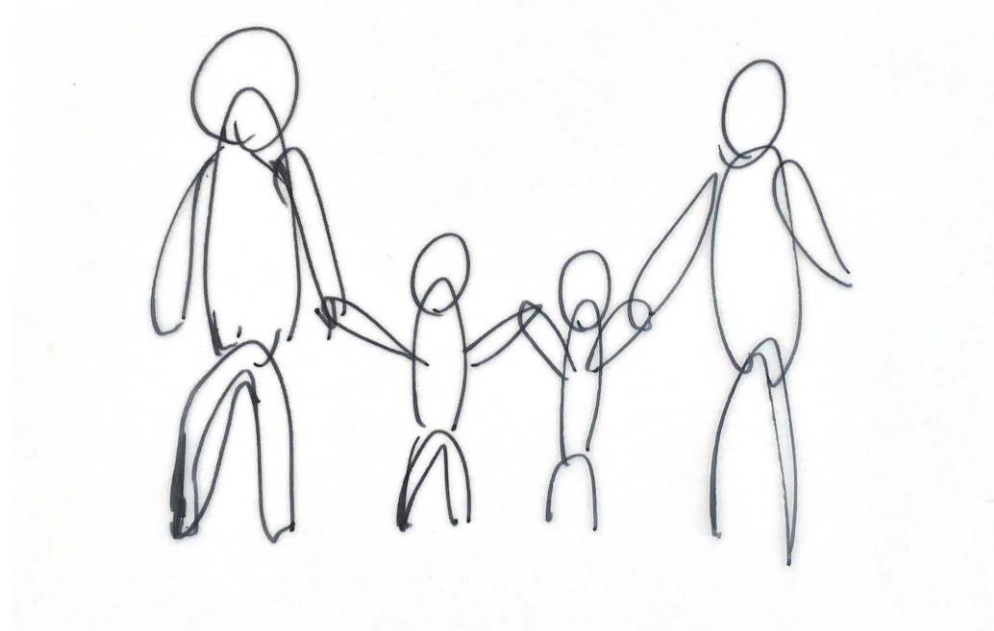
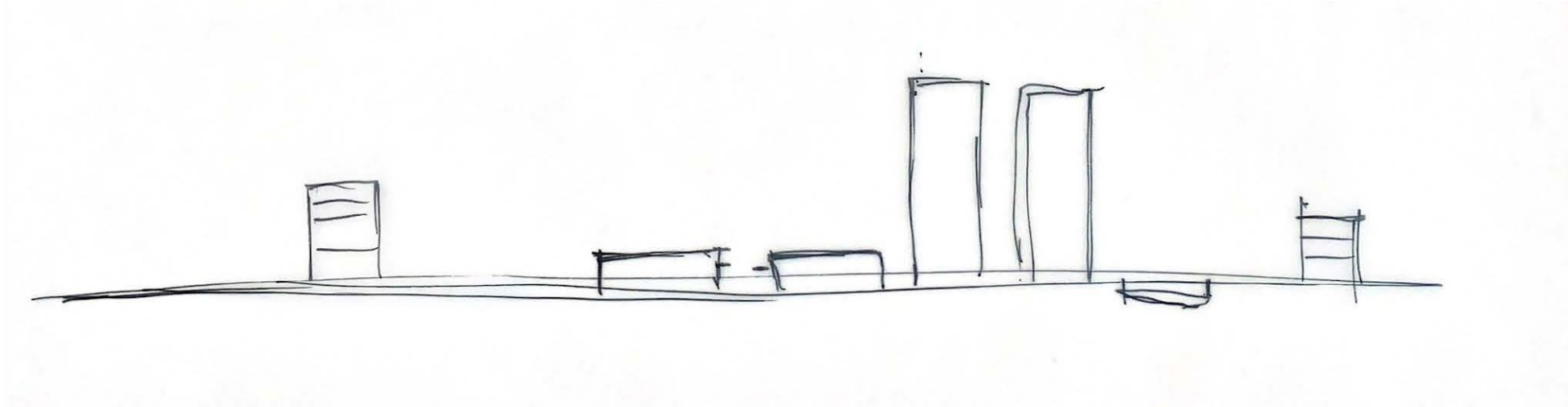
**Keep the mall**

**Around 1300 apartments**



# Pleasant scale

Family model





# STRAVA HEAT MAP

Schalkwijk, Haarlem



# MOVEMENT MAP

Walking, running, cycling



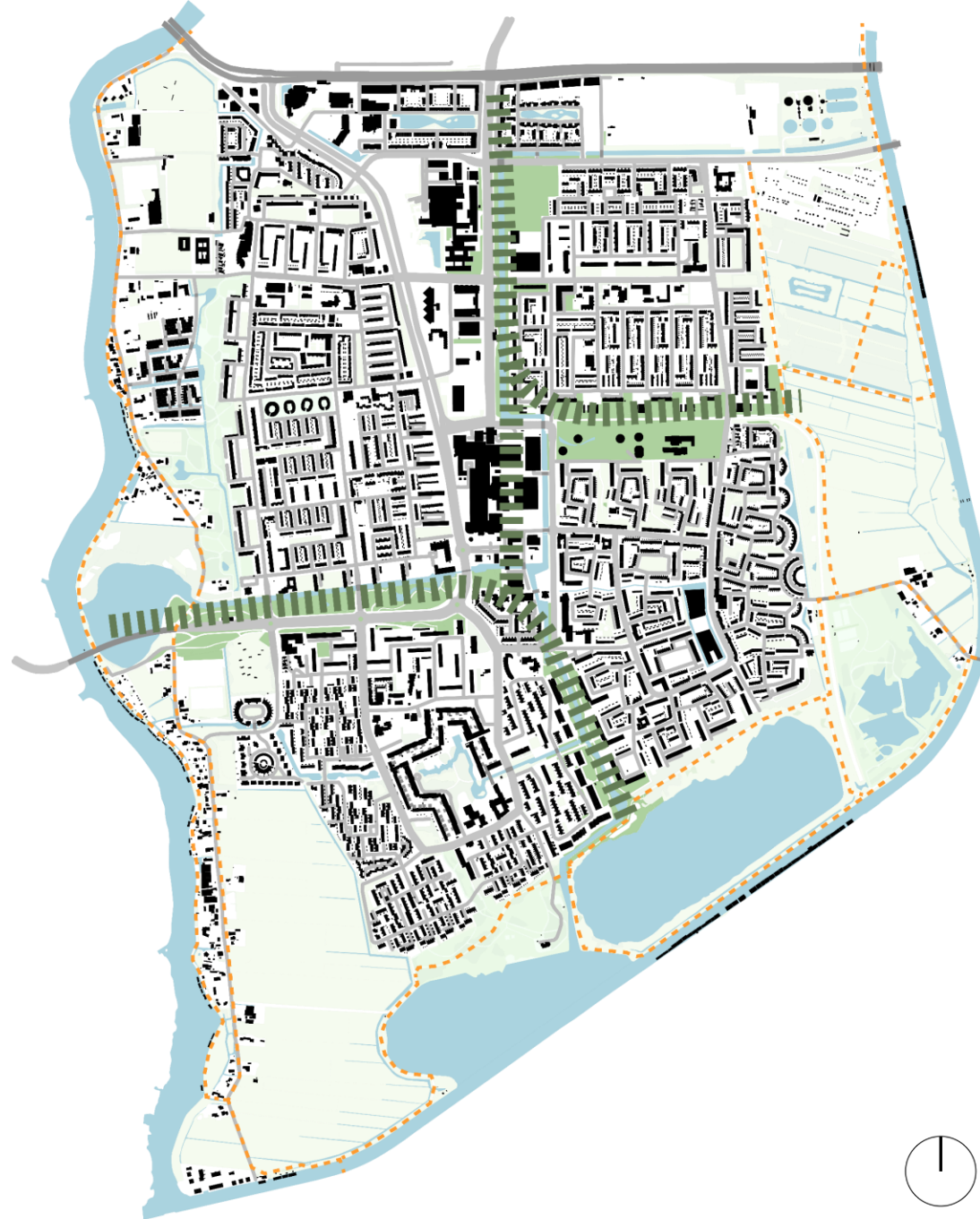


# GREEN MAP



# NEW ROUTE

Schalkwijk as a connection





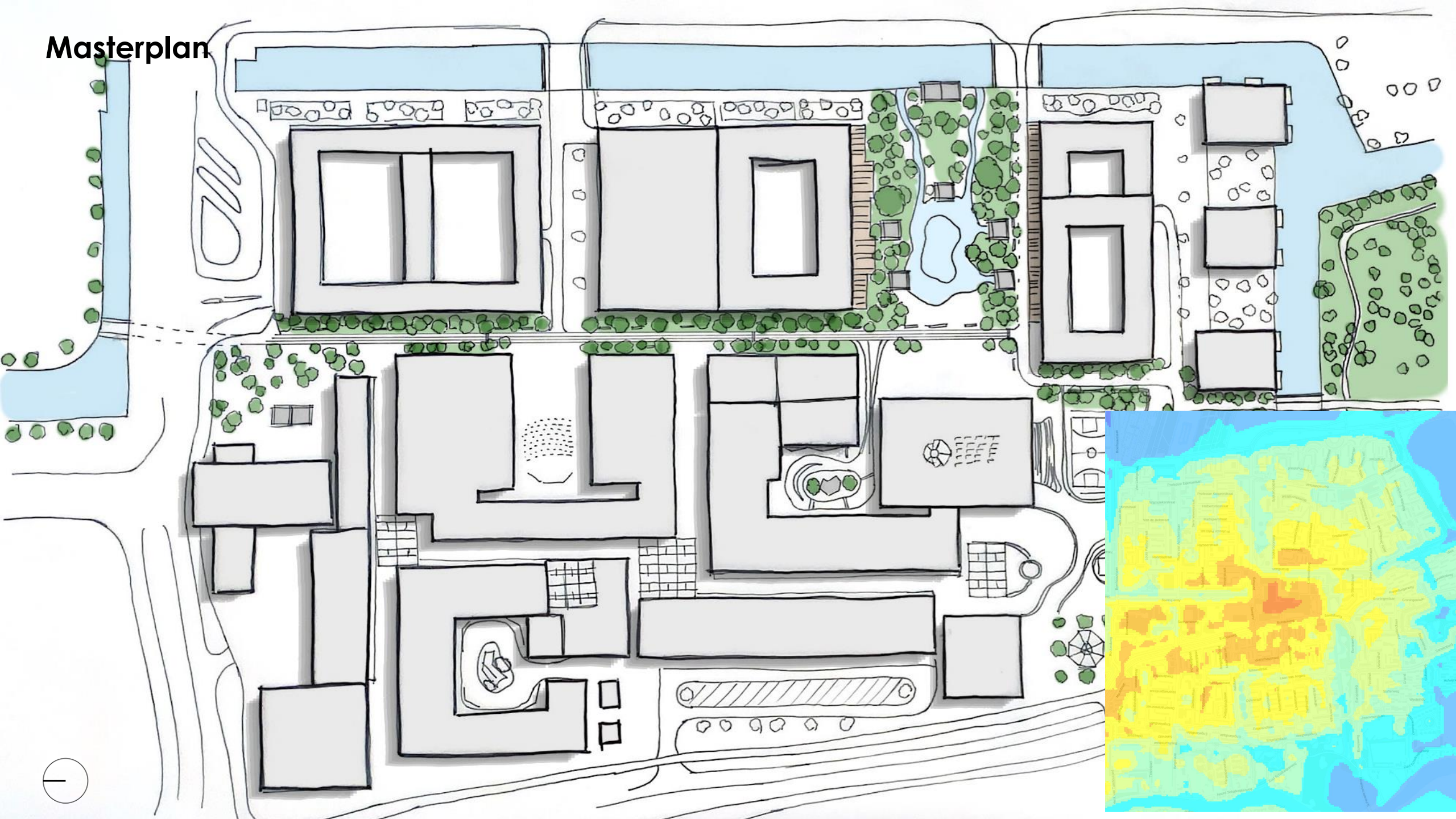
# Green route

New green route through the center



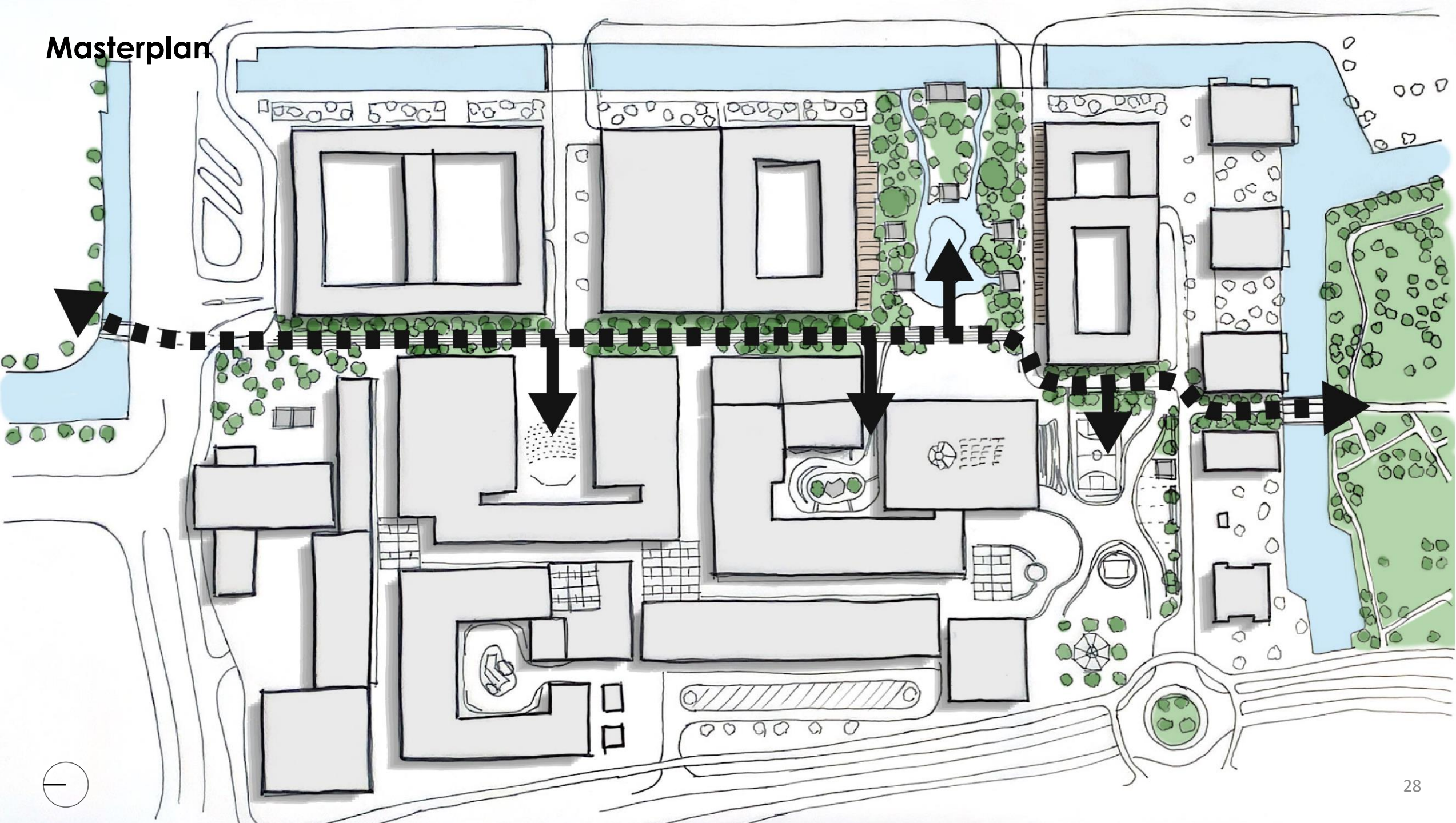


# Masterplan



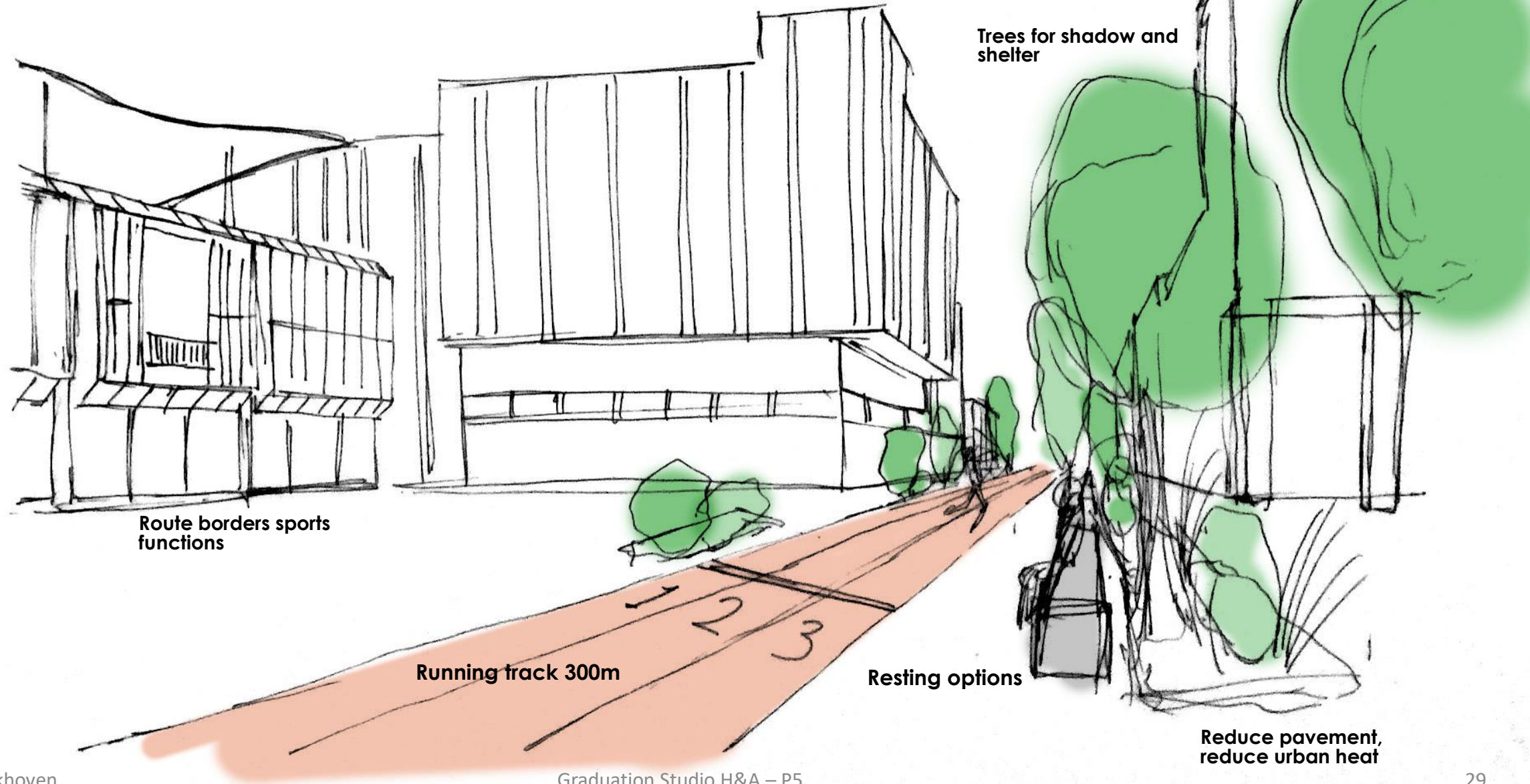


# Masterplan





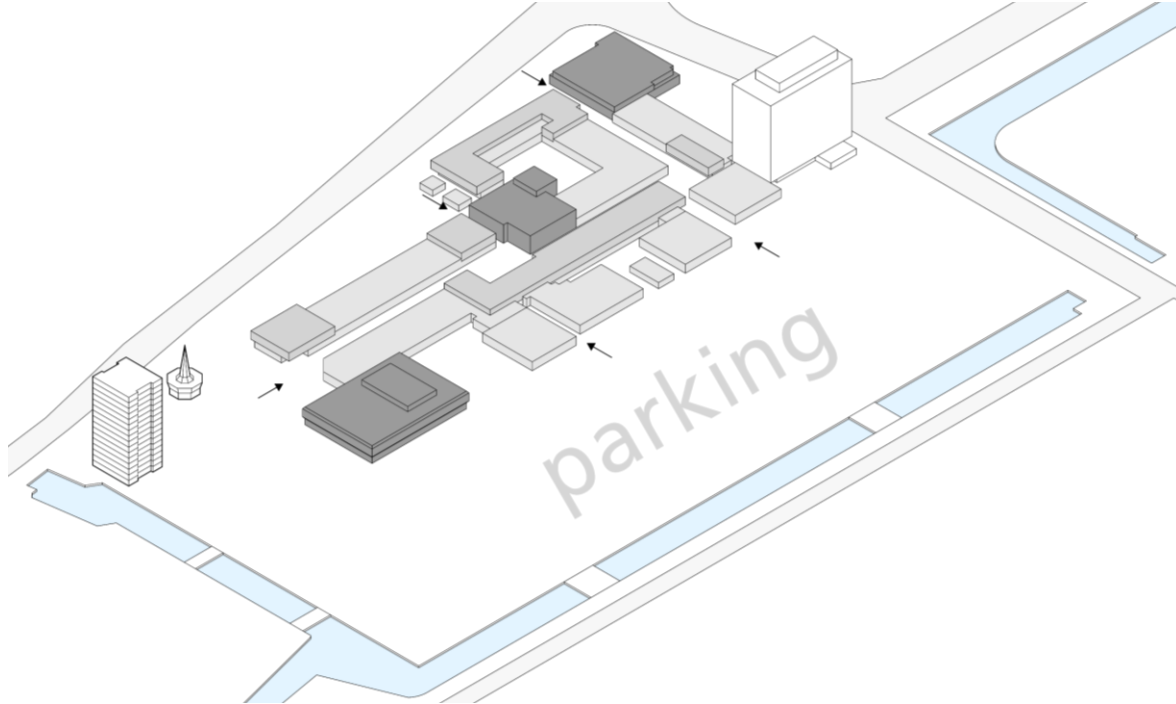
# Green route



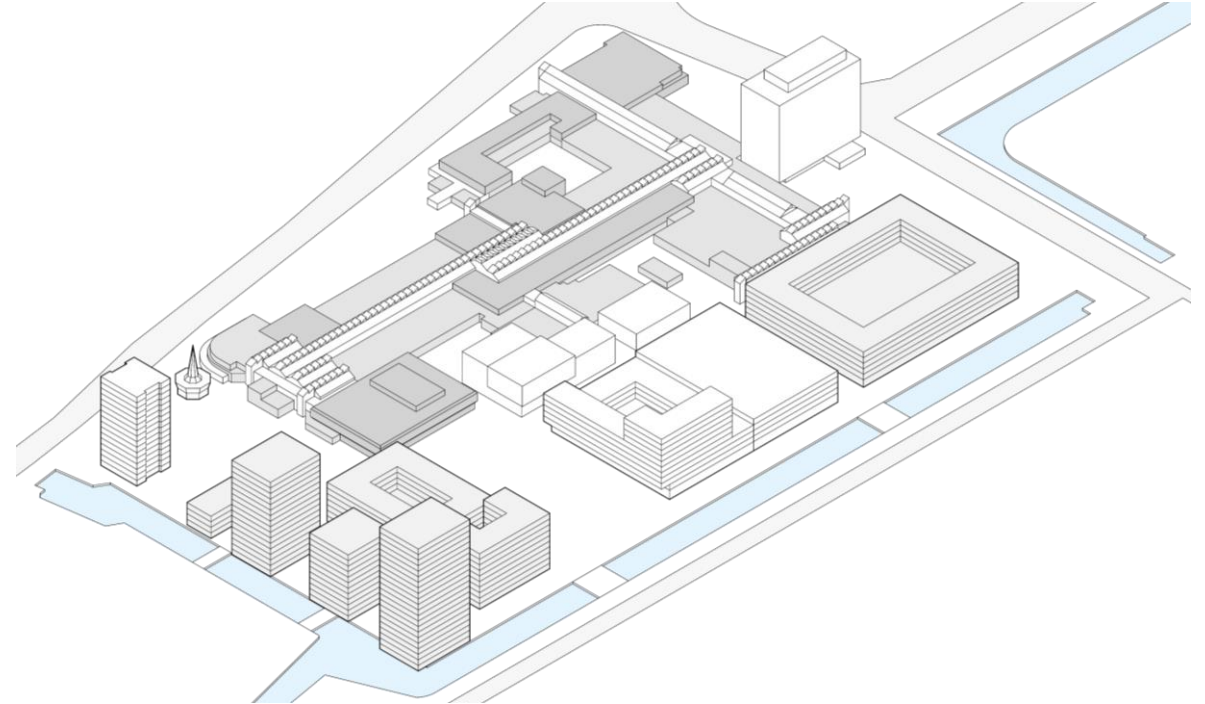


# ORIGINAL CONCEPT

By Spruit



1970

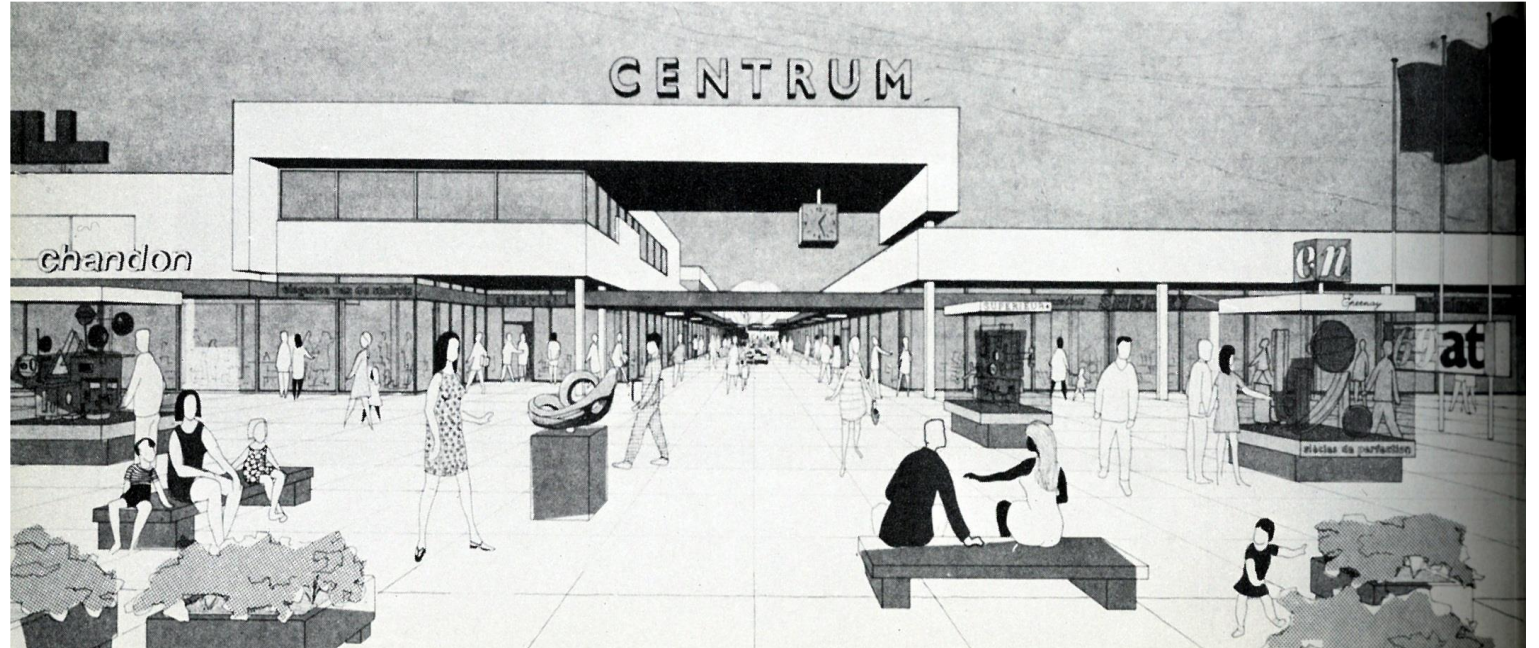


2024



# ORIGINAL CONCEPT

BY SPRUIT





Schalkwijk





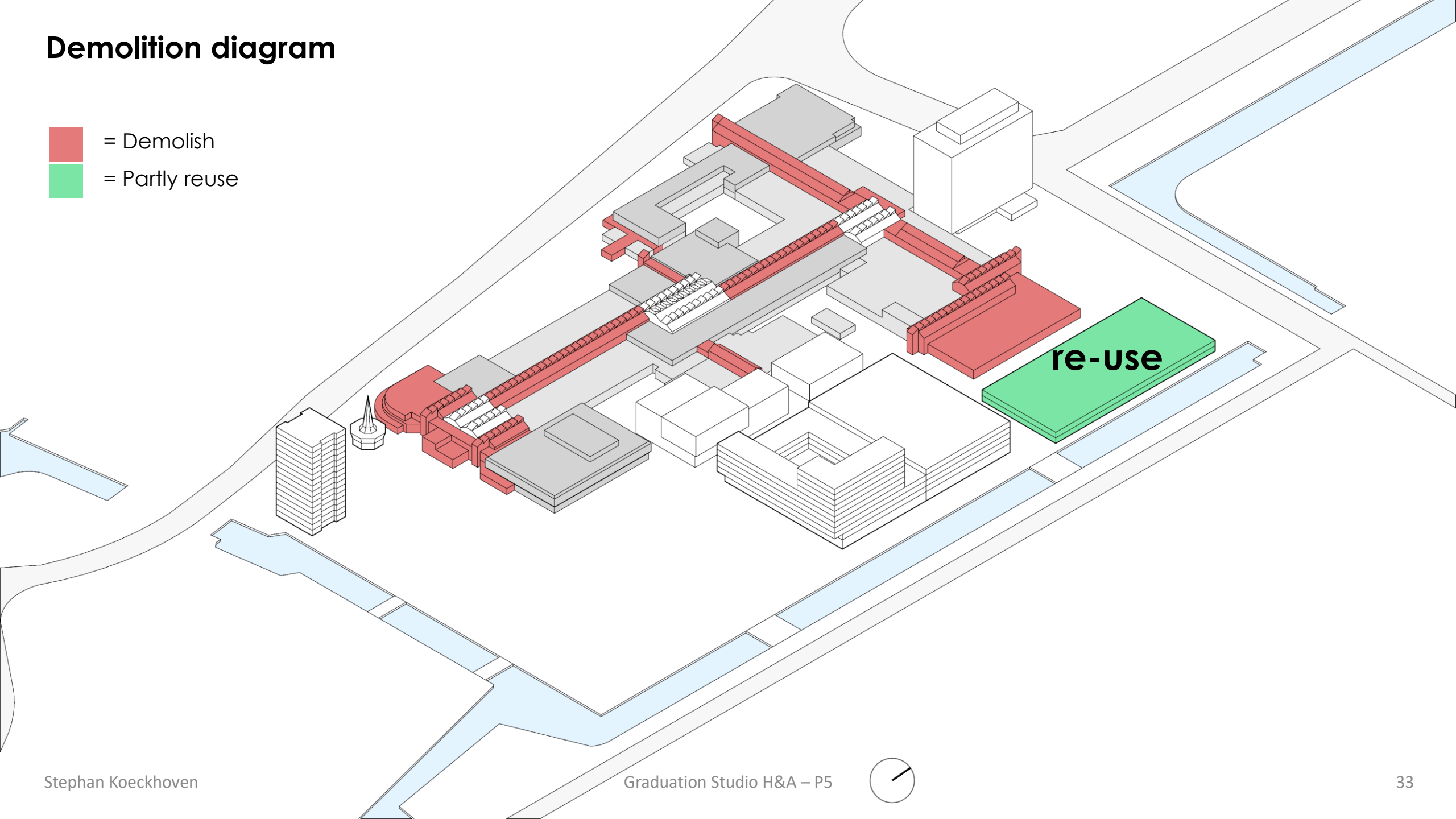
Bogaard





# Demolition diagram

-  = Demolish
-  = Partly reuse





# Masterplan





# Covid sports

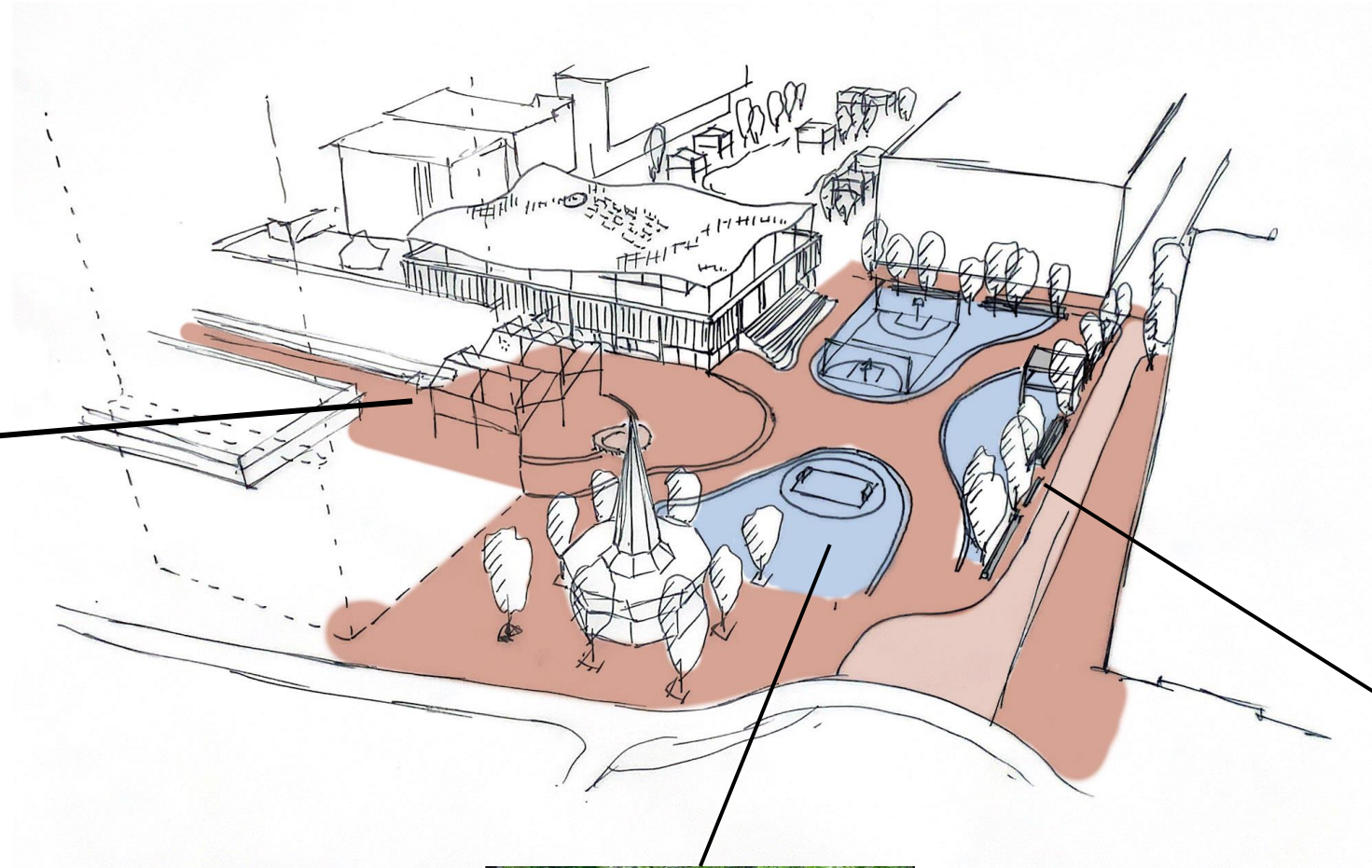




# Covid sports



Sports under shelter



Flexible use of space



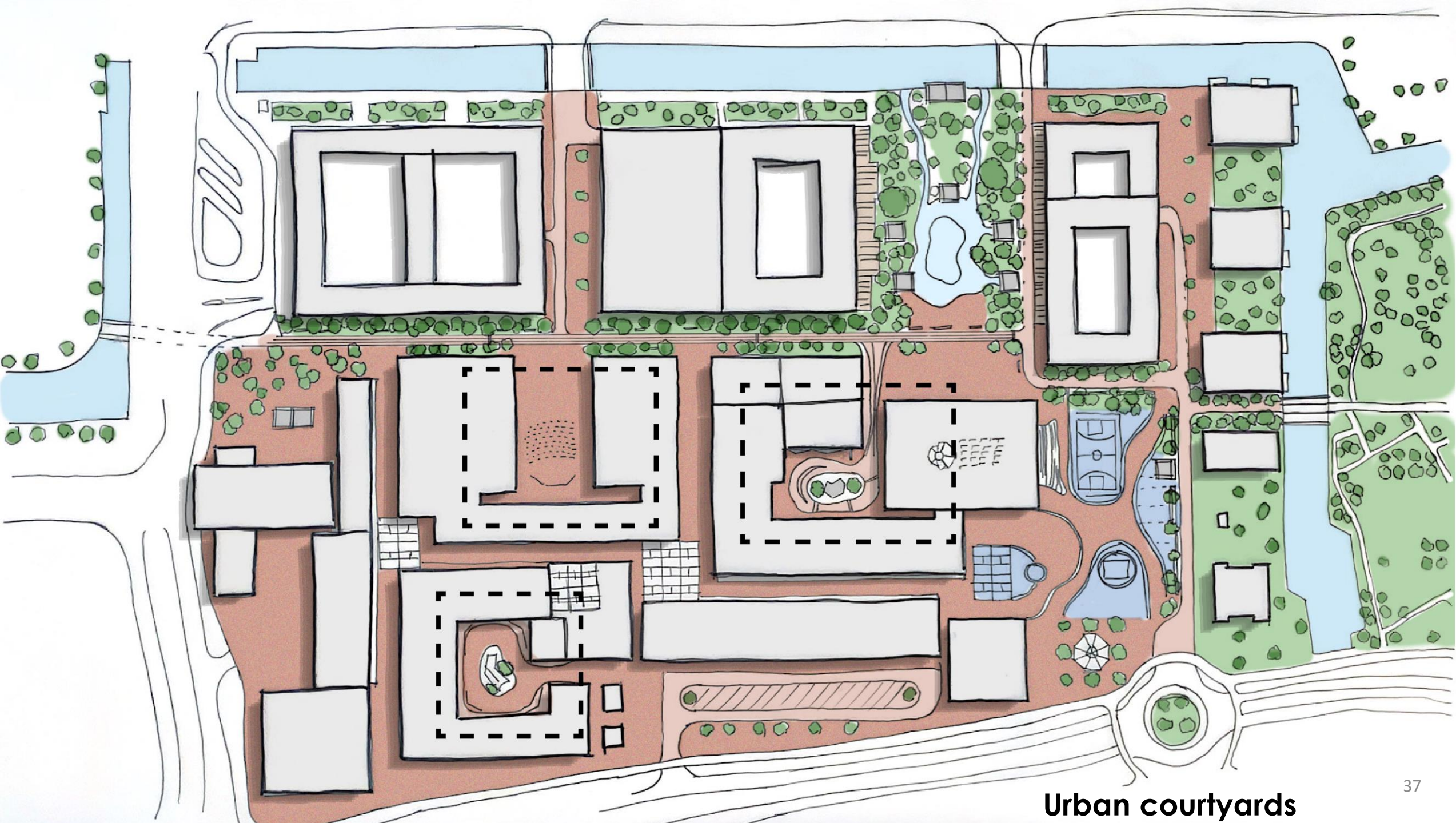
Reuse parking building



Borders, Resting, Exercise







Urban courtyards



# Service Courtyard

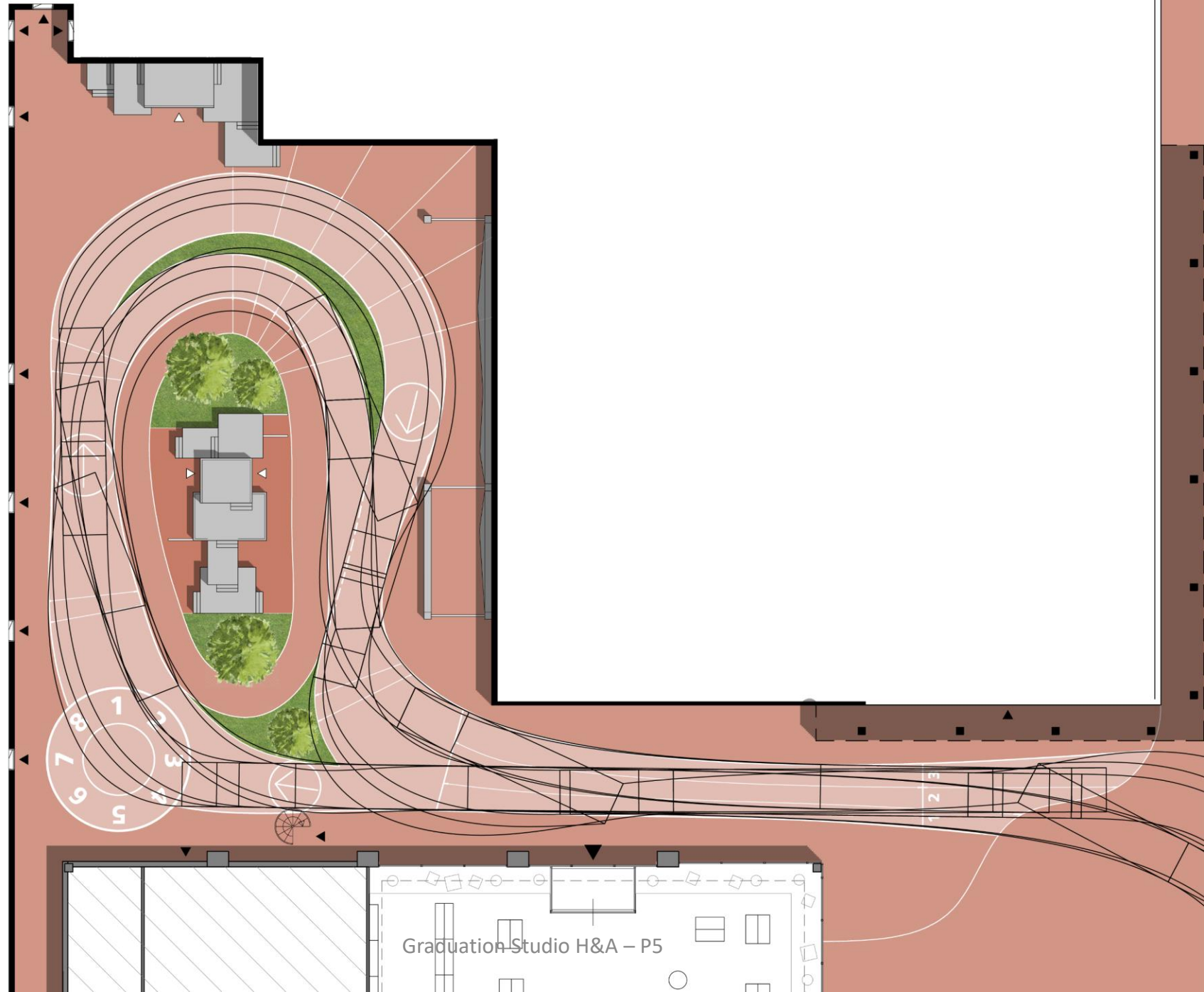
Current situation





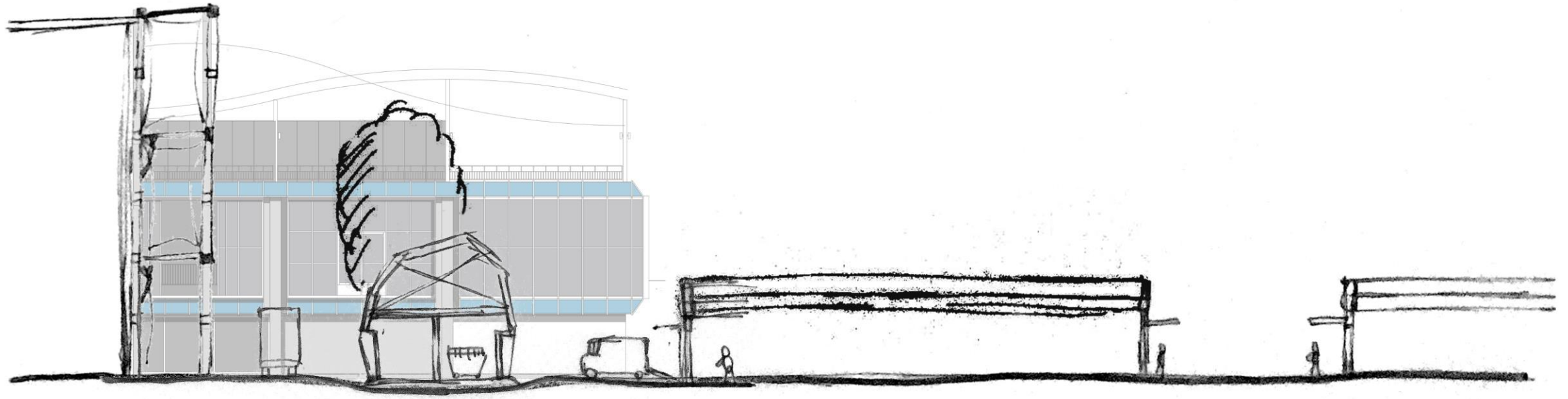
# Courtyard

Driving lines



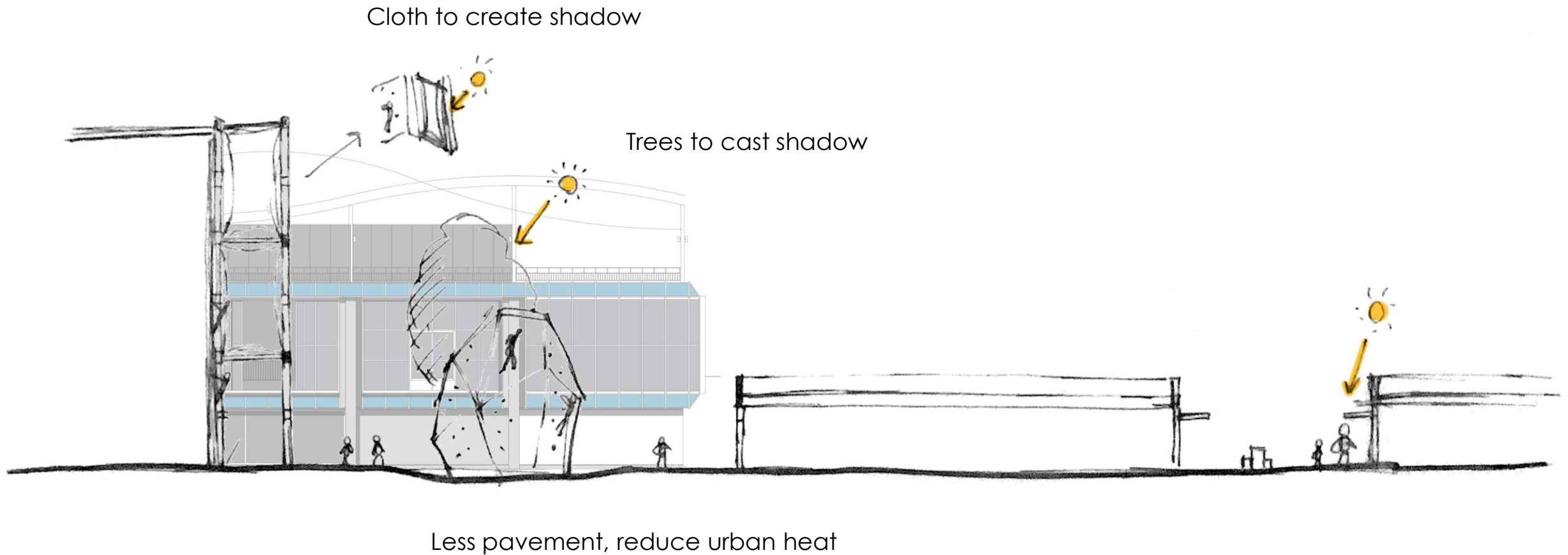
# Climbing courtyard

Delivering goods, storage & trash



# Climbing courtyard

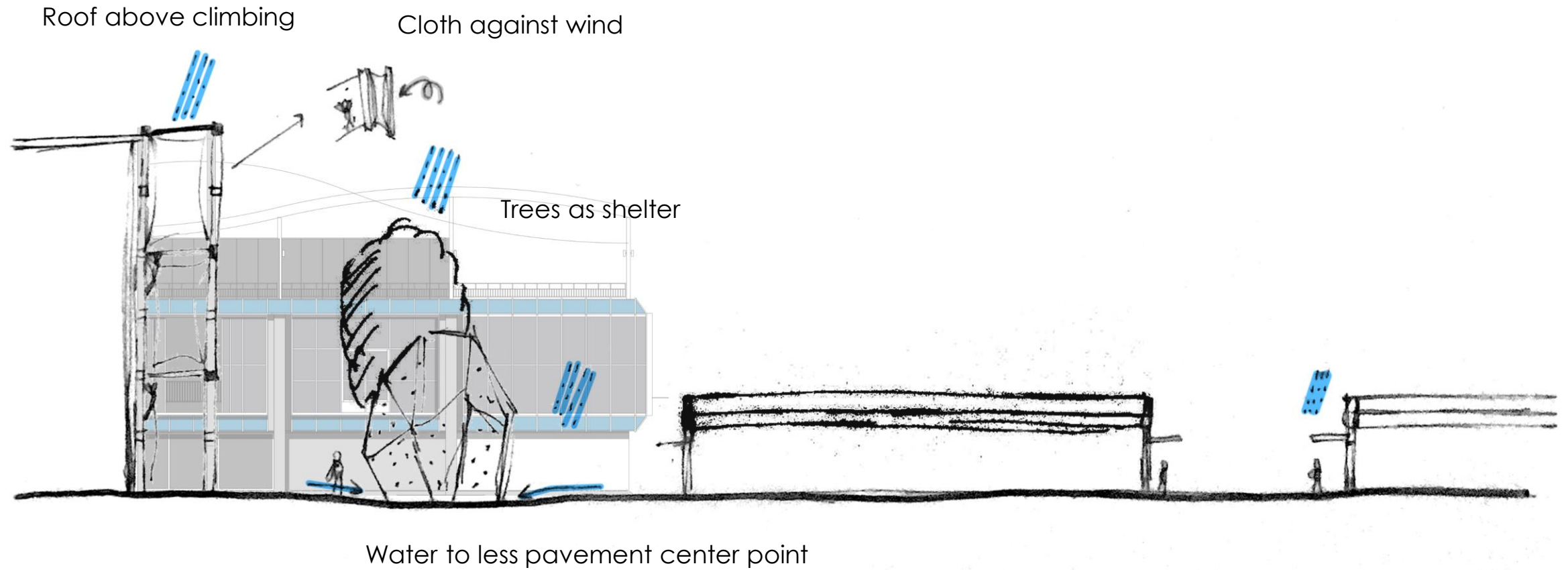
Summer



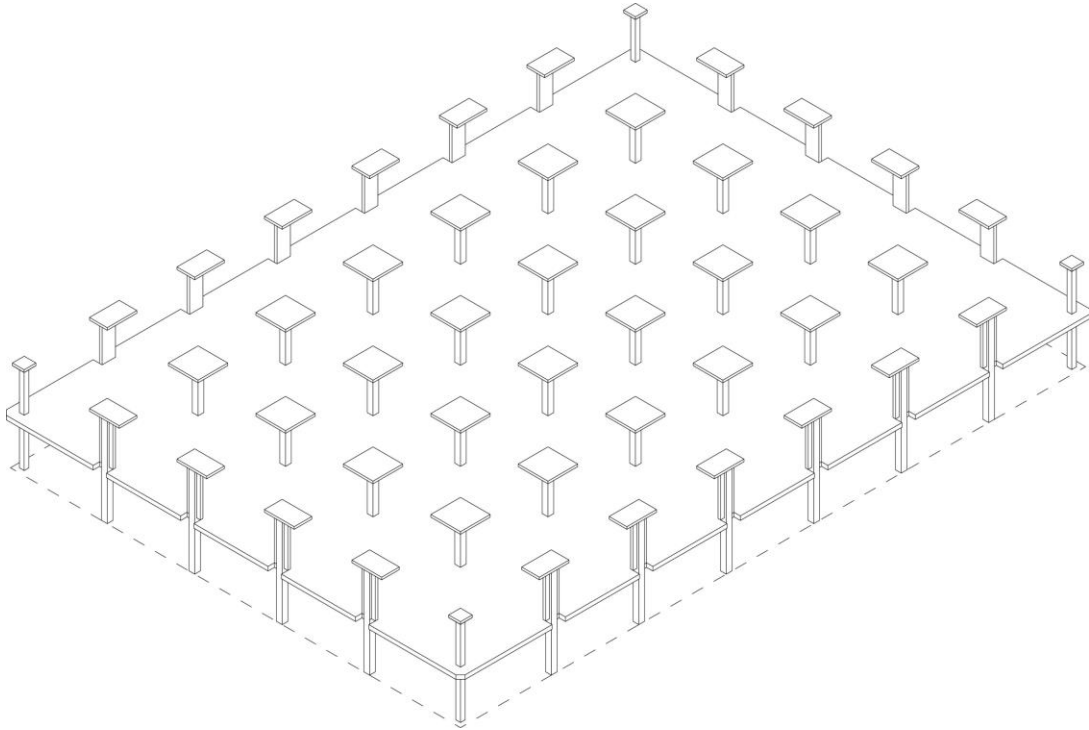


# Climbing courtyard

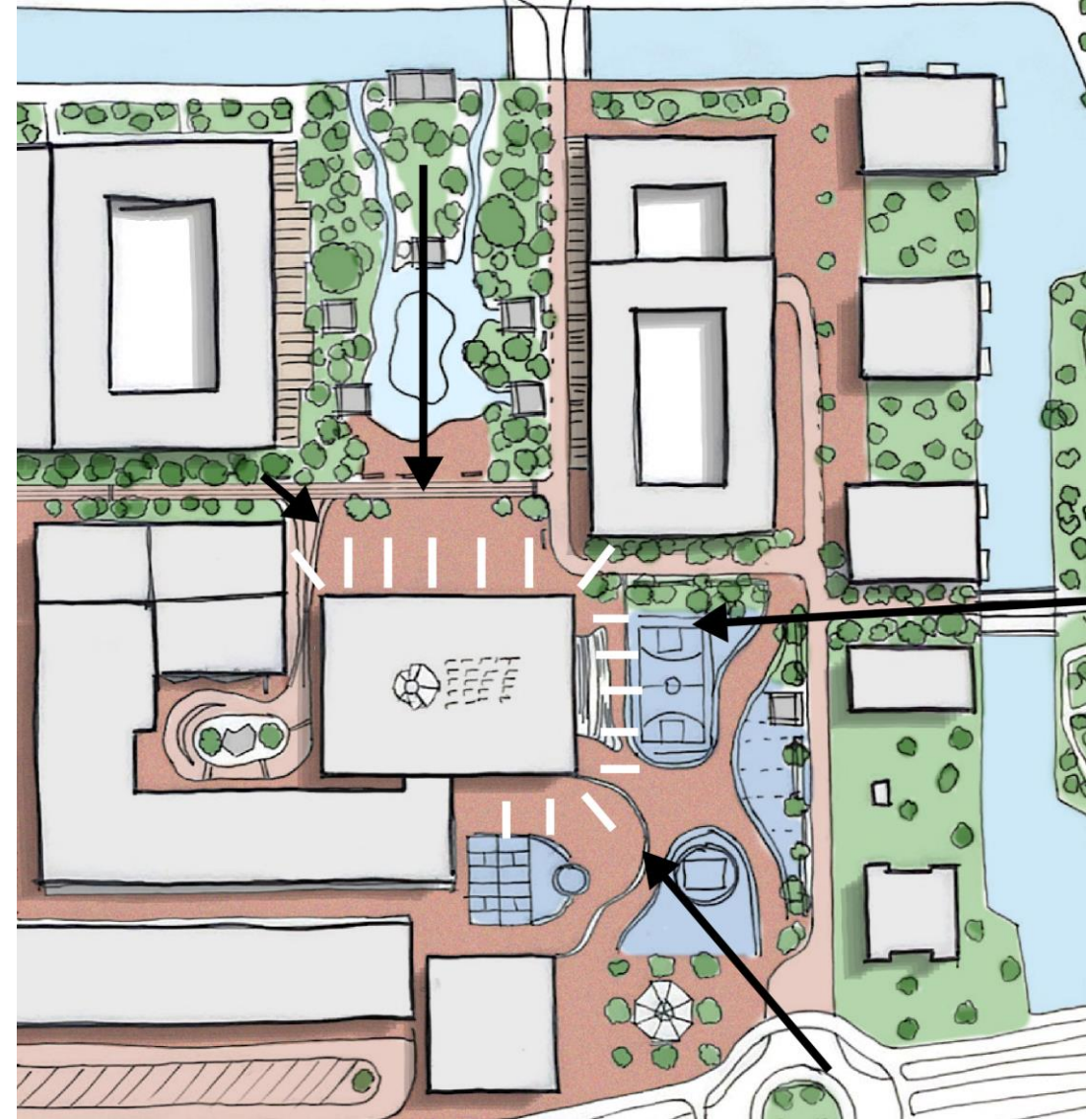
Rainy weather



## Values VD building



Grid structure with large dimensions 8400



Anchor point of the shopping mall





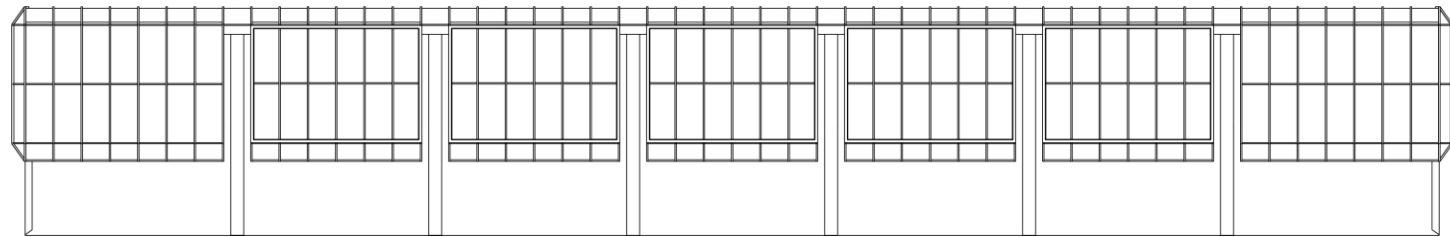
# V&D to Sports Center

Robust building with strong rythm



# V&D to Sports Center

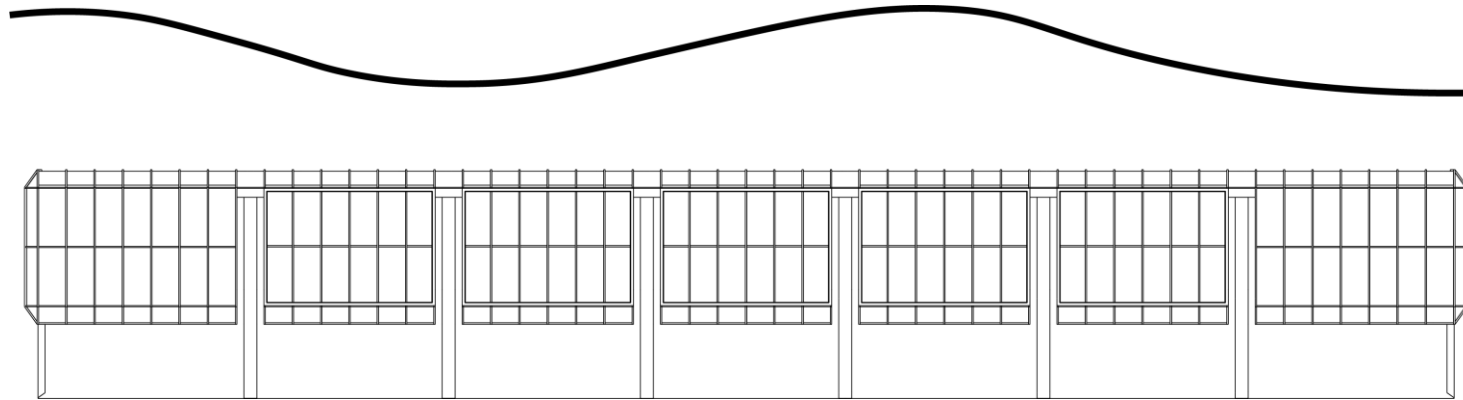
Robust building with strong rythm





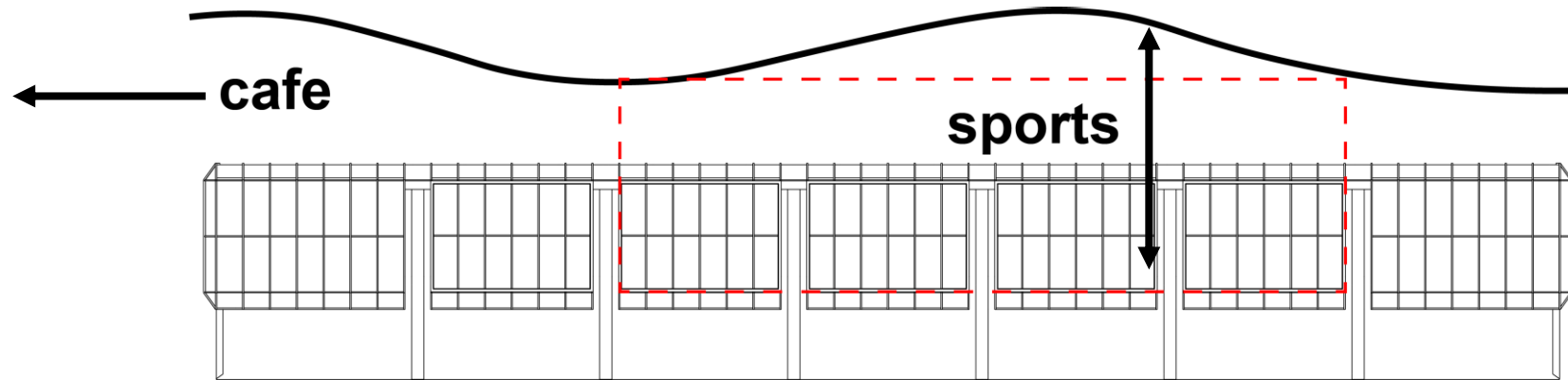
# V&D to Sports Center

Creating a contrast



# V&D to Sports Center

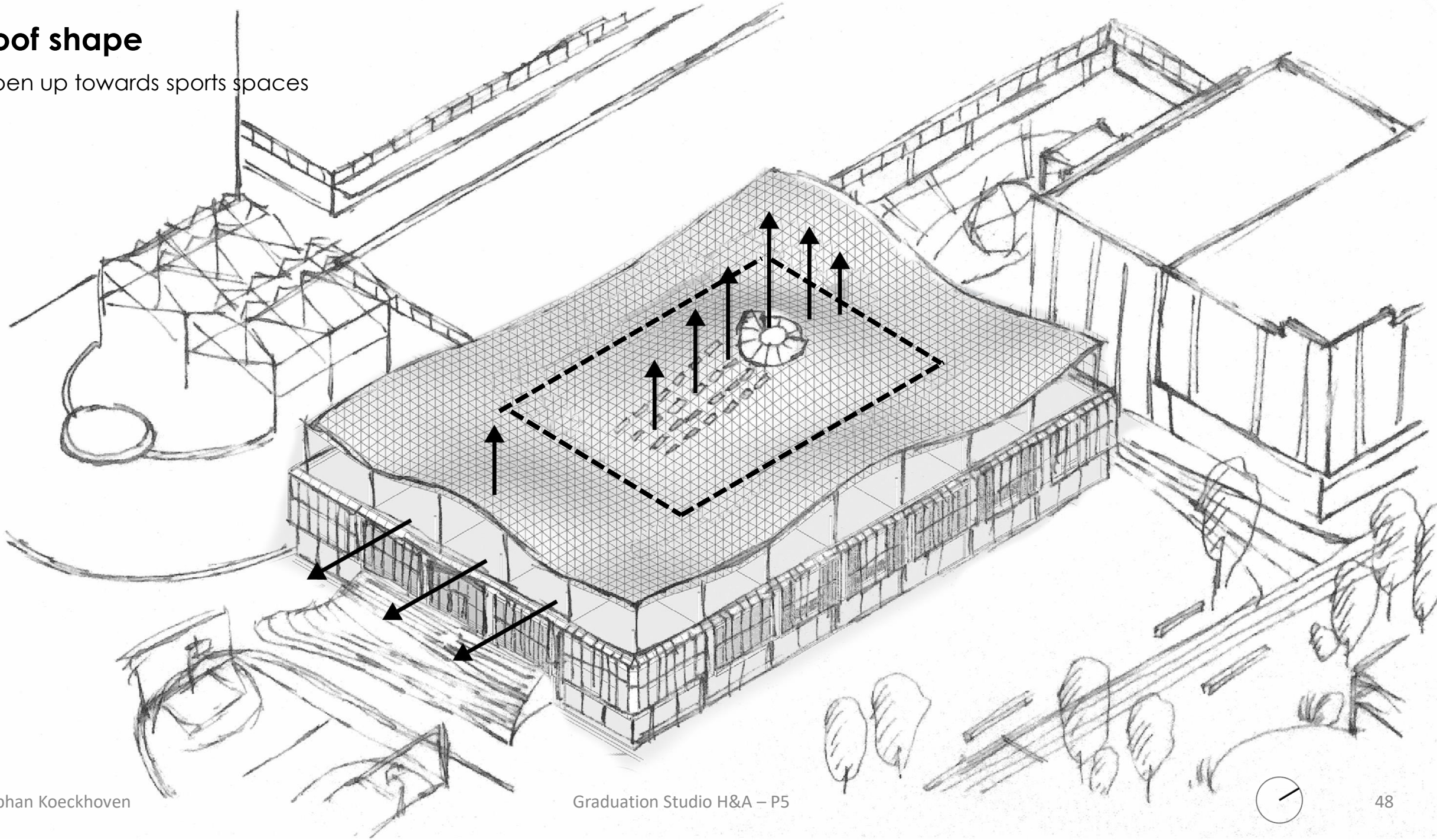
Adding functions





# Roof shape

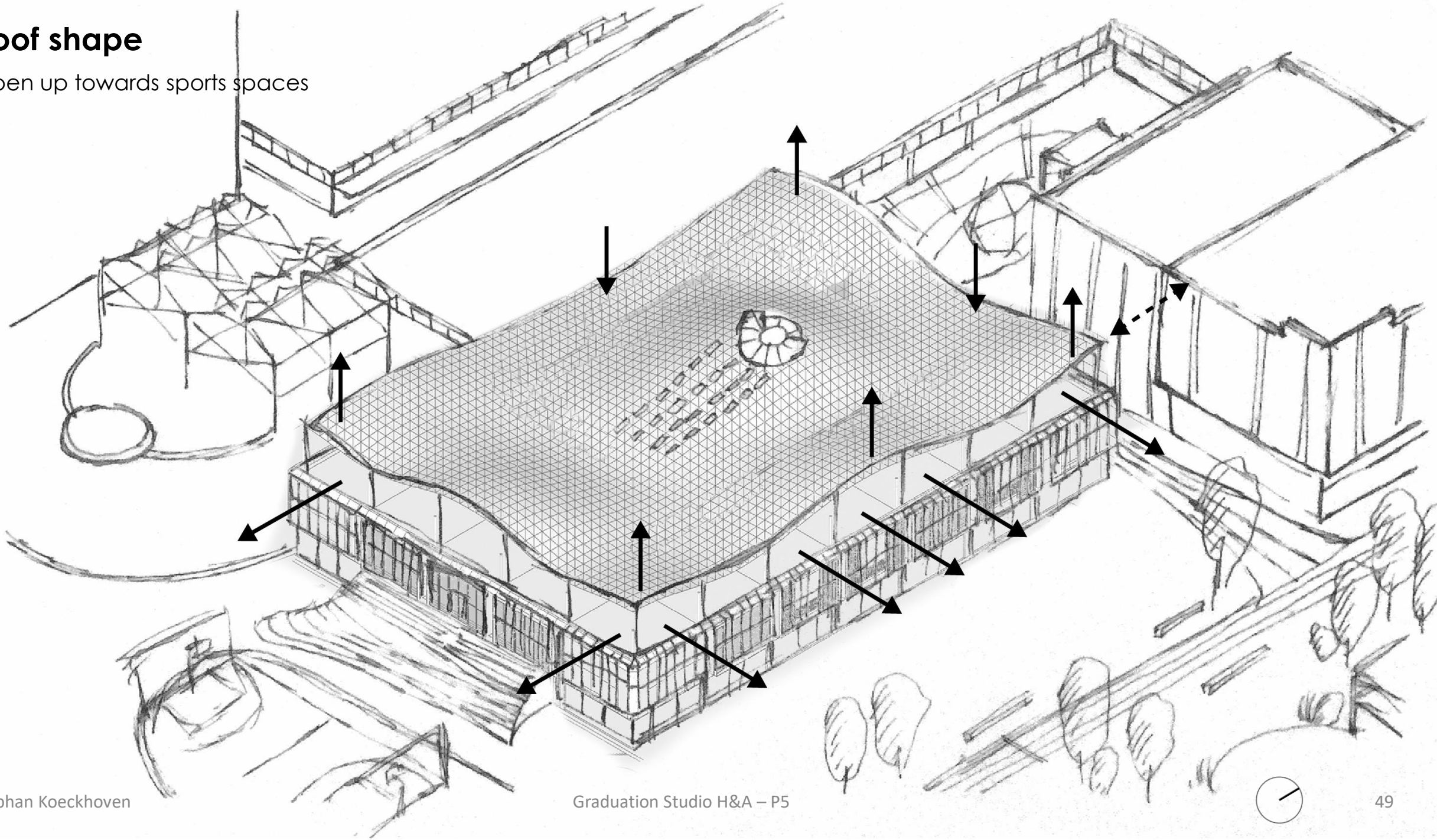
Open up towards sports spaces





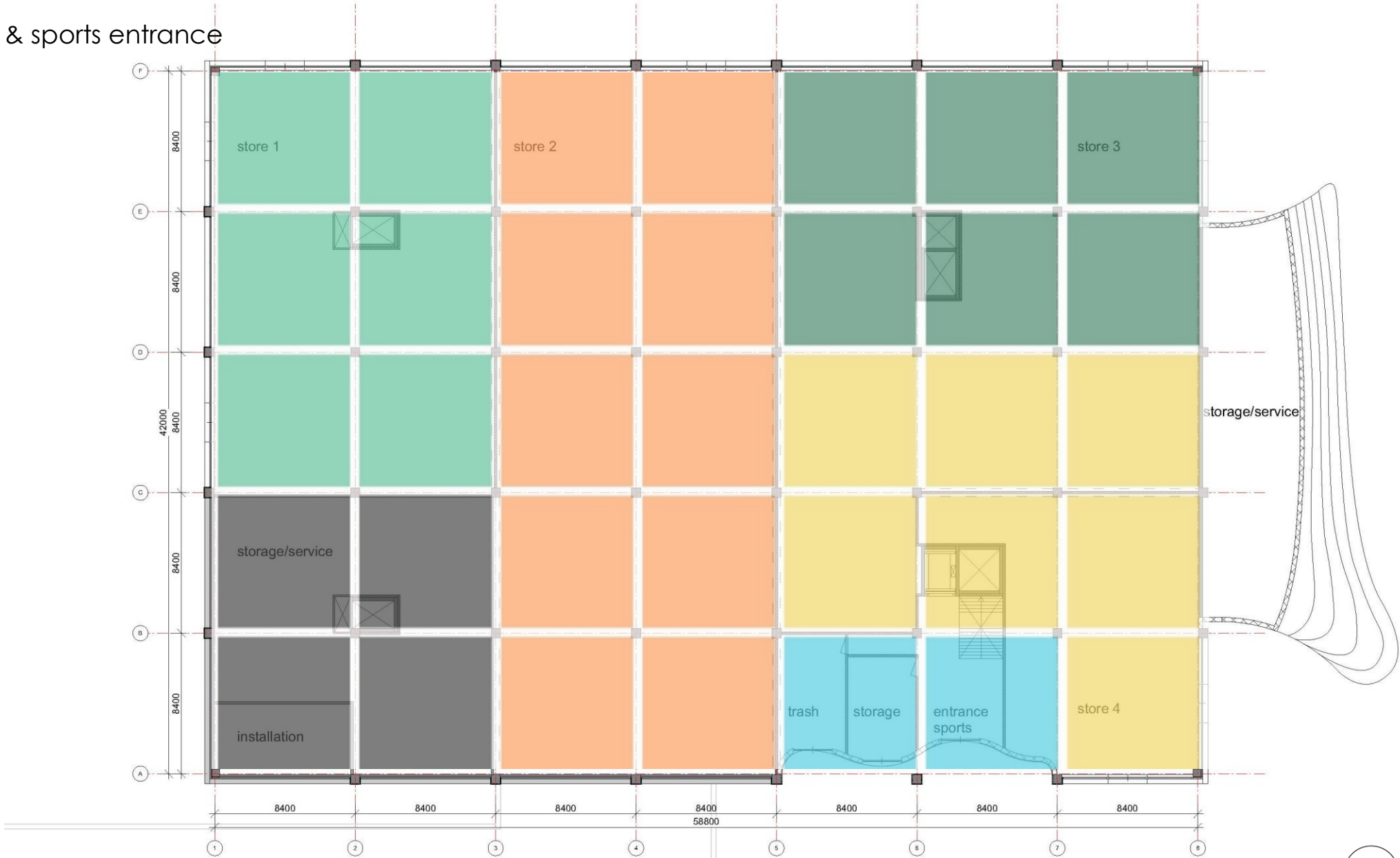
# Roof shape

Open up towards sports spaces



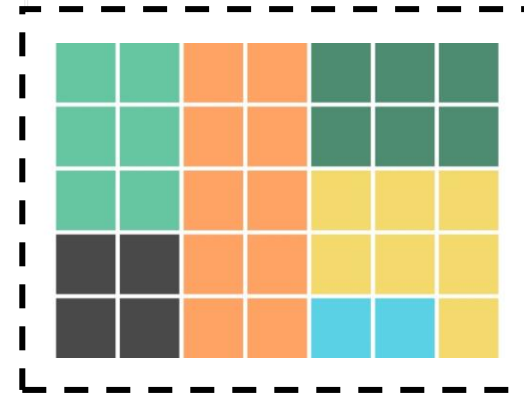
# Ground floor

Shopping & sports entrance



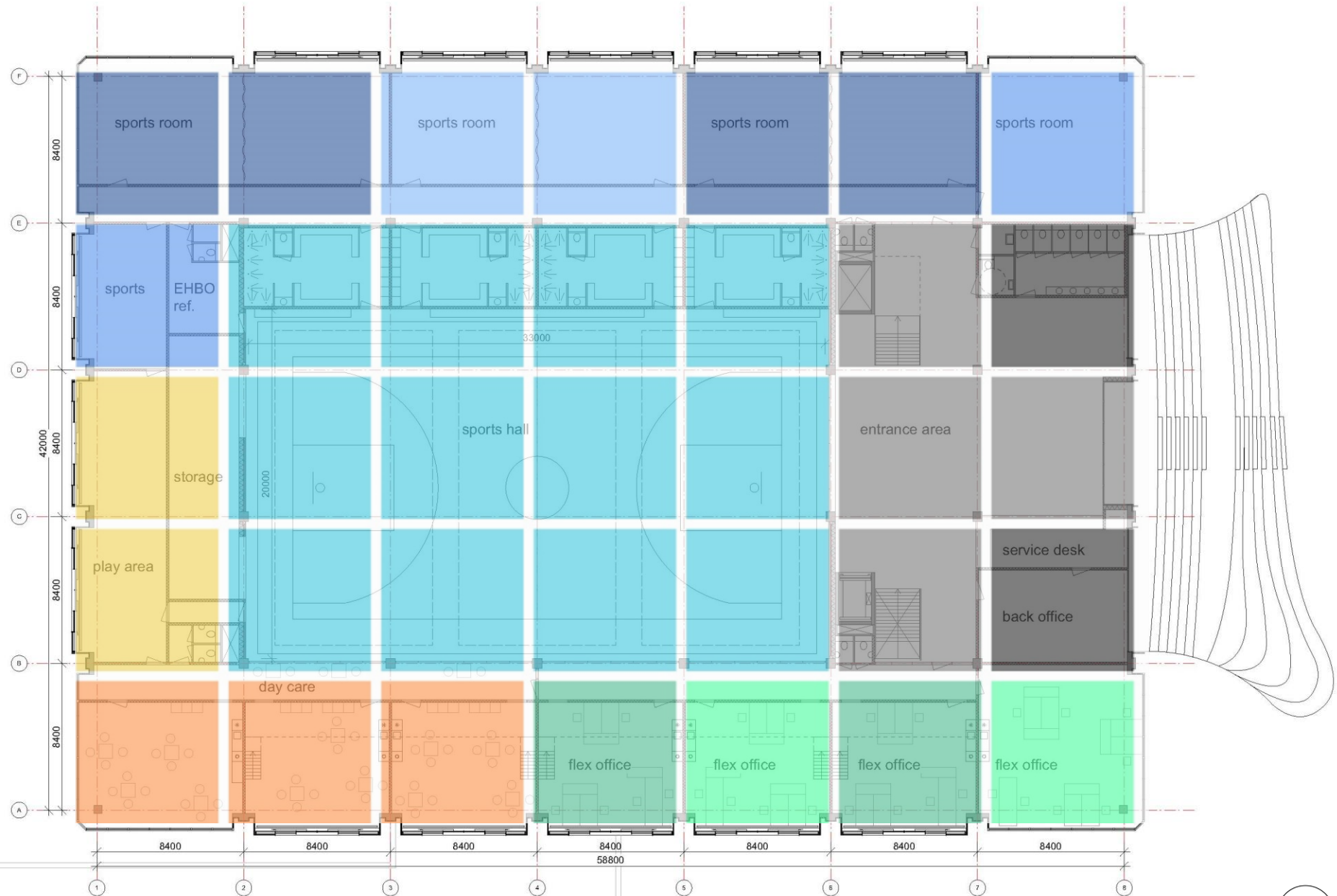


## Spaces a la carte



# 1st floor

Sports spaces

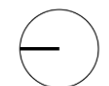
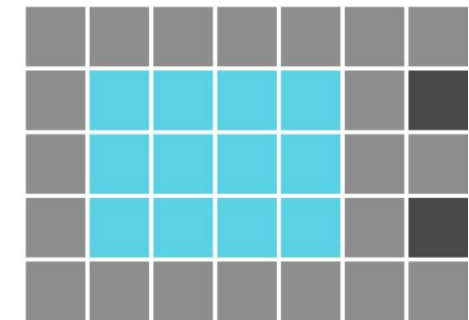
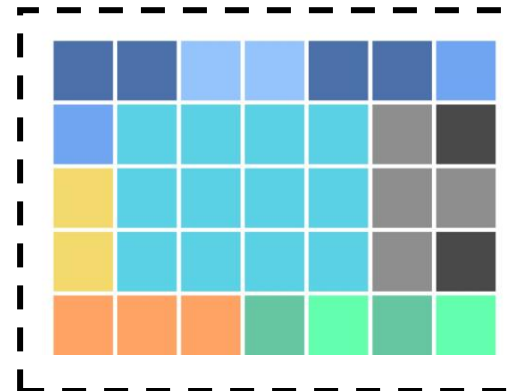
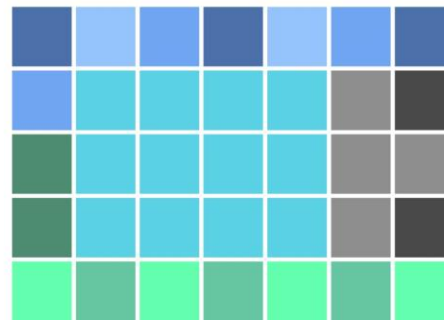
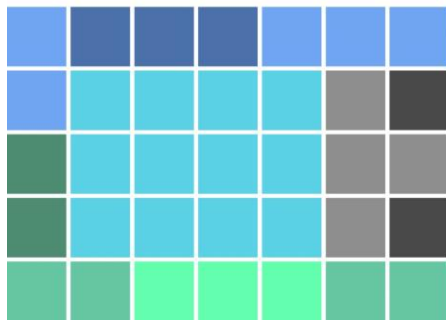
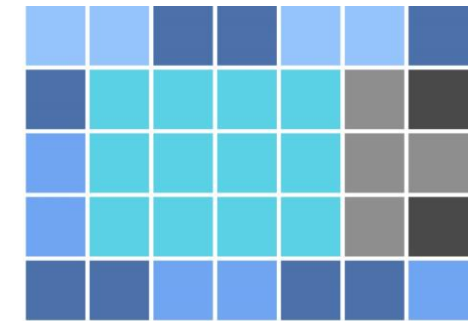
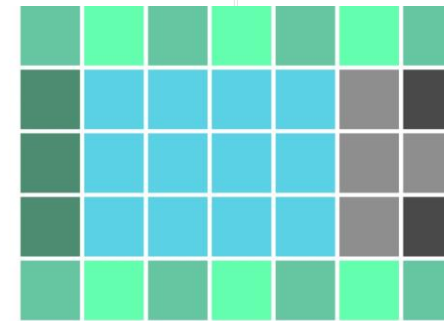
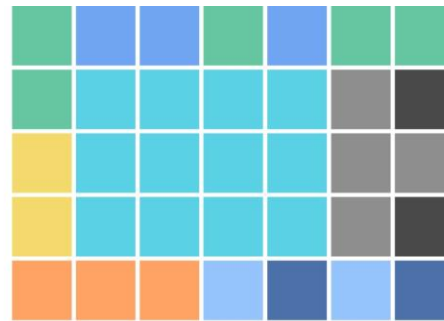
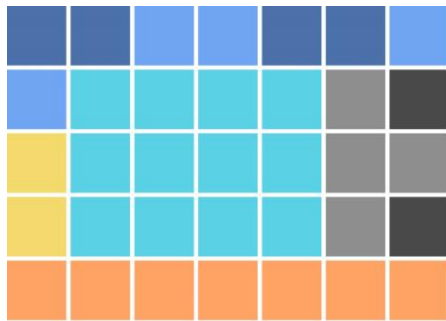
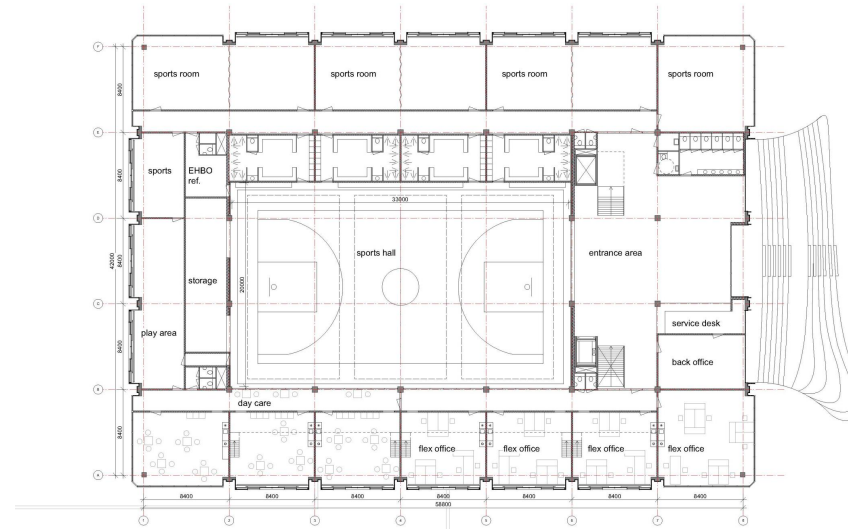




# 1st floor

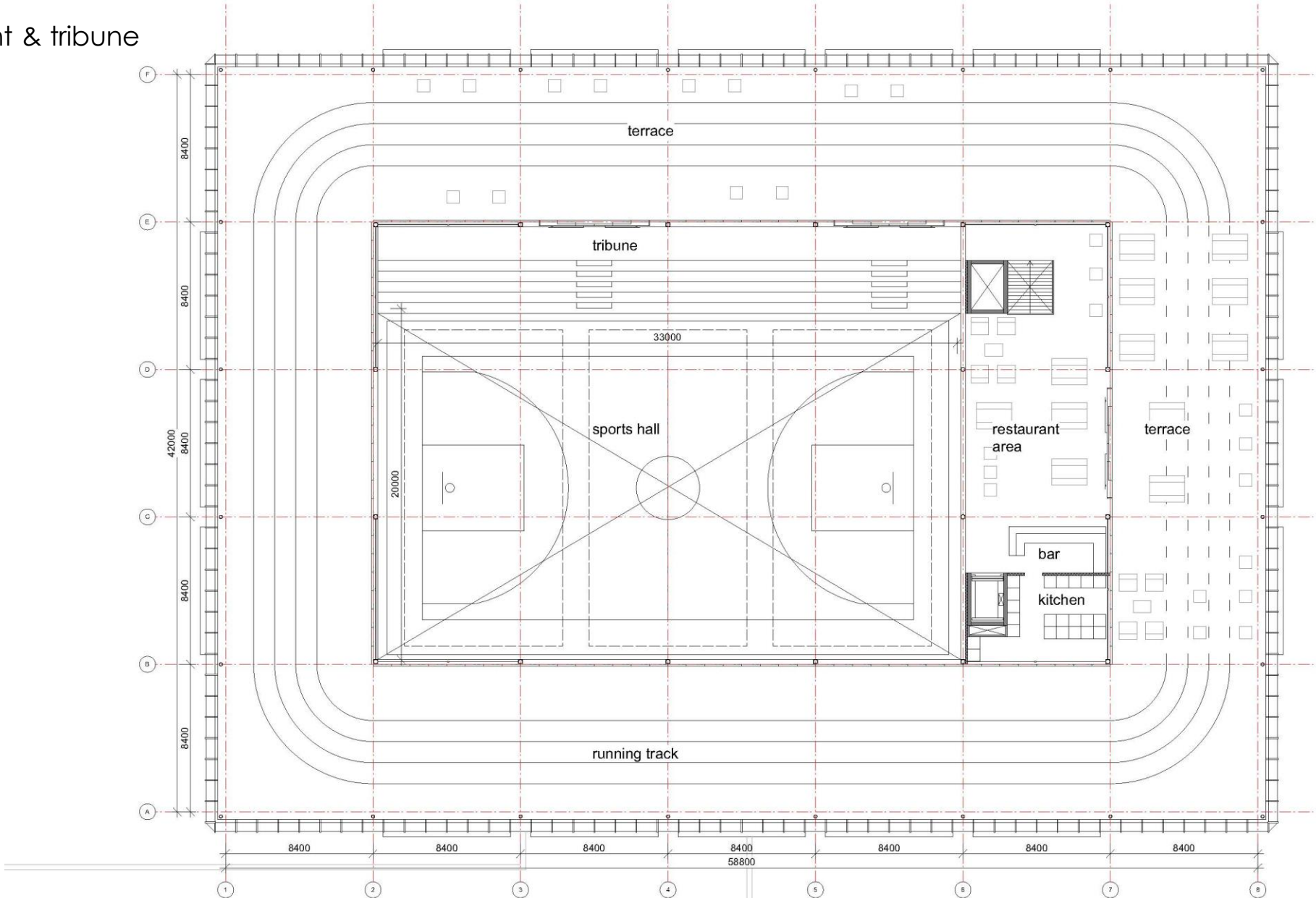
Spaces a la carte

-  = services
-  = Sports hall
-   = Sports rooms
-   = Flex offices
-  = Shared space
-  = Day care
-  = Play room



## 2nd floor

Restaurant & tribune



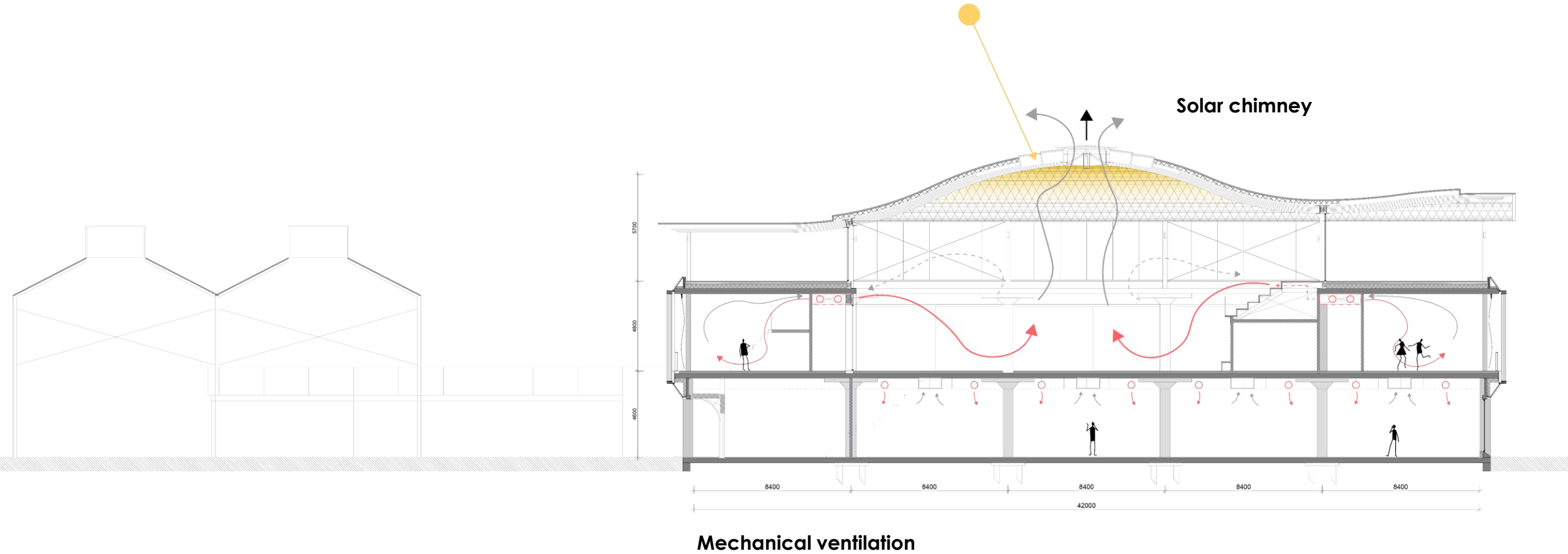


2nd floor



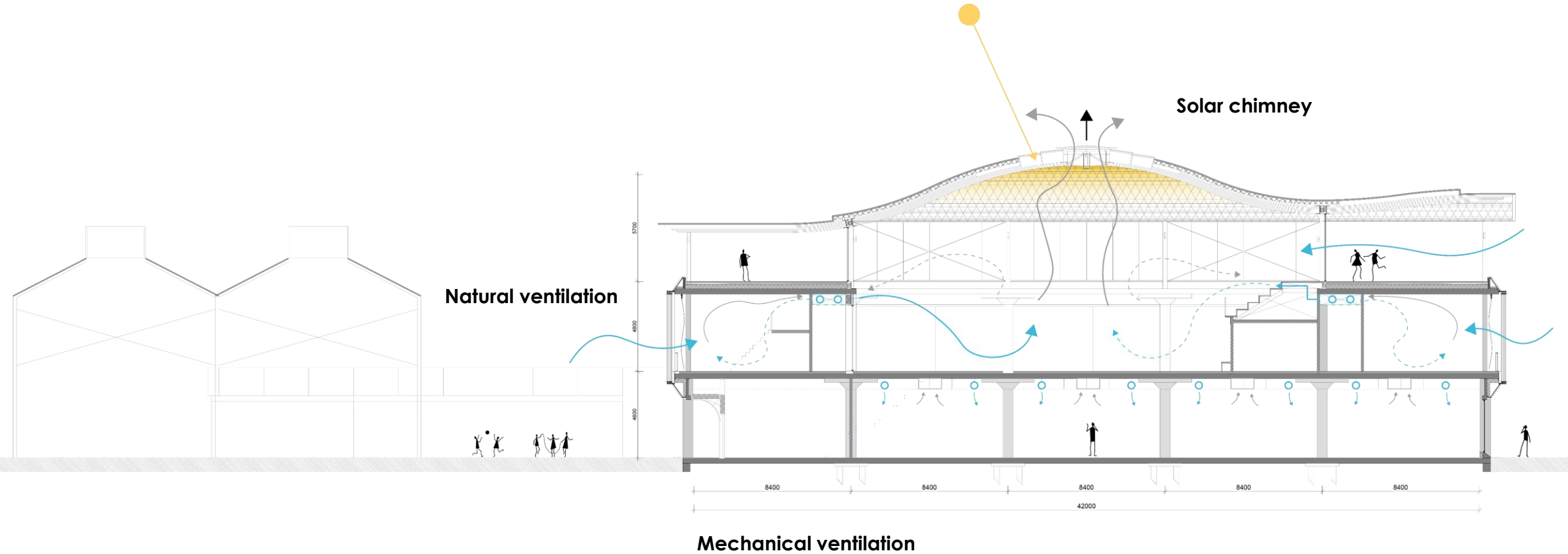
# Climate diagram

Winter



# Climate diagram

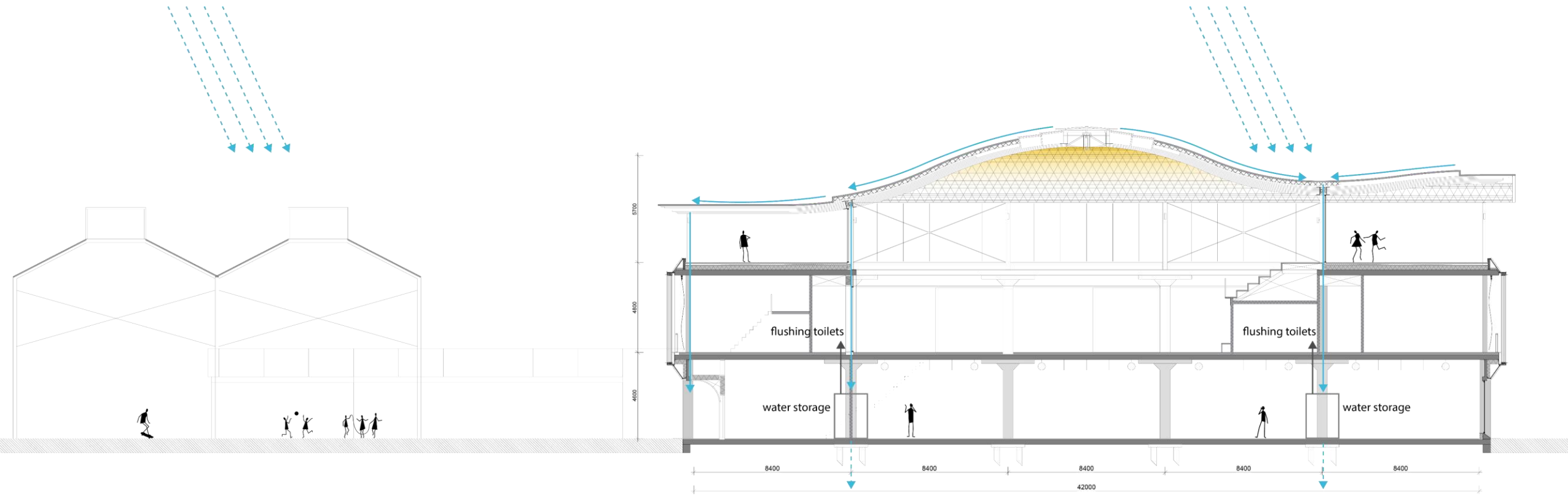
Summer





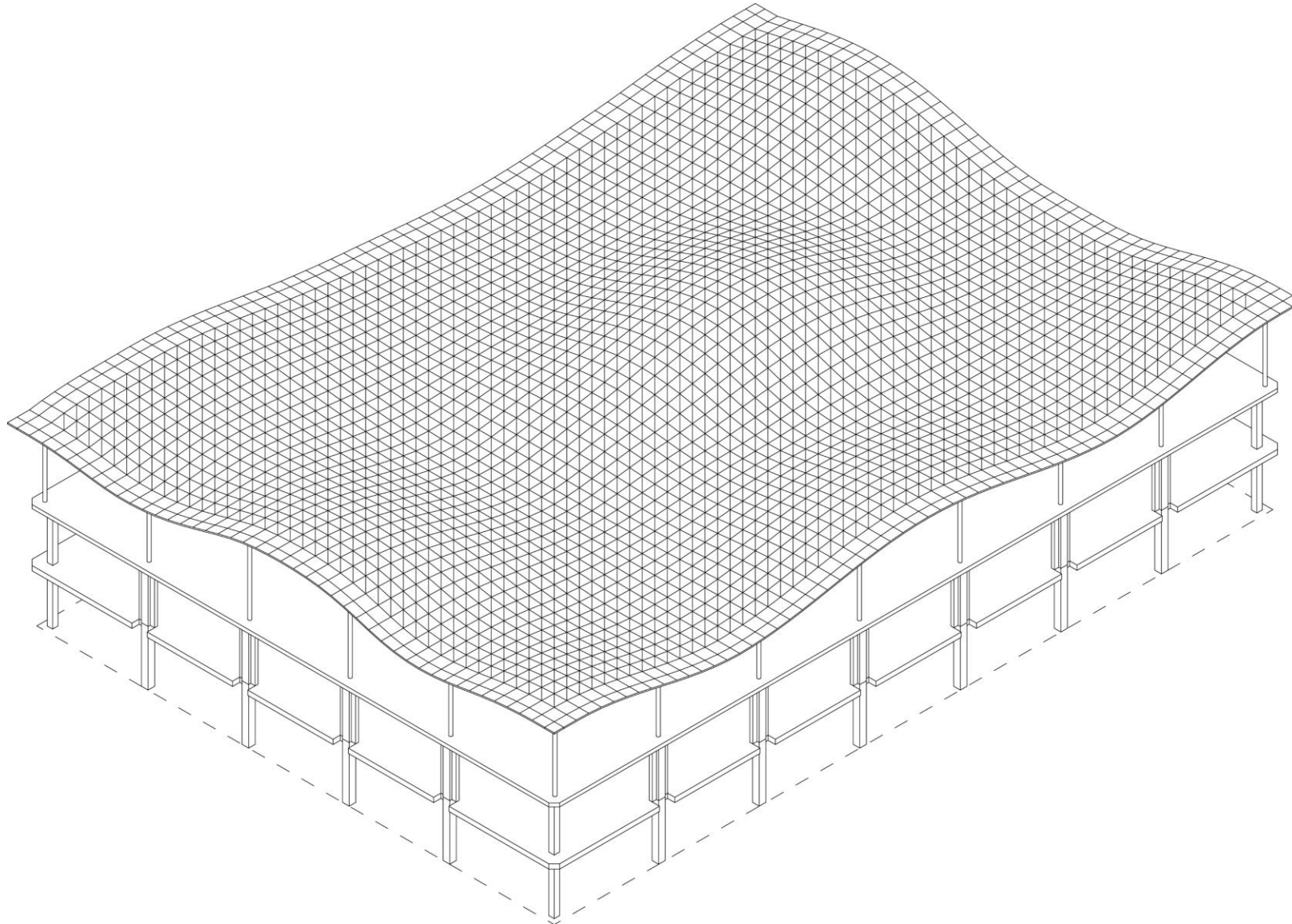
# Climate diagram

rain



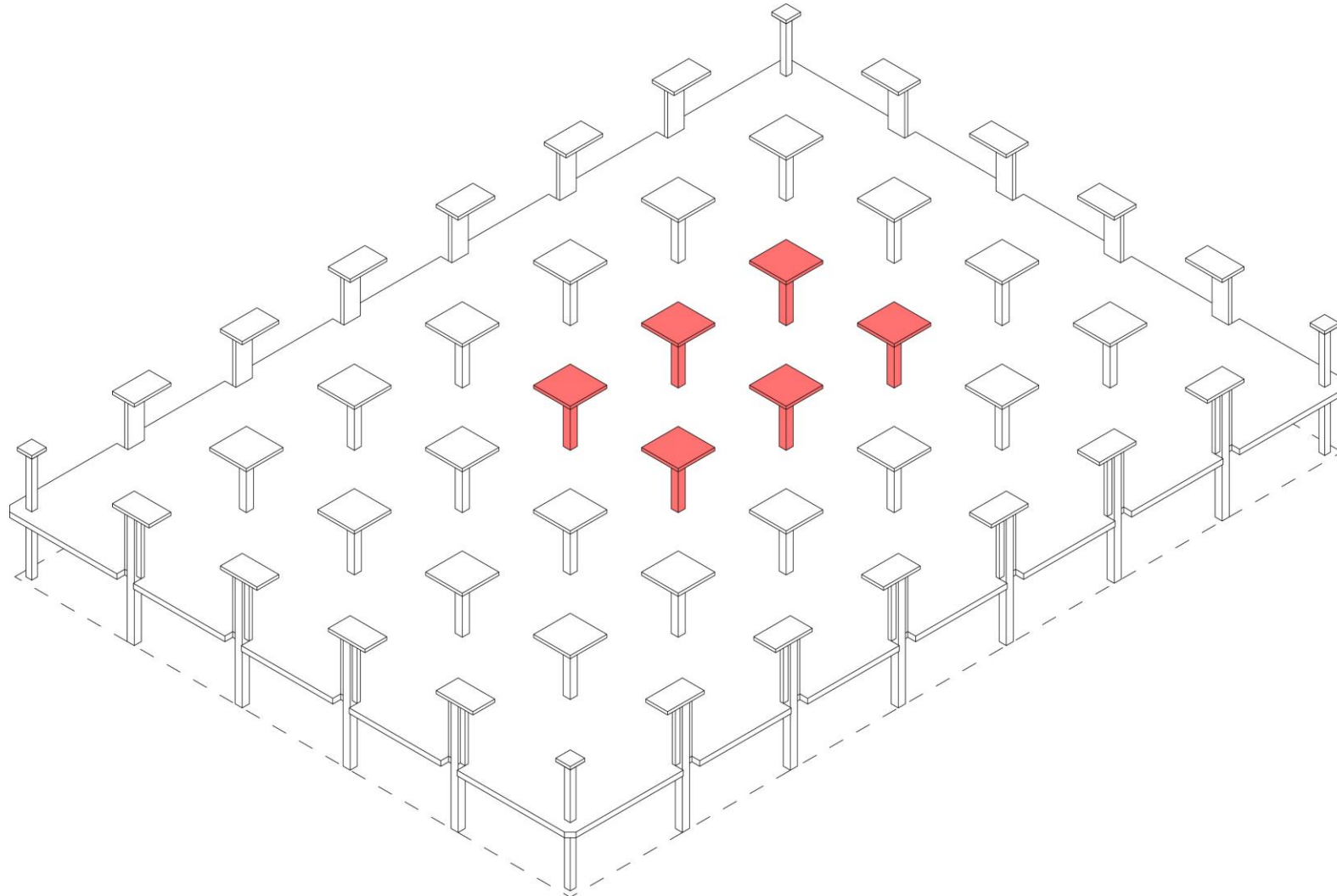
# Construction

Old and new



# Construction

Remove



**Columns 550x550**

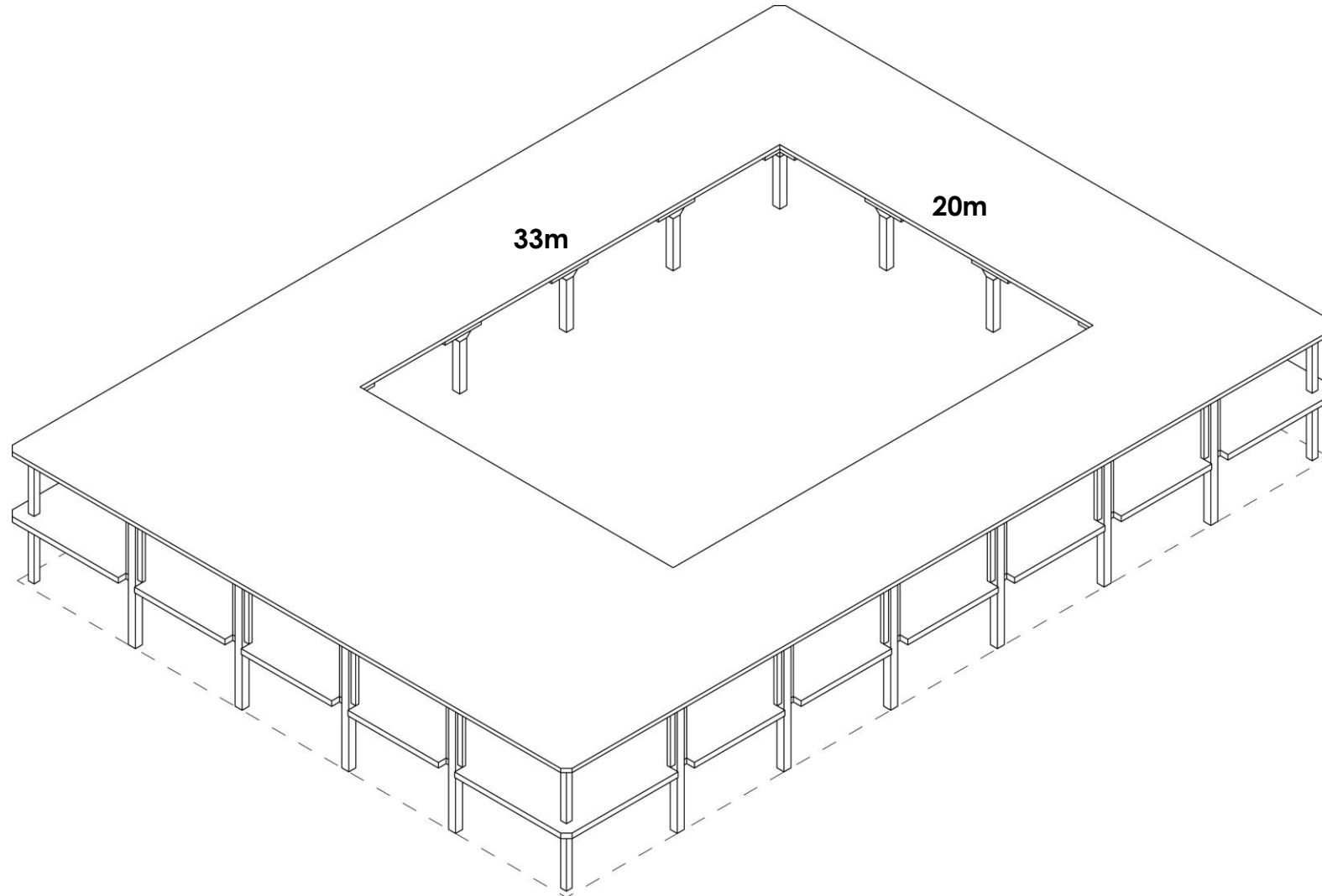
**Grid 8400x8400**



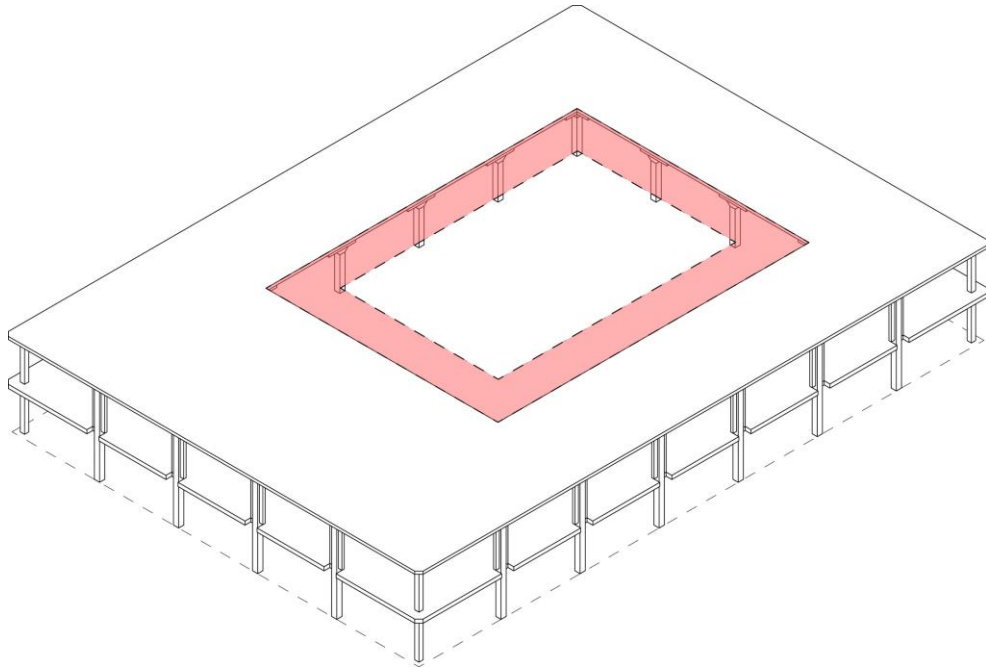


# Design steps – Sports Center

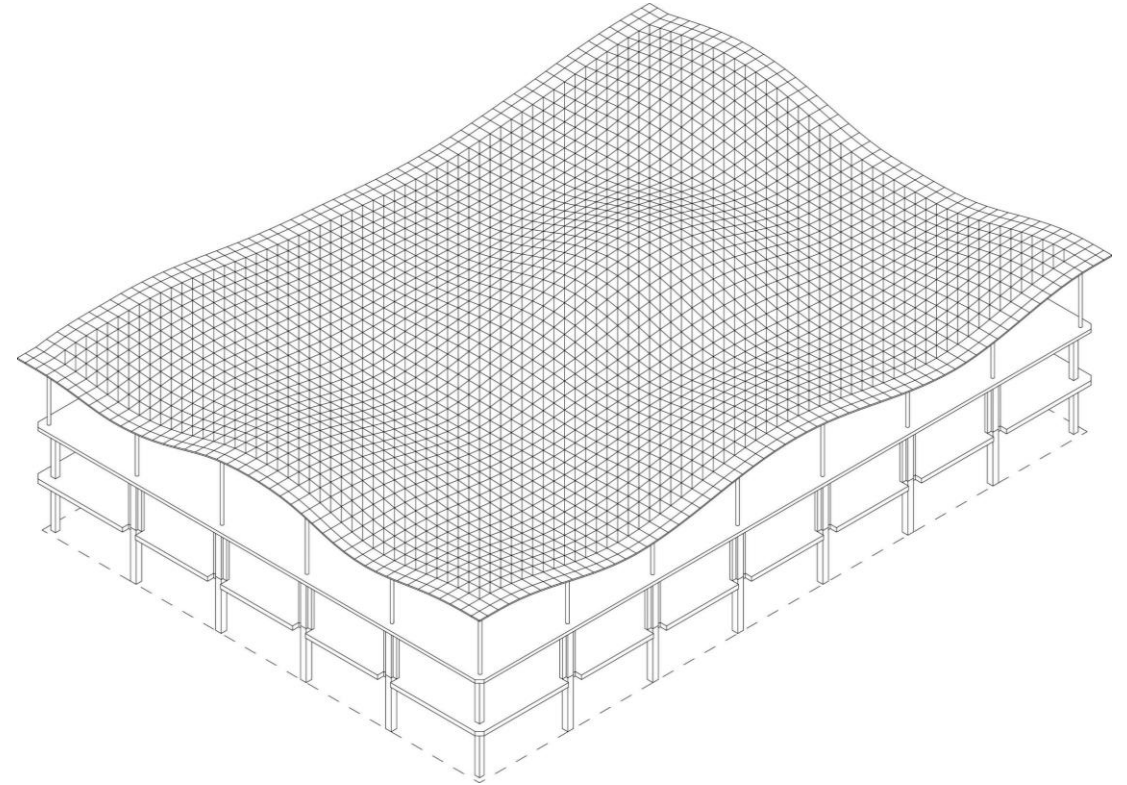
Remove



# Construction



Remove **275 t.**

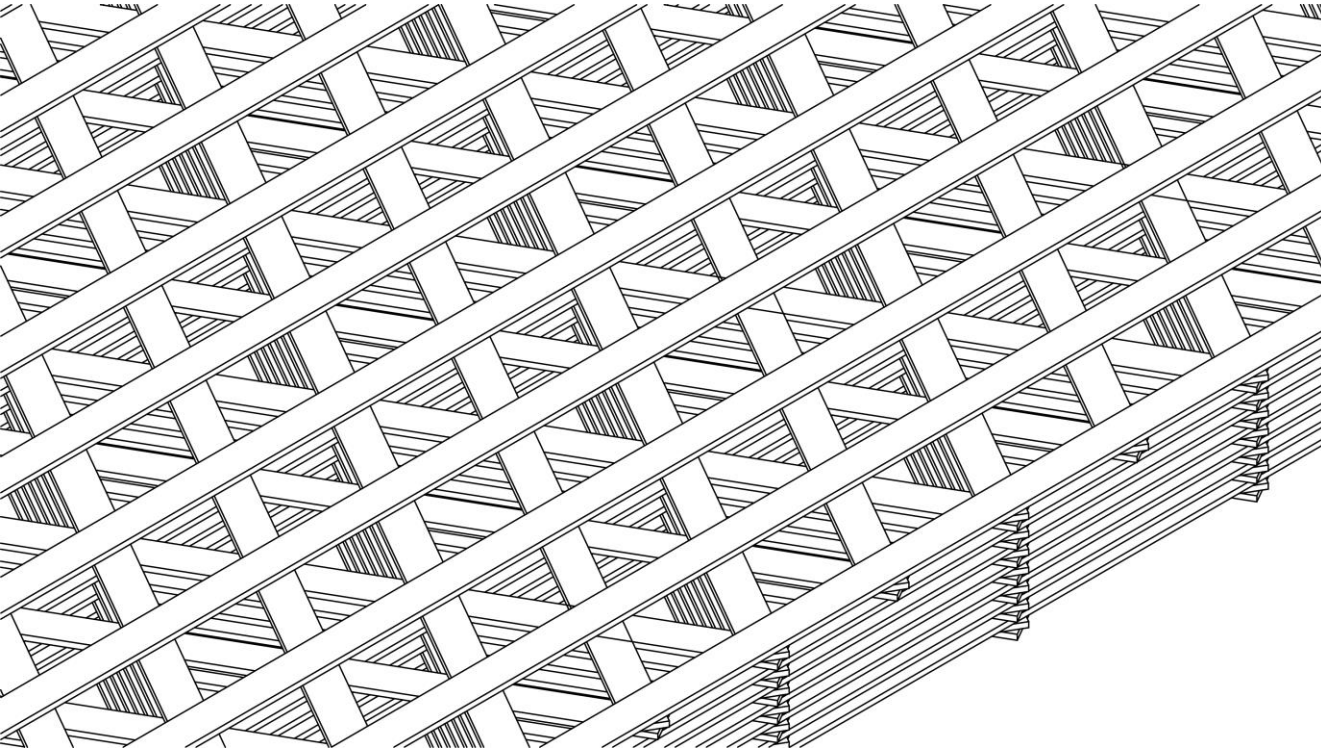


Add **268 t.**



# Construction

Lattice roof



**21 layers of wood**



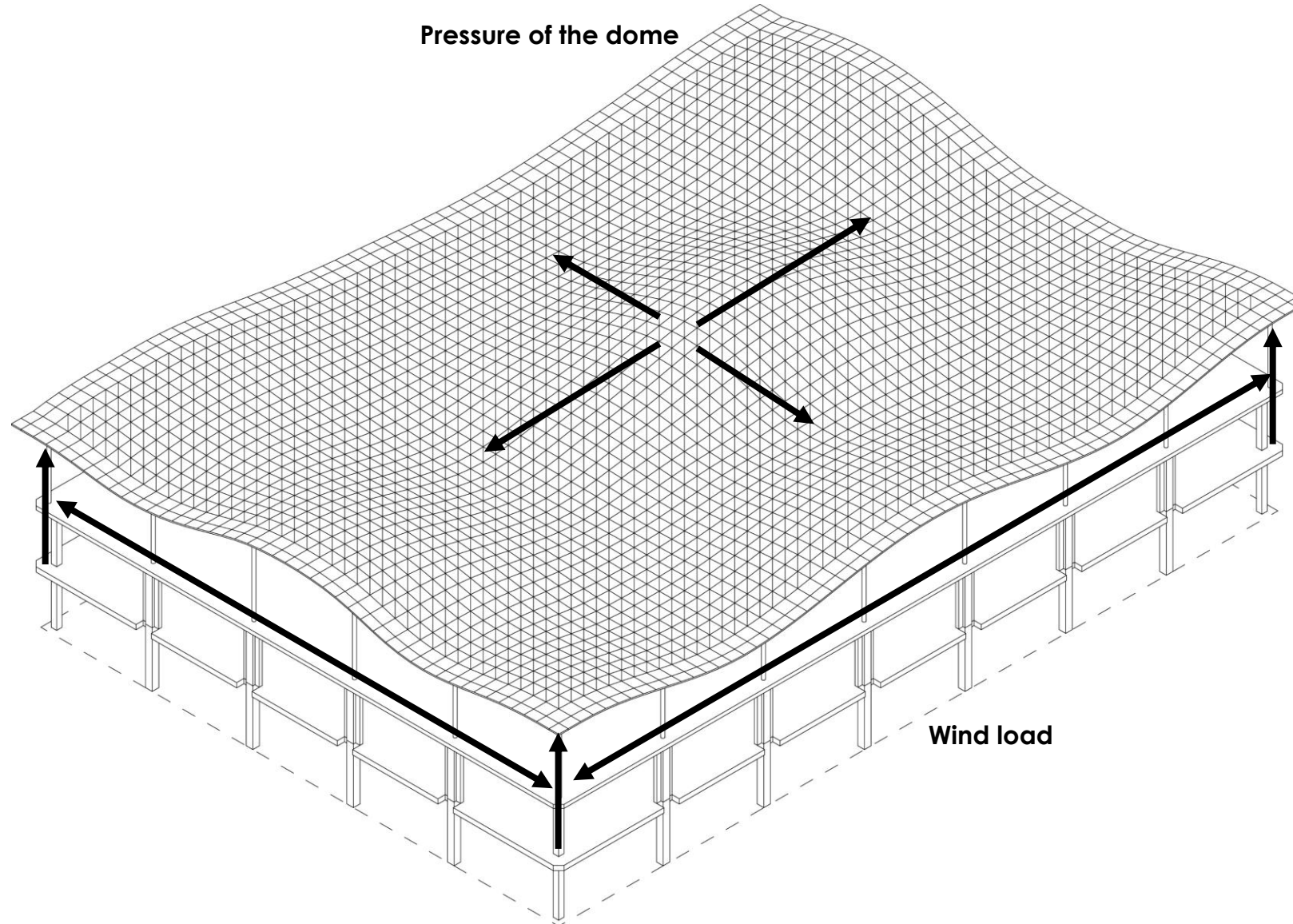
**Dimensionally stable**

**Constructed on site**



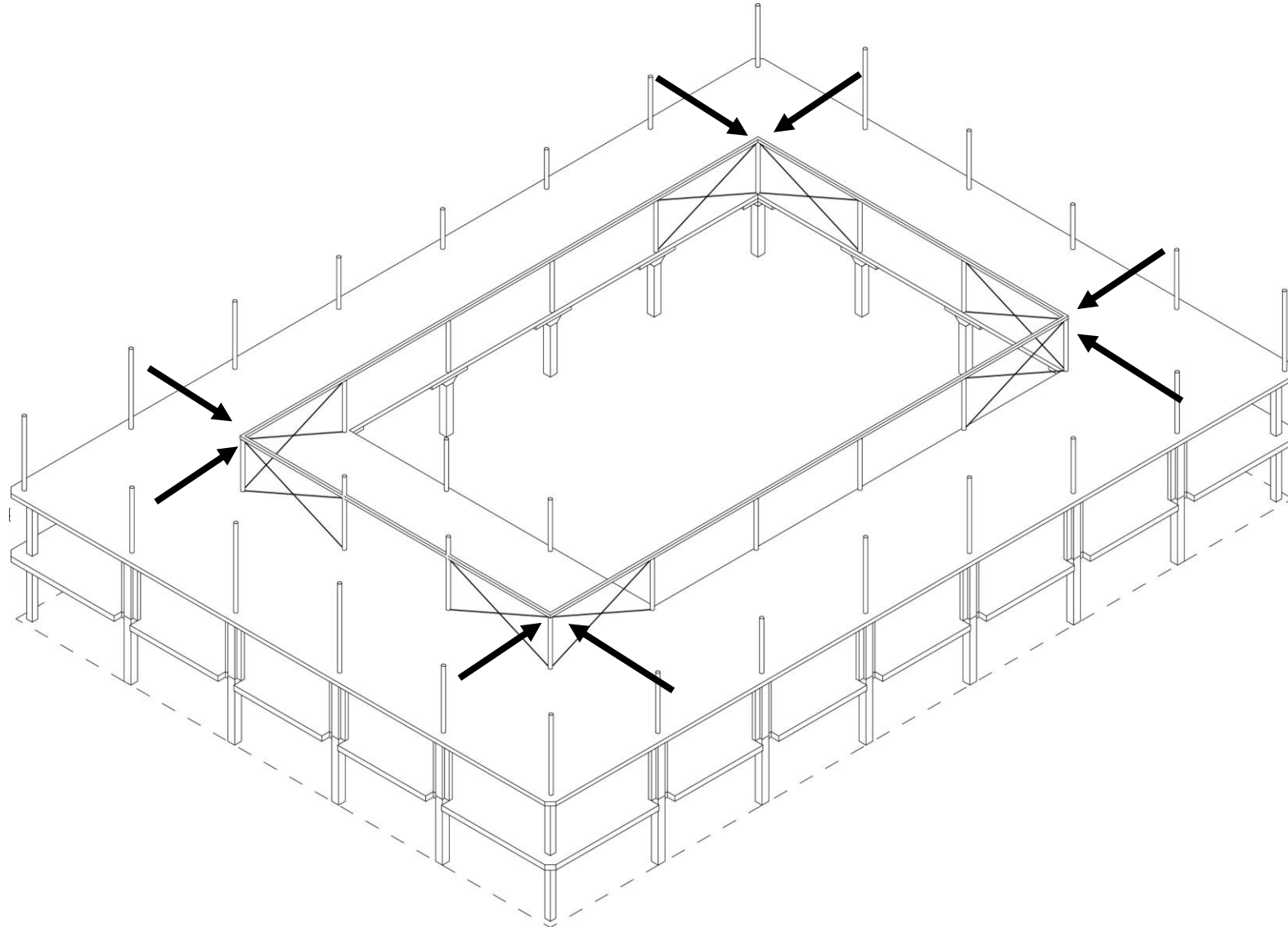
# Construction

## Loads



# Construction

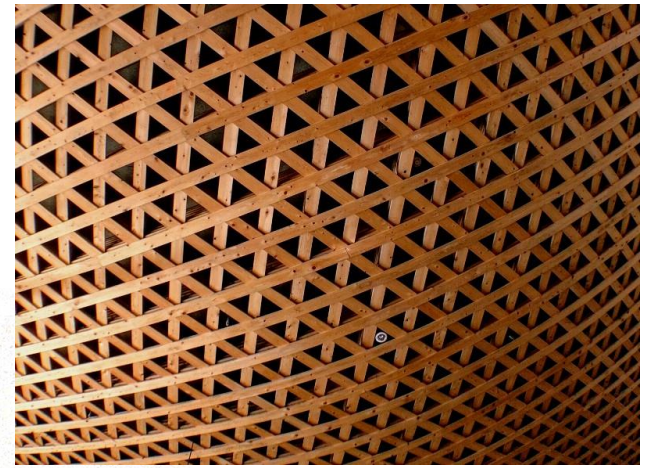
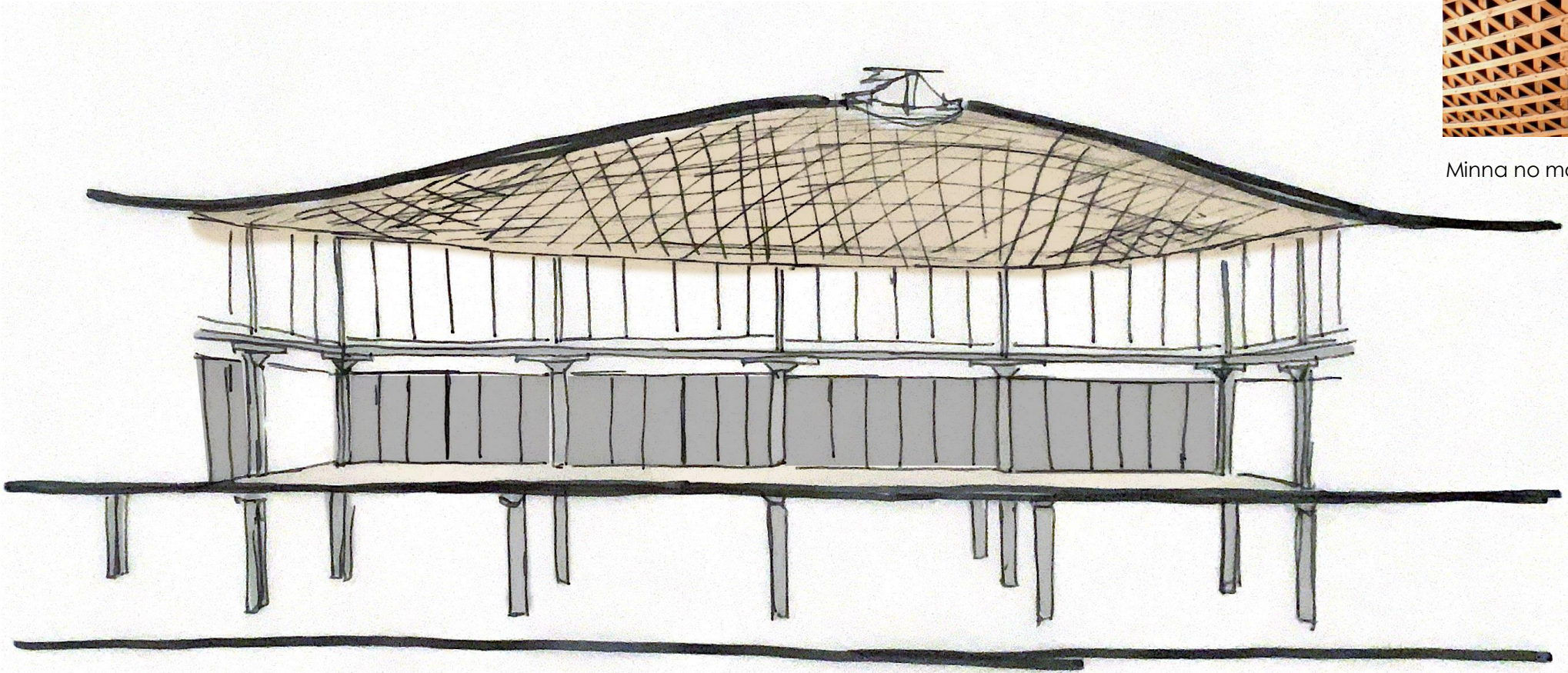
Remove





# Sports hall

Connection to existing structure



Minna no mori, Japan(2015)



# Sports hall

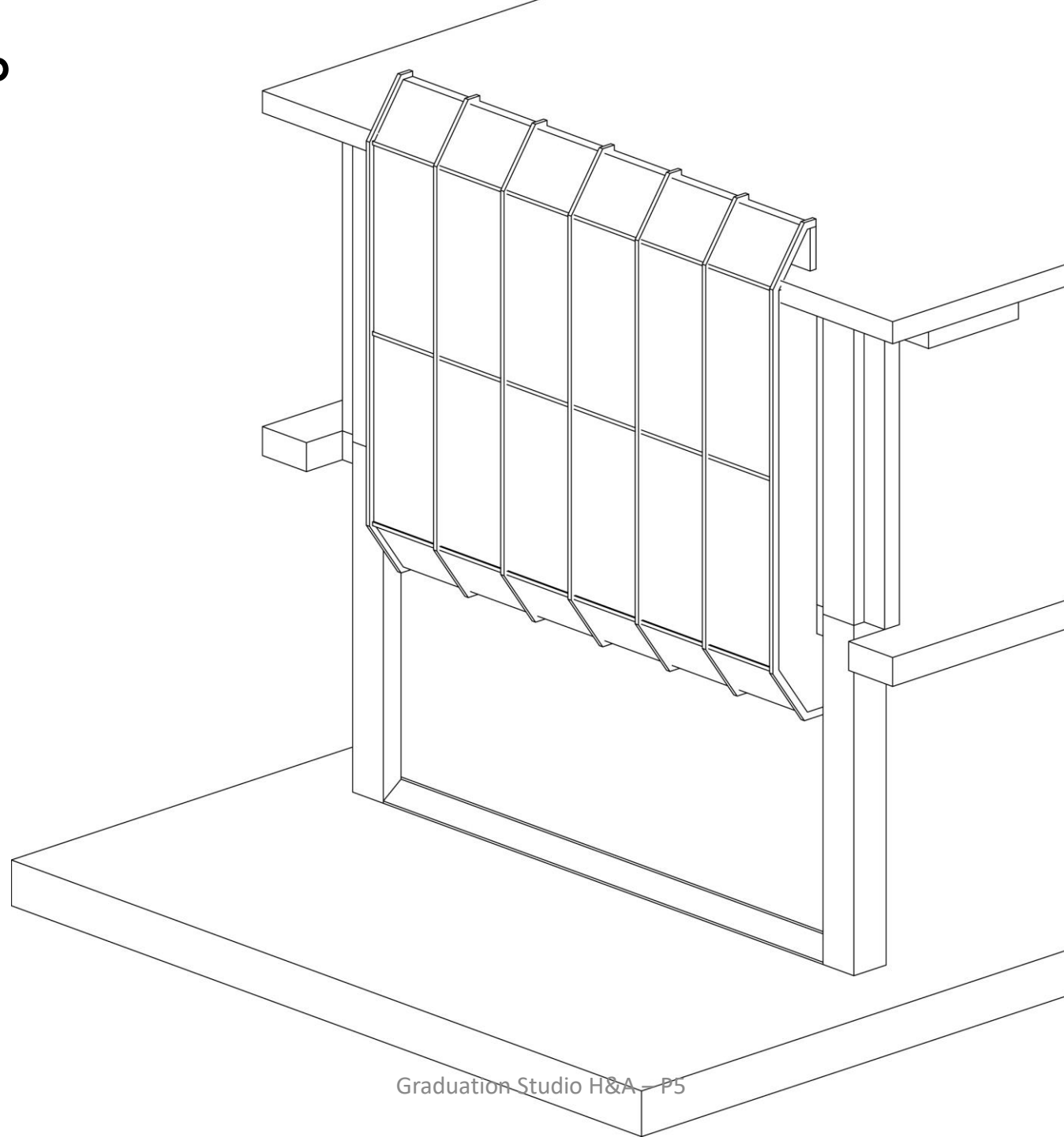
Connection to existing structure





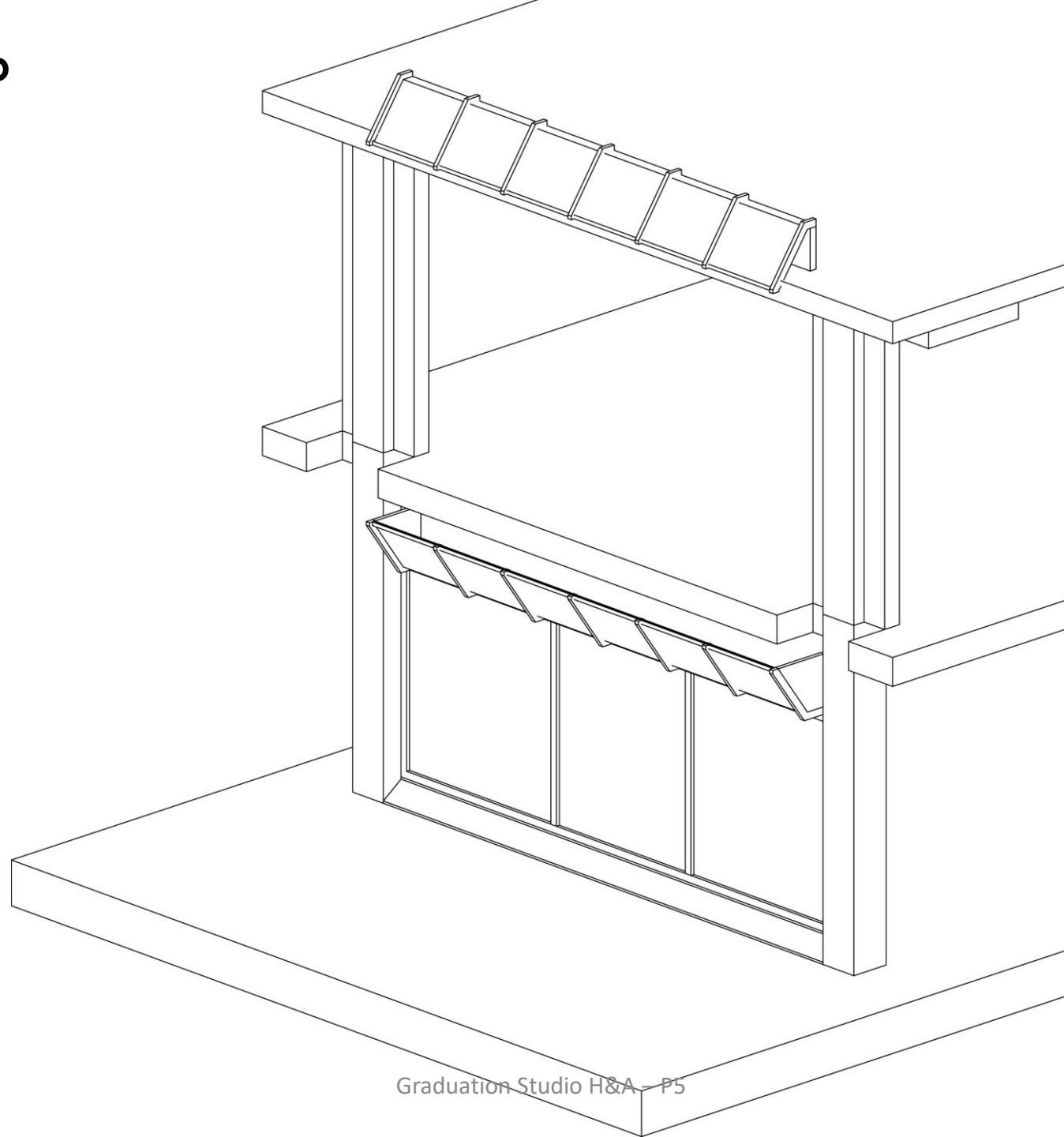
# Facade step by step

Original



# Facade step by step

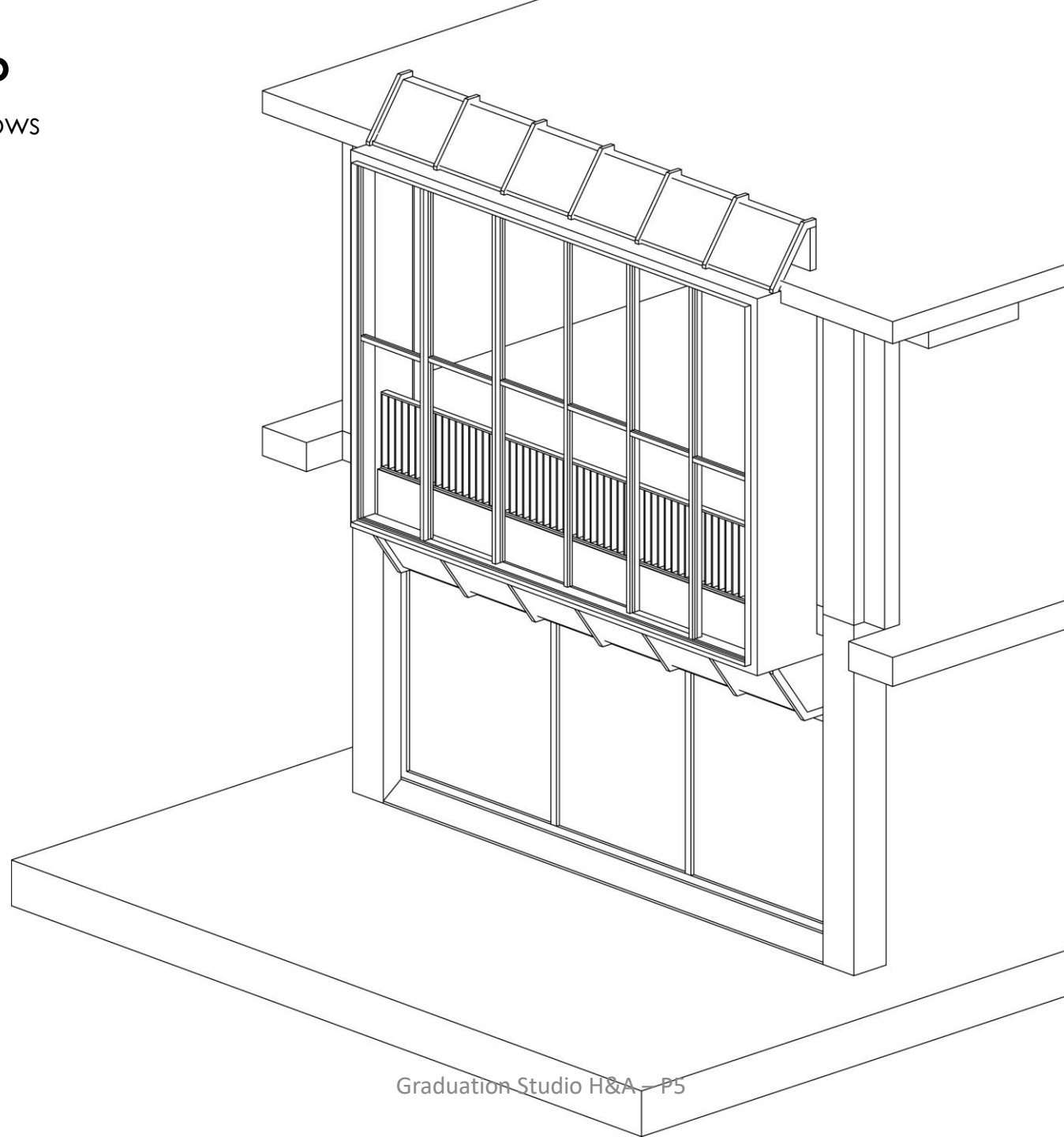
Remove middle





# Facade step by step

Add frame with sliding windows



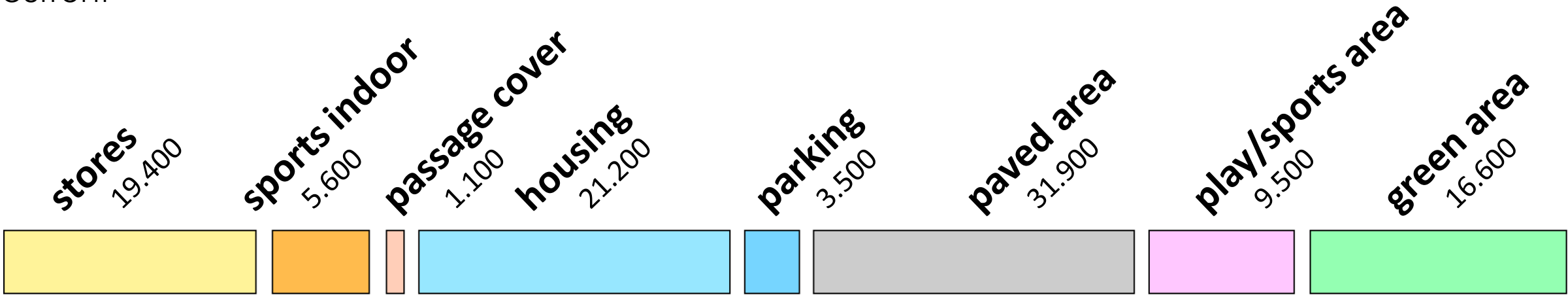
# Sports room



# conclusion



current

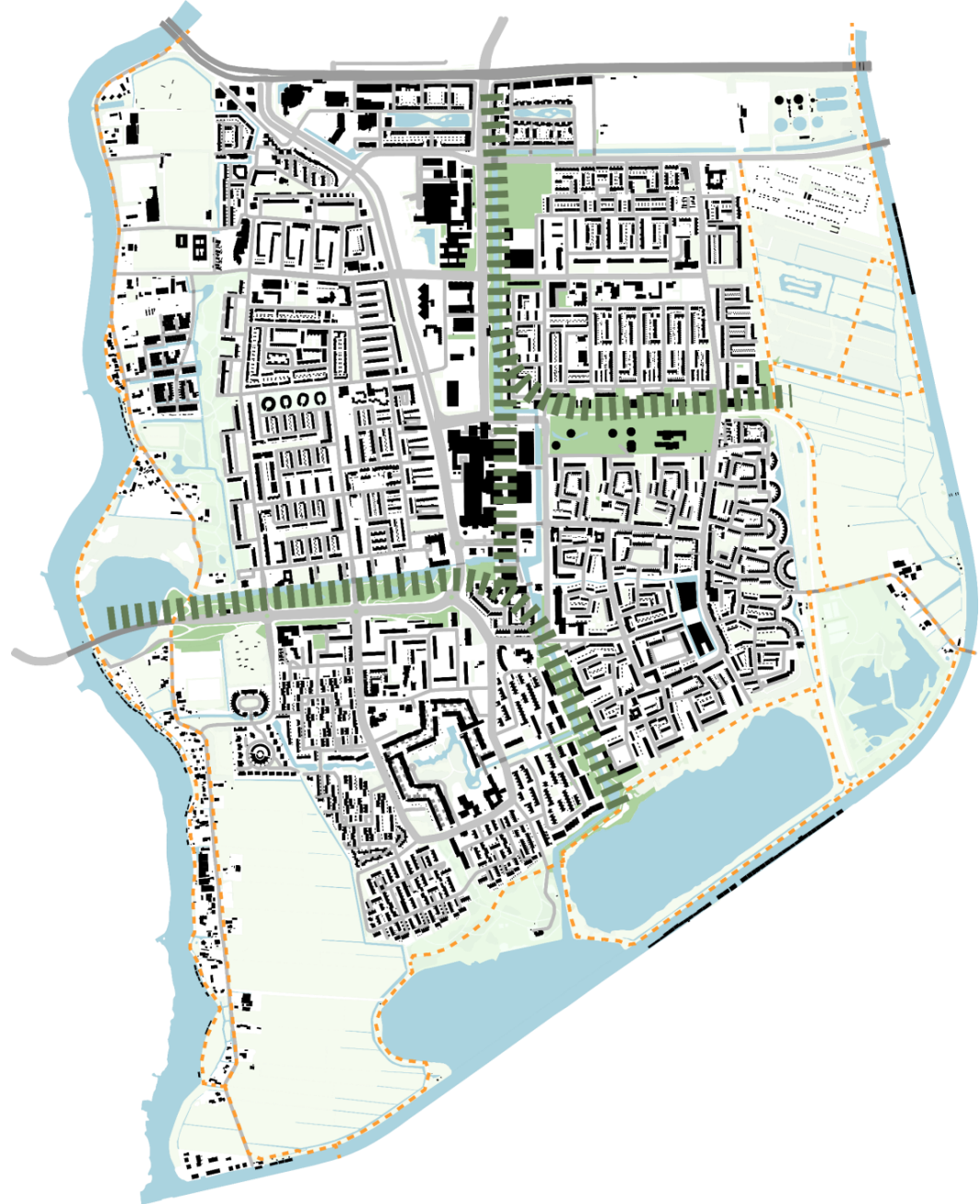


proposed

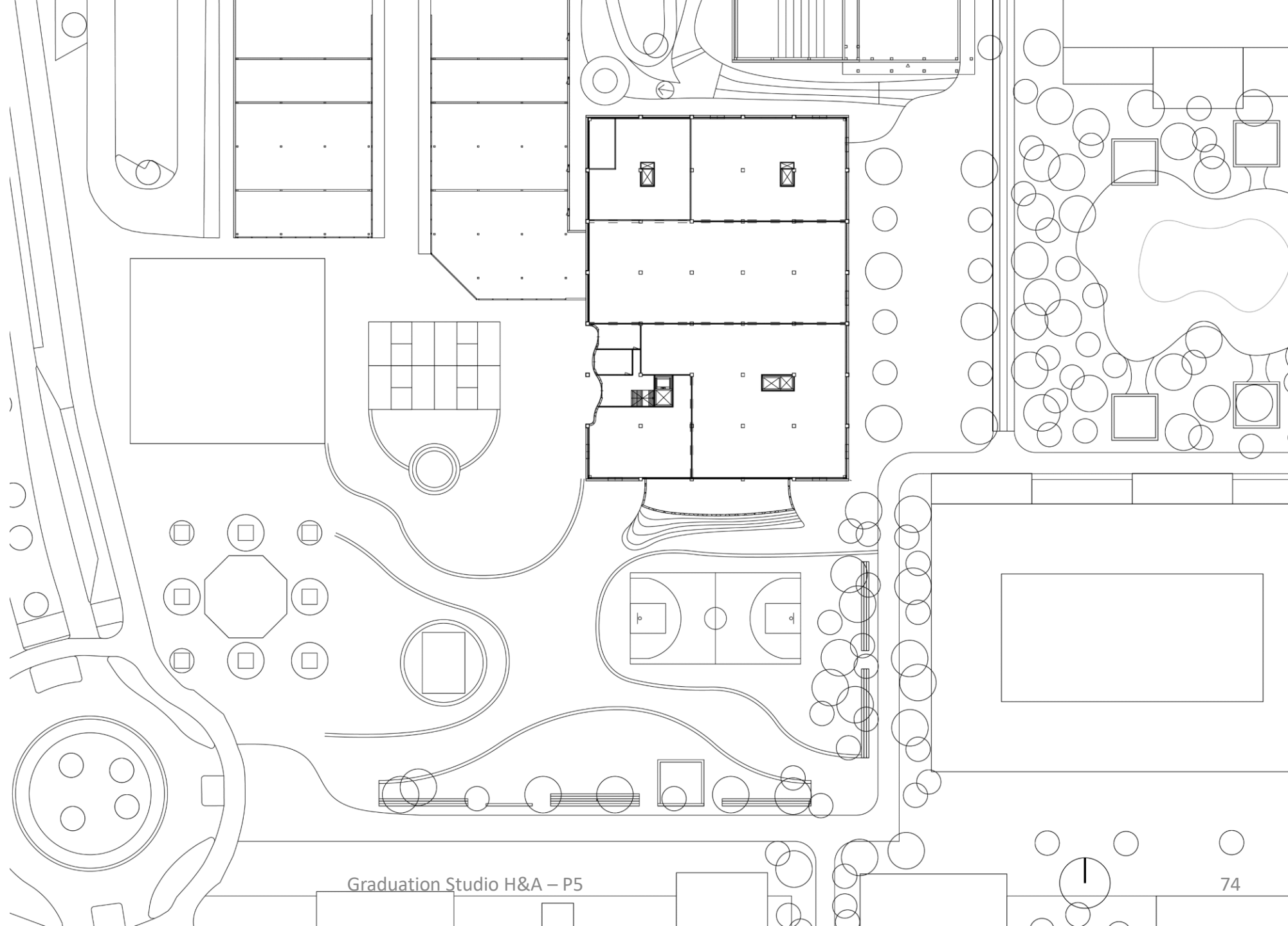


# Reflection green route

Requires bigger scale collaboration



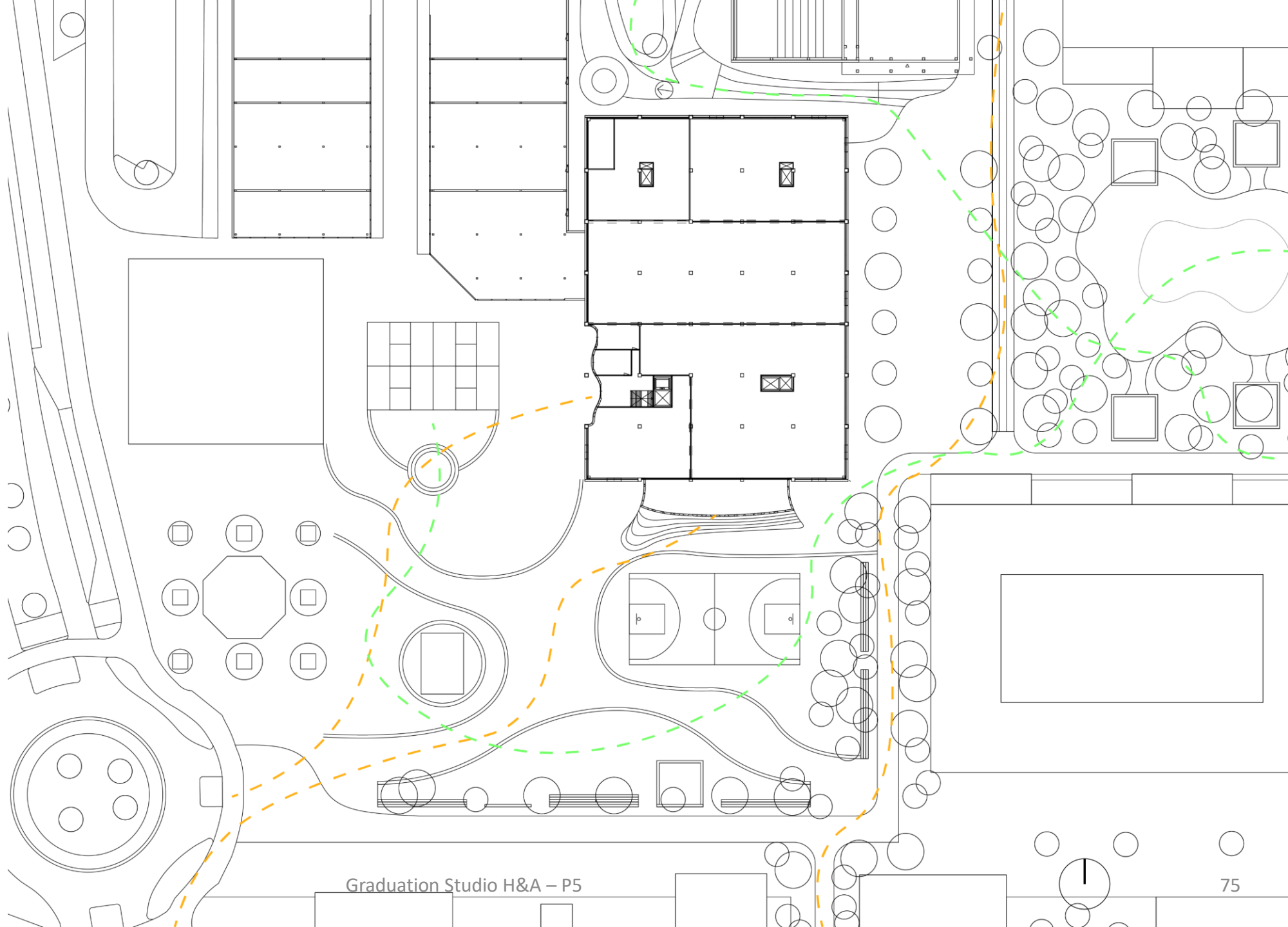
**Will it revitalize  
the mall?**



# Will it revitalize the mall?

Sports route

Play route



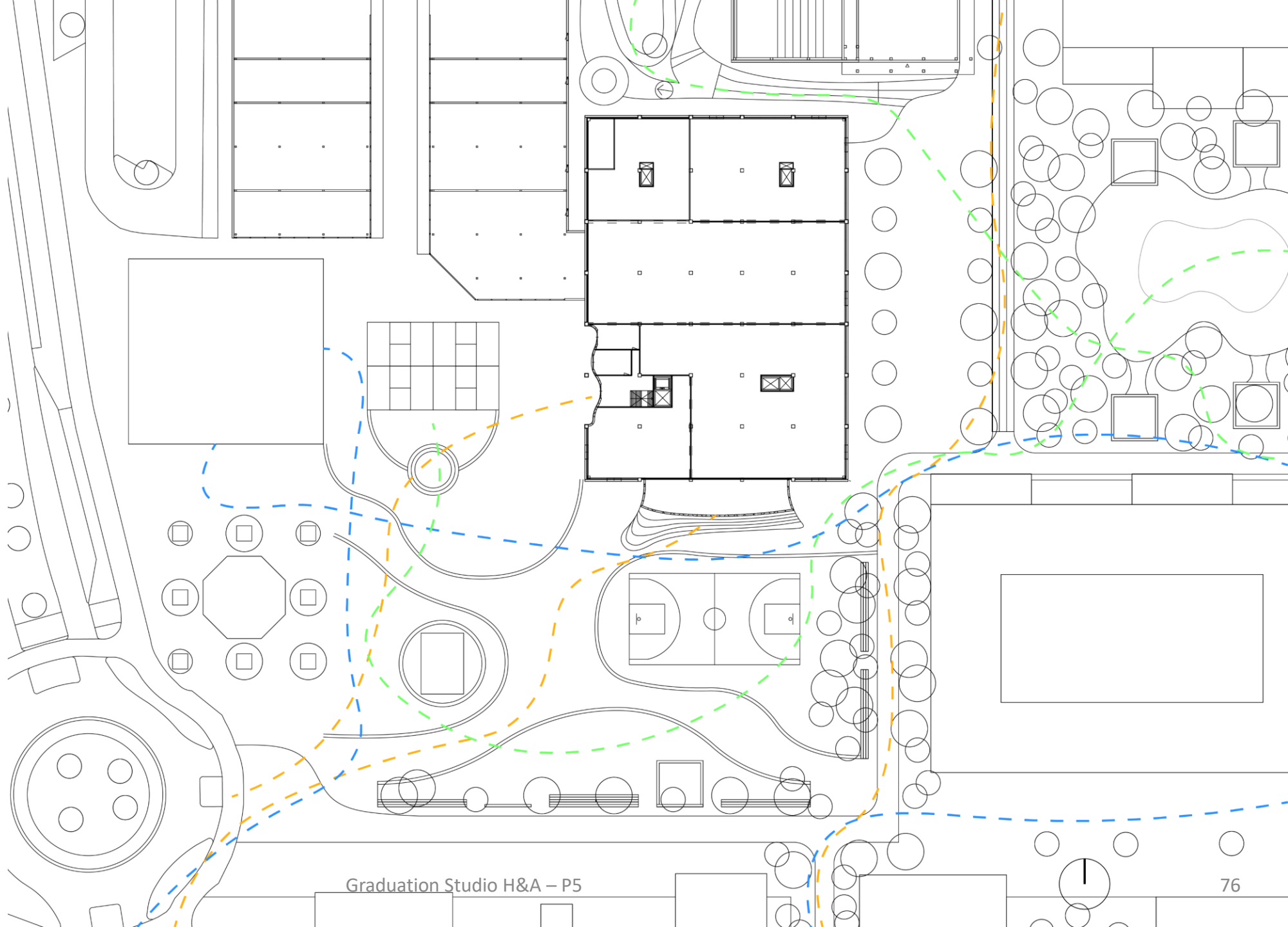


# Will it revitalize the mall?

Sports route

Play route

Housing route



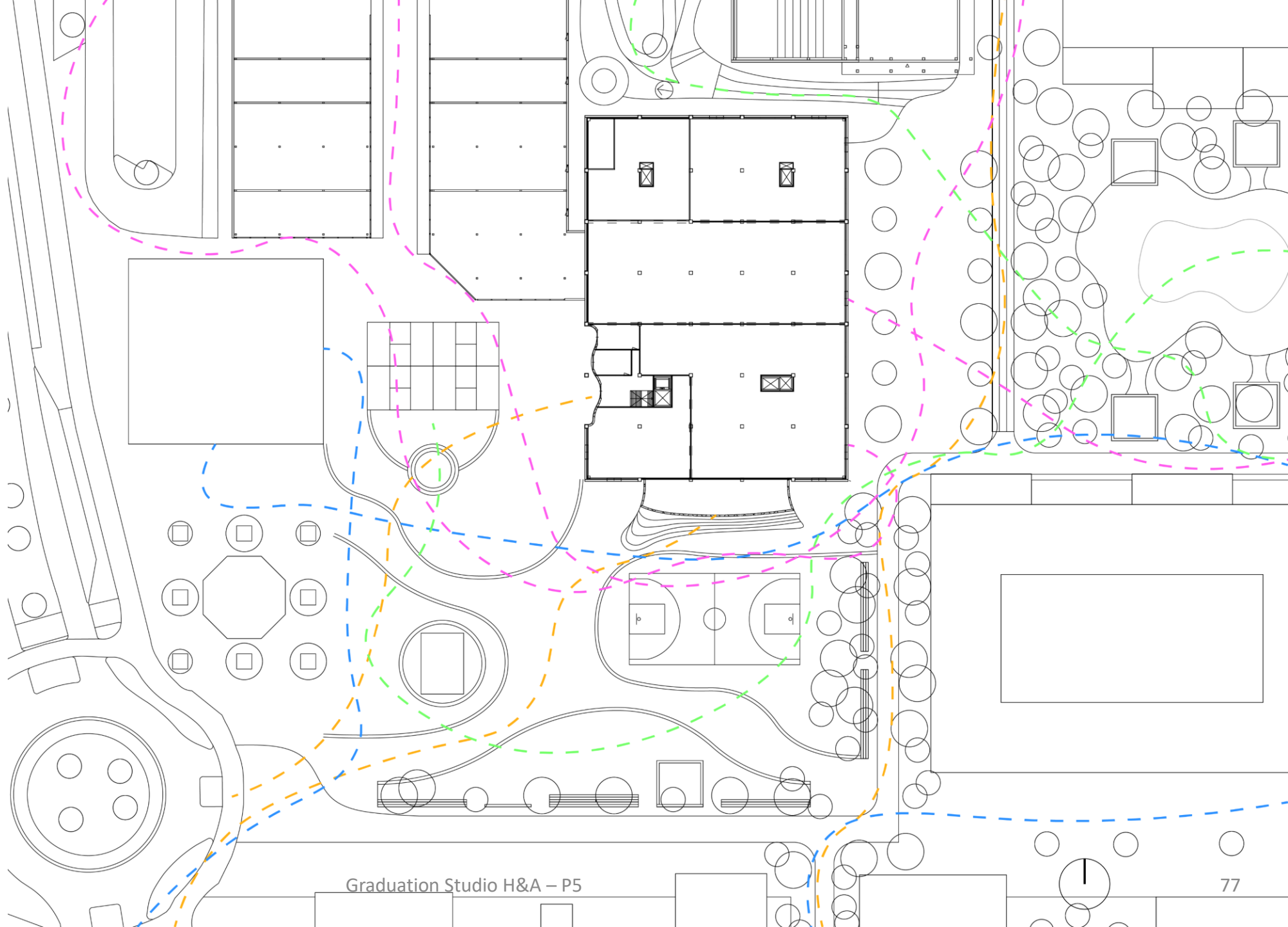
# Will it revitalize the mall?

Sports route

Play route

Housing route

Shopping route





## MOVEMENT IN THE SHOPPING MALL