



RED CROSS SOCIAL CENTER

MIGRATION OF SOCIAL ADAPTATION TO CLIMATE CHANGE

GERWIN VAN DEN BOOGAART P5 PRESENTATION

fall semester

23/06/2021



complex projects

Introduction

Research

Design brief

Concept

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PROJECT LOCATION



PROJECT LOCATION

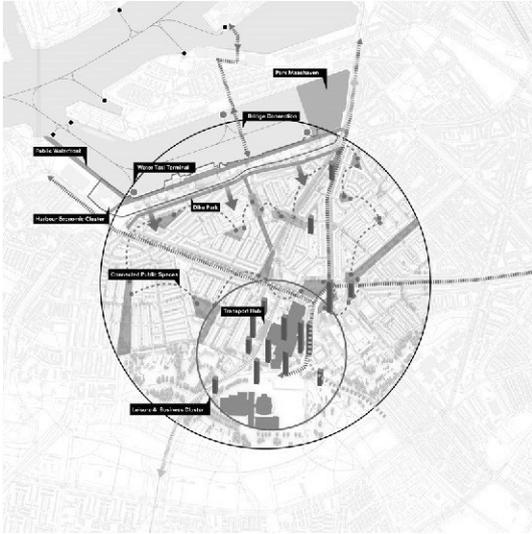


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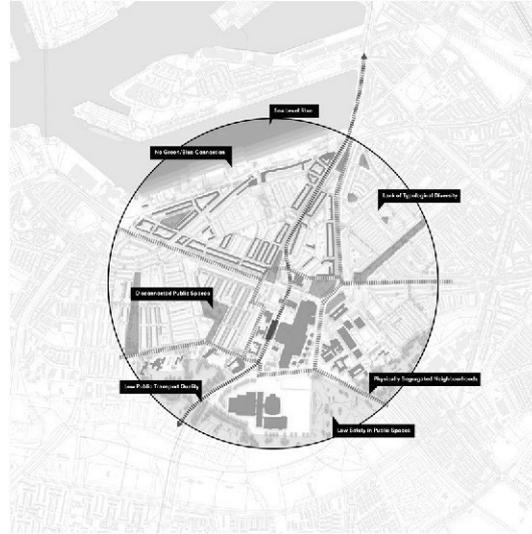


Introduction

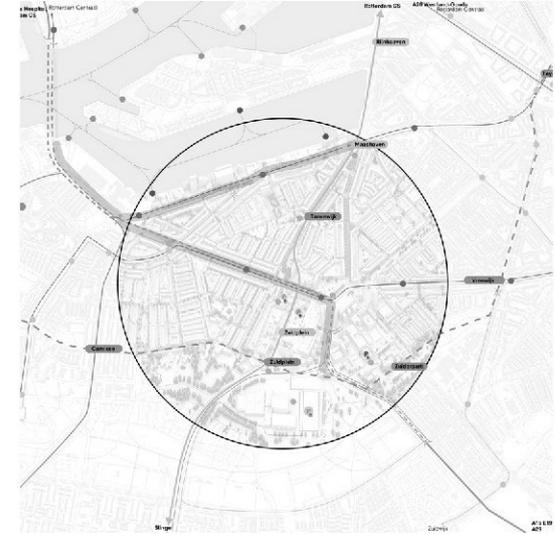
GROUP RESEARCH



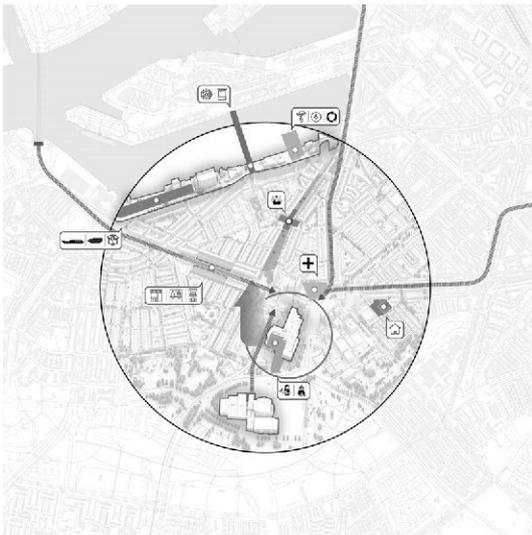
site challenges



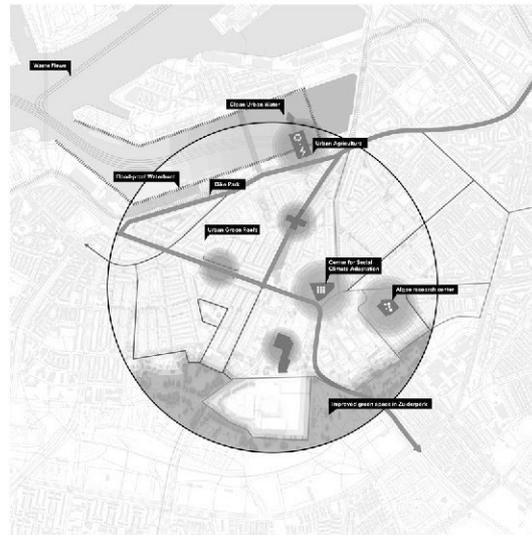
site potential



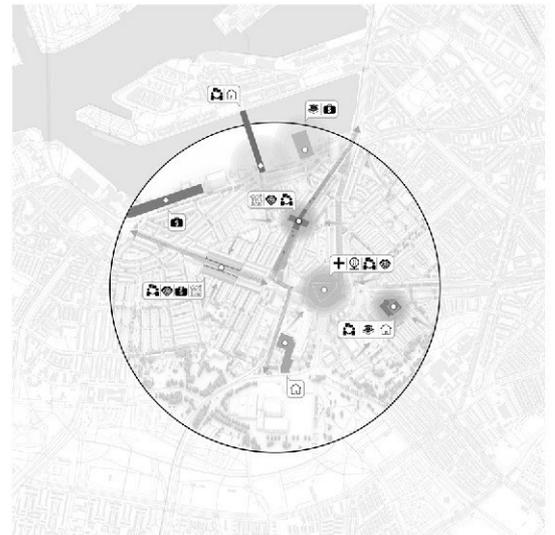
transport vision



economical vision



environmental vision



demographical vision

GROUP VISION



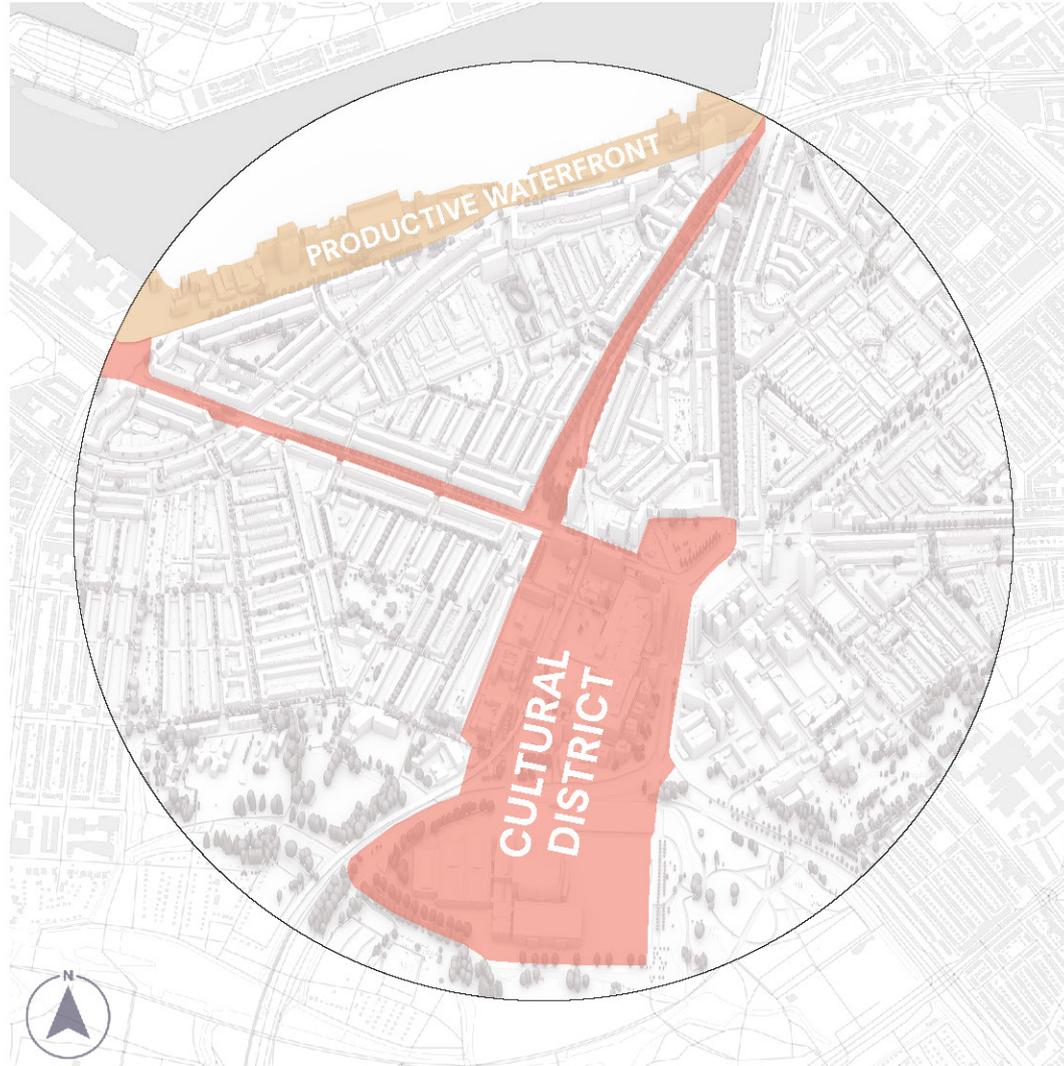
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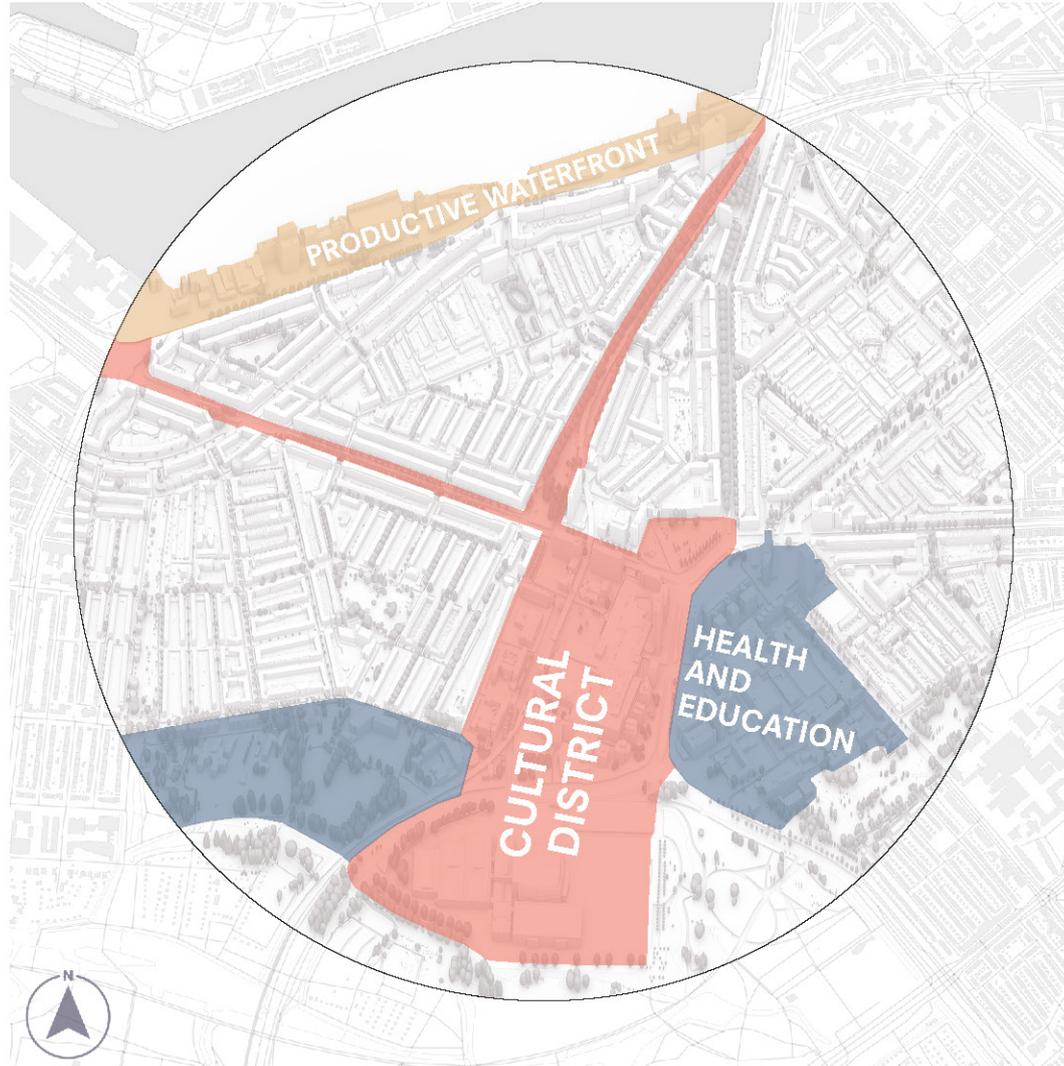
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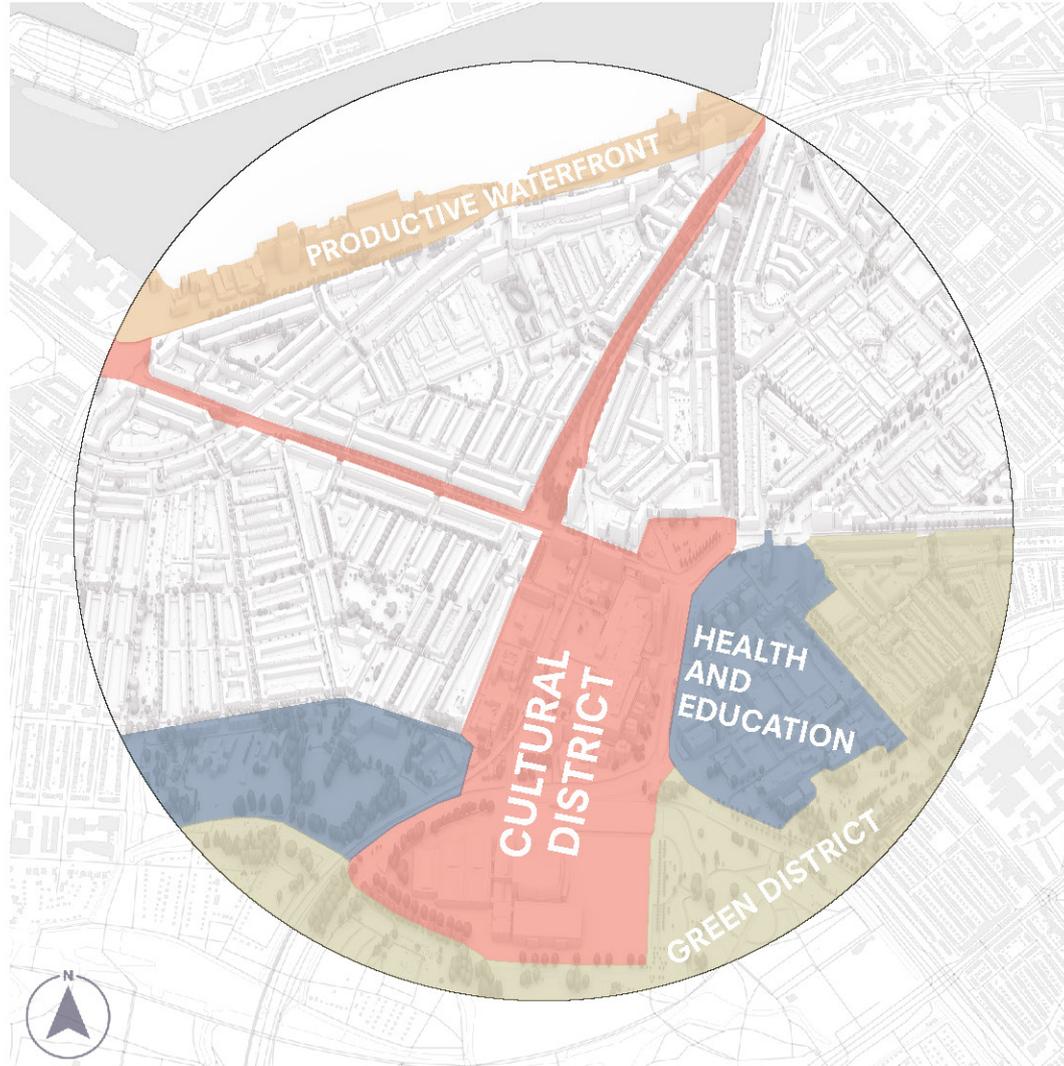
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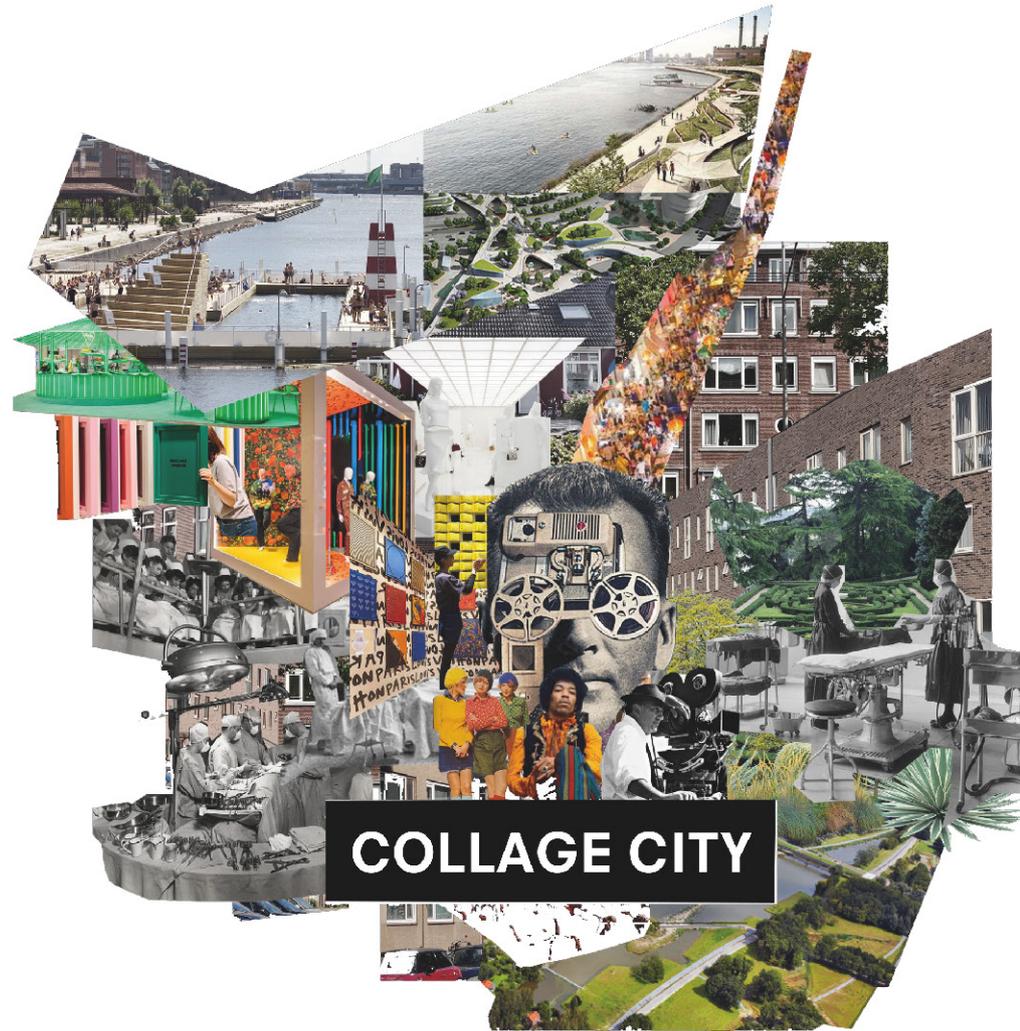
GROUP VISION



GROUP VISION



GROUP VISION



POLYCENTRIC CITY



INTERVENTIONS



-  Research Centre for Mycoremediation
-  The Maashaven Bridge
-  Ambidextrous Port
-  The Gallery of Temporalities
-  Tarwewijk Mobility HUB
-  Red Cross Social Center
-  The Creative Living Station
-  The Living City

STUDIO THEME

MIGRATION OF IDEAS

Group definition

The movement of ideas, thoughts, philosophy, knowledge or other non-physical conditions from one space and/or time to another, where they are activated and manifested. As a result, this may purposefully or accidentally effect other existing conditions in a different setting, thereby giving birth to new ideas or phenomena.

INTERVENTIONS



-  Research Centre for Mycoremediation
-  The Maashaven Bridge
-  Ambidextrous Port
-  The Gallery of Temporalities
-  Tarwewijk Mobility HUB
-  Red Cross Social Center
-  The Creative Living Station
-  The Living City



PROBLEM STATEMENT

**DID YOU NOTICE CLIMATE IS
CHANGING?**



PROBLEM STATEMENT



2050 +2,5°

PROBLEM STATEMENT



2050 Sealevel + 82cm

PROBLEM STATEMENT



PROBLEM STATEMENT



2050 Elfstedentocht 2% chance

PROBLEM STATEMENT



>30cm, highest impact of heavy rainfall



44°, highest wind chill temperatures



0,5 to 2m, highest flooding chances



>2°, highest effects of the urban heat island effect



>80%, highest amount of pavement



30-100 / km², highest amount of lonely elderly



PROBLEM STATEMENT



PROBLEM STATEMENT



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HARD INFRASTRUCTURE



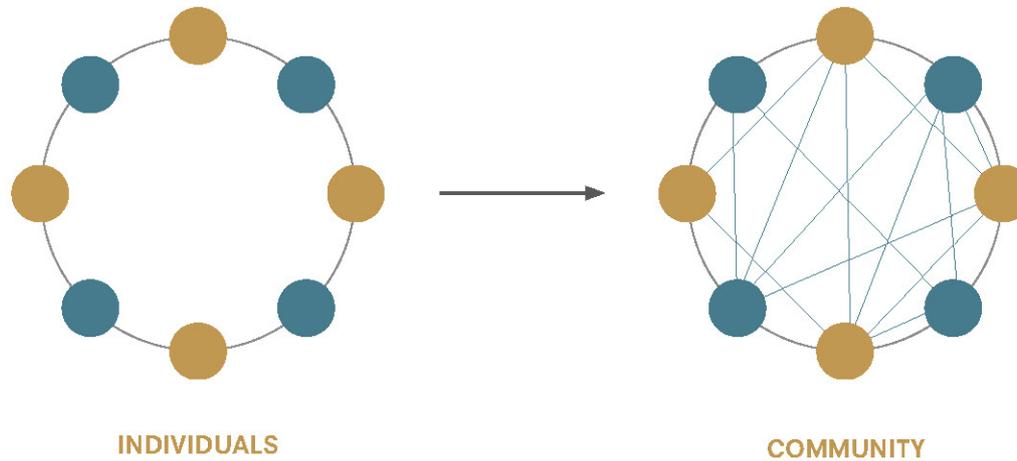
SOCIAL INFRASTRUCTURE



SOCIAL INFRASTRUCTURE

Social Infrastructure

The physical places that shape the way we interact.



RESILIENT COMMUNITIES

RESILIENT COMMUNITIES

A resilient community is able to resist, absorb, accommodate, and recover from the effects of a hazard in a timely and effective manner.



RESEARCH QUESTION

Research Question

How can both social- and hard infrastructure contribute to the creation of a resilient climate proof community?

SOCIAL INFRASTRUCTURE

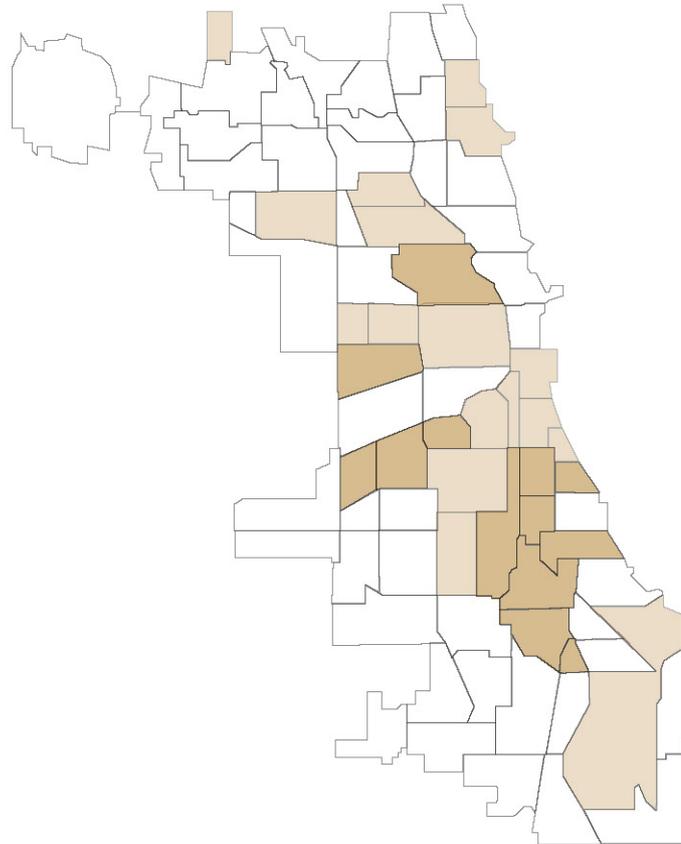
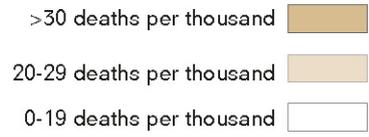


Research

SOCIAL INFRASTRUCTURE



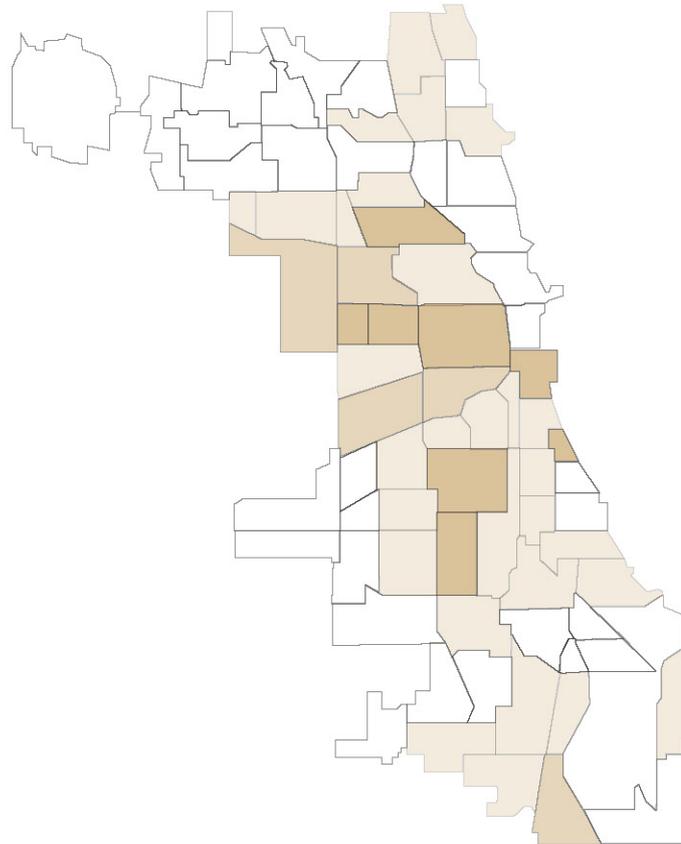
SOCIAL INFRASTRUCTURE



CHICAGO



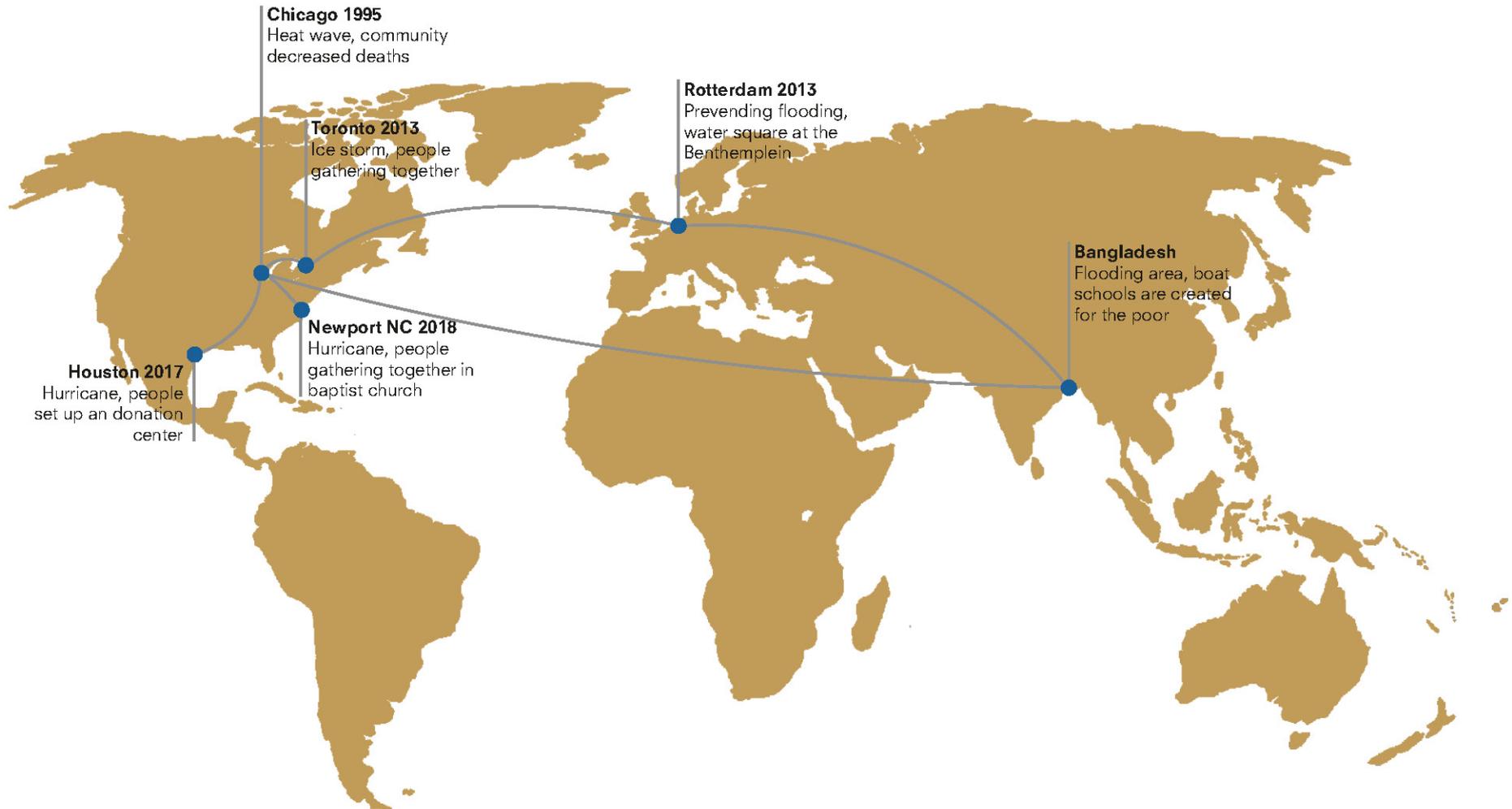
SOCIAL INFRASTRUCTURE



CHICAGO



MIGRATION OF SOCIAL ADAPTATION TO CLIMATE CHANGE





Research

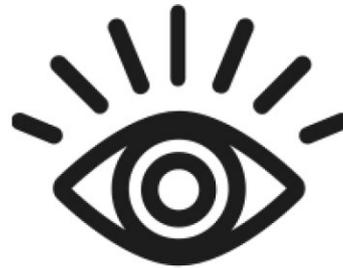
RED CROSS



SOCIAL INFRASTRUCTURE - PROGRAM



**Short lines with the
people they try to help**



Create visibility

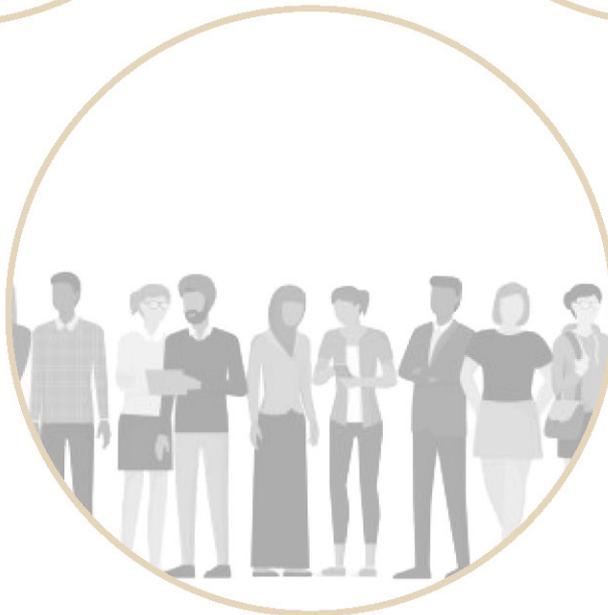


**Most insufficient
living quality in the
Netherlands**

TARGET GROUPS



SOCIAL INFRASTRUCTURE - TARGET GROUPS

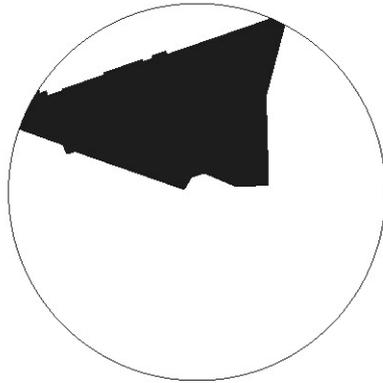


HARD INFRASTRUCTURE

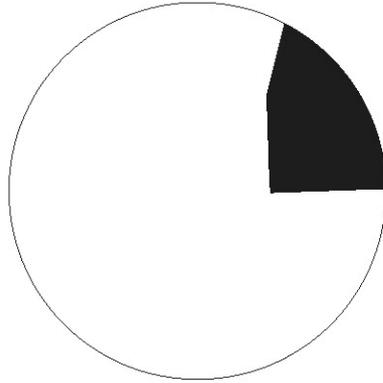


Research LOCATION

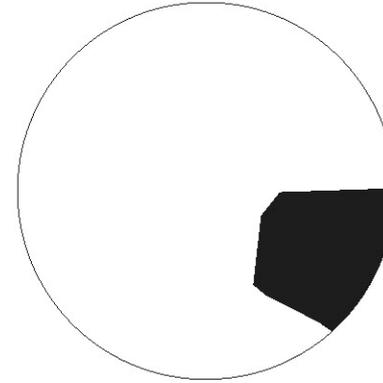
TARWEWIJK



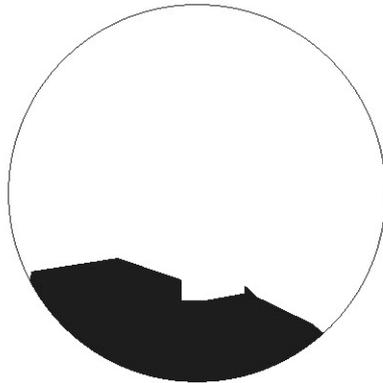
BLOEMHOF



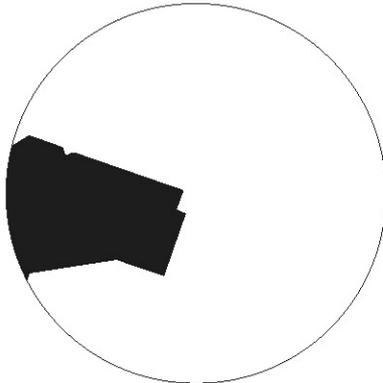
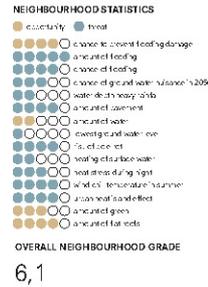
VREEWIJK



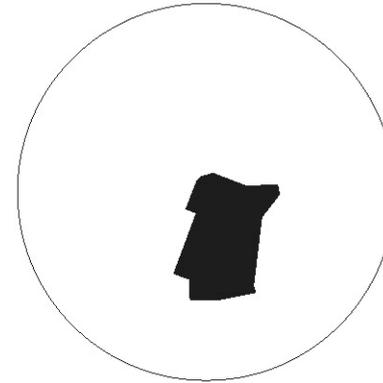
ZUIDERPARK



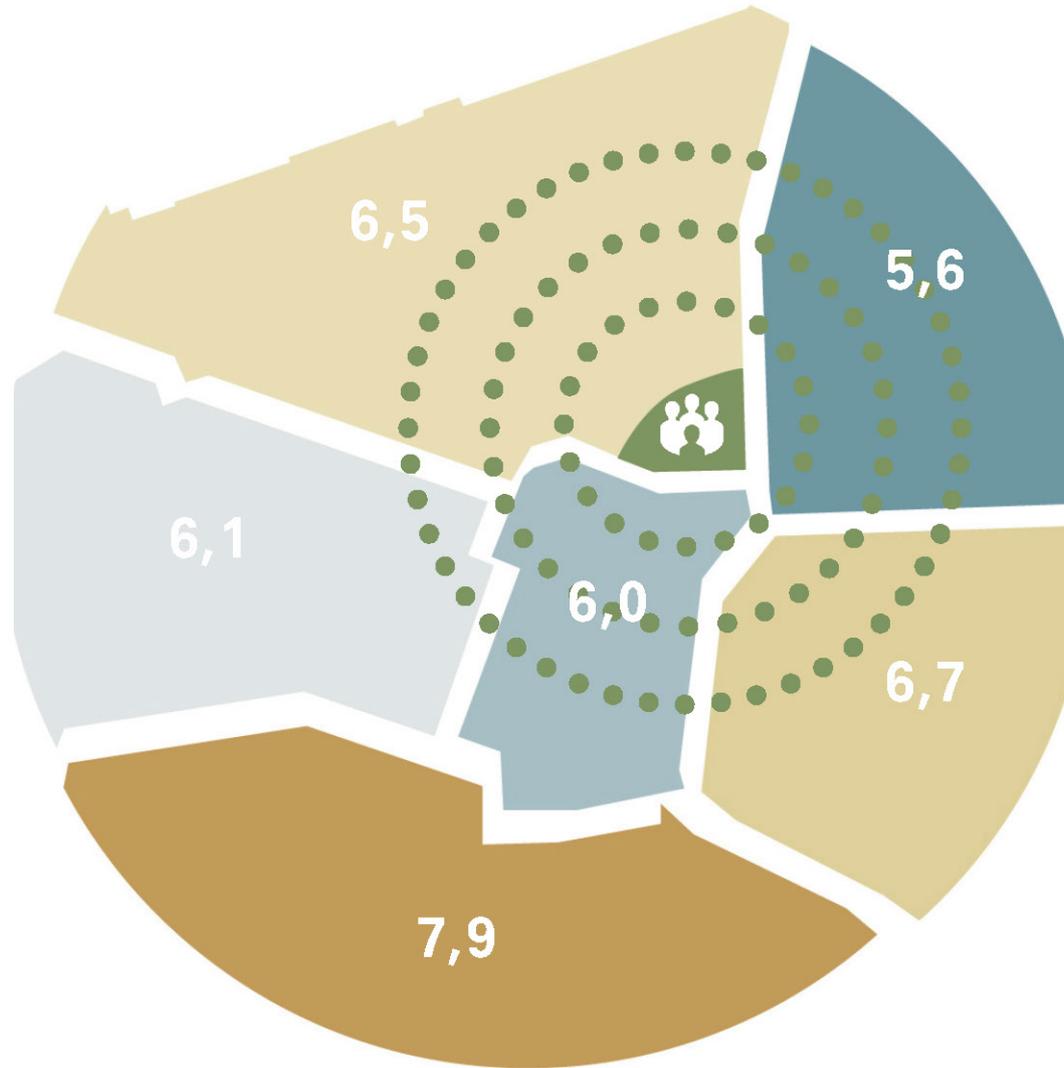
CARNISSE



ZUIDPLEIN



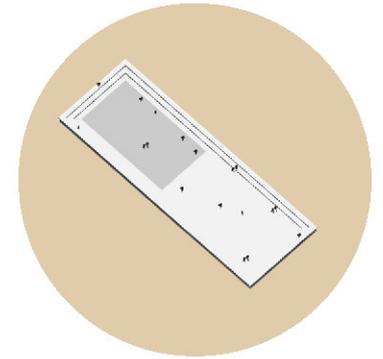
LOCATION



LOCATION



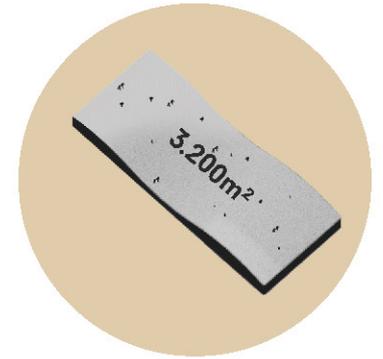
20-30cm
Most extreme rainfall



300 x



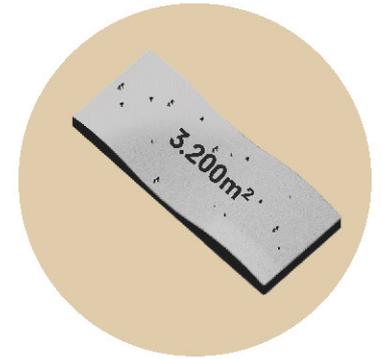
LOCATION



20-30cm
Most extreme rainfall

Research

LOCATION

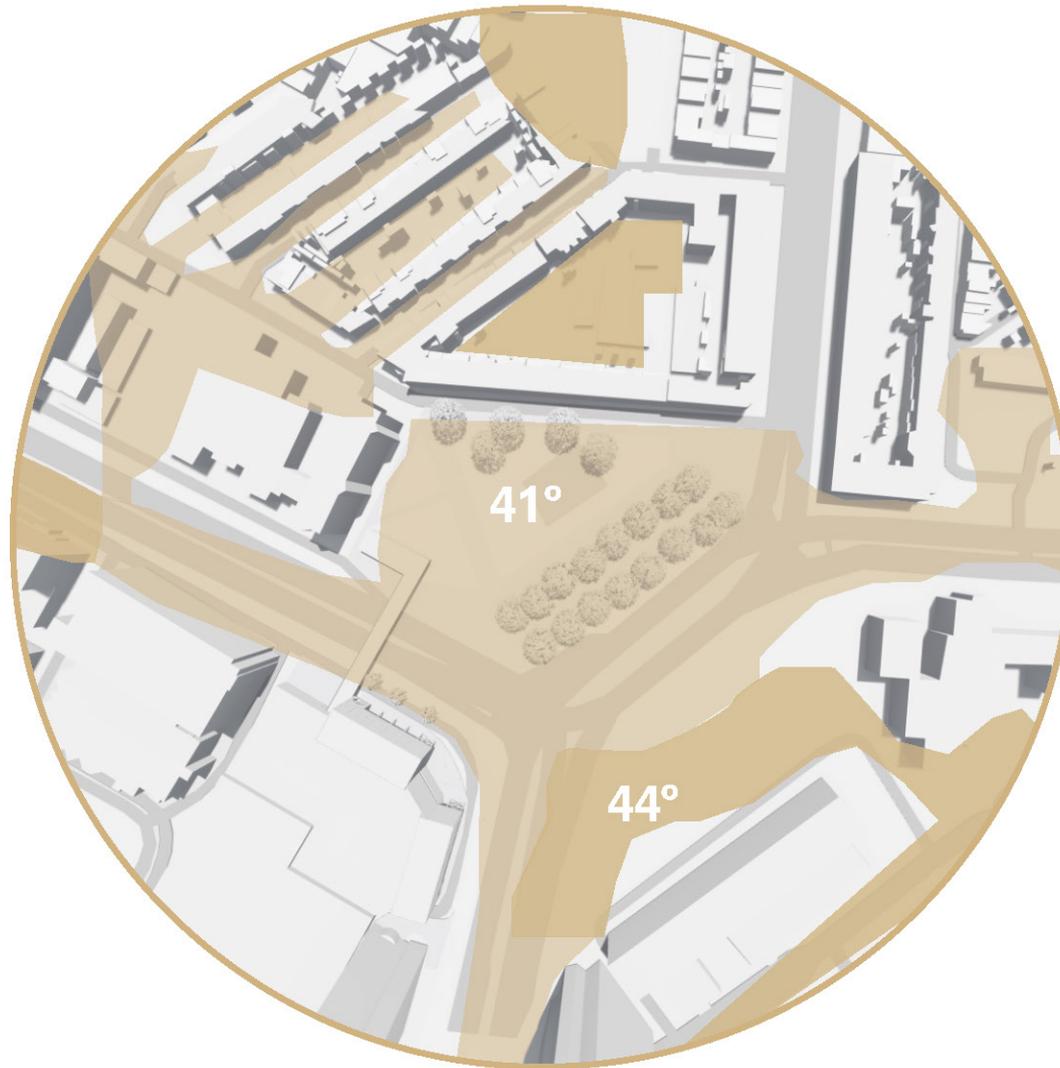


1200 x



20-30cm
Most extreme rainfall

LOCATION



41°

Highest wind chill temperature, when the temperature in Zuiderpark is 33°

LOCATION



>1,8 - 2°
Impact of the urban heat island effect on the site.

LOCATION



>1,8 - 2°
Impact of the urban heat island effect on the site.

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REFERENCES

Red Cross headquarters



Current Red Cross headquarters in the Hague



New design (2012) for a new Red Cross headquarters in the Hague by atelier PRO



Red Cross volunteer house + headquarters in Copenhagen designed by COBE



Falcognada elderly center. Designed by Ian+



KU.BE House of culture and movement. Designed by MVRDV



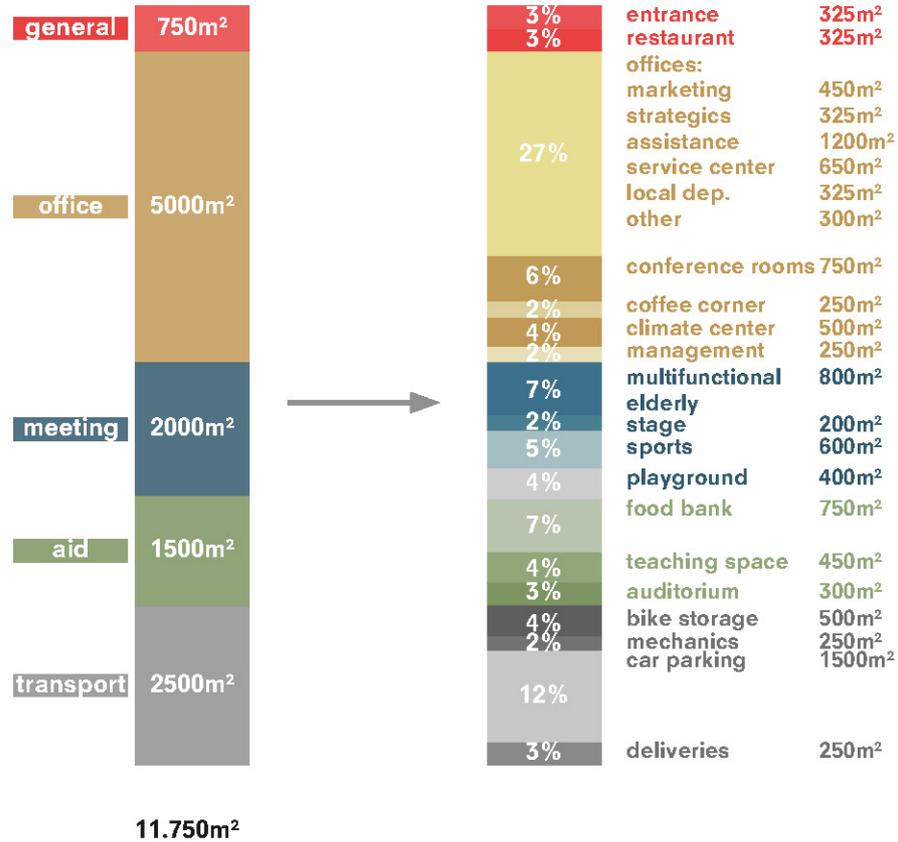
Community centre Herstelund. Designed by Dorte Mandrup

Specific

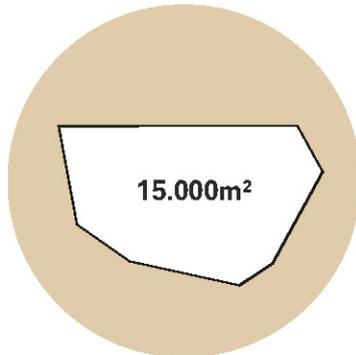


Food bank Bergeijk
Designed by Behrtel
bouwadvies

PROGRAM BAR



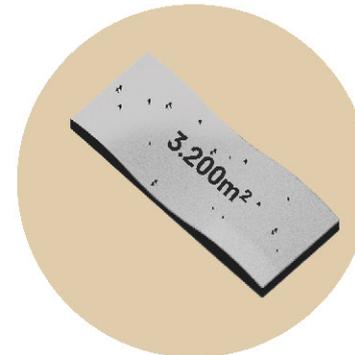
PROGRAM RULES



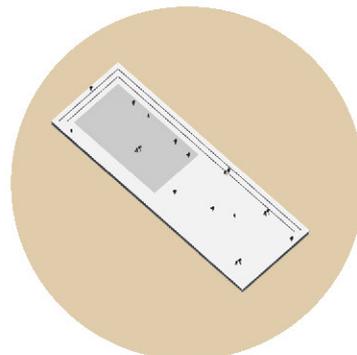
CREATE A RESILIENT PLOT



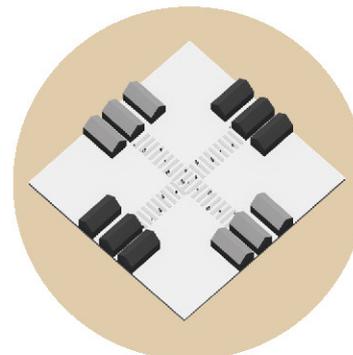
FIXED BUILDING SIZE



WATER COLLECTING +
ACCESSIBLE GREEN ROOF

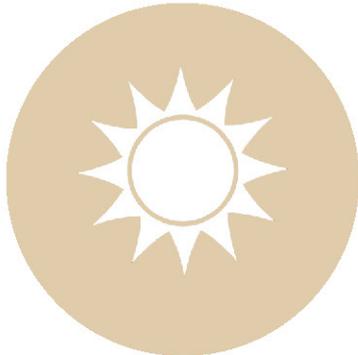


WATERSQUARE AS A SOCIAL
CONNECTOR



CONNECTING THE
FOUR ADJACENT
NEIGHBOURHOODS

URBAN RULES



DEAL WITH THE URBAN HEAT ISLAND EFFECT



CONNECT THE NEIGHBOURHOODS

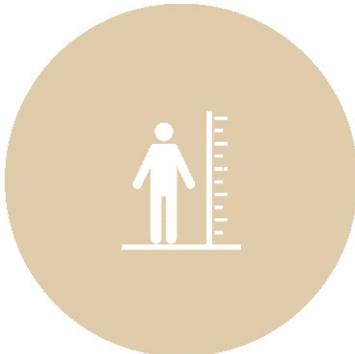


ATTRACT THE PEOPLE BOUND TO THEIR HOMES

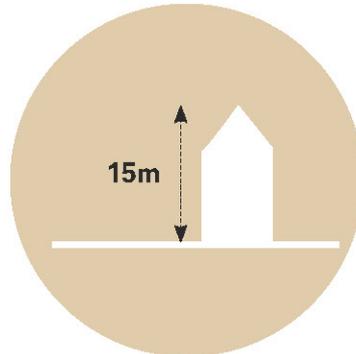


90 parking spots

MINIMAL CAR PARKING, STIMULATE PUBLIC TRANSPORT



HUMAN SCALE BUILDING



MIND THE SURROUNDING BUILDINGS



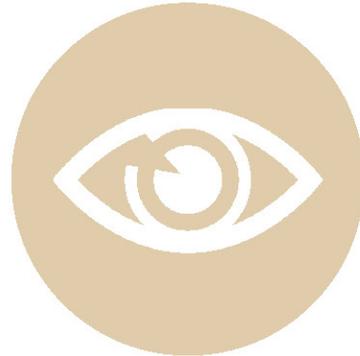
7.500m² -> 9.500m²

INCREASE THE AMOUNT OF GREEN

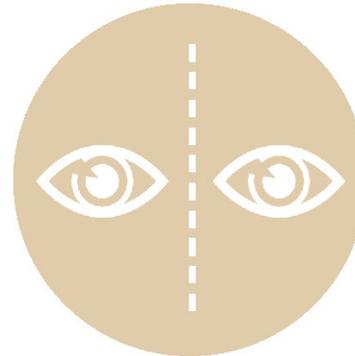


USE THE EXTREME WEATHER AS AN OPPORTUNITY

DESIGN RULES



CREATE VISIBILITY FOR THE
DUTCH RED CROSS



NO BORDERS BETWEEN
OUTSIDE AND INSIDE



CREATE A WELCOMING AND
ACCESSIBLE FEELING



USE OF SUSTAINABLE
MATERIALS

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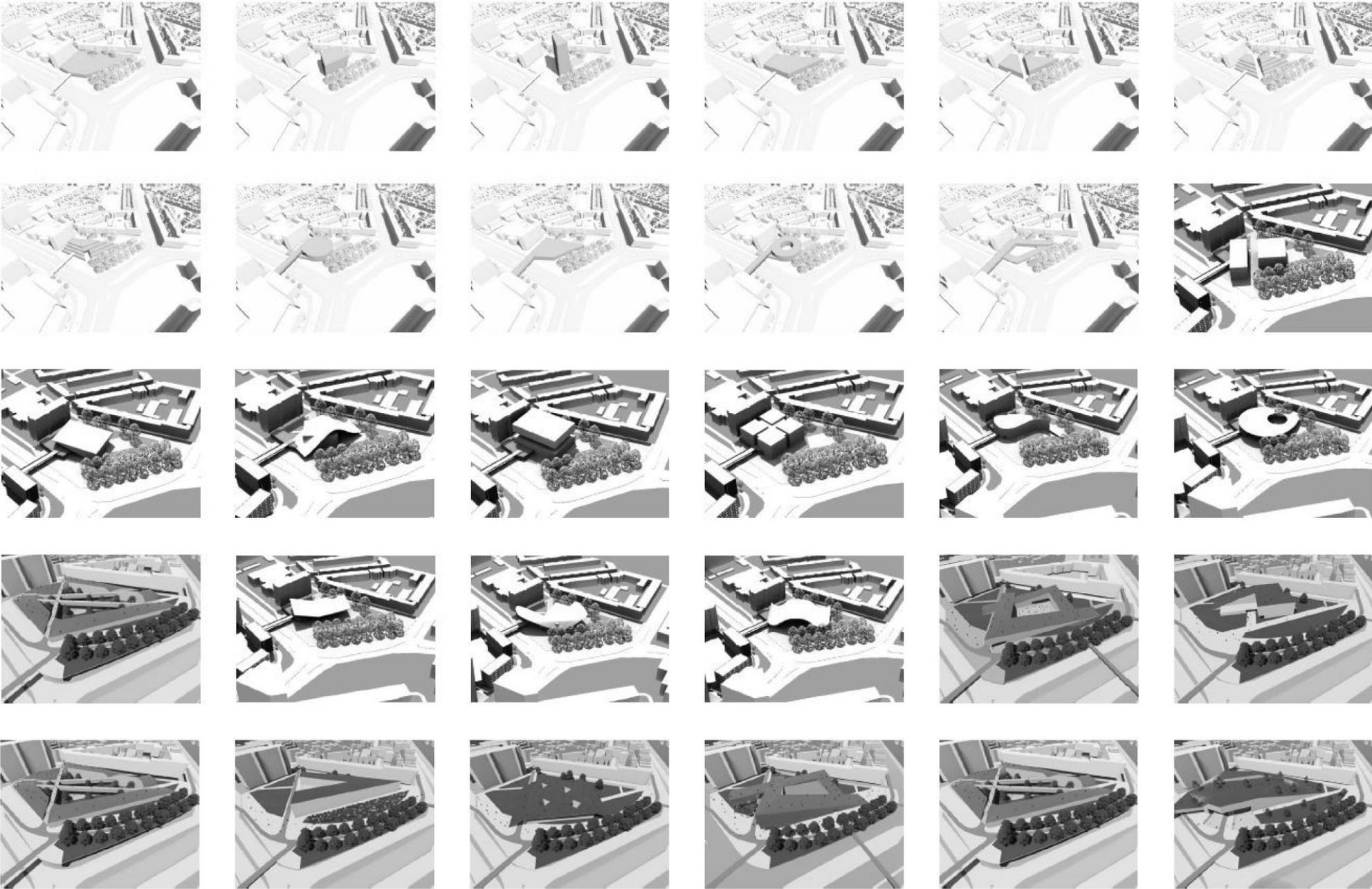
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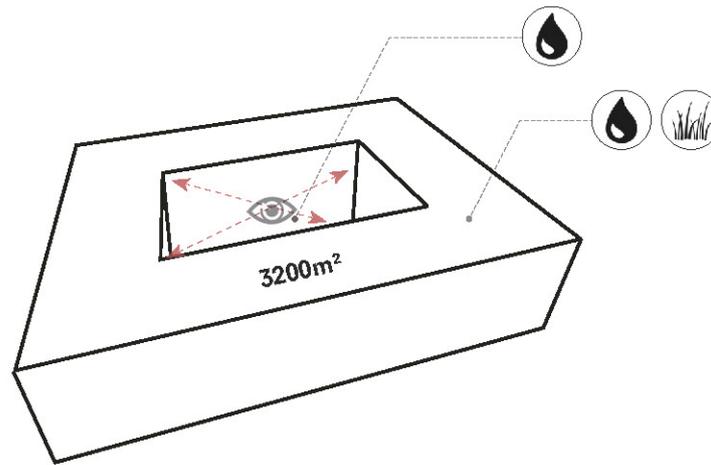
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OVERVIEW MASSING STUDIES



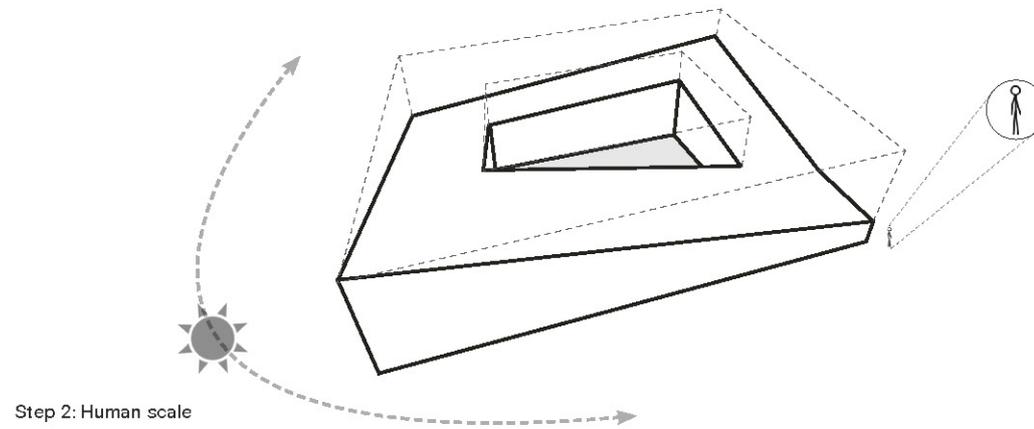
CONCEPT - STEP 1



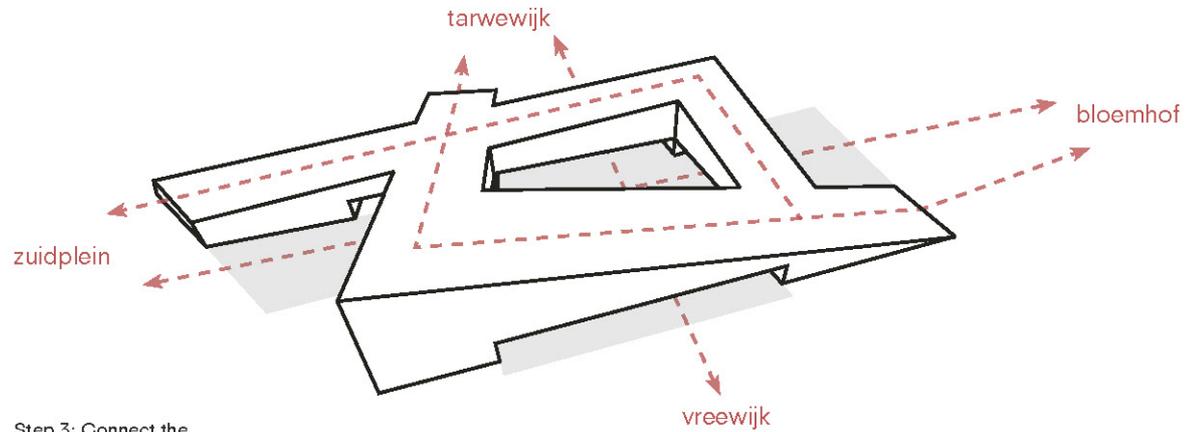
Step 1: Enough roof area + courtyard watersquare



CONCEPT - STEP 2



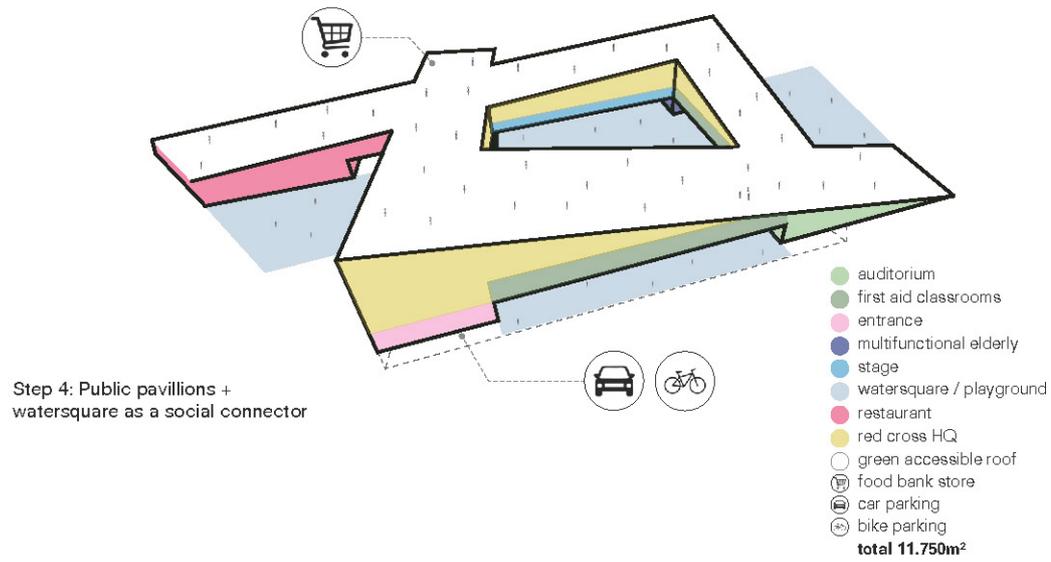
CONCEPT - STEP 3



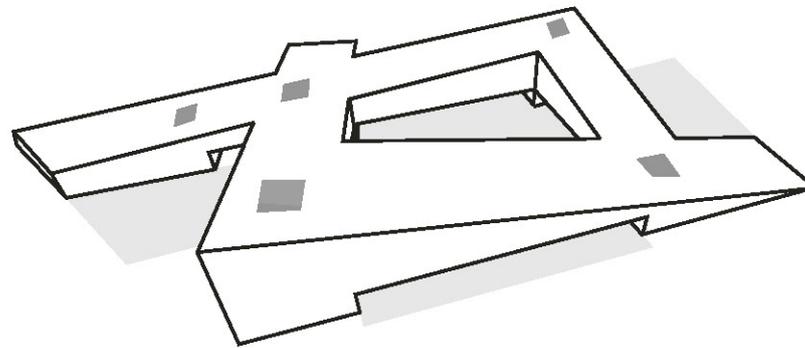
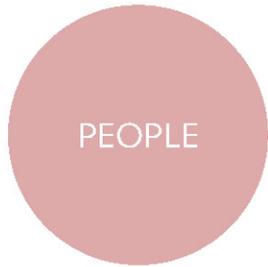
Step 3: Connect the neighbourhoods



CONCEPT - STEP 4



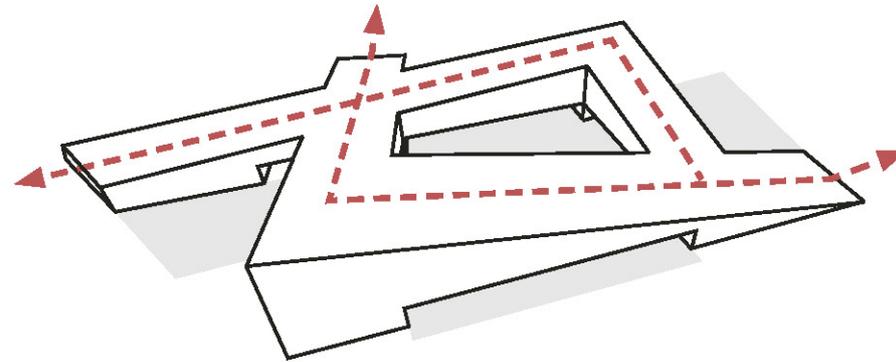
CONCEPT - FLOWS



Concept

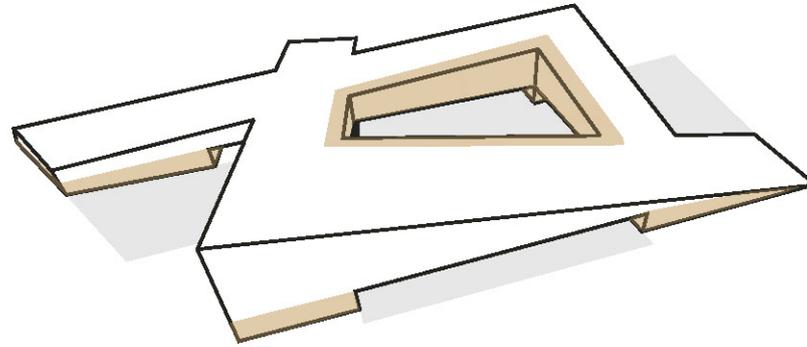
CONCEPT - FLOWS

PEOPLE



Concept

CONCEPT - CIRCULATION



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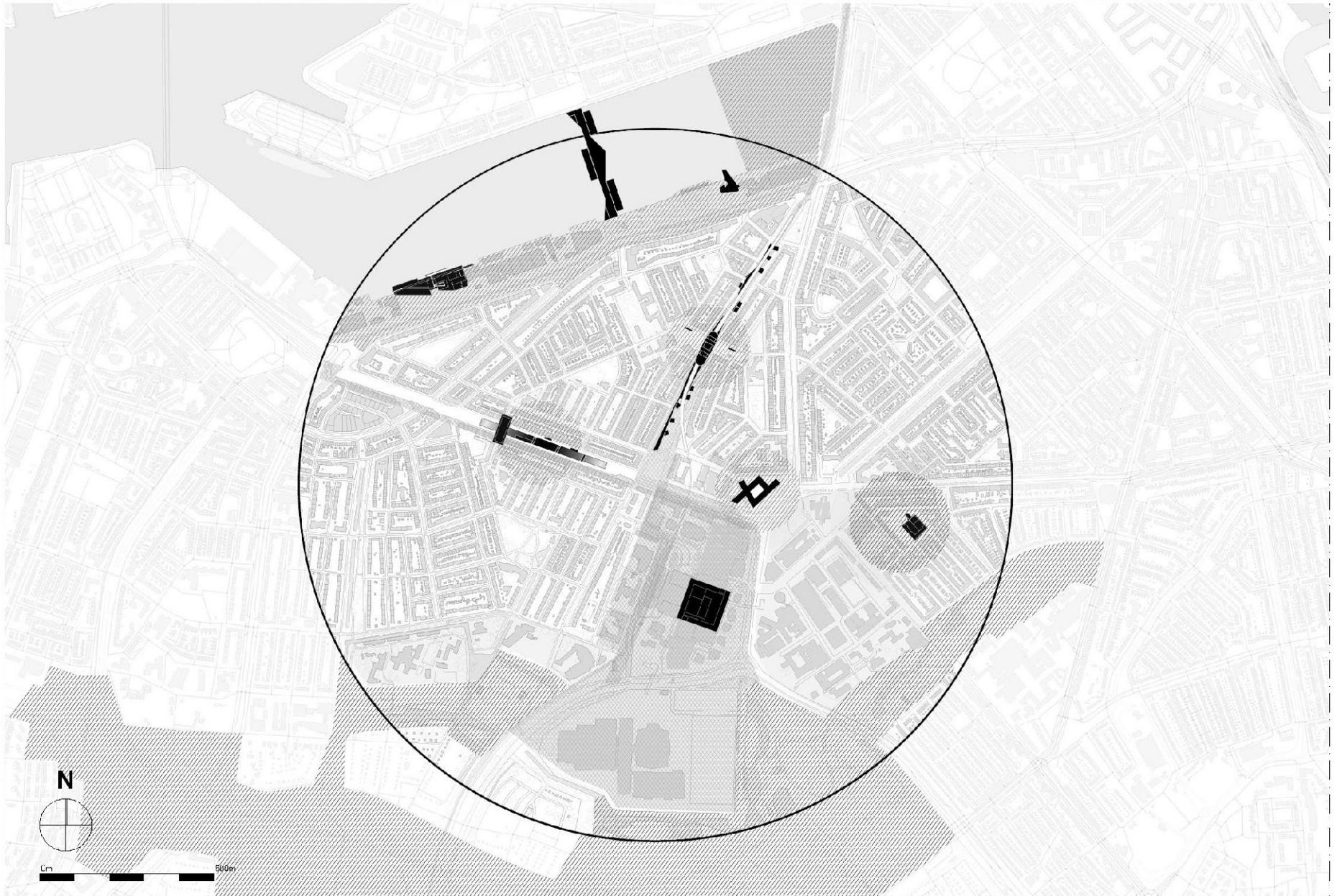
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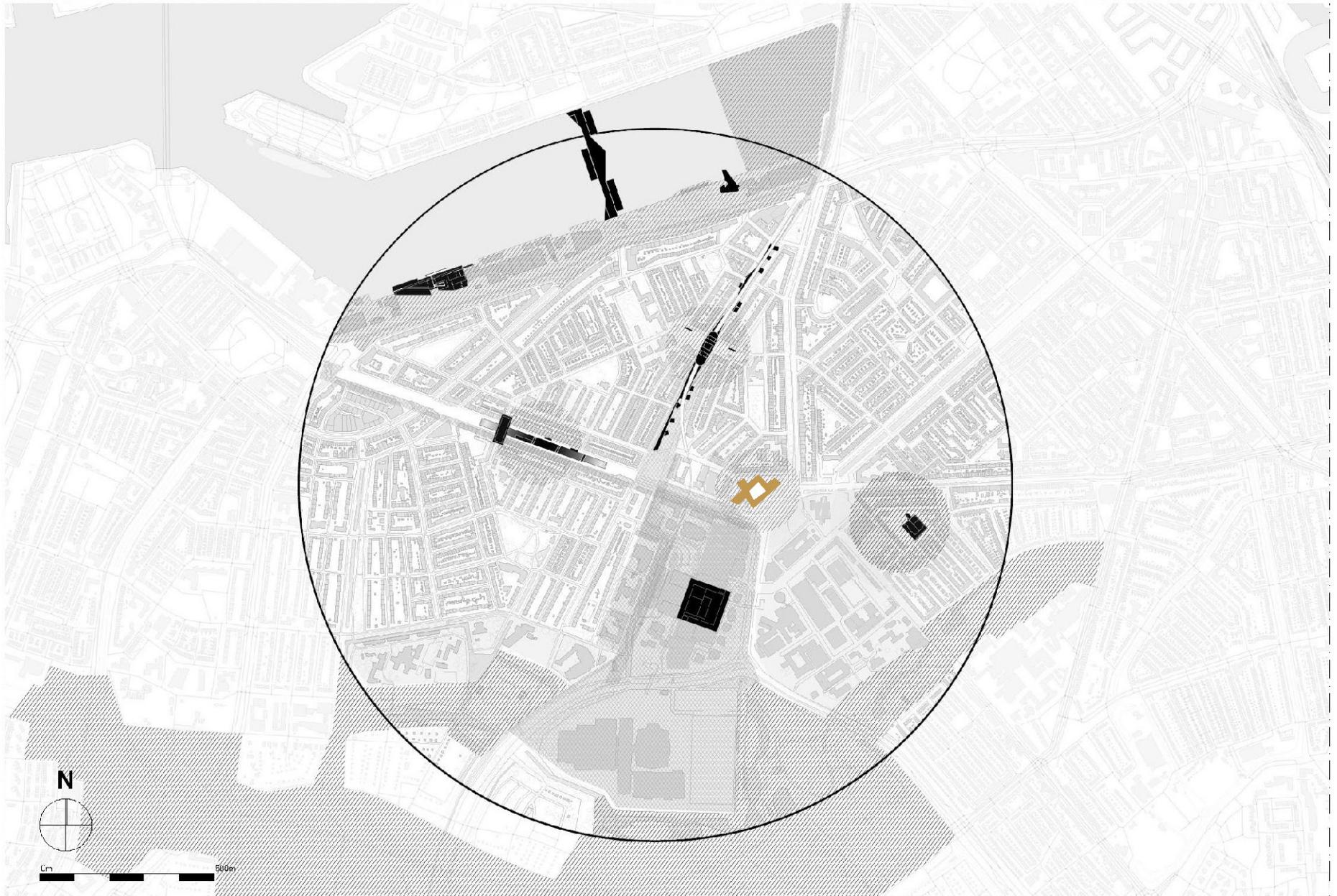
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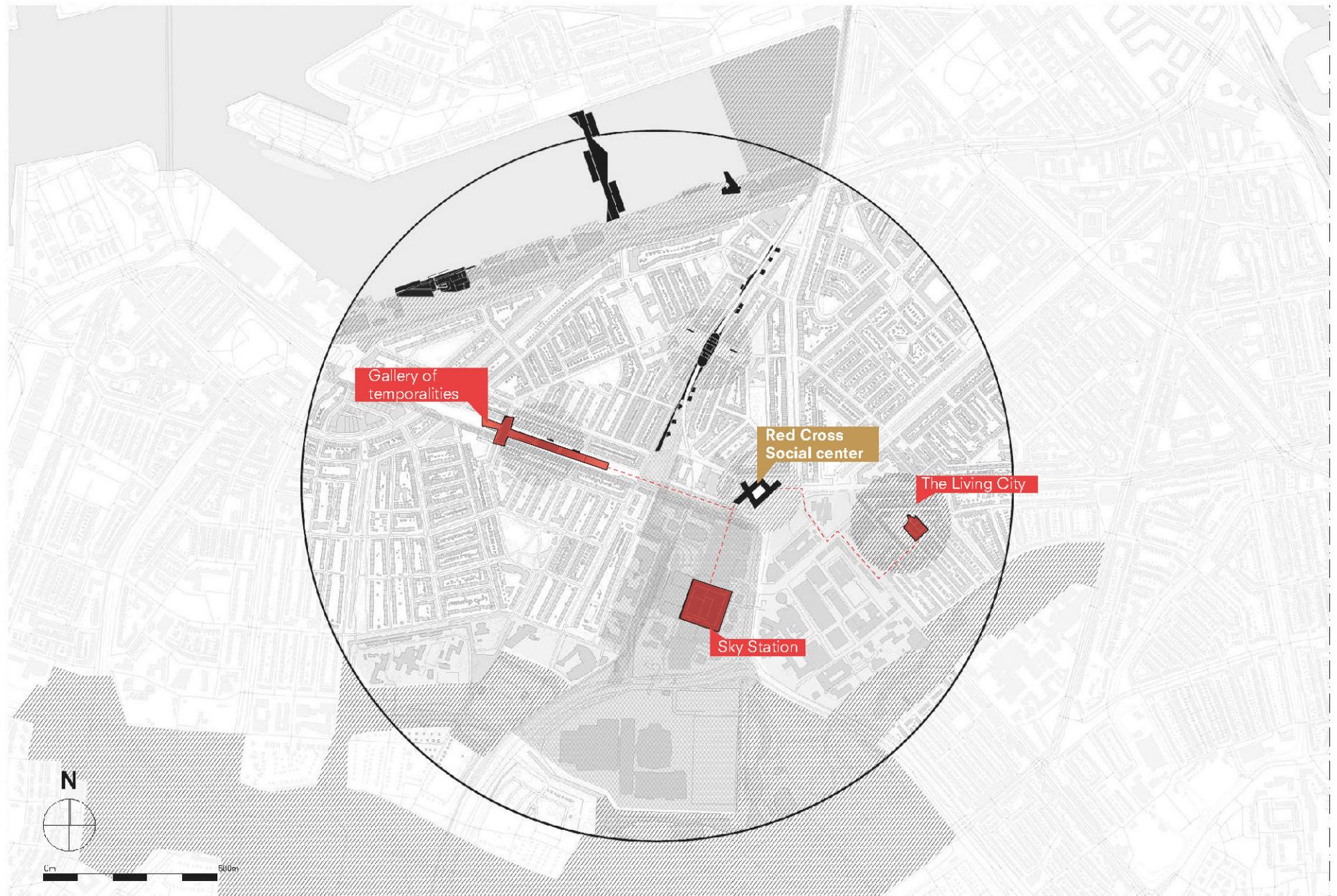
Implementation
GROUP VISION



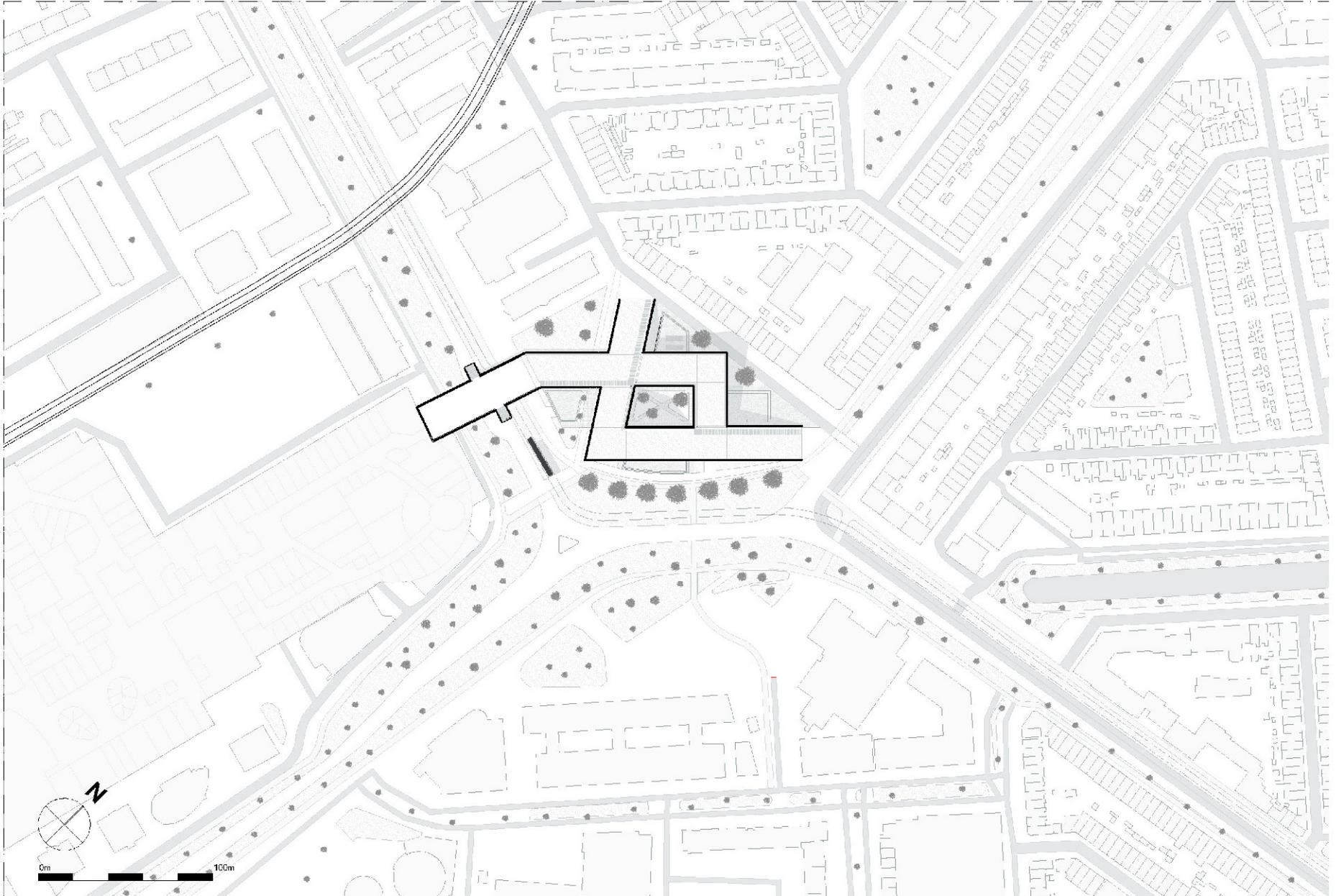
Implementation
GROUP VISION



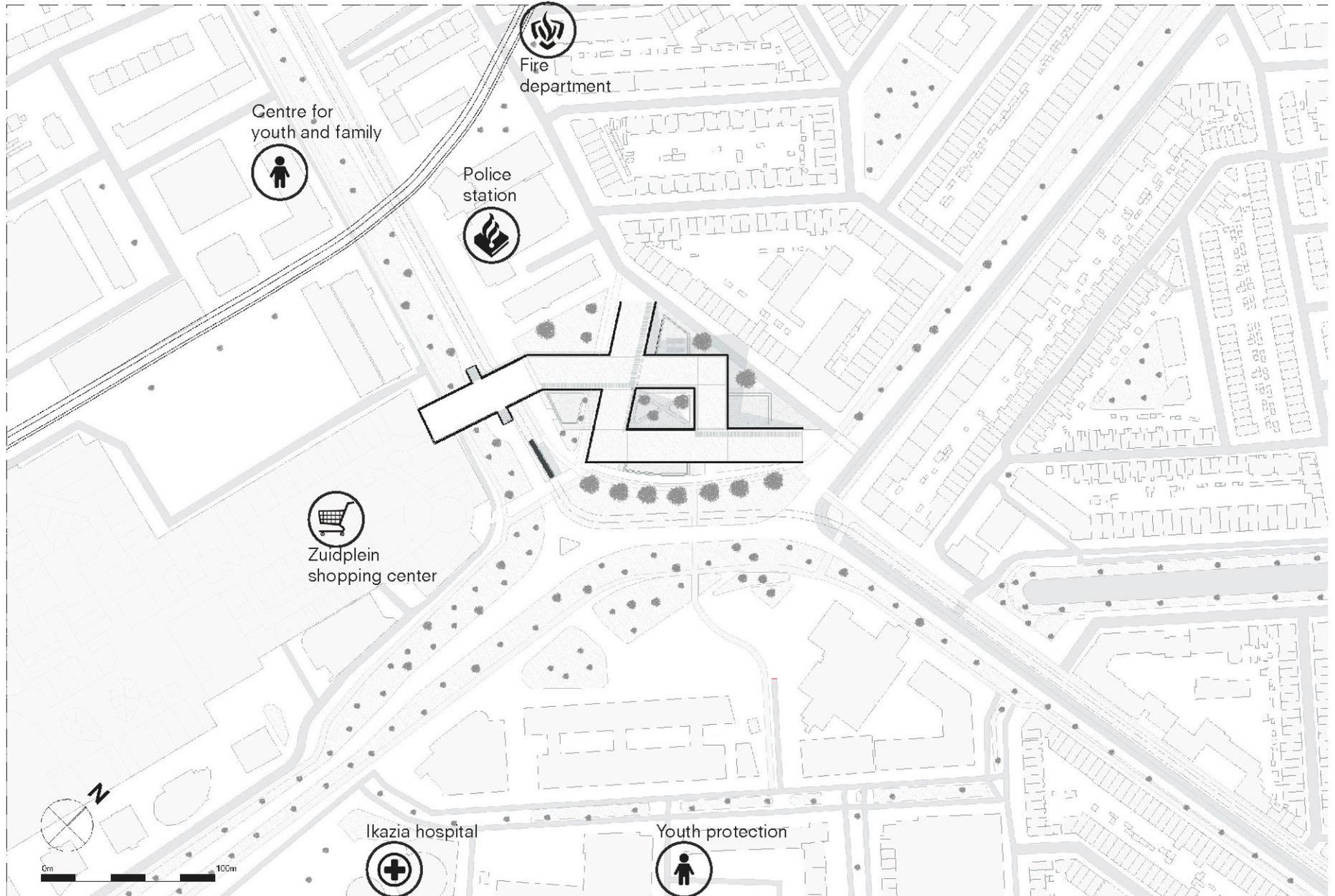
Implementation
GROUP VISION



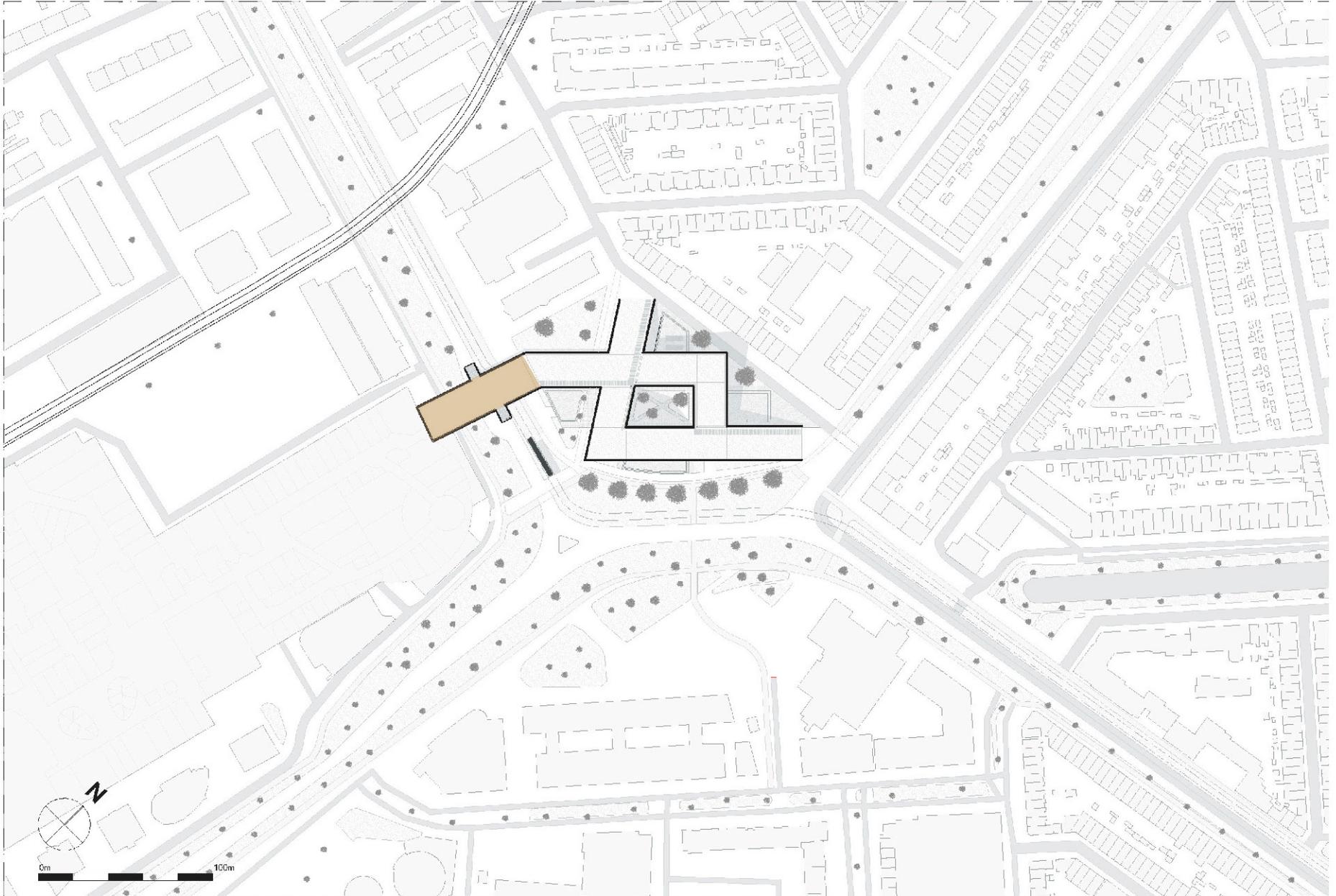
SITE PLAN



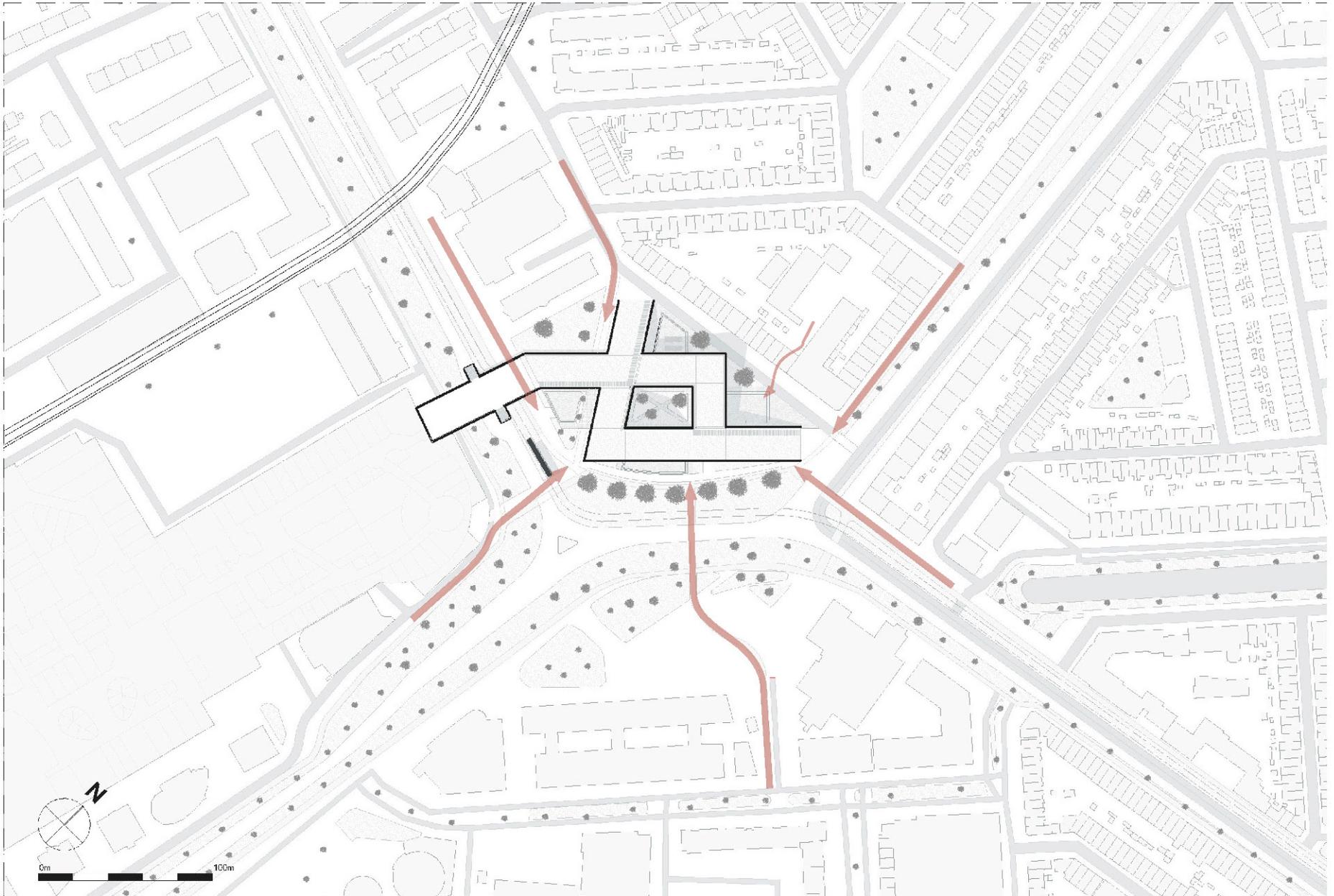
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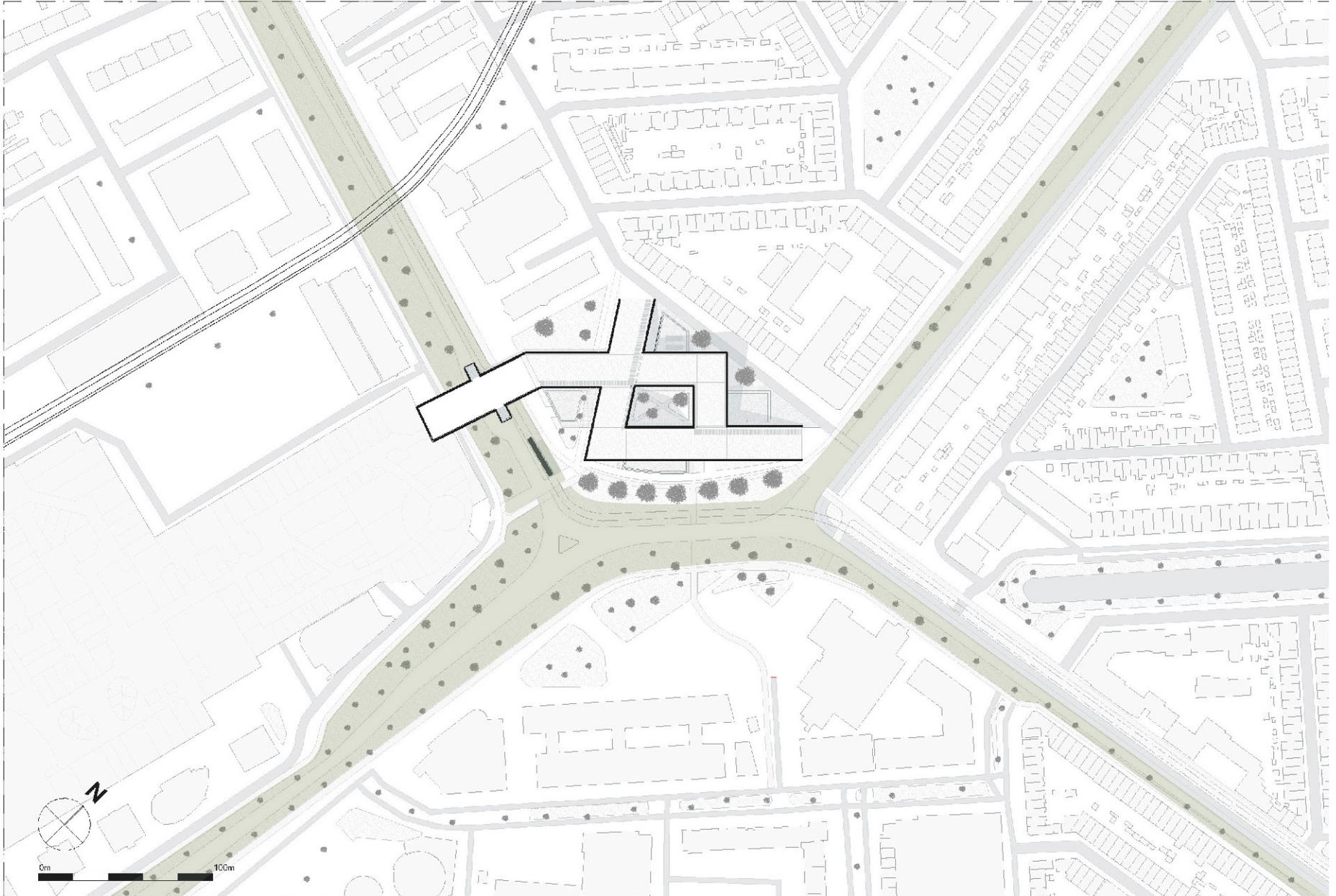
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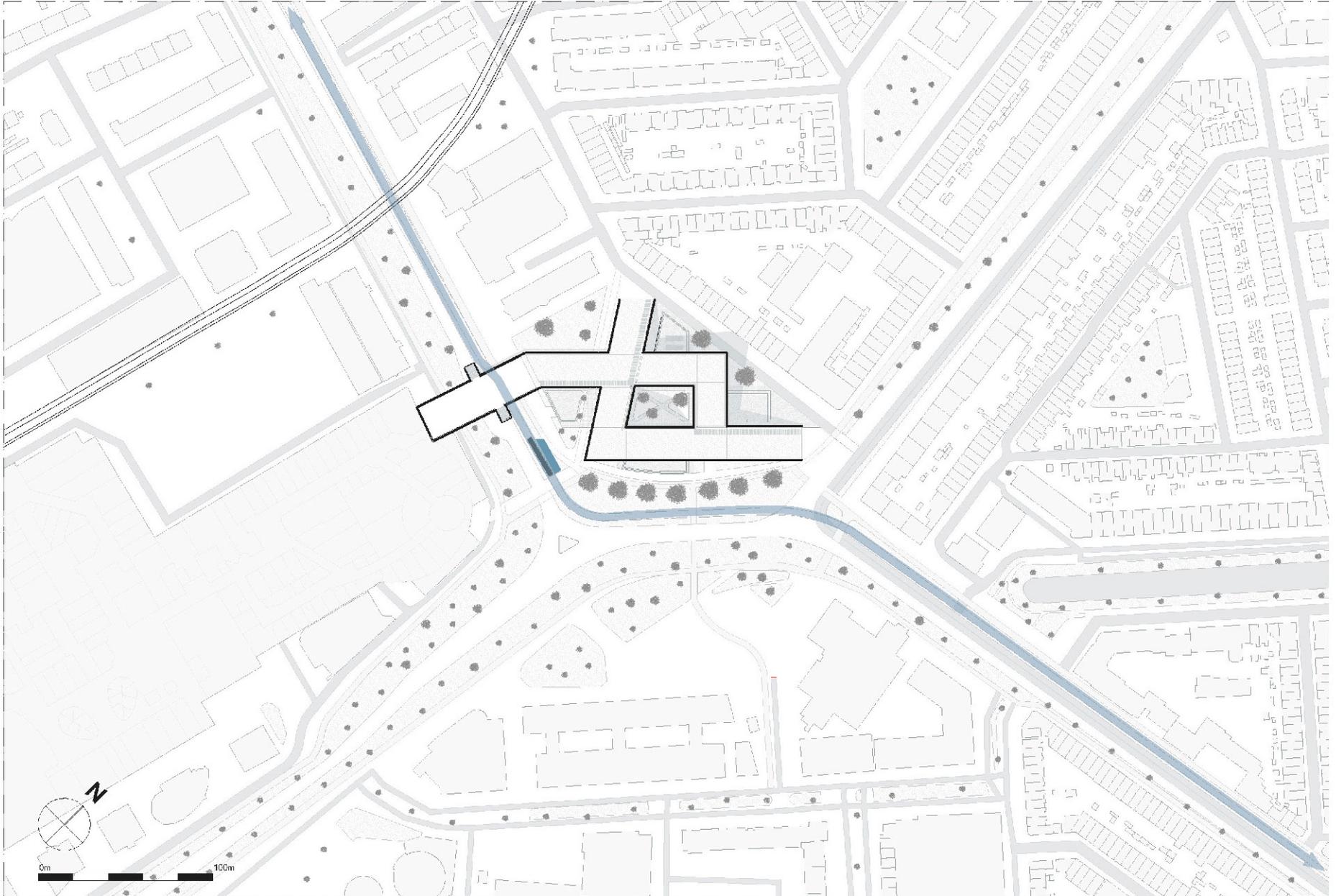
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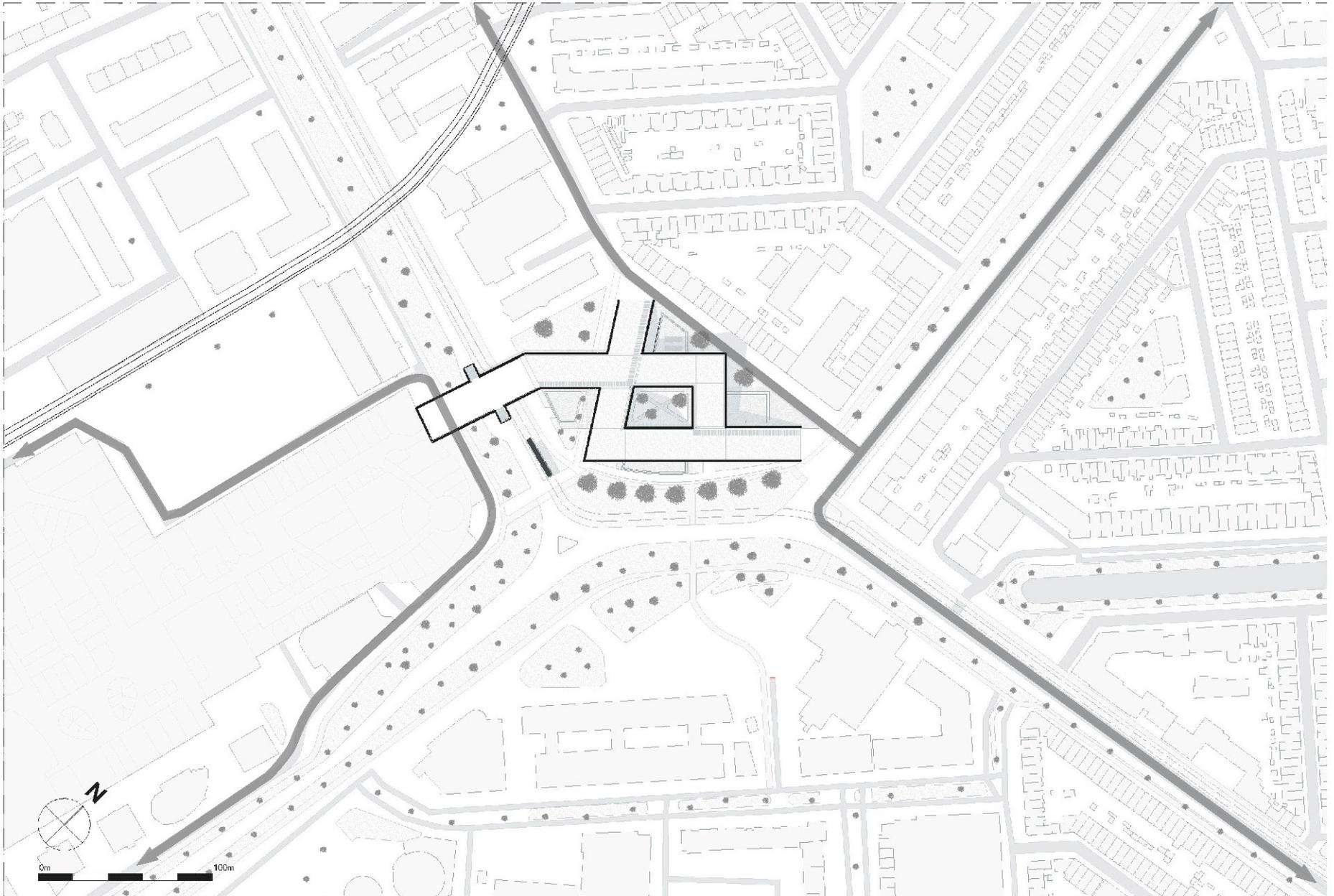
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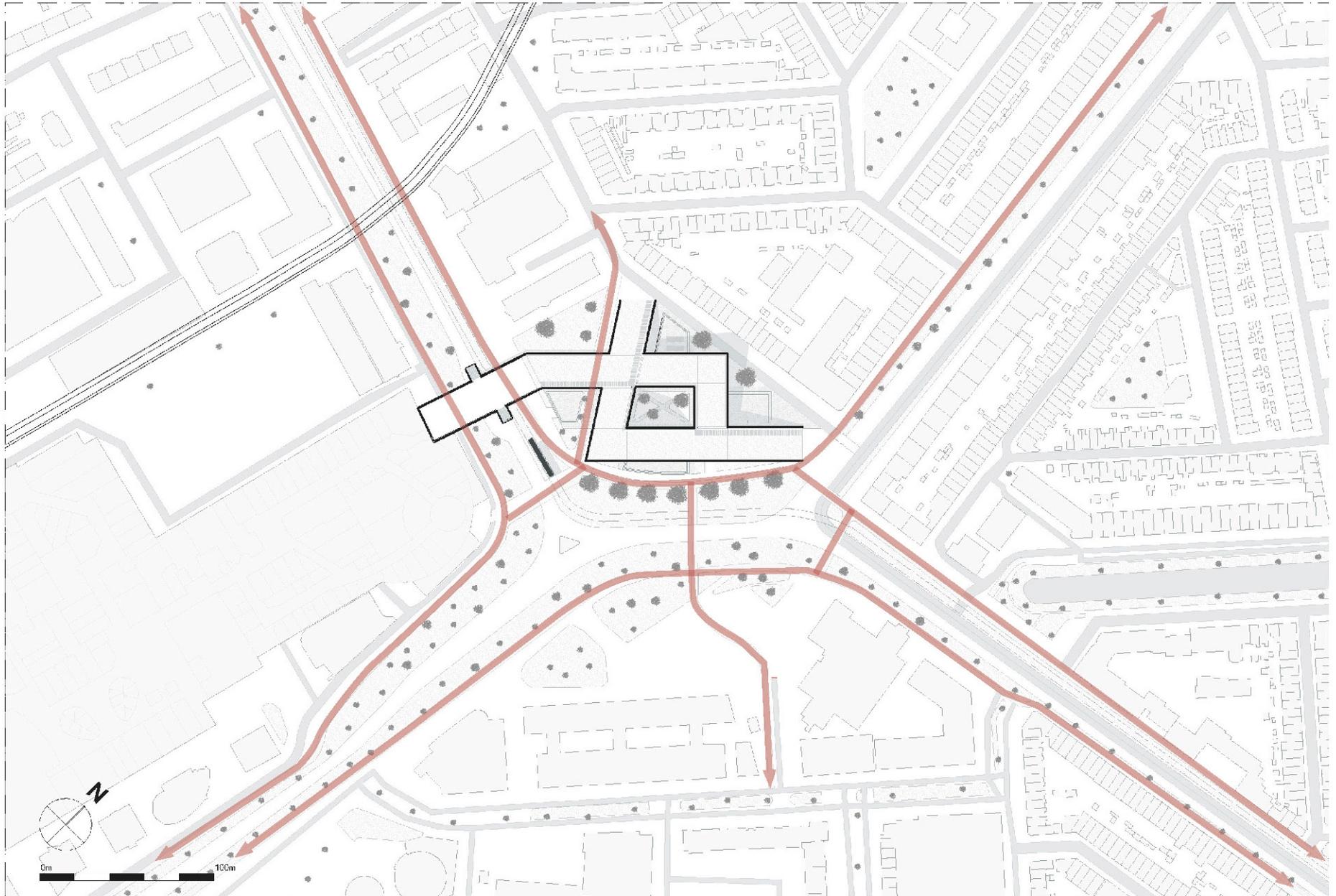
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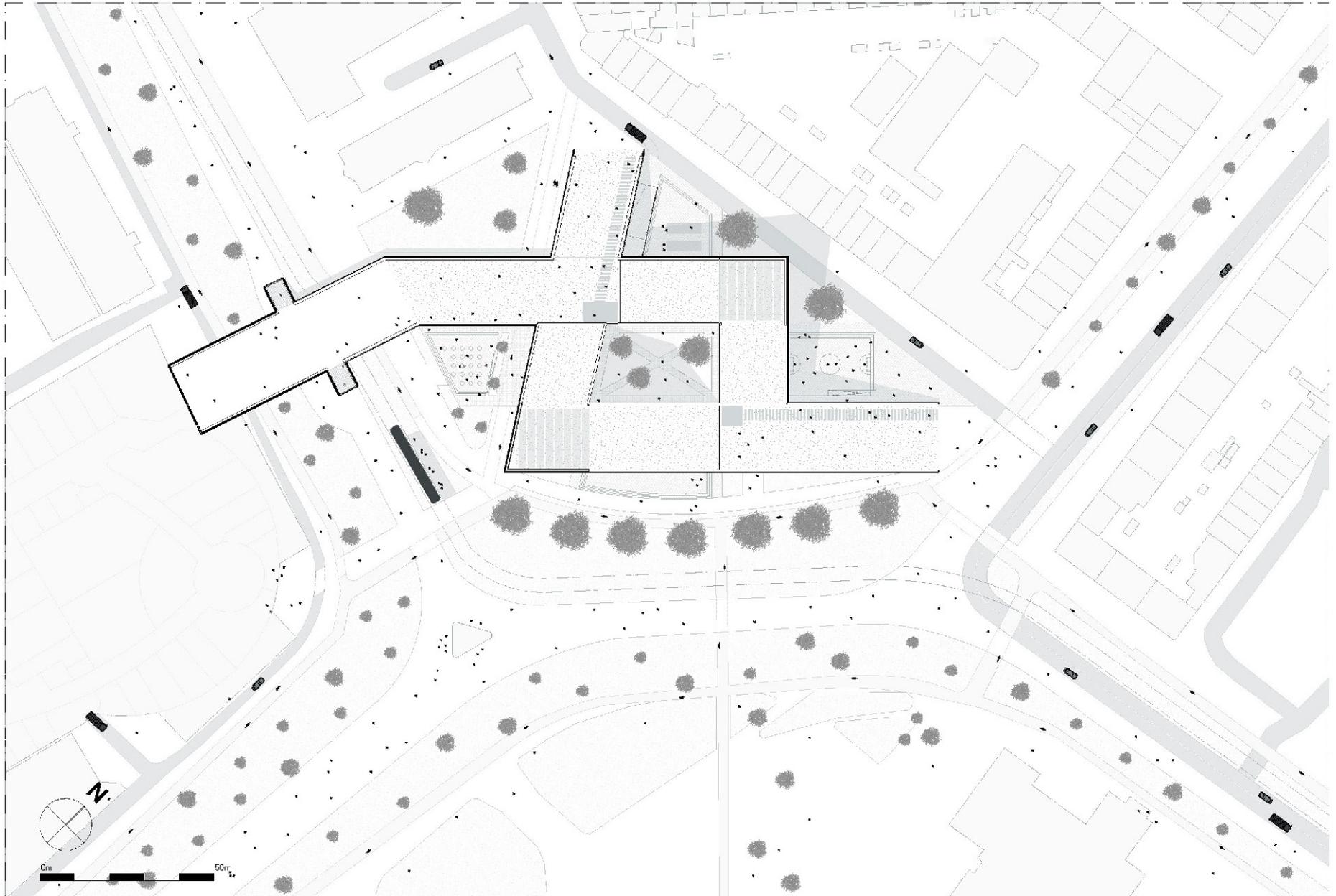
SITE PLAN



SITE PLAN



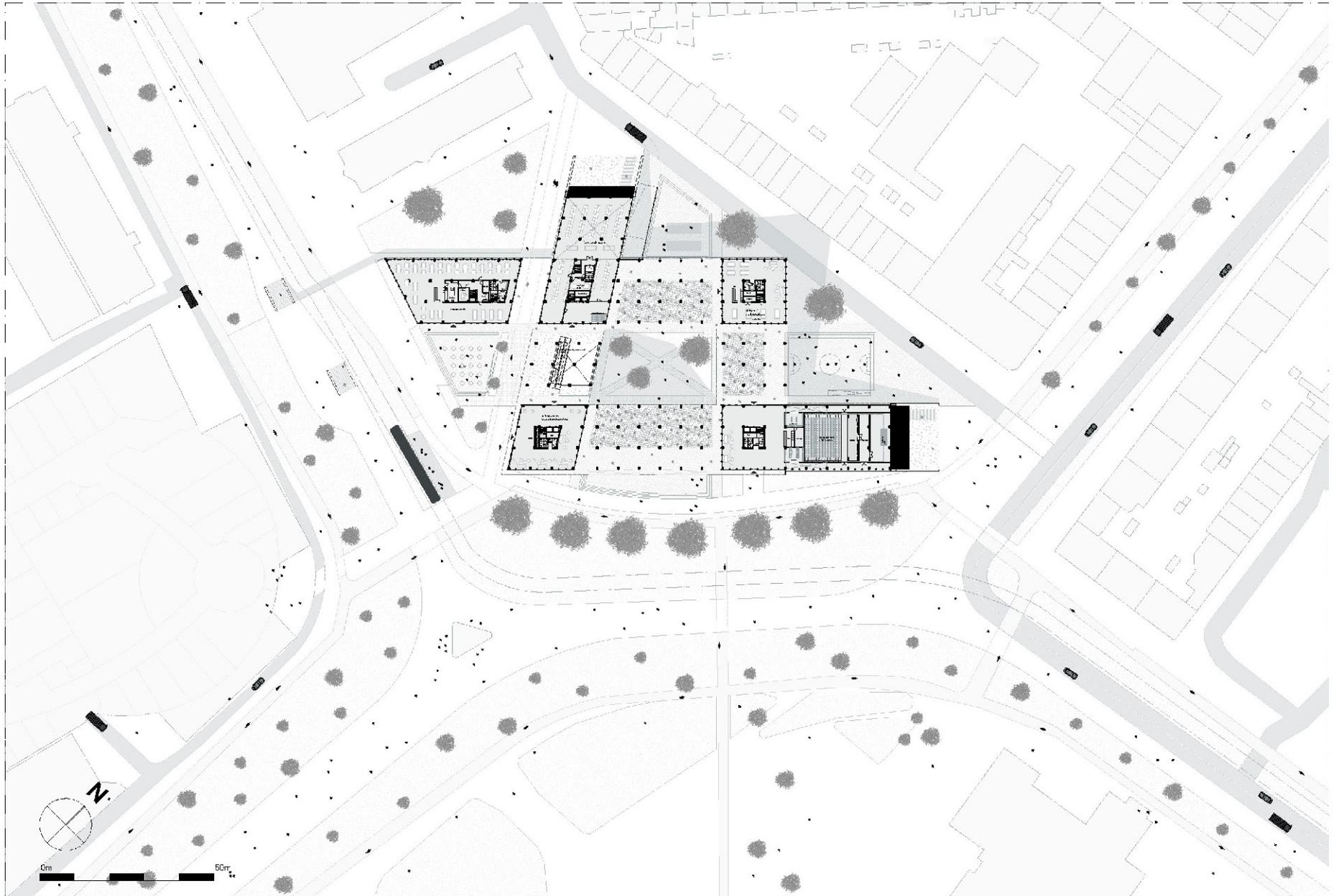
URBAN IMPLEMENTATION - ROOF



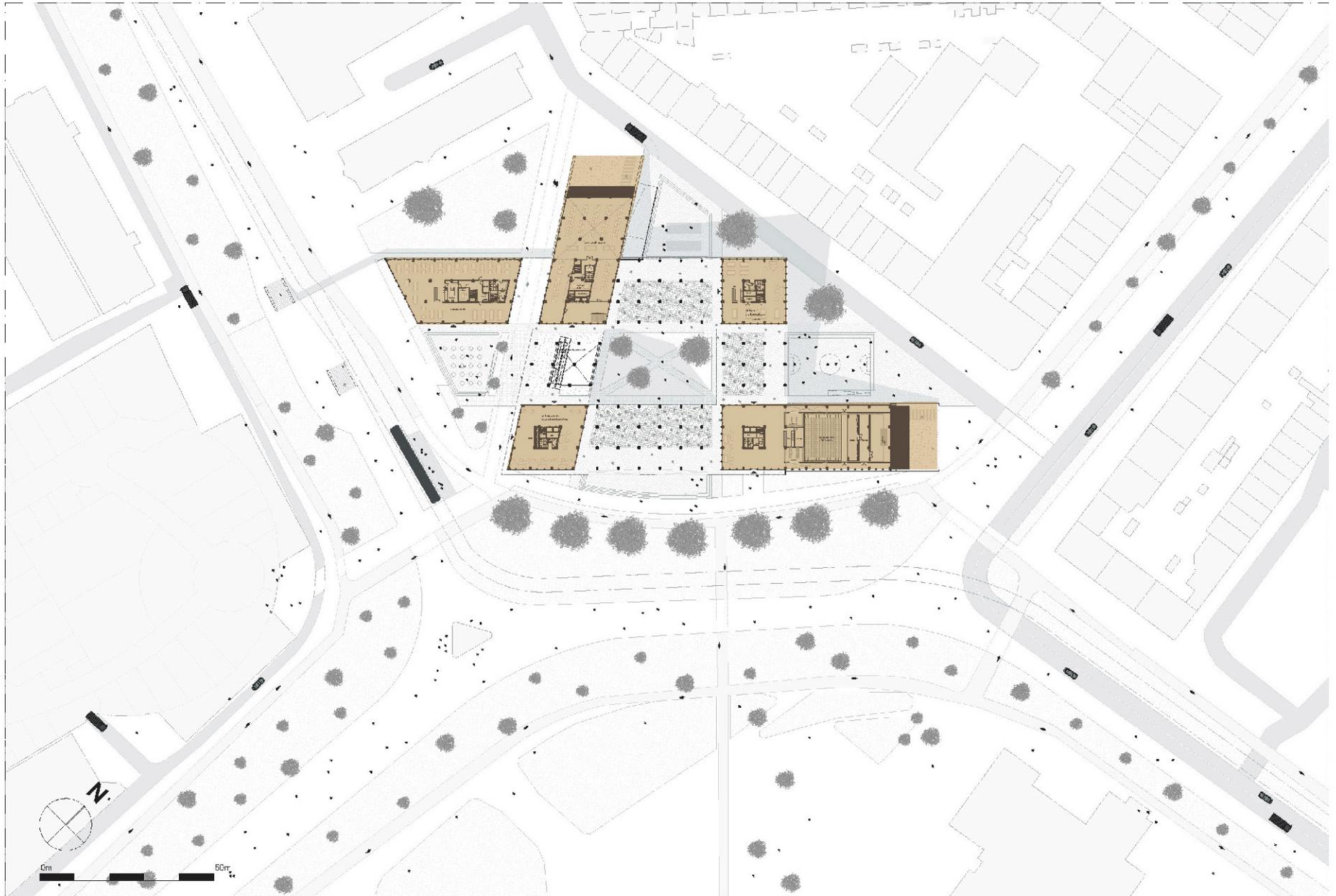
URBAN IMPLEMENTATION - ROOF



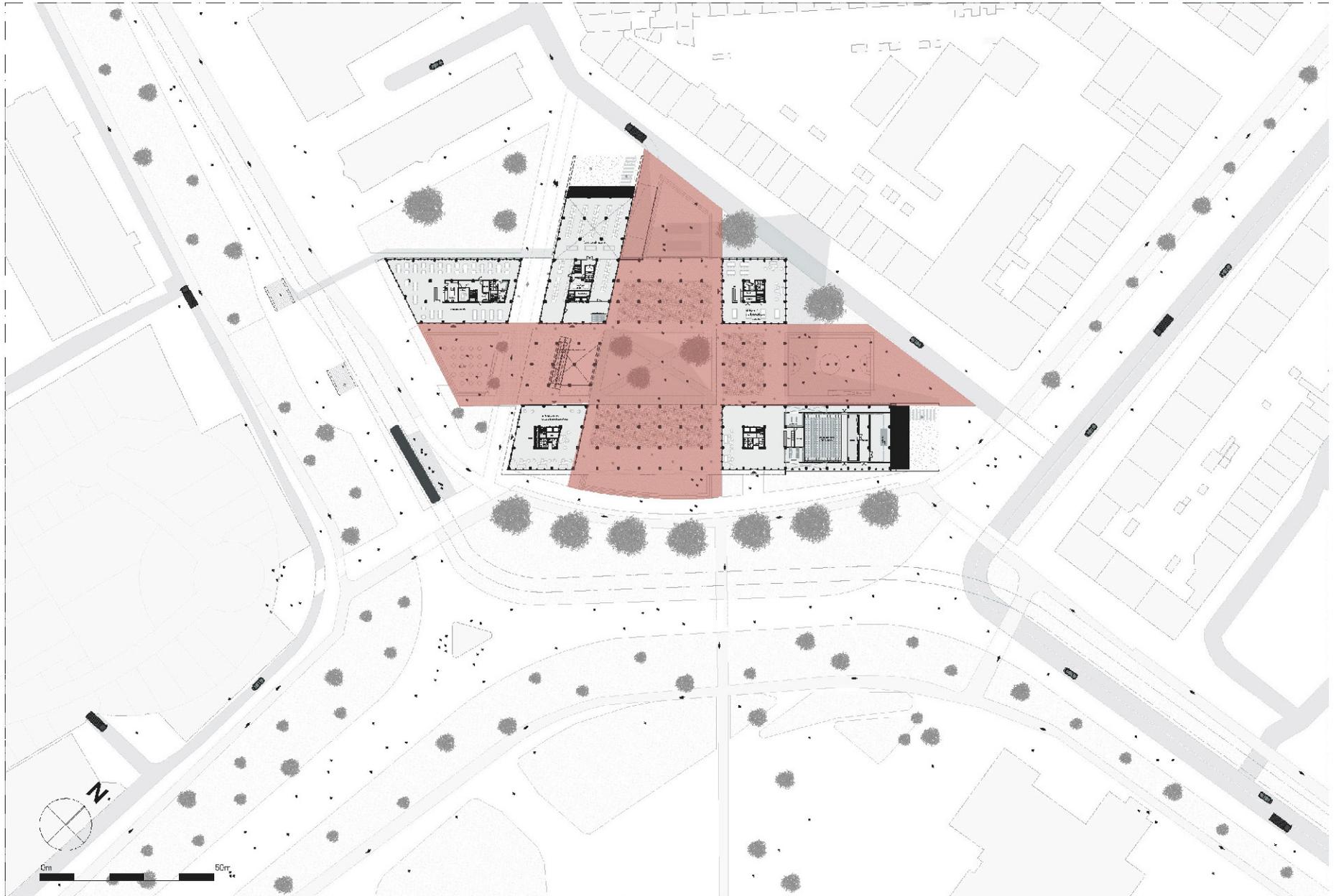
URBAN IMPLEMENTATION - GROUND FLOOR



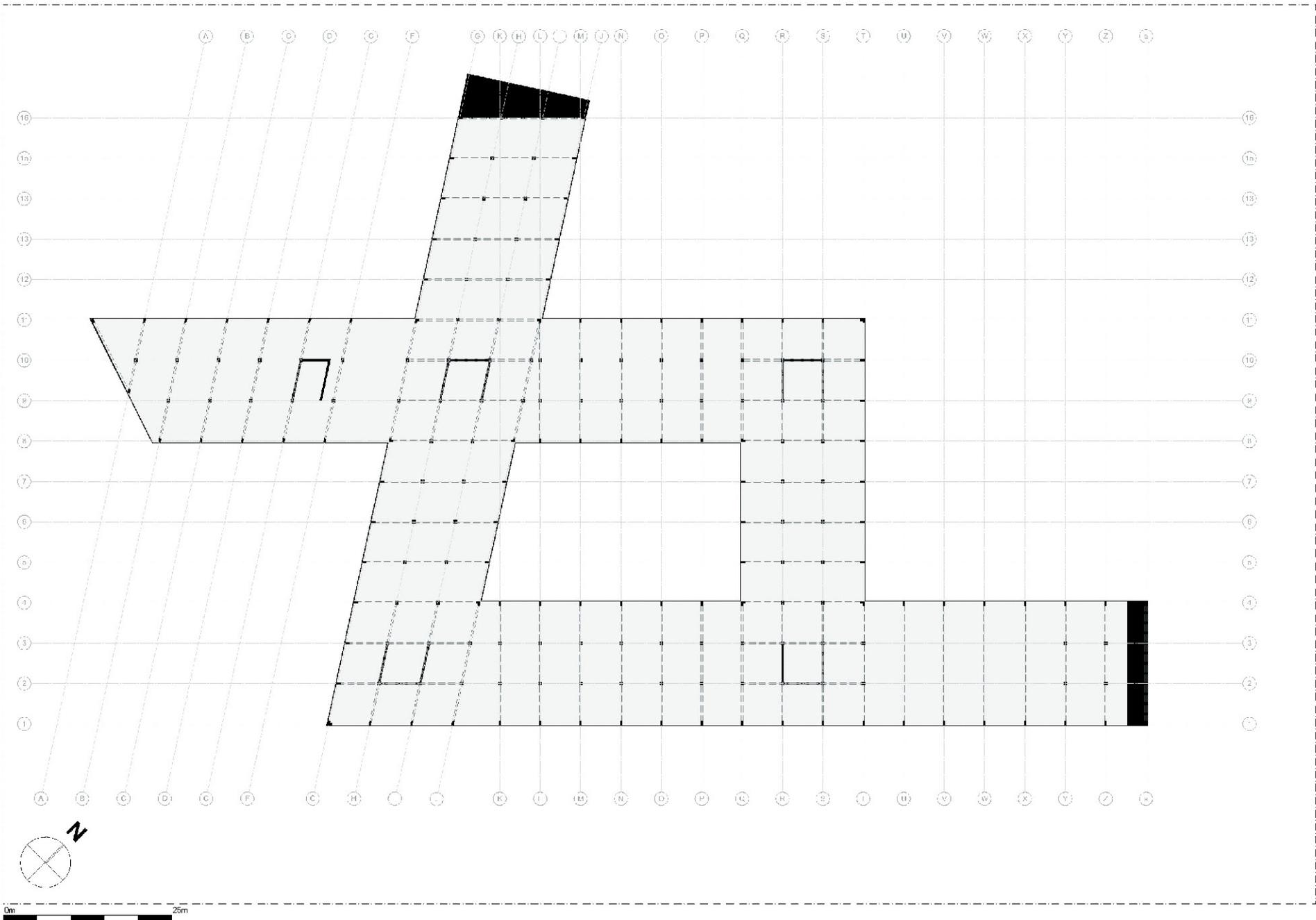
URBAN IMPLEMENTATION - GROUND FLOOR



URBAN IMPLEMENTATION - GROUND FLOOR

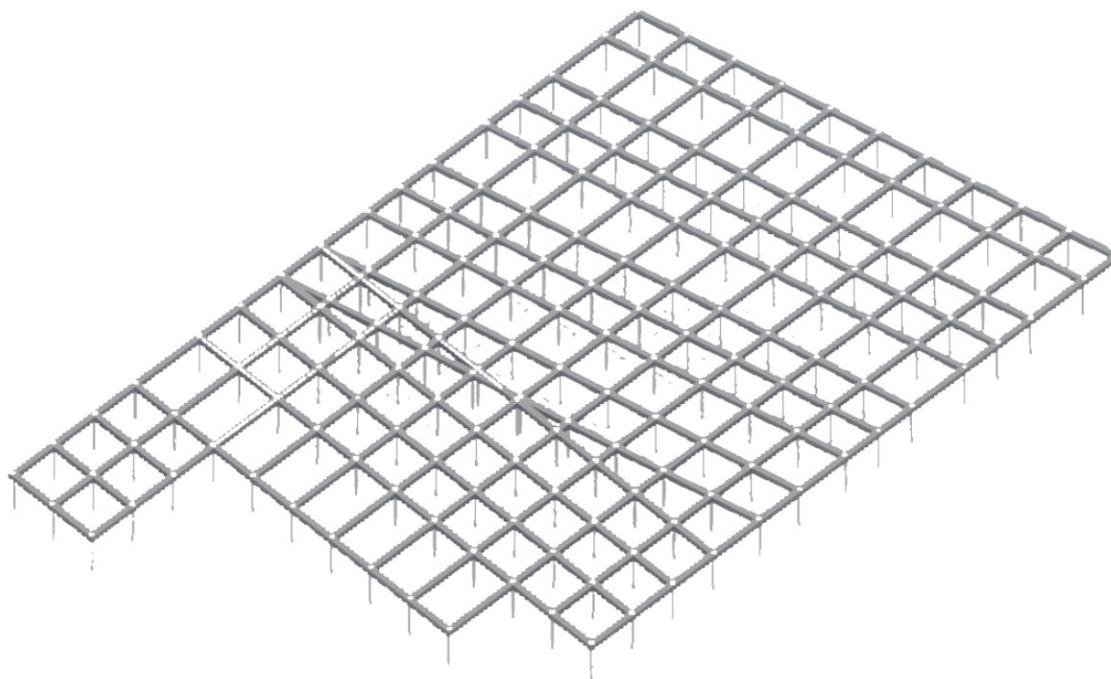


STRUCTURAL GRID

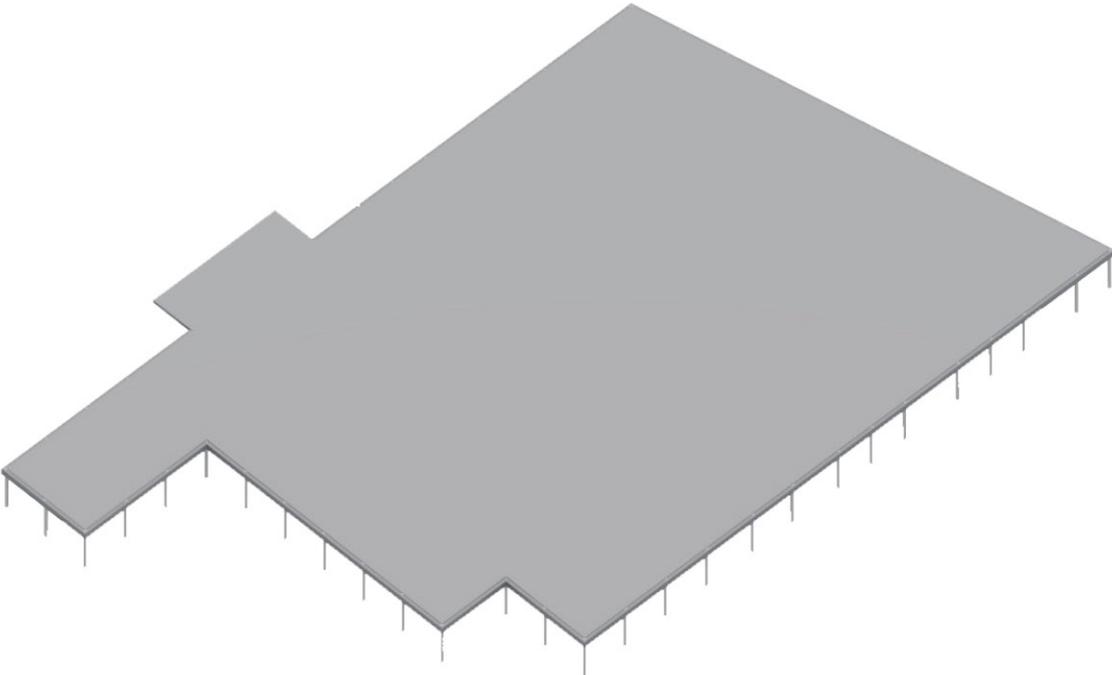


Implementation

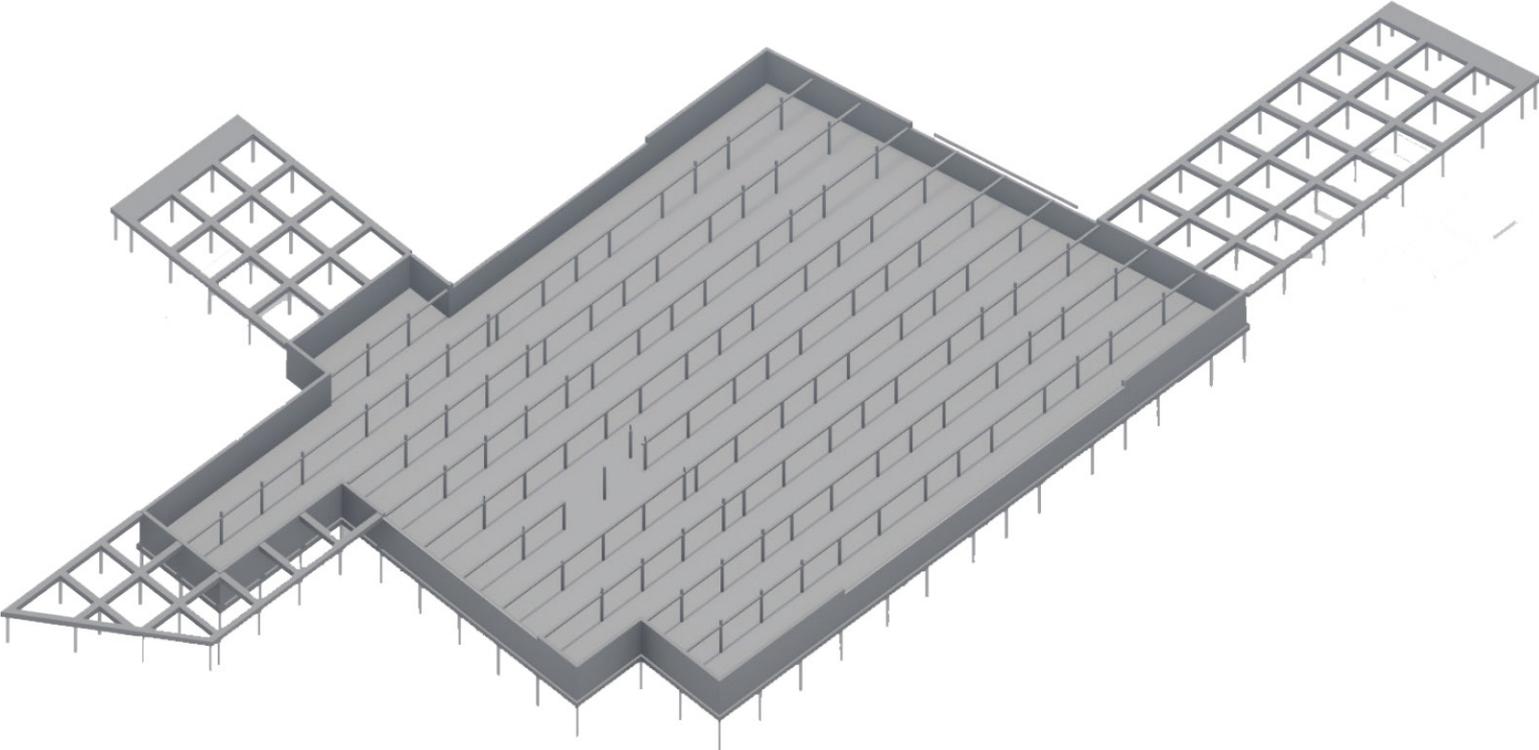
STRUCTURE



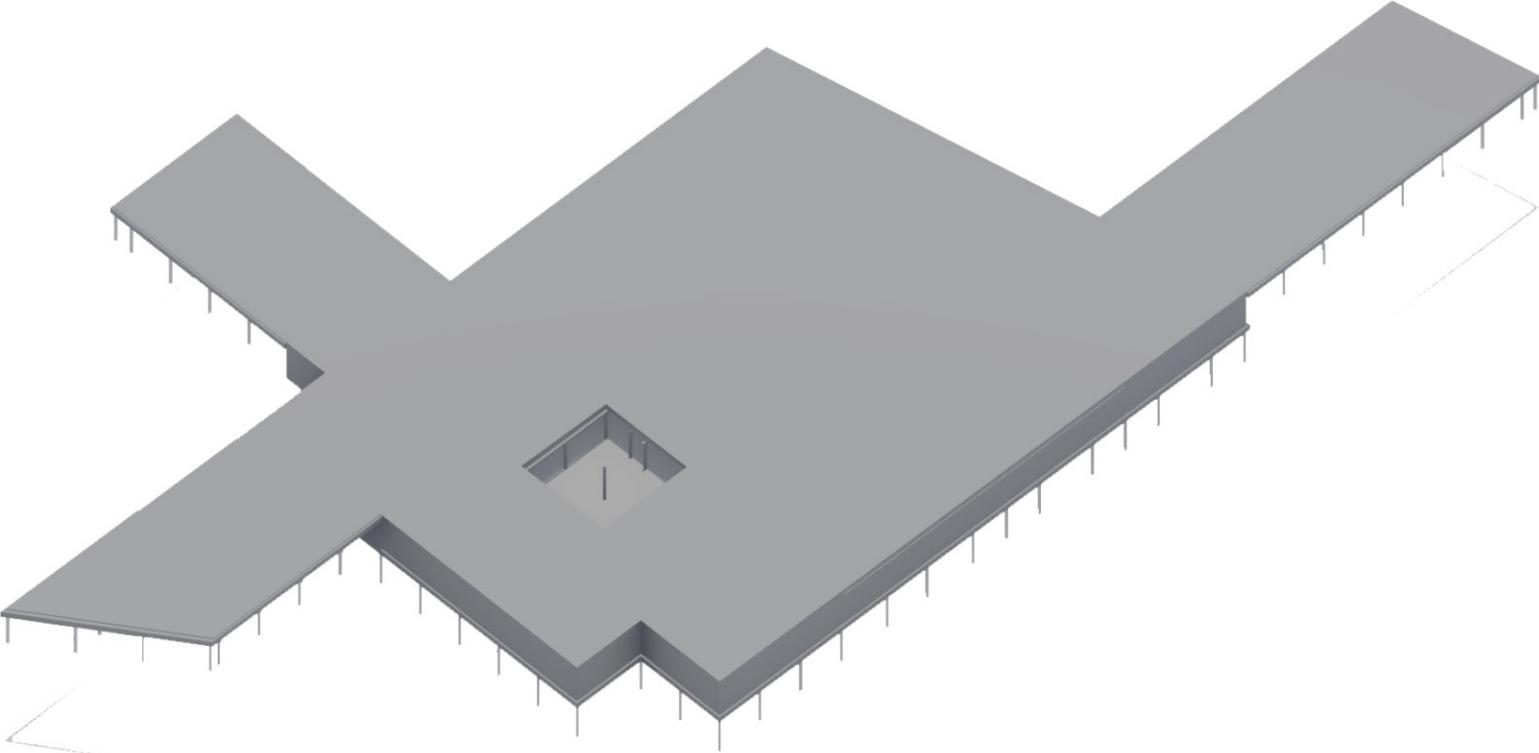
STRUCTURE



STRUCTURE

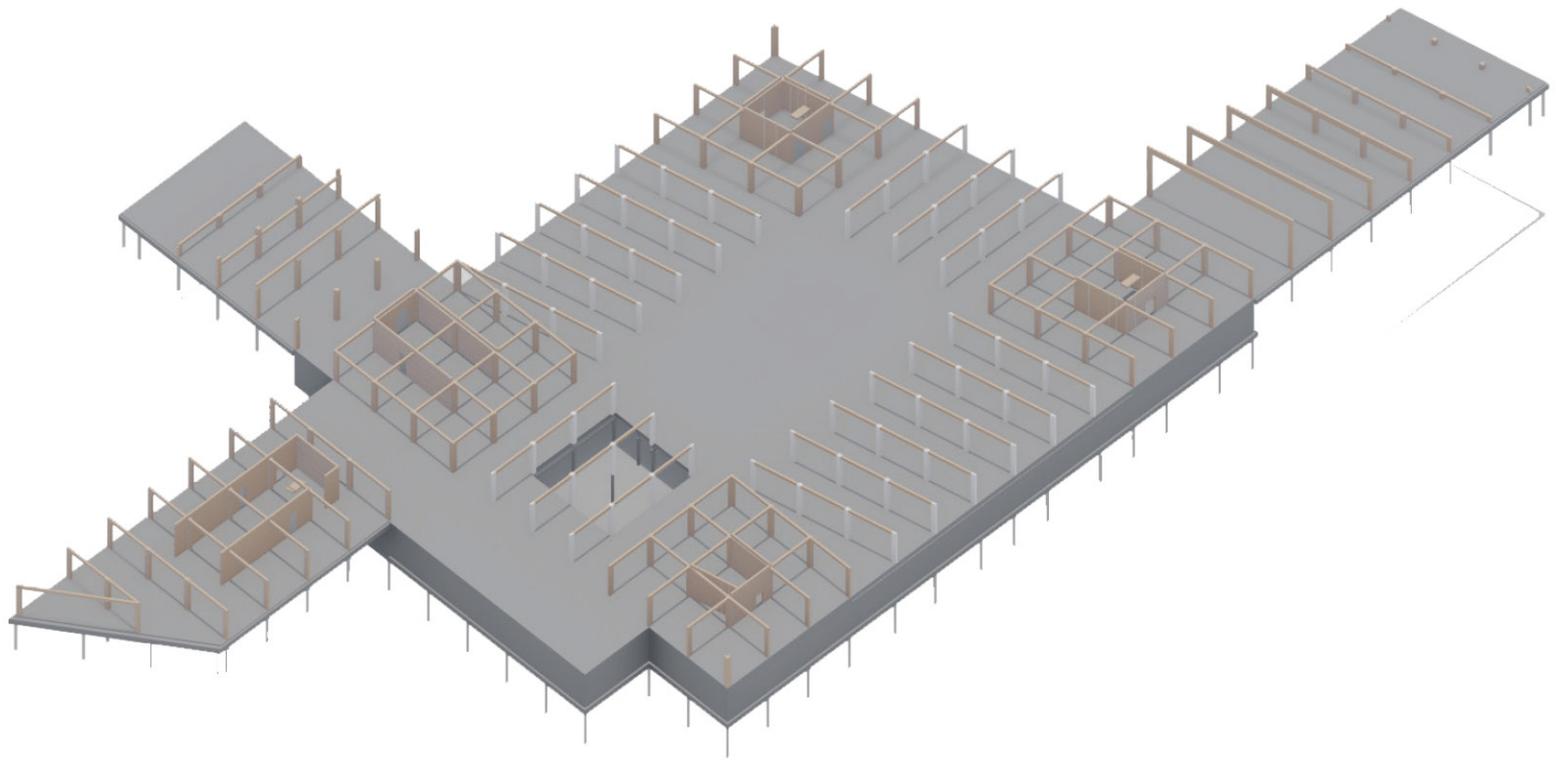


STRUCTURE



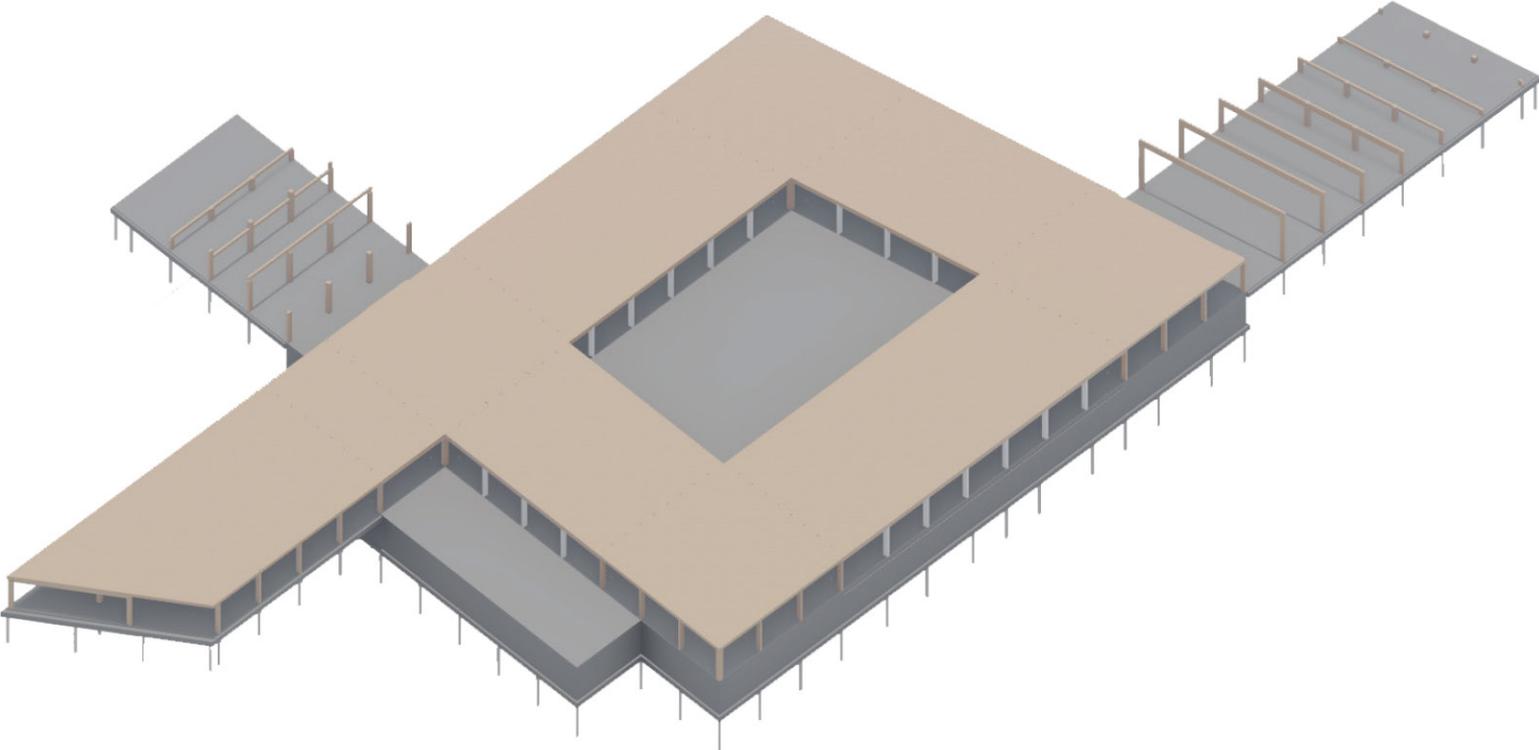
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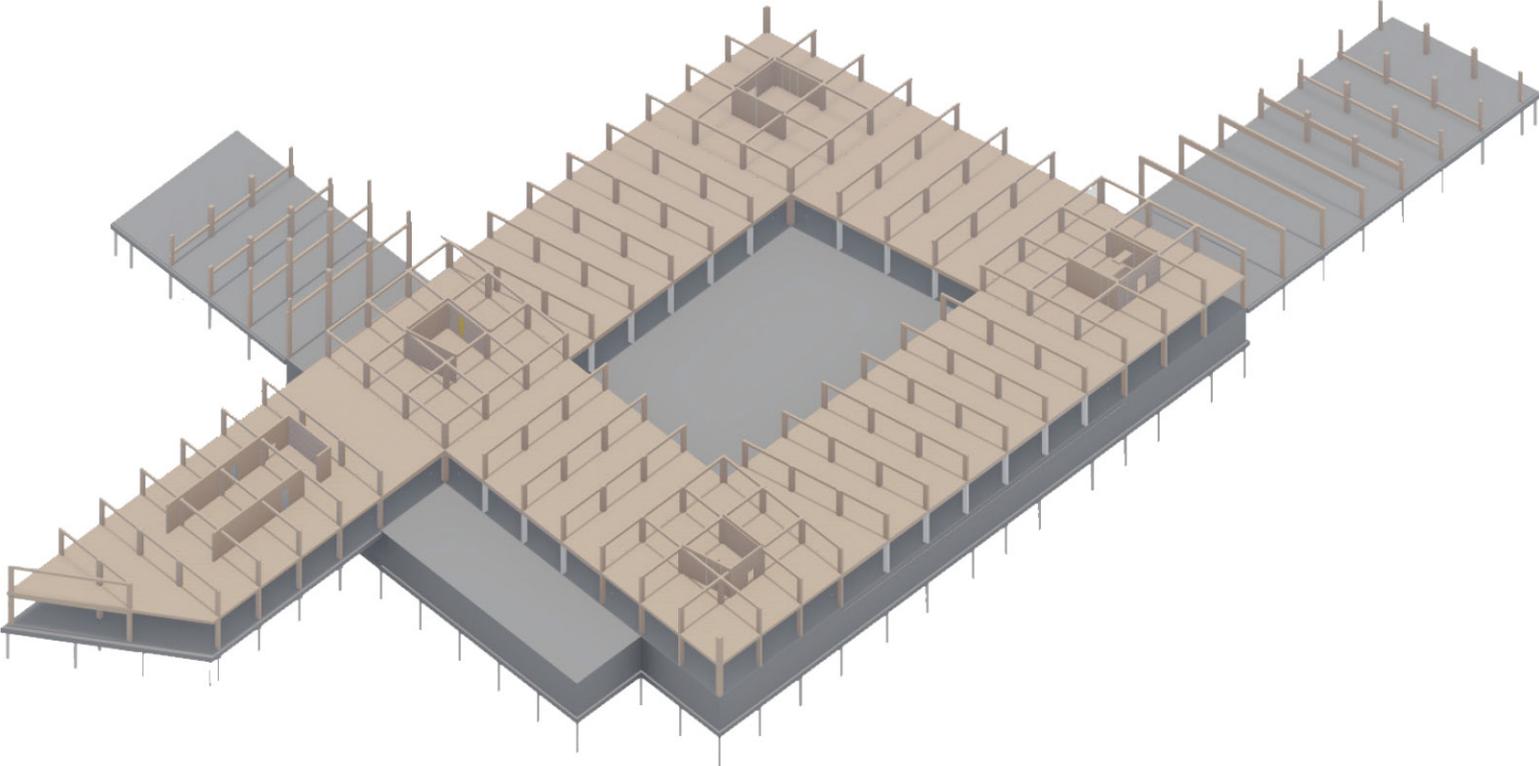


Implementation

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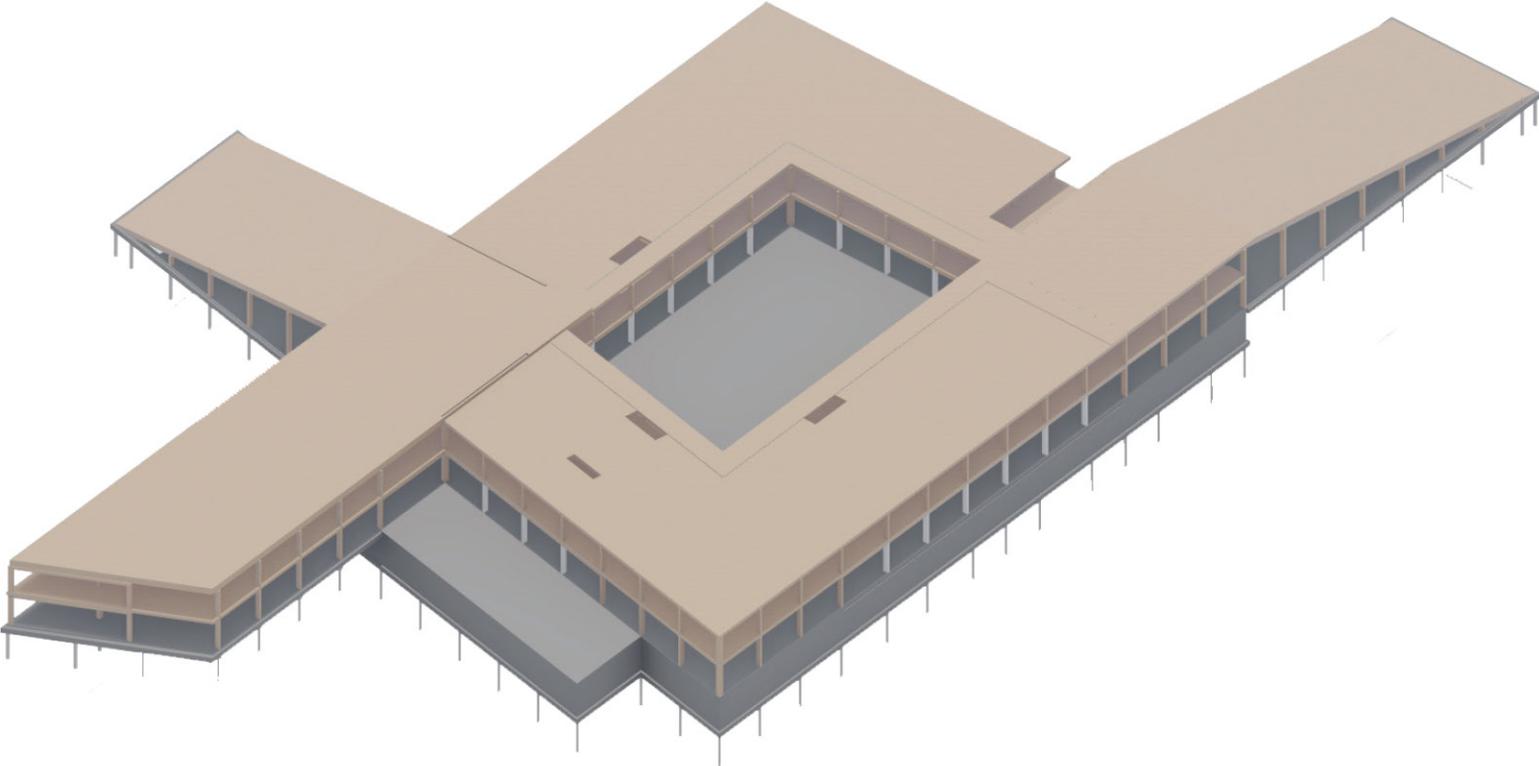


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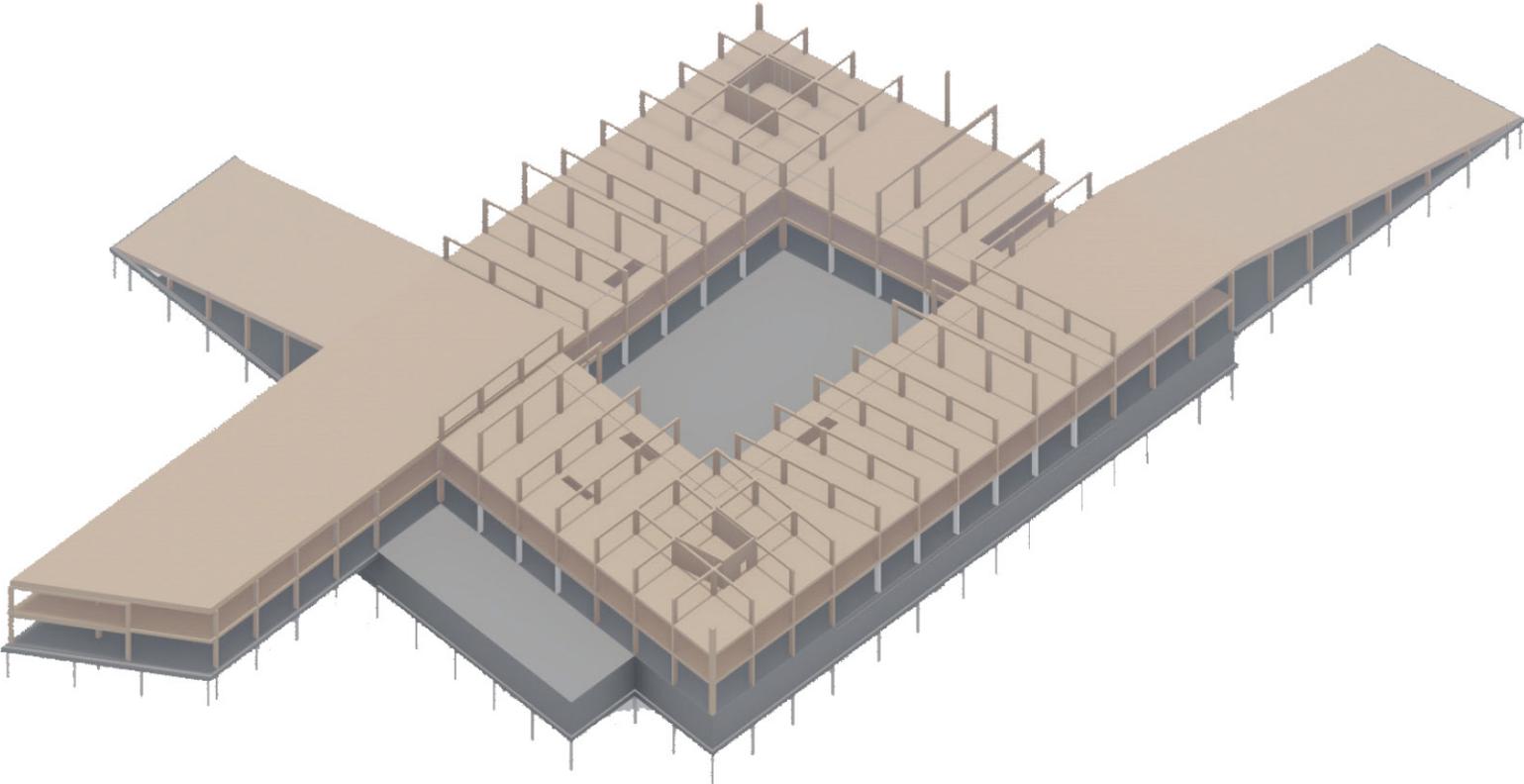
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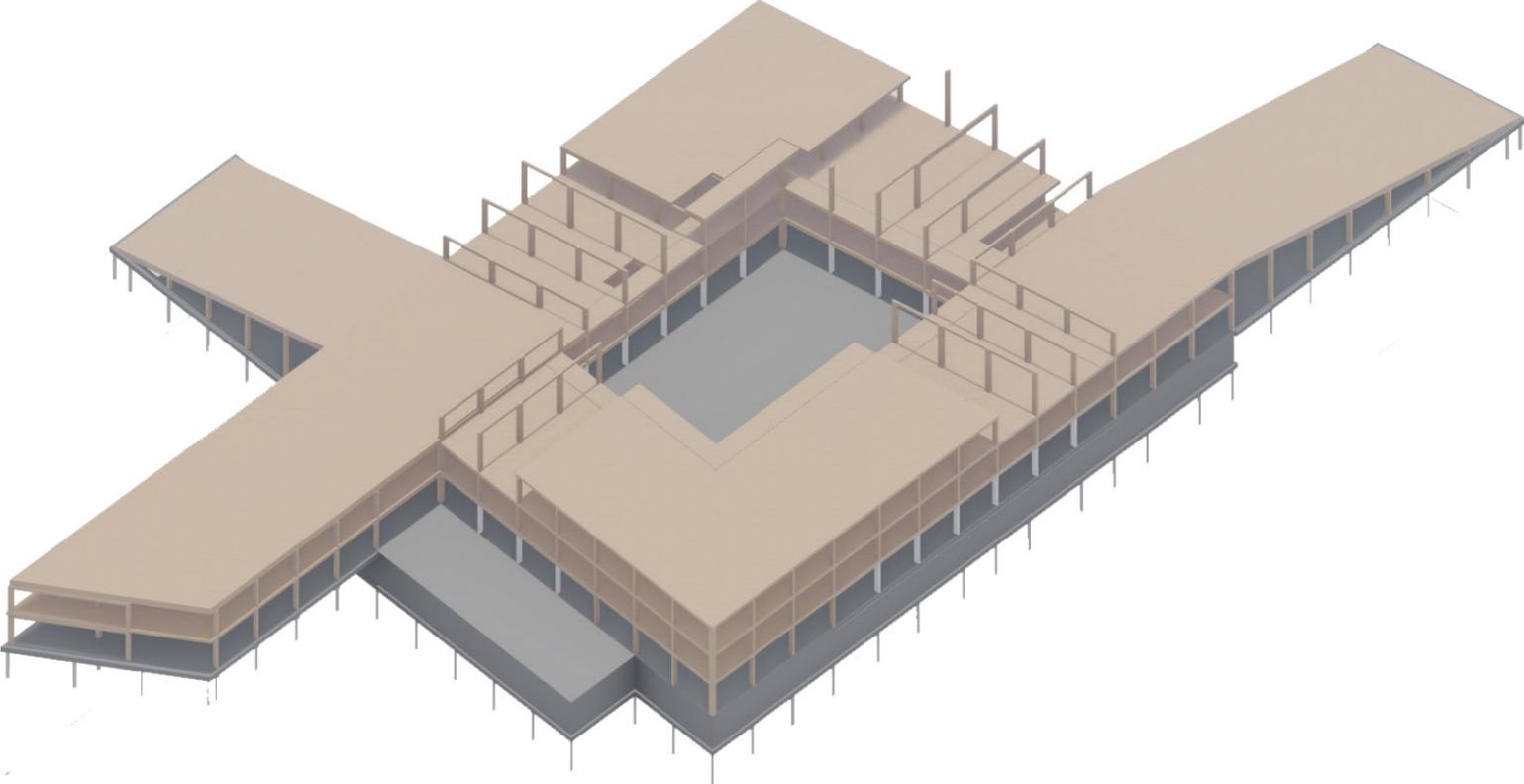
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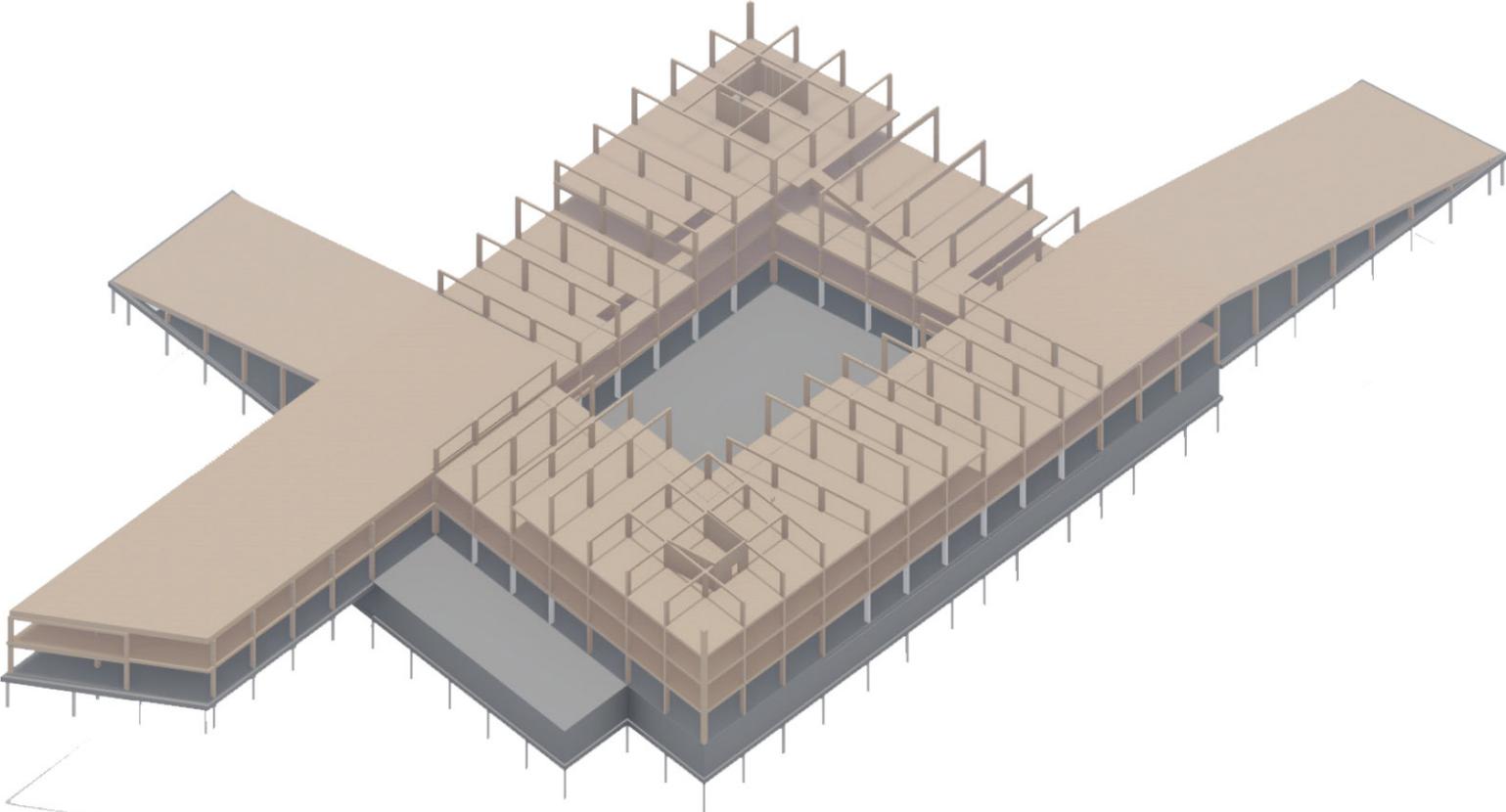
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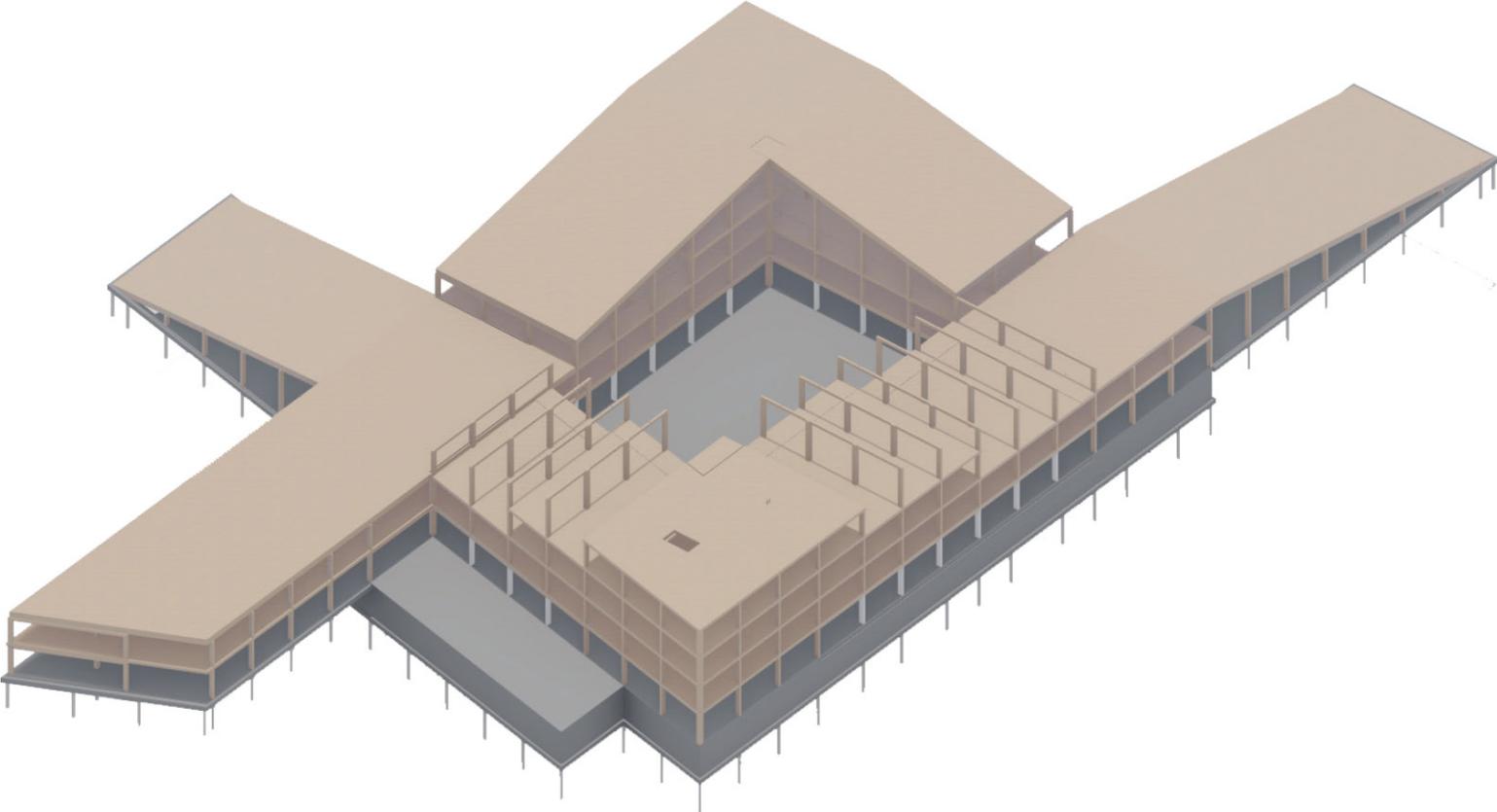
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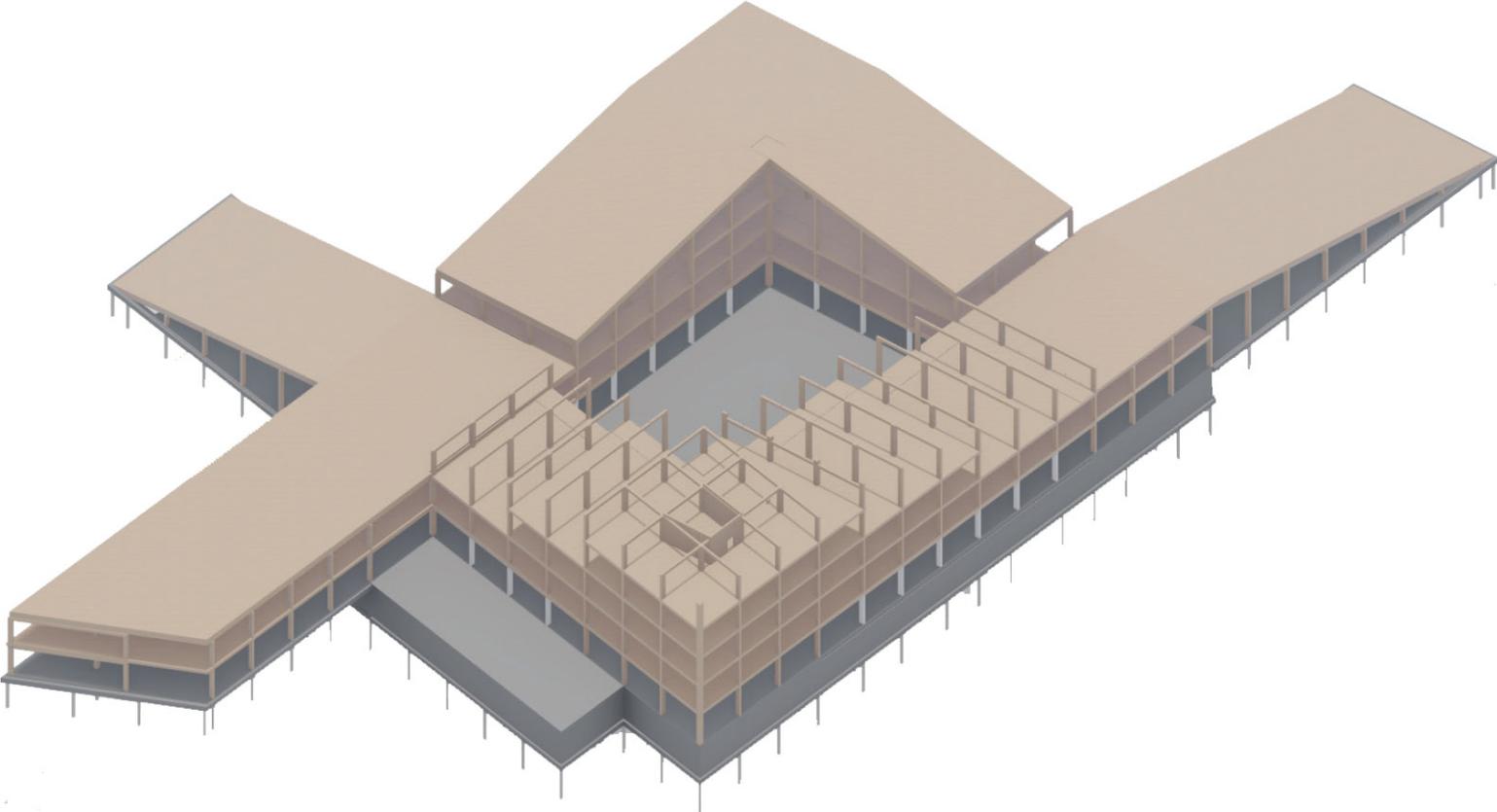
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STRUCTURE



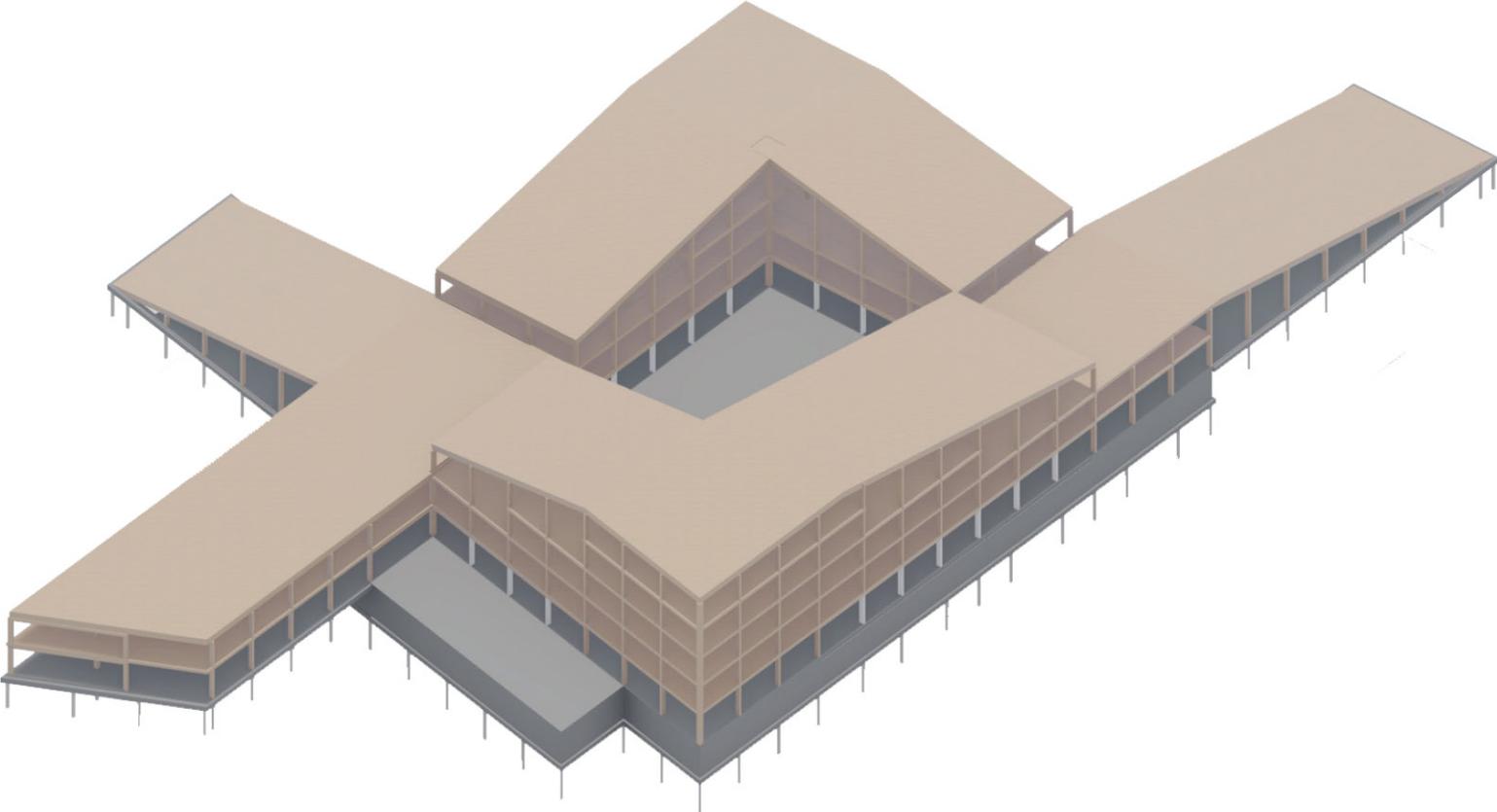
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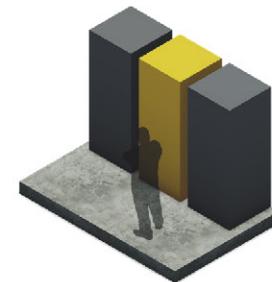
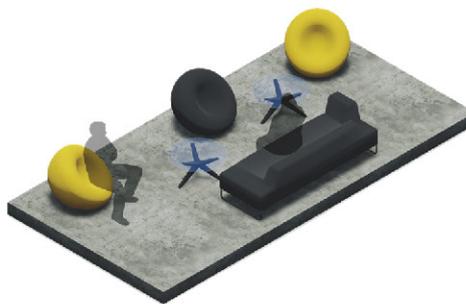
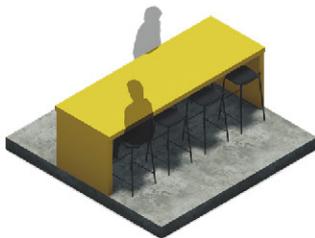
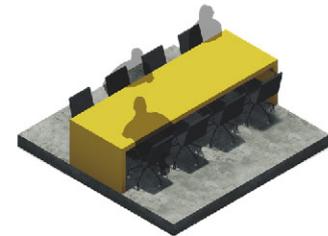
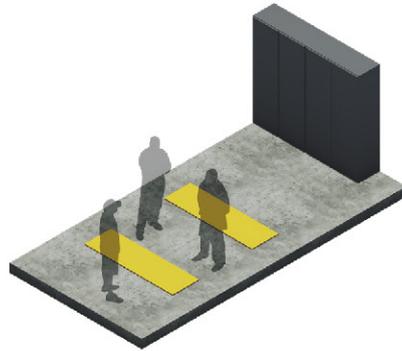
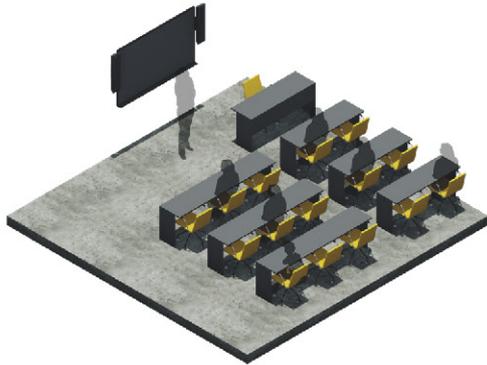


Implementation

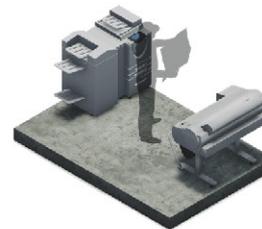
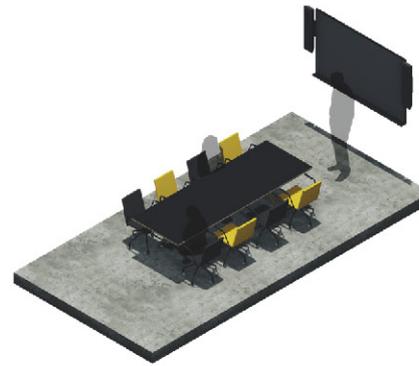
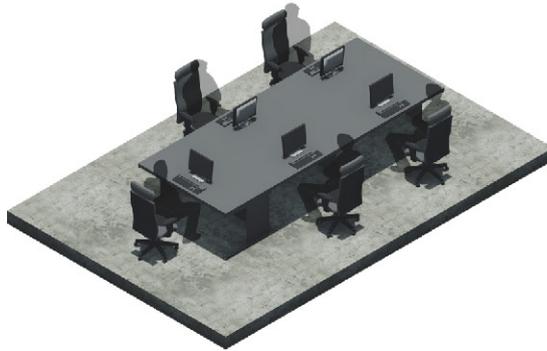
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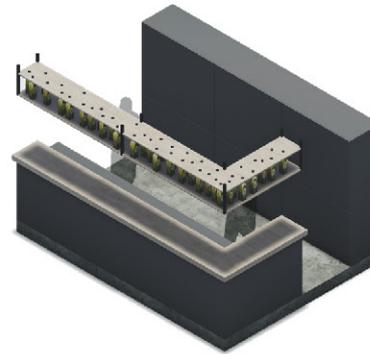
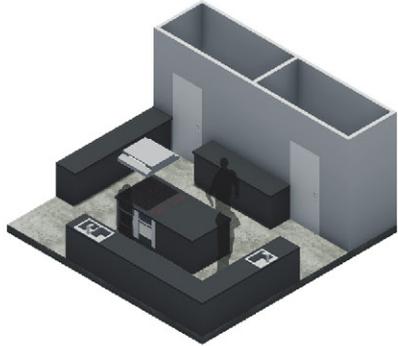
NEUFERT - EDUCATIONAL ELEMENTS



NEUFERT - OFFICE ELEMENTS

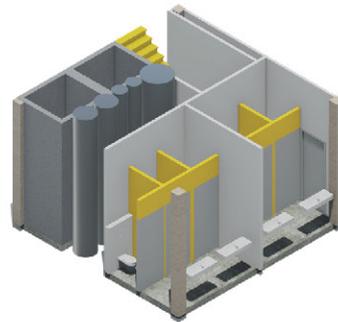


NEUFERT - RESTAURANT ELEMENTS

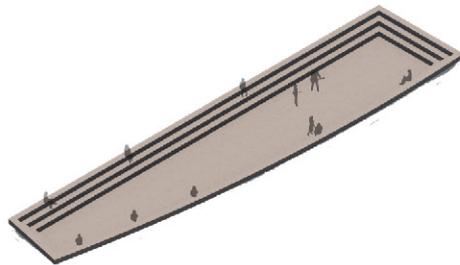
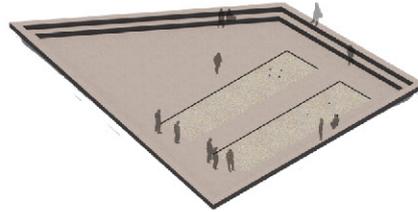
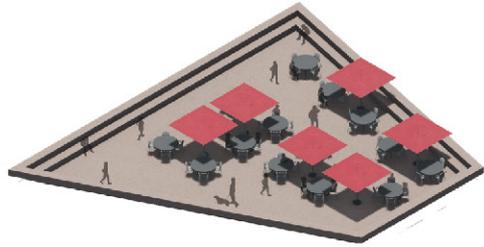


Implementation

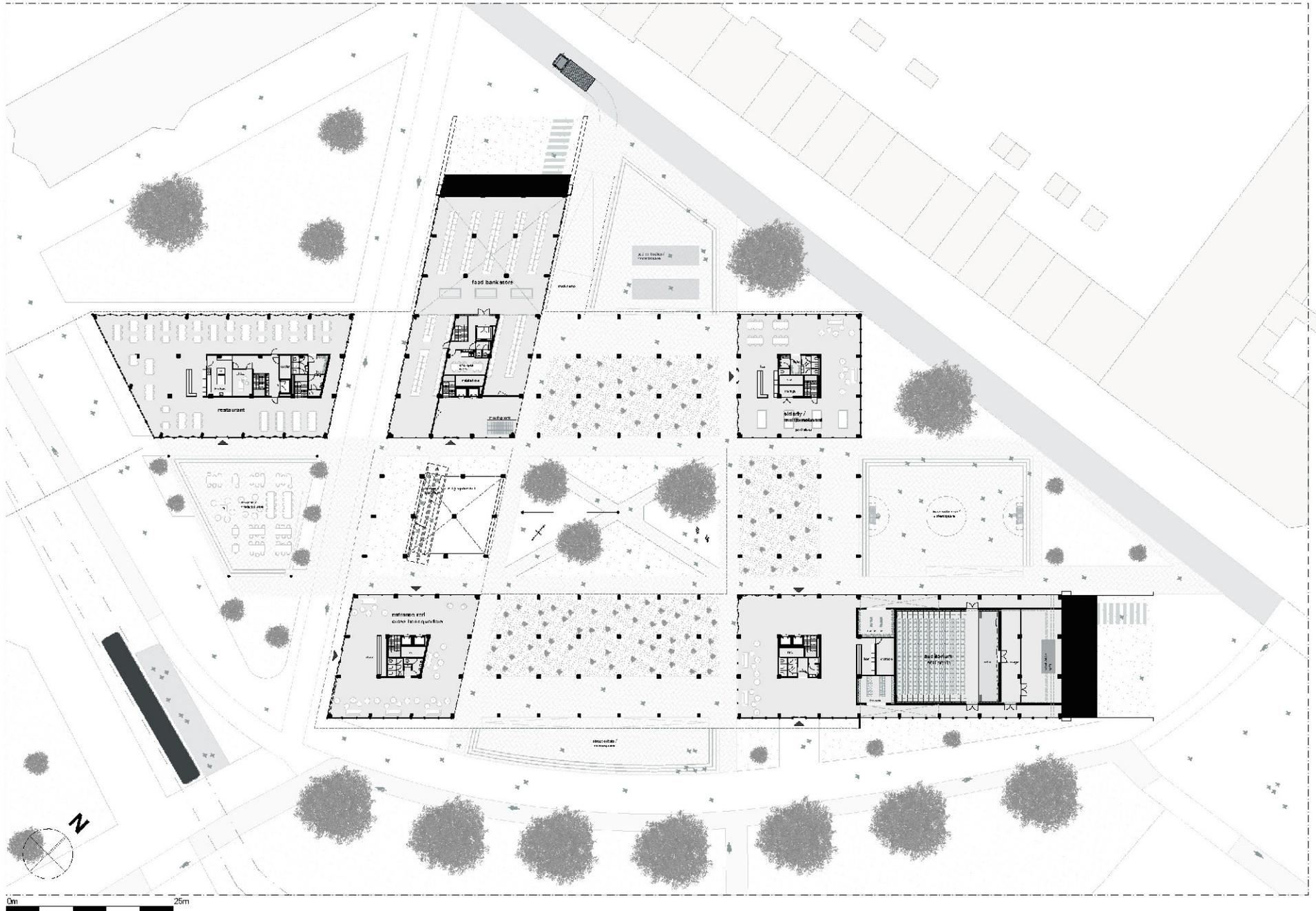
NEUFERT - CORE ELEMENT



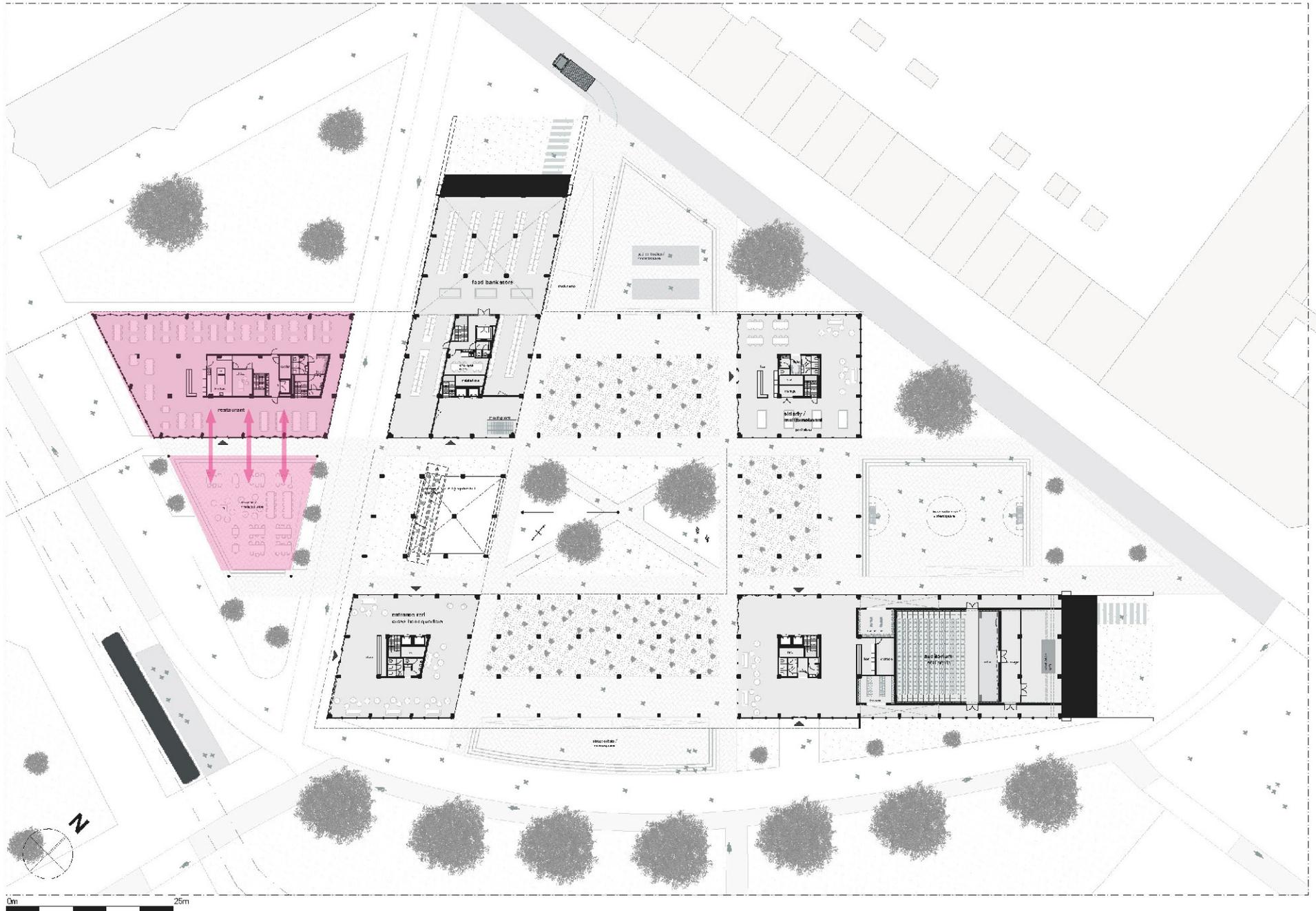
NEUFERT - SQUARE ELEMENTS



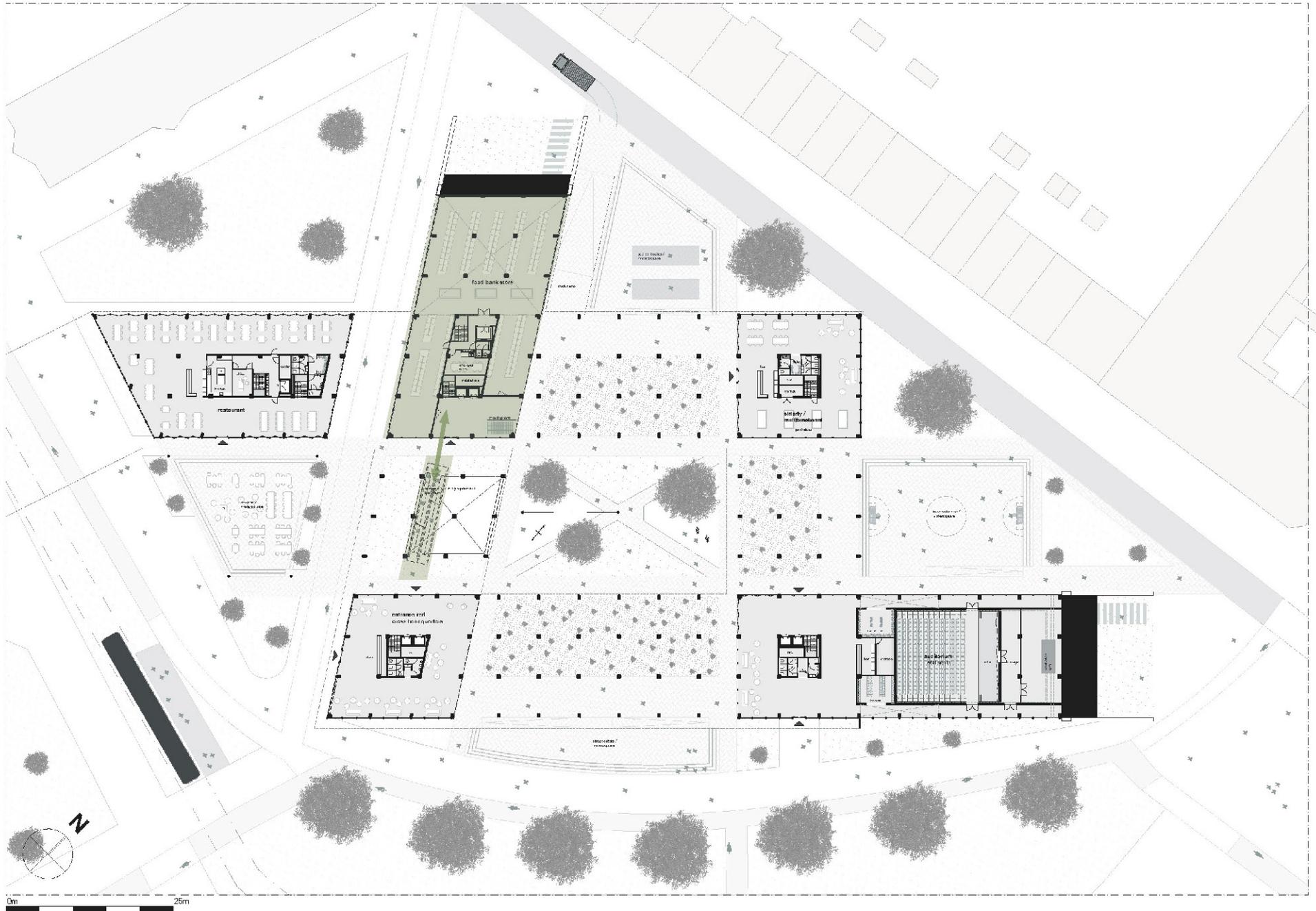
GROUND FLOOR (0)



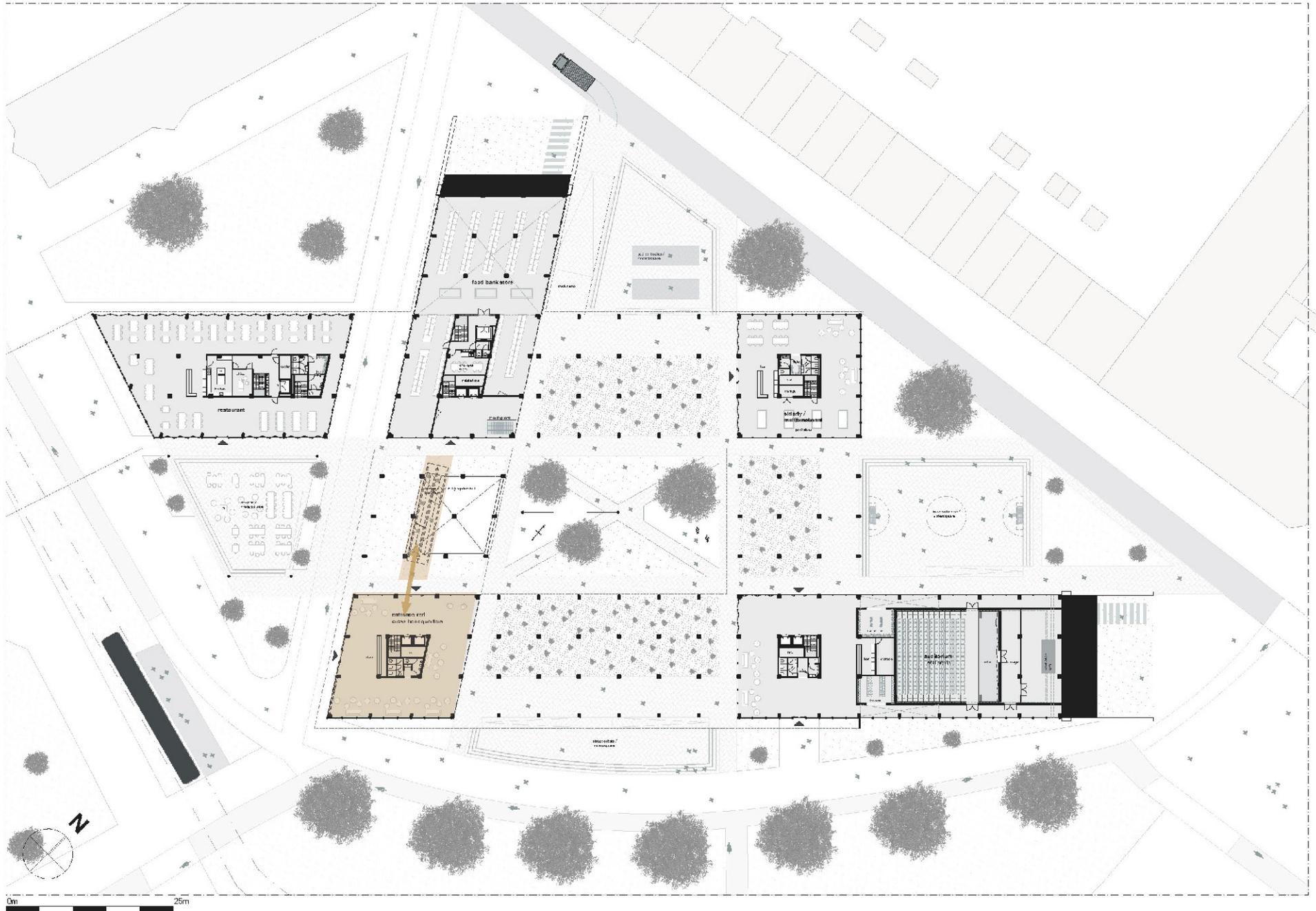
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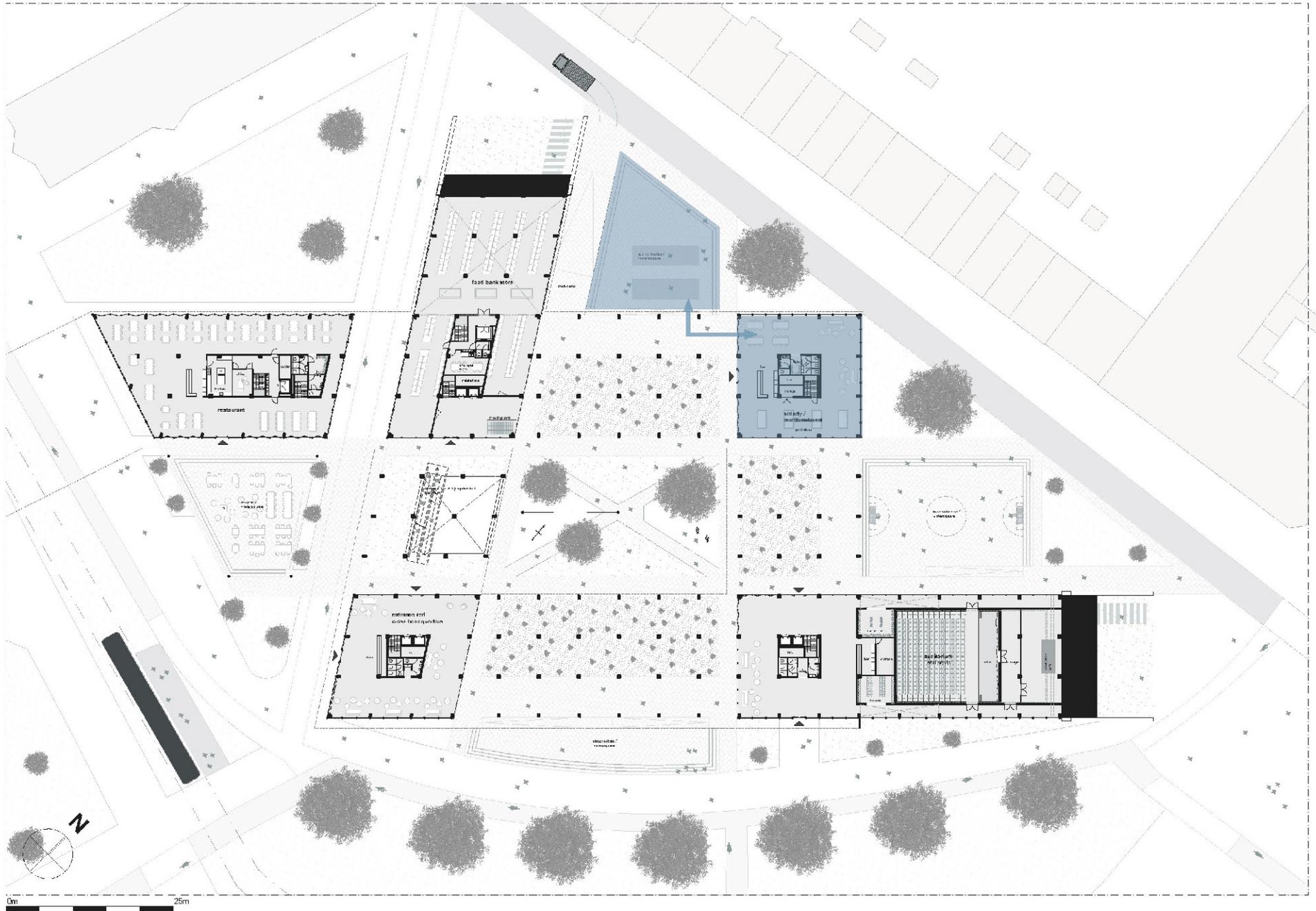
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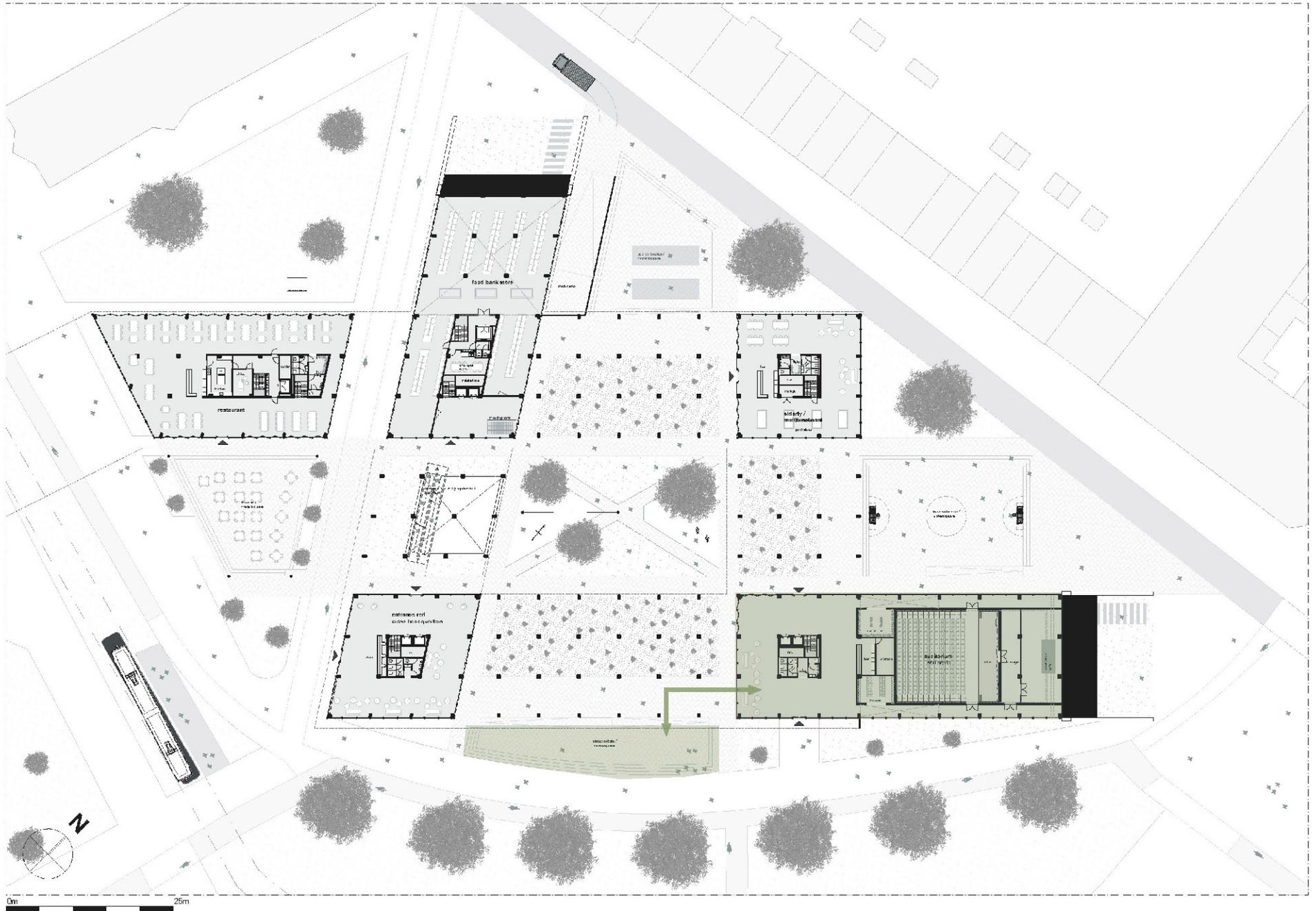
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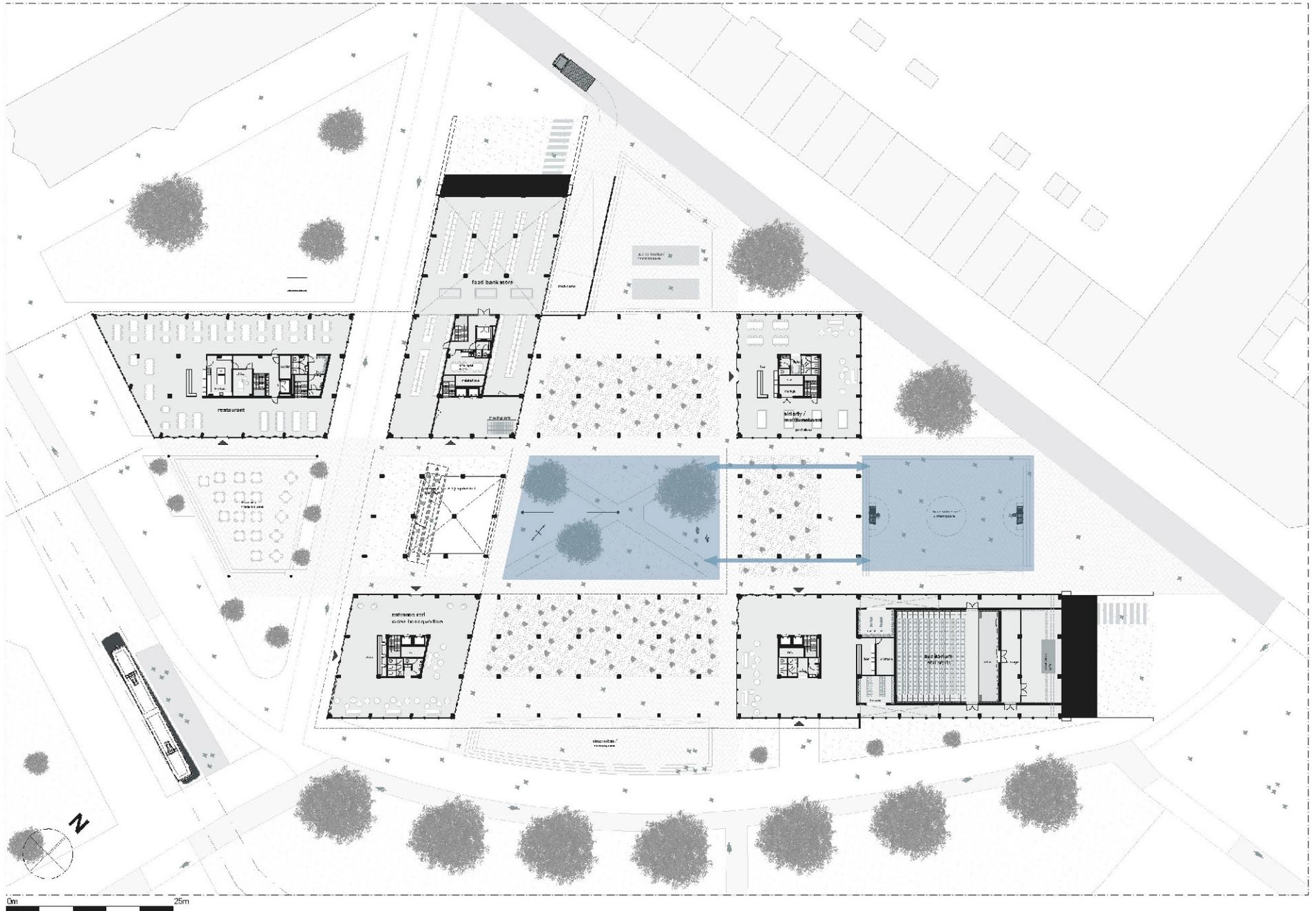
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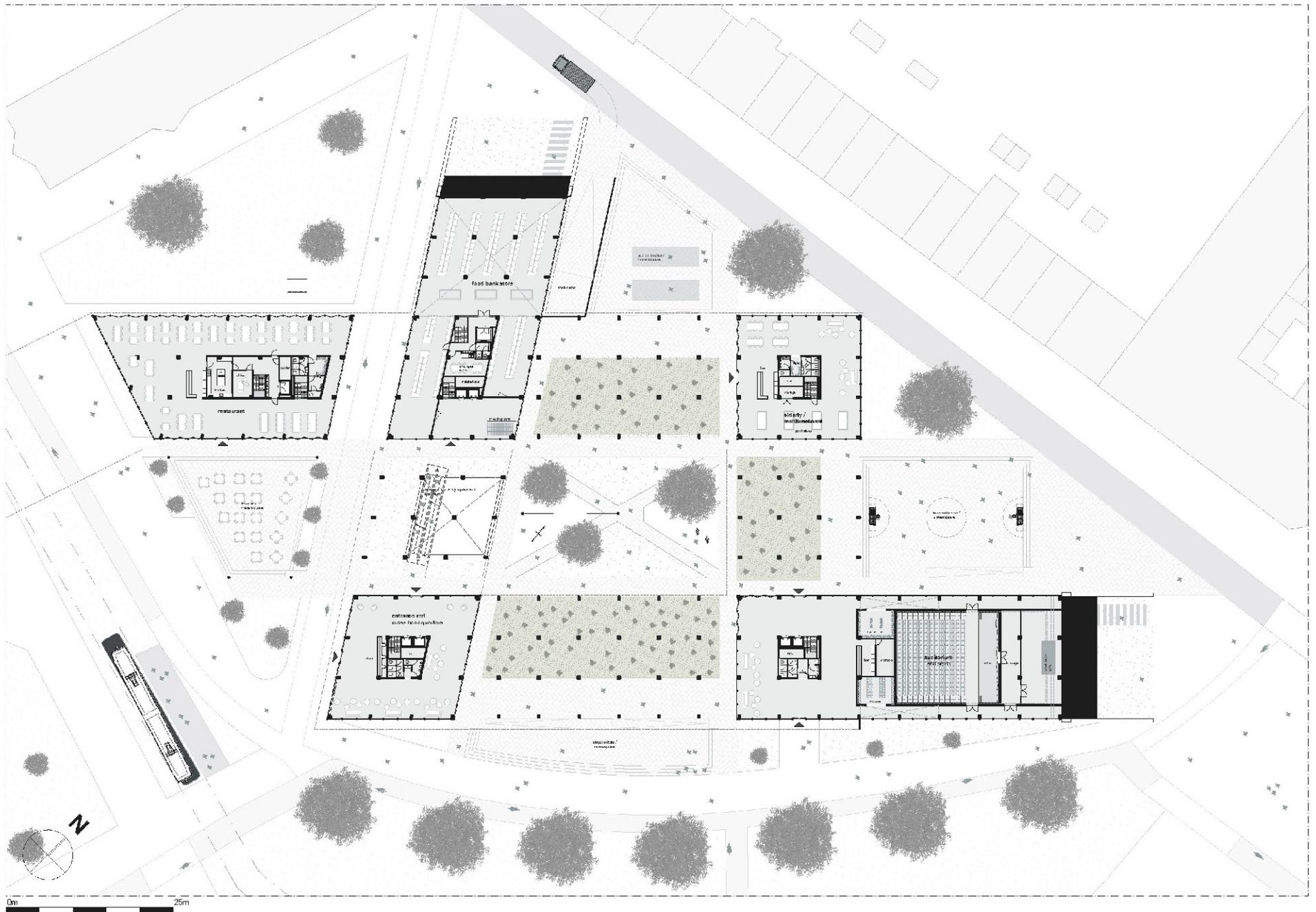
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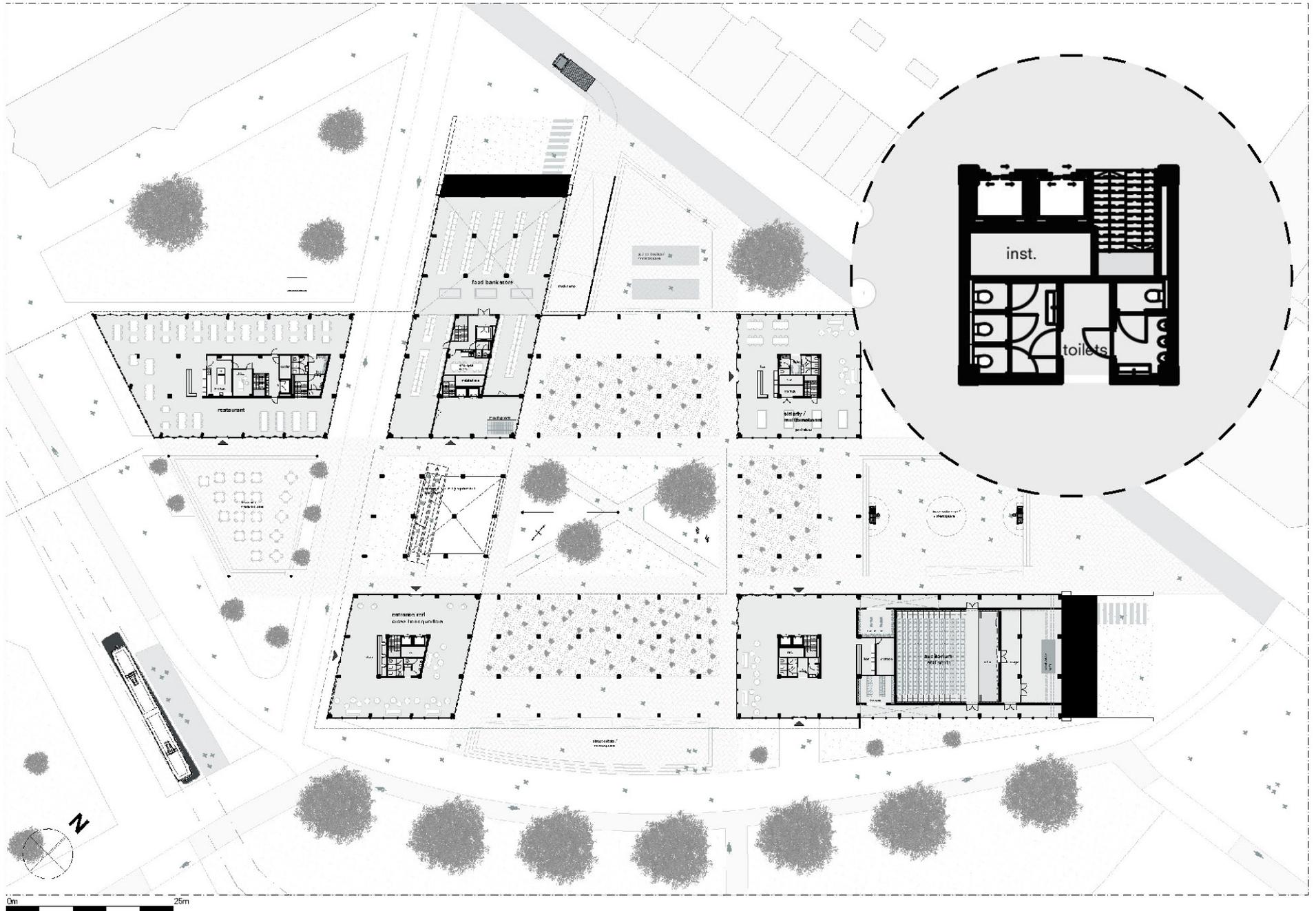
GROUND FLOOR (0)



GROUND FLOOR (0)



GROUND FLOOR (0)



VISUAL



VISUAL



Implementation

VISUAL



VISUAL



Implementation

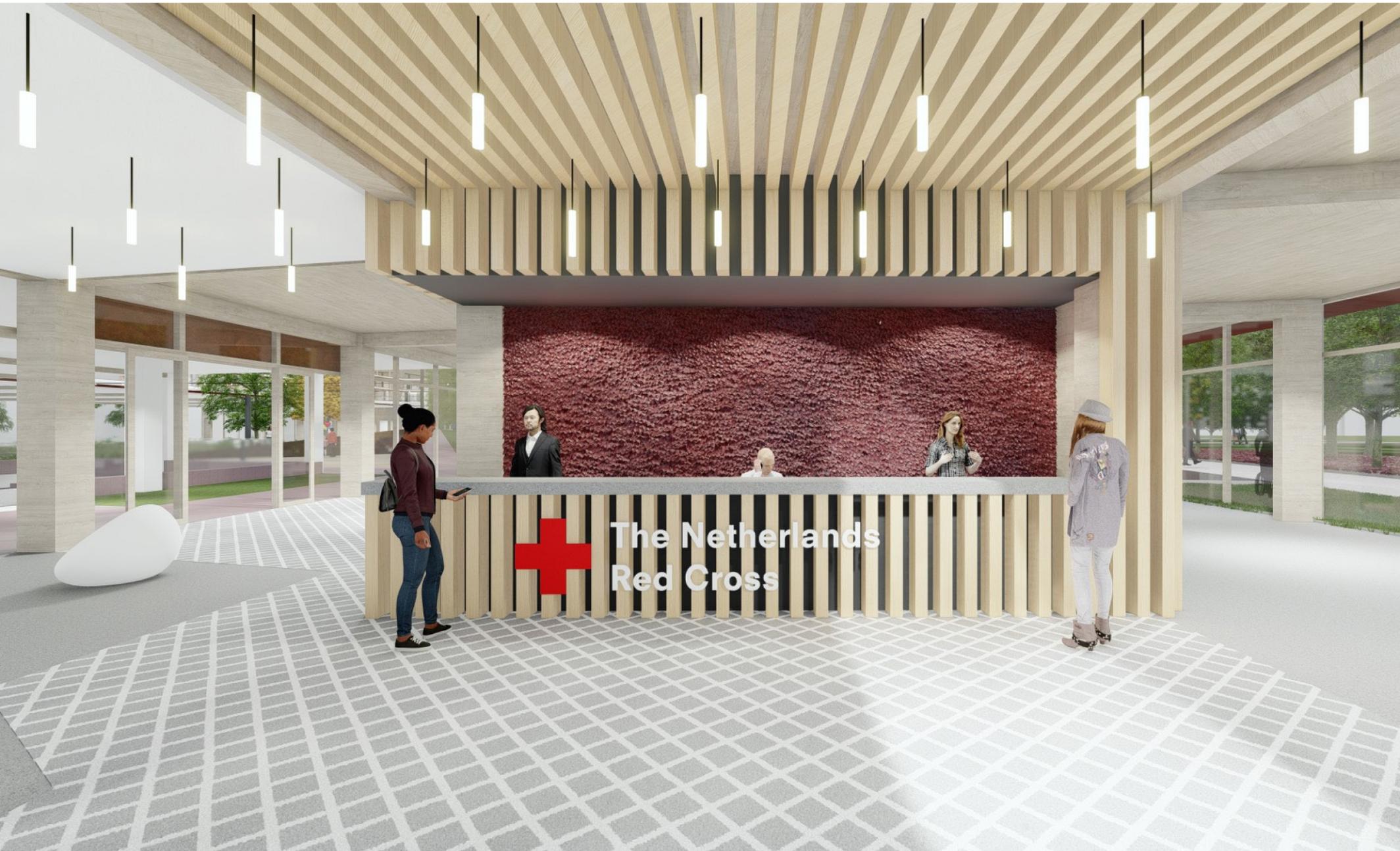
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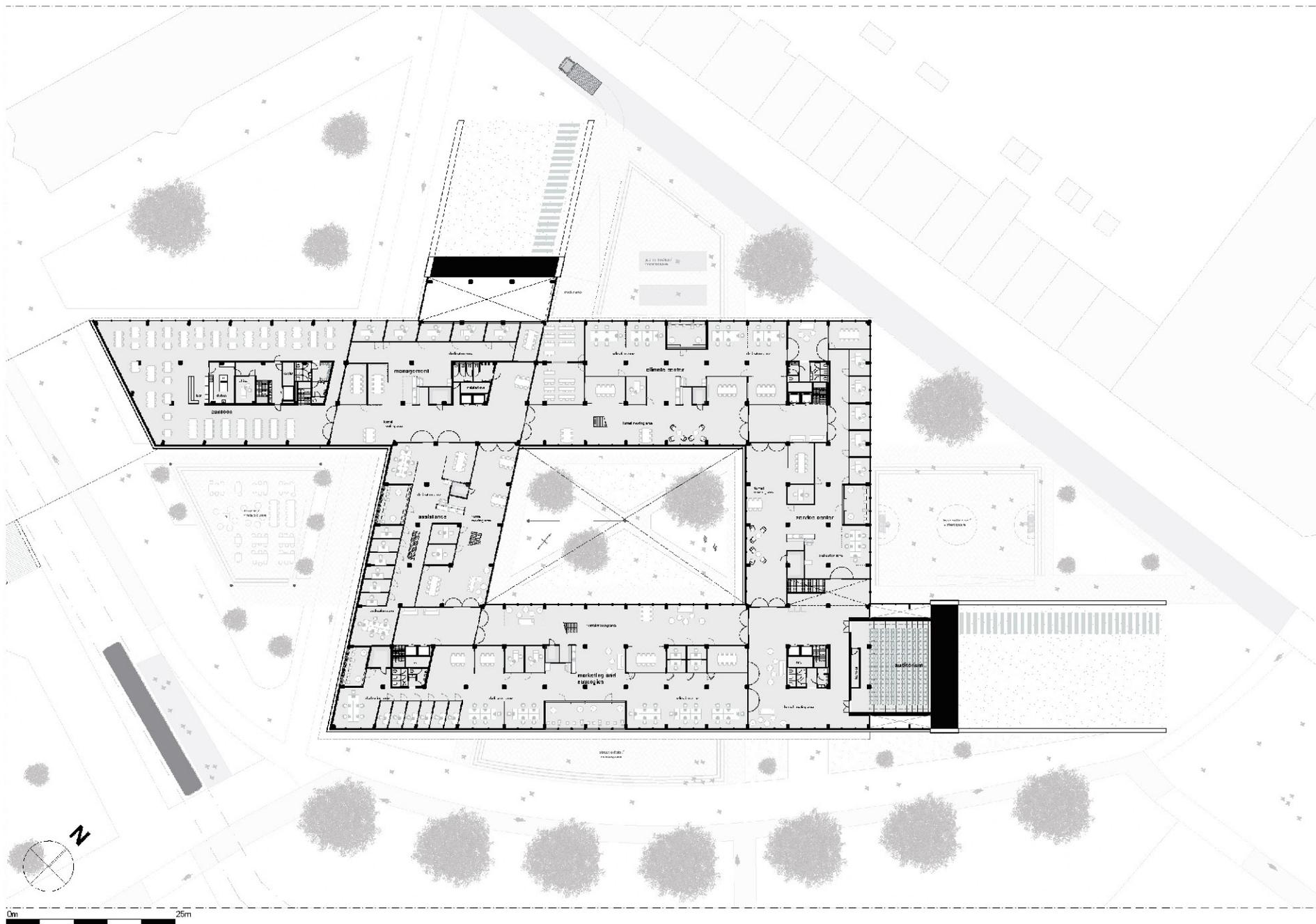
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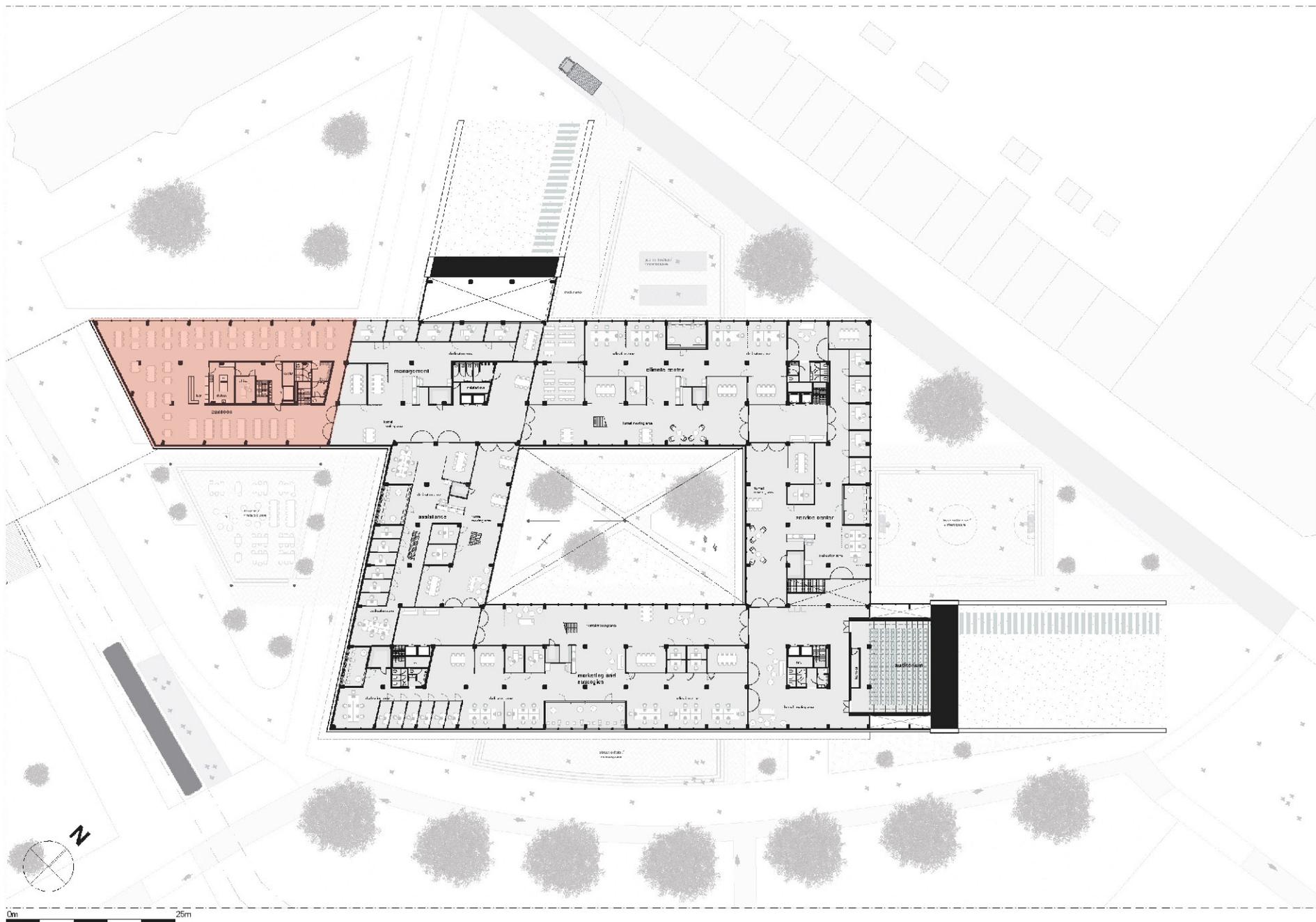
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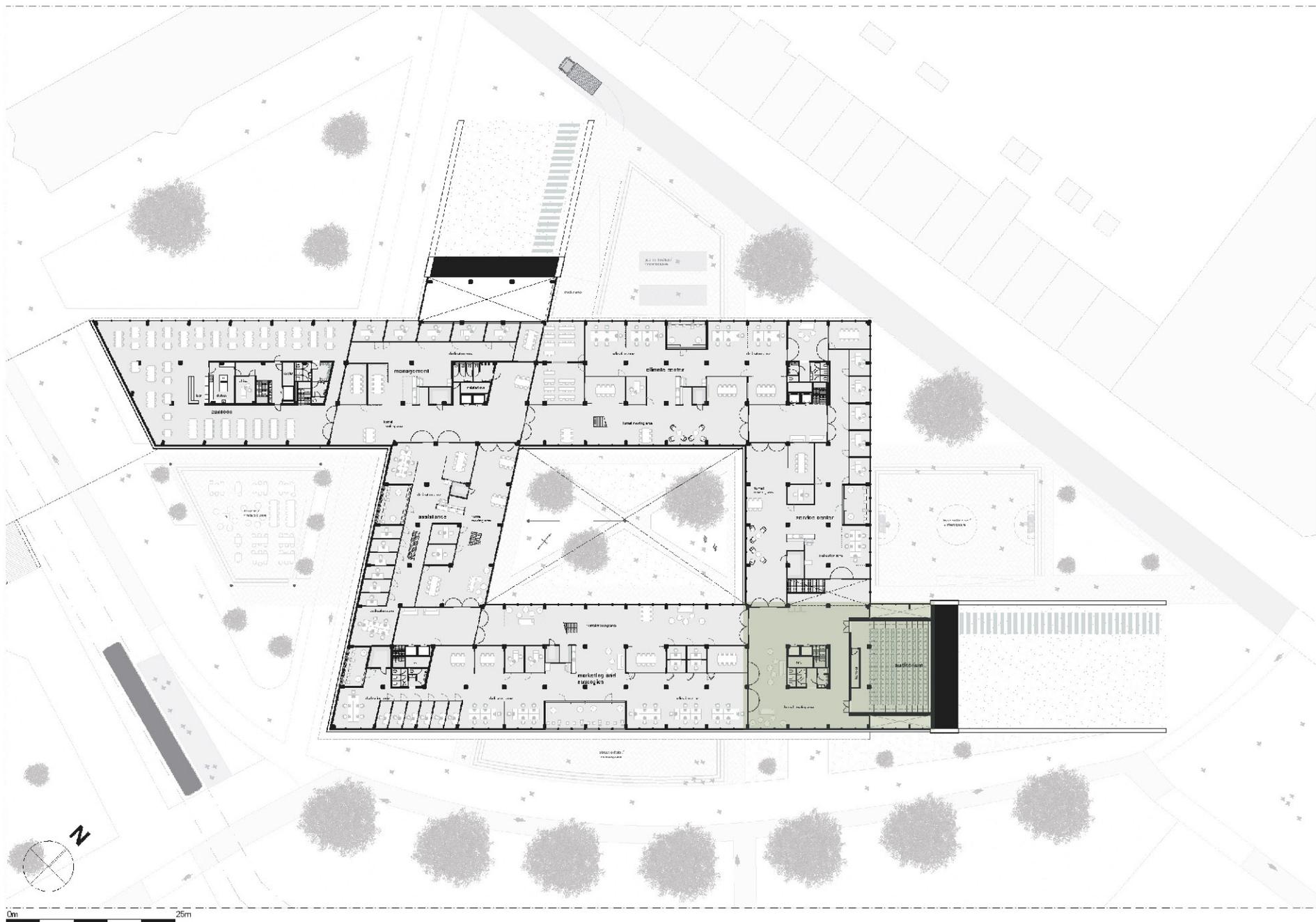
Implementation
FIRST FLOOR (+4.000)



Implementation
FIRST FLOOR (+4.000)



Implementation
FIRST FLOOR (+4.000)



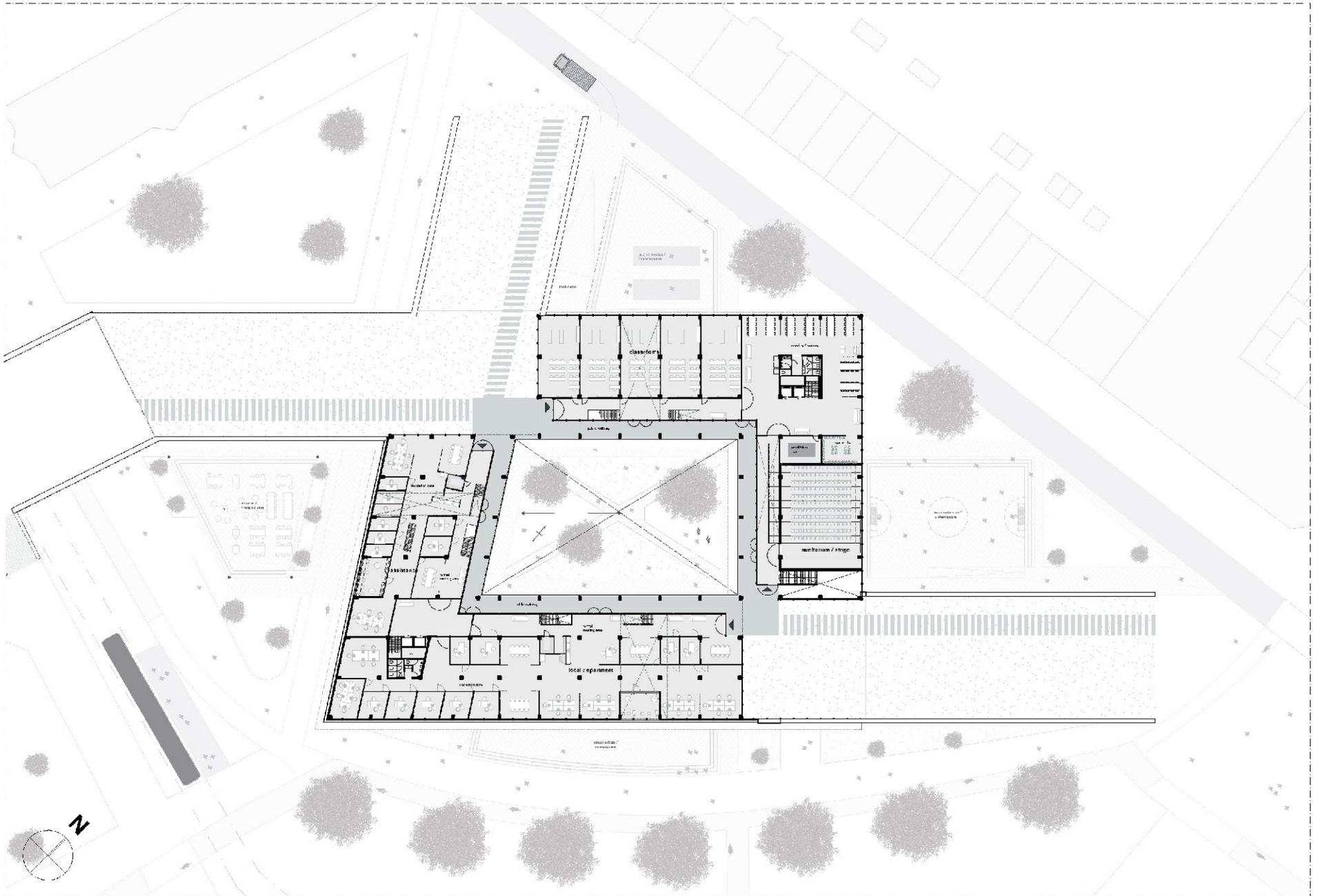
VISUAL



VISUAL



SECOND FLOOR (+7.500)



VISUAL



VISUAL



Implementation

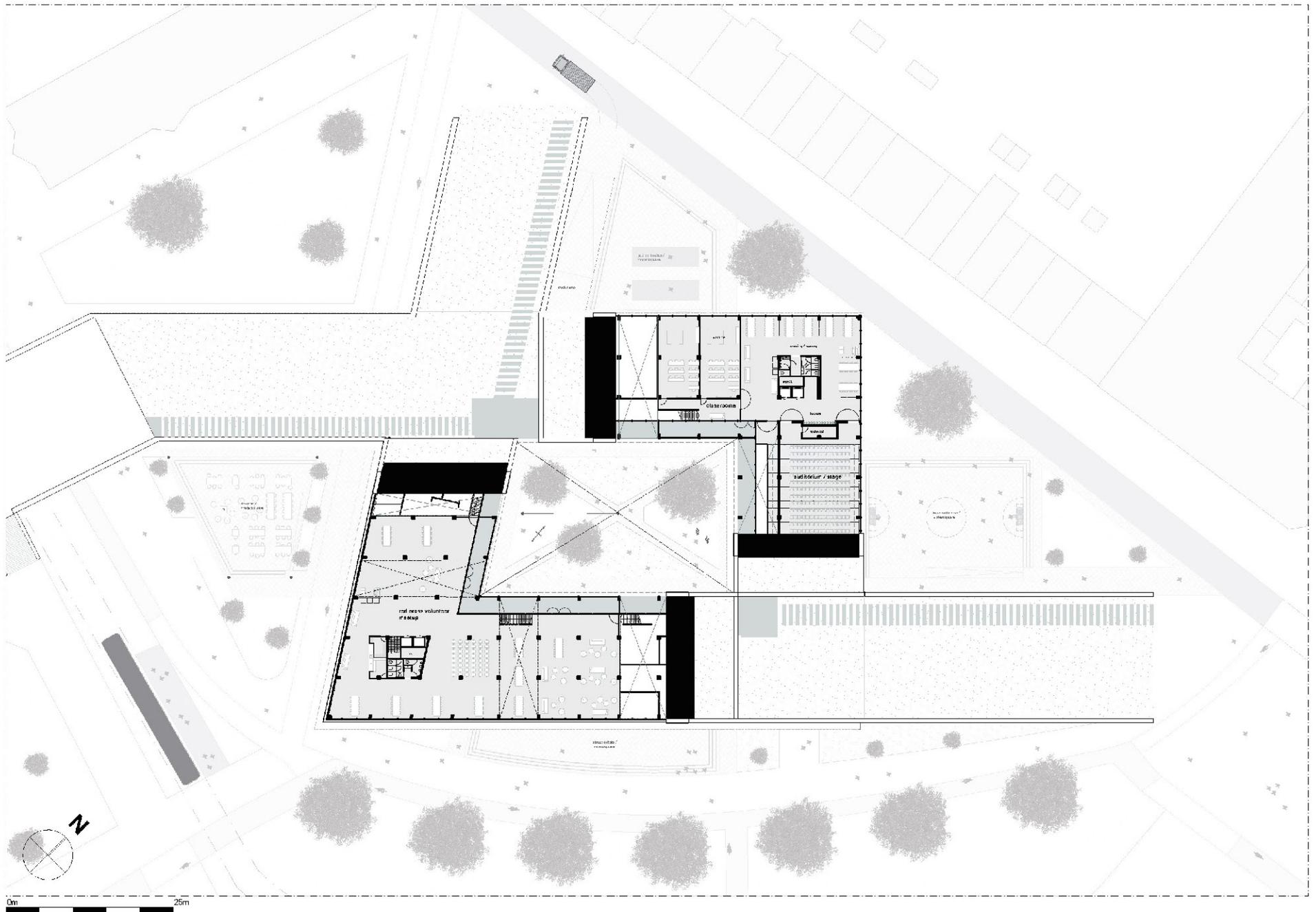
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VISUAL



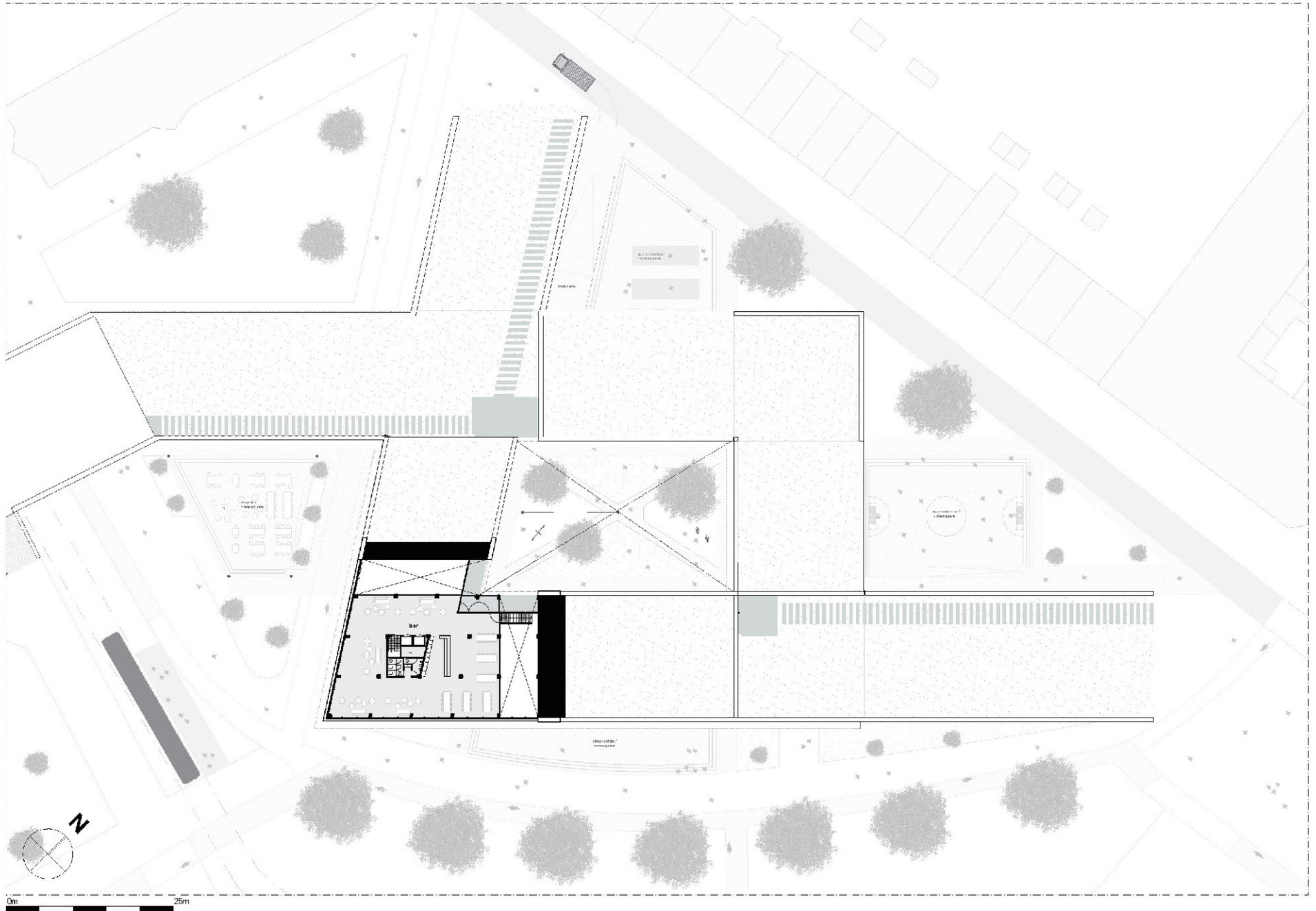
THIRD FLOOR (+11.000)



VISUAL



FOURTH FLOOR (+14.500)



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Development

MATERIALIZATION



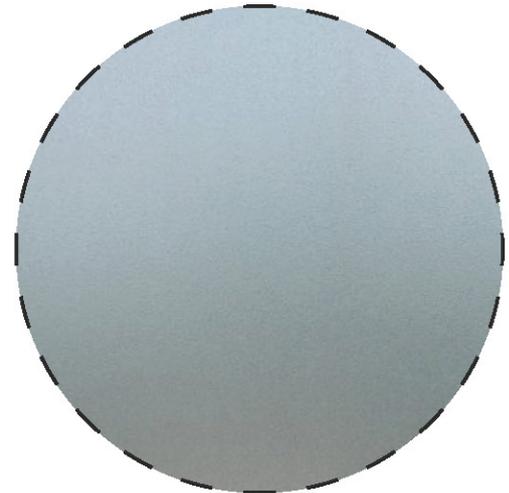
MATERIALIZATION



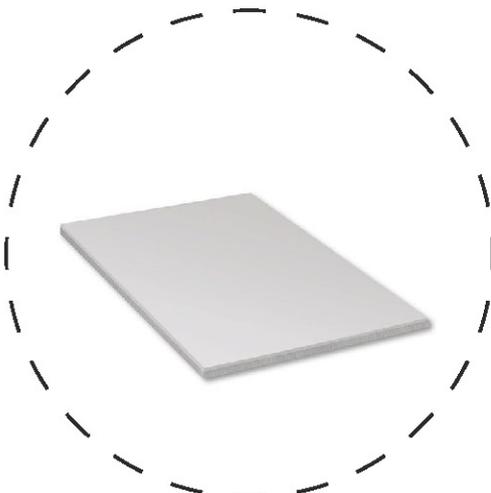
CLT elements + columns
and beams



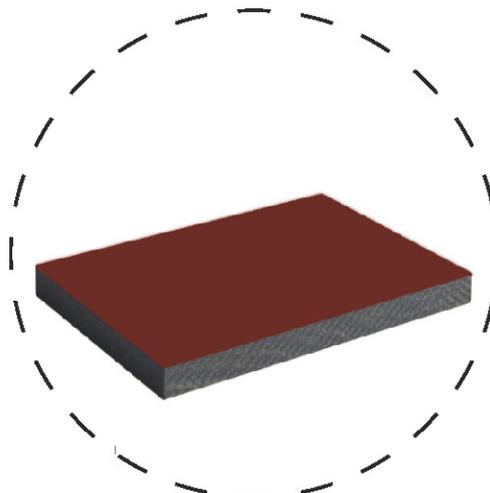
green roof



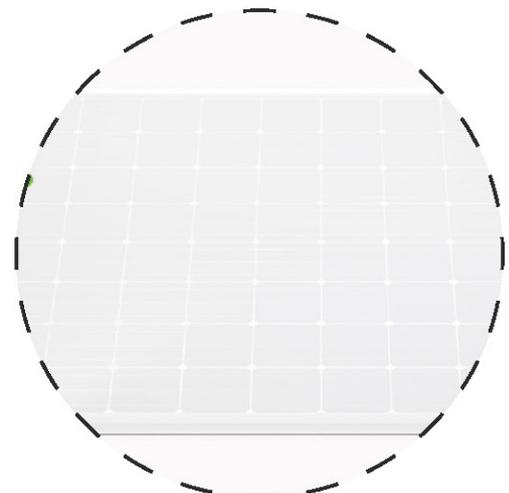
transparent glass



Eternit white panel



Trespa red panel



white solar panels

Development

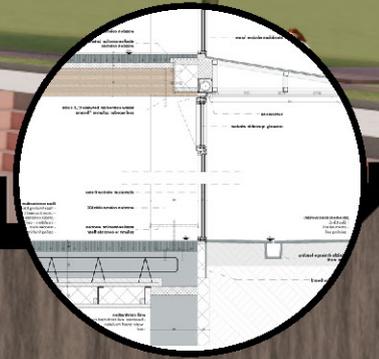
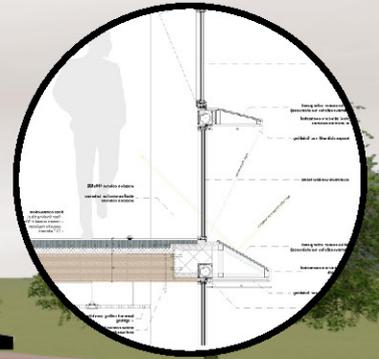
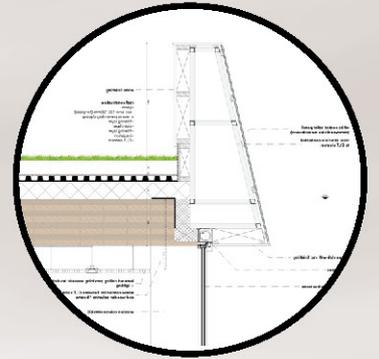
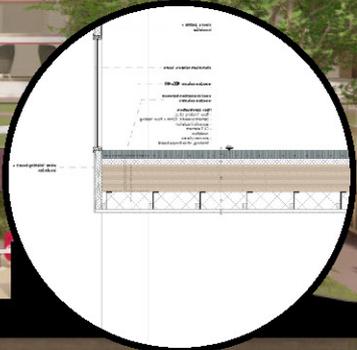
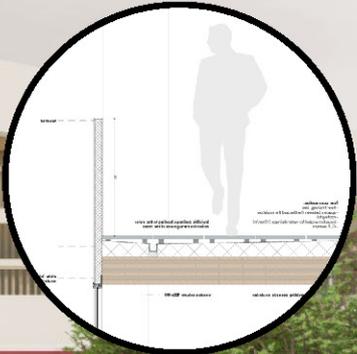
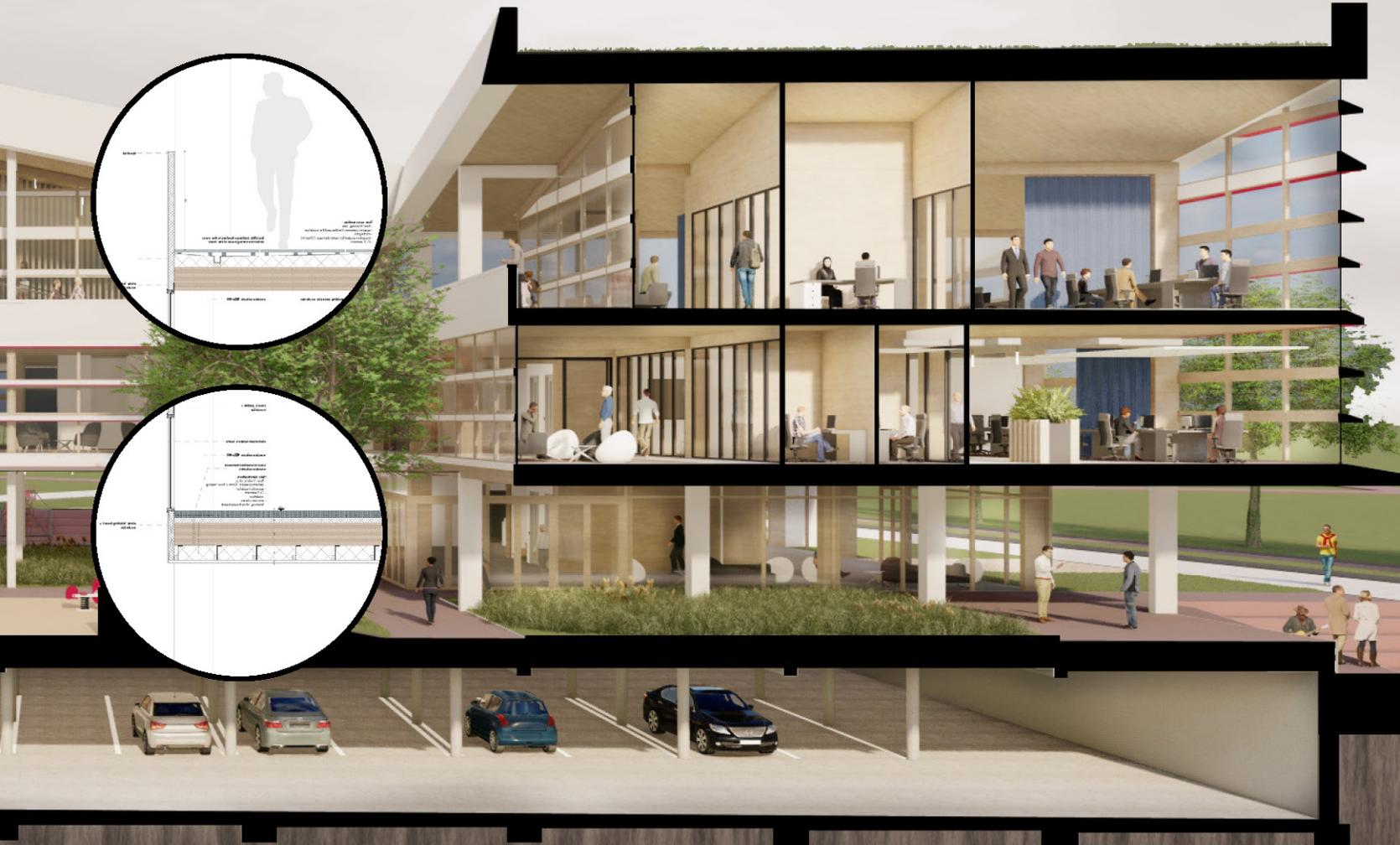
FACADES



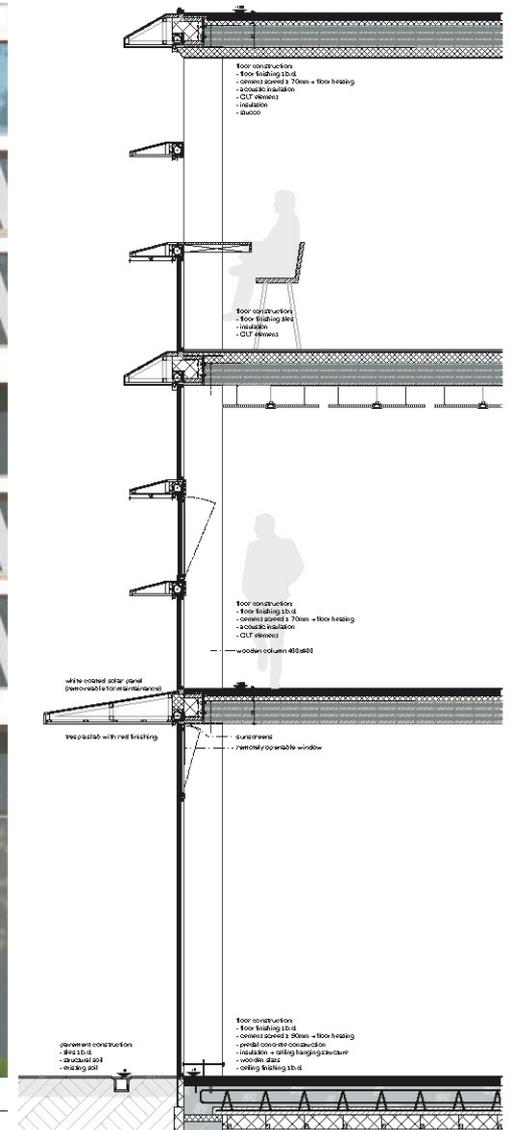
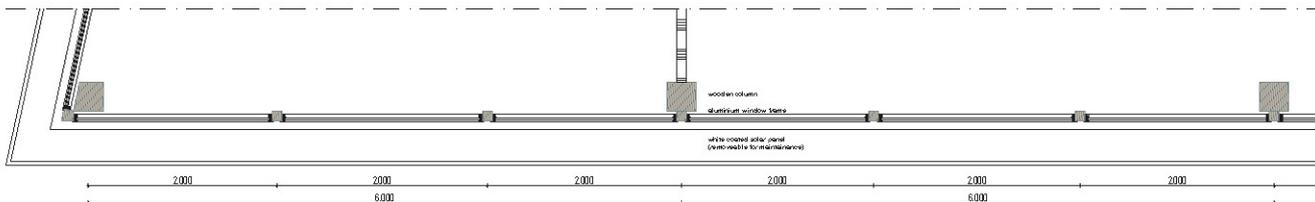
NORTHERN FACADES

Development FACADES

SOUTHERN FACADES

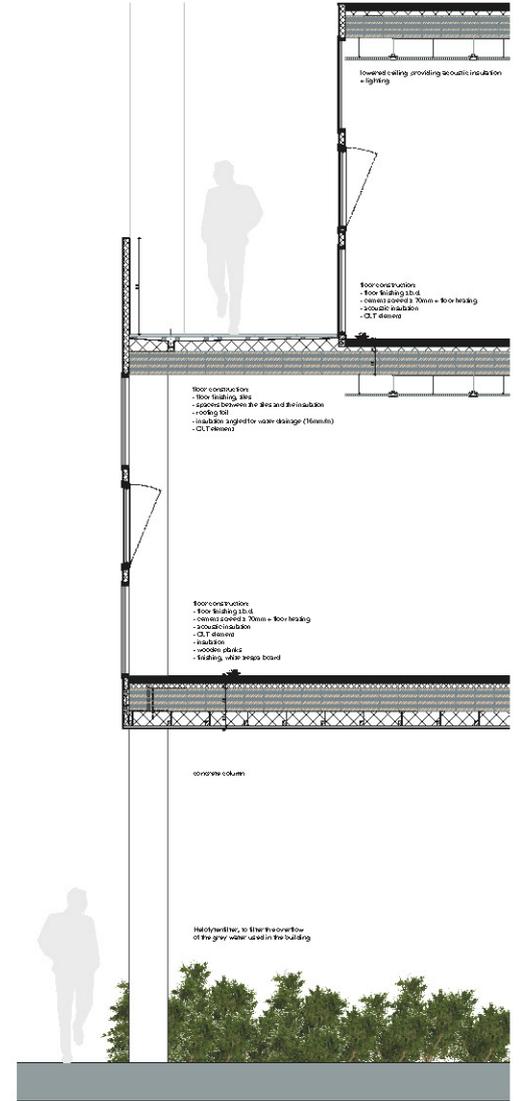
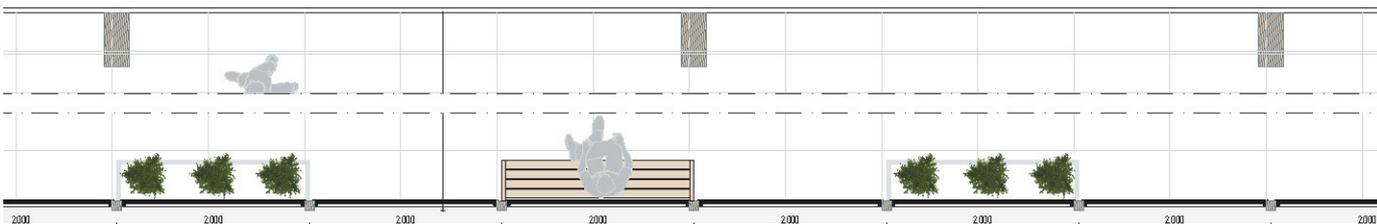


ENVELOPE FRAGMENT SOUTH FACADES 1:20

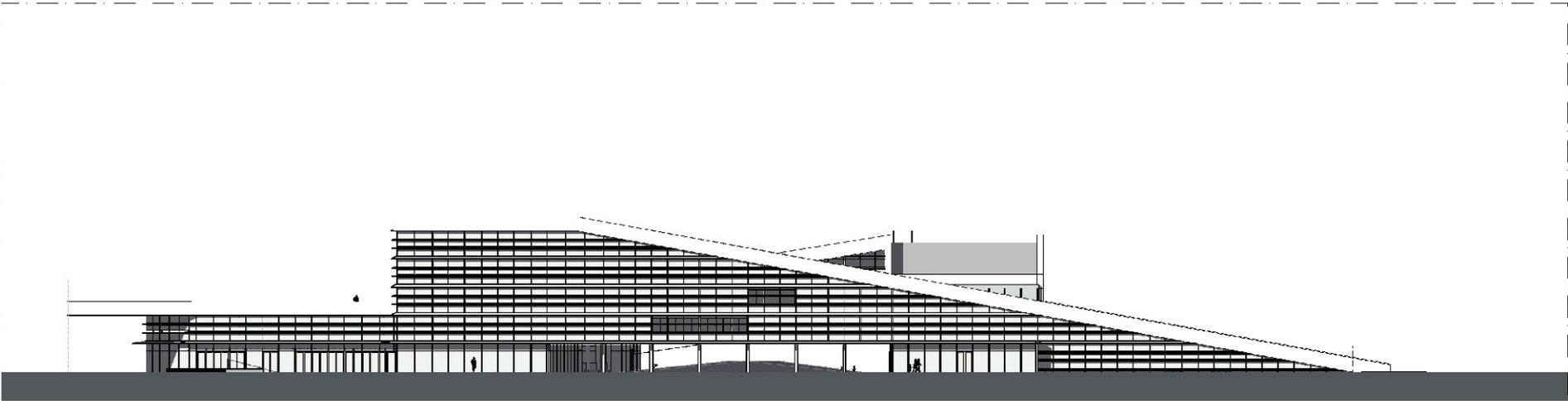


FACADES

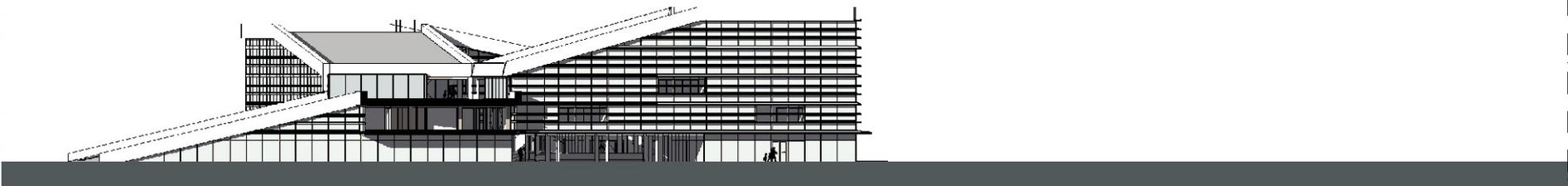
ENVELOPE FRAGMENT NORTH FACADES 1:20



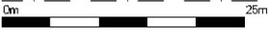
ELEVATIONS



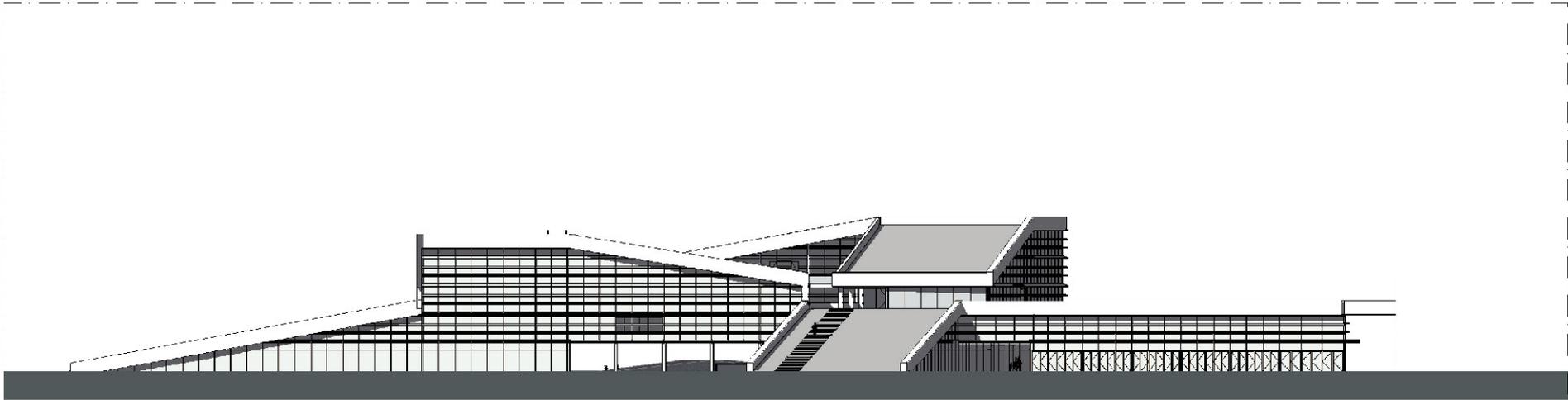
SOUTH EAST FACADE



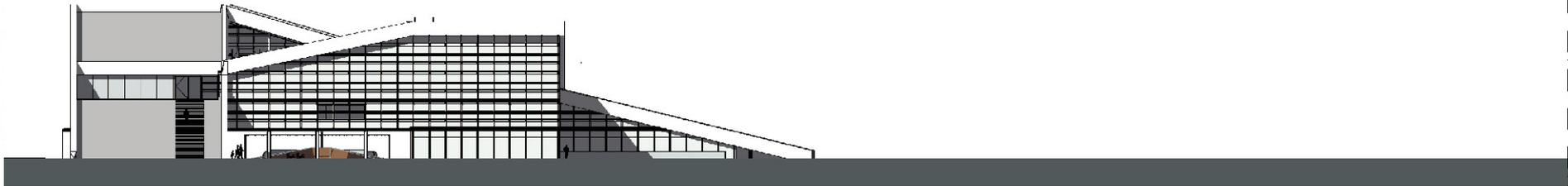
SOUTH WEST FACADE



ELEVATIONS



NORTH WEST FACADE



NORTH EAST FACADE



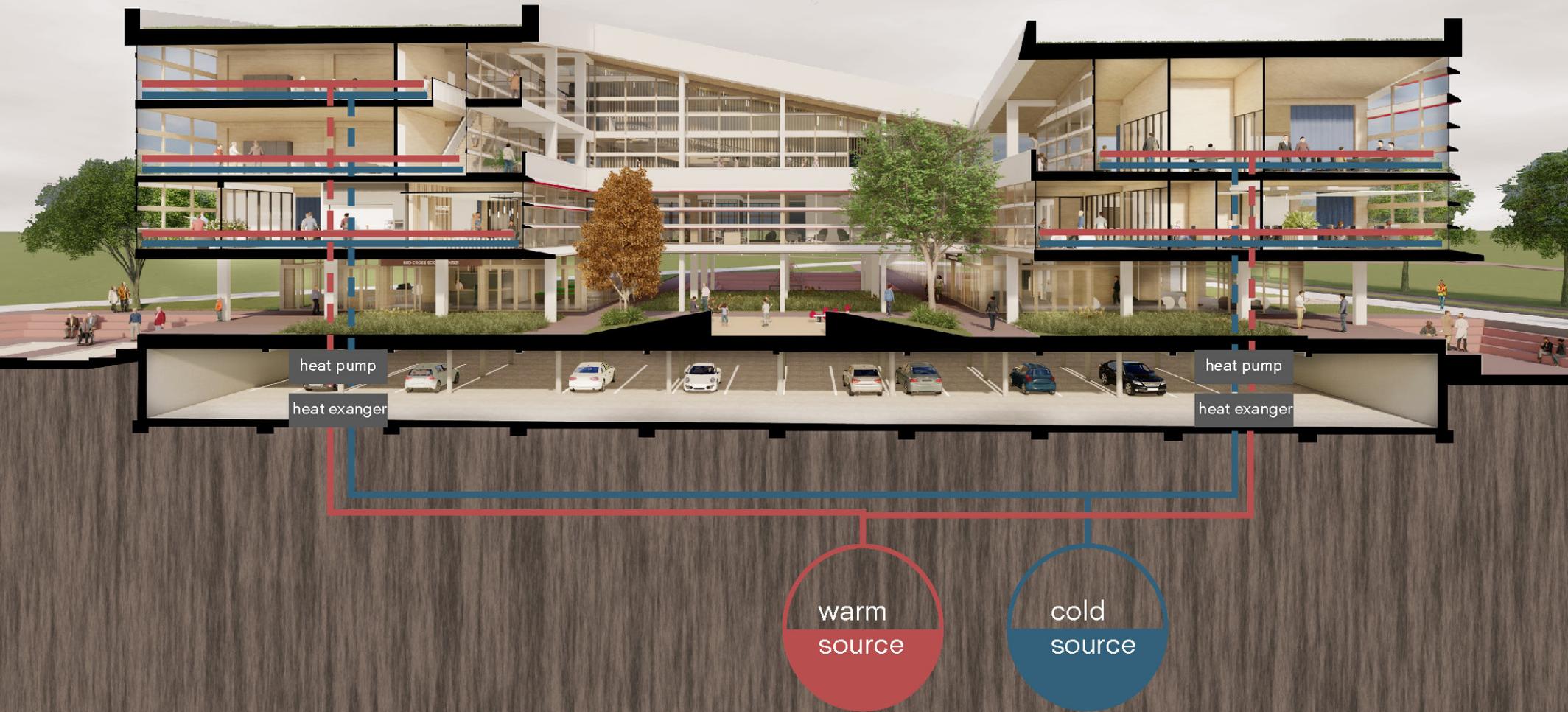
Development

ENERGY COLLECTION

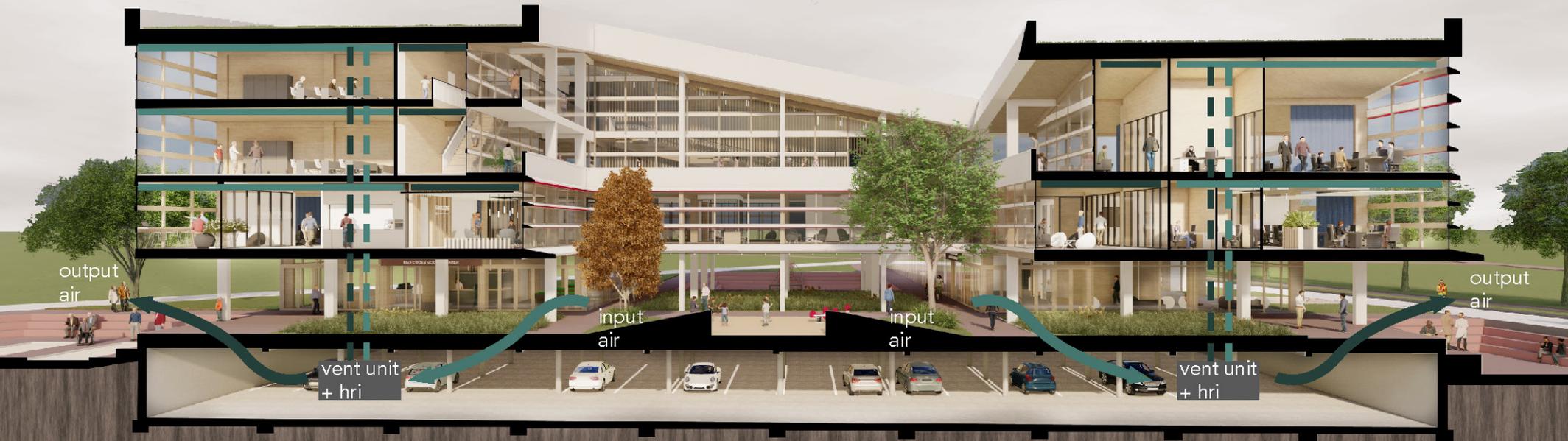
 410.000 kwh/year



HEATING AND COOLING



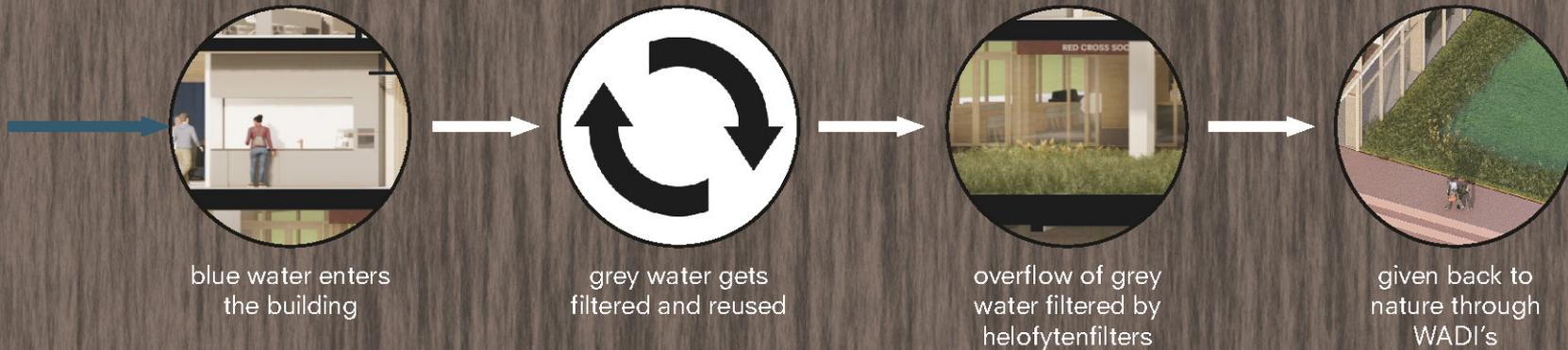
Development
VENTILATION



WATER STRATEGY

NO RAINING SCENARIO

phase 1: filter grey water on site /
use of water inside buildings



WATER STRATEGY

INTENSE RAINING SCENARIO

phase 2: 32mm / 24 hours

happens twice a year



green roof collects water for the building



green roof cools the area through evaporation



WADI's buffer the rainwater

WATER STRATEGY

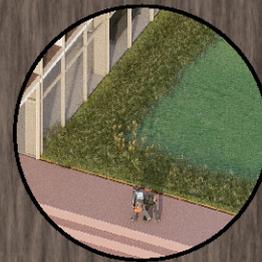
EXTREME RAINING SCENARIO

phase 3: 62mm / 24 hours

happens once every 10 years (and increasing)



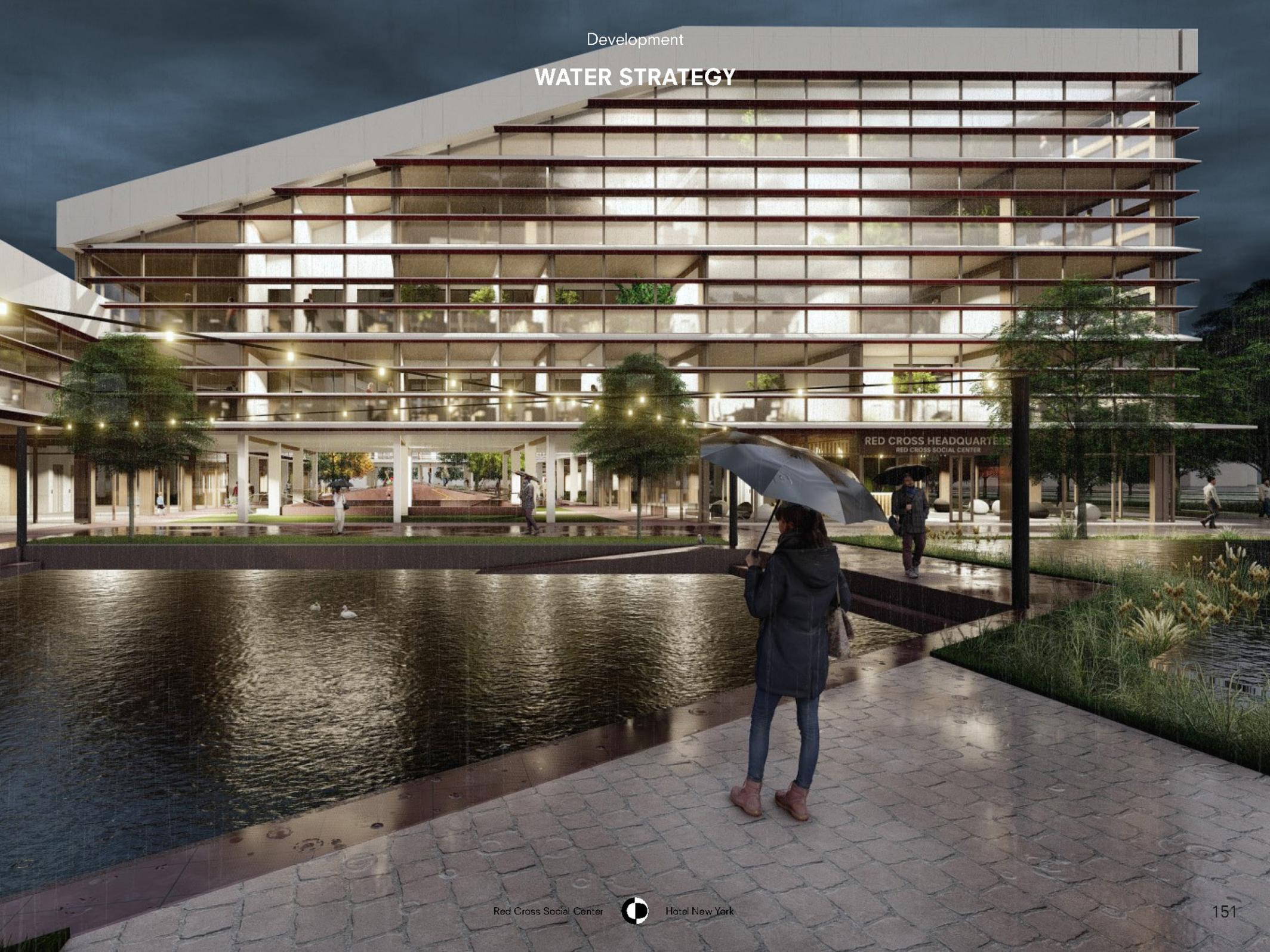
watersquares will buffer water



WADI's are full

Development

WATER STRATEGY



RED CROSS HEADQUARTERS
RED CROSS SOCIAL CENTER



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CONCLUSION



Research Question

How can both social- and hard infrastructure contribute to the creation of a resilient climate proof community?



THANK YOU