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integrative
innovative
inclusive

Entwerfen Lviv Social Resilient City.
Urban Density Lab 2022

Mariia Kurylyshyn | 11824073
Karolina Marwitz | 12124473



Städtebau TU Wien



Department of
Urban Planning



Lviv city
council



Office of
architecture and
urban planning

Department of
Architectural Design
Lviv Polytechnic National University

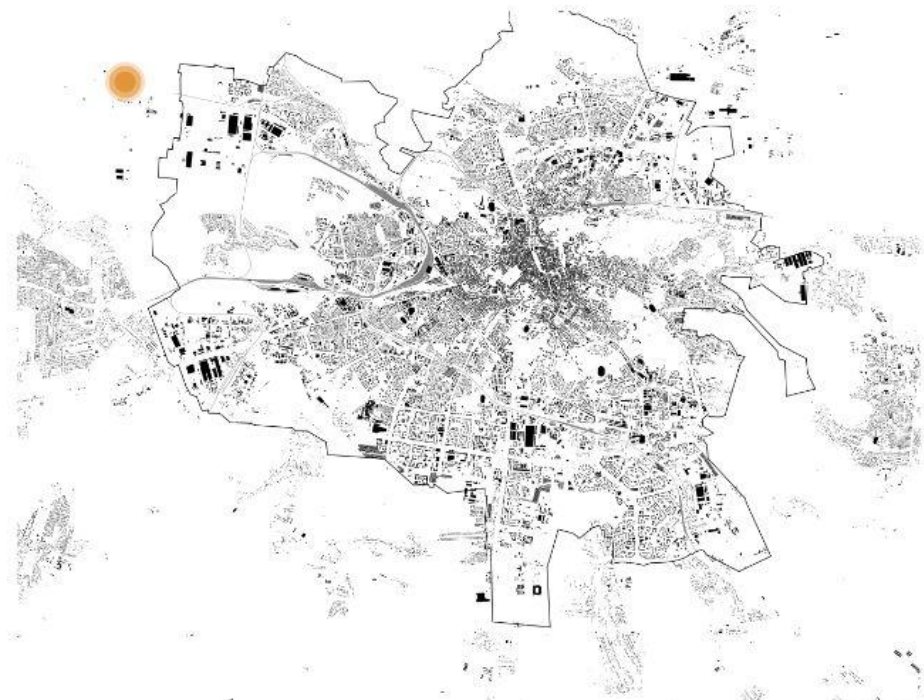
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Republic of Austria
Education, Science
and Research

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Agency for Education
and Internationalisation

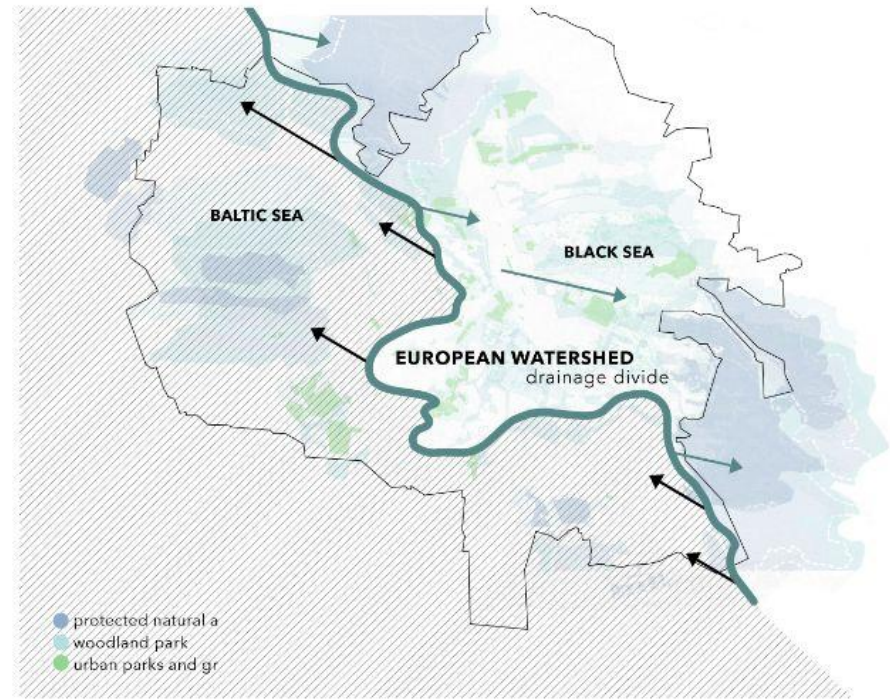


UPRAN
DENSITY LAB
2022

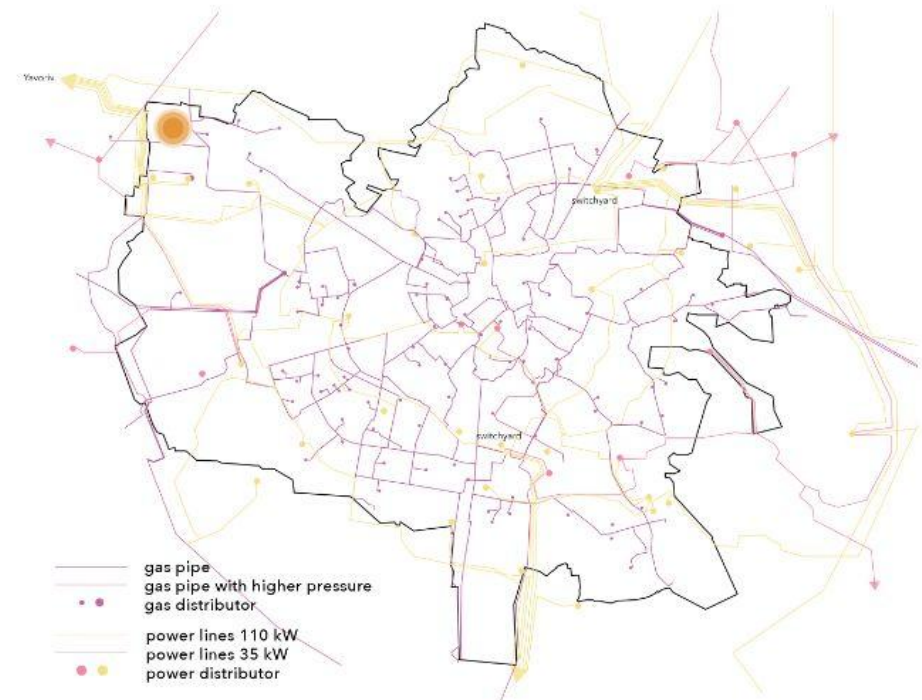
Mariia Kurylyshyn 11824073
Karolina Marwitz 12124473
karolina@marwitz.eu
maria.kurylyshyn21@gmail.com



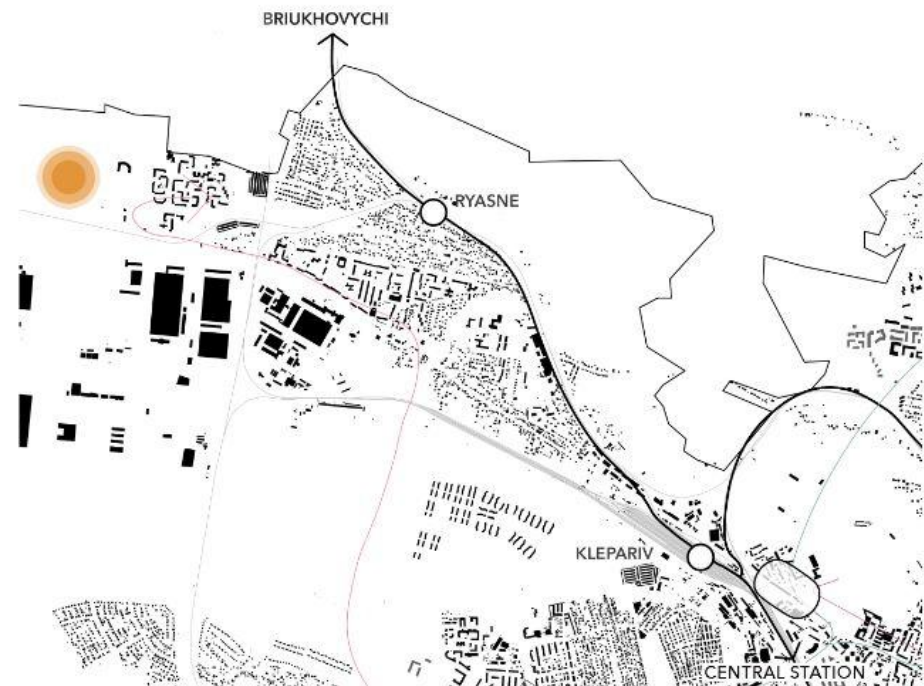
SITE PLAN RYASNE IN LVIV M. 1:100 000



TOPOGRAPHY: GREEN AND BLUE INFRASTRUCTURE M. 1:100 000



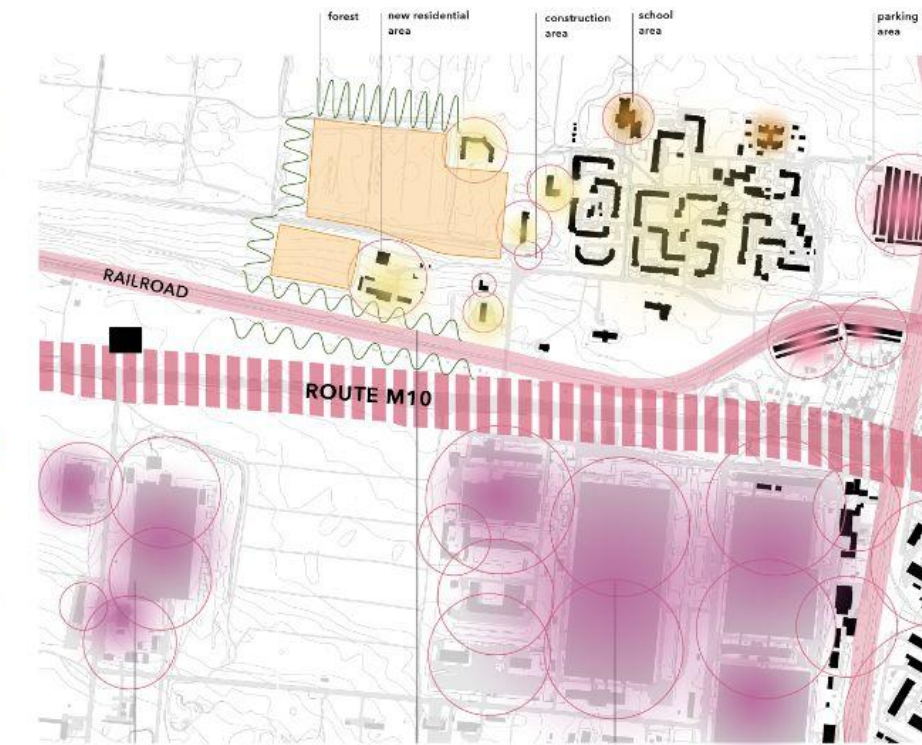
ENERGY: GAS & ELECTRICITY M. 1:100 000



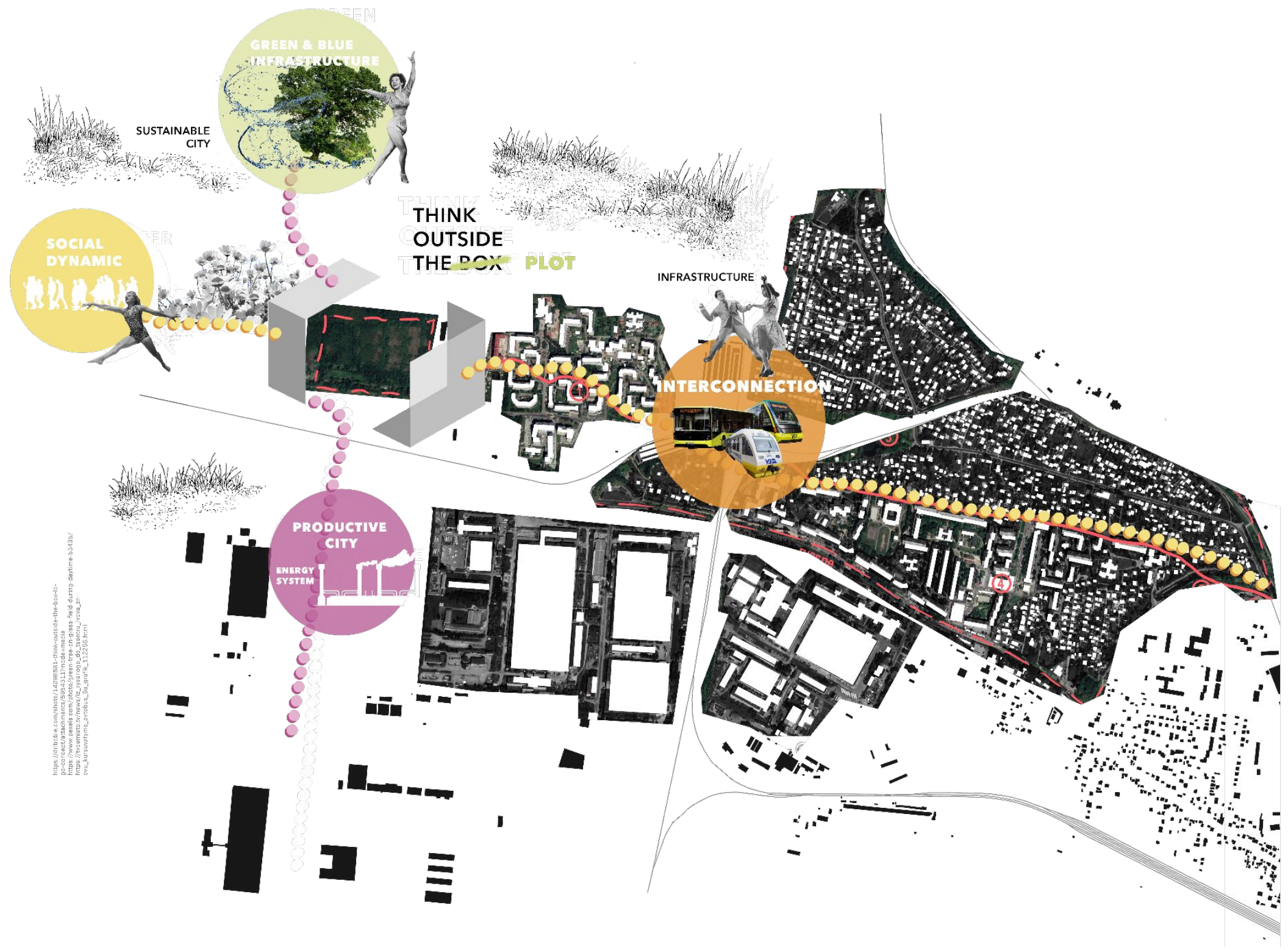
INFRASTRUCTURE: MOBILITY M. 1:30 000



FUNCTIONS: PUBLIC INFRASTRUCTURE M. 1:10 000

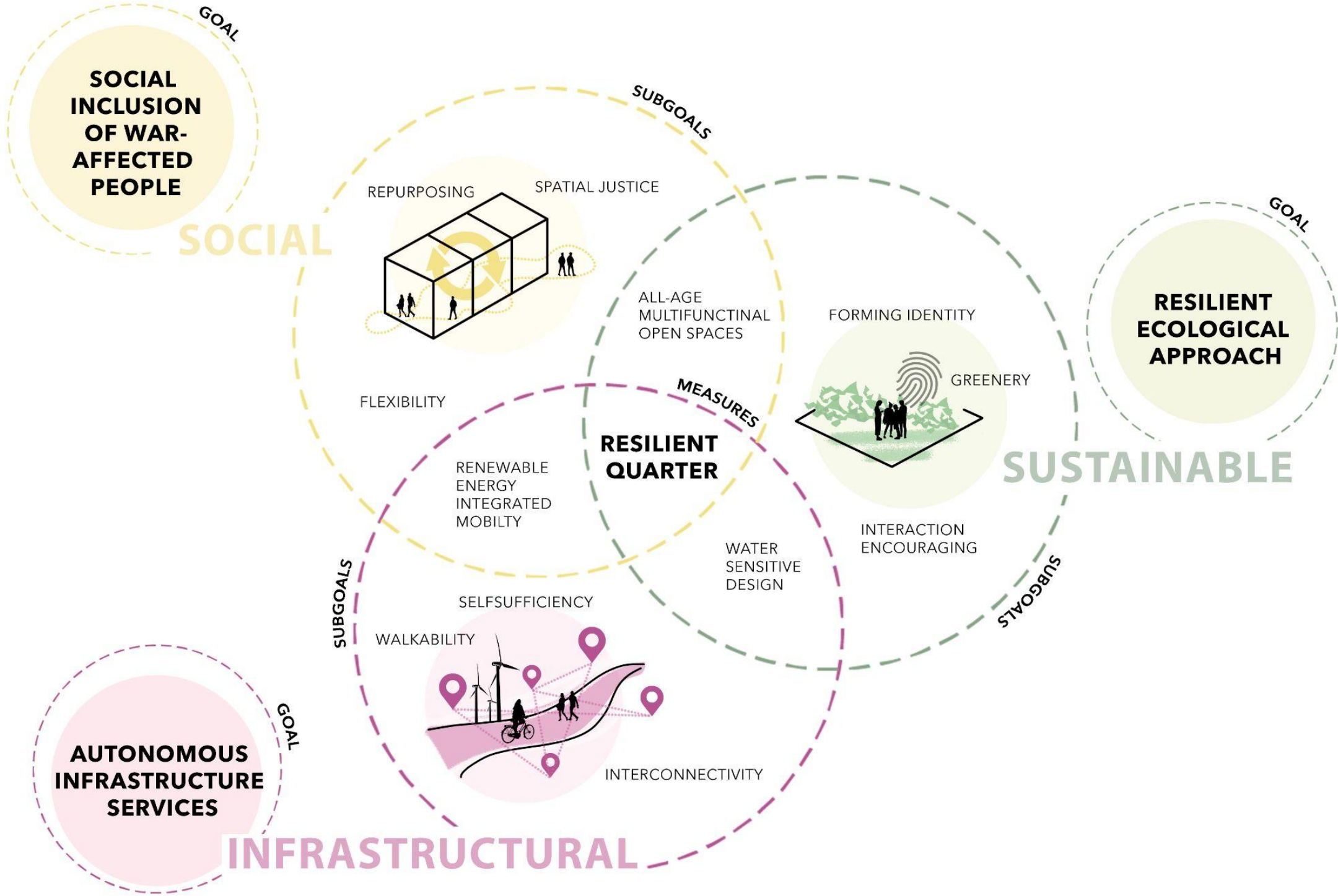


PERCEPTION MAP

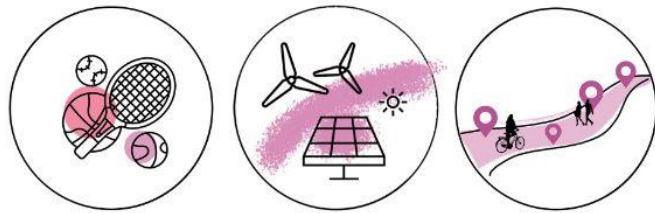


<https://orbi.cba.com/notes/142985851-think-outside-the-box-plot-our-cest/notes/799403137?mode=media>
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AUTONOMOUS INFRASTRUCTURE



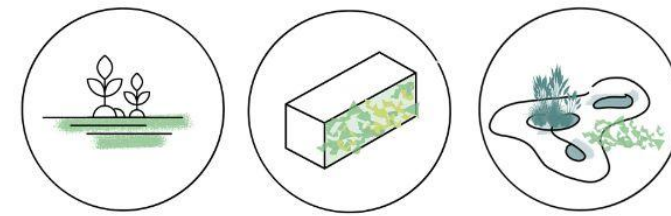
sport facilities self-sufficient energy system public link

SOCIAL INCLUSION

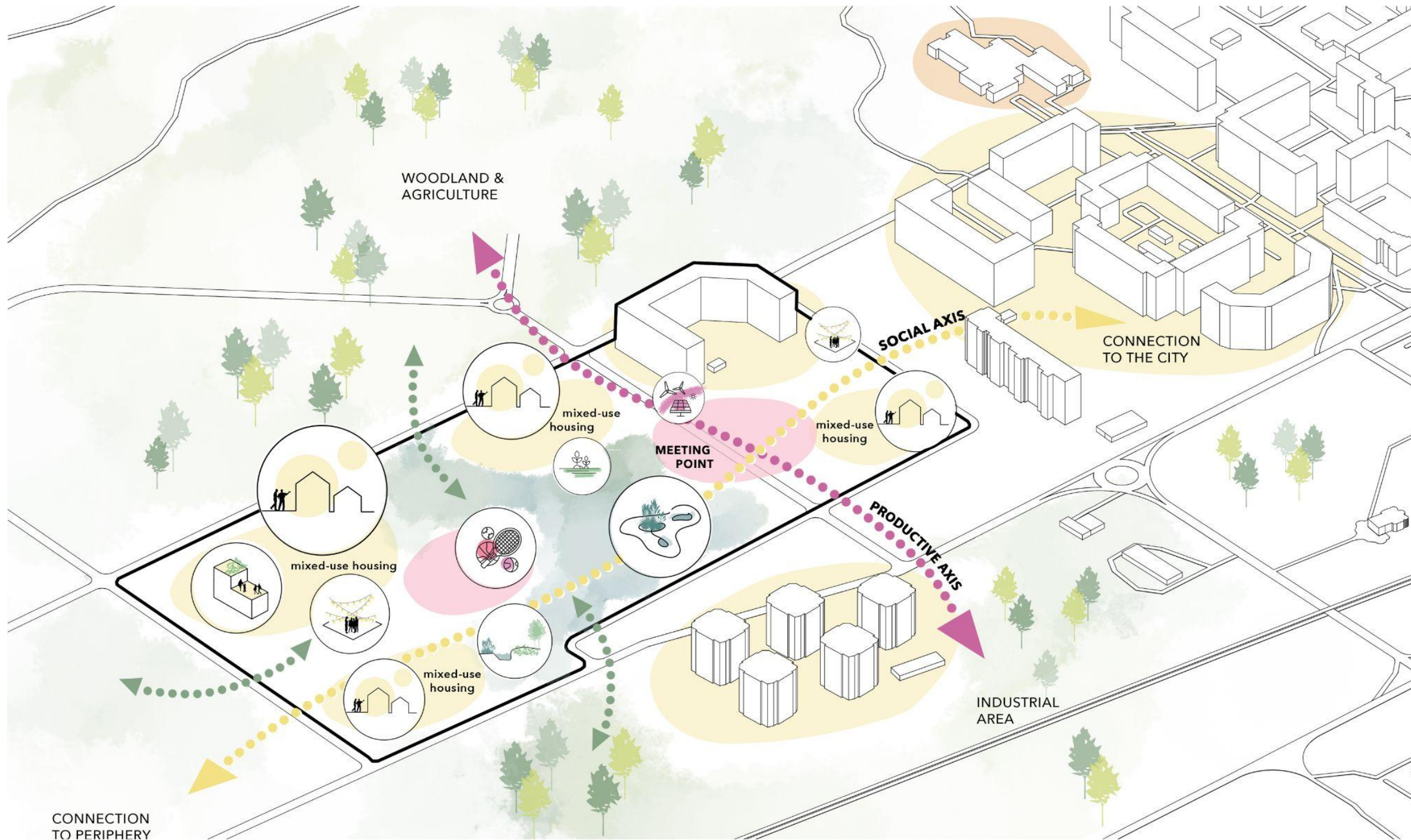


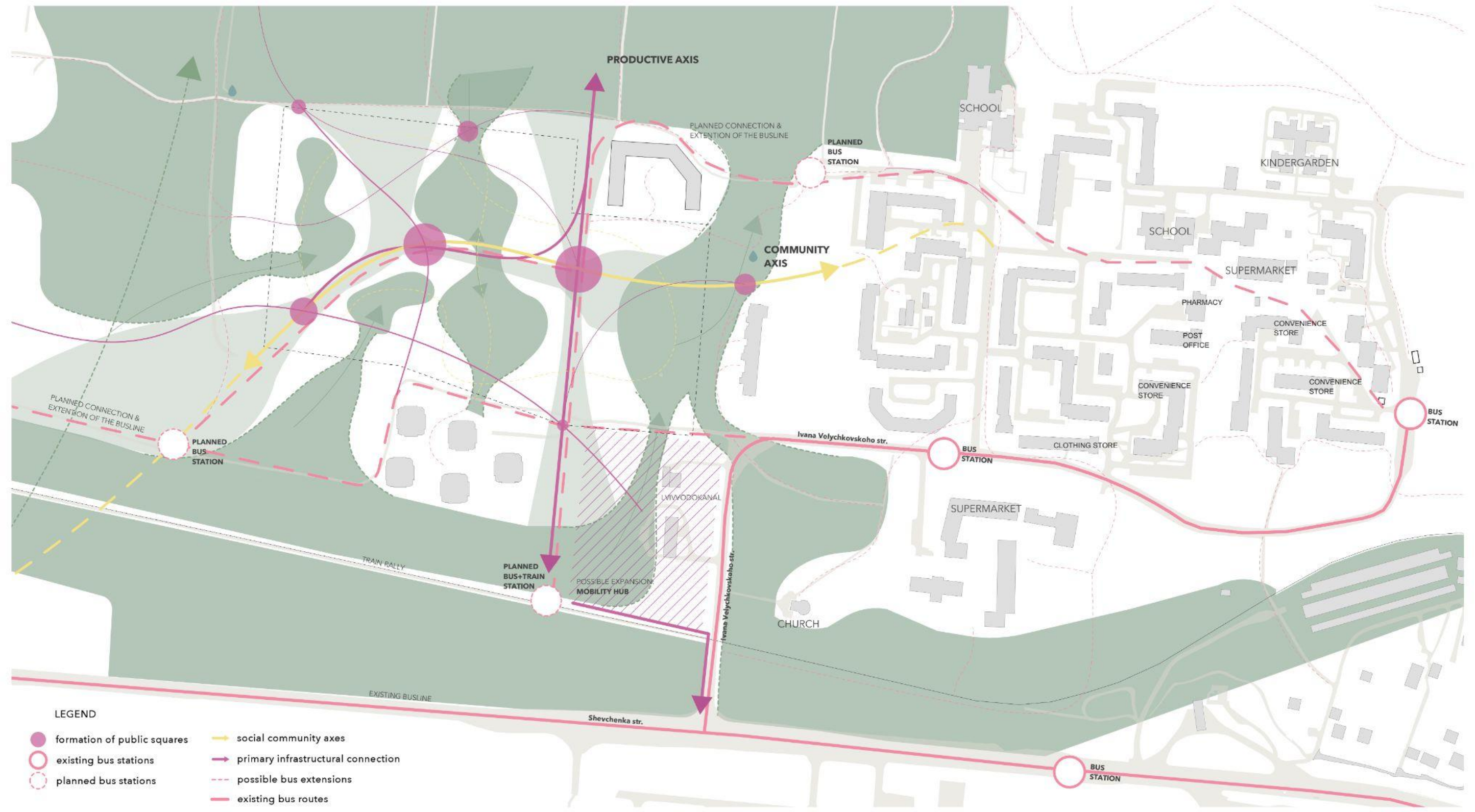
social kitchen mixed-use housing multifunctional roofs








RESILIENT ECOLOGICAL APPROACH

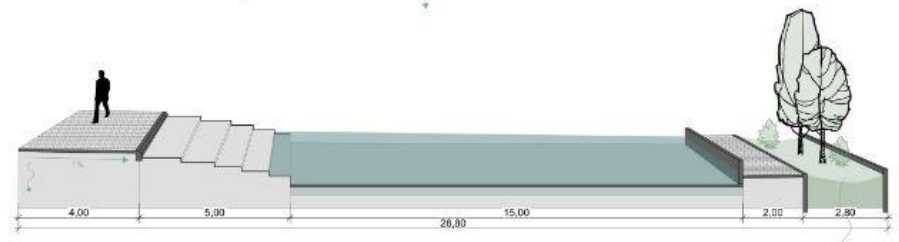


informal gardening vertical green constructed wetland

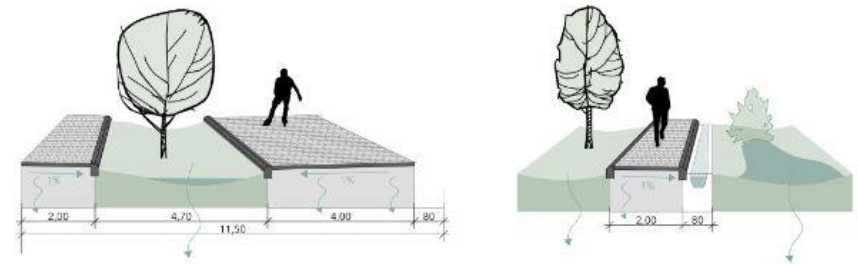




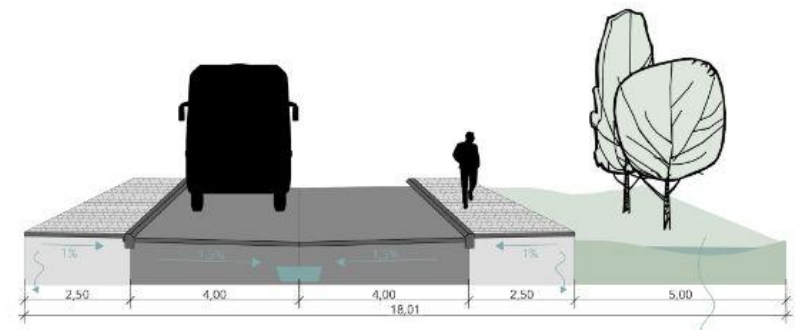
- LEGEND
-  formation of public squares
 -  social community axes
 -  existing bus stations
 -  primary infrastructural connection
 -  planned bus stations
 -  possible bus extensions
 -  existing bus routes



RETENTION BASIN PROFILE



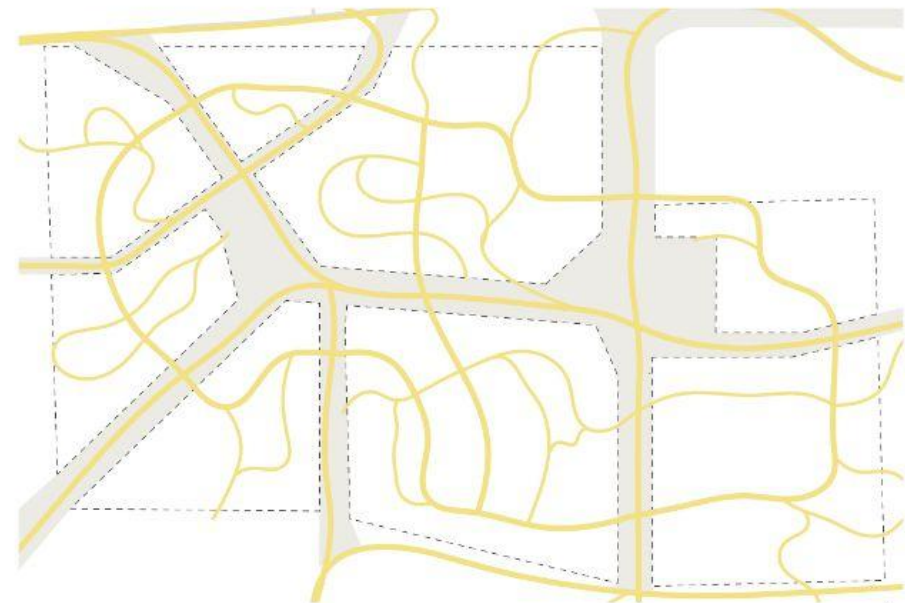
WALKABLE SIDEWALKS PROFILE



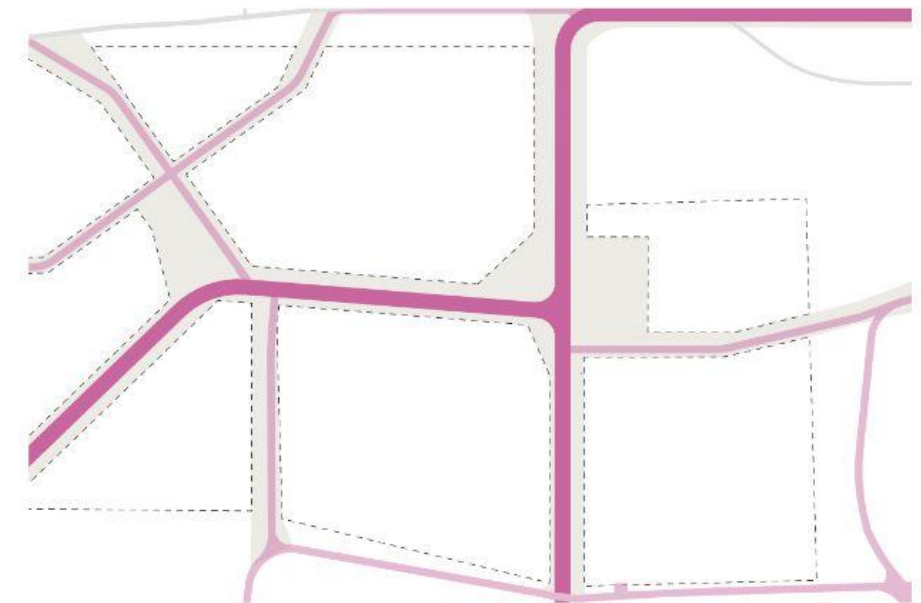
CAR ACCESSIBLE PROFILE



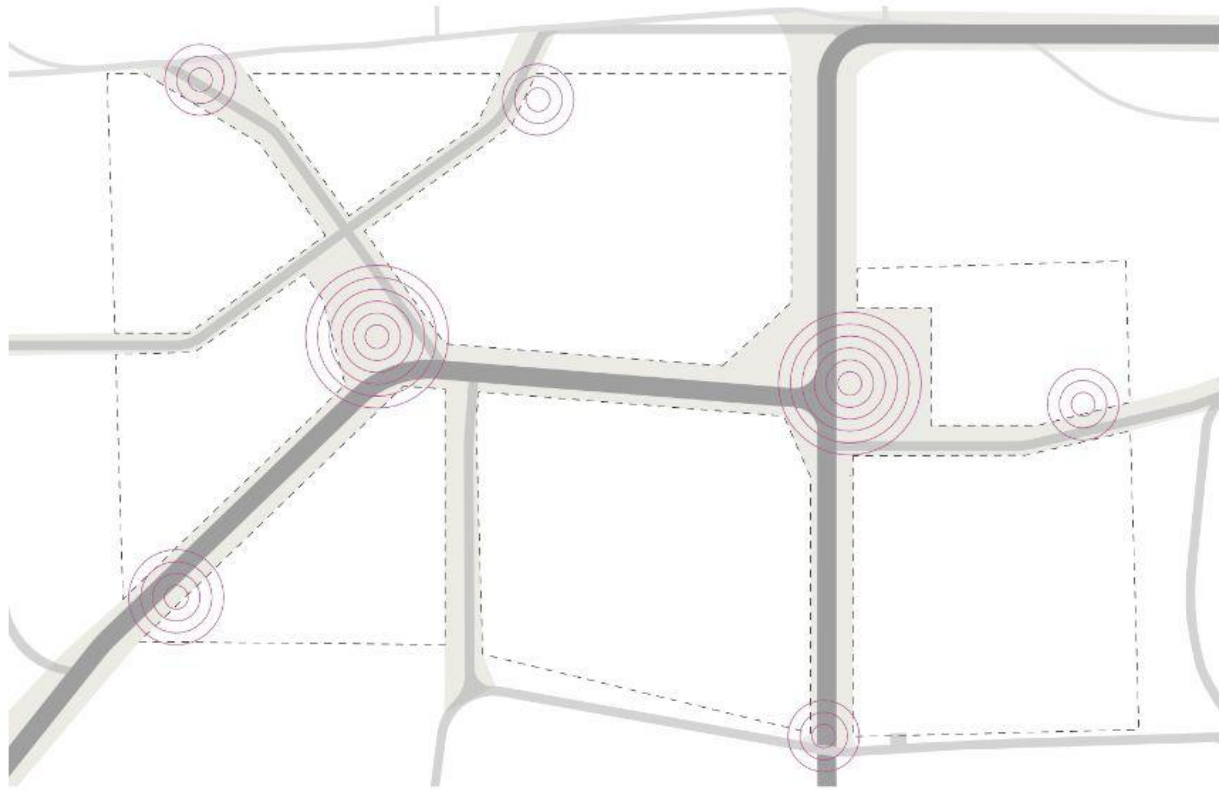
WATERWAYS SUSTAINABLE AXES M 1:2500 ▲



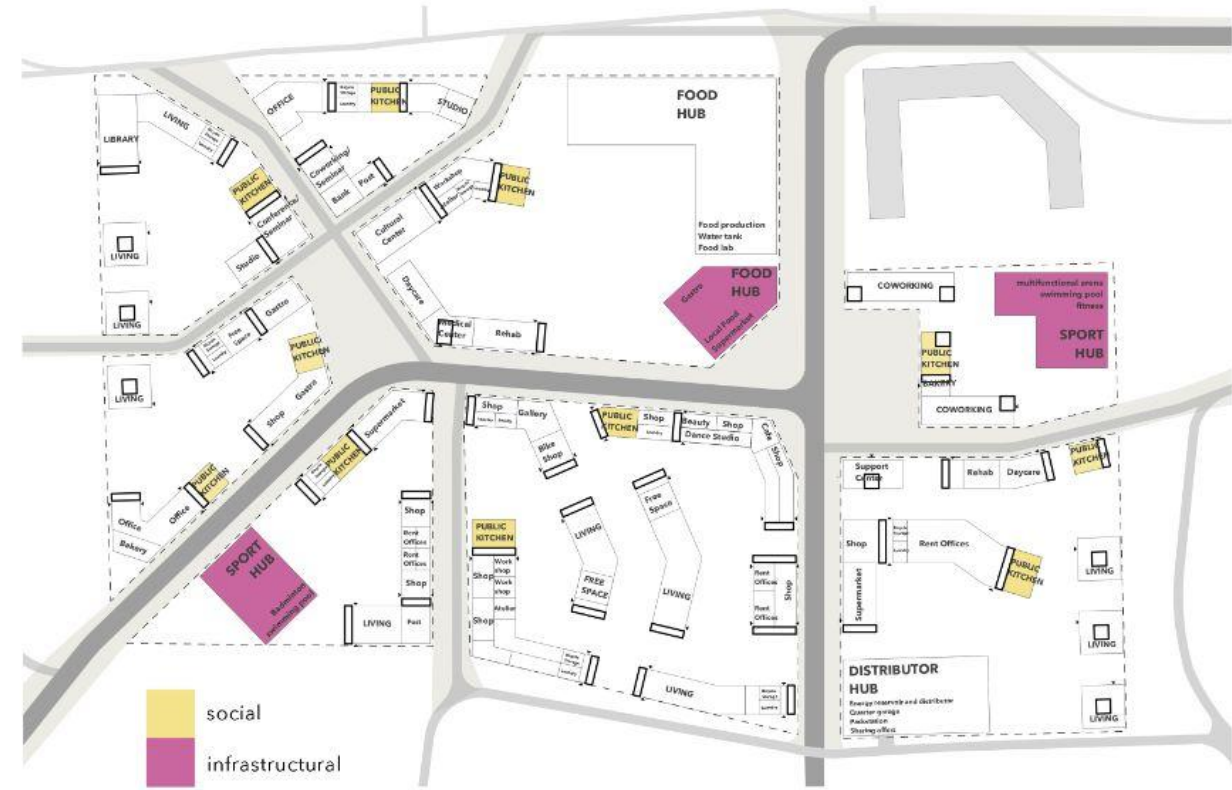
PEDESTRIAN WAYS SOCIAL AXES M 1:2500 ▲



CAR ACCESSIBLE PRODUCTIVE AXES M 1:2500 ▲



URBAN LIFE SQUARE NETWORK M.1:2000 ▲



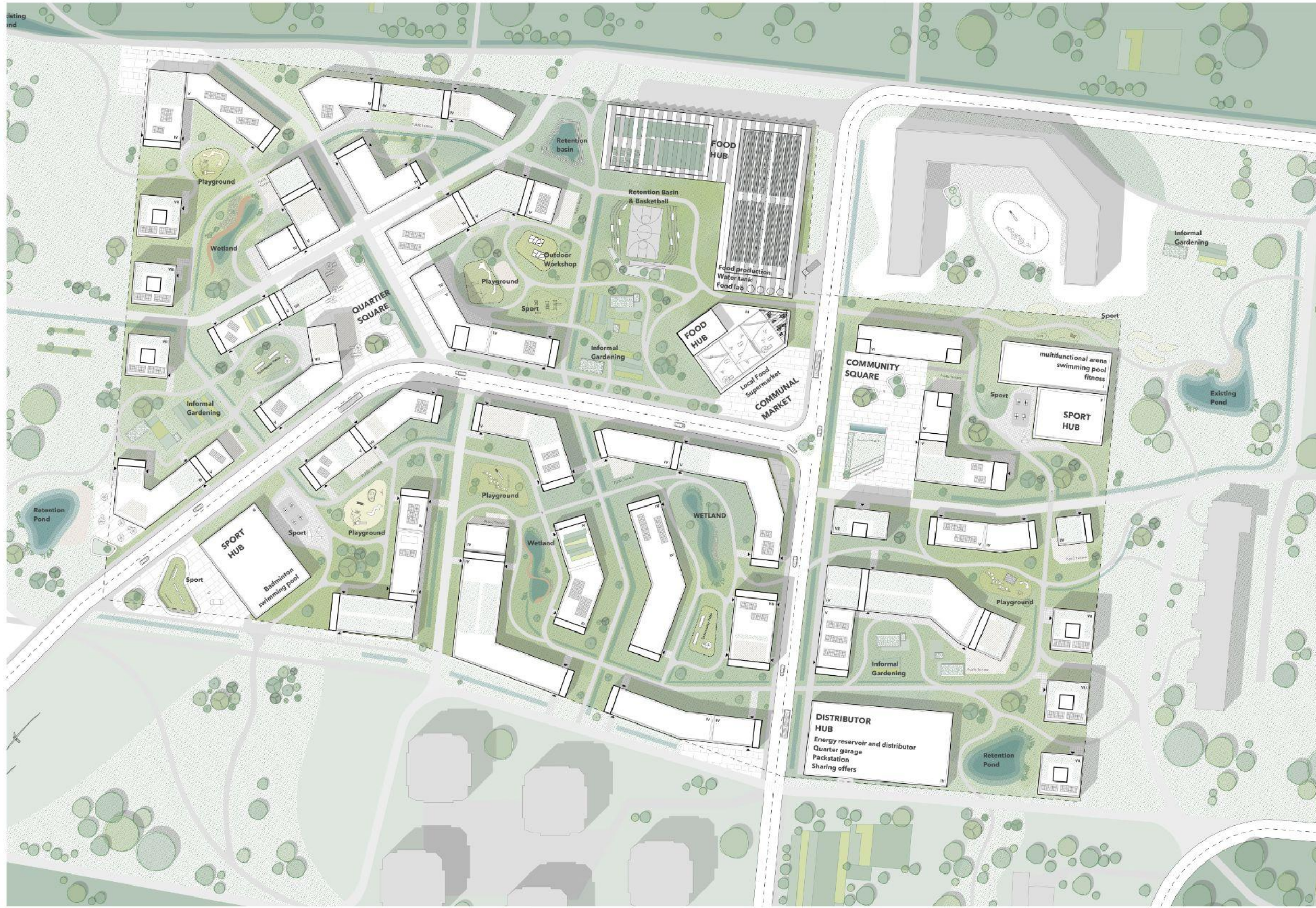
FUNCTIONAL TYPOLOGIES M.1:2000 ▲



DEFINING OF SPACE | PERCEPTION M.1:2000 ▲



BUILDING HEIGHT DEVELOPMENT M.1:2000 ▲

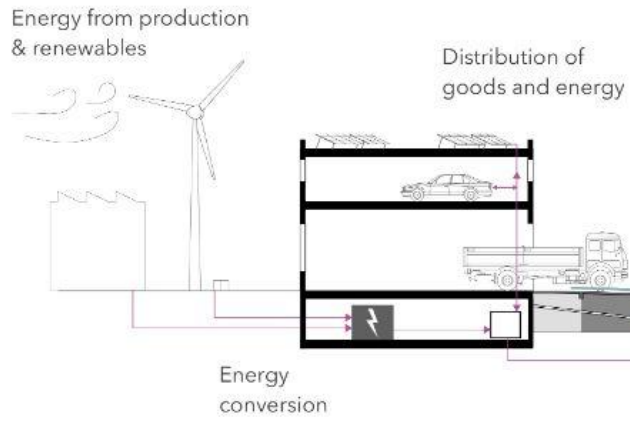


- greenery
- retention area
- sport & playgrounds
- sand
- public terraces
- building entrances
- Sport** outdoor functions
- Rehab** indoor functions

MASTERPLAN M. 1:1000 ▲

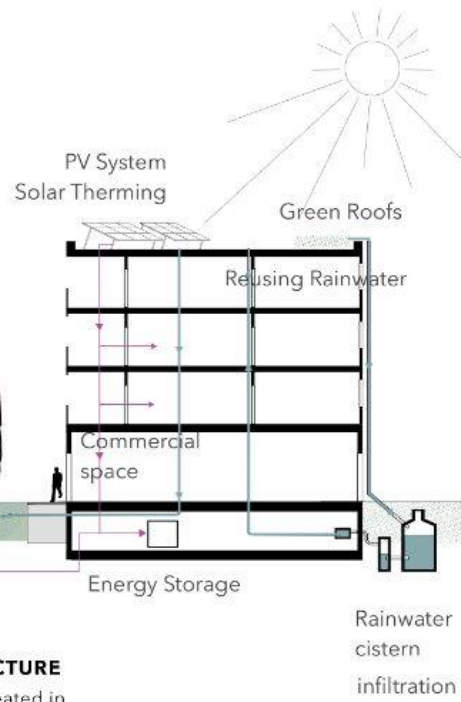
DISTRIBUTOR HUB

Distributor of the industrial waste heat from the nearby steel industry, **170 kWh** capacity battery storage and with local grid transformer for the incoming electricity from newly built renewable energies, such as medium-capacity **wind farms, PV and solar thermal energy.**



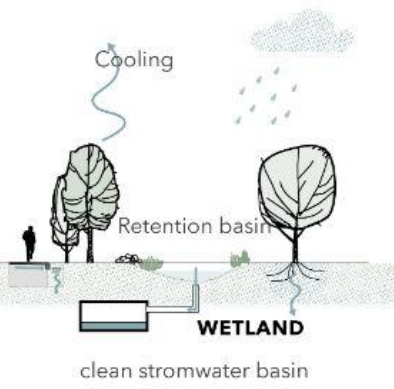
PRIMARY INFRASTRUCTURE

Total of **1000 jobs** are created in different fields supplying **2500 new residents.**

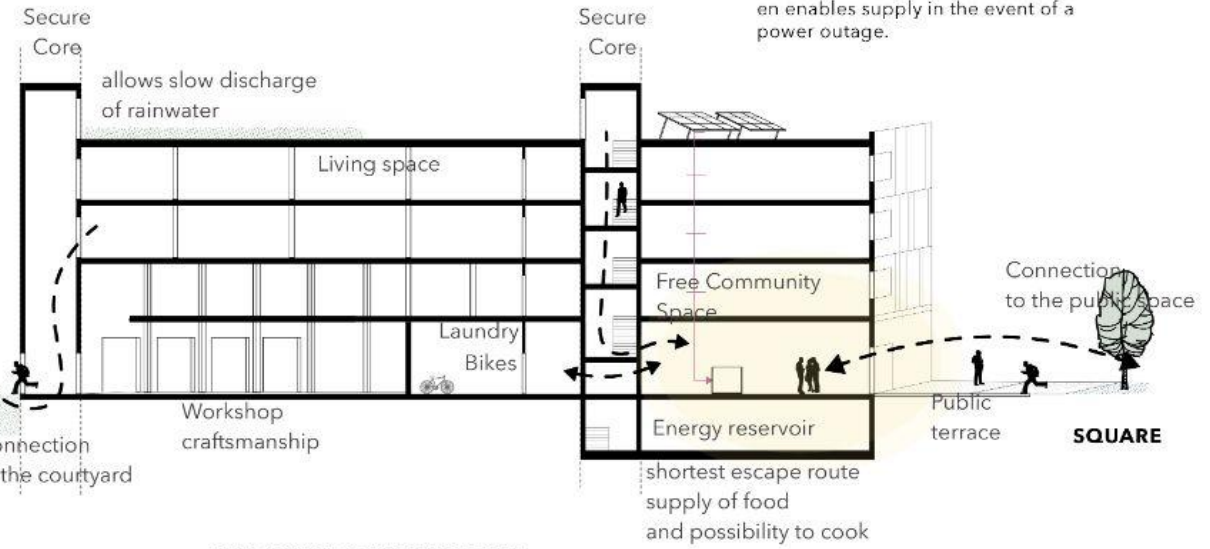


WATER SENSITIVE URBAN DESIGN

The average Ukrainian consumes **131 liters** of water per day. Integrative urban water management will allow to collect and reuse a part of **748mm** yearly rainfall water in Lviv.



GREEN SPACE percentage is **52%**

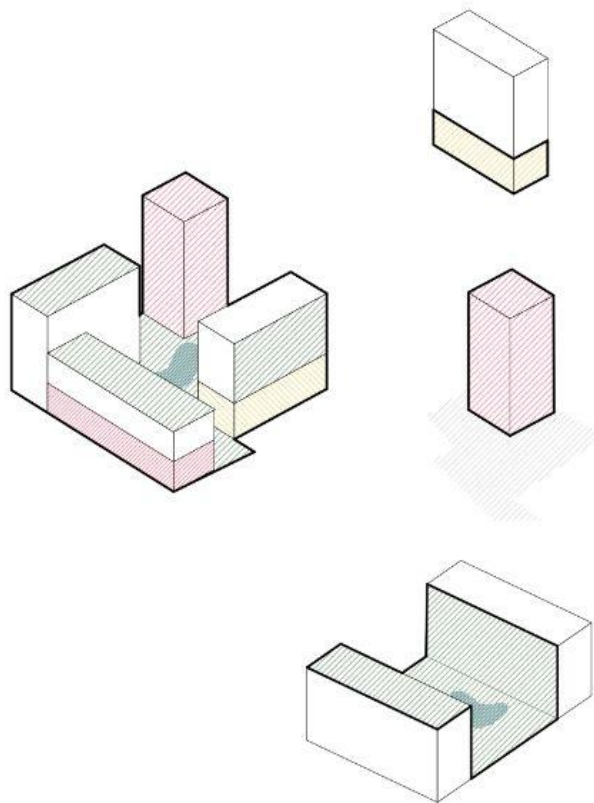


MULTIFUNCTIONAL BUILDING

The main urban typology is multifunctional buildings with a height of **4-7 floors**. With **GFZ 1.3-1.6**, the new district will become the center of community life in Rvasne.

FUNCTIONAL SECTION M.1:250

CONCEPTUAL TYPOLOGIES

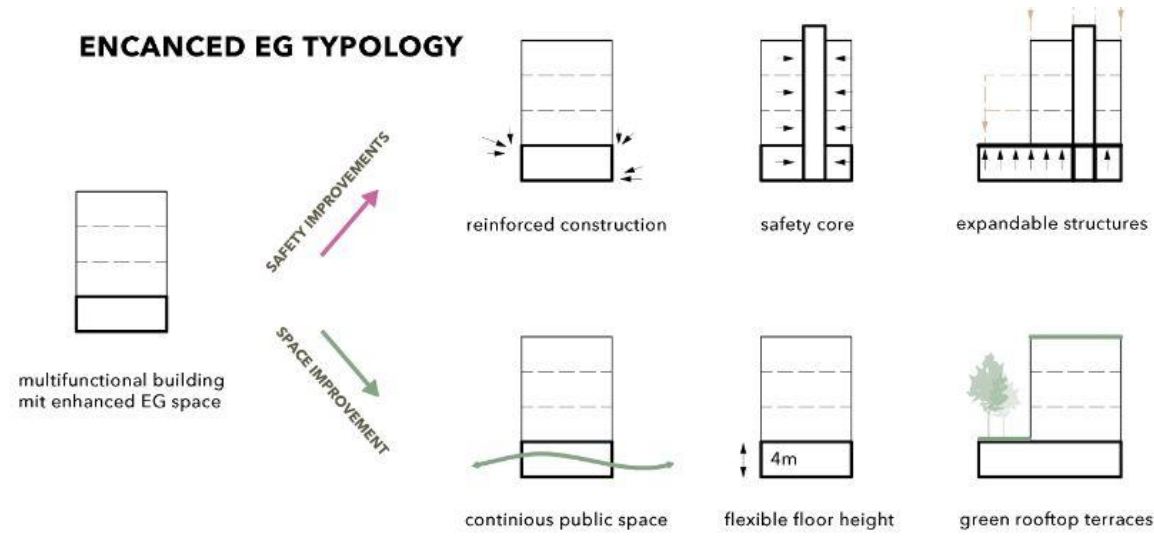


PUBLIC KITCHENS
enhanced ground floor providing safe spaces with possibilities to gather together and basic necessities

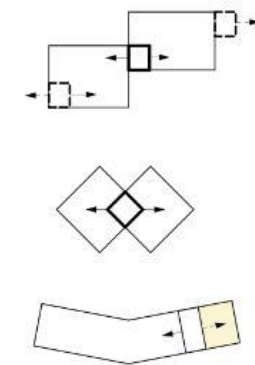
INFRASTRUCTURE HUBS
standalone buildings with critical infrastructure such as energy and food production as building-integrated daily supply

GREEN SURFACES
surfaces on the ground and building-integrated, which regulate the climate and provide comfort, also providing water management

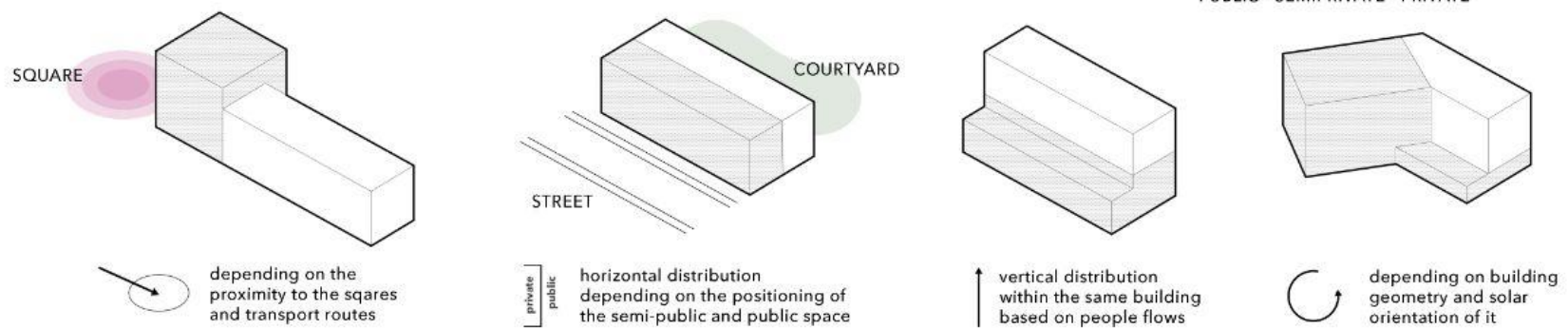
ENHANCED EG TYPOLOGY



CORE POSITIONING



SPATIAL DISTRIBUTION OF FUNCTIONS








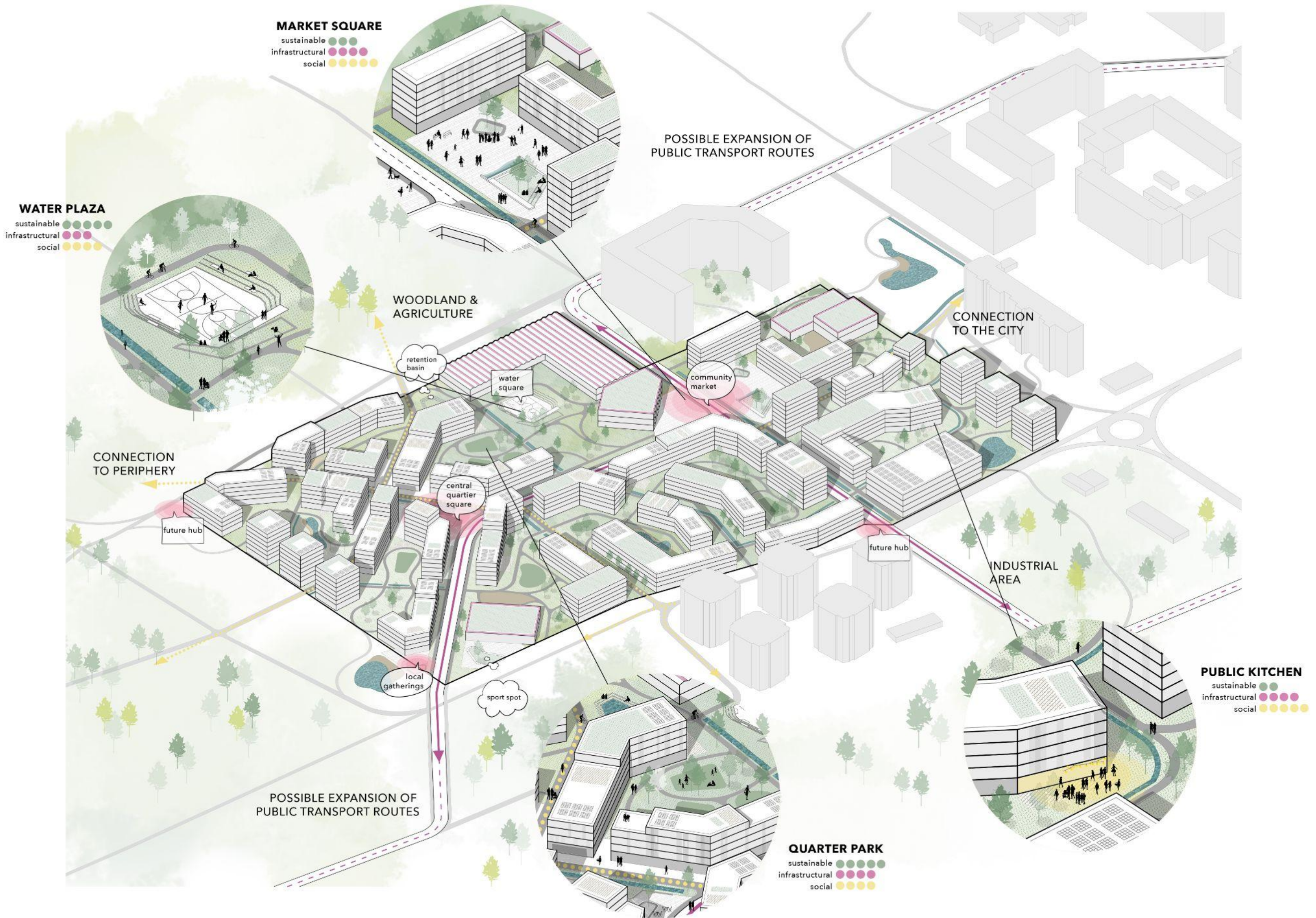
WORK ↔ LIVE
PUBLIC - SEMIPRIVATE - PRIVATE

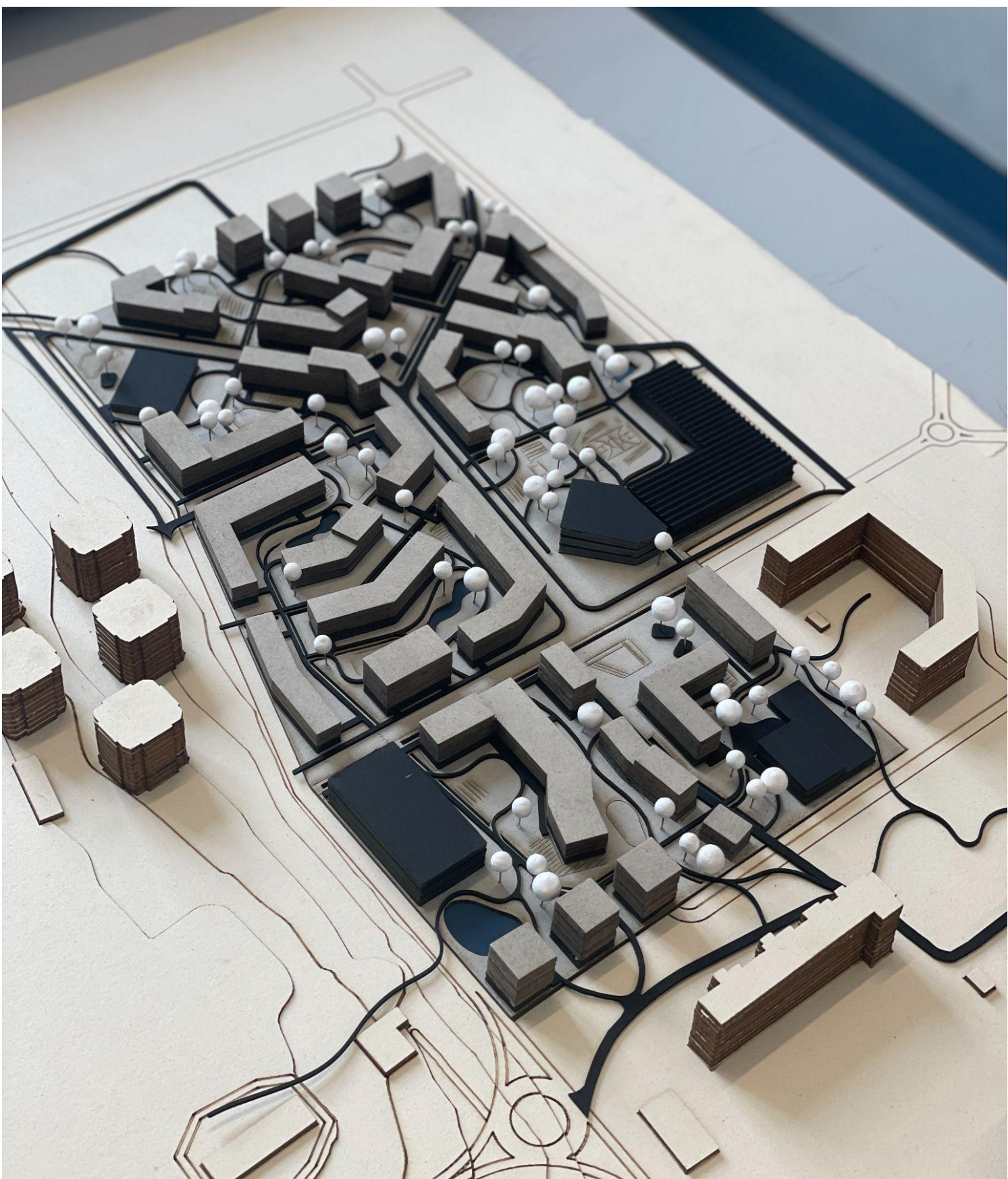


QUARTER SQUARE GROUND FLOOR PLAN M.1:500 ▲



- | | |
|---|---|
|  greenery |  public terraces |
|  retention area |  building entrances & spaces |
|  sport & playgrounds | Sport outdoor functions |
|  sand | Rehab indoor functions |





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karolina@marwitz.eu
maria.kurylyshyn21@gmail.com