URBAN ECOLOGY LAB HEMBRUG

ON REDESIGNING AN INDUSTRIAL HERITAGE LANDSCAPE

Barbara de Groot [4350650]

ANALYSIS

DESIGN BRIEF

PROGRAM PROPOSAL

DESIGN PROPOSAL

DESIGN ILLUSTRATION

CONCLUSION & REFLECTION



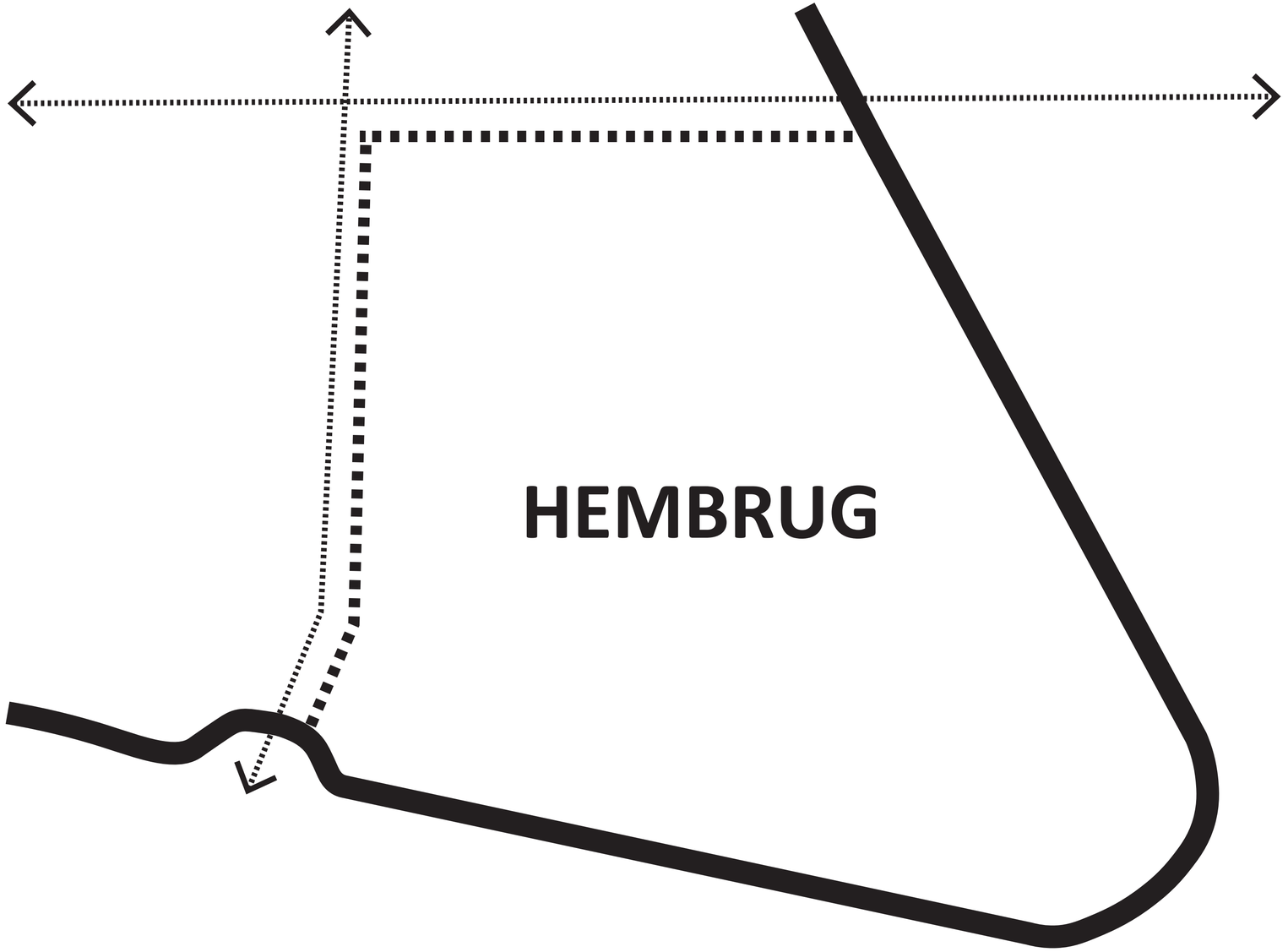
Luchtfoto Hembrugterrein

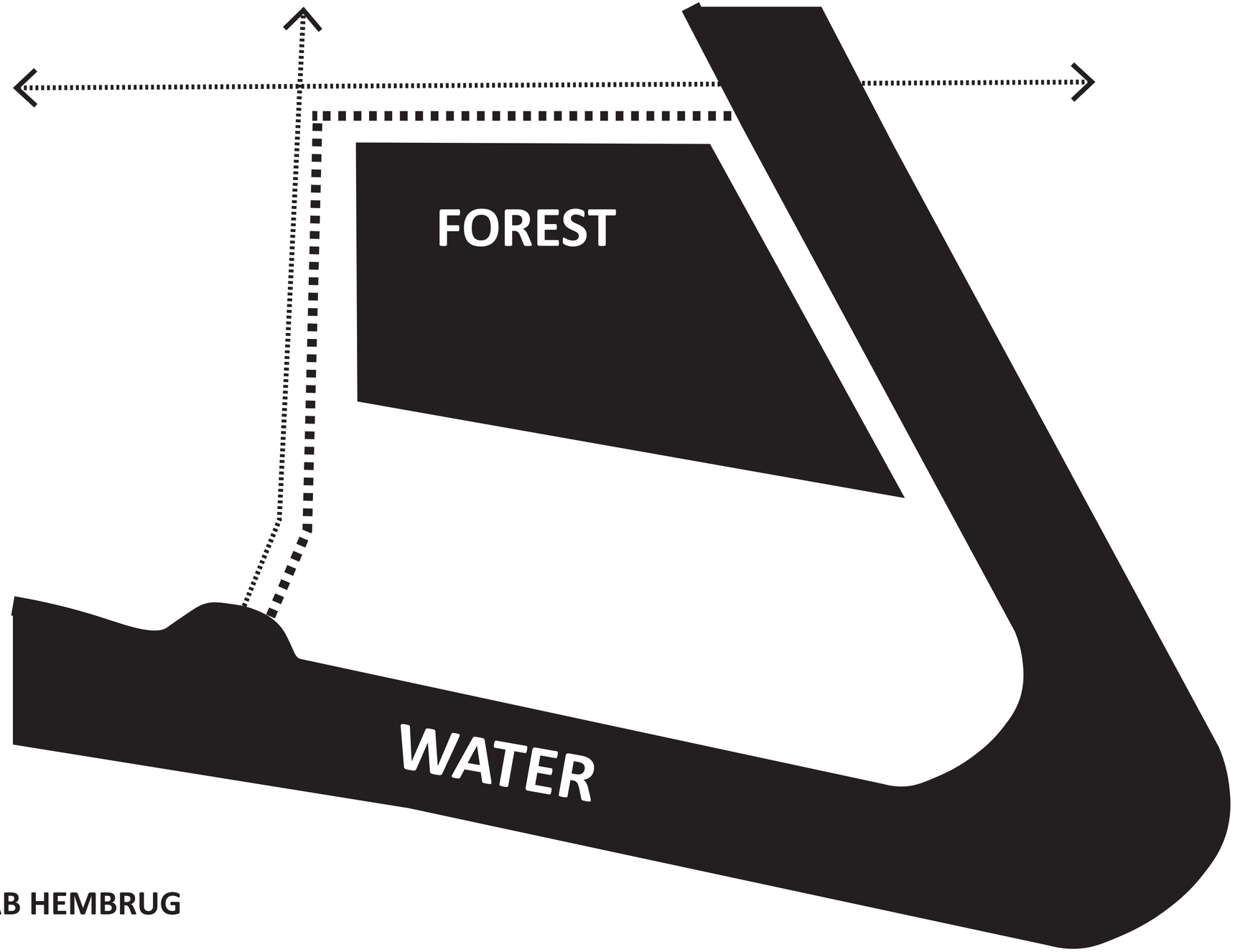
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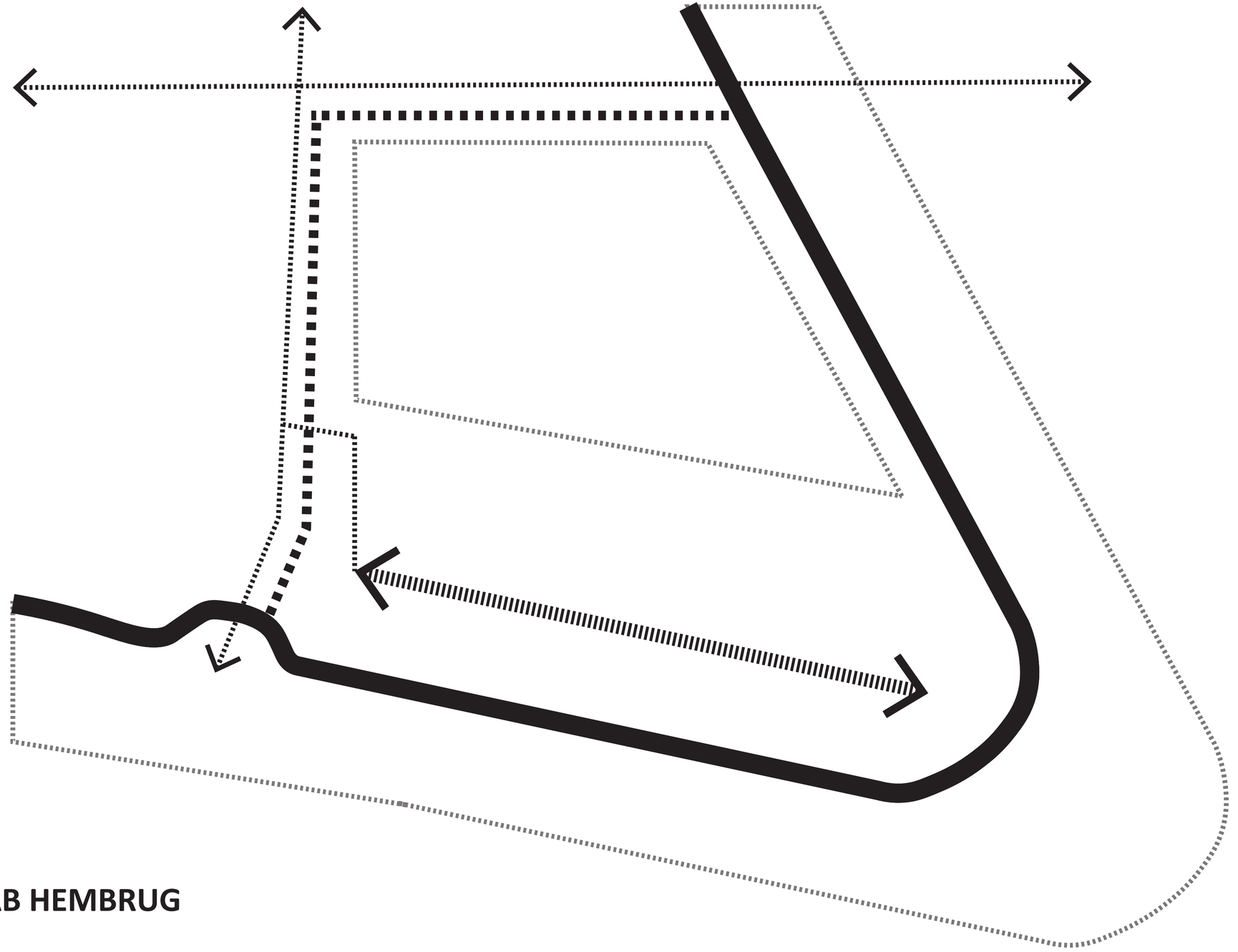
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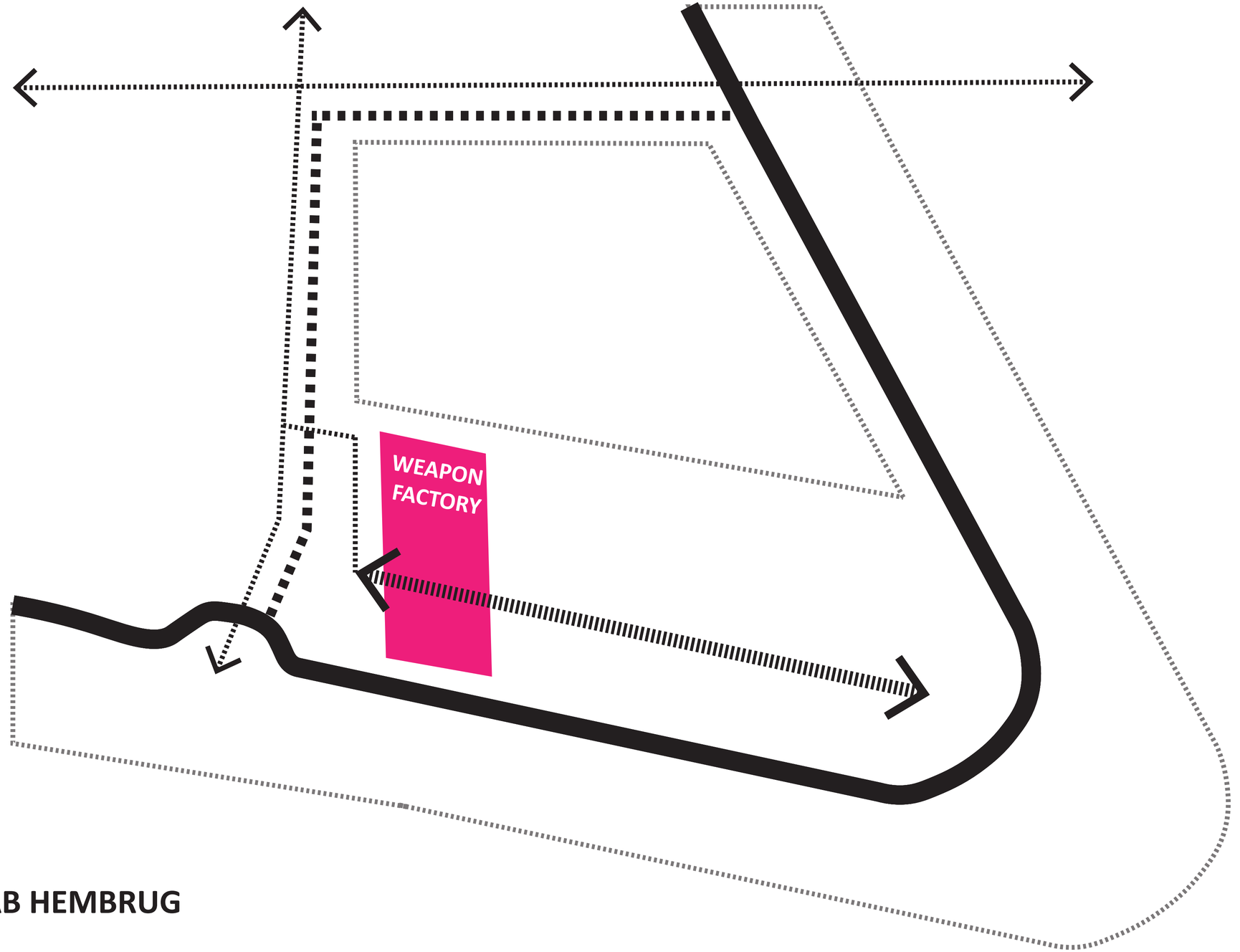


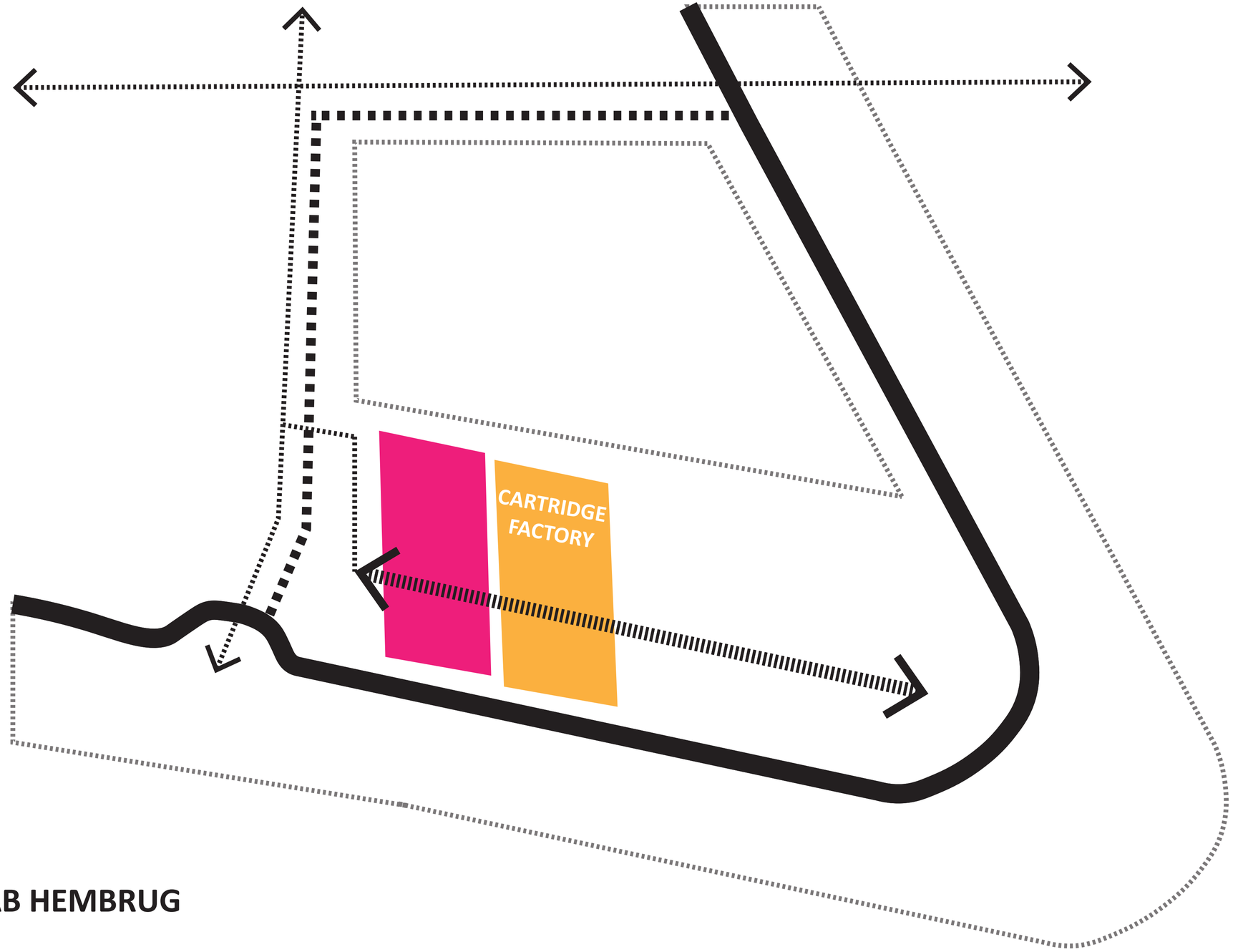
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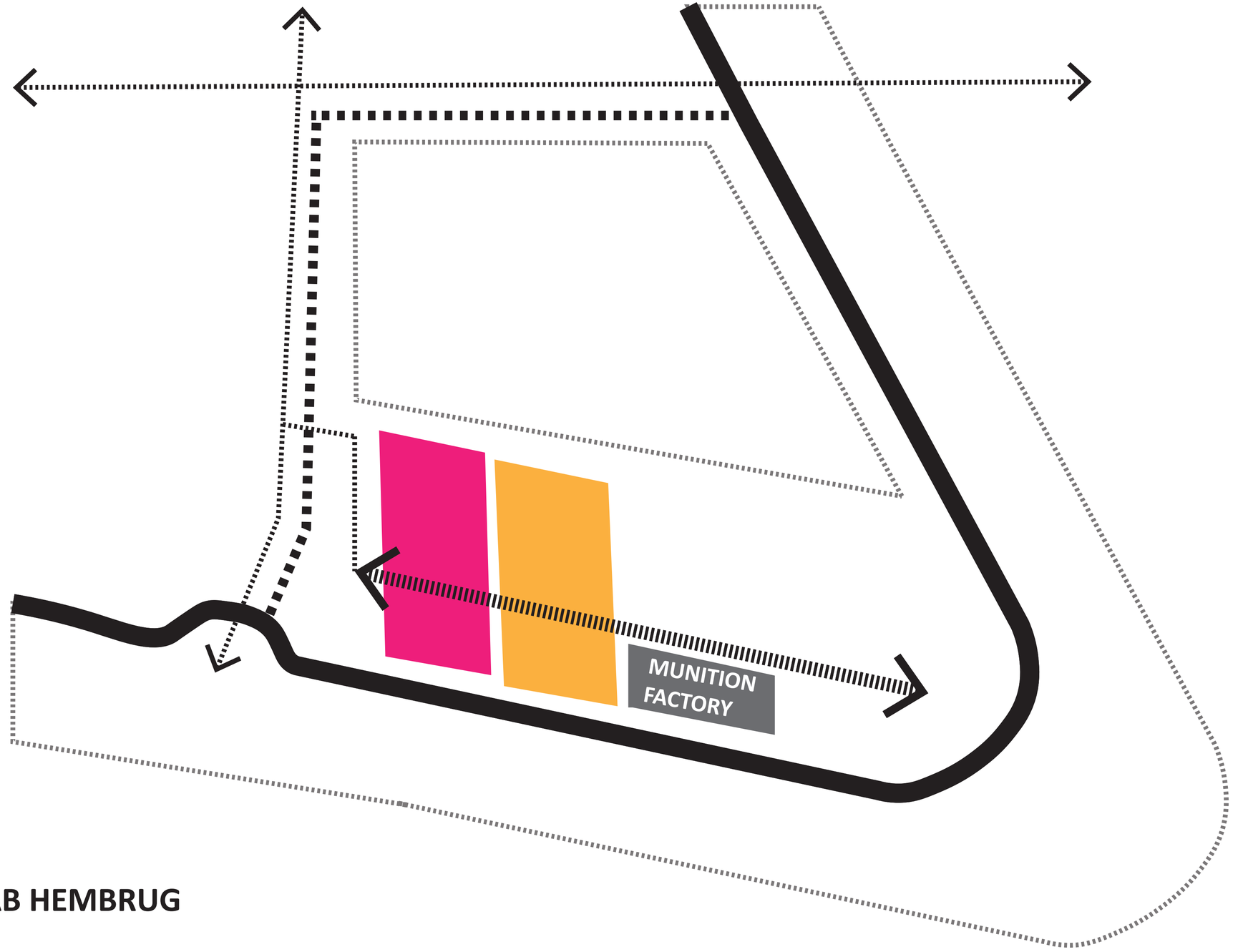

HEMBRUG

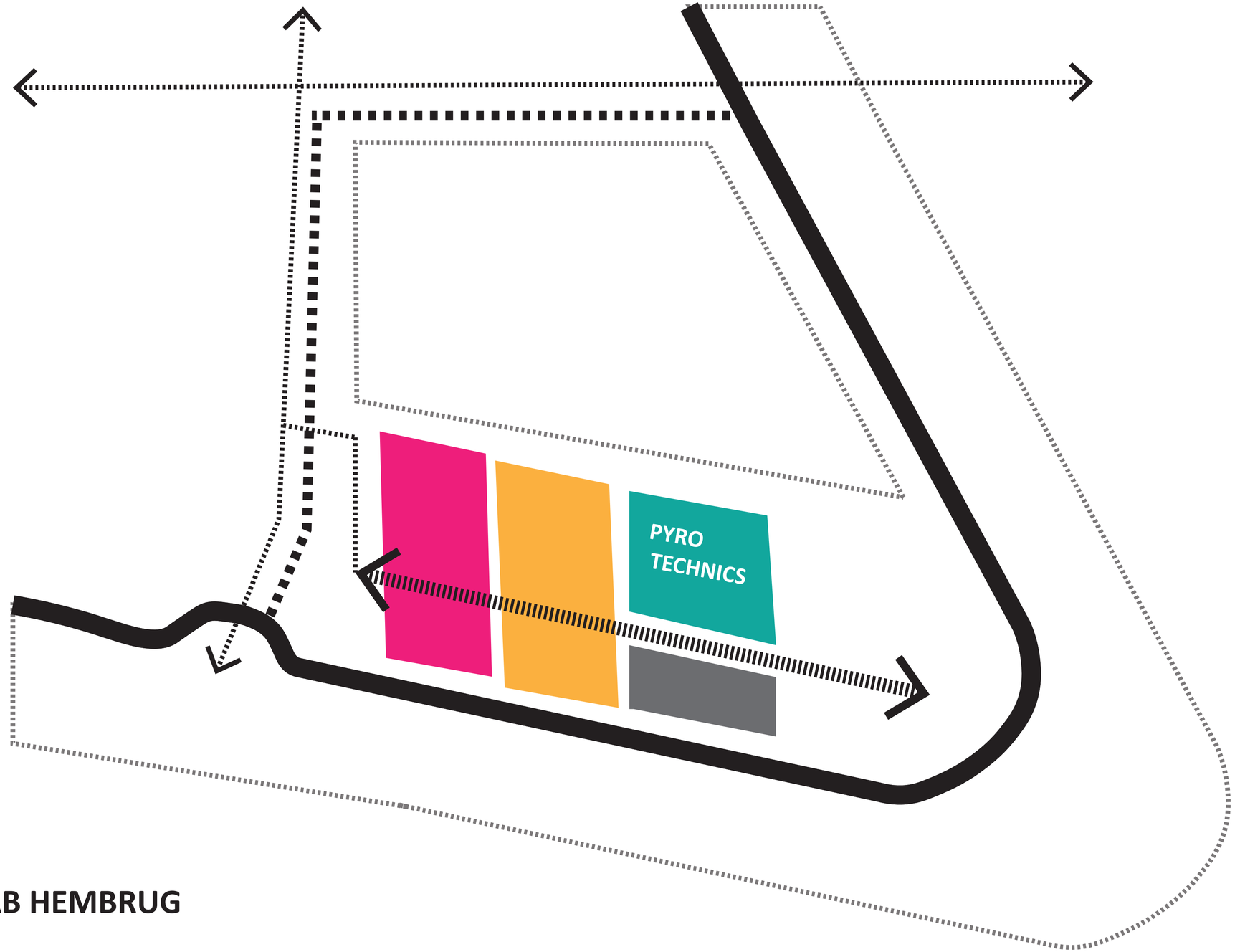

FOREST
WATER

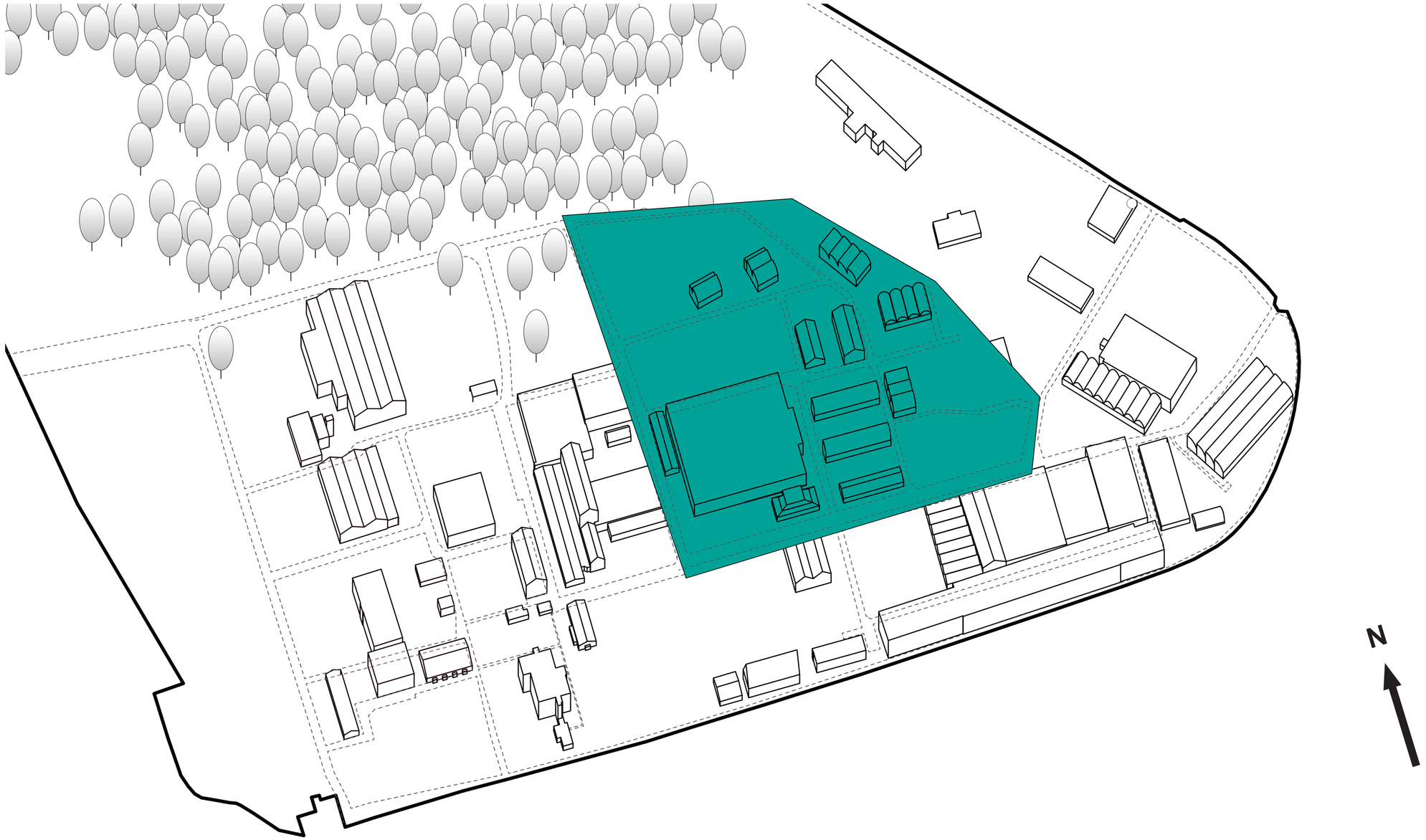



WEAPON
FACTORY


CARTRIDGE
FACTORY


MUNITION
FACTORY


PYRO
TECHNICS



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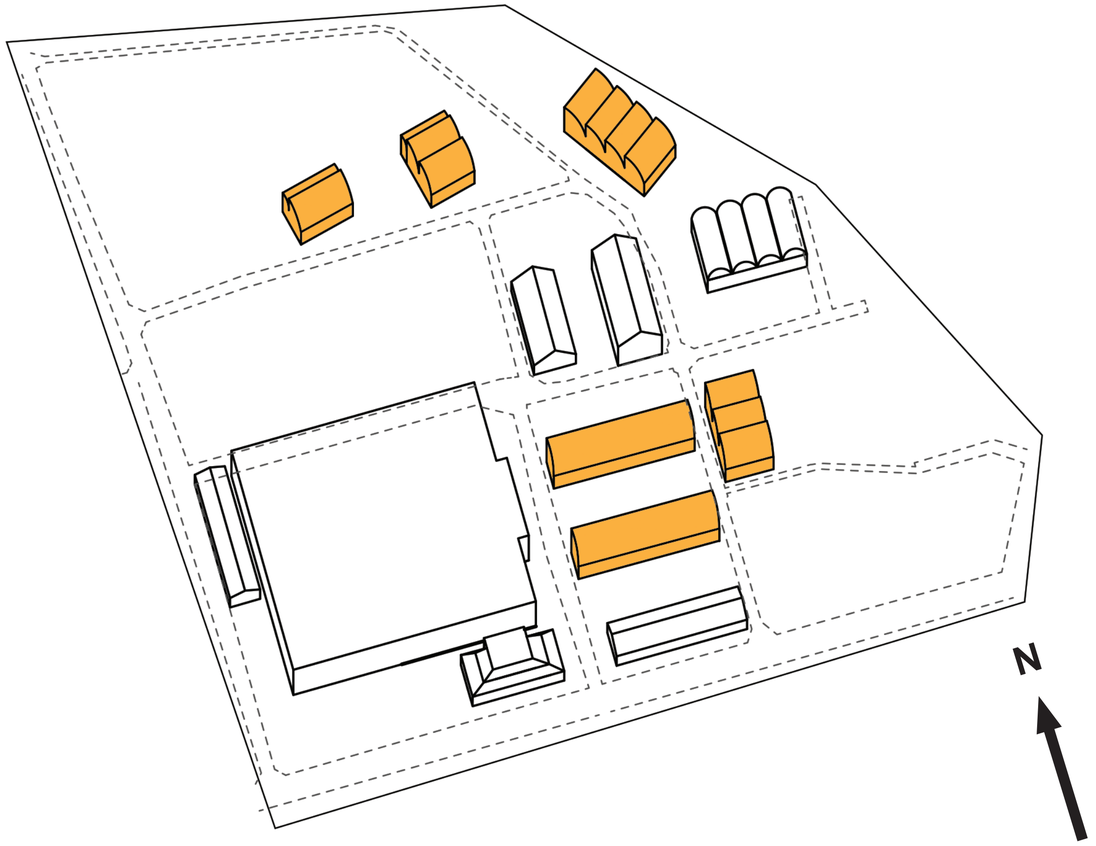




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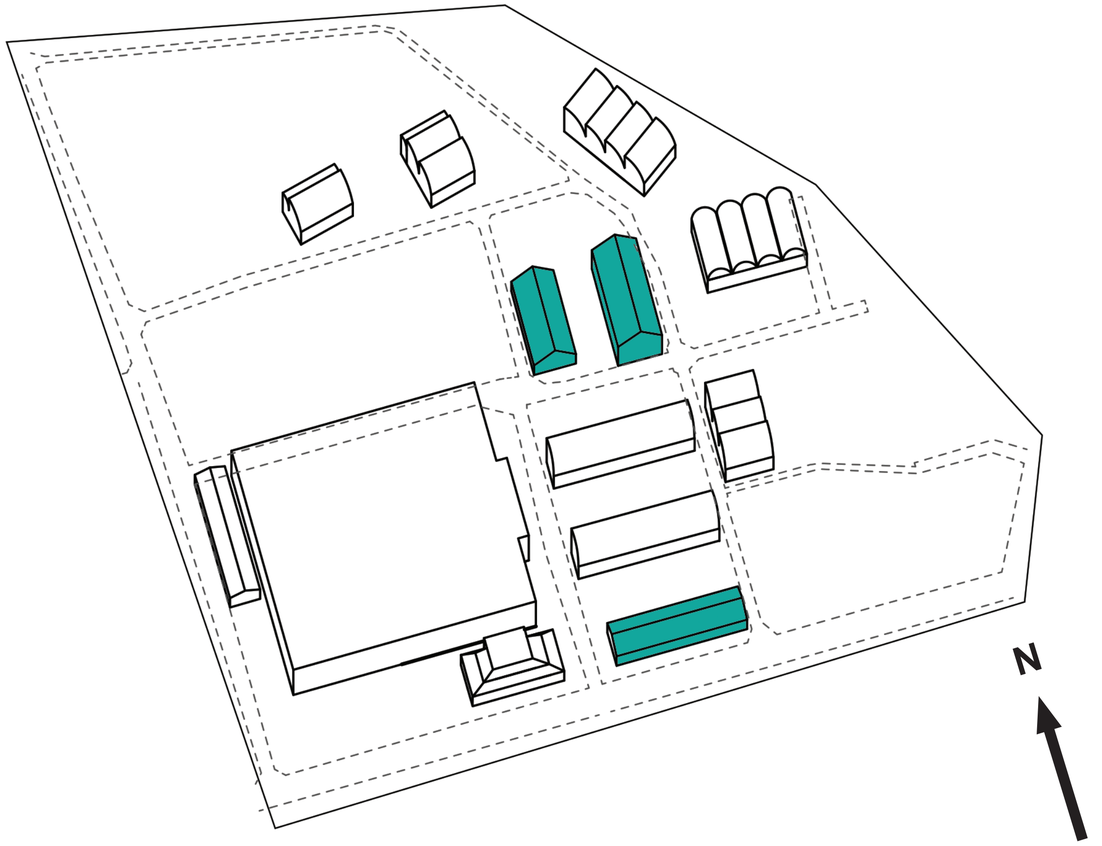
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‘THE SHELL ROOFS’



Foto by Amanda Verschuur

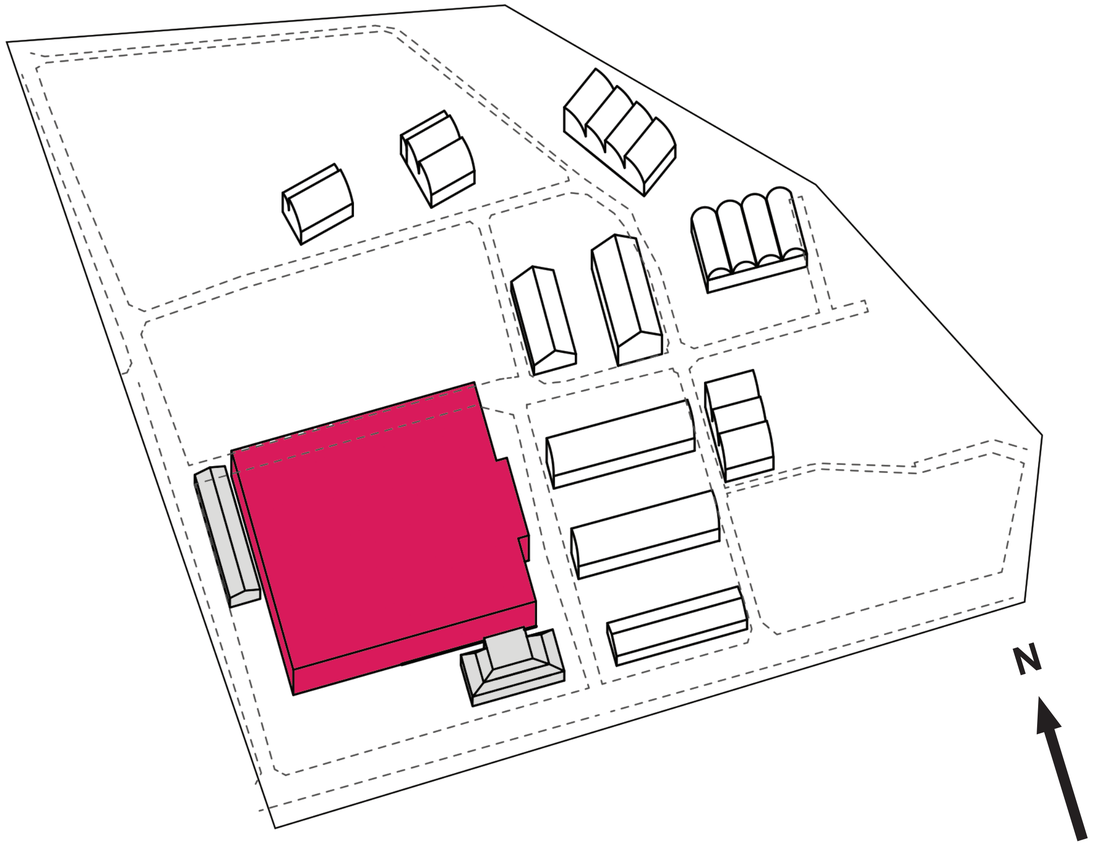


‘THE FARMS’



Foto by Amanda Verschuur

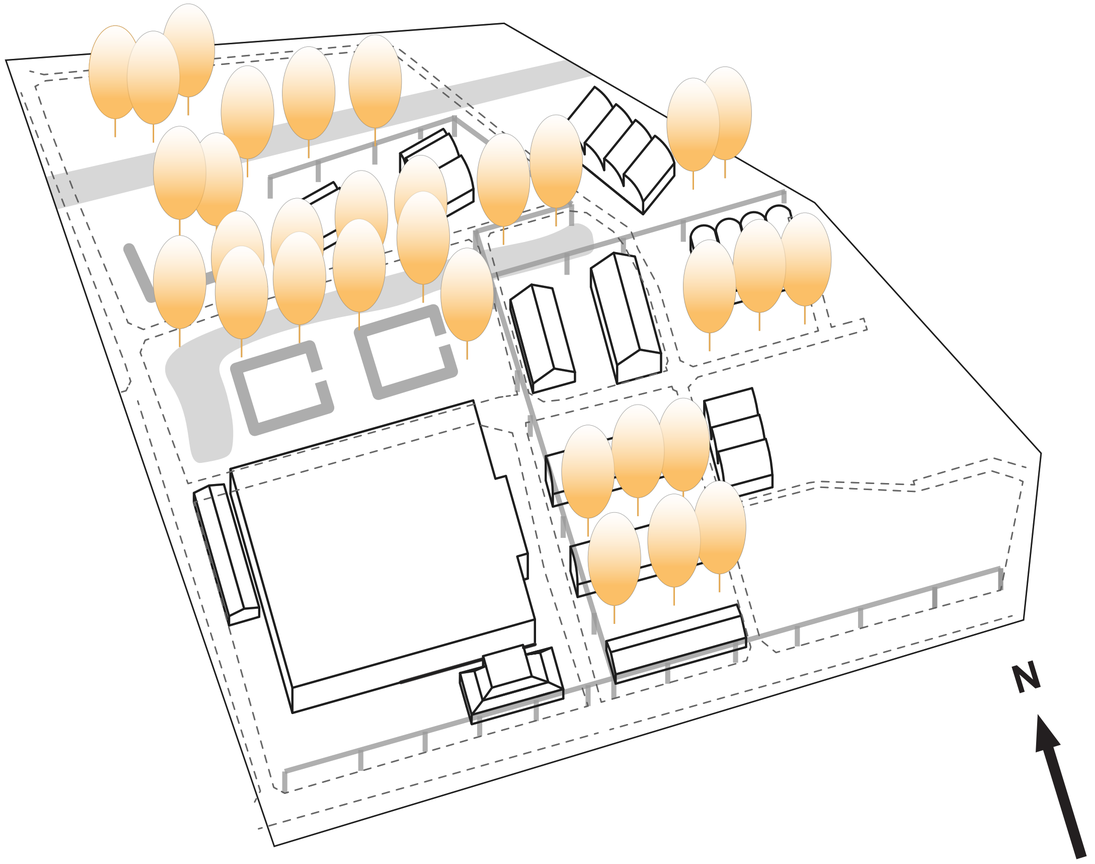
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‘THE BOX’



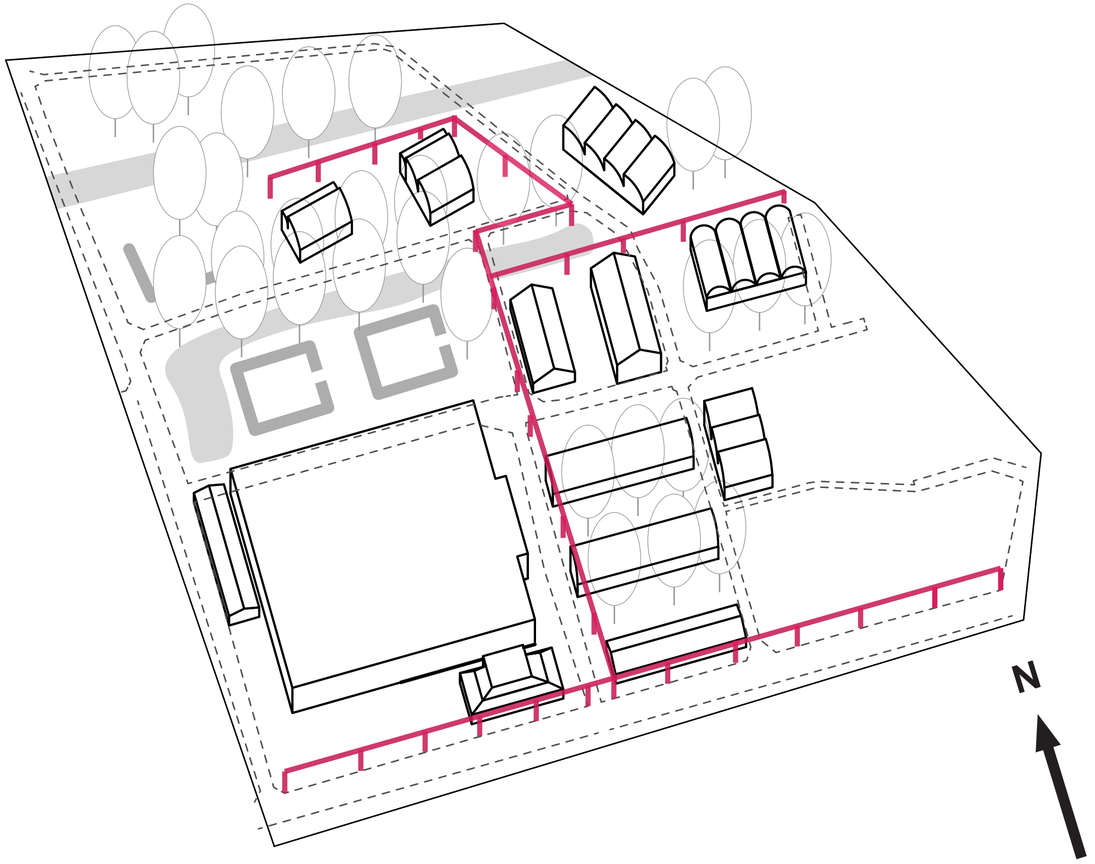
Foto by Amanda Verschuur



TREES + GREENERY



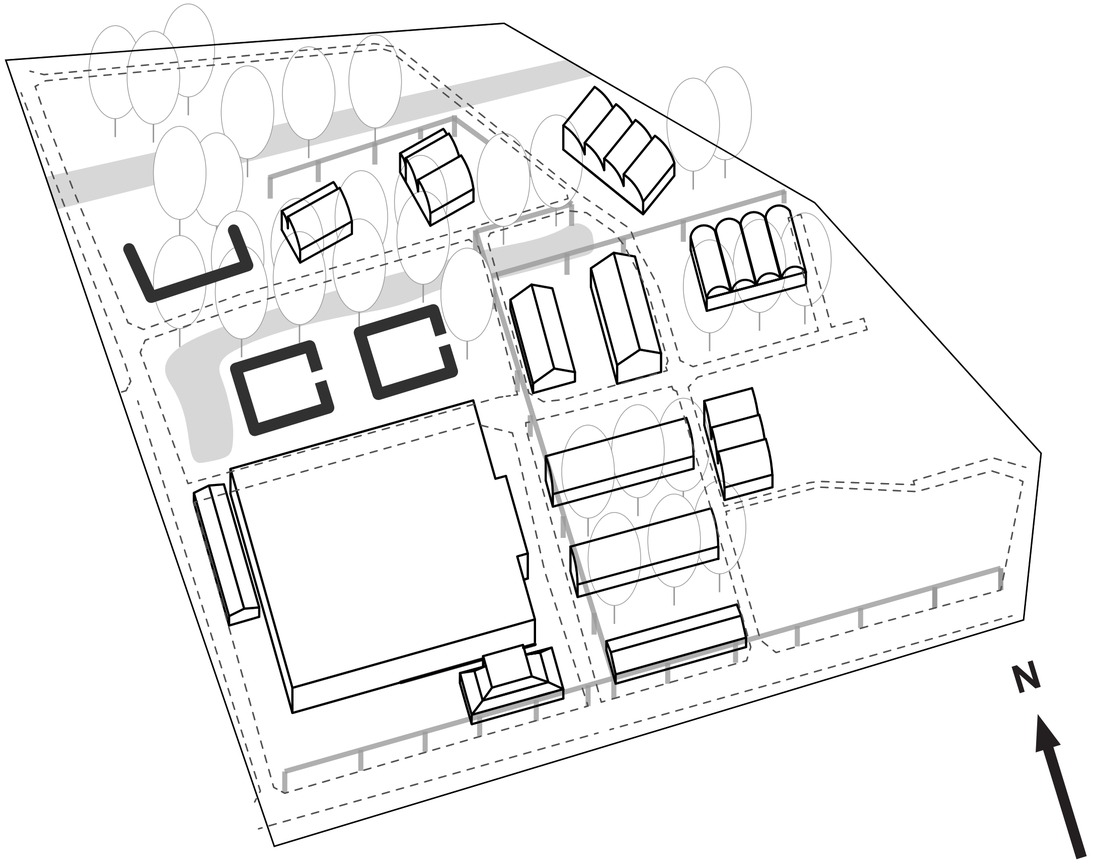
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PIPELINES



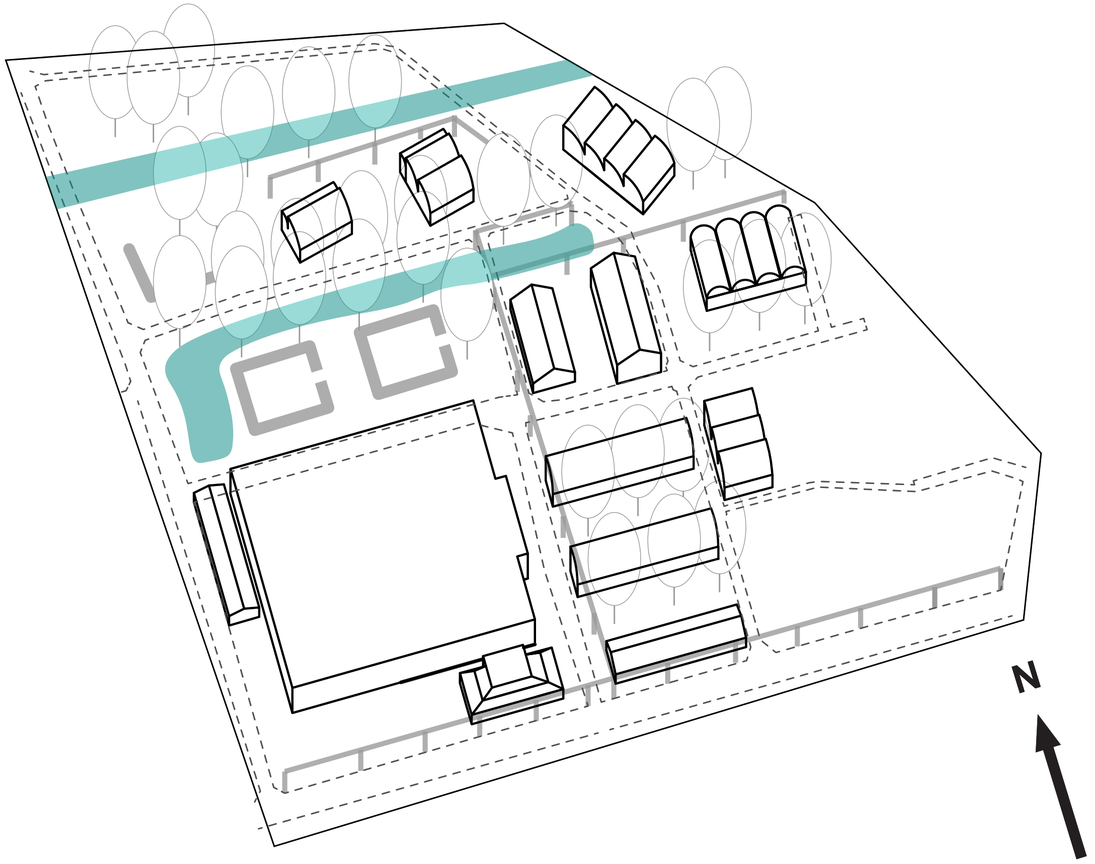
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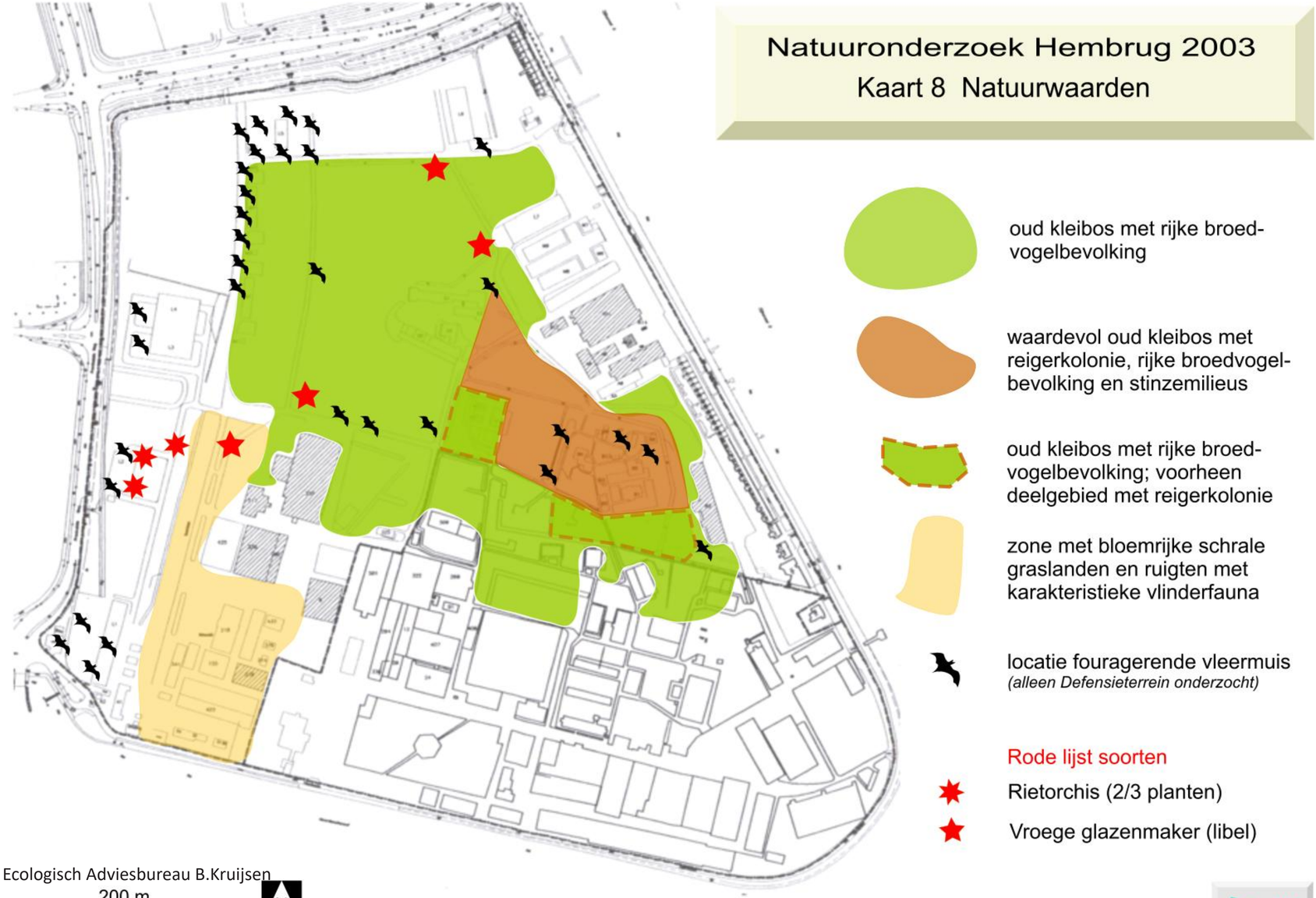
EARTH WALLS



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WATER



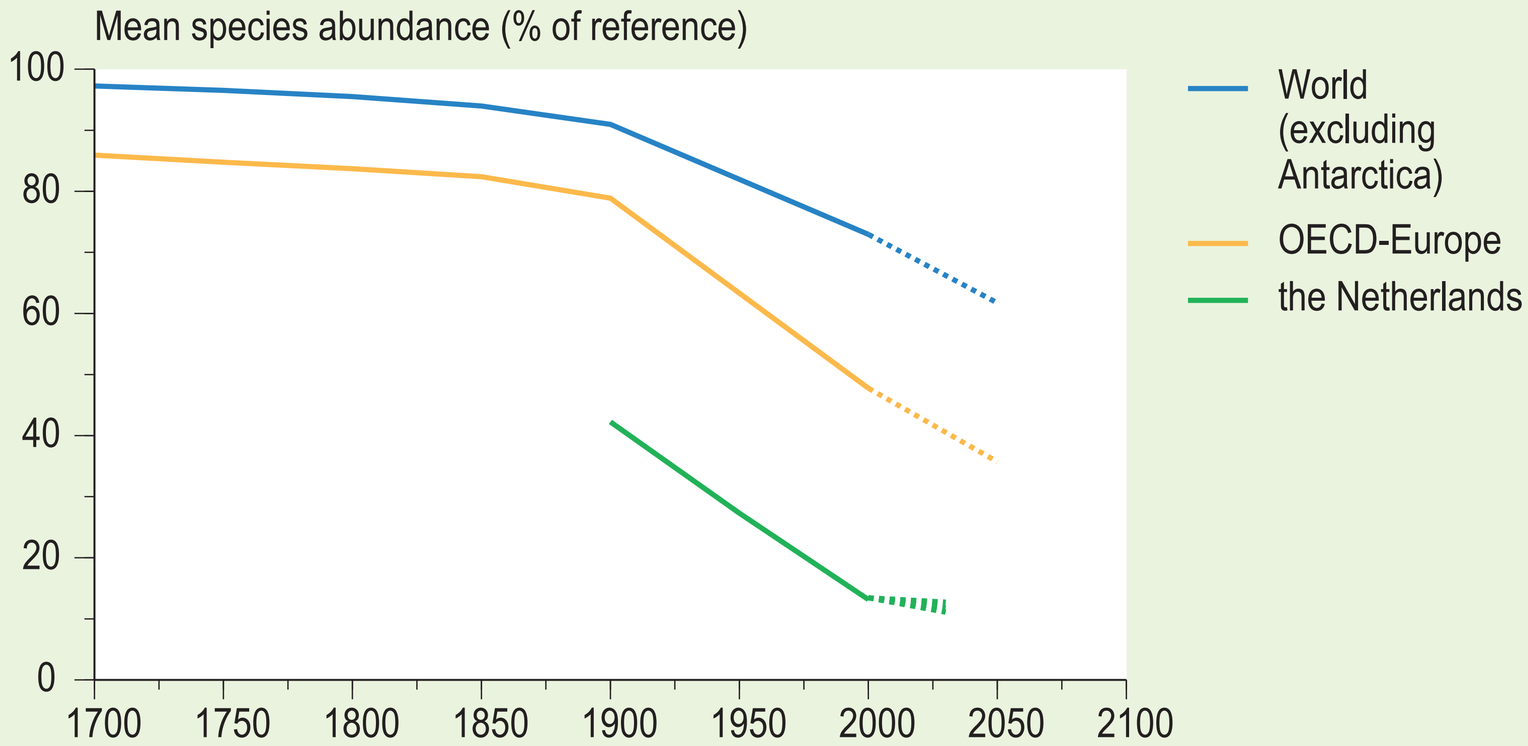
Natuuronderzoek Hembrugterrein 2003, Ecologisch Adviesbureau B.Kruijsen



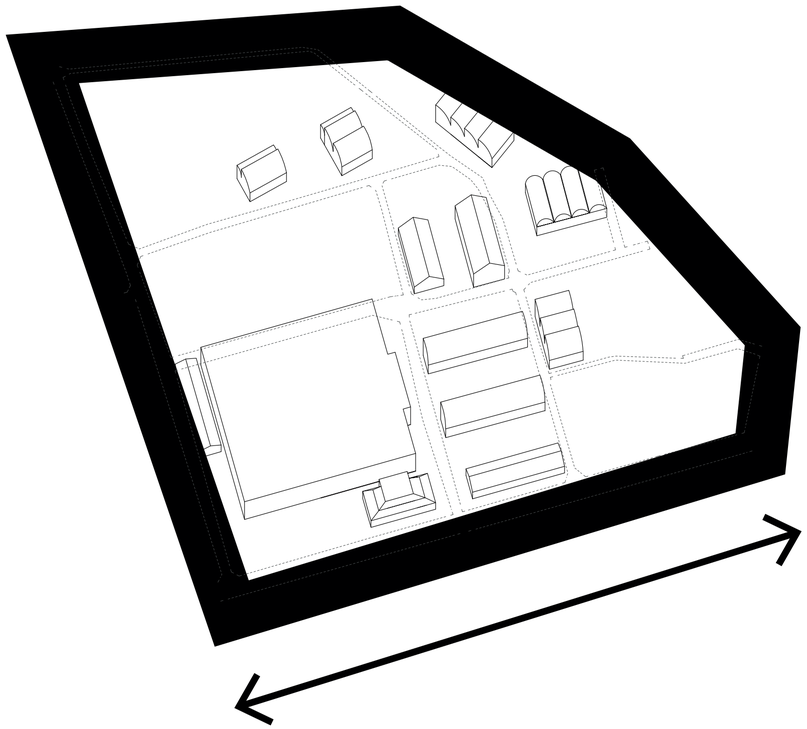
Google Earth

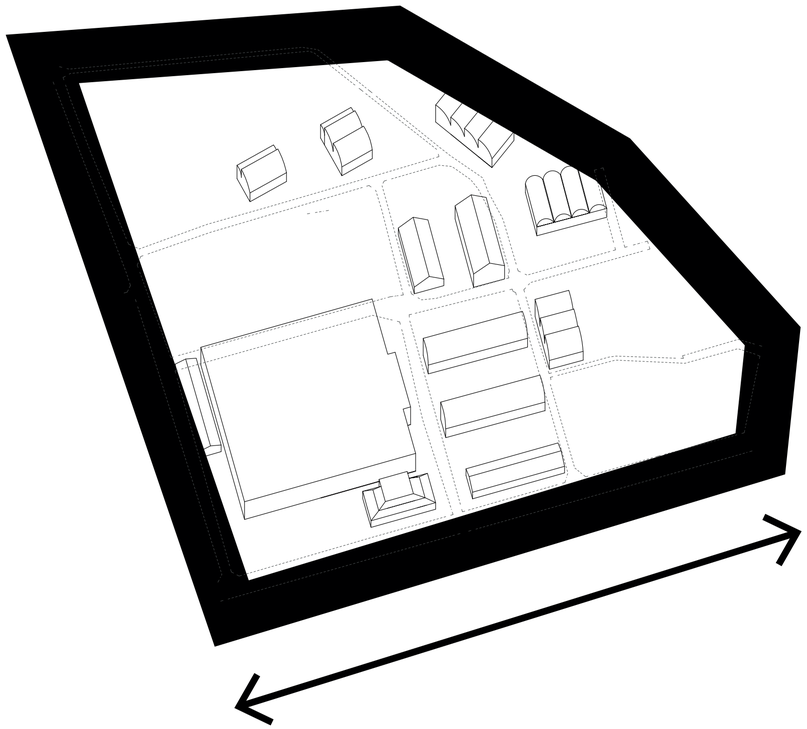
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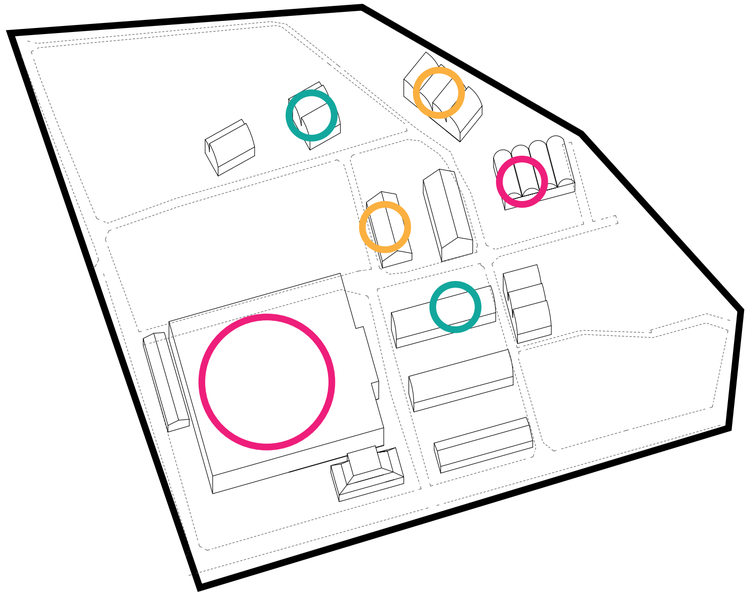
Development of biodiversity

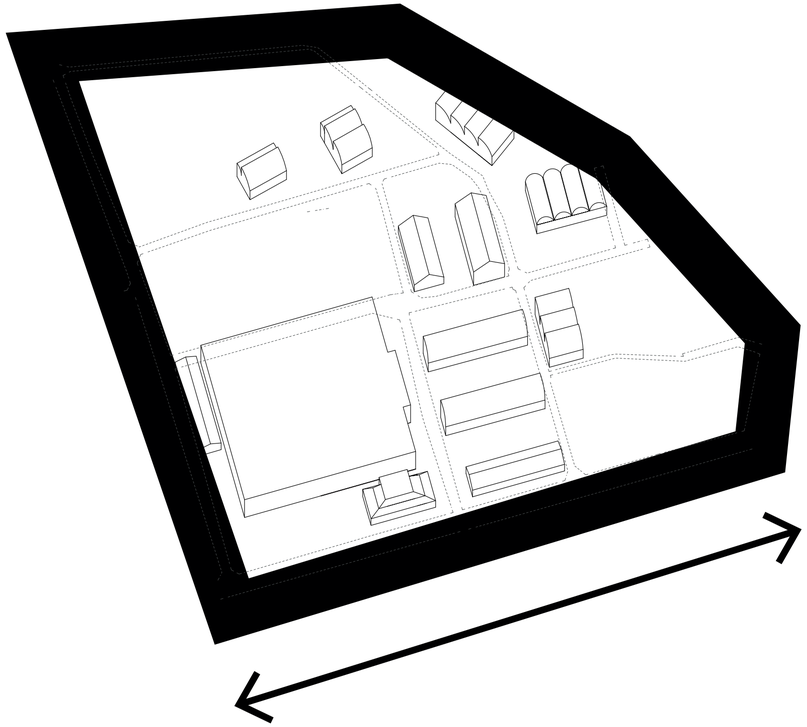


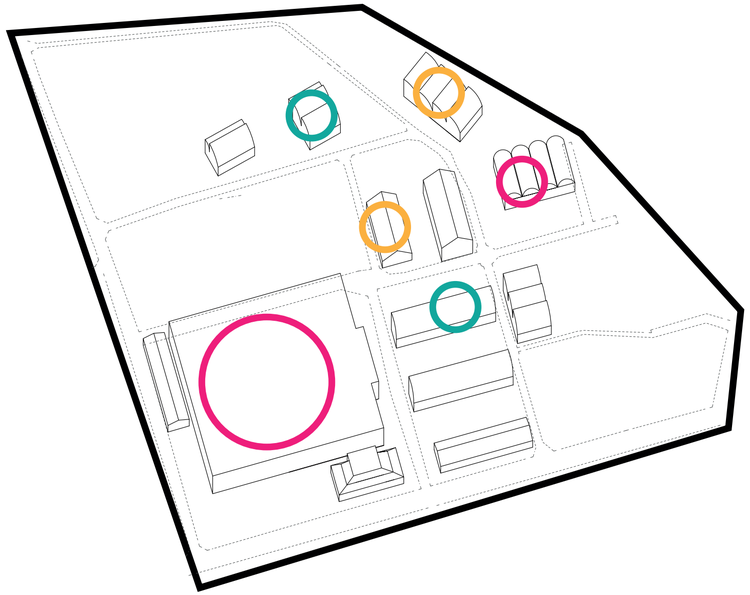
Netherlands Environmental Assessment Agency (PBL)

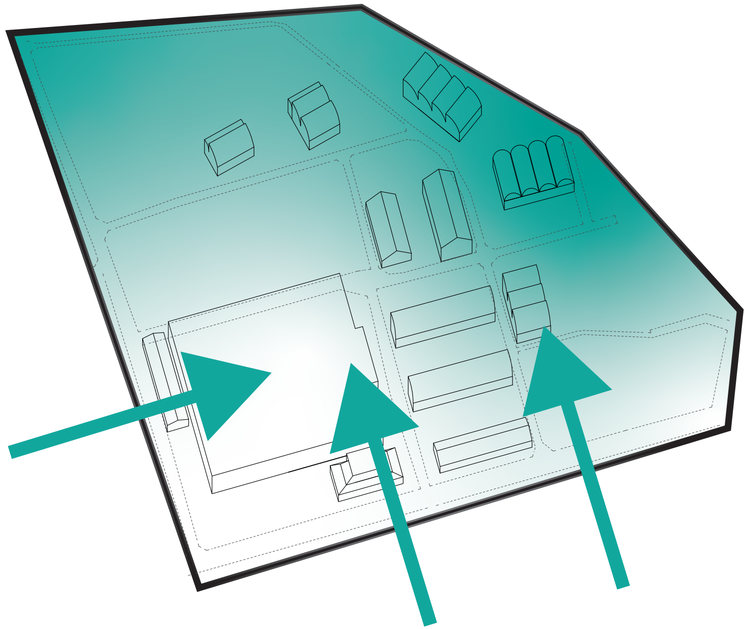


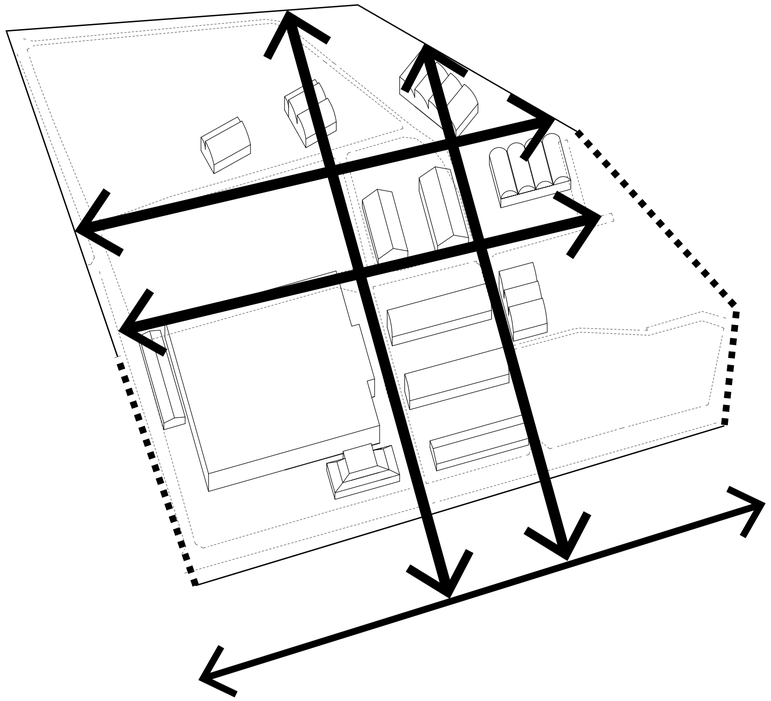


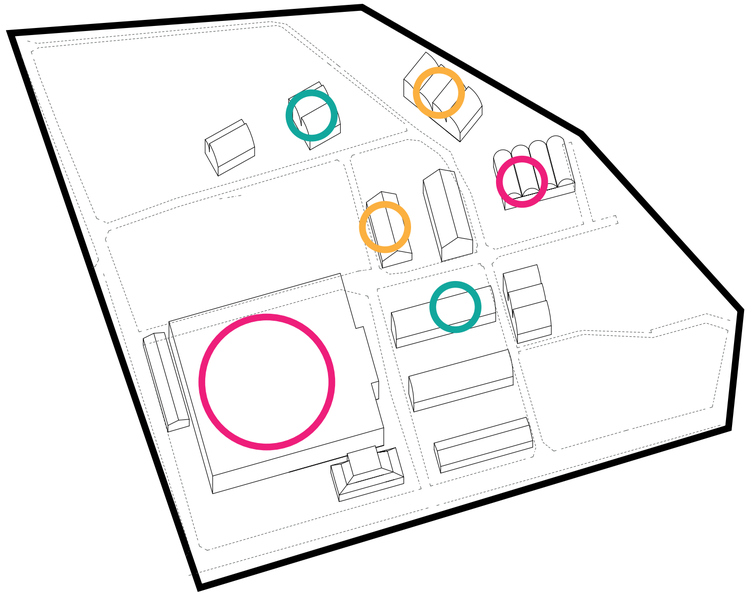


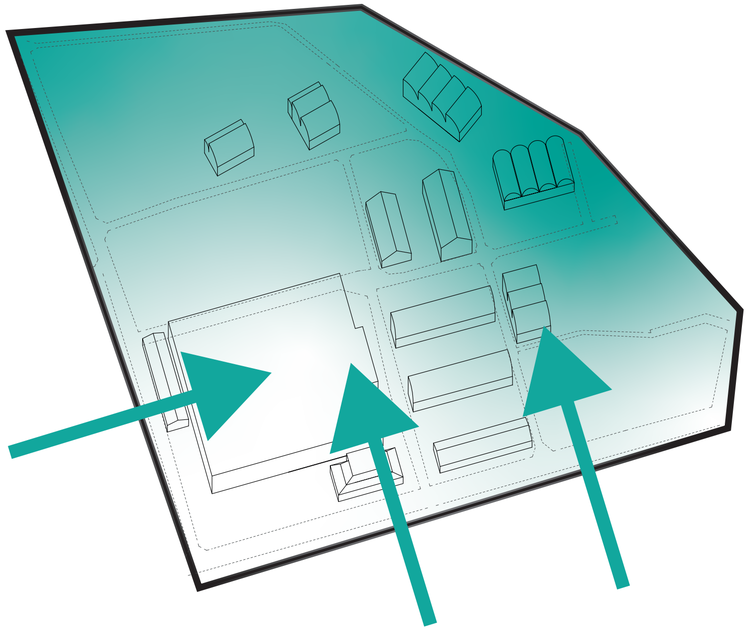


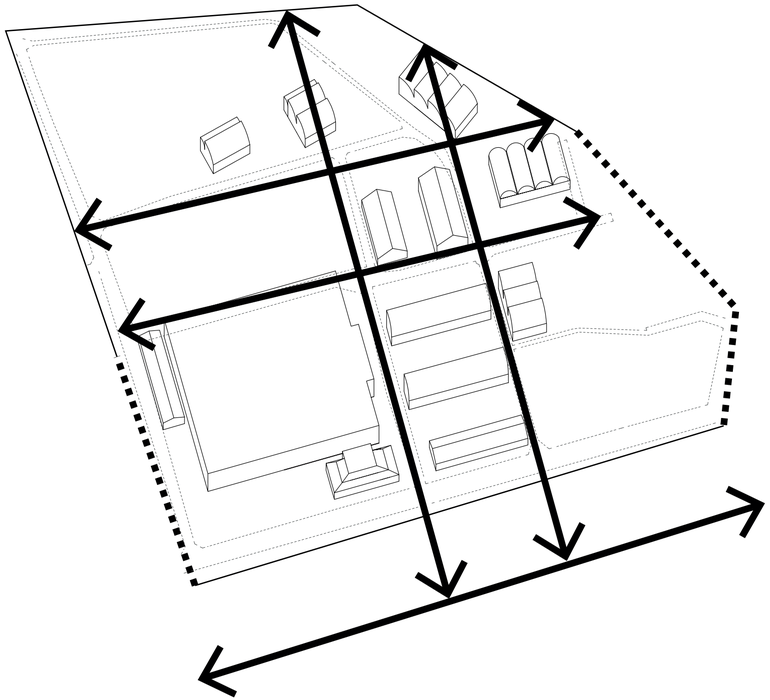


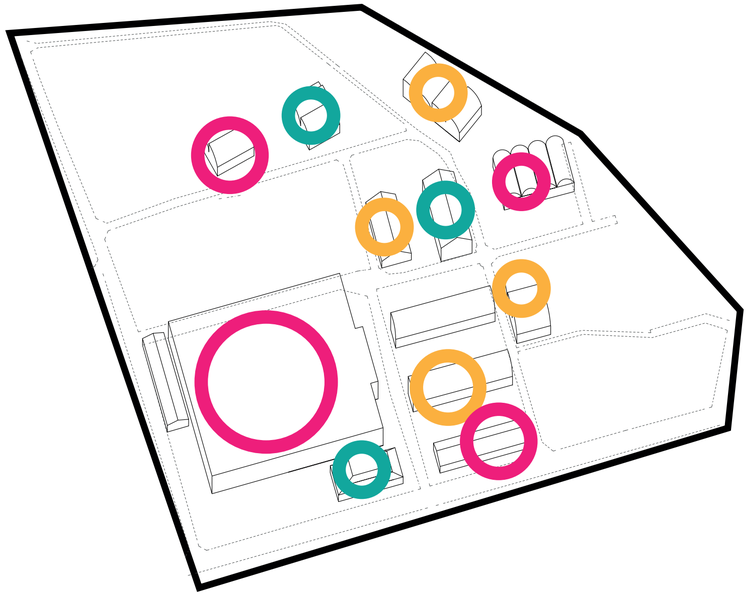


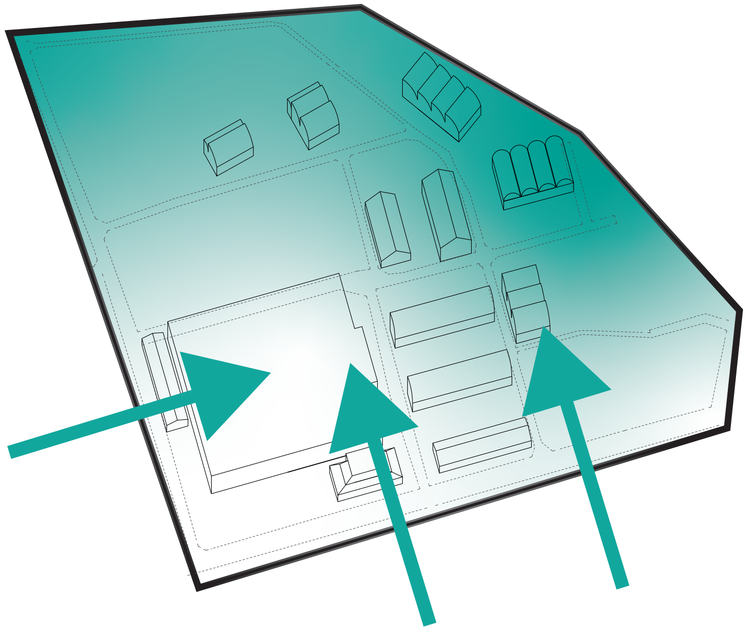


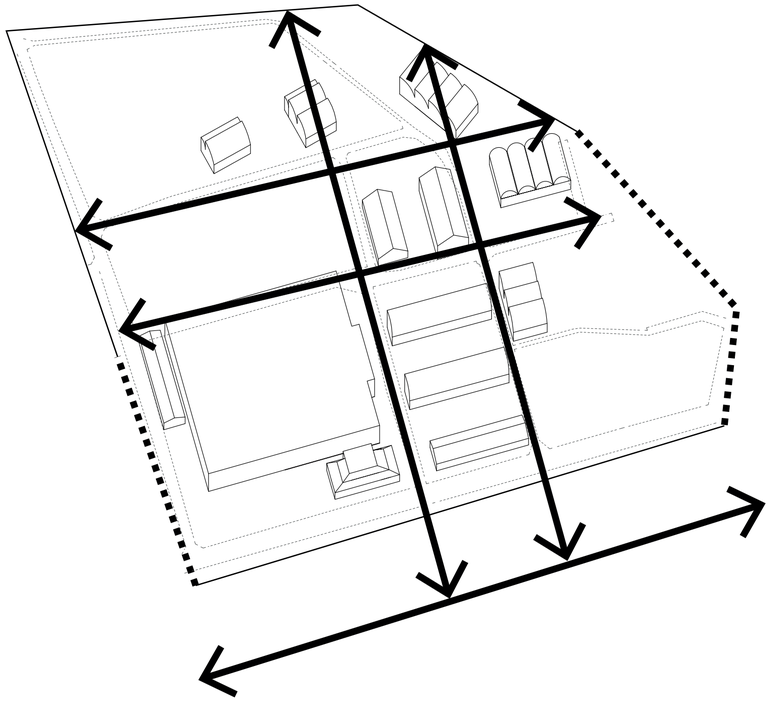


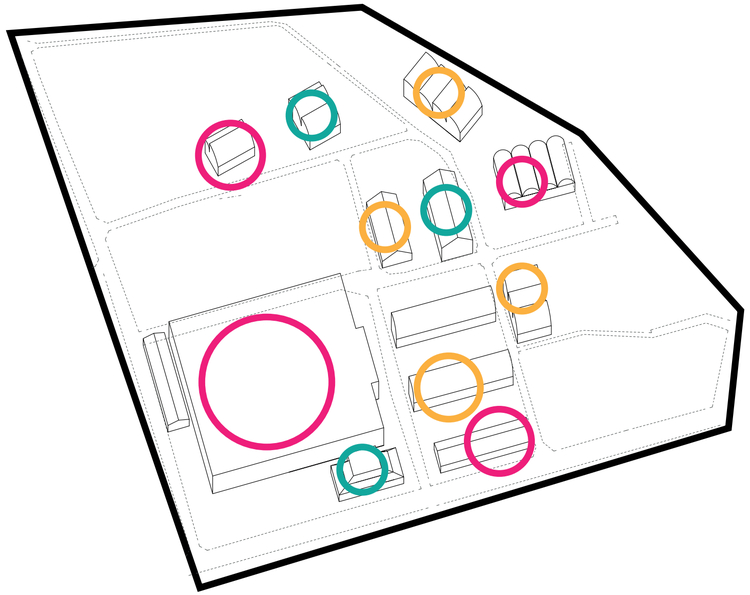


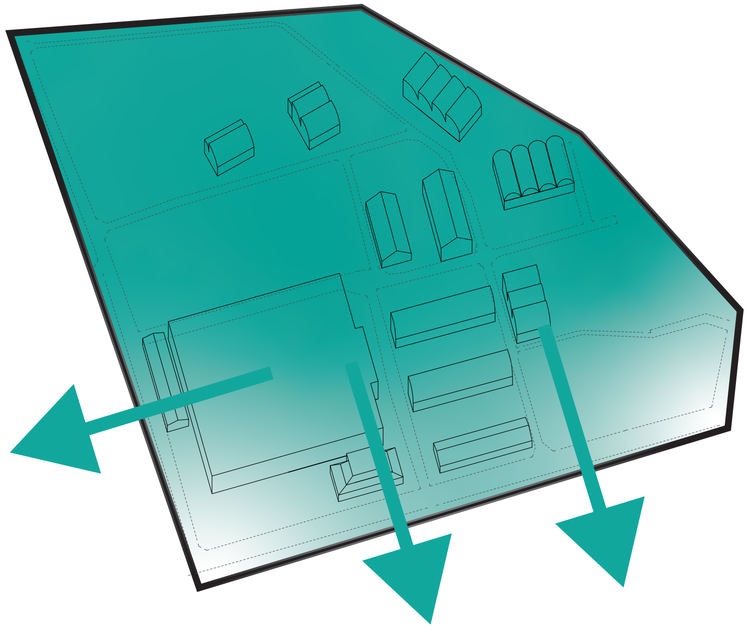




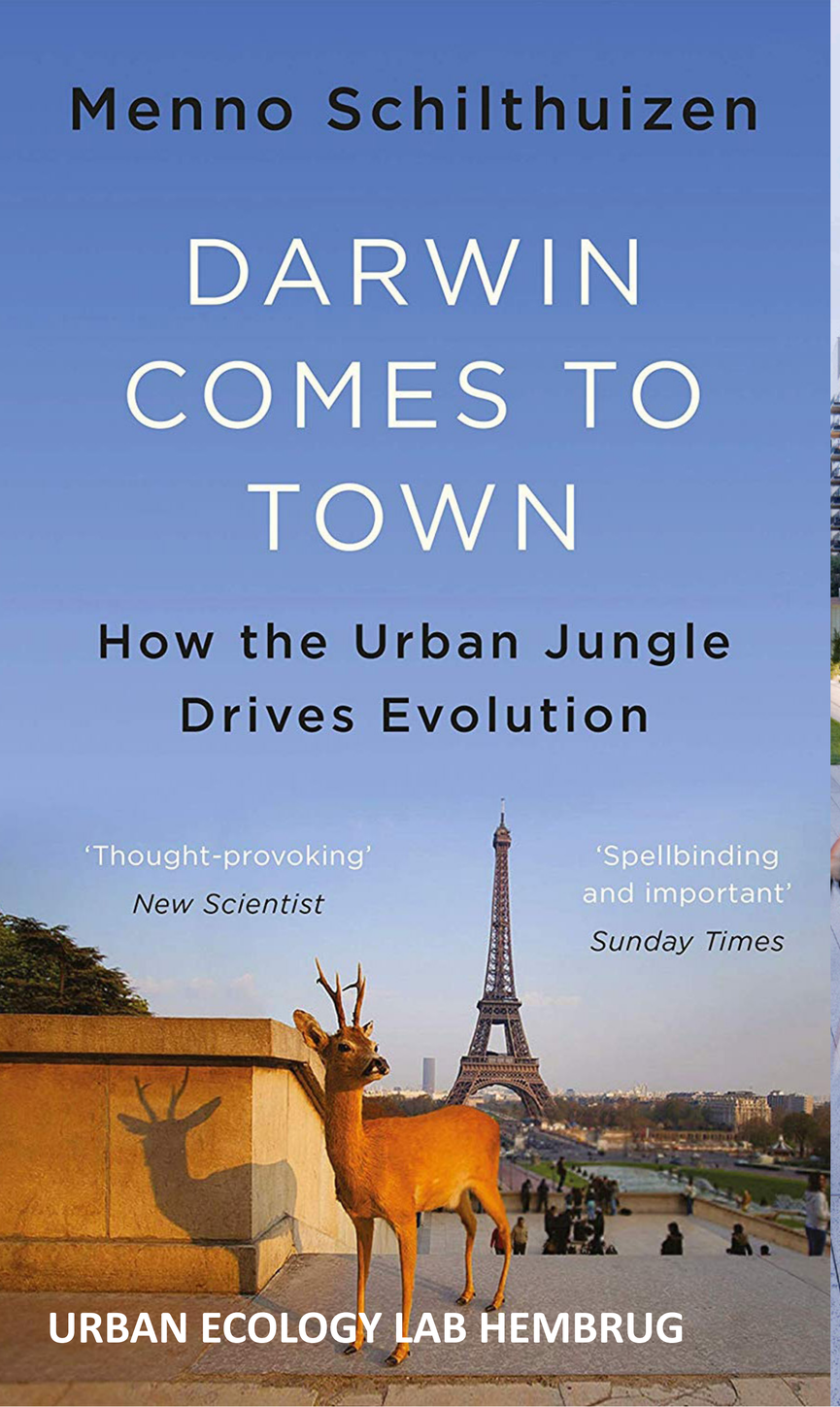


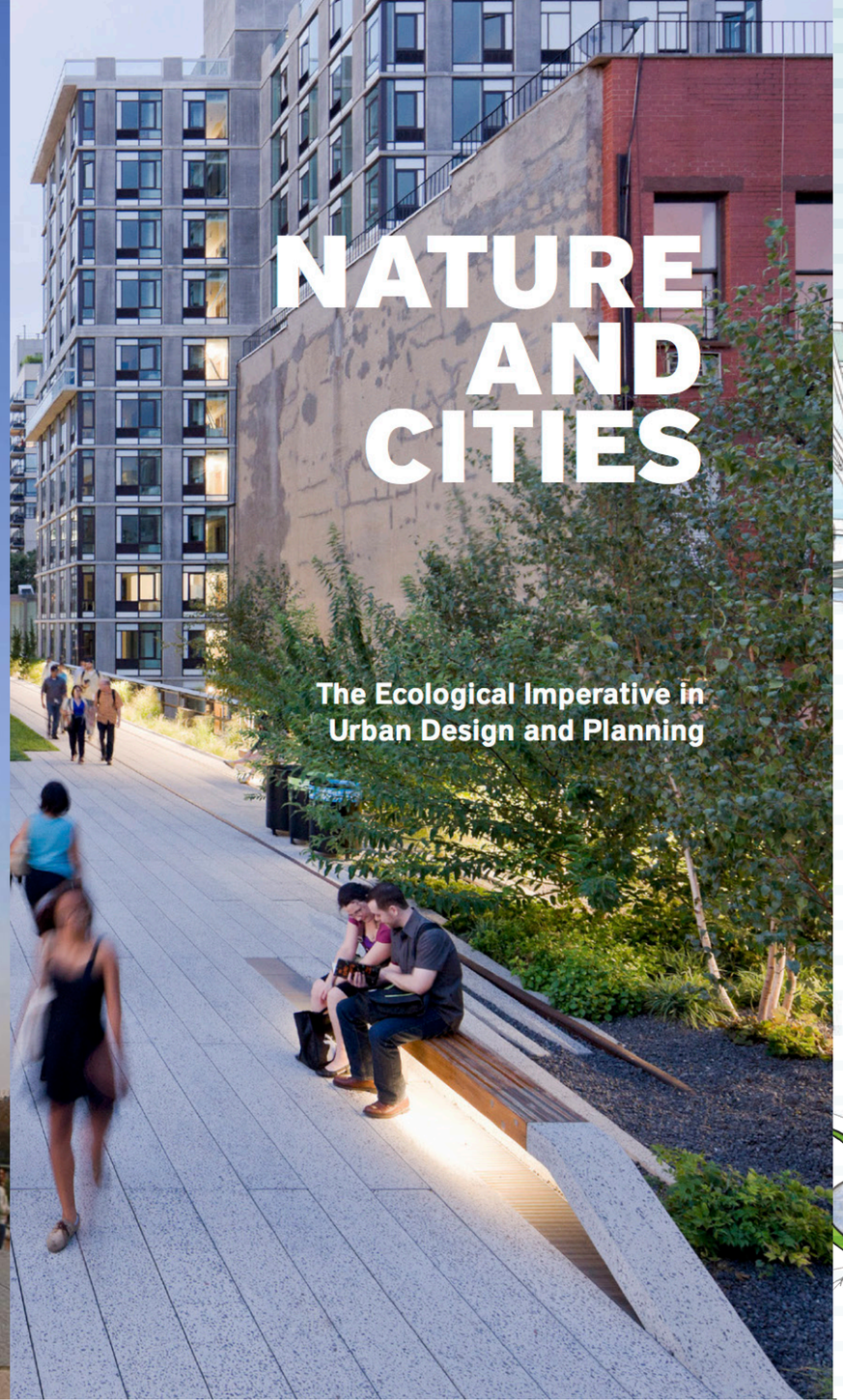






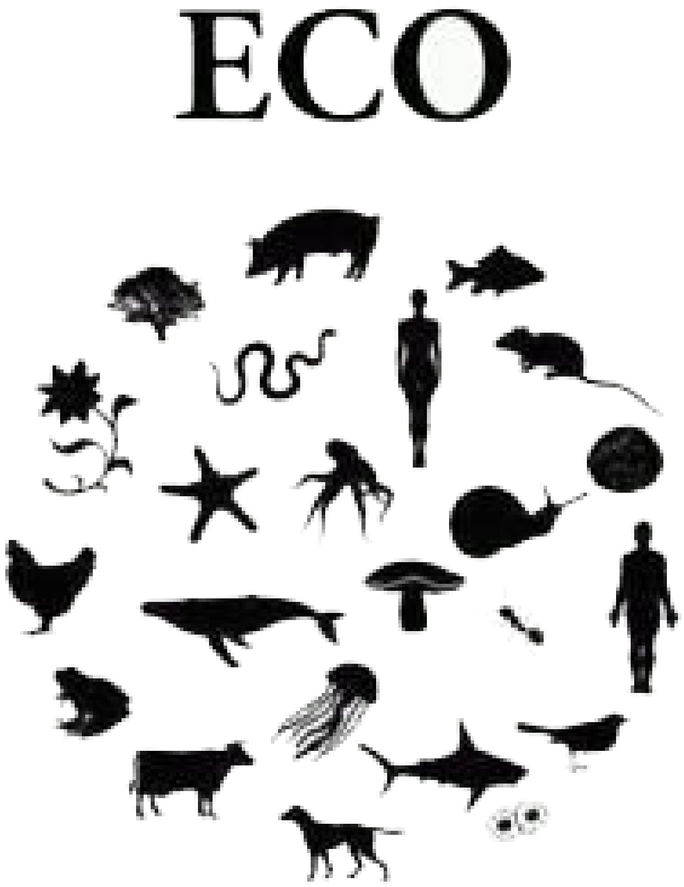
How can the re-design of the heritage site of Hembrug facilitate ecological growth and increase biodiversity while contributing to the public awareness on the importance of preserving nature?

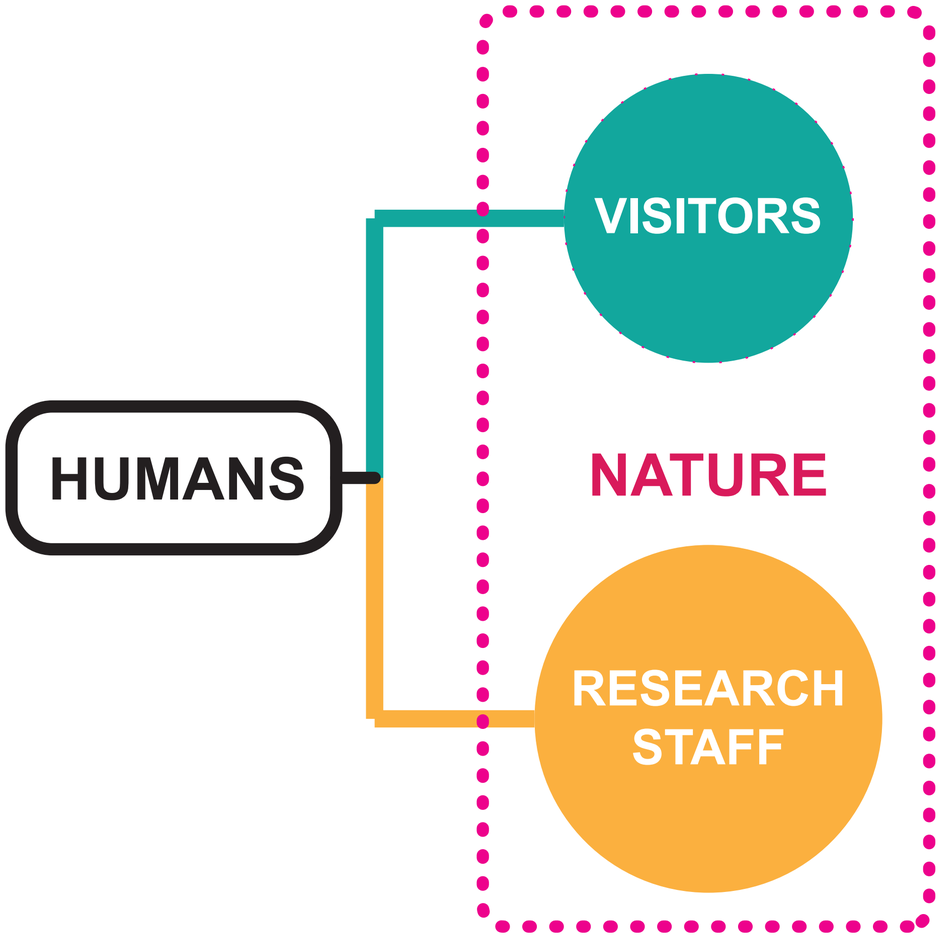

Menno Schilthuizen
DARWIN COMES TO TOWN
How the Urban Jungle Drives Evolution
'Thought-provoking'
New Scientist
'Spellbinding and important'
Sunday Times
URBAN ECOLOGY LAB HEMBRUG

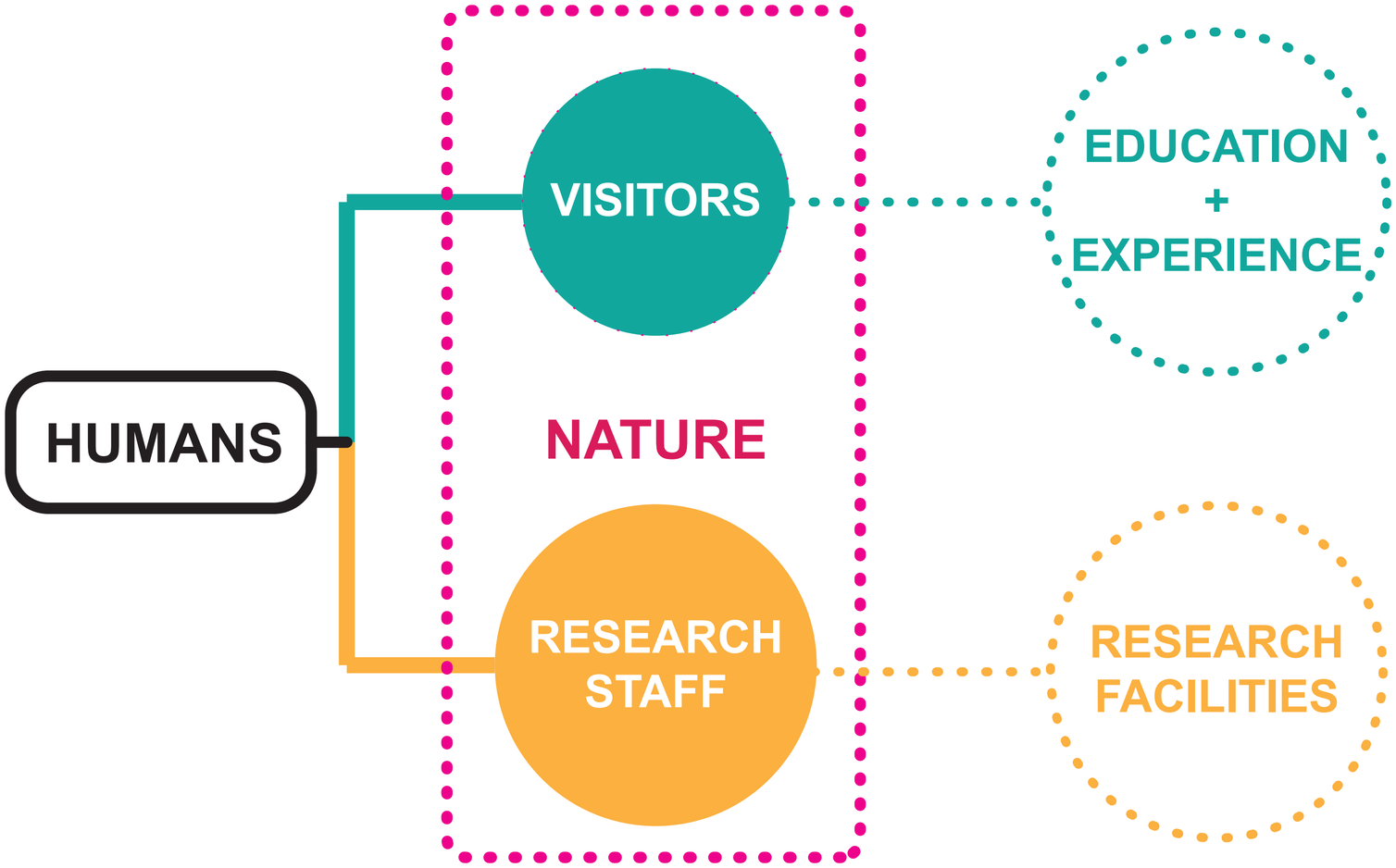

NATURE AND CITIES
The Ecological Imperative in Urban Design and Planning

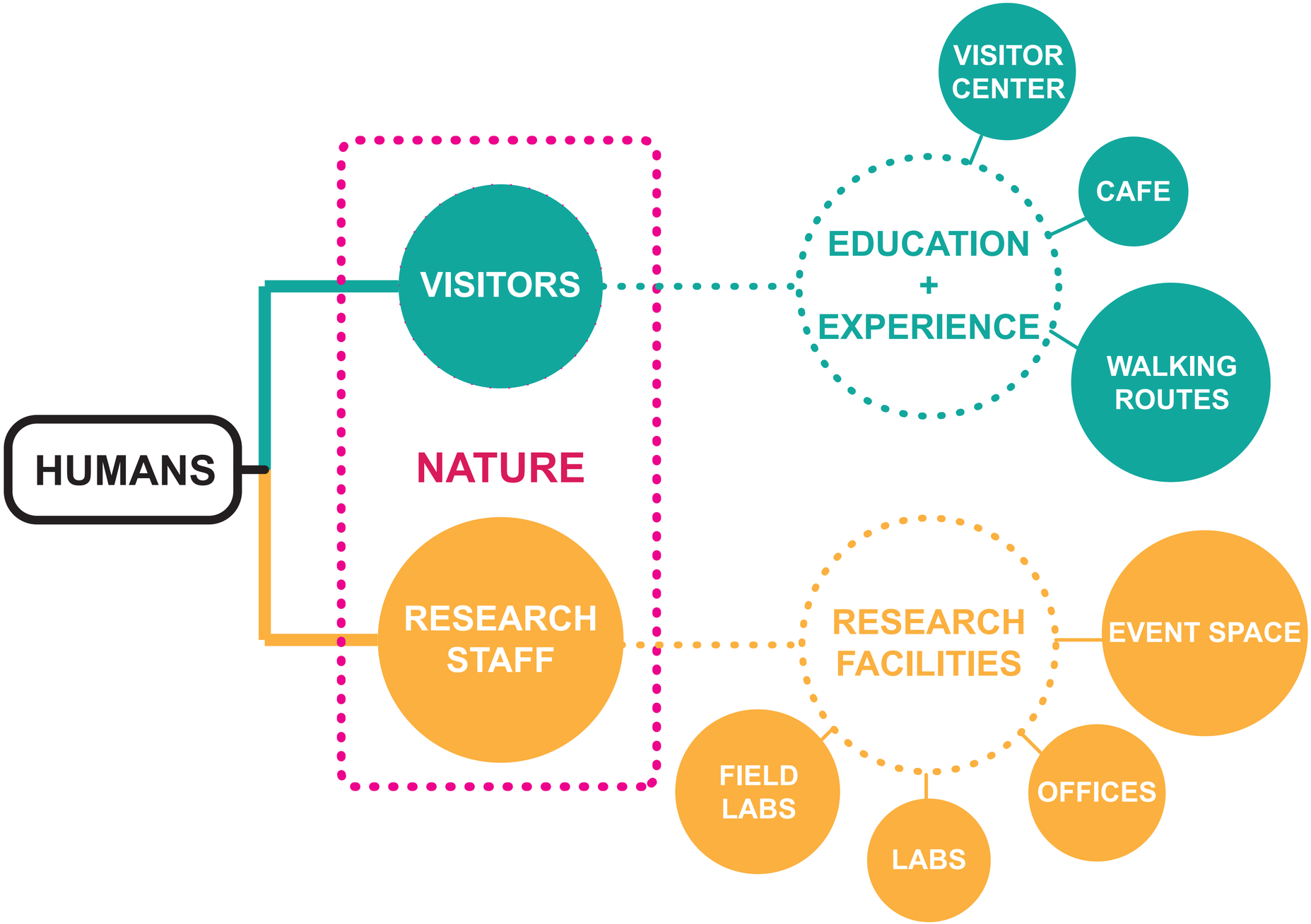

Architecture and the Built environment
Performative Microforests
Investigating the potential benefits of integrating spatial vegetation en
buildings, in regards to the performance of buildings, their occupants +
Giancarlo Mangone

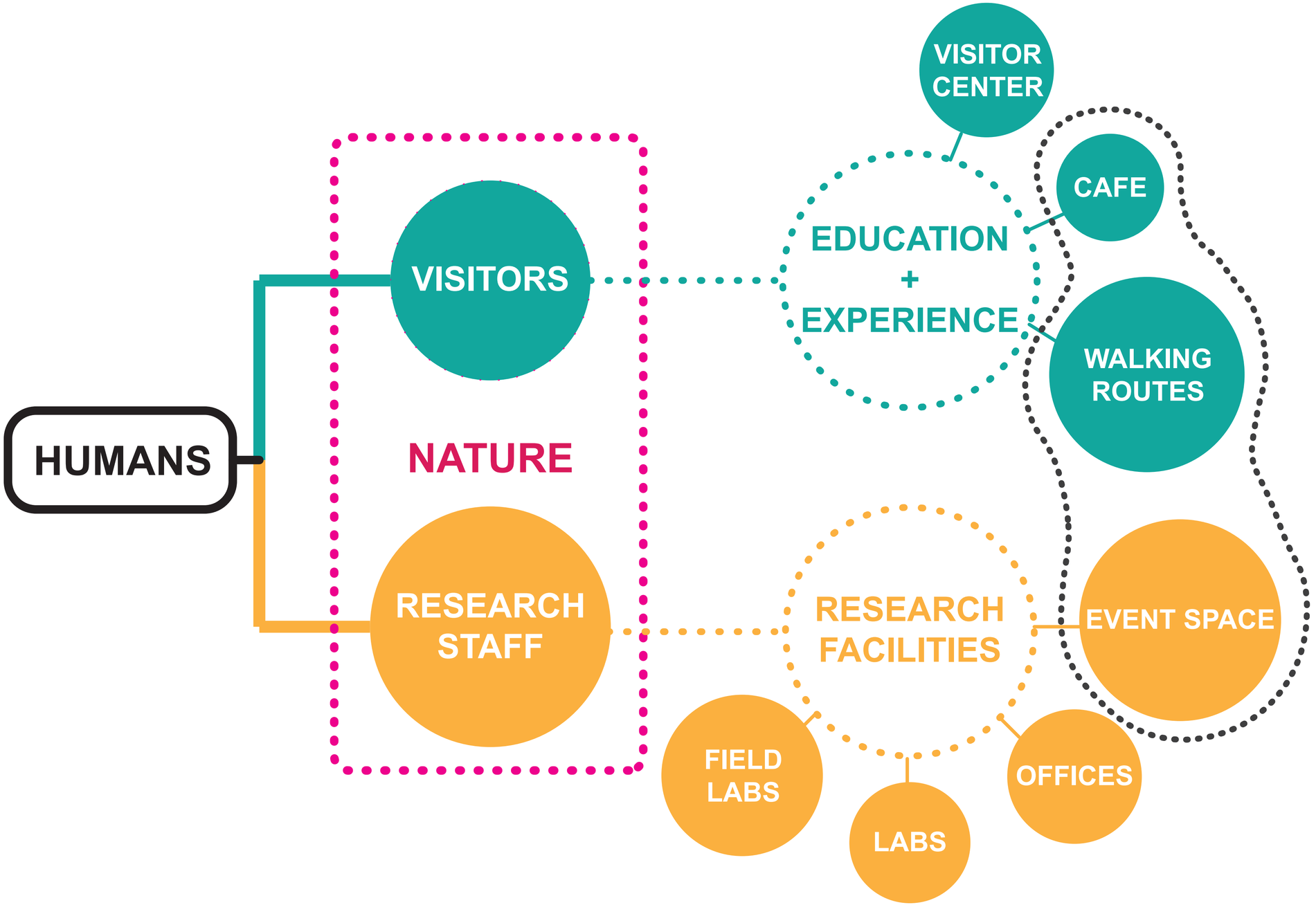

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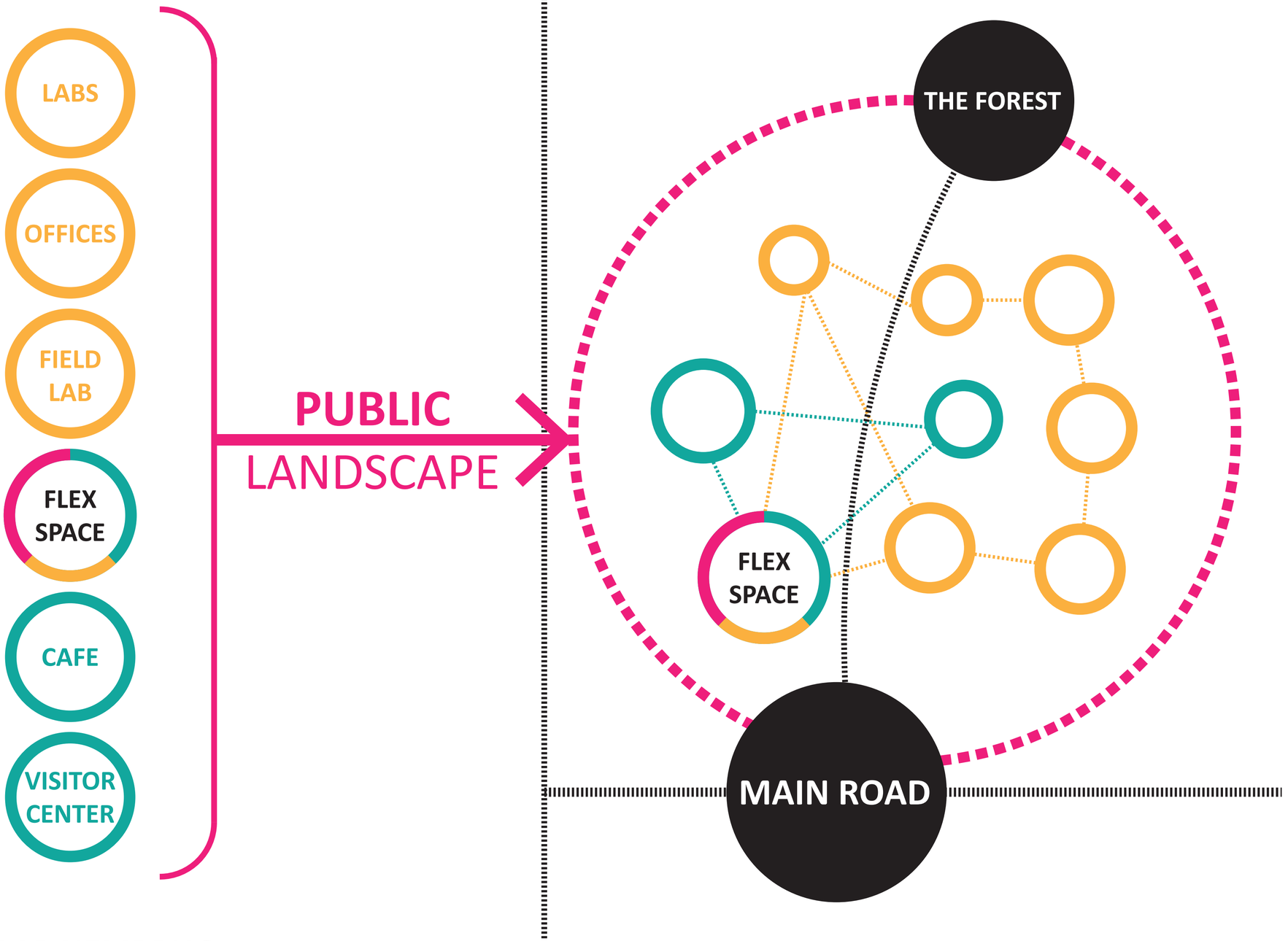

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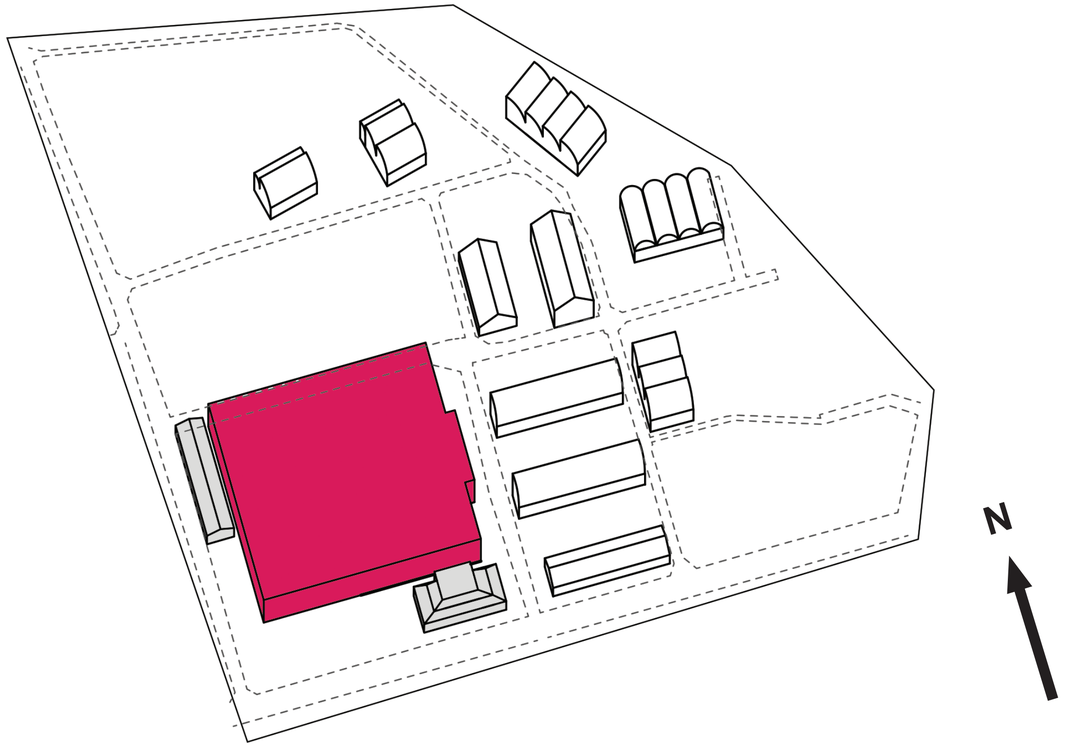

VISITORS
HUMANS
NATURE
RESEARCH
STAFF


HUMANS
VISITORS
NATURE
RESEARCH STAFF
EDUCATION + EXPERIENCE
RESEARCH FACILITIES

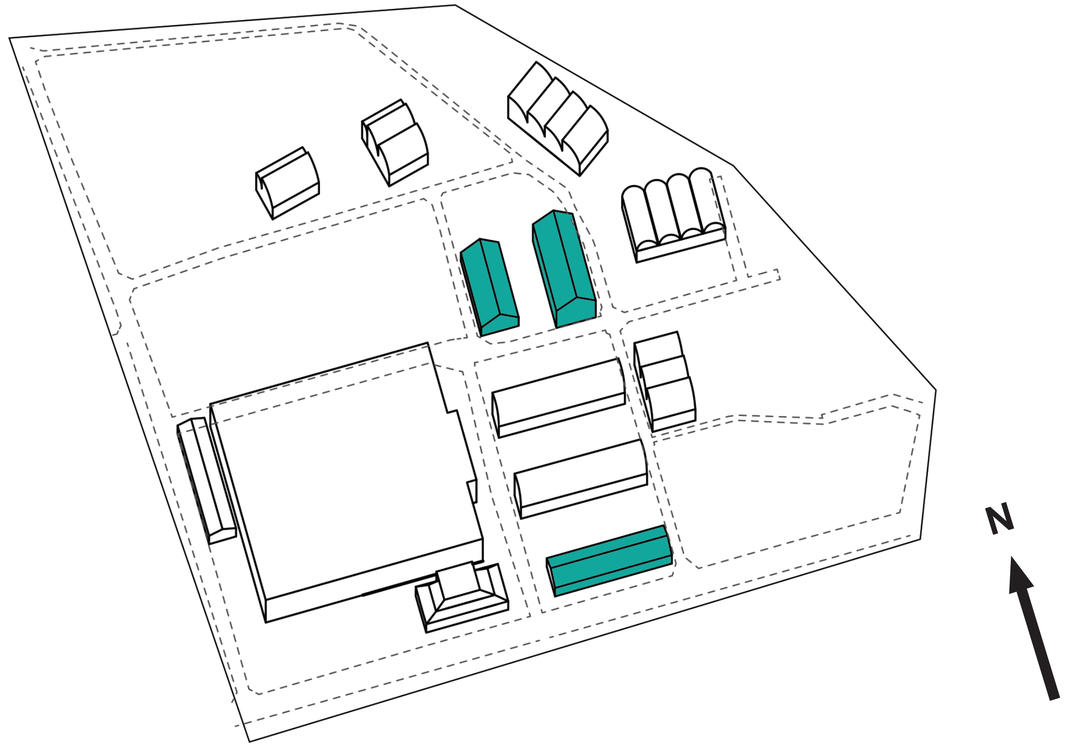

VISITOR CENTER
CAFE
EDUCATION + EXPERIENCE
WALKING ROUTES
VISITORS
HUMANS
NATURE
RESEARCH STAFF
RESEARCH FACILITIES
EVENT SPACE
FIELD LABS
LABS
OFFICES


VISITOR CENTER
CAFE
EDUCATION + EXPERIENCE
VISITORS
WALKING ROUTES
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NATURE
RESEARCH STAFF
RESEARCH FACILITIES
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FIELD LABS
OFFICES
LABS

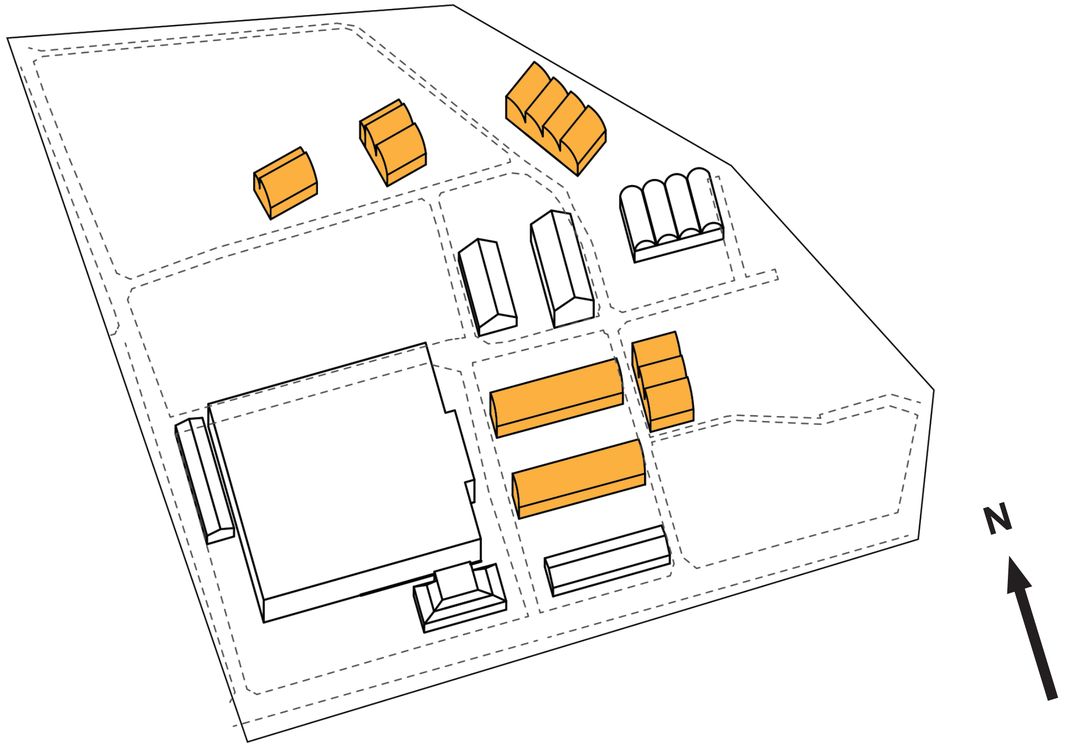

LABS
OFFICES
FIELD LAB
FLEX SPACE
CAFE
VISITOR CENTER
PUBLIC
LANDSCAPE
THE FOREST
FLEX SPACE
MAIN ROAD



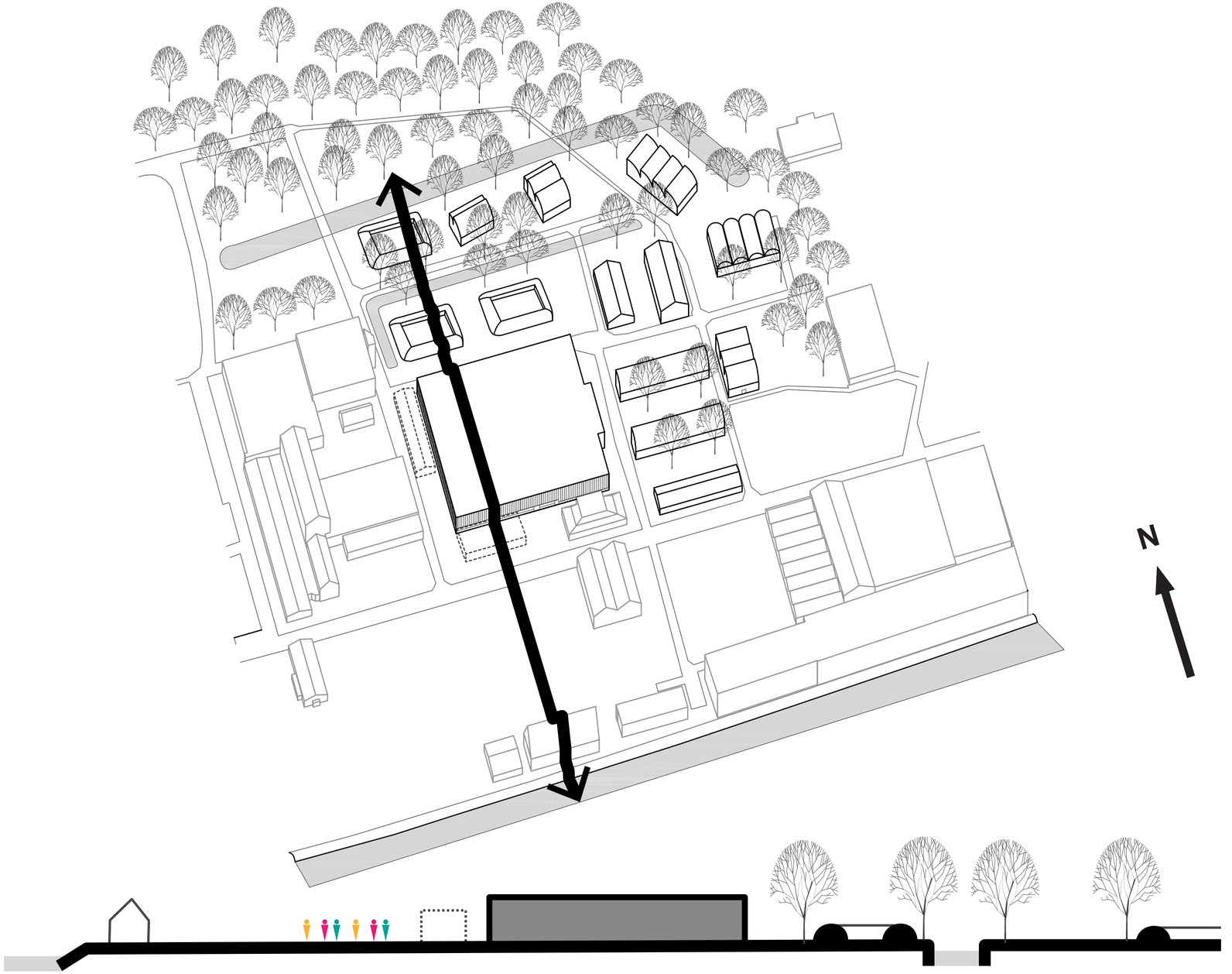
FLEX SPACE = EVENT HALL + OFFICES + LANDSCAPE



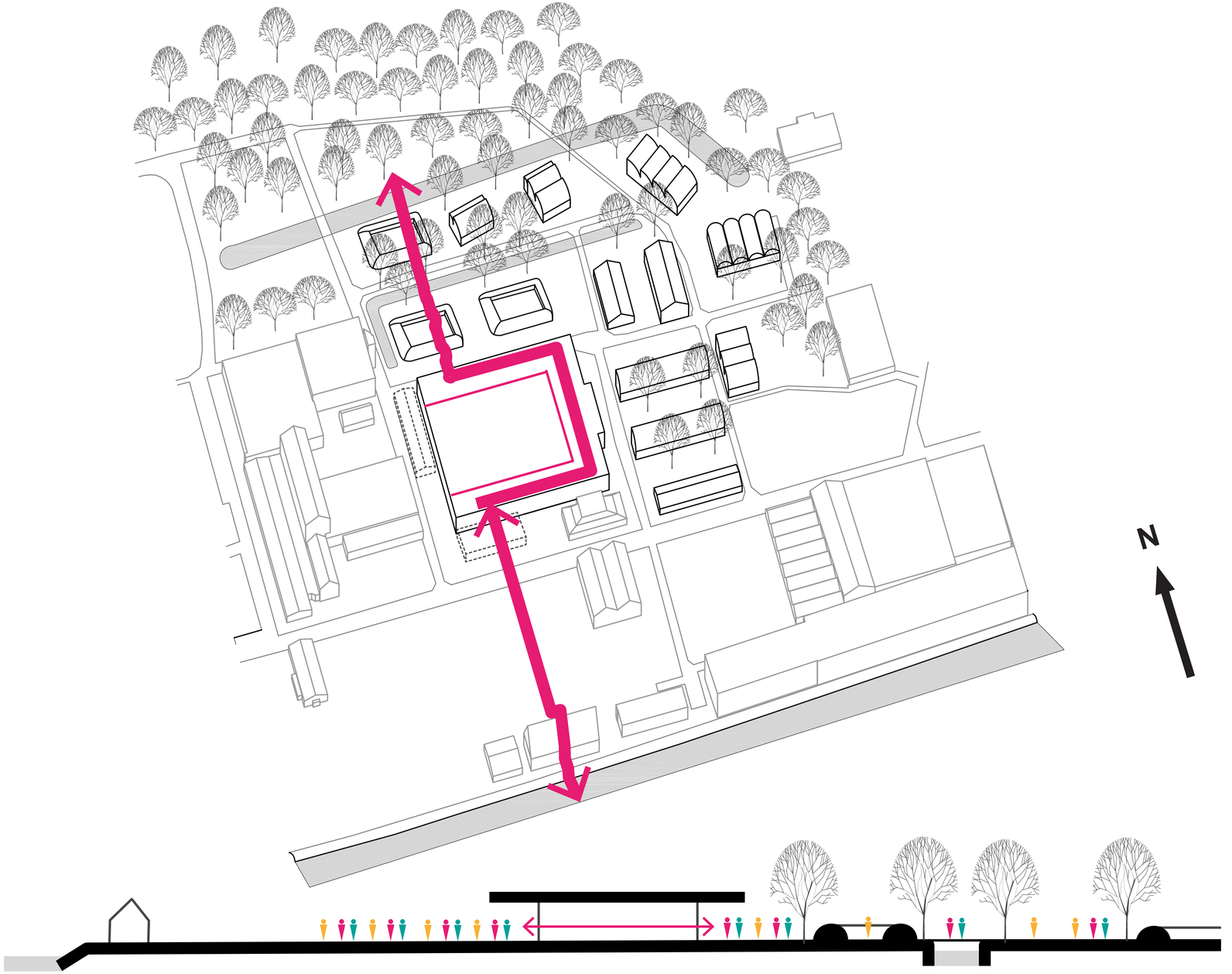
CAFE+ RESTAURANT + VISITOR CENTER

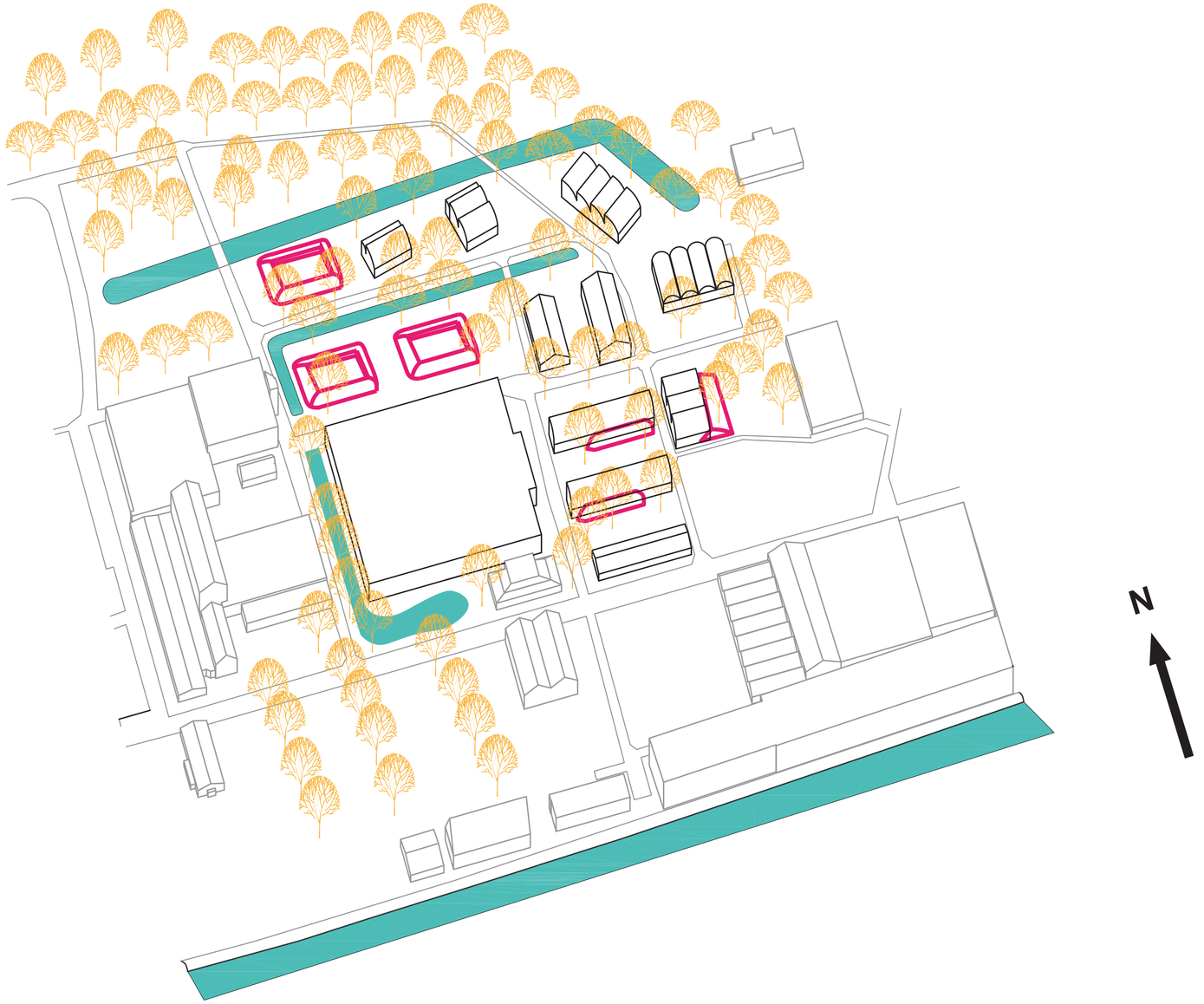


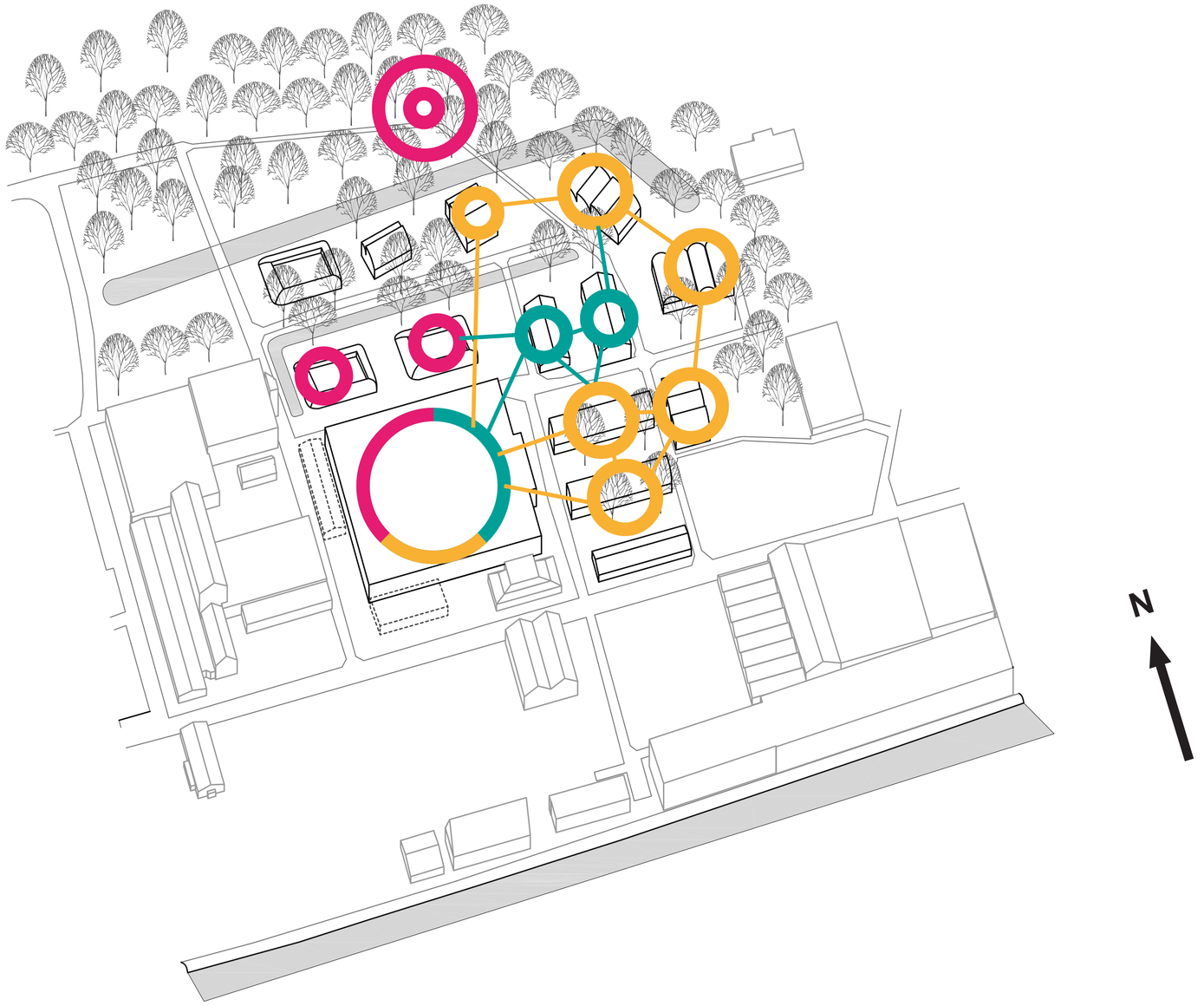
LABS + OFFICES



URBAN ECOLOGY LAB HEMBRUG


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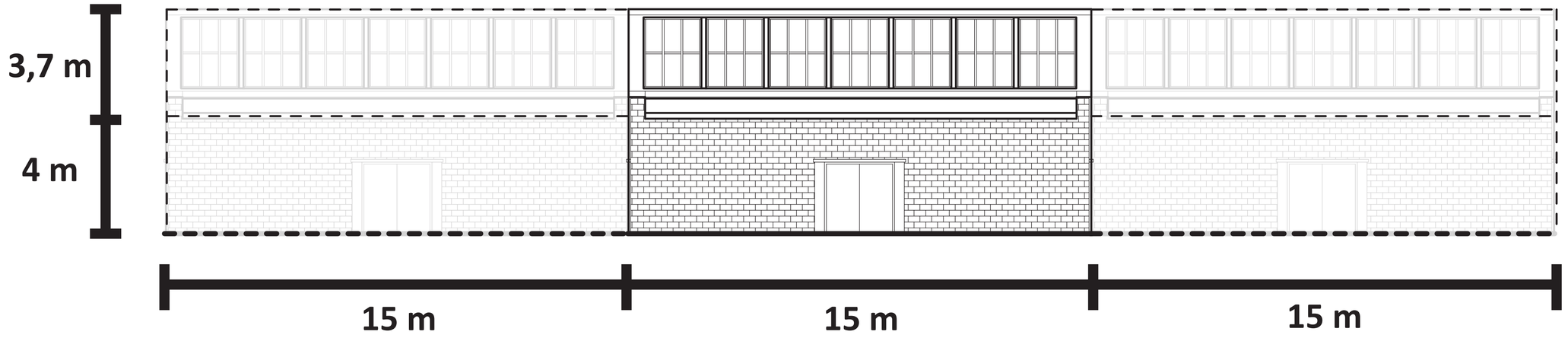

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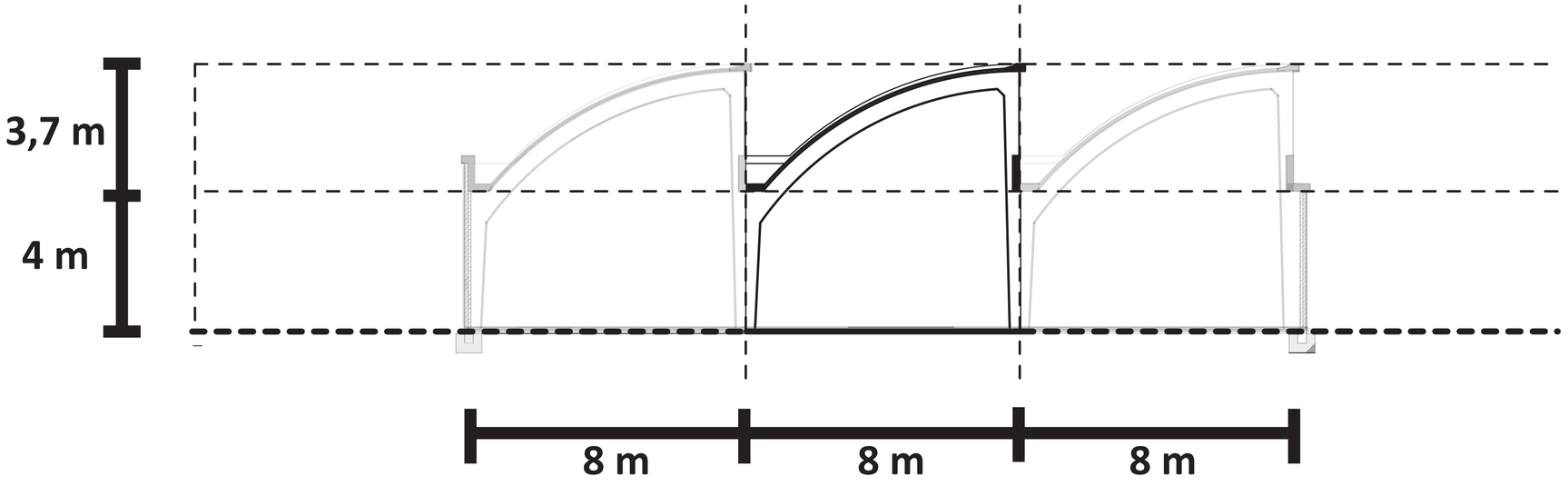


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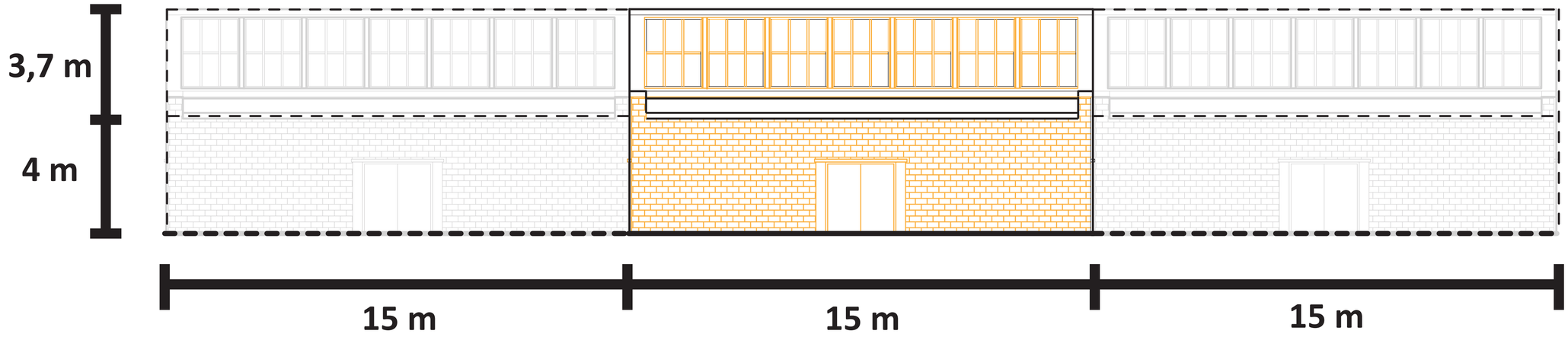


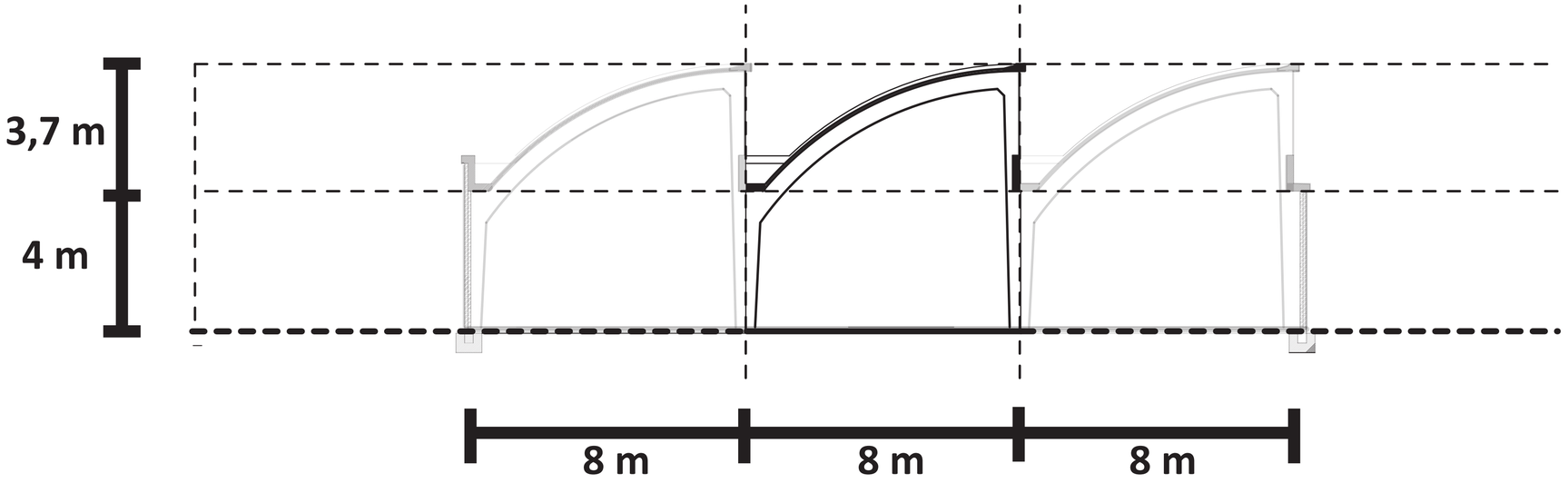
EXISTING STRUCTURE



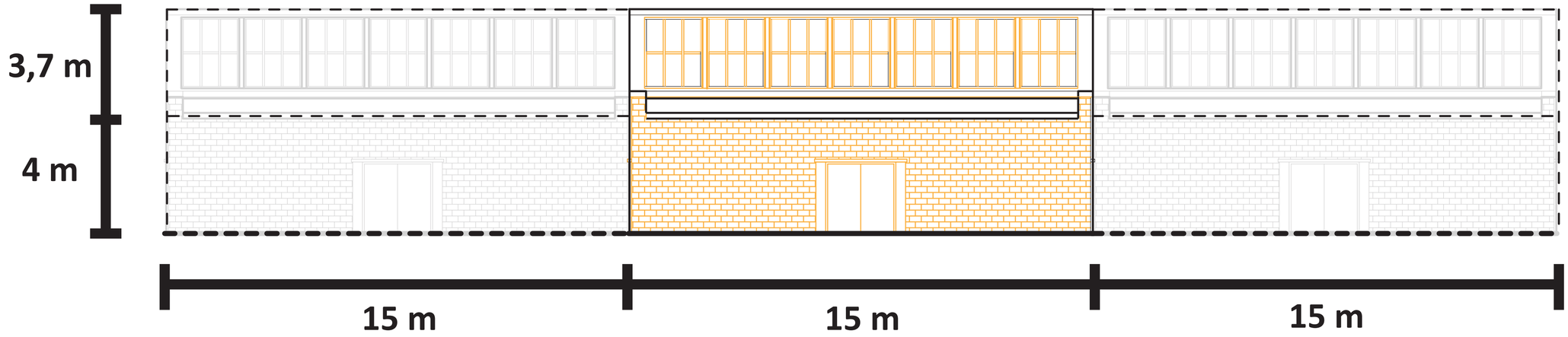


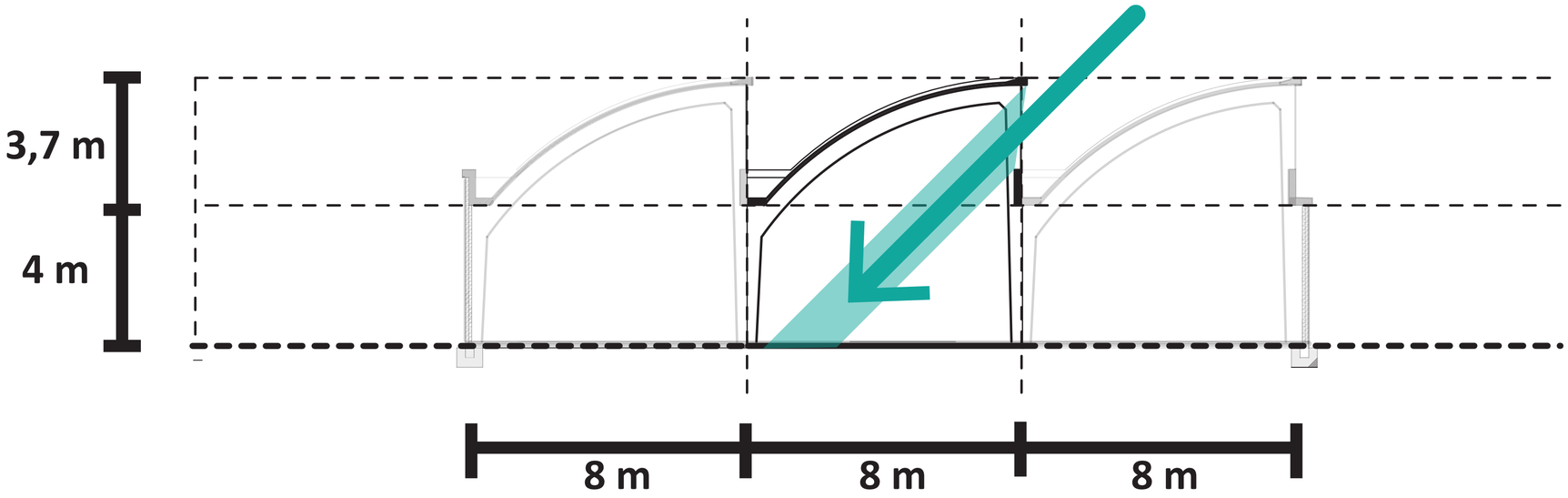
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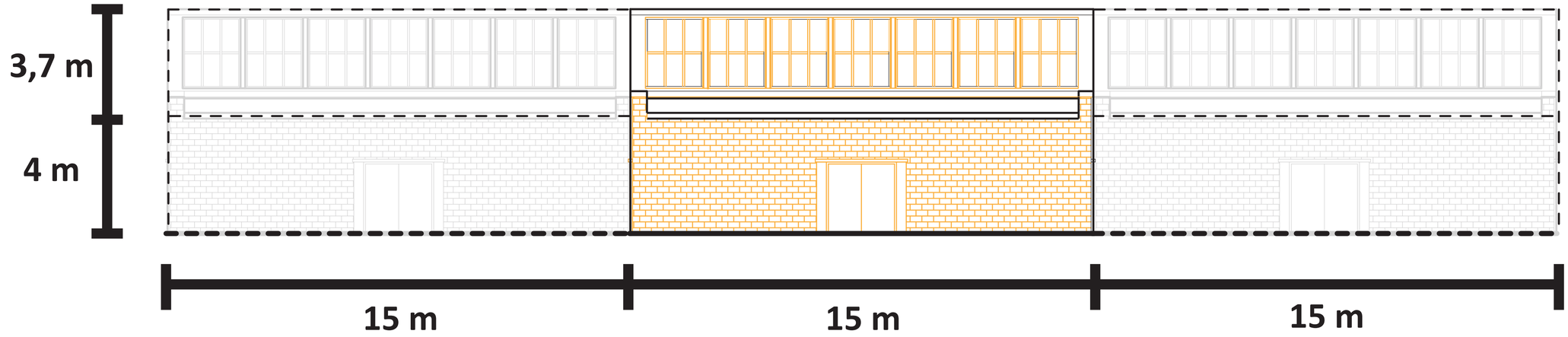


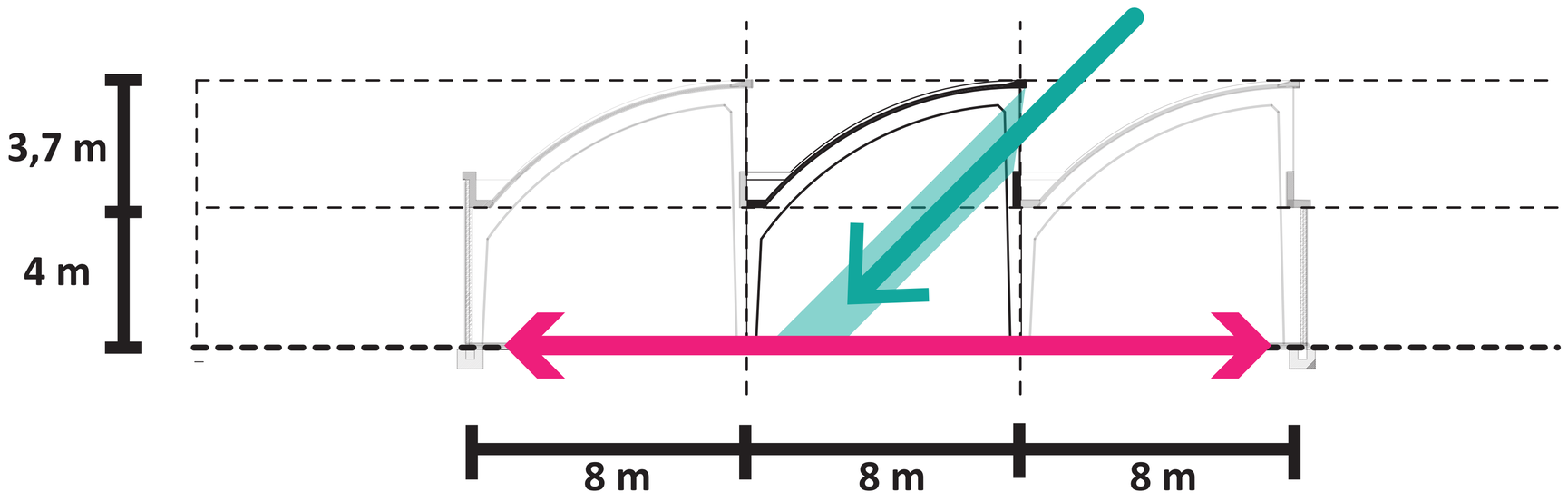
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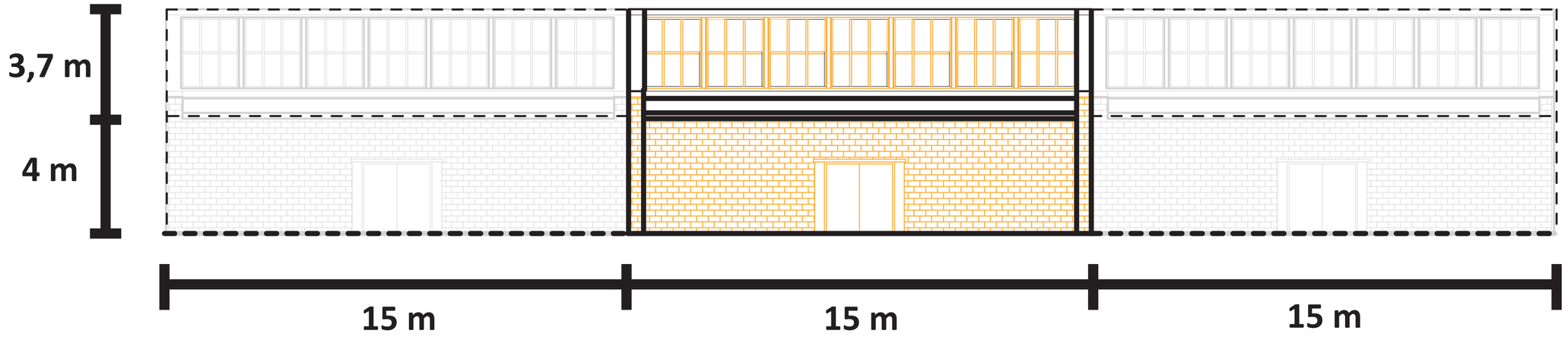


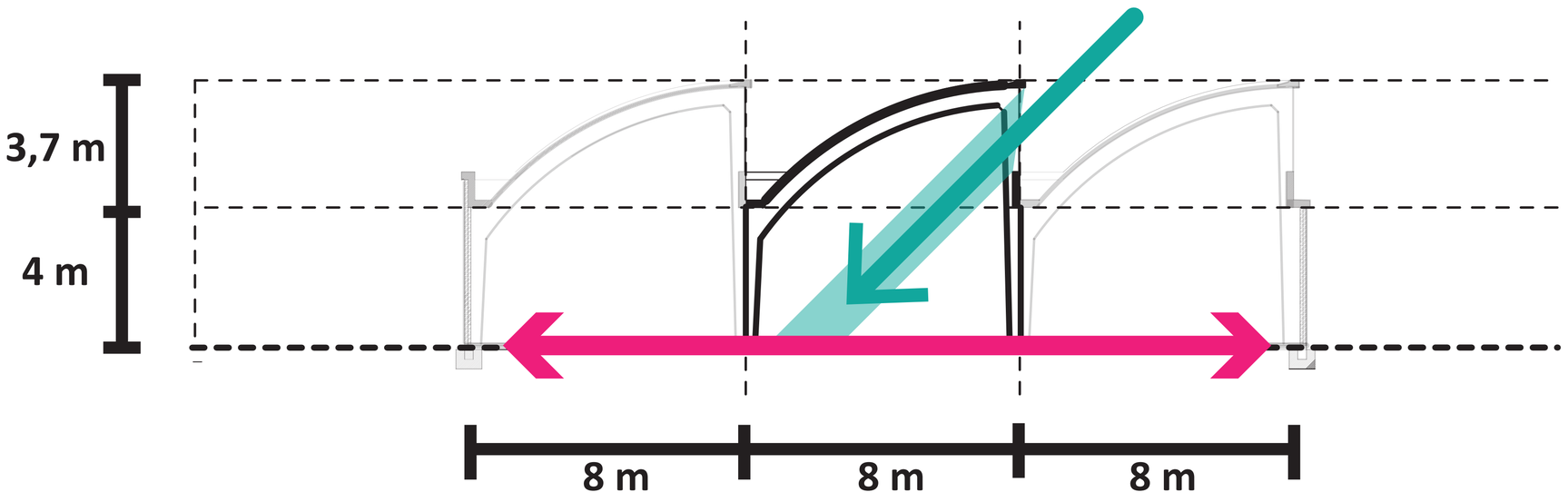
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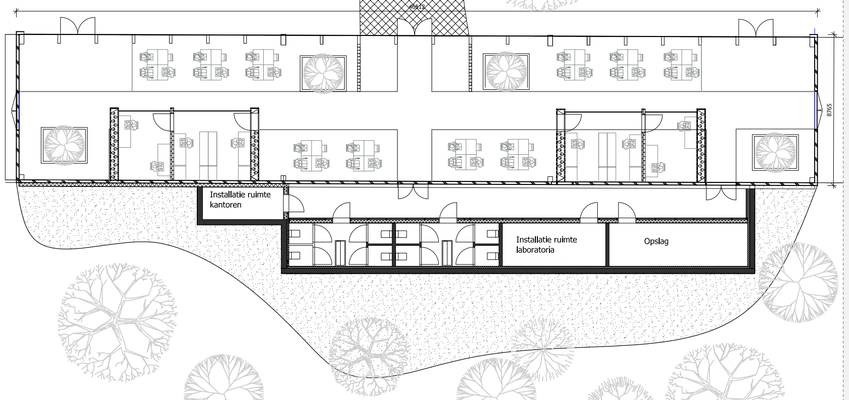


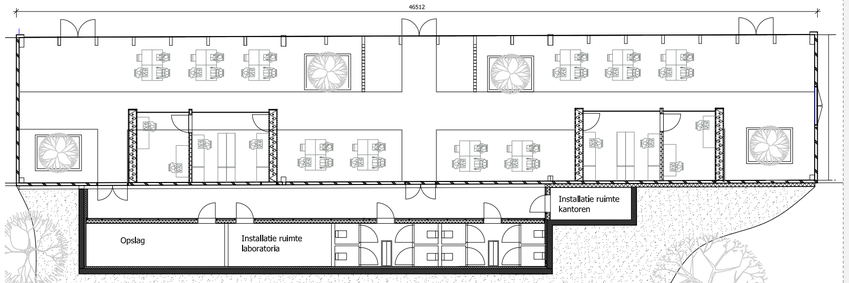
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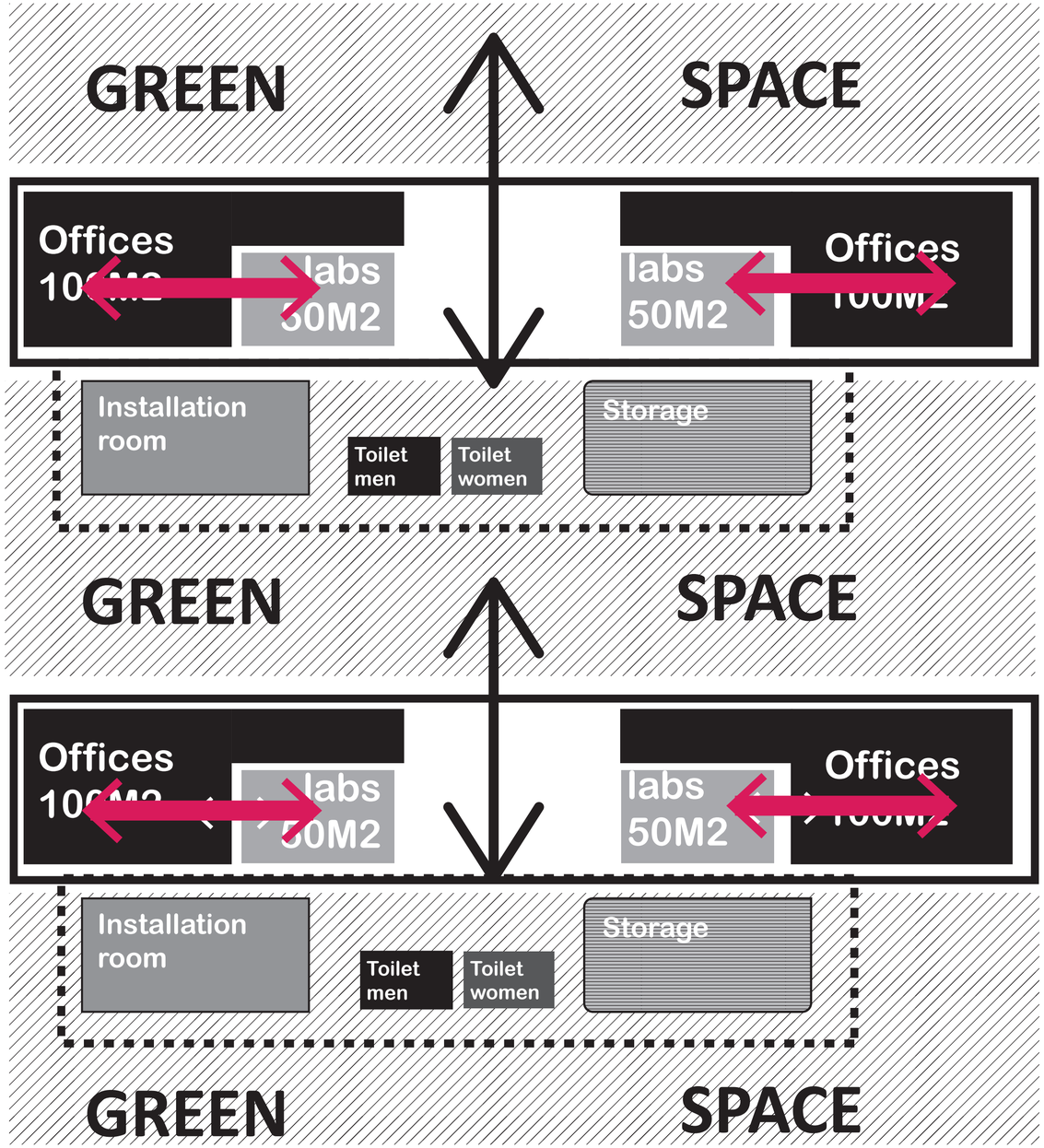
SHELL ROOFS [45m - 8m]

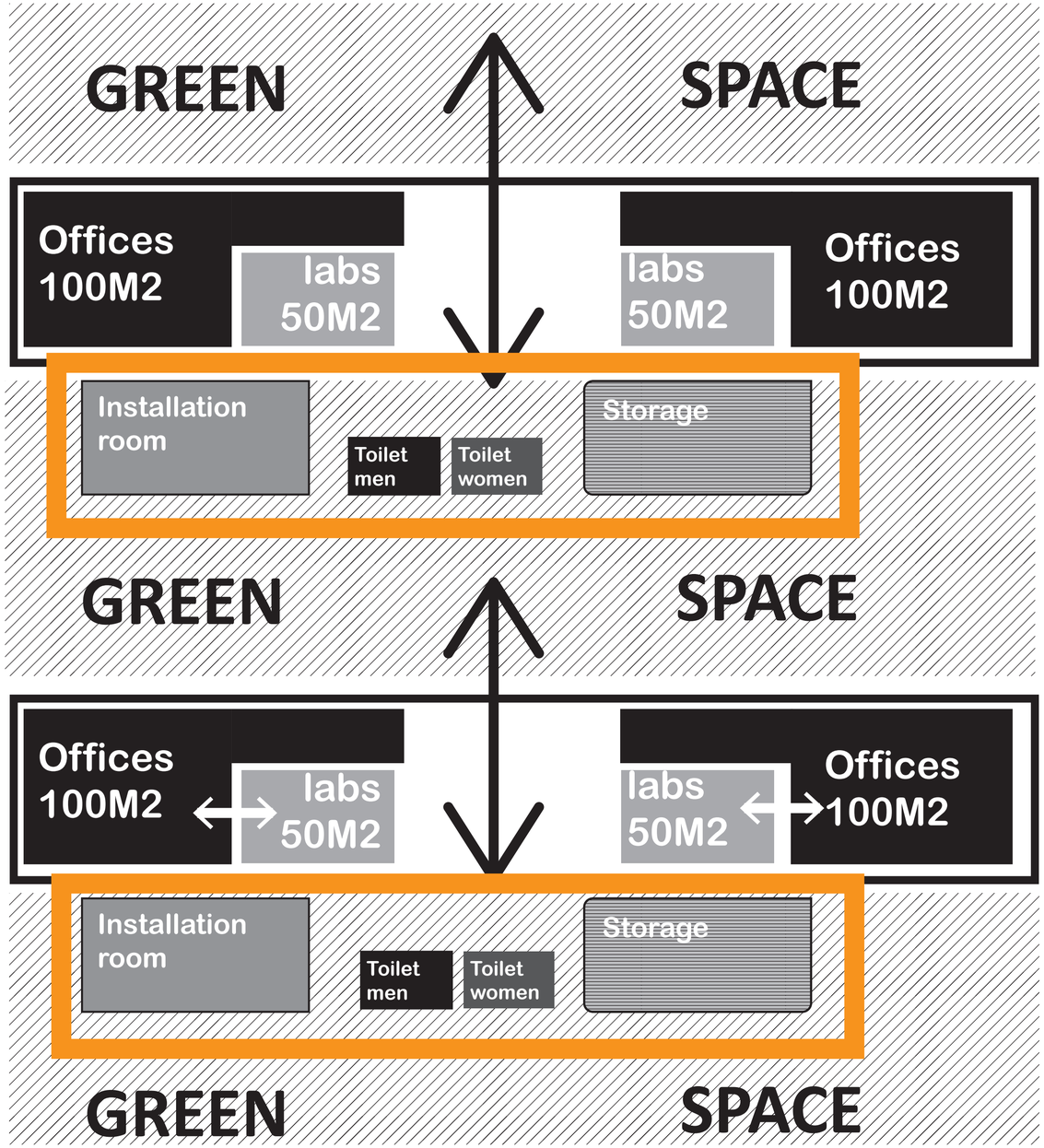


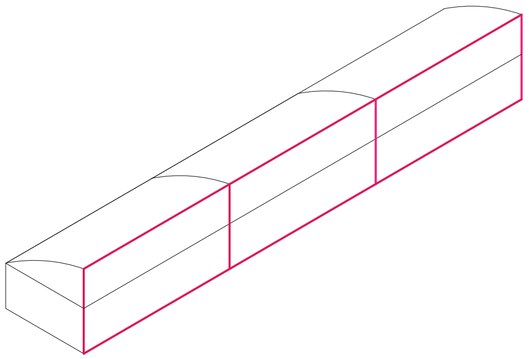




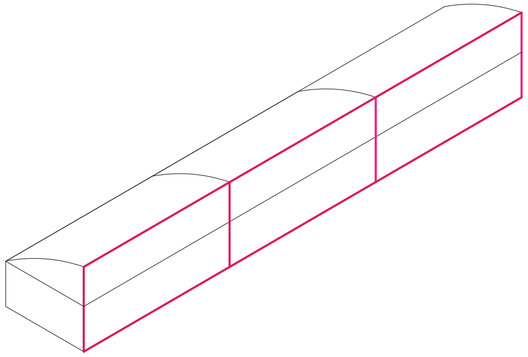
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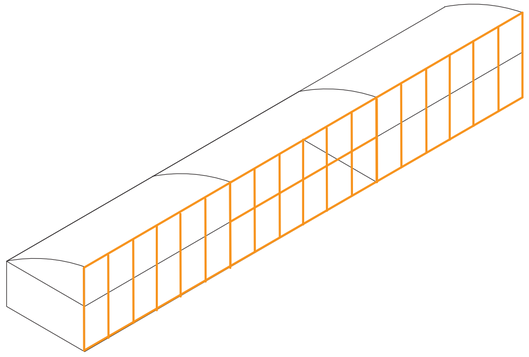

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Storage
GREEN
SPACE


GREEN
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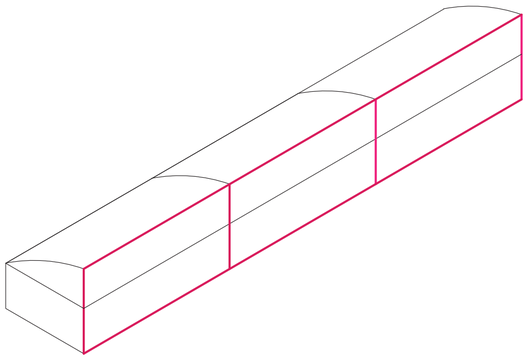
REMOVE NORTH FACADE



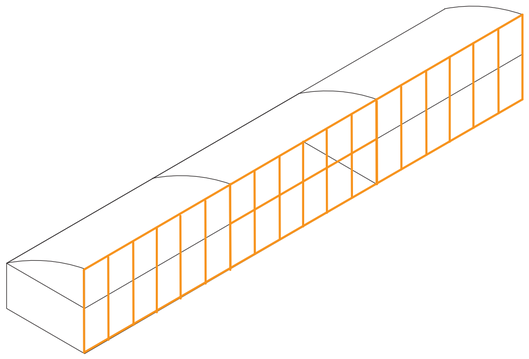


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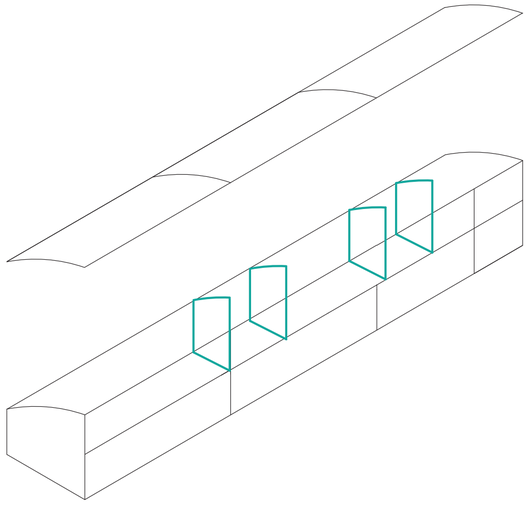
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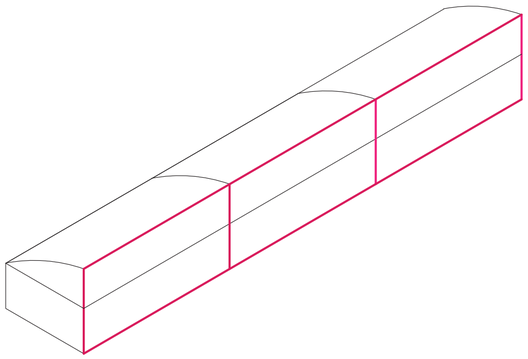
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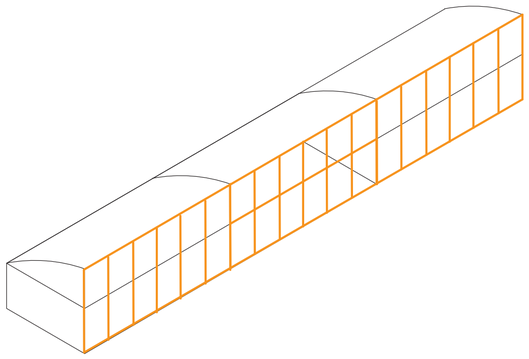
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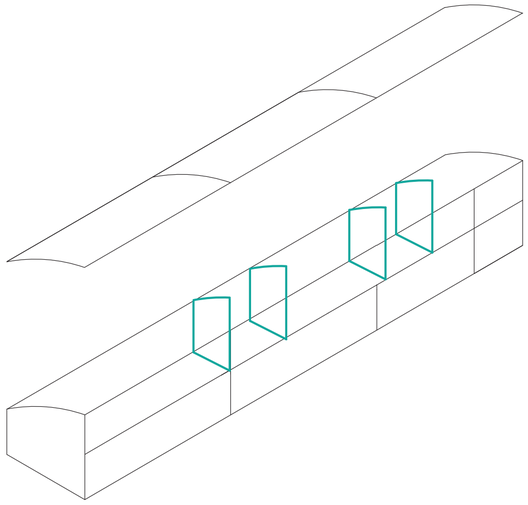
INTERNAL WALLS



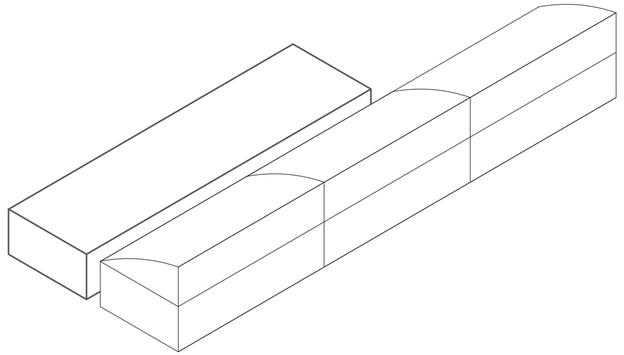
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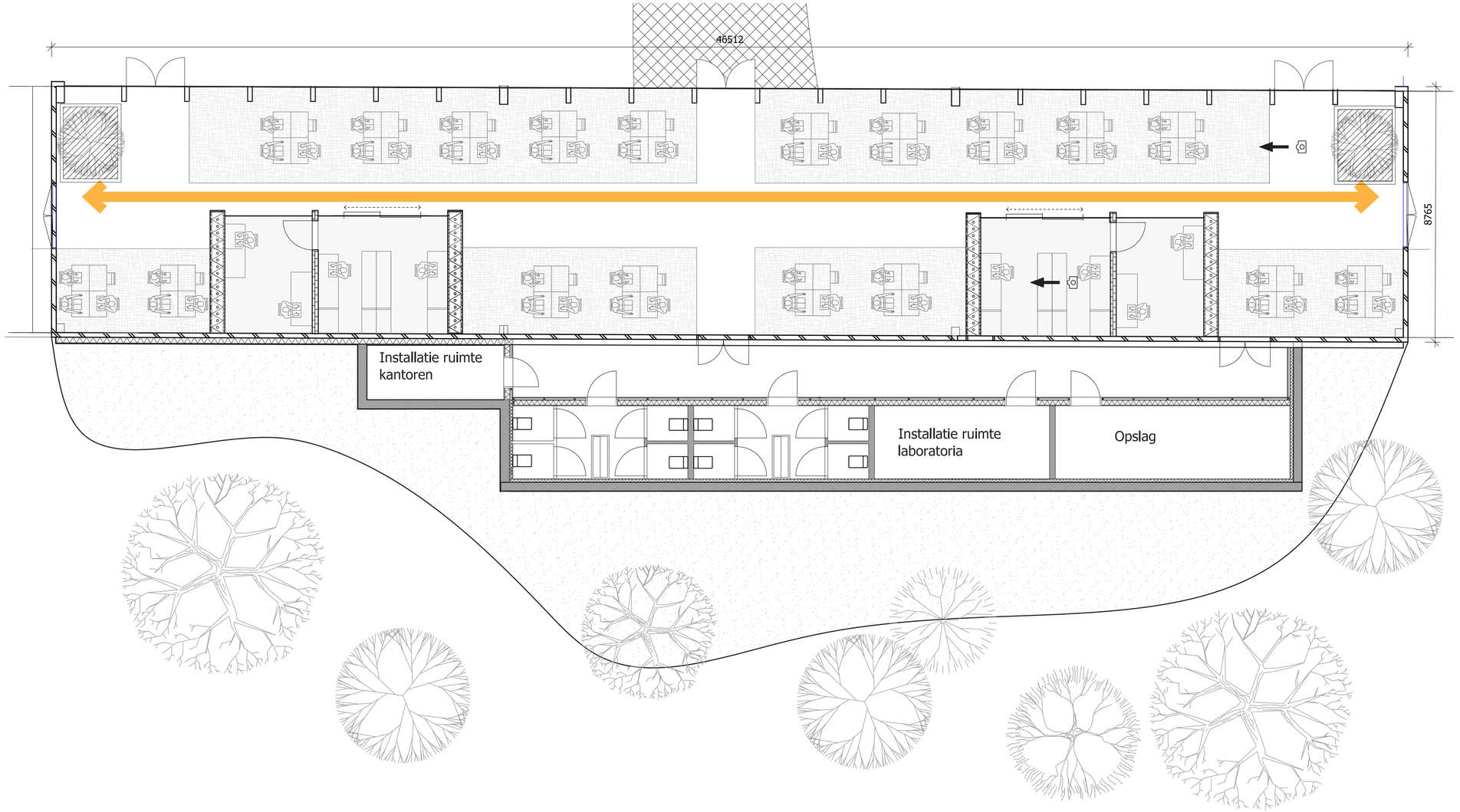
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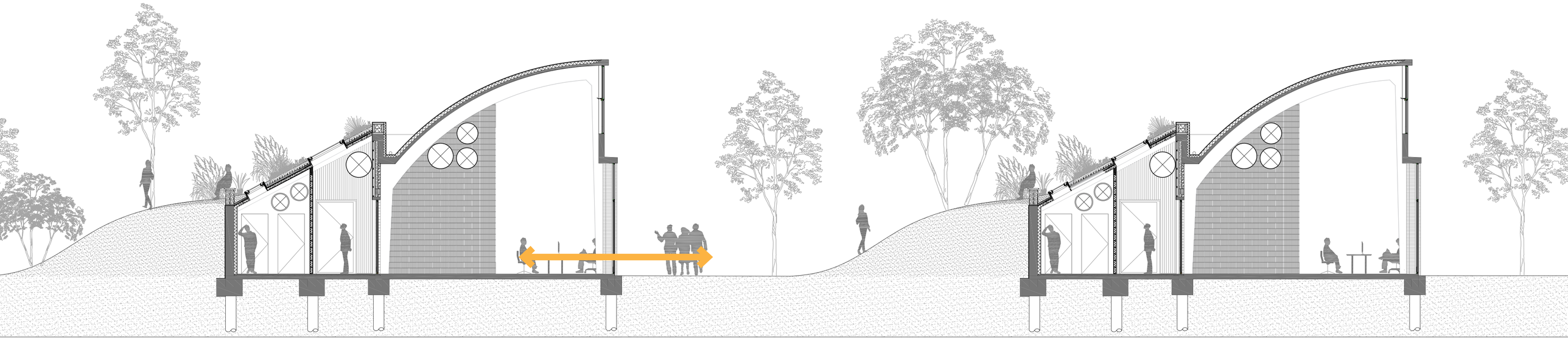
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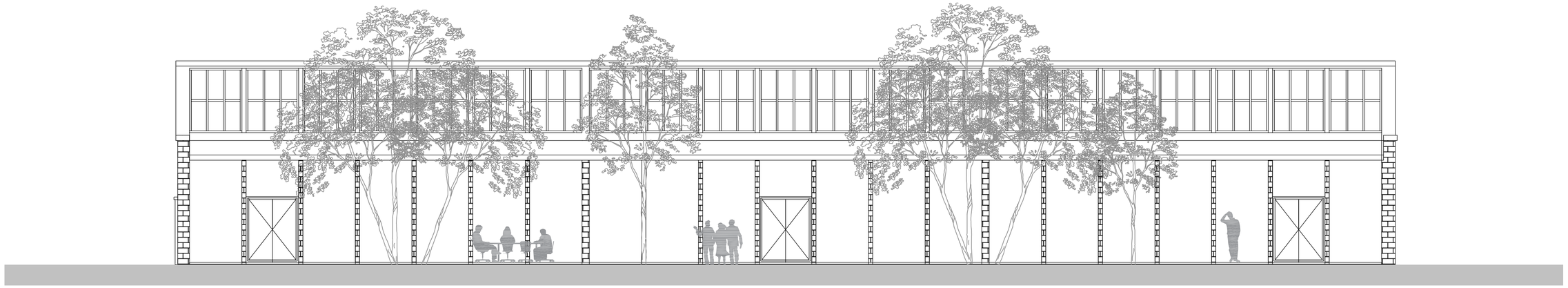


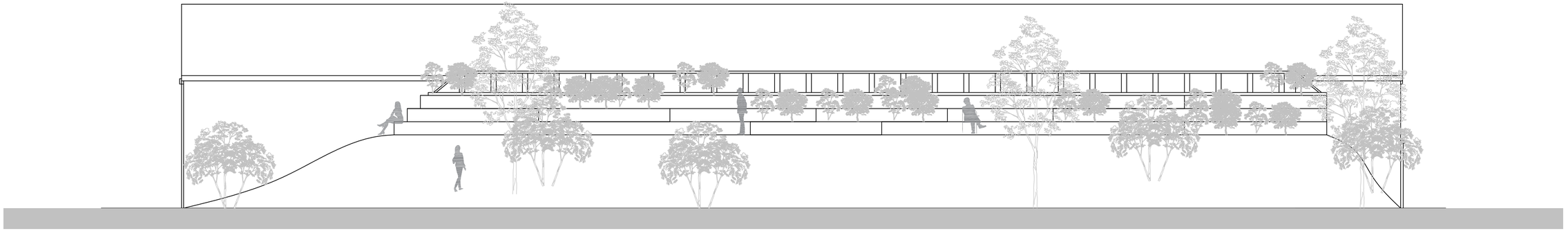
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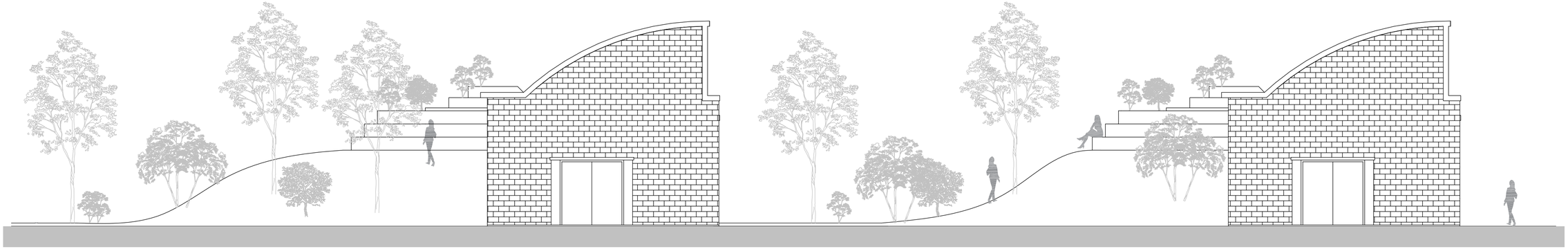


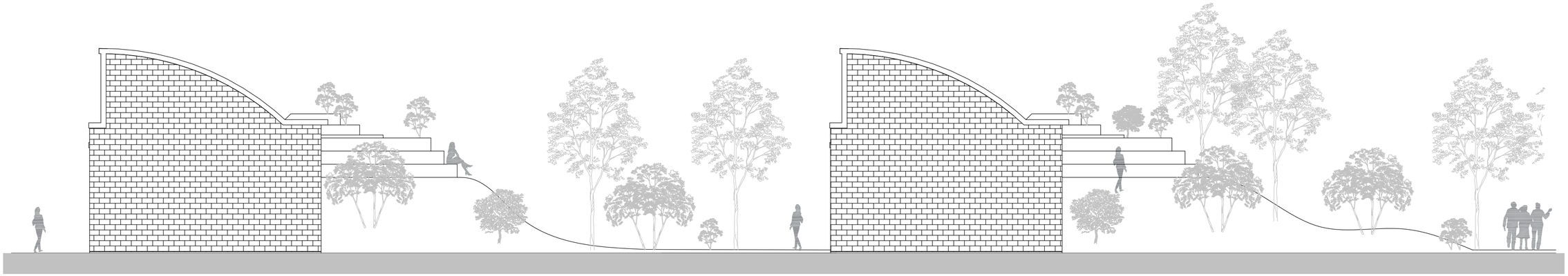
URBAN ECOLOGY LAB HEMBRUG

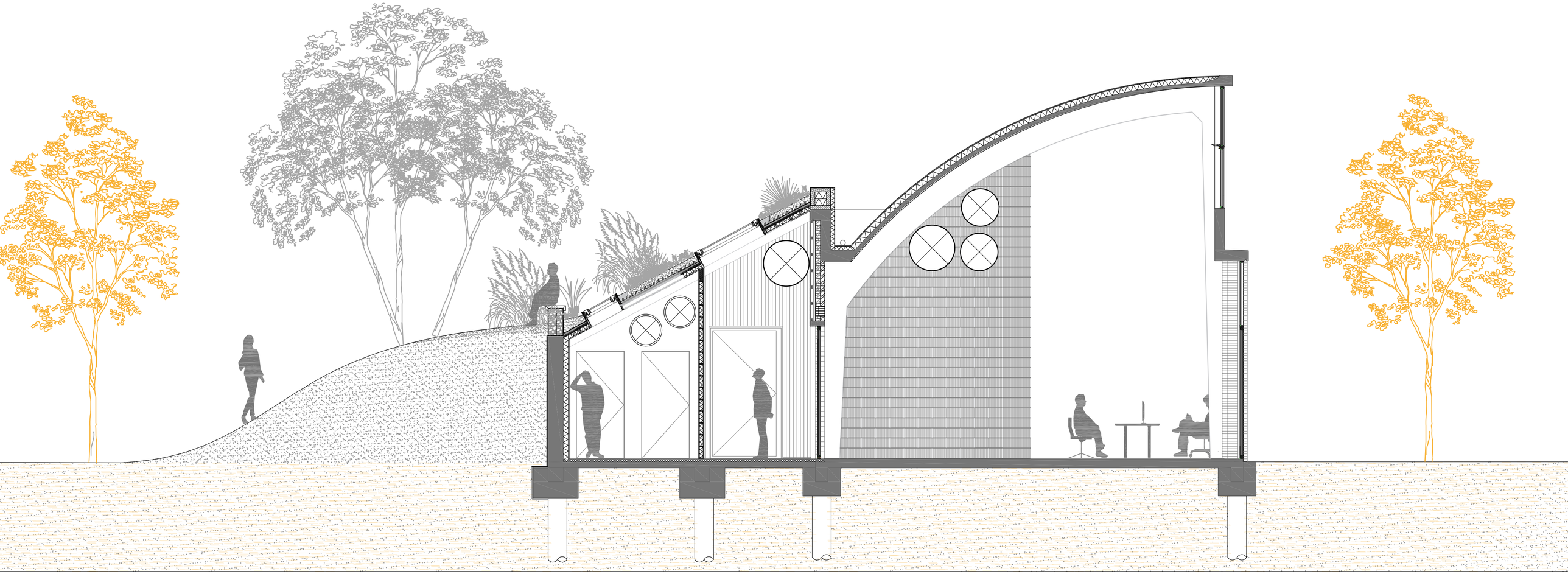




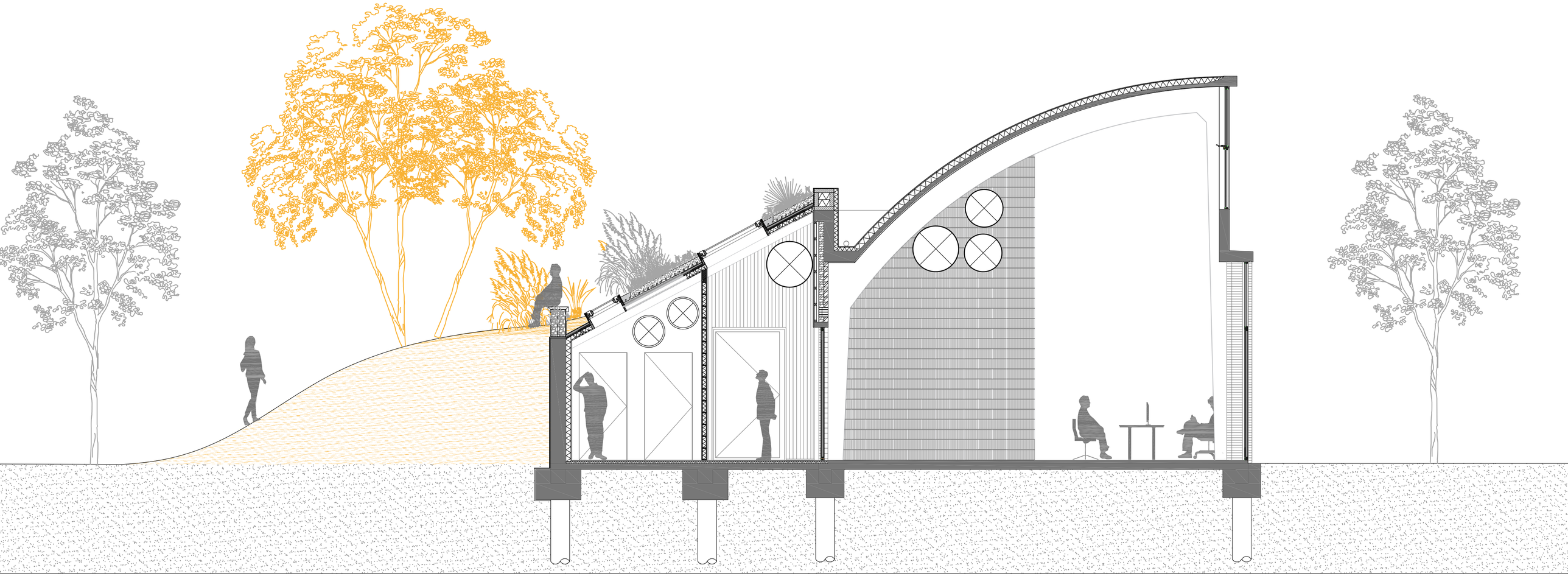


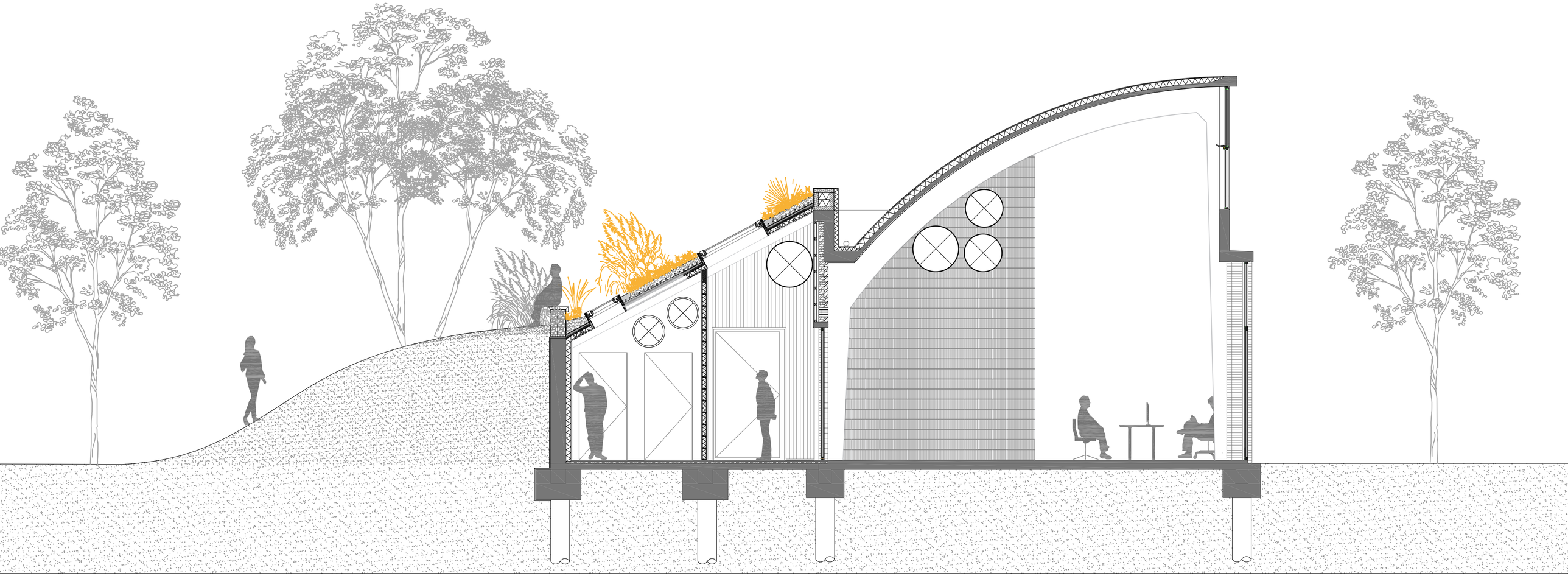






URBAN ECOLOGY LAB HEMBRUG





URBAN ECOLOGY LAB HEMBRUG

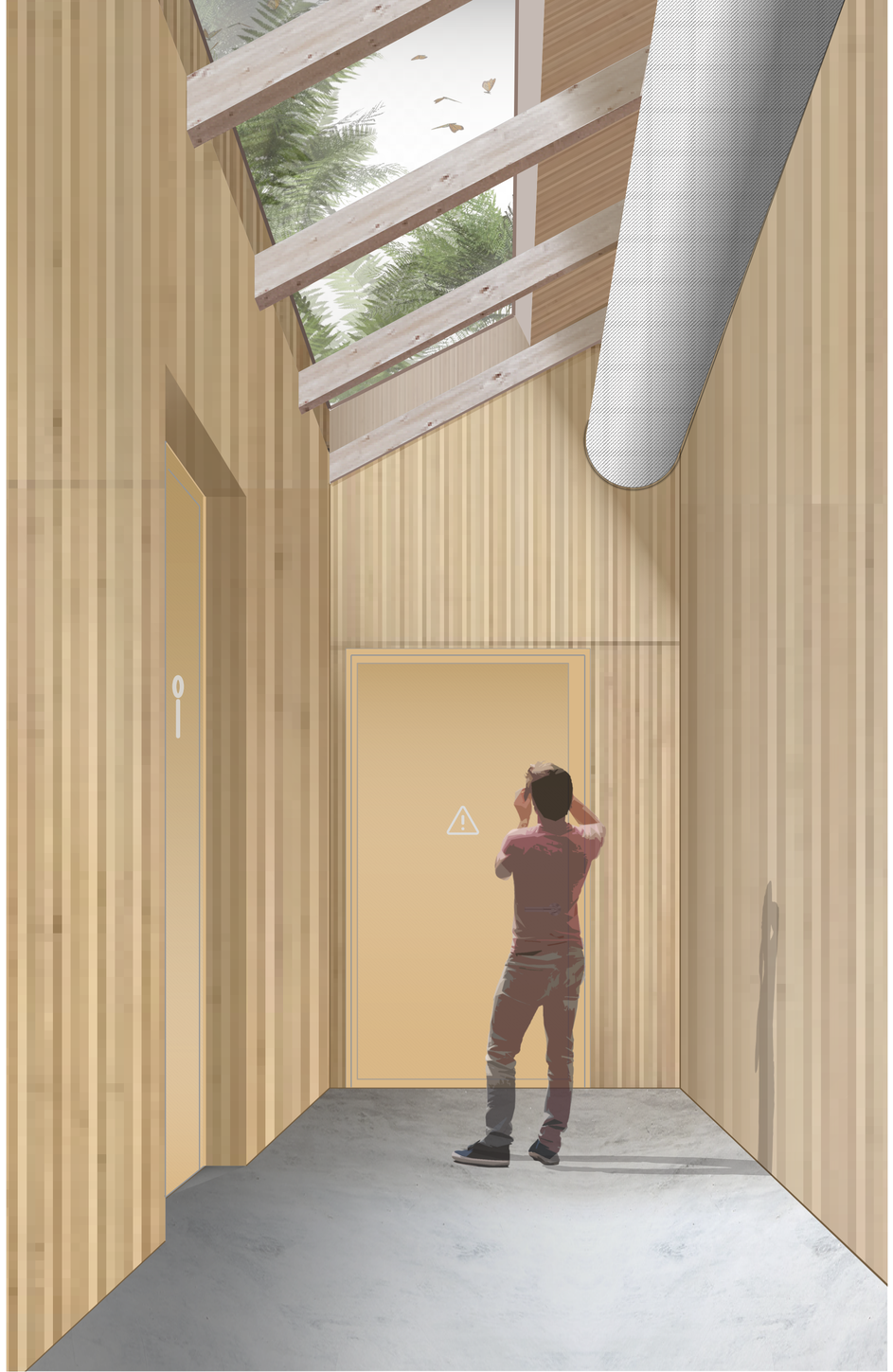


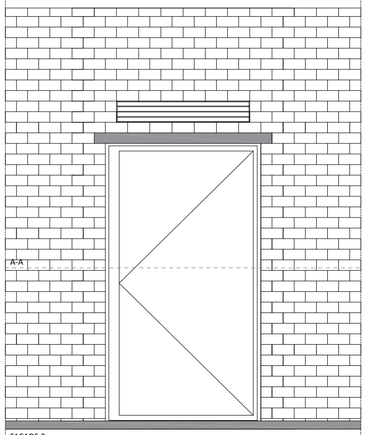


URBAN ECOLOGY LAB HEMBRUG



URBAN ECOLOGY LAB HEMBRUG

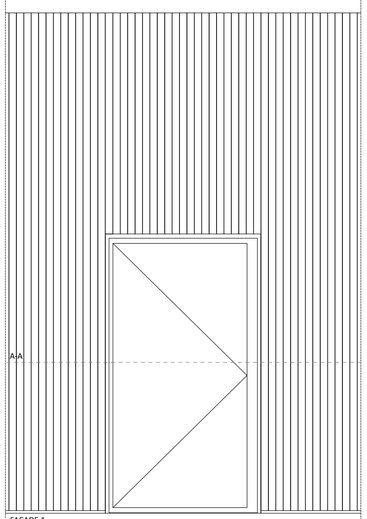




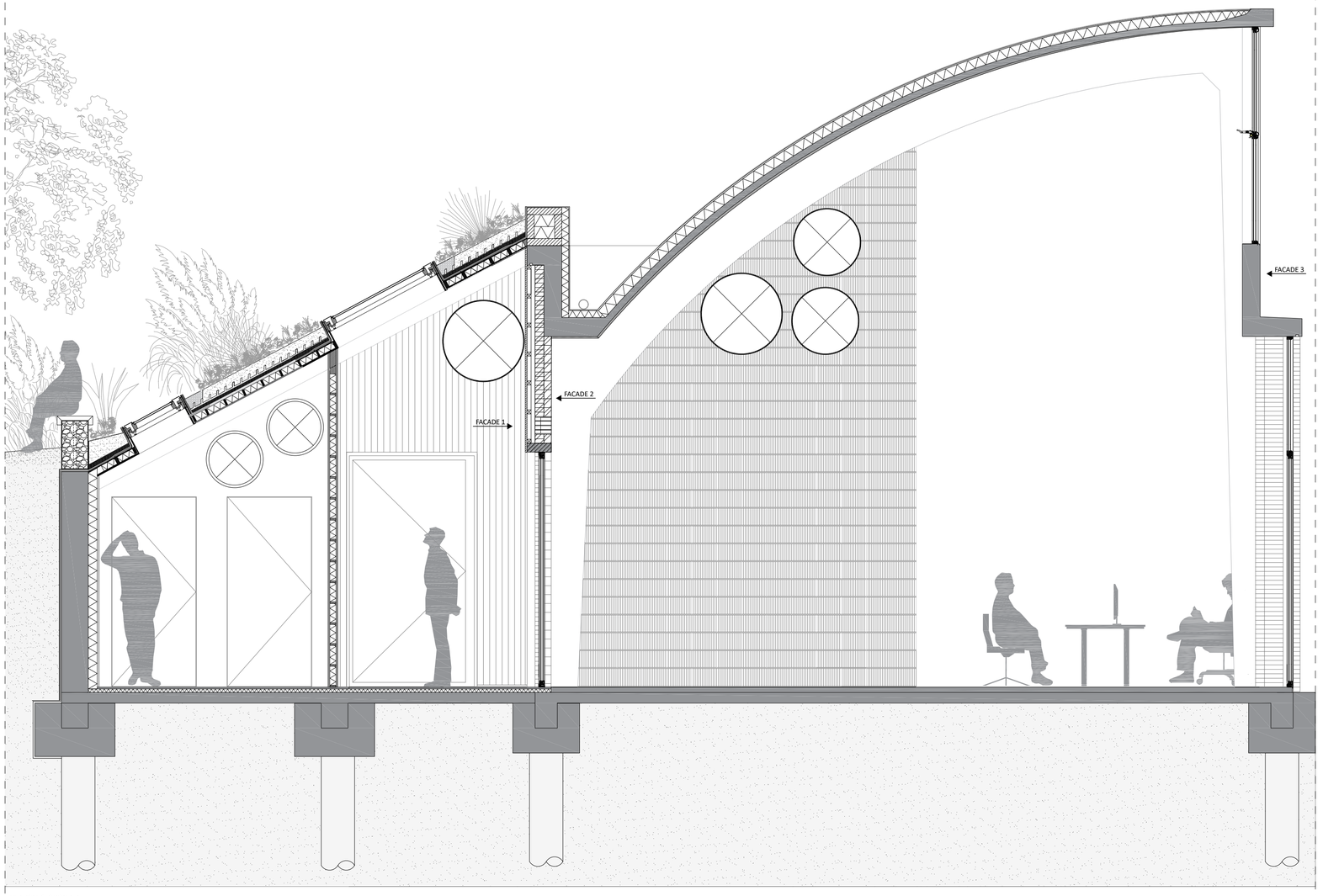
FACADE 2

HORIZONTAL SECTION A-A



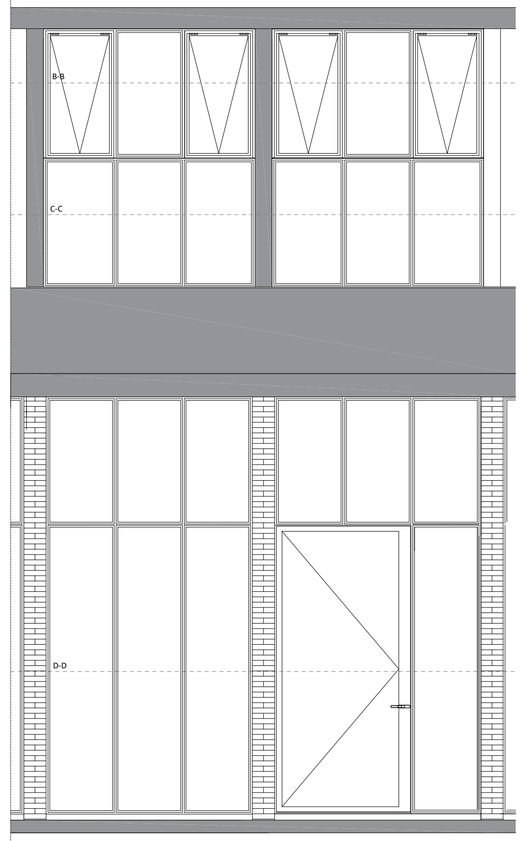


FACADE 1



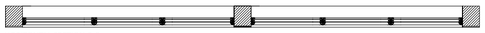
VERTICAL SECTION A-A

FACADE 3

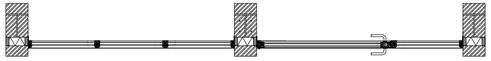




HORIZONTAL SECTION B-B

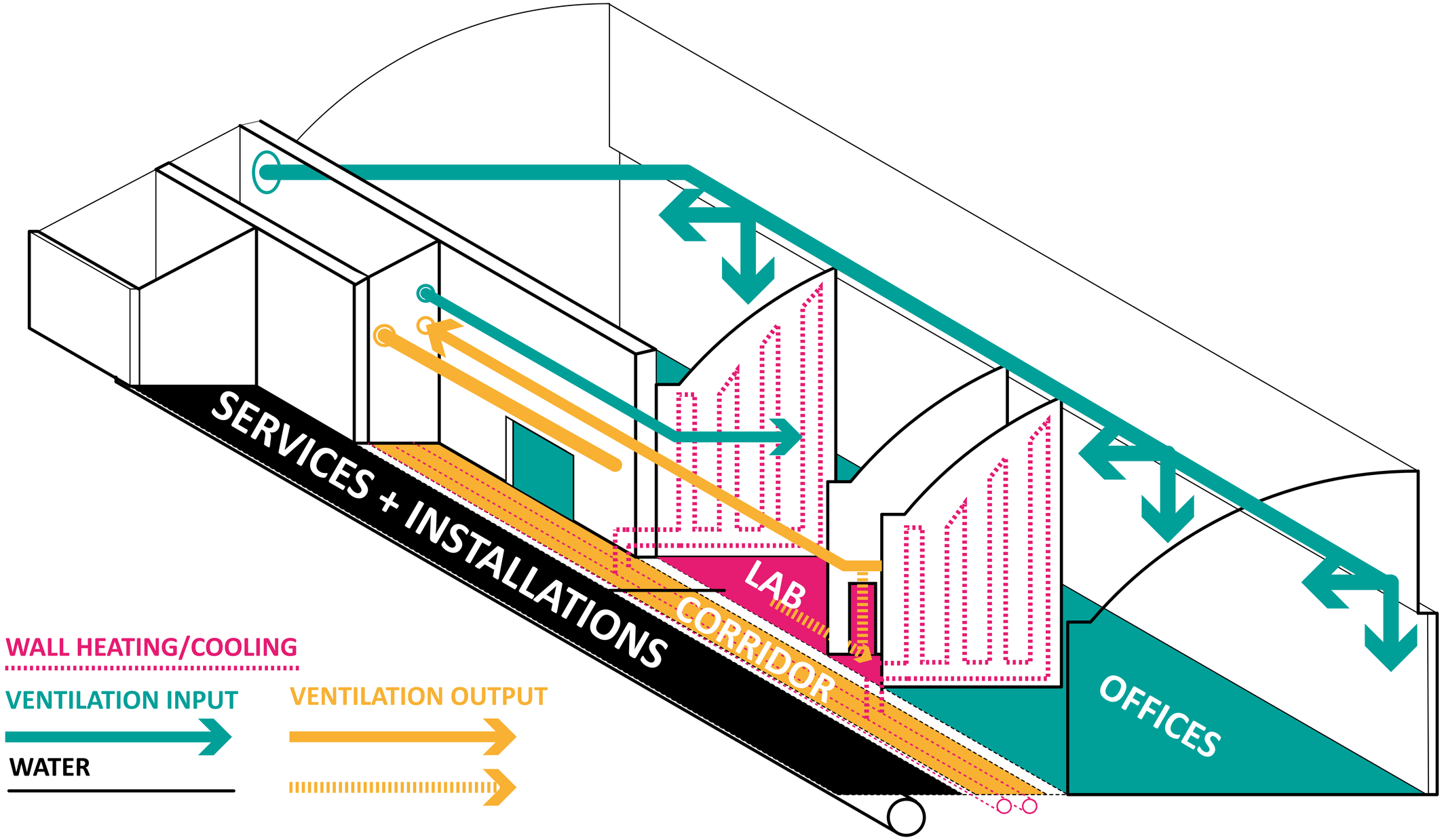


HORIZONTAL SECTION C-C

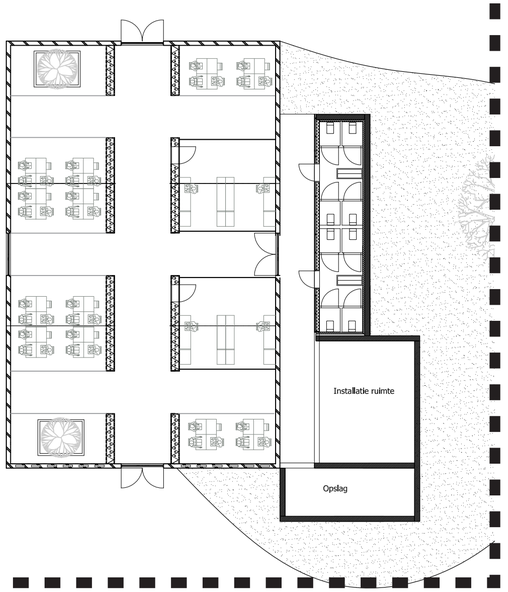


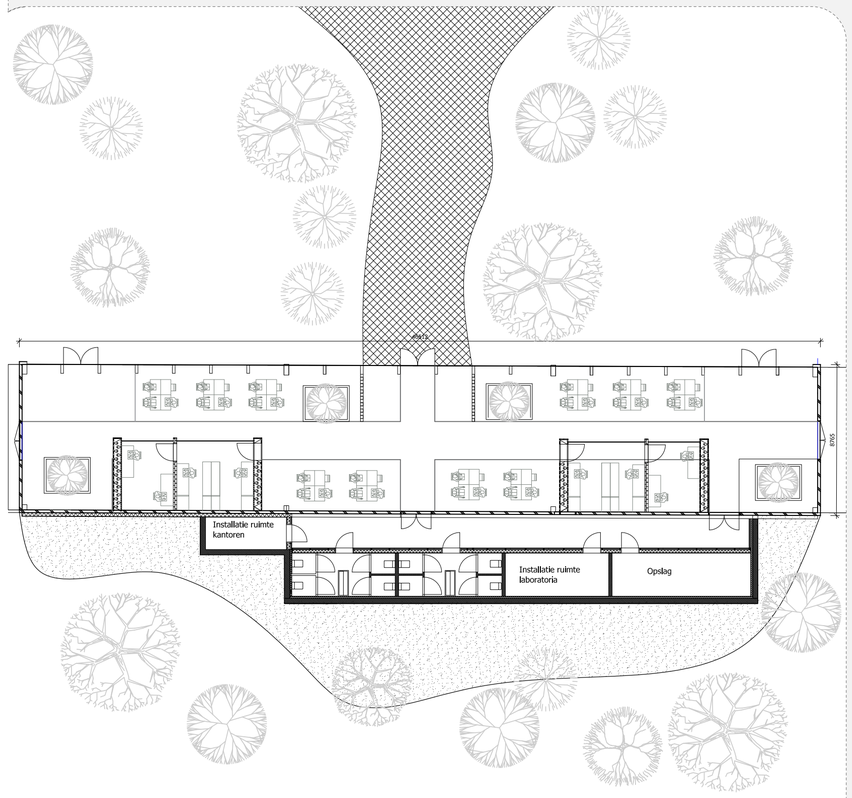
HORIZONTAL SECTION D-D

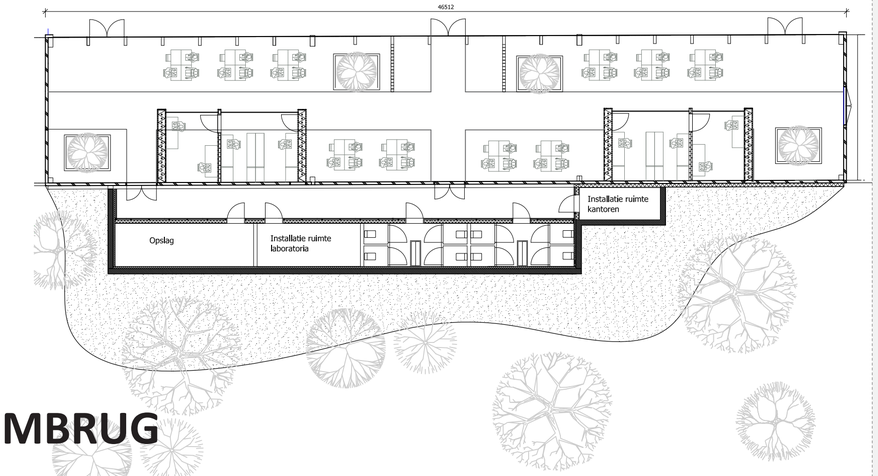
URBAN ECOLOGY LAB HEMBRUG


SERVICES + INSTALLATIONS
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CORRIDOR
OFFICES
WALL HEATING/COOLING
VENTILATION INPUT
VENTILATION OUTPUT
WATER

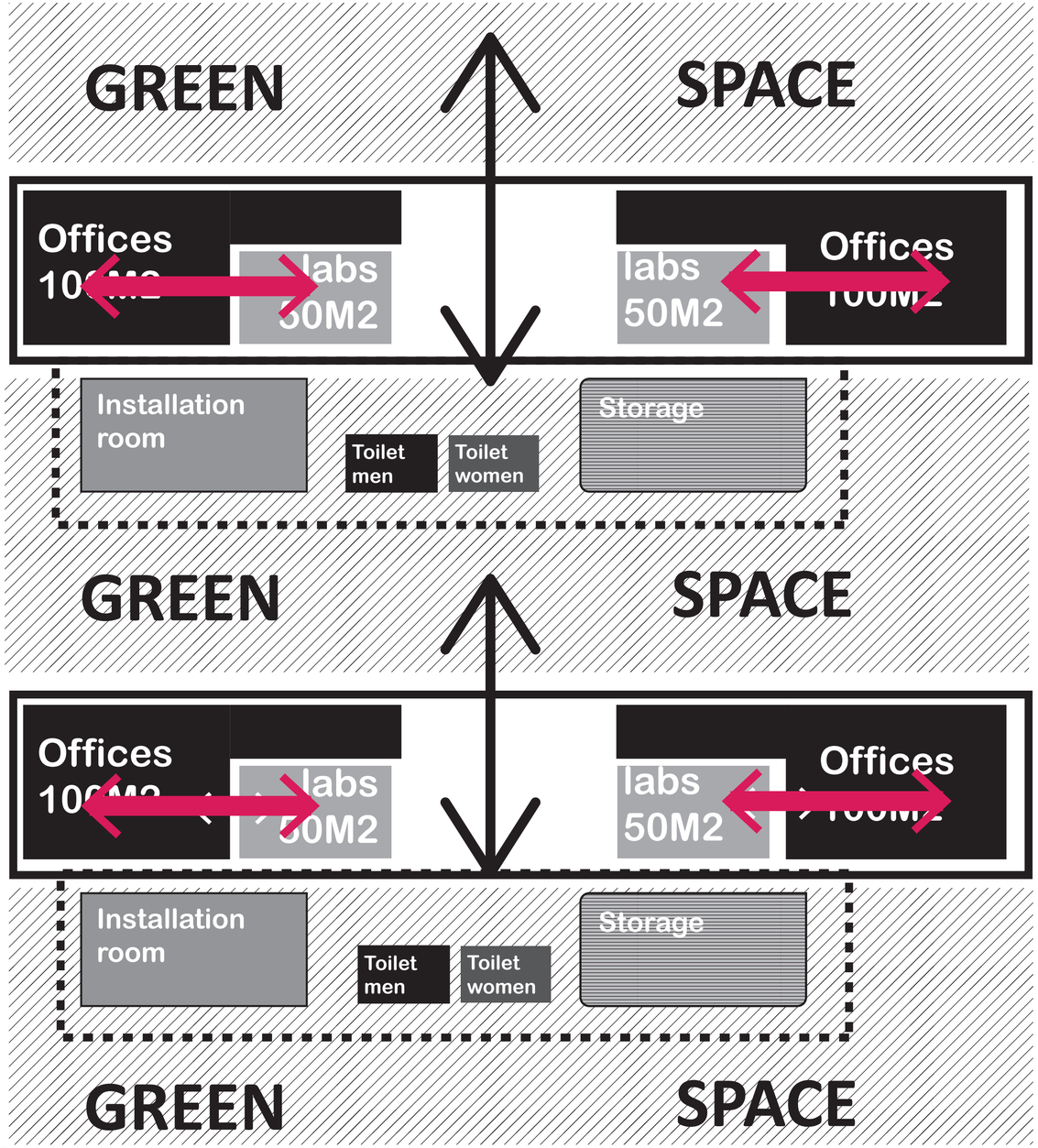
SHELL ROOFS [15m - 24m]

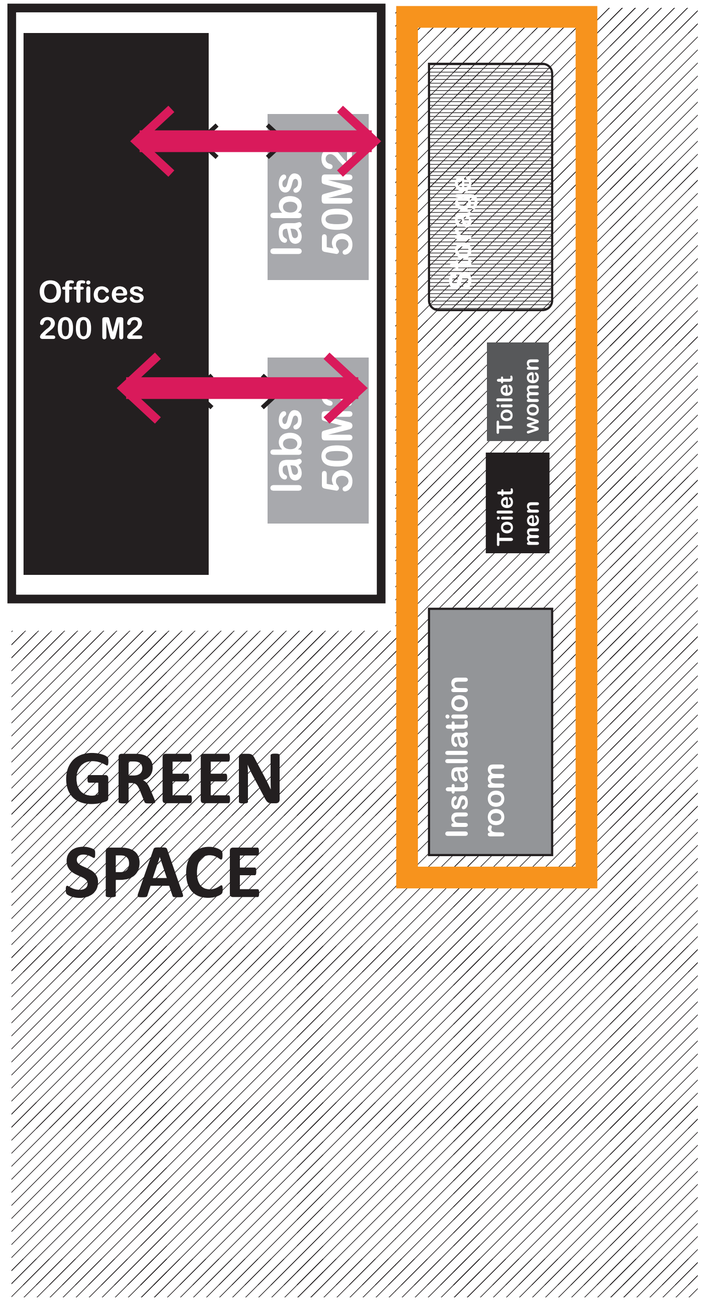


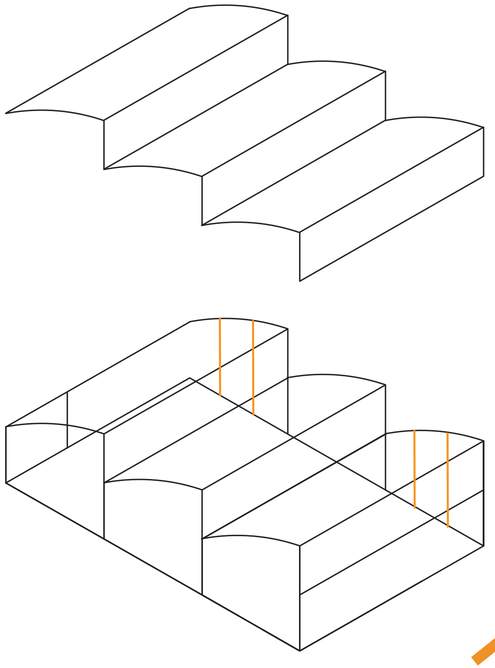




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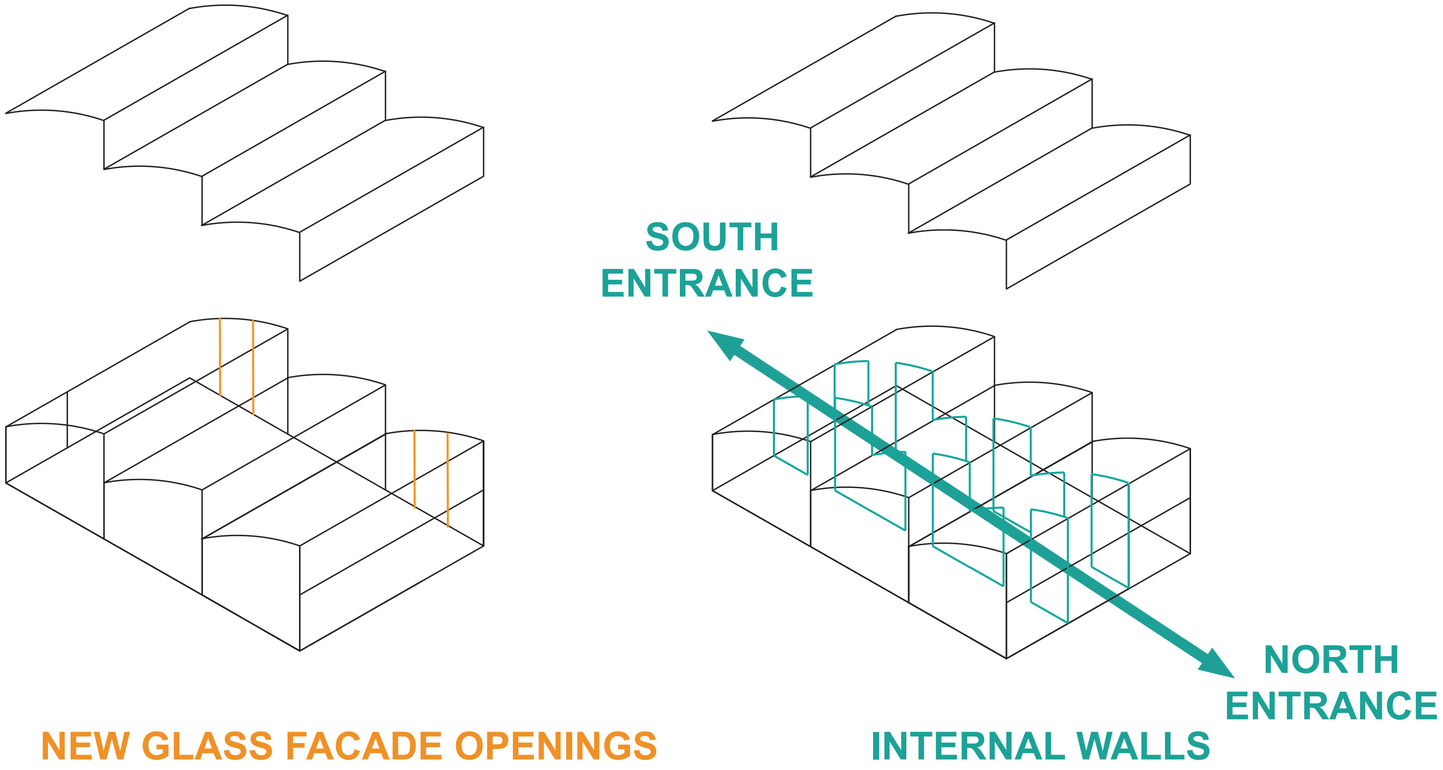

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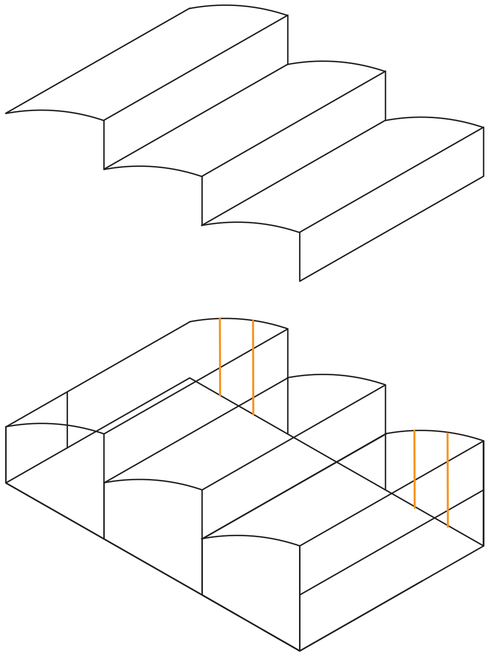

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SPACE



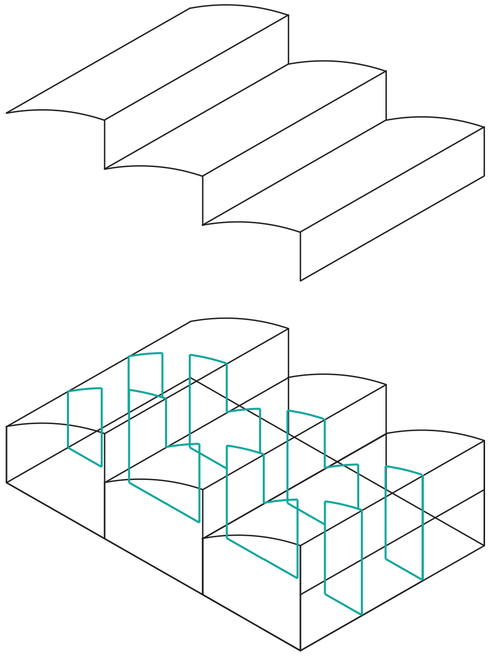
WEST FACADE

NEW GLASS FACADE OPENINGS


SOUTH
ENTRANCE
NORTH
ENTRANCE
NEW GLASS FACADE OPENINGS
INTERNAL WALLS

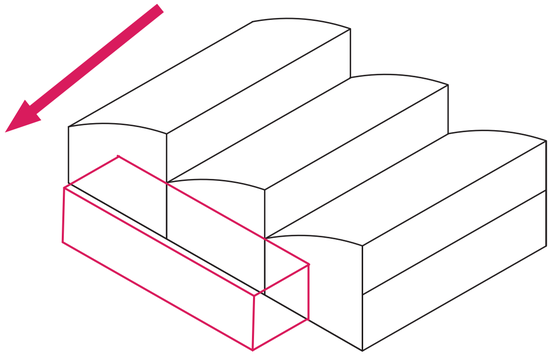


NEW GLASS FACADE OPENINGS

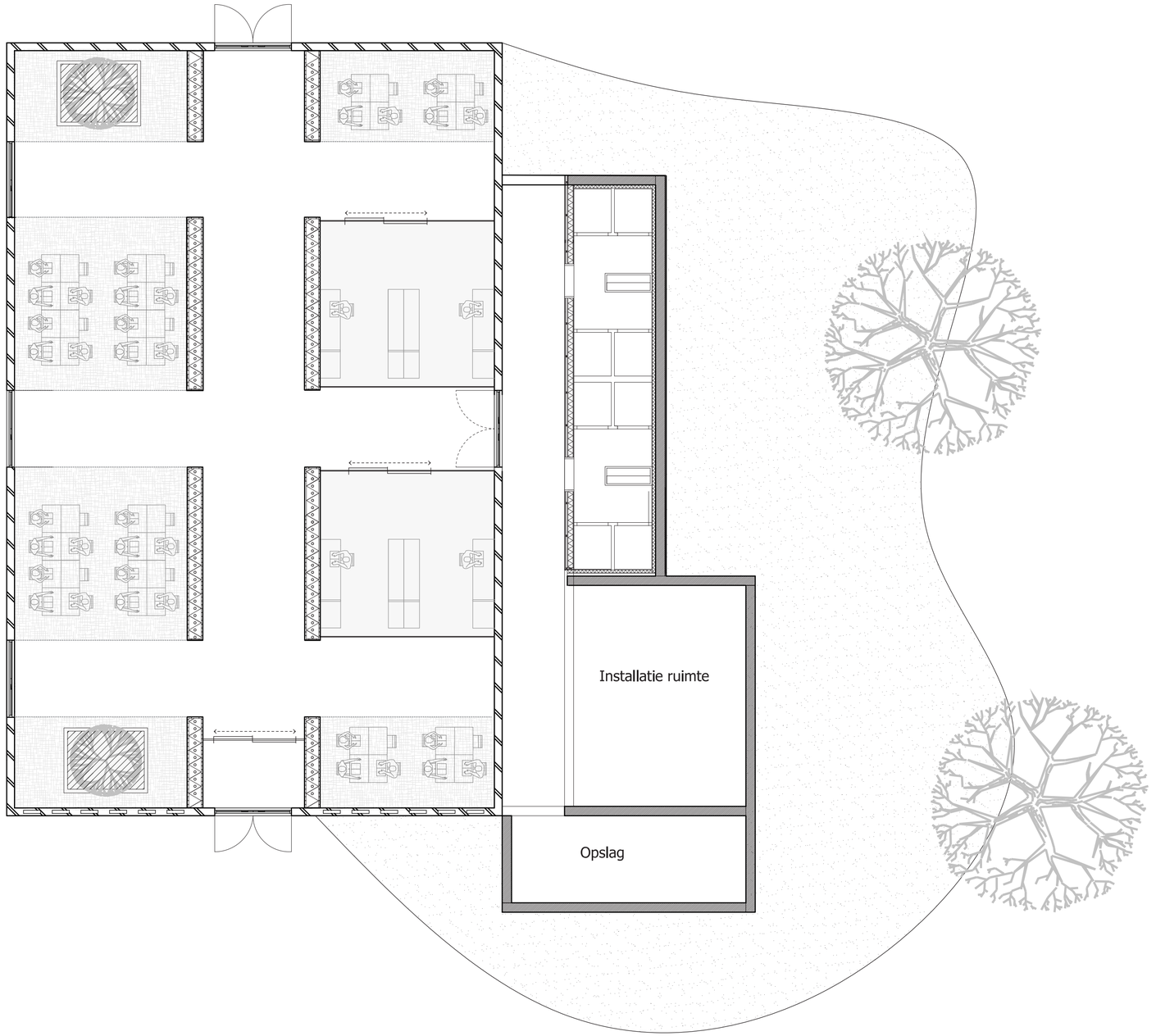


INTERNAL WALLS

EAST FACADE

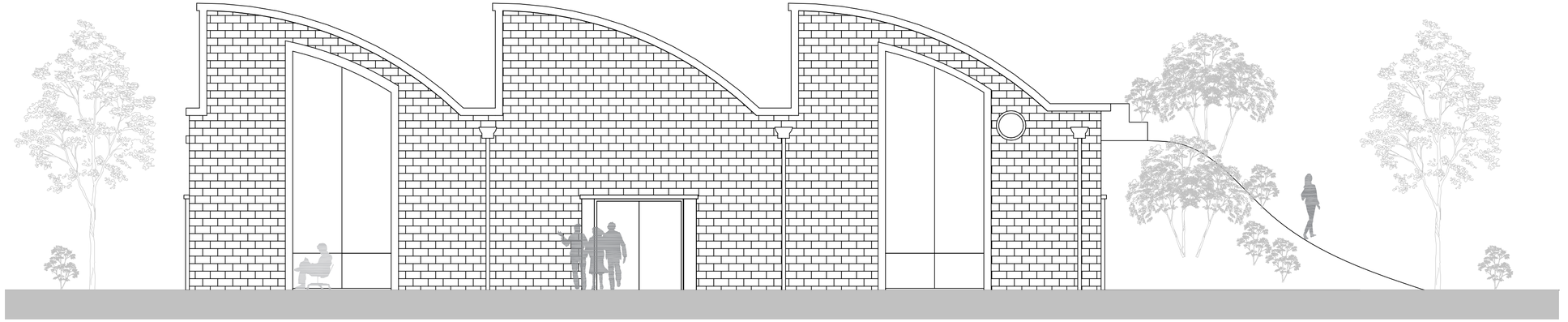


EXTENSION

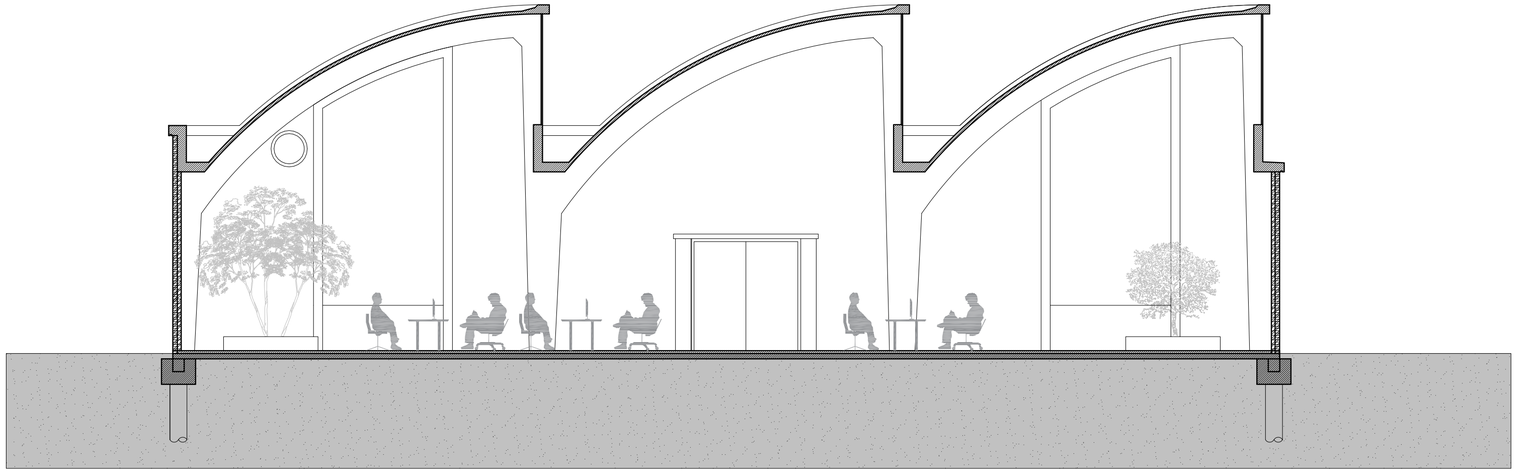


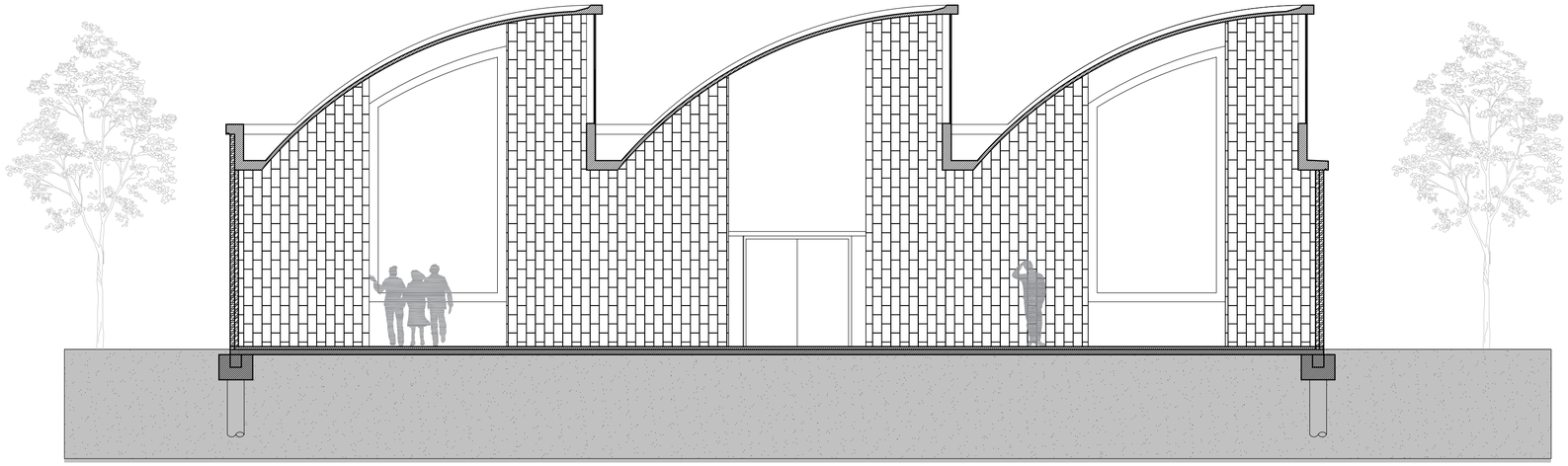
URBAN ECOLOGY LAB HEMBRUG















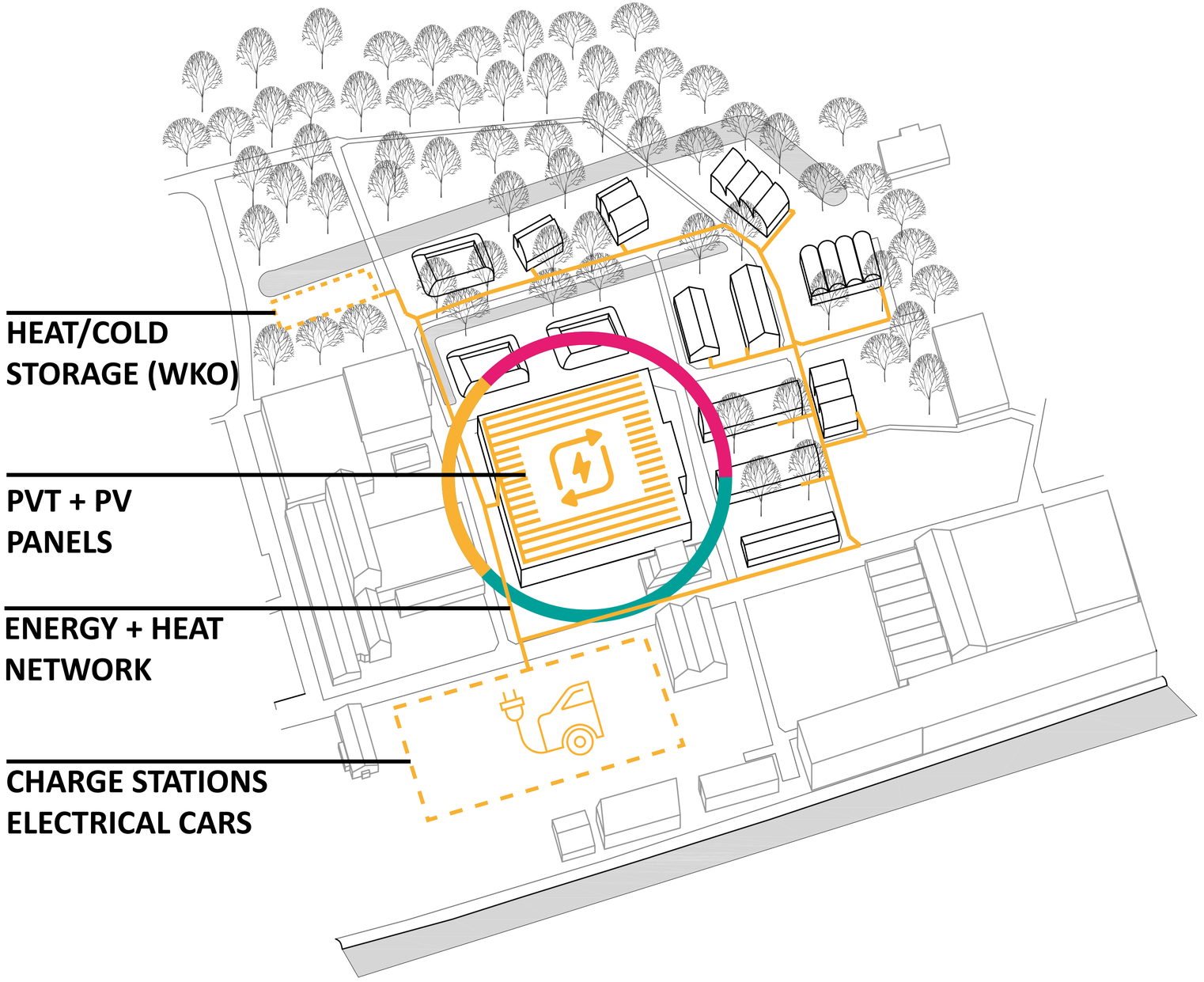
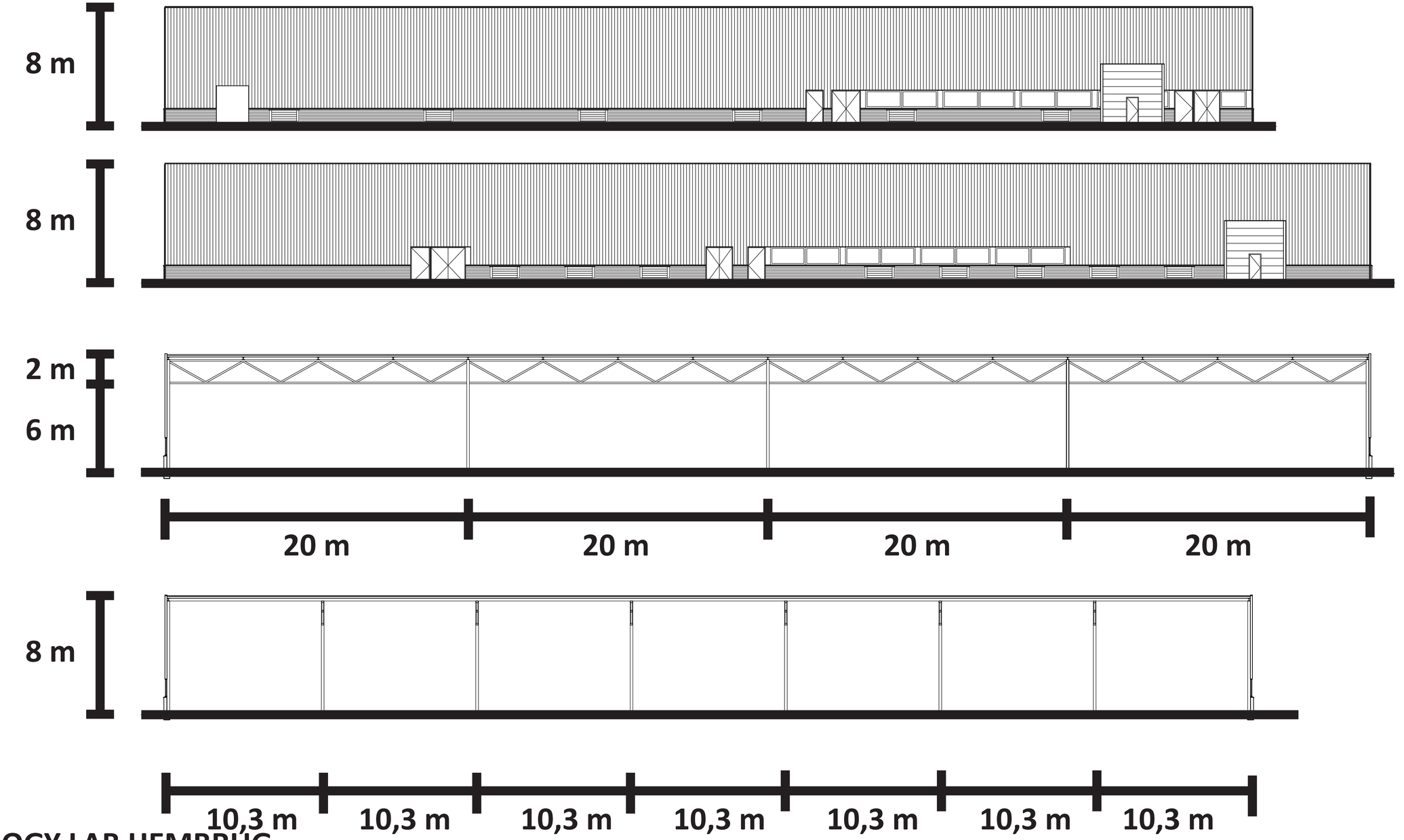

HEAT/COLD
STORAGE (WKO)
PVT + PV
PANELS
ENERGY + HEAT
NETWORK
CHARGE STATIONS
ELECTRICAL CARS
N



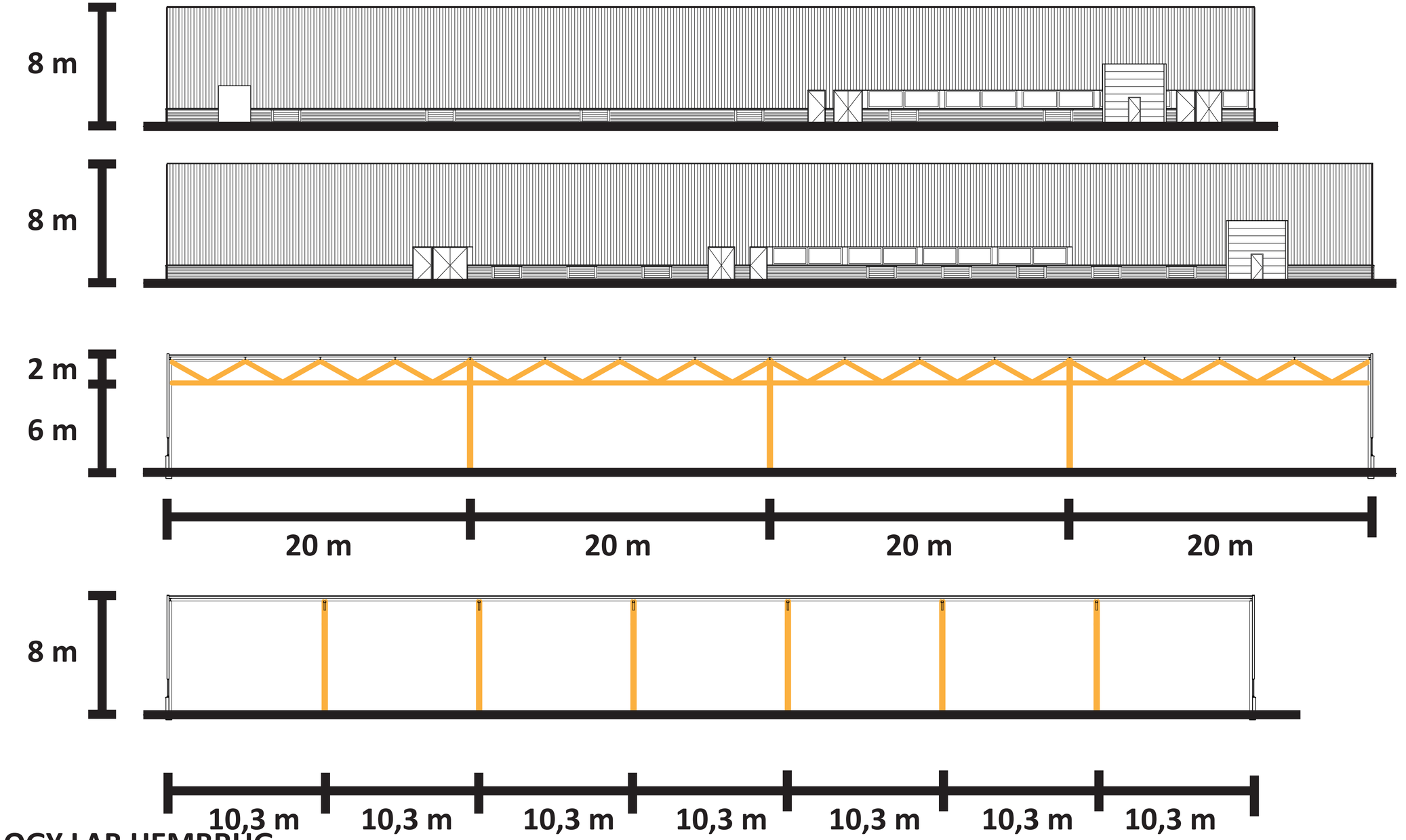
Foto by Amanda Verschuur

URBAN ECOLOGY LAB HEMBRUG

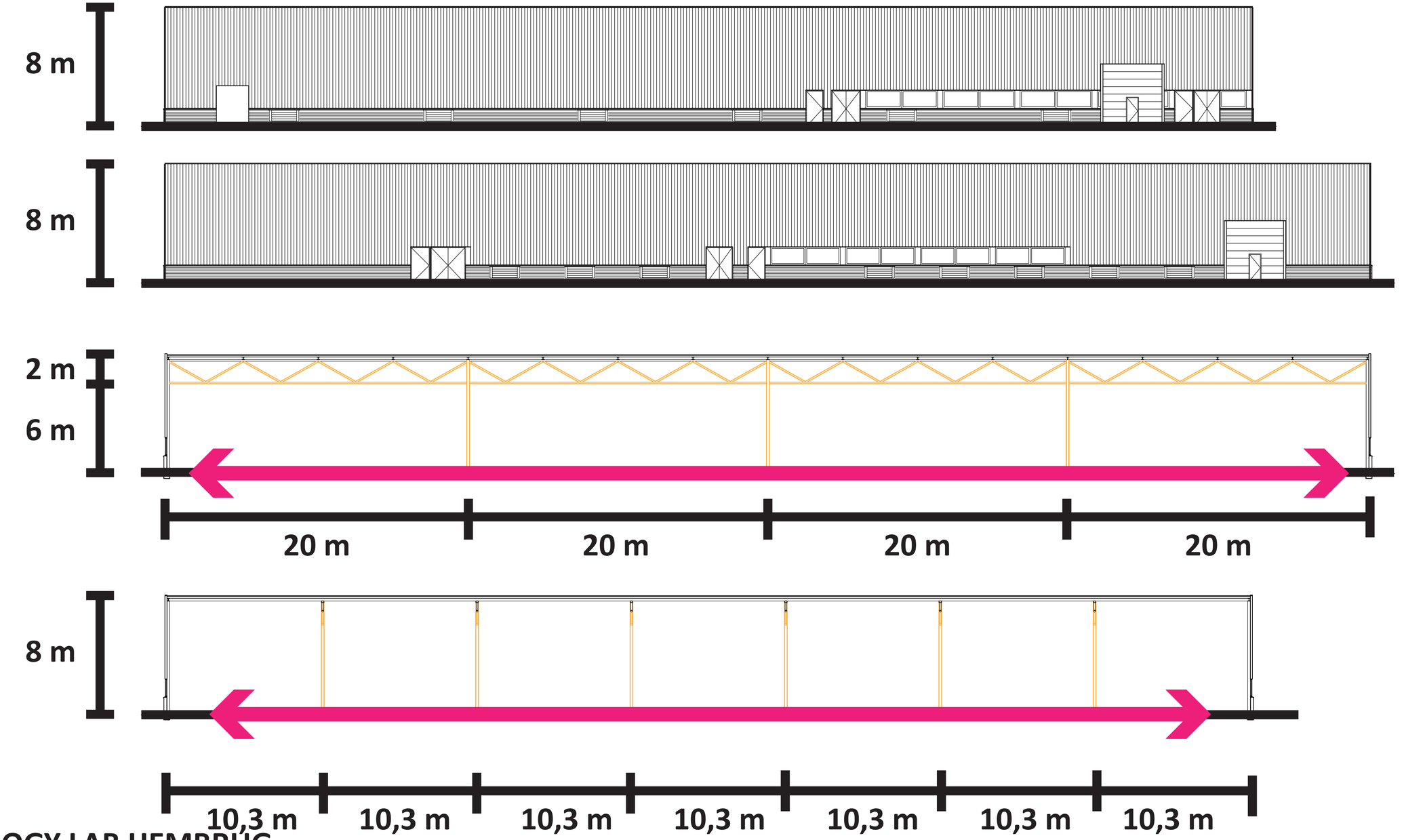
EXISTING STRUCTURE



EXISTING STRUCTURE



EXISTING STRUCTURE



EXISTING STRUCTURE

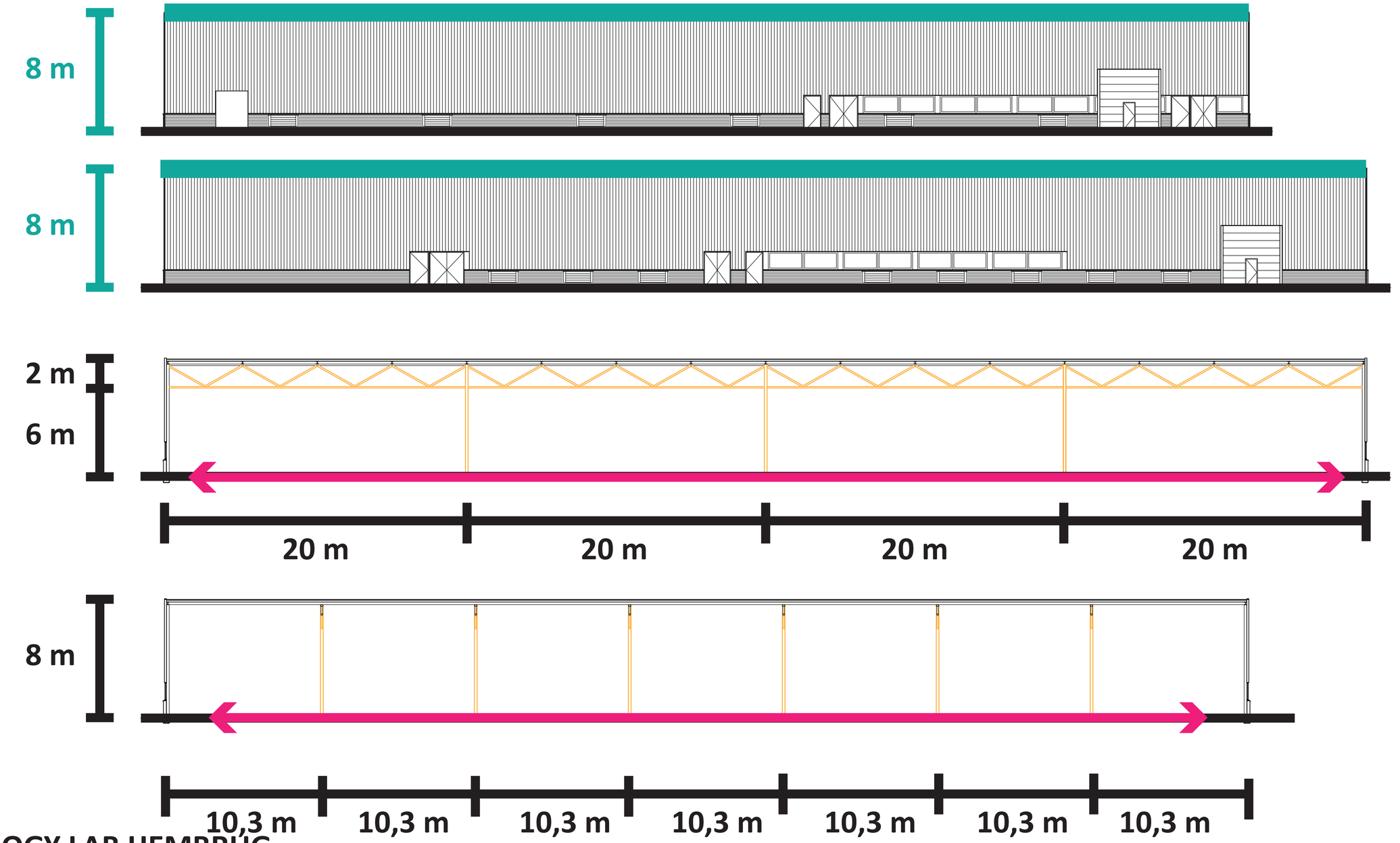


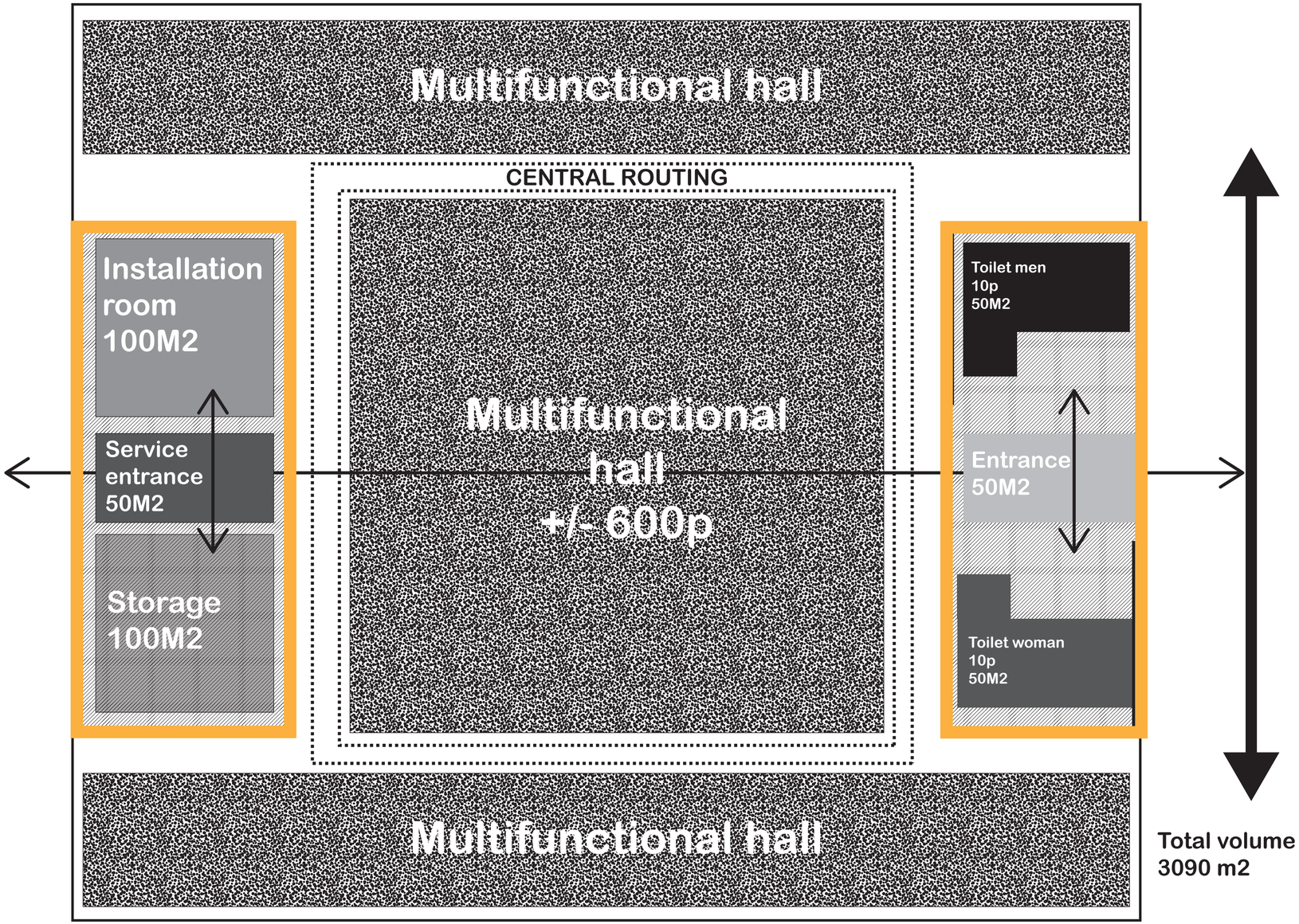


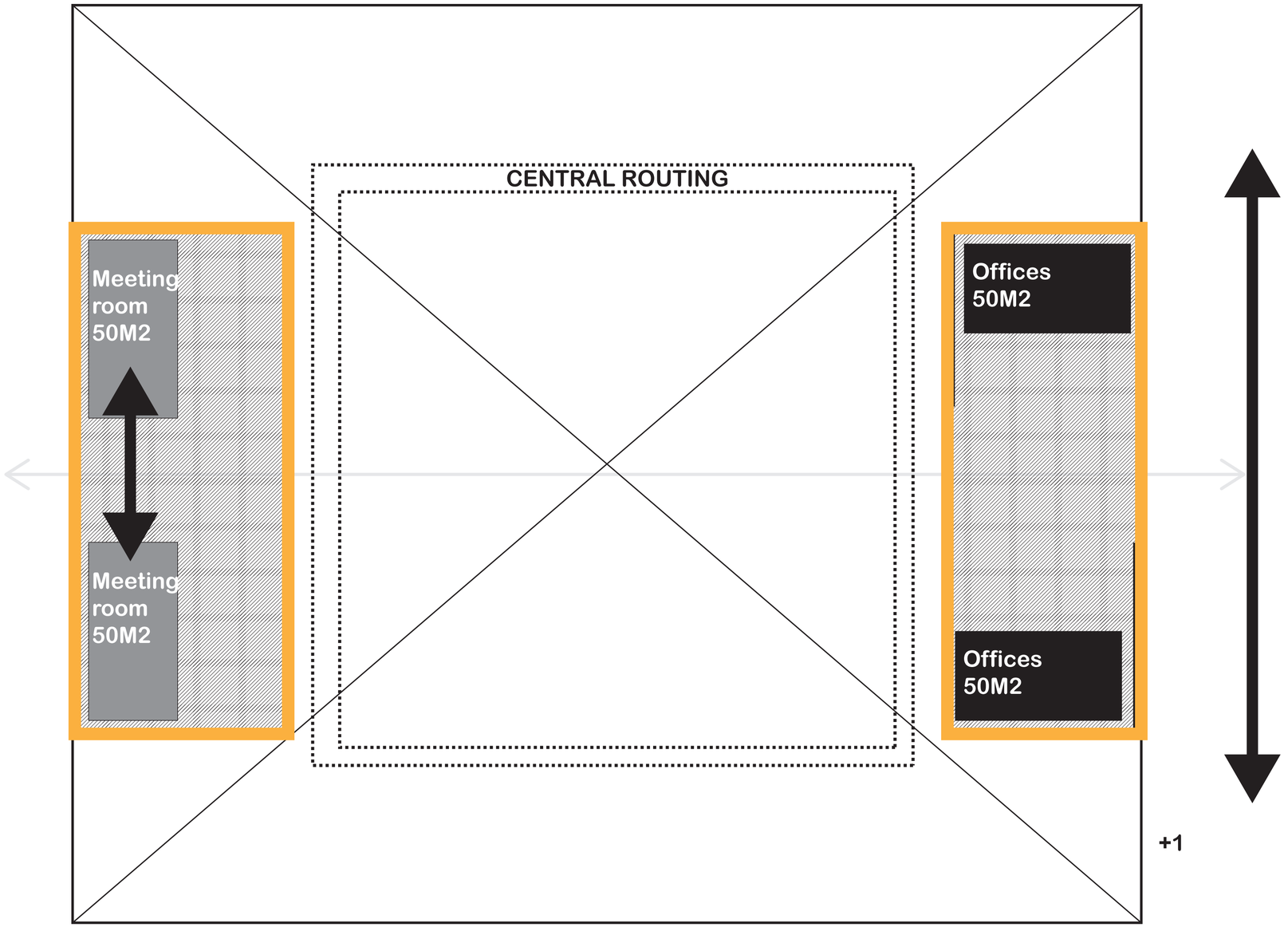
Foto by Amanda Verschuur

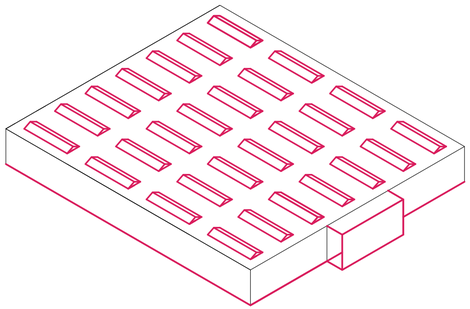


Lumen Building Wageningen, Behnisch Architekten

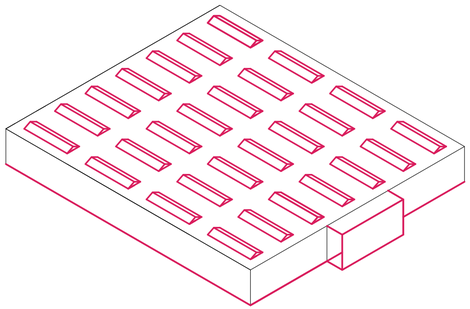
URBAN ECOLOGY LAB HEMBRUG

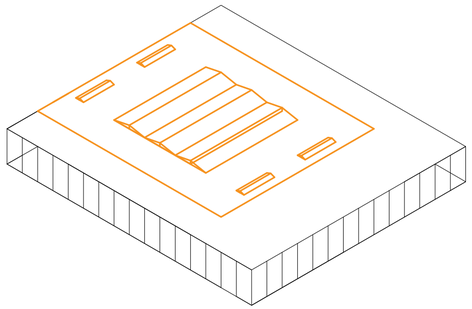

Multifunctional hall
CENTRAL ROUTING
Installation room 100M2
Service entrance 50M2
Storage 100M2
Multifunctional hall +/- 600p
Toilet men 10p 50M2
Entrance 50M2
Toilet woman 10p 50M2
Multifunctional hall
Total volume 3090 m2

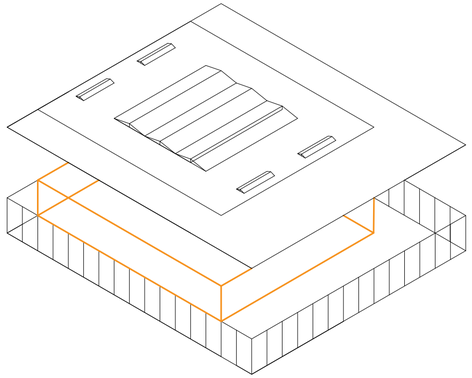

CENTRAL ROUTING
Meeting room 50M2
Meeting room 50M2
Offices 50M2
Offices 50M2
+1



REMOVE EXTERIOR FACADE
+ ROOF PLATING

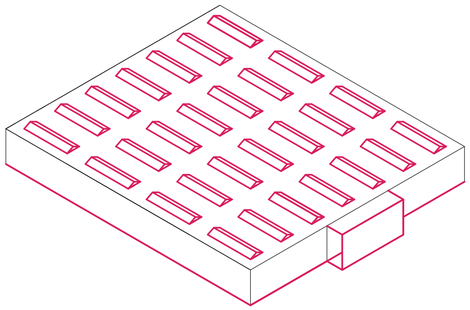


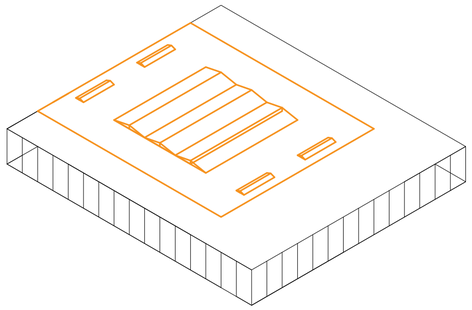


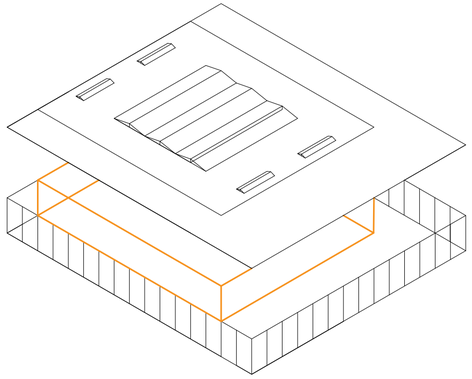


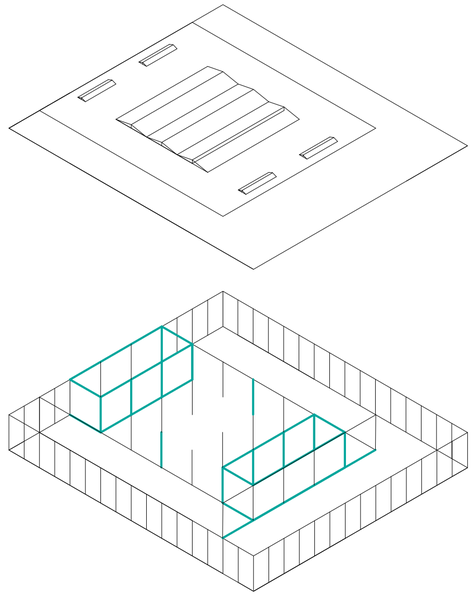
REMOVE EXTERIOR FACADE
+ ROOF PLATING

NEW GLASS FACADE
+ CENTRAL SKYLIGHT





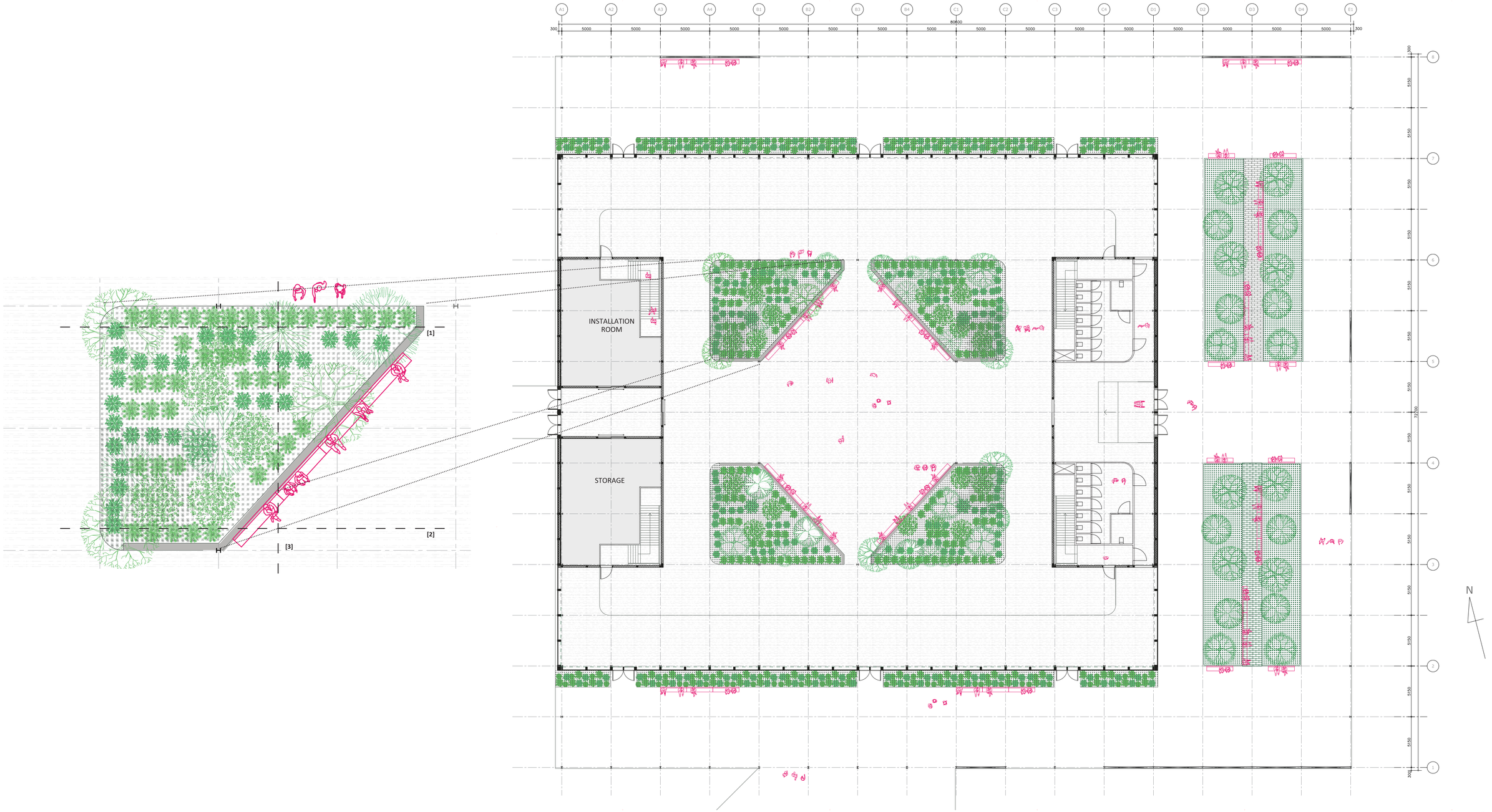




REMOVE EXTERIOR FACADE
+ ROOF PLATING

NEW GLASS FACADE
+ CENTRAL SKYLIGHT

INTERIOR + EXTRA COLUMNS



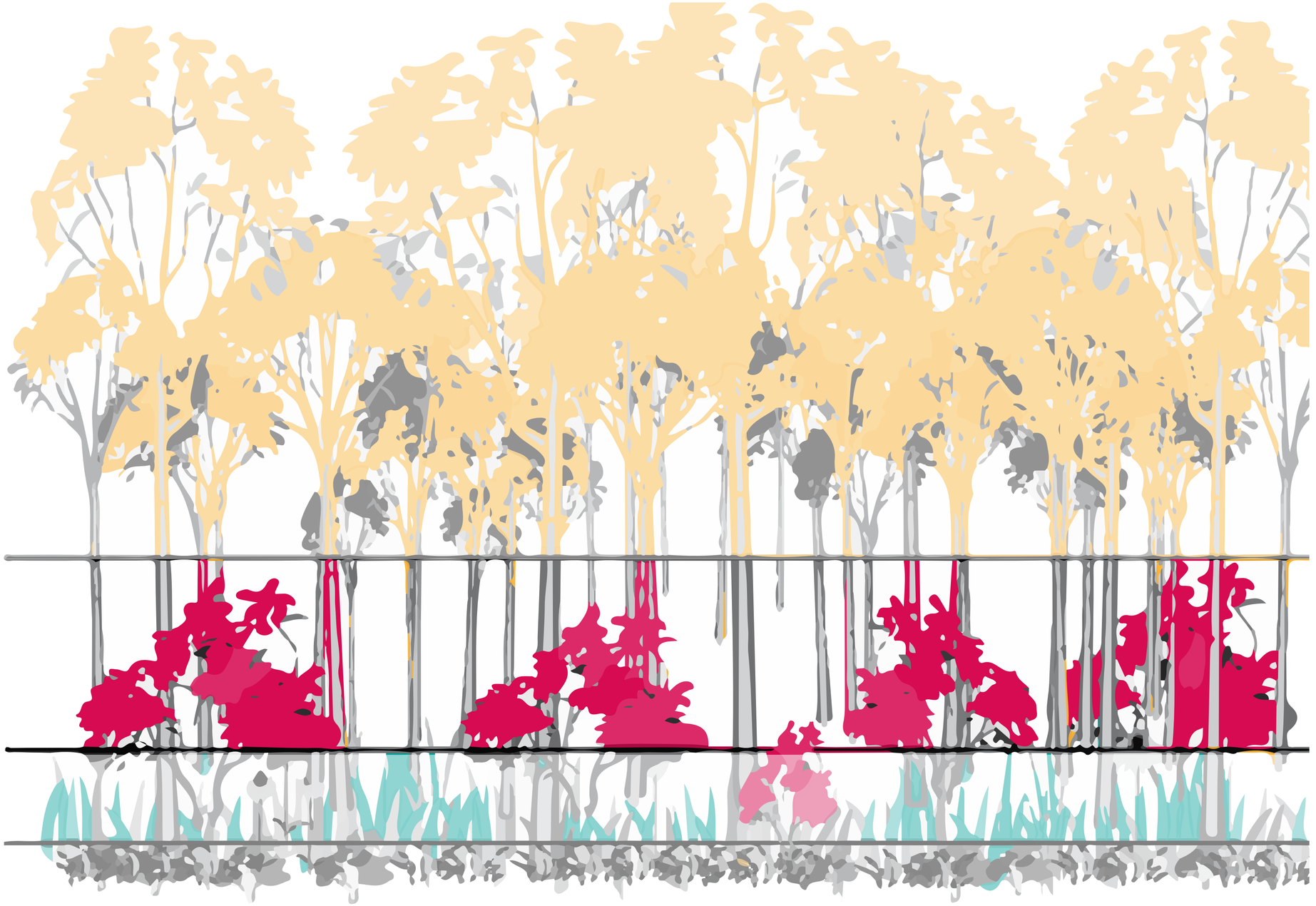
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CANOPY/
ABOVE HEAD HEIGHT











UNDERSTORY/
SEATED EYE LEVEL







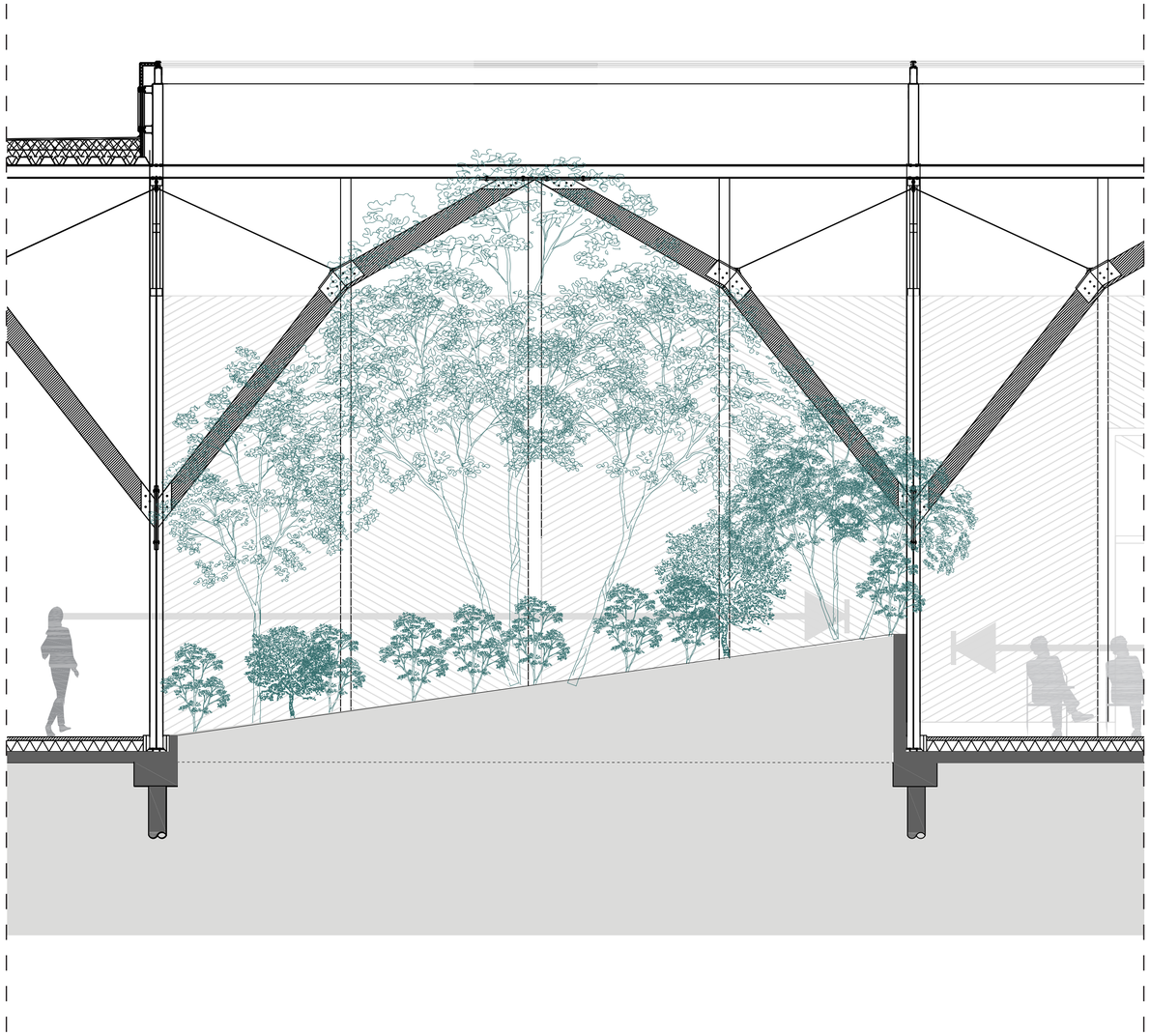


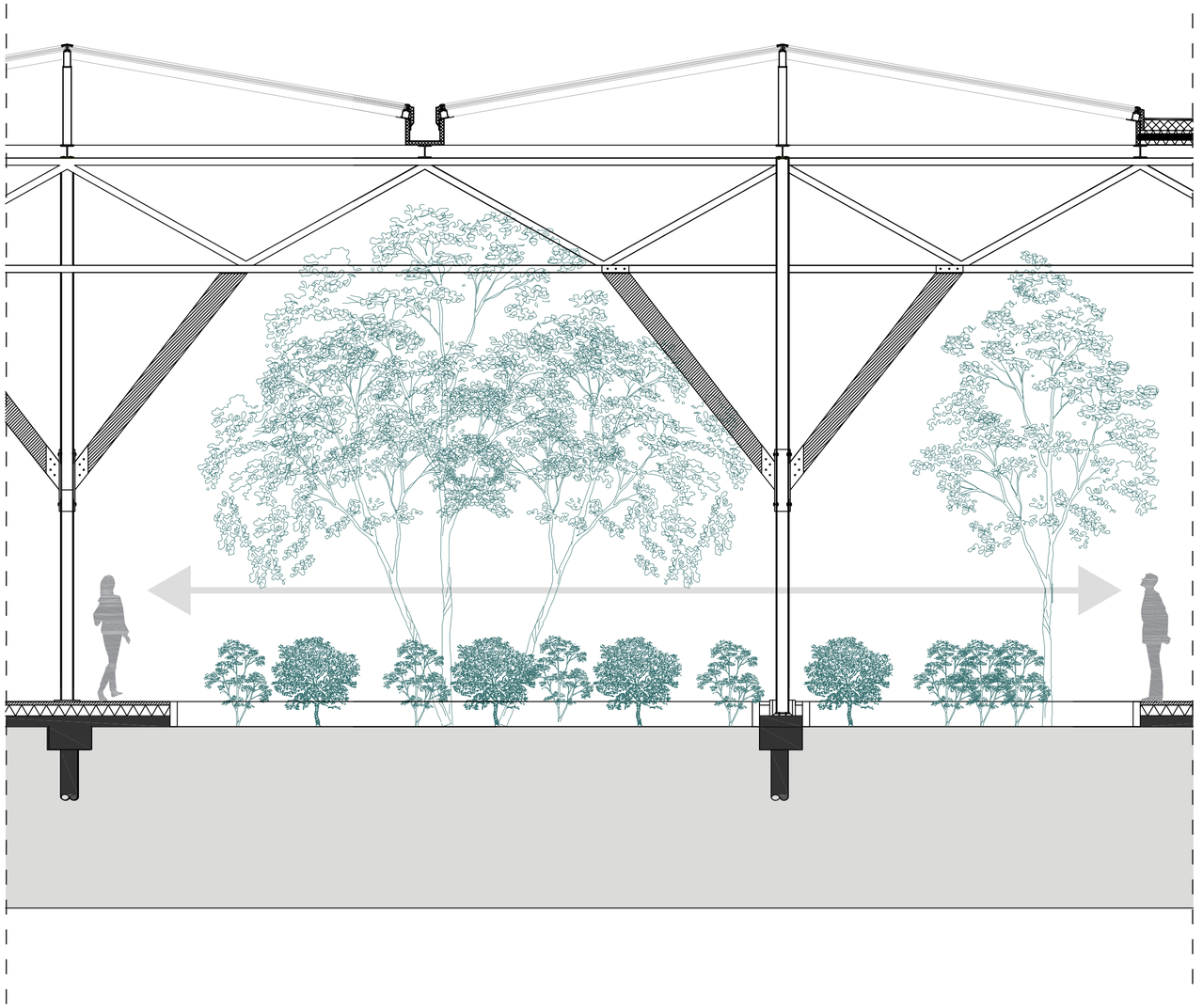






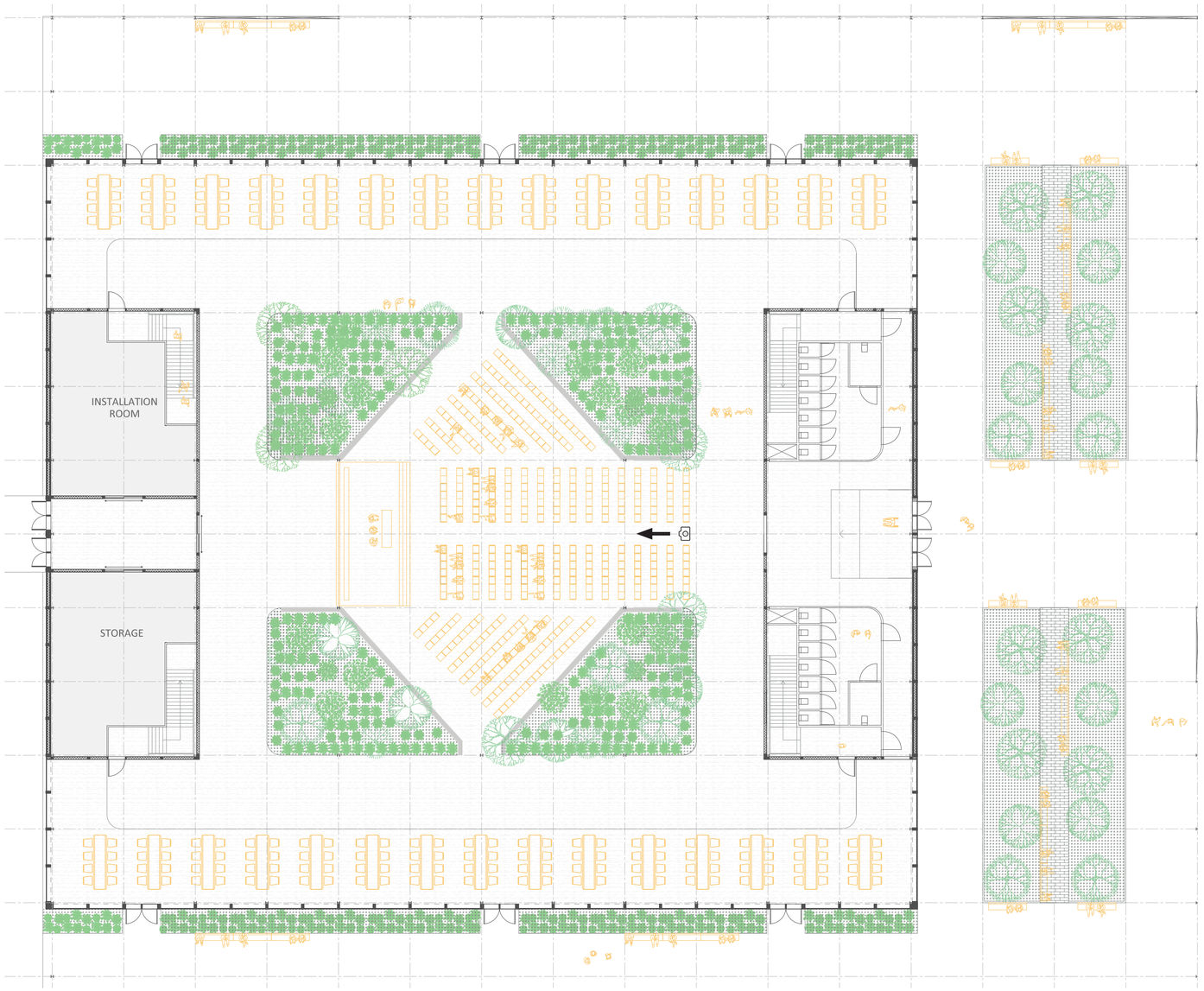
UNDERGROWTH/ FLOOR LEVEL





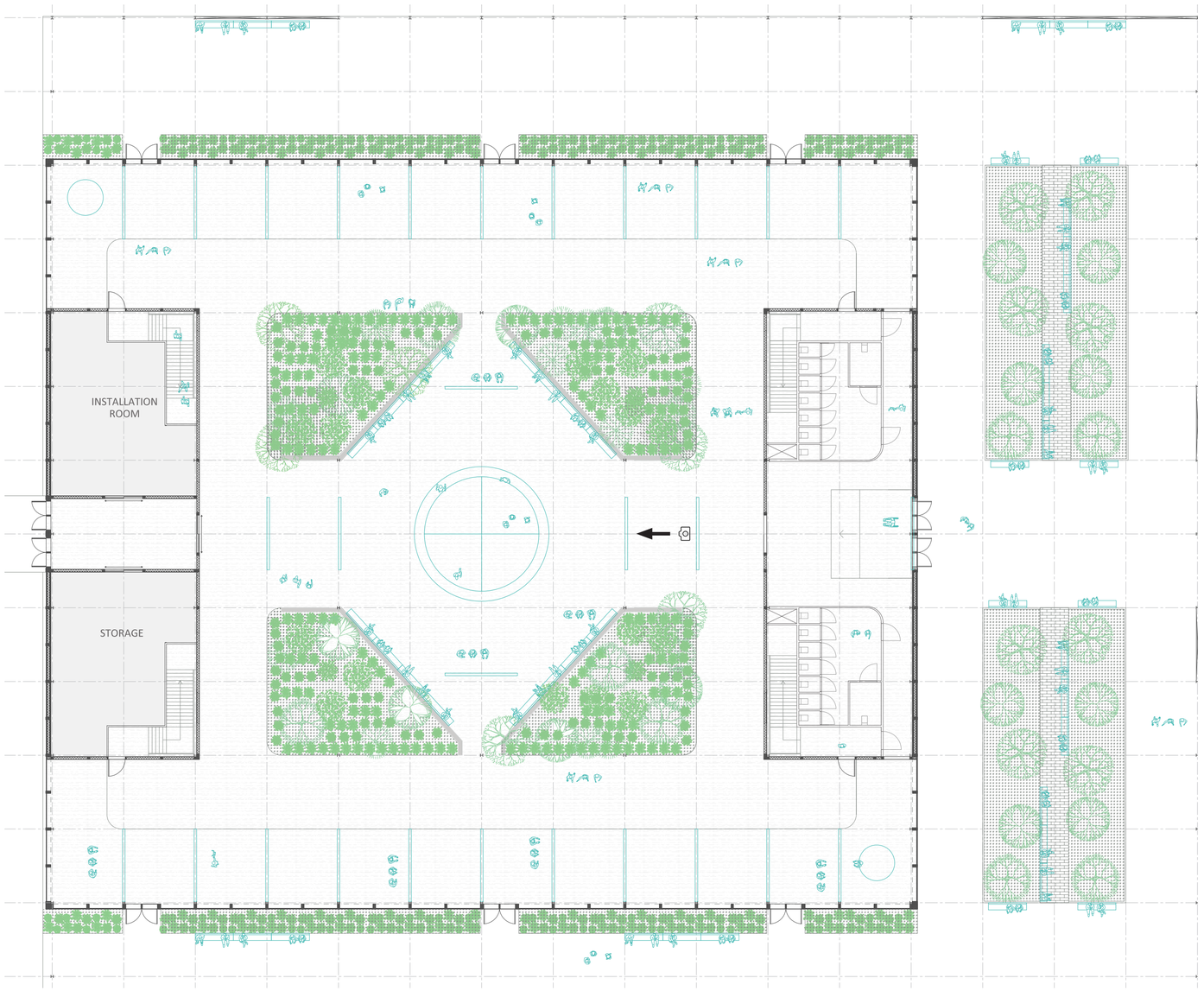
URBAN ECOLOGY LAB HEMBRUG





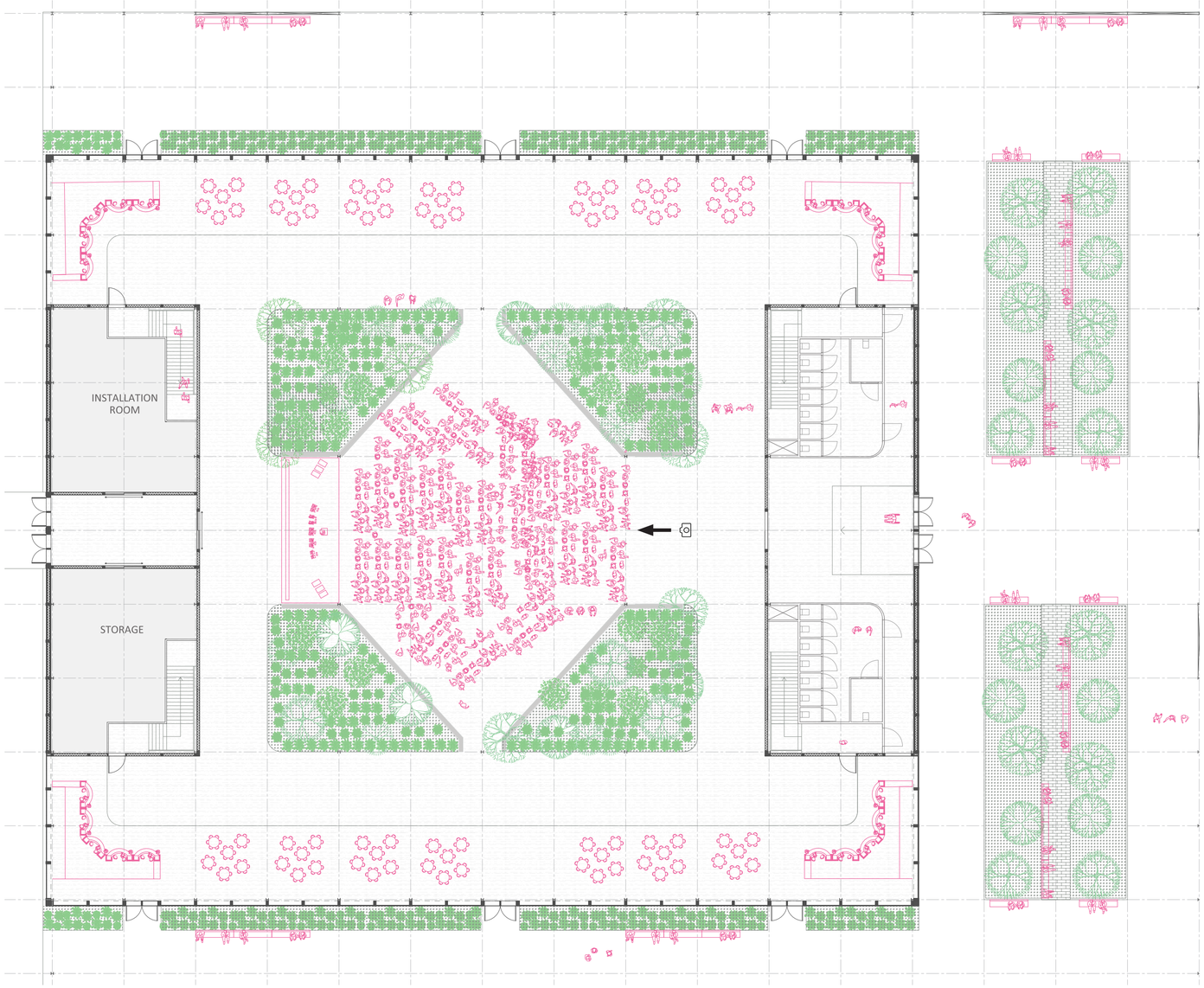


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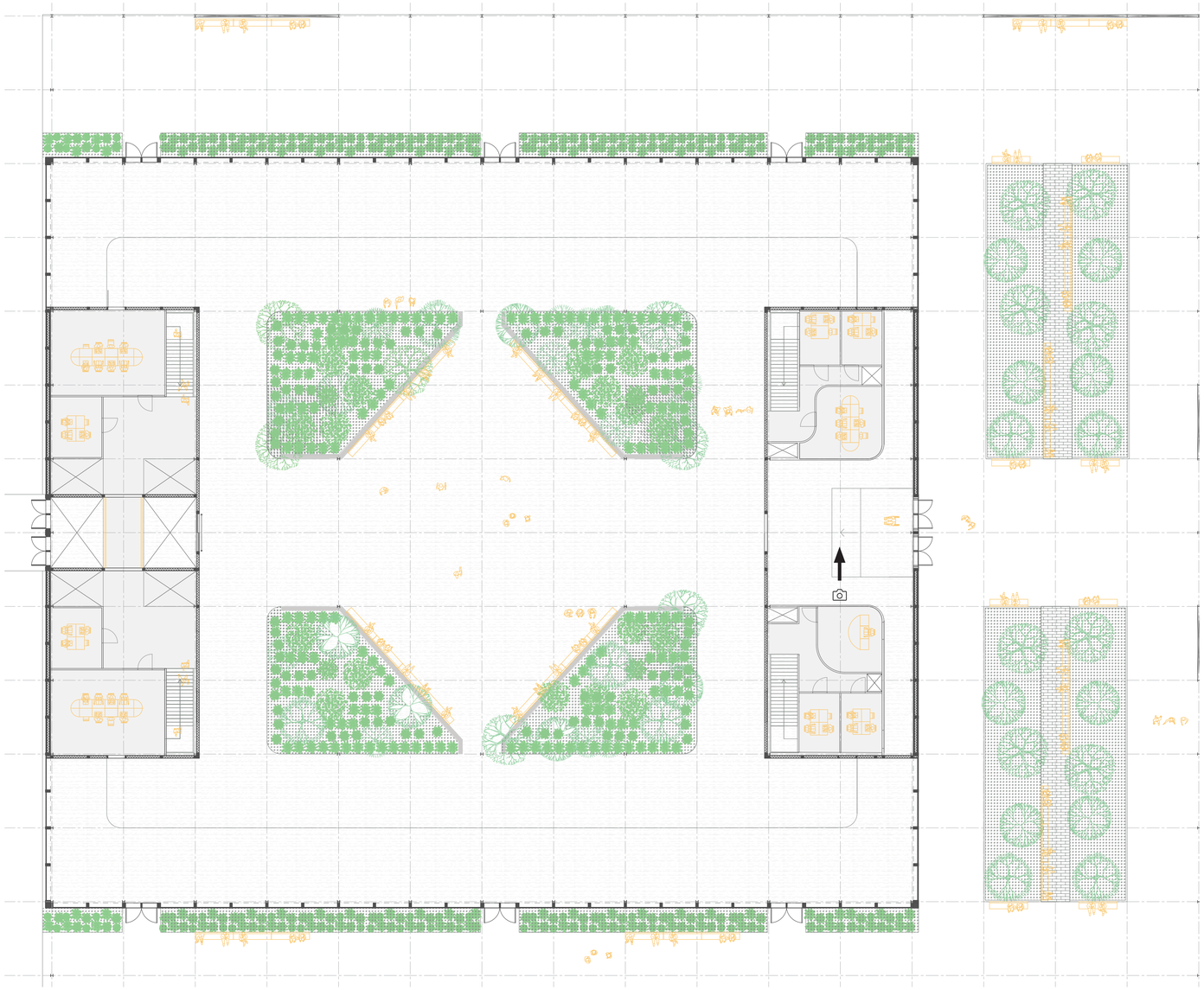




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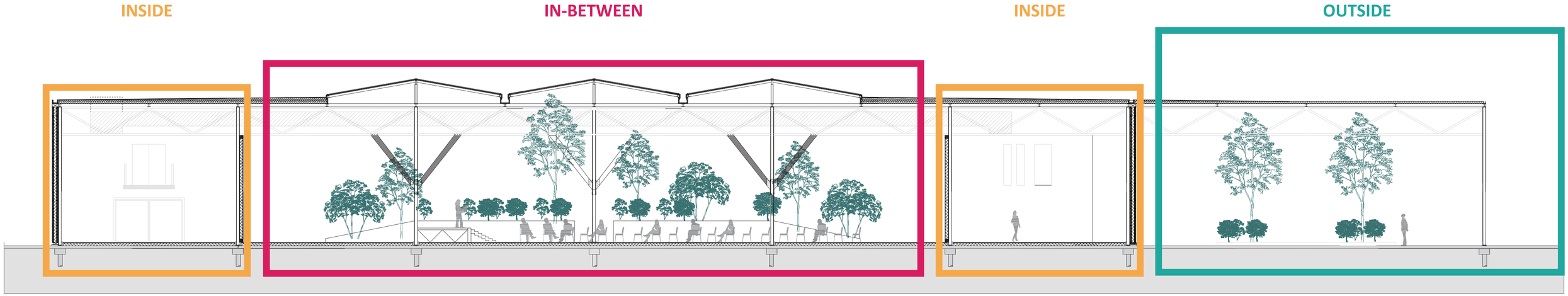


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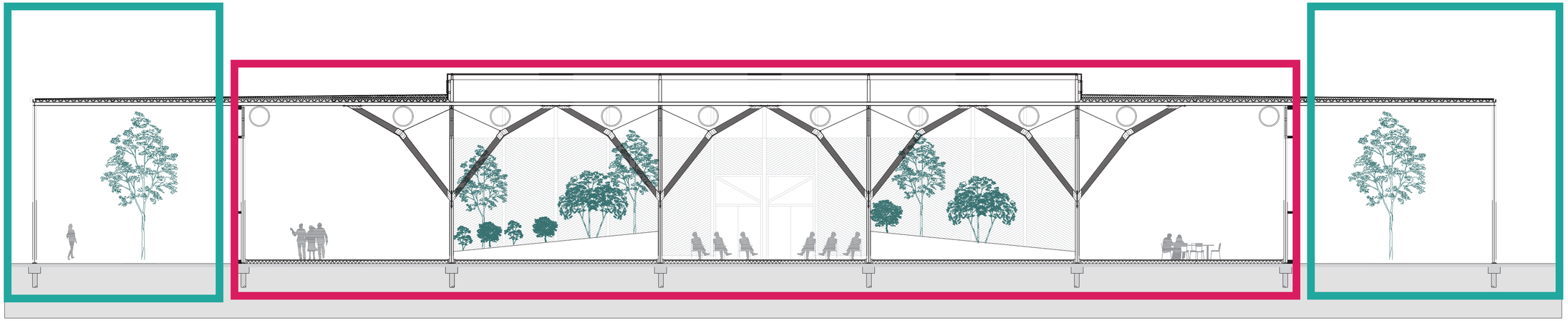




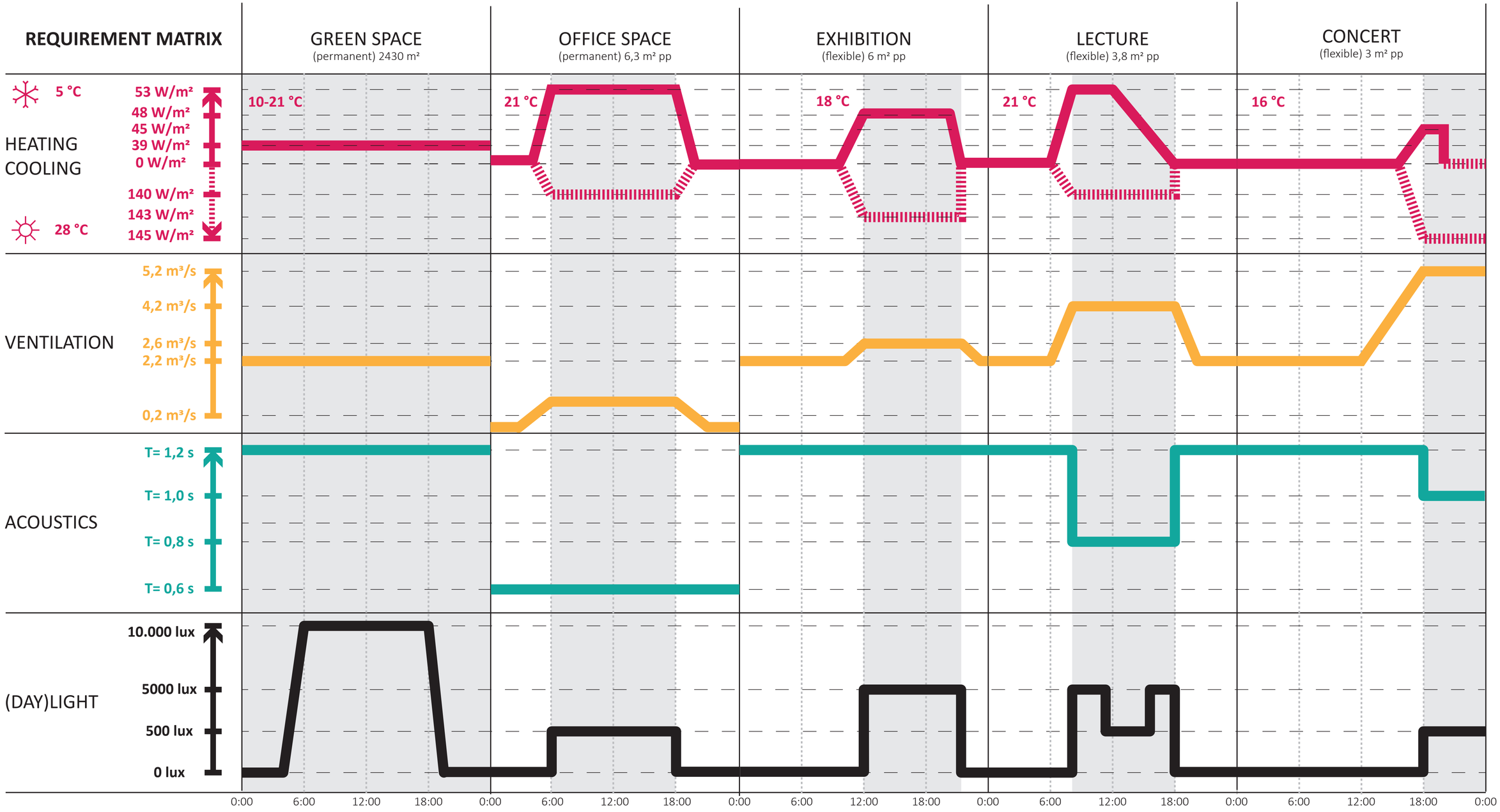
URBAN ECOLOGY LAB HEMBRUG



langsdoorsnede

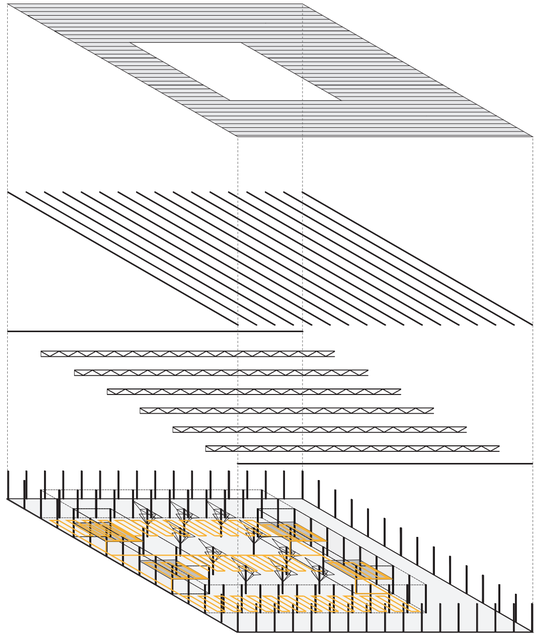


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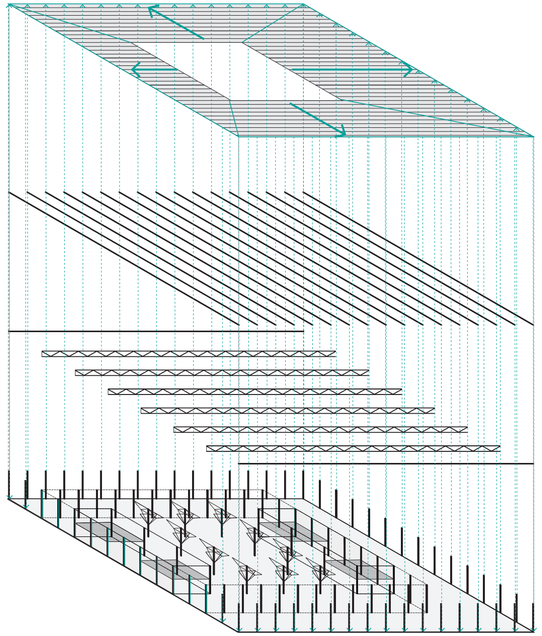


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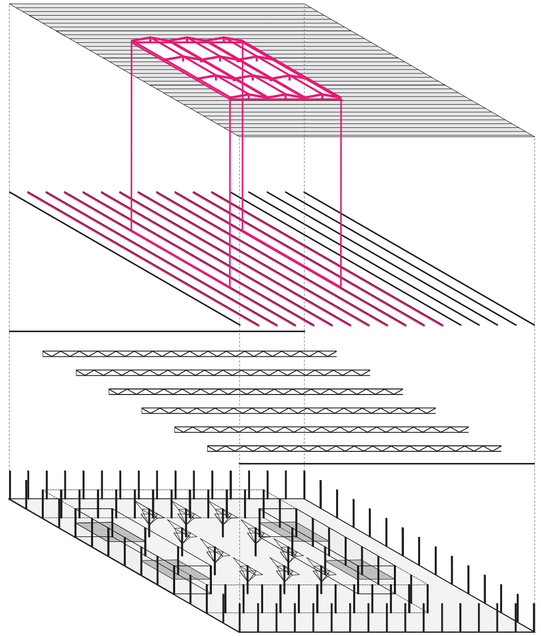
FLOOR HEATING/COOLING



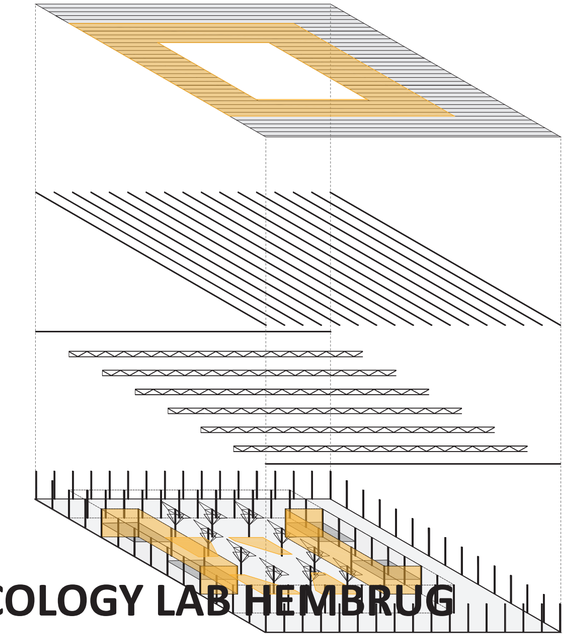
RAIN WATER DRAINAGE



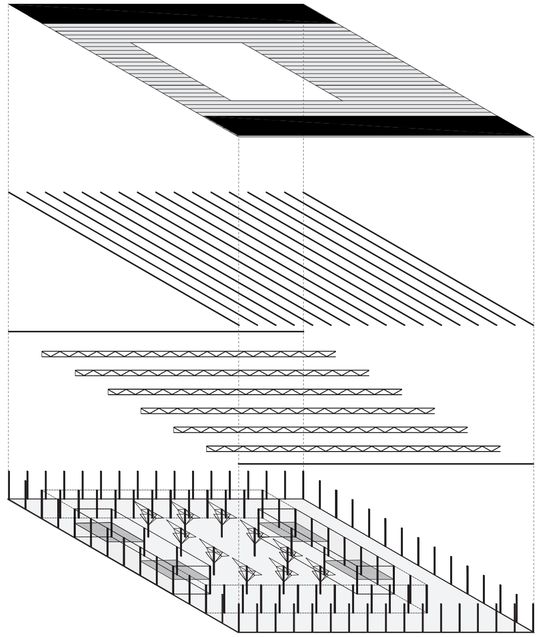
NATURAL + ARTIFICIAL LIGHT



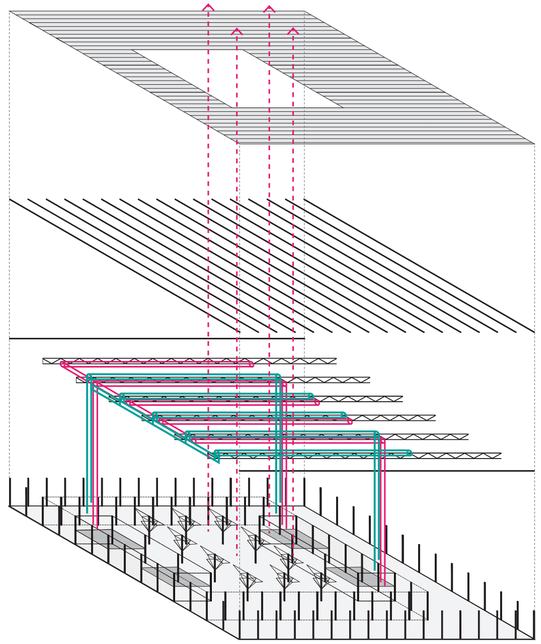
ACOUSTICS

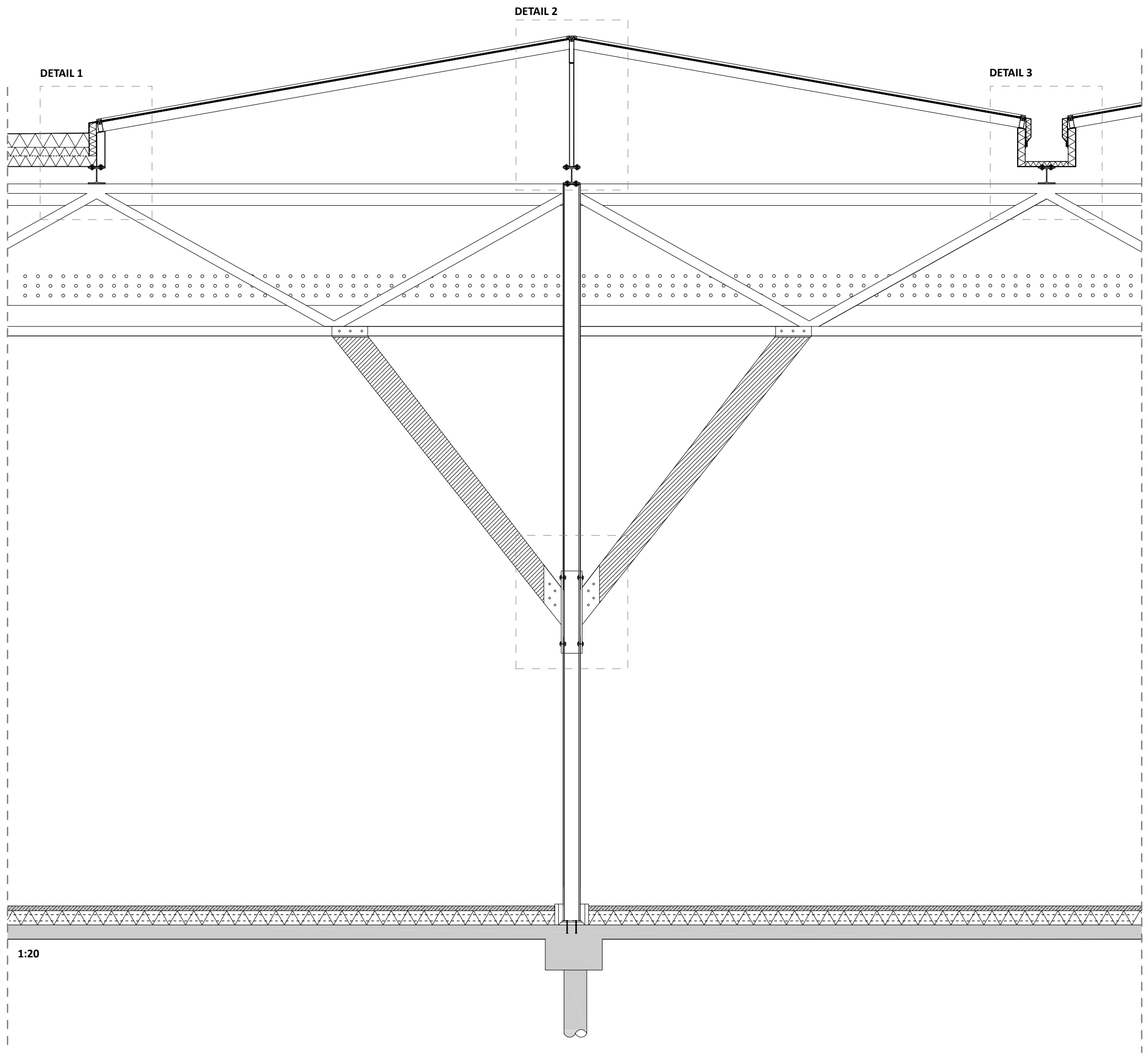


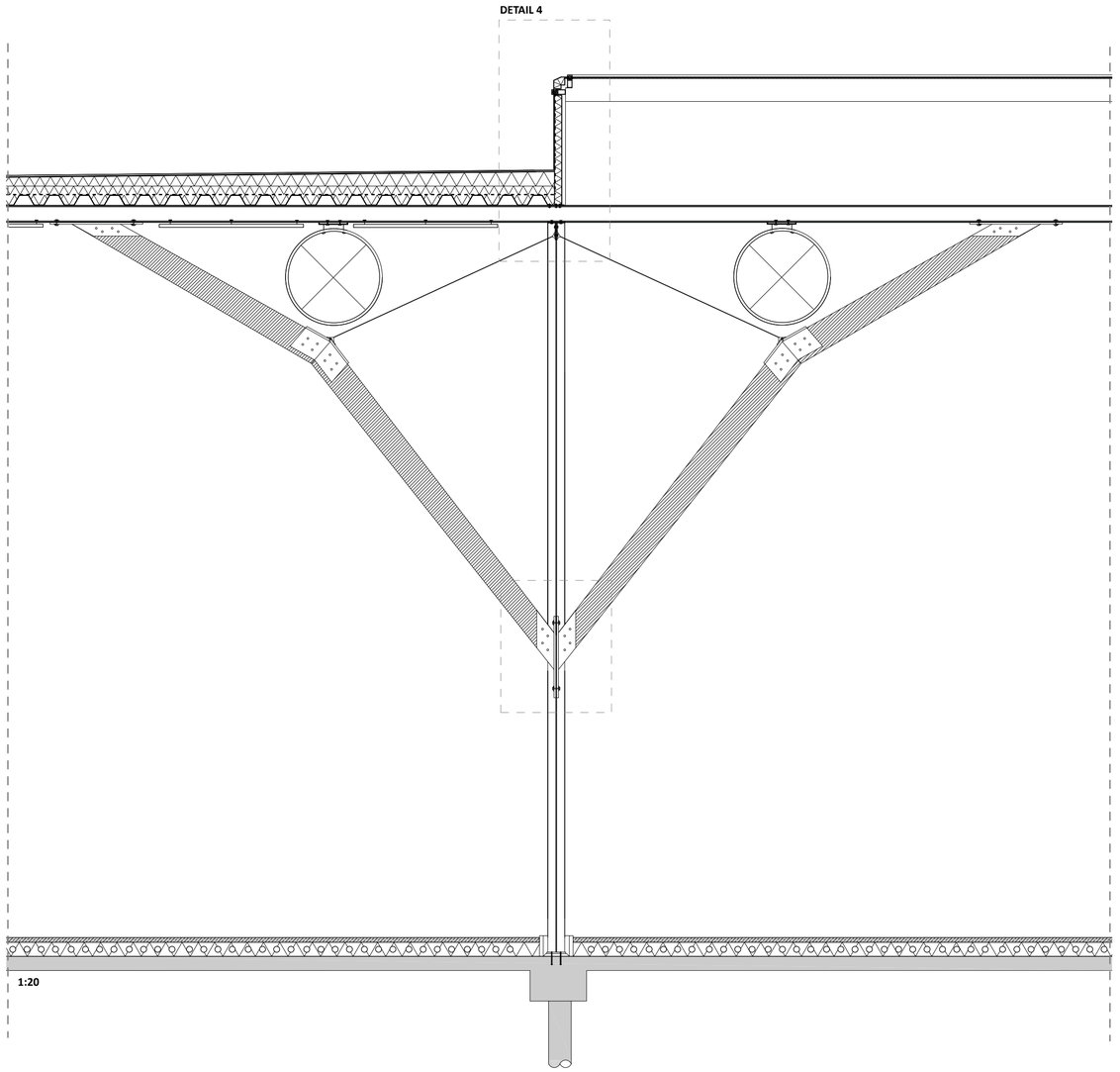
PVT + PV PANELS



VENTILATION OUTPUT [HVAC]





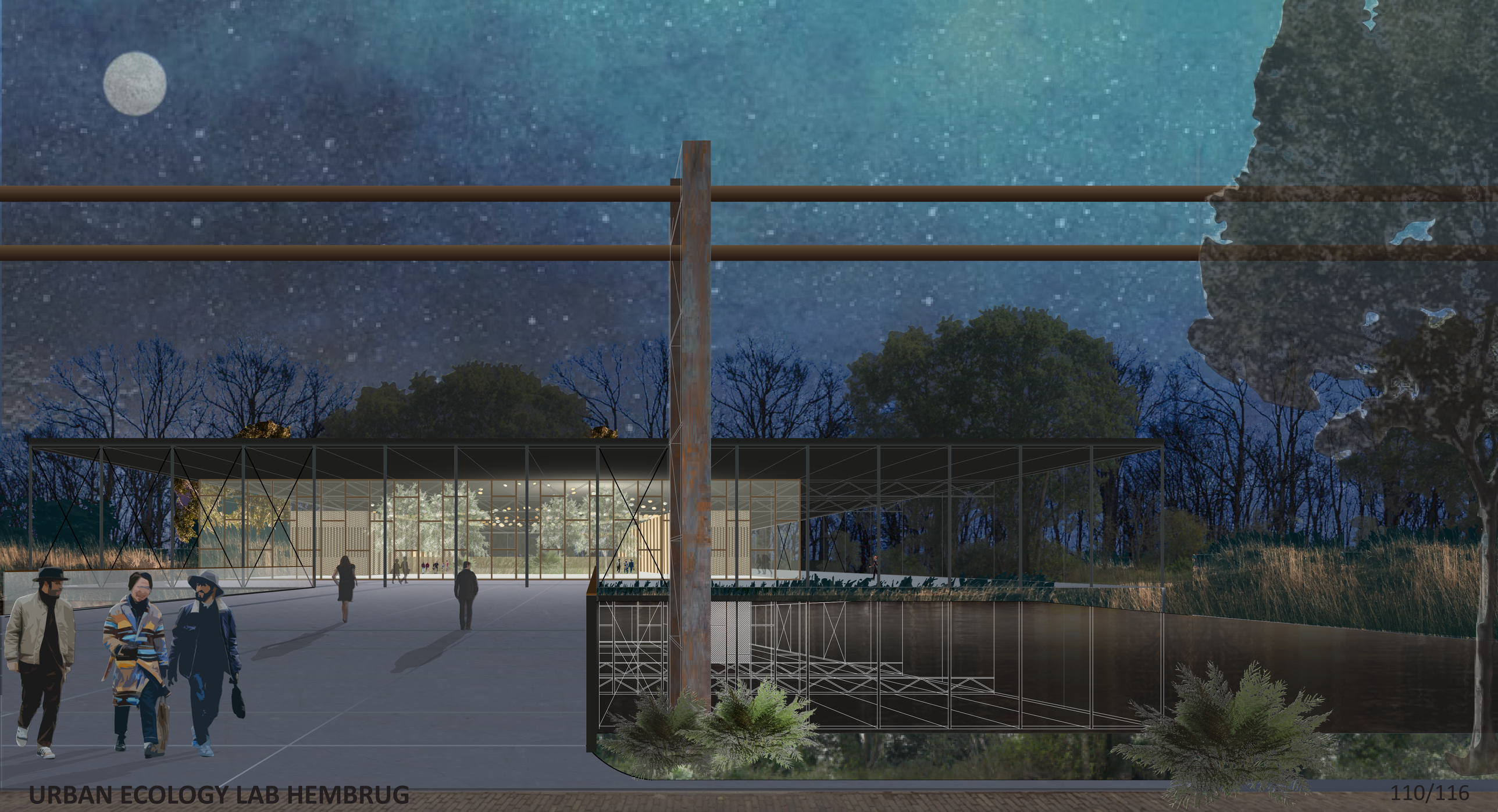


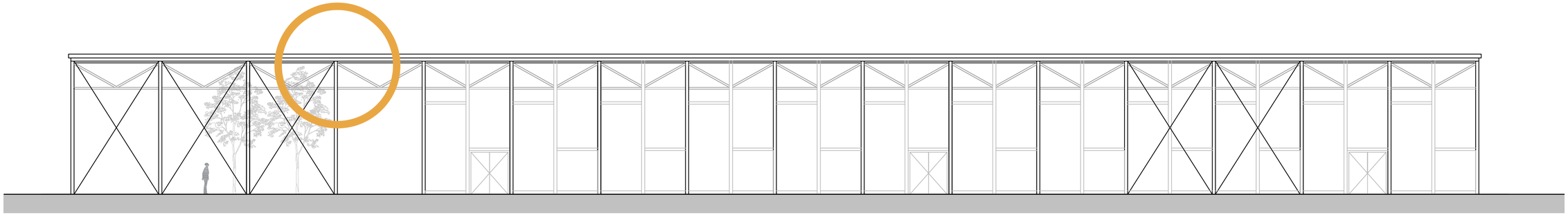
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Walker Warner Architects

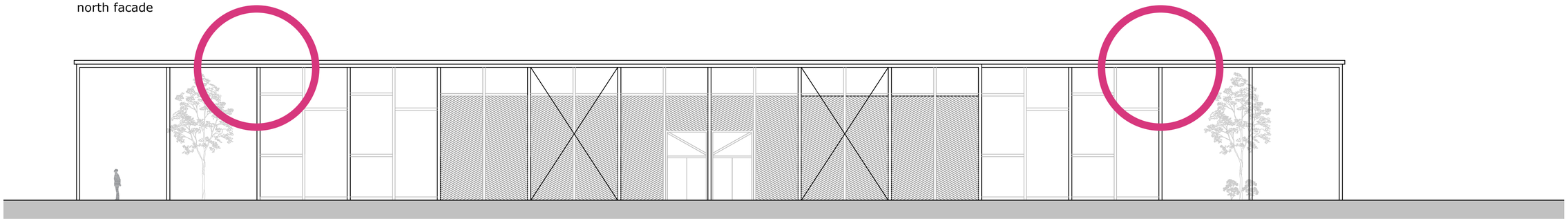
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The Sun Shed, Chun Qin Yuan

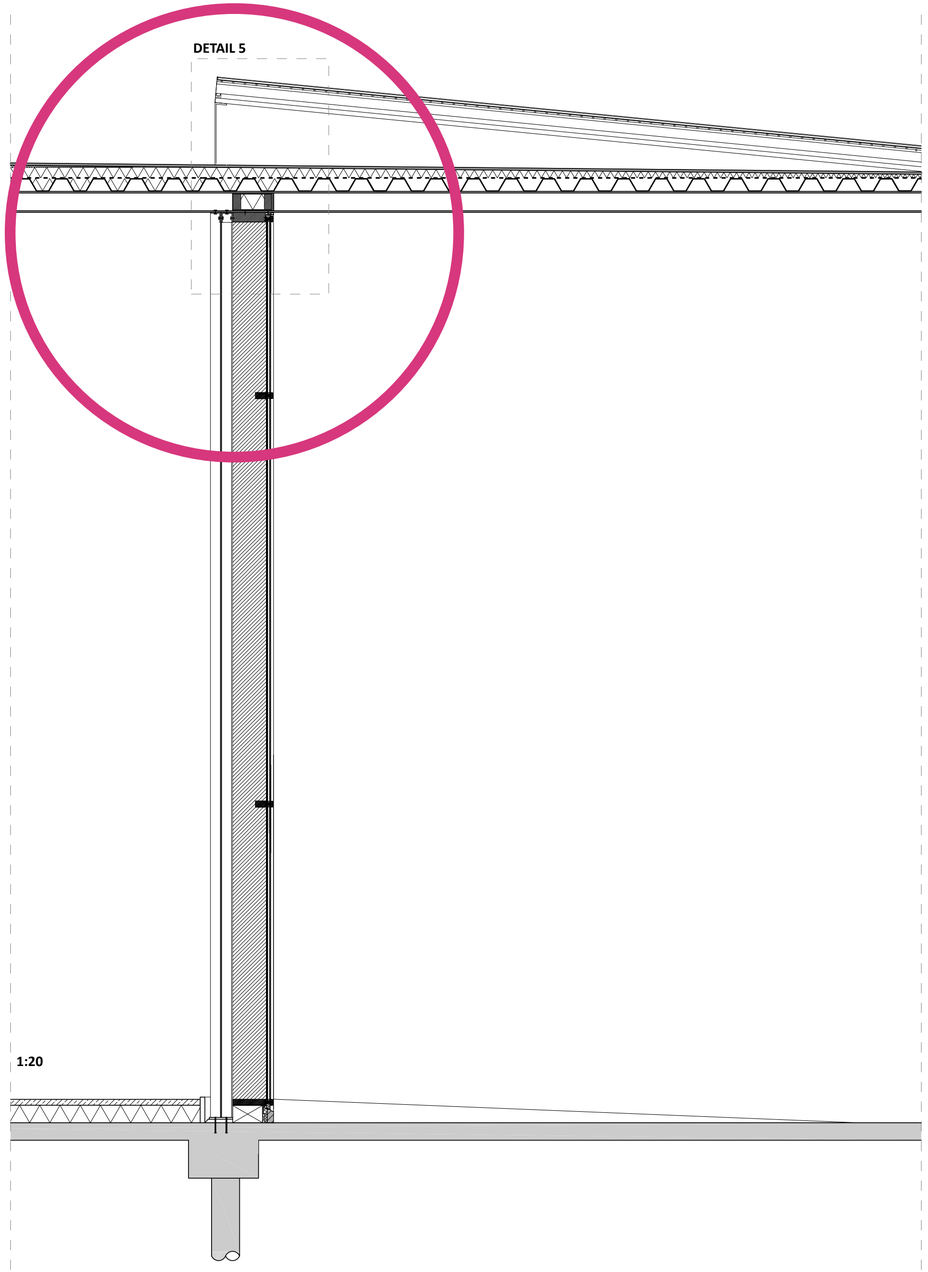




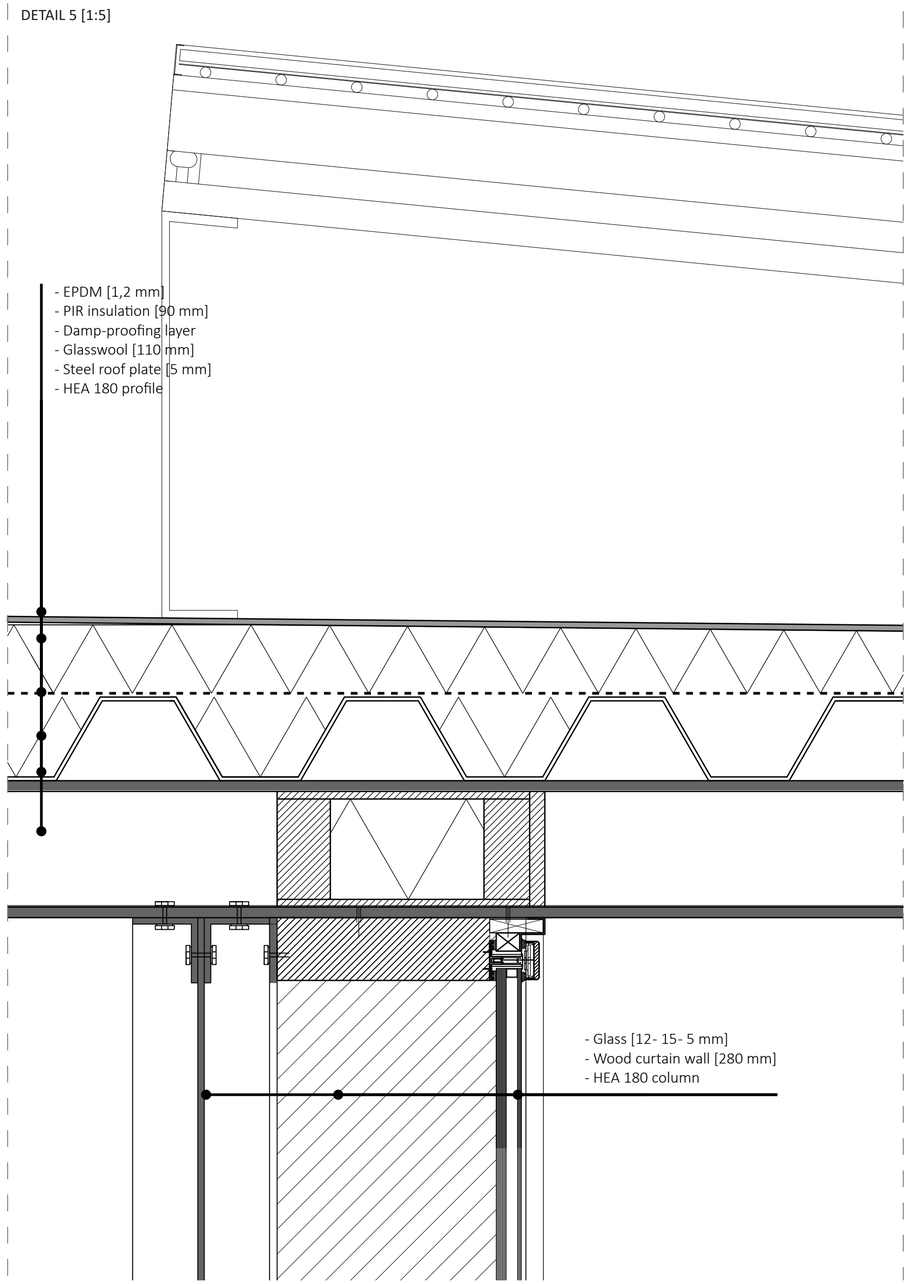
north facade



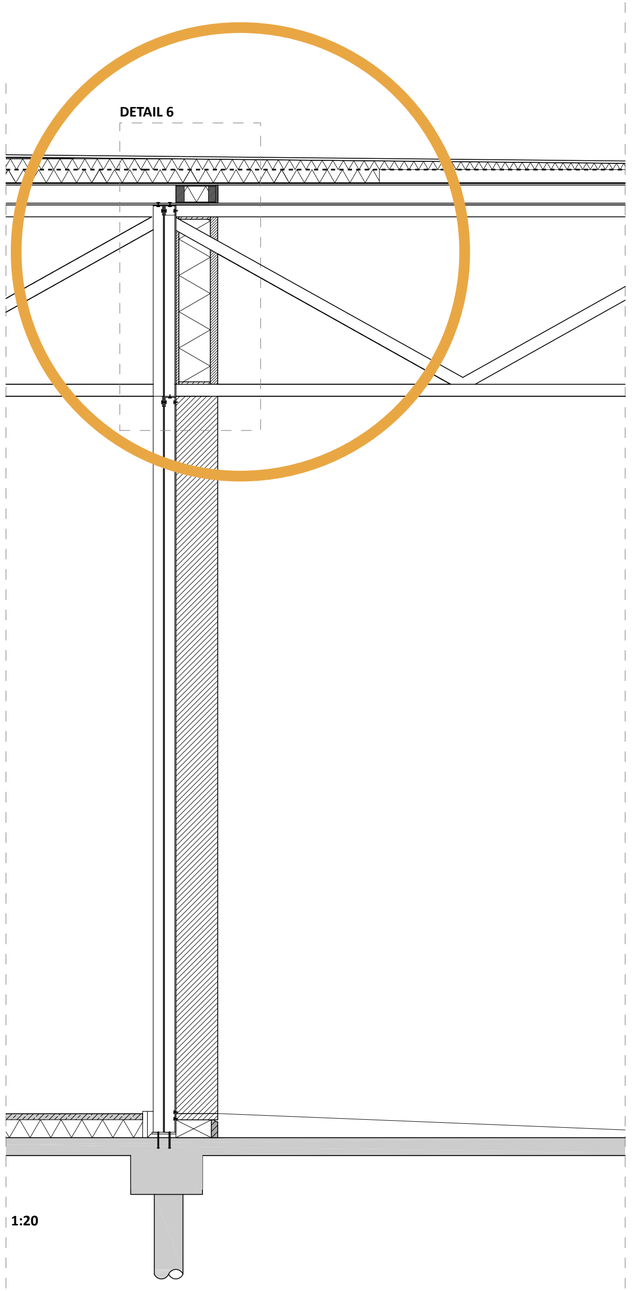
east facade

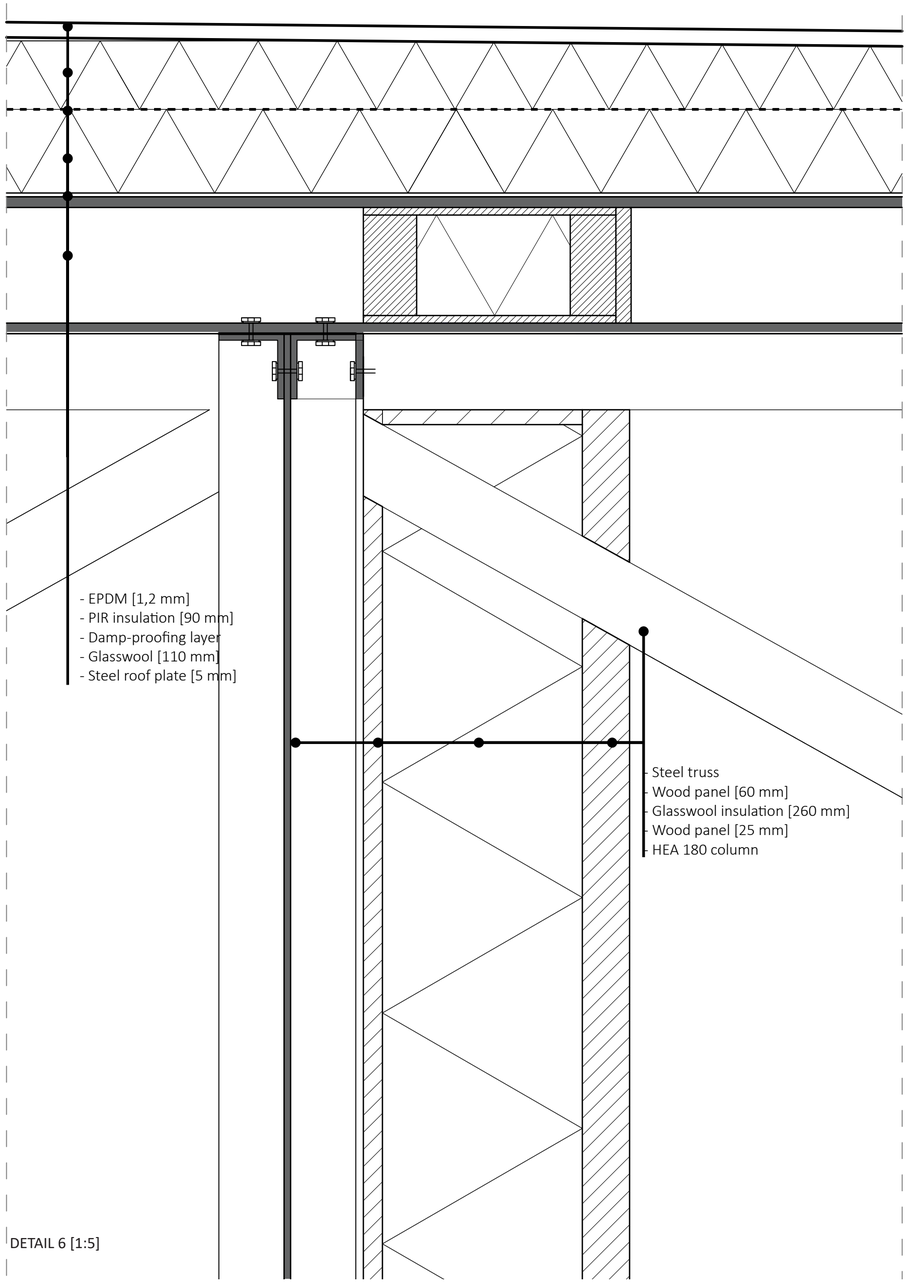


DETAIL 5 [1:5]



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ON REDESIGNING AN INDUSTRIAL HERITAGE LANDSCAPE