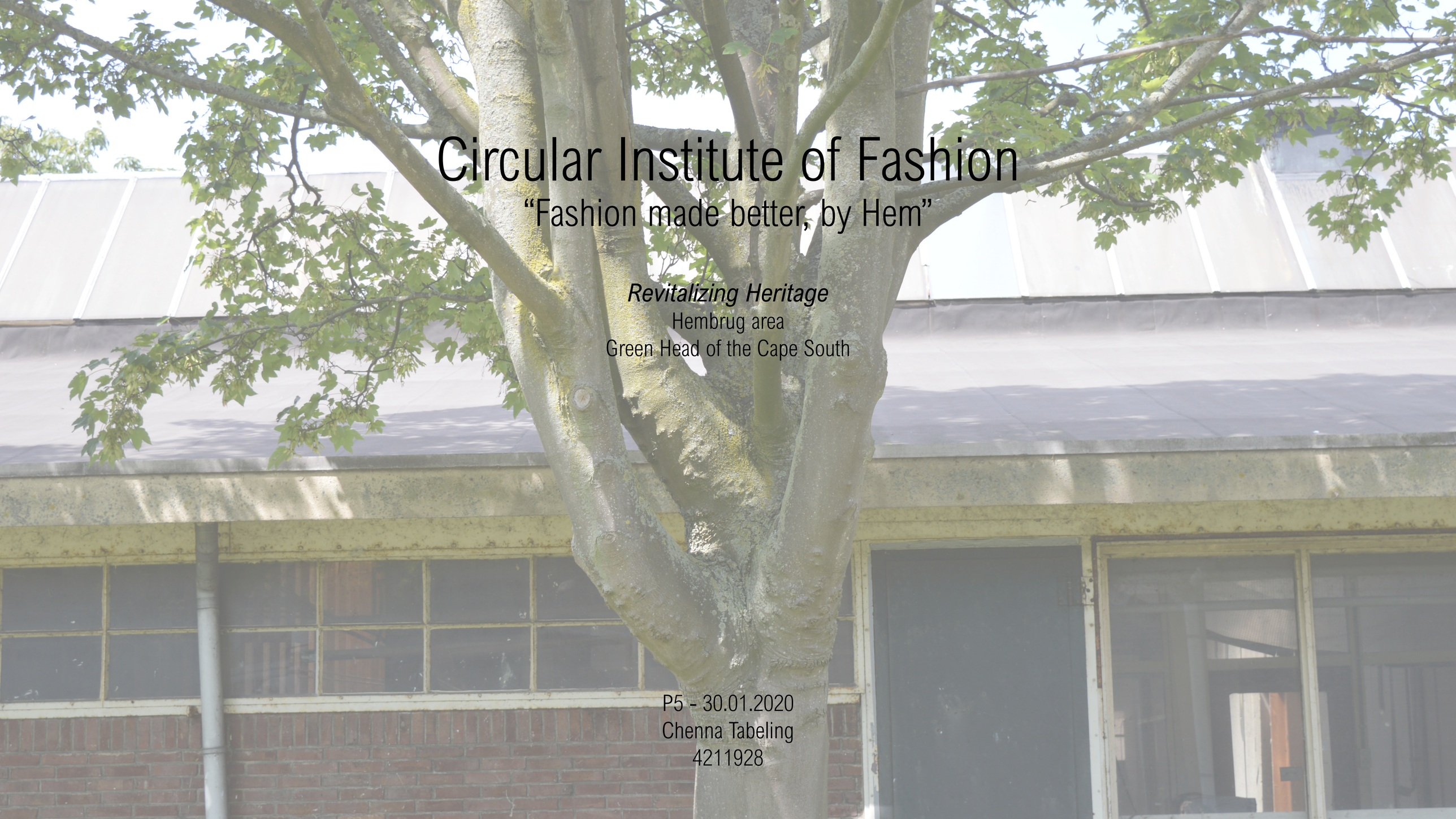


Circular Institute of Fashion

"Fashion made better, by Hem"

Revitalizing Heritage

Hembrug area

Green Head of the Cape South

P5 - 30.01.2020

Chenna Tabeling

4211928



Trip to New Zealand



Moving to Rotterdam



19-10-2019 Fast fashion maakt de wereld kapot - NRC

N.B. Het kan zijn dat elementen ontbreken aan deze printversie.

Fast fashion maakt de wereld kapot

Modeboeken De kledingindustrie is vervuilend, waterverspillend en slecht voor mens en dier. Twee onlangs verschenen boeken concluderen: koop minder, was anders, repareer en upcycle.

Deze beelden komen uit de serie Segundas Pieles (Tweede Huid) van de Spaanse fotograaf Miguel Vallinas. Hij heeft zich proberen voor te stellen hoe dieren hun persoonlijkheid zouden uiten als ze kleding zouden kunnen dragen.
Foto's Miguel Vallinas

http://www.nrc.nl/nieuws/2019/10/16/fast-fashion-maakt-de-wereld-kapot-a3977014?utm_source=social&utm_medium=facebook&utm_campaig… 1/5

We consume 400% more clothing than we did 20 years ago.

https://truecostmovie.com/learn-more/environmental-impact/

238 milion kilo of old textiles is gathered in the Netherlands only. This results in 14 kilos of clothing per person.



19-10-2019

Fast fashion maakt de wereld kapot - NRC

rtlnieuws

Nieuws(/) Economie(/economie) Sport(/sport) Entertainment(/entertainment) Tech(/tech) Lifestyle(/lifestyle) EditieNL(/editienl) Uit

Geld en Werk

We gooien steeds meer kleding weg, maar recyclen lukt nauwelijks

21 augustus 2018 17:54
Aangepast: 24 augustus 2018 15:14

Nooit eerder kochten we zoveel kleren als nu. Maar ingelijk gooien w ook steeds meer weg. Wat gebeurt er met die uitdijende berg afgedankte kleding? Recyclen blijkt vaak helemaal niet mogelijk, zeker bij goedkope wegwerpmode.

Gemiddeld kopen Nederlanders 46 nieuwe kledingstukken per jaar, voor gemiddeld zo'n 16 euro per stuk. Dat blijkt uit onderzoek van de Hogeschool van Amsterdam (http://www.hva.nl/create-it/gedeelde-content/projecten/projecten-fashion/measuring-the-dutch-clothing-mountain.html). Tussen 2002 en 2015 zijn we jaarlijks 500 euro meer gaan besteden aan nieuwe kleren, becijferde het CBS daarnaast. Tegelijkertijd daalden de kledingprijzen met 10 procent.

Onze kledingkast raakt vol. We produceren met elkaar dan ook steeds meer textielafval. In 2012 gooiden we per persoon 12,5 kilo kleding weg. Een paar jaar later is dat 14 kilo per persoon, tot een gezamenlijke textielafvalberg van 238 miljoen kilo oud textiel, concludeert Milieu Centraal (https://www.milieucentraal.nl/bewust-winkelen/love-your-clothes/).

N.B. Het kan zijn dat elementen ontbreken aan deze printversie.

Fast fashion maakt de wereld kapot

Modeboeken De kledingindustrie is vervuilend, waterverspillend en slecht voor mens en dier. Twee onlangs verschenen boeken concluderen: koop minder, was anders, repareer en upcycle.

Deze beelden komen uit de serie Segundas Pieles (Tweede Huid) van de Spaanse fotograaf Miguel Vallinas. Hij heeft zich proberen voor te stellen hoe dieren hun persoonlijkheid zouden uiten als ze kleding zouden kunnen dragen.
Foto's Miguel Vallinas

https://www.nrc.nl/nieuws/2019/10/16/fast-fashion-maakt-de-wereld-kapot-a3977014?utm_source=social&utm_medium=facebook&utm_campaig… 1/5

The fashion industry is responsible for 10% of the CO2-emmisions

LIVE

CBS NEWS

Fashion industry's carbon impact bigger than airline industry's

BY MEGAN CERULLO
APRIL 19, 2019 / 12:42 PM / MONEYWATCH

- The apparel and footwear industries together account for more than 8 percent of global climate impact, greater than all international airline flights and maritime shipping trips combined.
- The challenge to reduce carbon emissions offers the fashion industry an opportunity for its players do what they do best -- be creative.

One of the problems: fast fashion

The meteoric rise of "fast fashion" -- the business of quickly turning around new collections, often at lower prices to encourage consumption -- in particular is proving to be toxic for the environment. Linear systems use large quantities of nonrenewable resources, and more than half of these styles get tossed within a year, according to McKinsey's 2016 report "Style that's sustainable: A new fast fashion formula."

19-10-2019

Fast fashion maakt de wereld kapot - NRC

rtlnieuws

Nieuws(/) Economie(/economie) Sport(/sport) Entertainment(/entertainment) Tech(/tech) Lifestyle(/lifestyle) EditieNL(/editienl) Ui

Geld en Werk

We gooien steeds meer kleding weg, maar recyclen lukt nauwelijks

21 augustus 2018 17:54
Aangepast: 24 augustus 2018 15:14



Hoe verder kochten we zoveel kleren als nu. Maar tegelijkertijd gooien we ook steeds meer weg. Wat gebeurt er met die uitdijende berg afgedankte kleding? Recyclen blijkt vaak helemaal niet mogelijk, zeker bij goedkope wegwerpmode.

Gemiddeld kopen Nederlanders 46 nieuwe kledingstukken per jaar, voor gemiddeld zo'n 16 euro per stuk. Dat blijkt uit onderzoek van de Hogeschool van Amsterdam (http://www.hva.nl/create-it/gedeelde-content/projecten/projecten-fashion/measuring-the-dutch-clothing-mountain.html). Tussen 2002 en 2015 zijn we jaarlijks 500 euro meer gaan besteden aan nieuwe kleren, becijferde het CBS daarnaast. Tegelijkertijd daalden de kledingprijzen met 10 procent.

Onze kledingkast raakt vol. We produceren met elkaar dan ook steeds meer textielafval. In 2012 gooiden we per persoon 12,5 kilo kleding weg. Een paar jaar later is dat 14 kilo per persoon, tot een gezamenlijke textielafvalberg van 238 miljoen kilo oud textiel, concludeert Milieu Centraal (https://www.milieucentraal.nl/bewust-winkelen/love-your-clothes/).

19-10-2019

Fast fashion maakt de wereld kapot - NRC

N.B. Het kan zijn dat elementen ontbreken aan deze printversie.

Fast fashion maakt de wereld kapot

Modeboeken De kledingindustrie is vervuilend, waterverspillend en slecht voor mens en dier. Twee onlangs verschenen boeken concluderen: koop minder, was anders, repareer en upcycle.

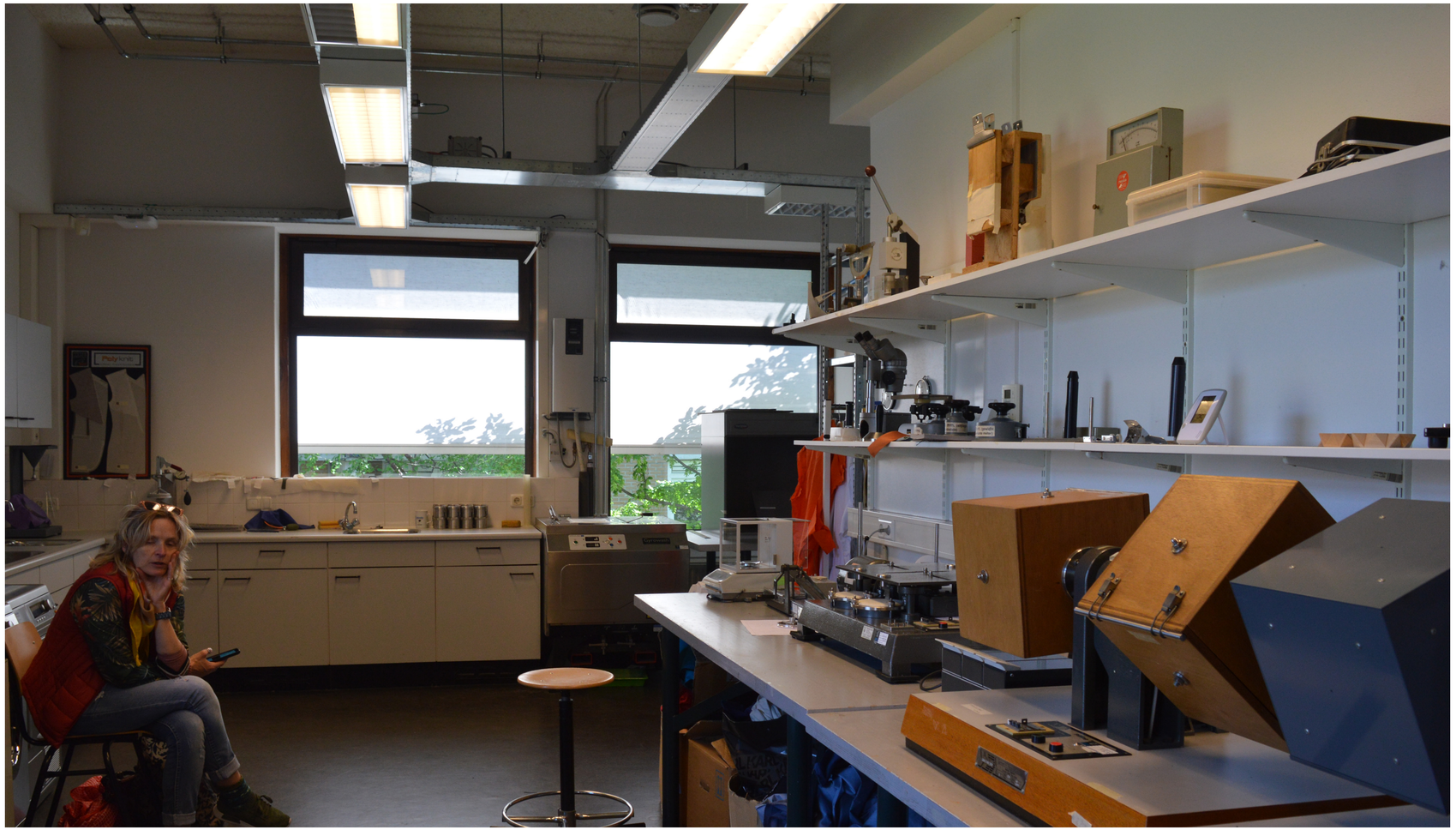


Deze beelden komen uit de serie Segundas Pieles (Tweede Huid) van de Spaanse fotograaf Miguel Vallinas. Hij heeft zich proberen voor te stellen hoe dieren hun persoonlijkheid zouden uiten als ze kleding zouden kunnen dragen.
Foto's Miguel Vallinas

https://www.nrc.nl/nieuws/2019/10/16/fast-fashion-maakt-de-wereld-kapot-a3977014?utm_source=social&utm_medium=facebook&utm_campaig… 1/5



Source: Genaaid NPO



Labels



TEDx - Clara Vuletich
How to engage with ethical fashion



the world we live in



heritage & vacancy

the world we live in

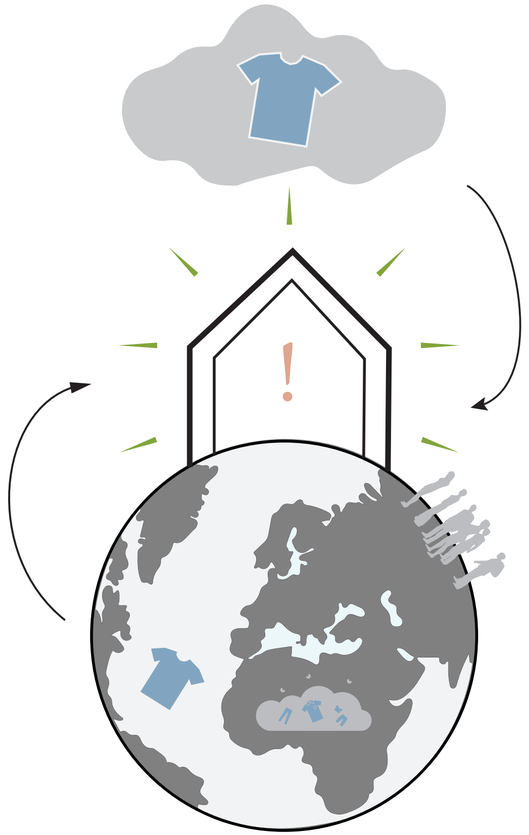


CO^2 emissions

heritage & vacancy

the world we live in

water wastage & pollution
waste pile of clothing



CO^2 emissions

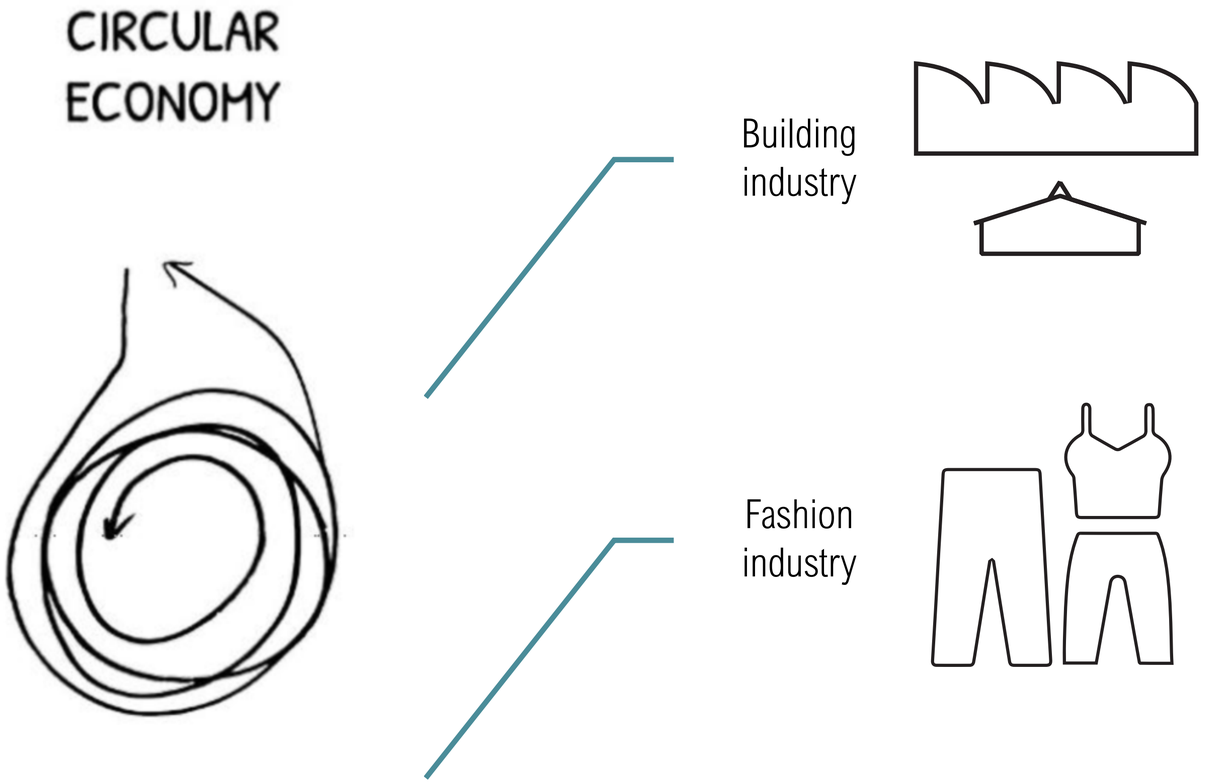
heritage as a platform for learning

heritage & vacancy

the world we live in

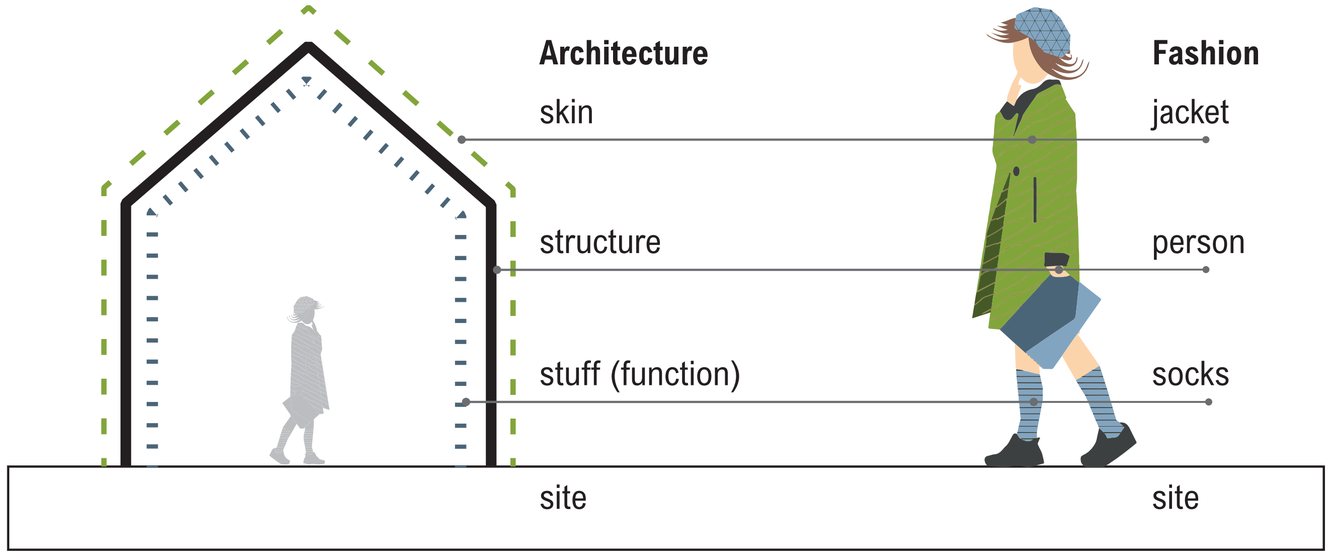
water wastage & pollution
waste pile of clothing

“How to transform a building into a *future proof, circular building*;
in which applied techniques create *awareness*, with respect to the
historical qualities of the former site and buildings?



Source image: https://tyoub.com.au/blogs/news/keep-curios-about-circularity

Project as casus: circularity on two different scales



Architecture	Fashion	Lifespan	
skin	jacket	long	repair / put on extra layer
structure	person	long	most valuable
stuff (function)	socks	short	replace - flexible
site	site	longest	respect & maintain

Heritage approach: own interpretation of shearing layers by Stewart Brand

Content

Hembrug
Green head of the Cape South

Program & Design

Reflection

Hembrug
&
Green Head of the Cape South



Source: https://www.rijksoverheid.nl/actueel/nieuws/2018/01/08/verkoop-hembrugterrein

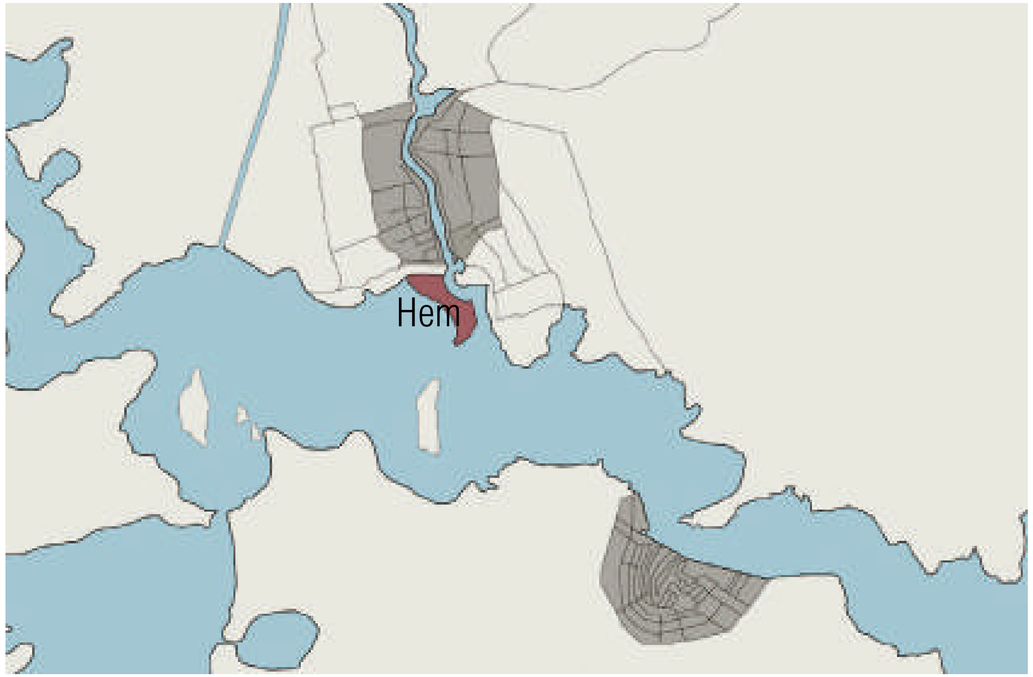
Hembrug area





North Sea Canal

1850

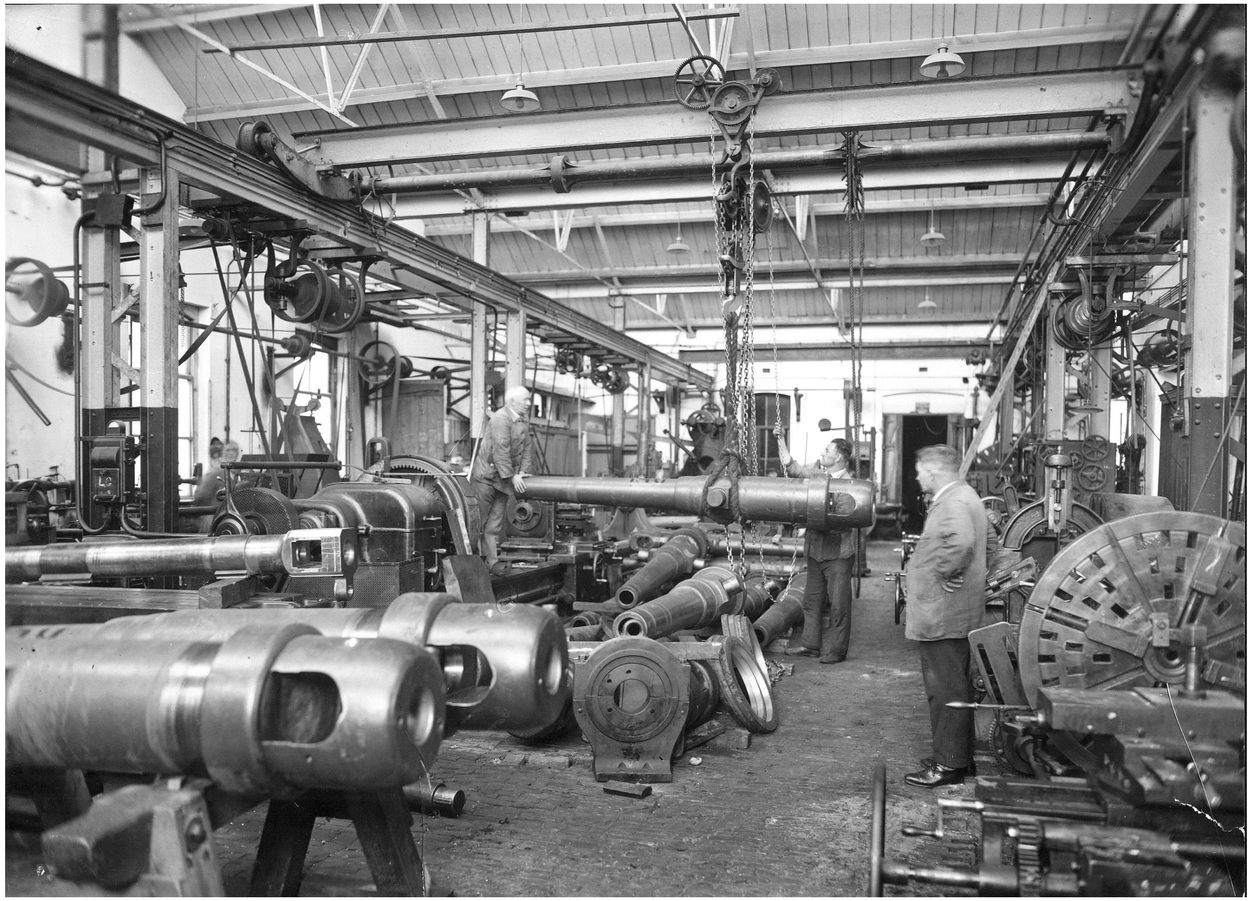


1990



Site part of the IJ

Development North Sea Canal



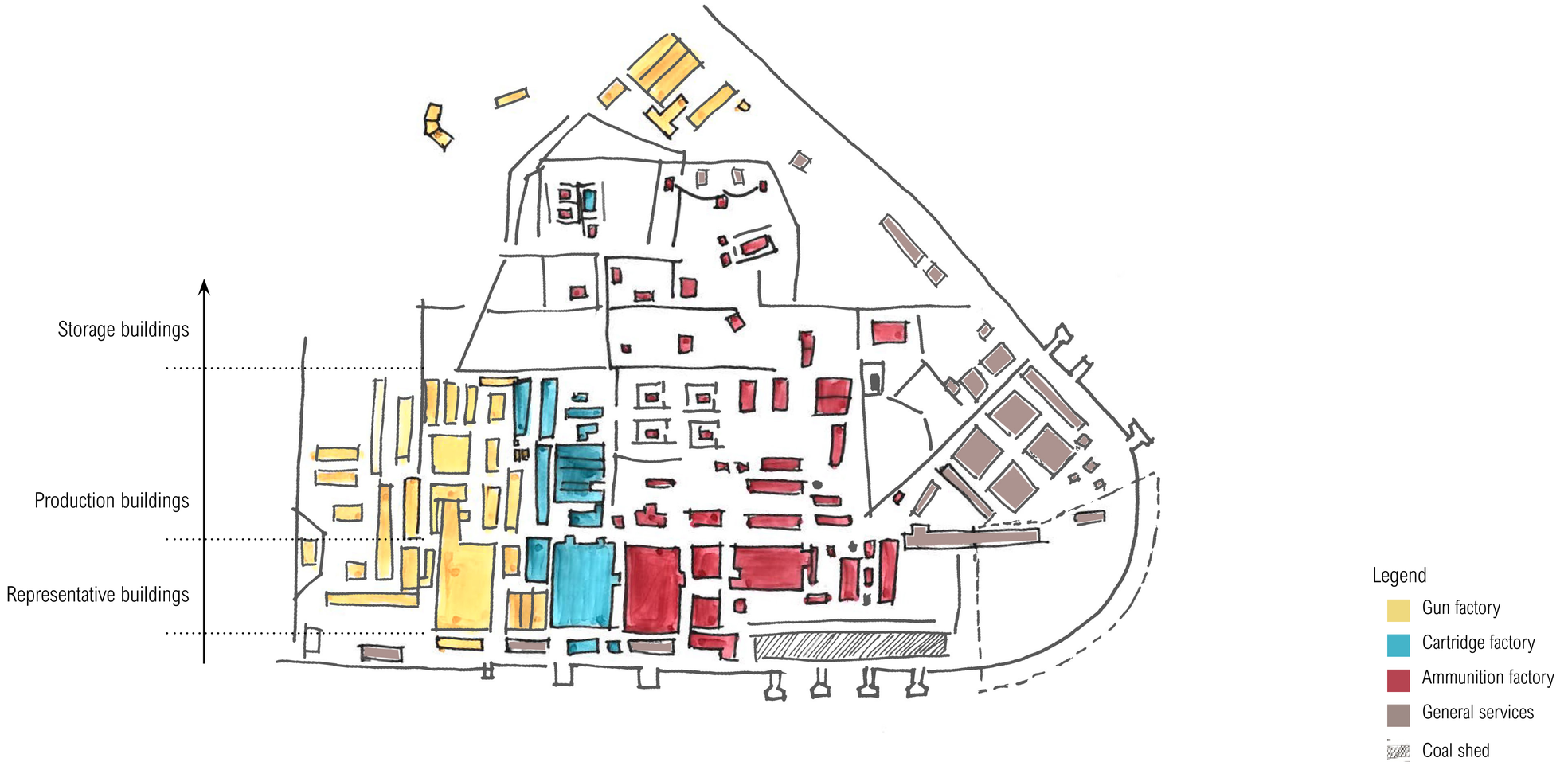


Legend

Hembrug area

Defense line (water)

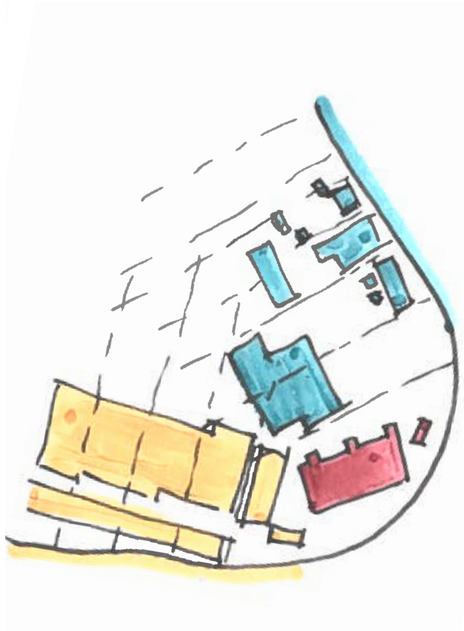
Defense line of Amsterdam



Artillery Establishments
Set up 1924



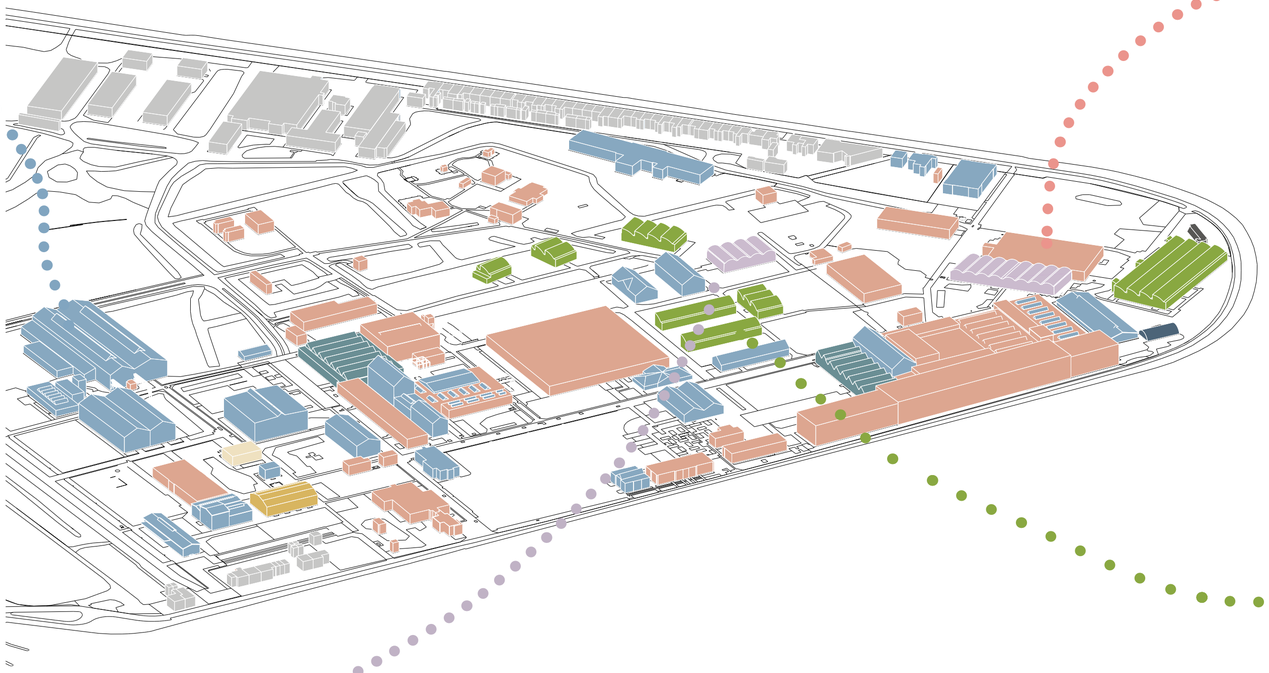
1941



1996

Buildings perpendicular to waterfront



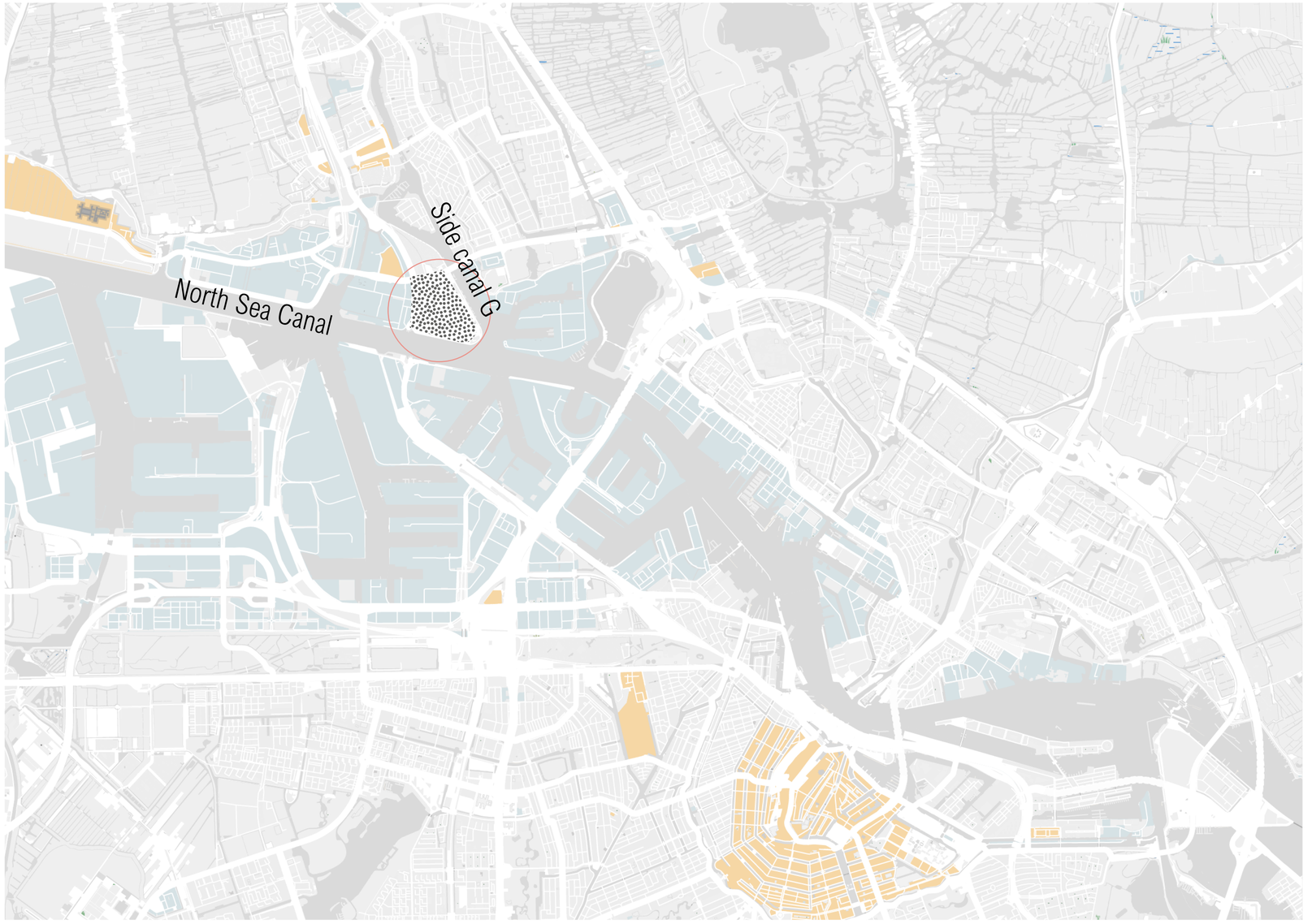




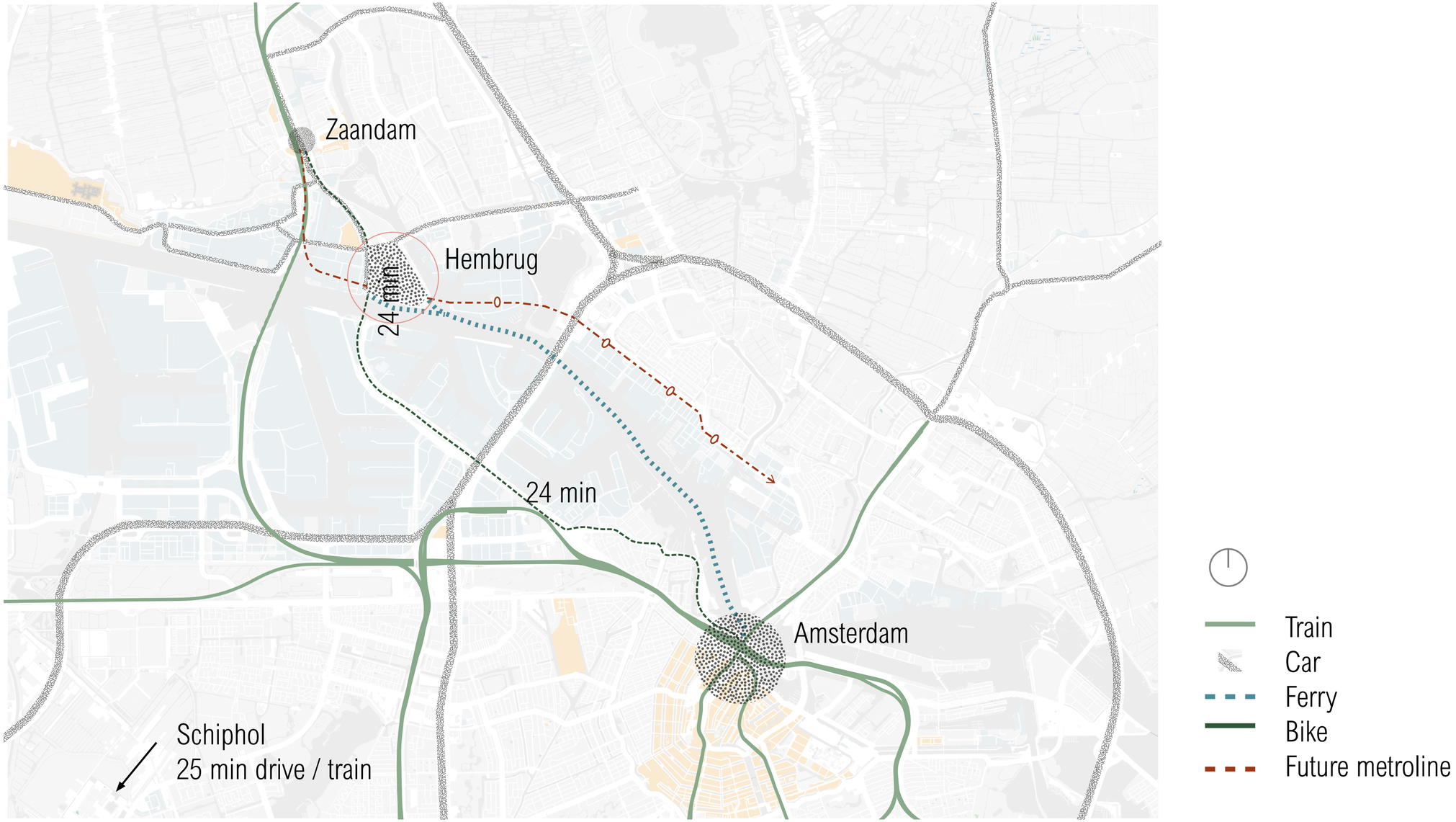




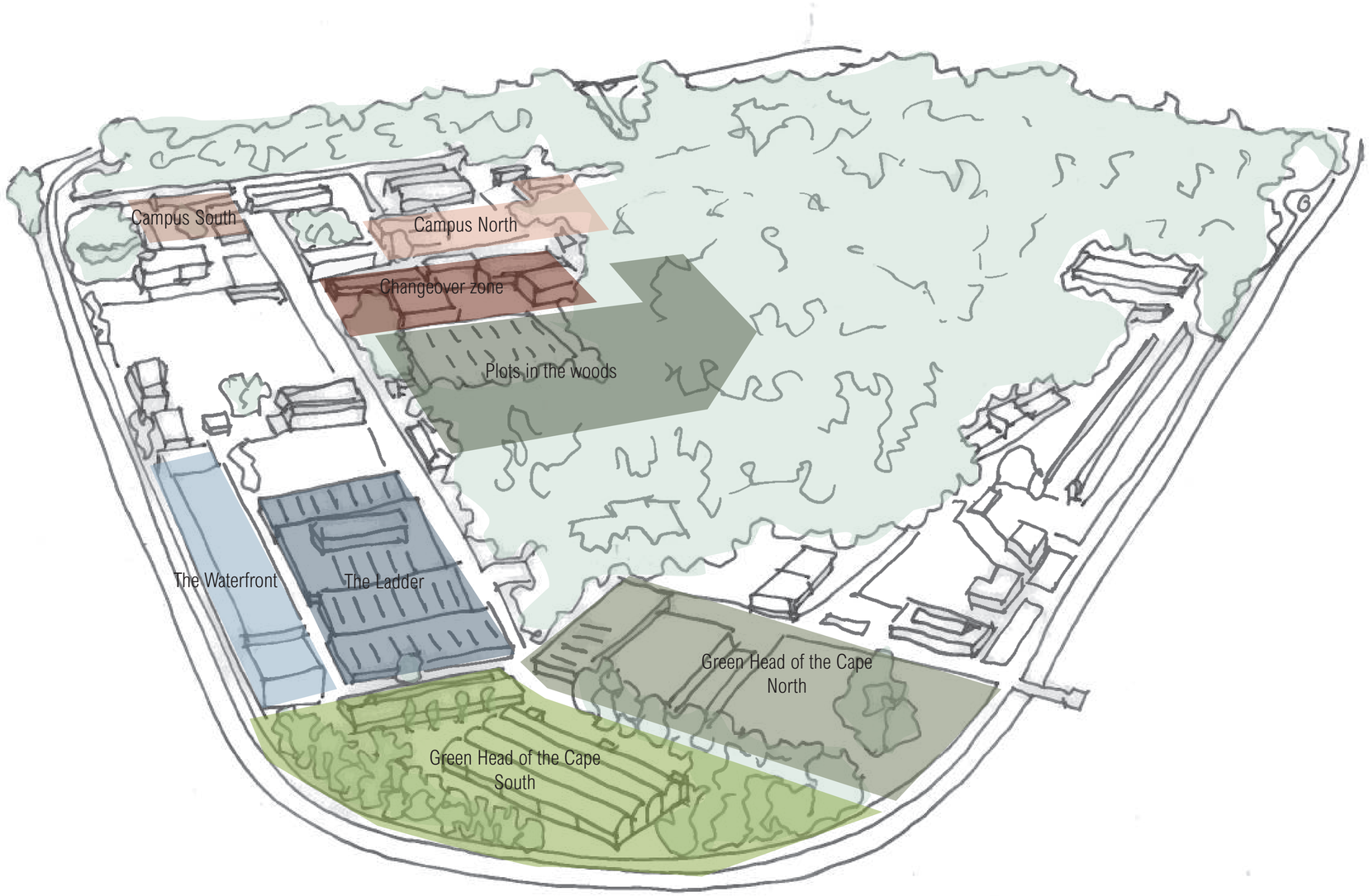
Building typologies



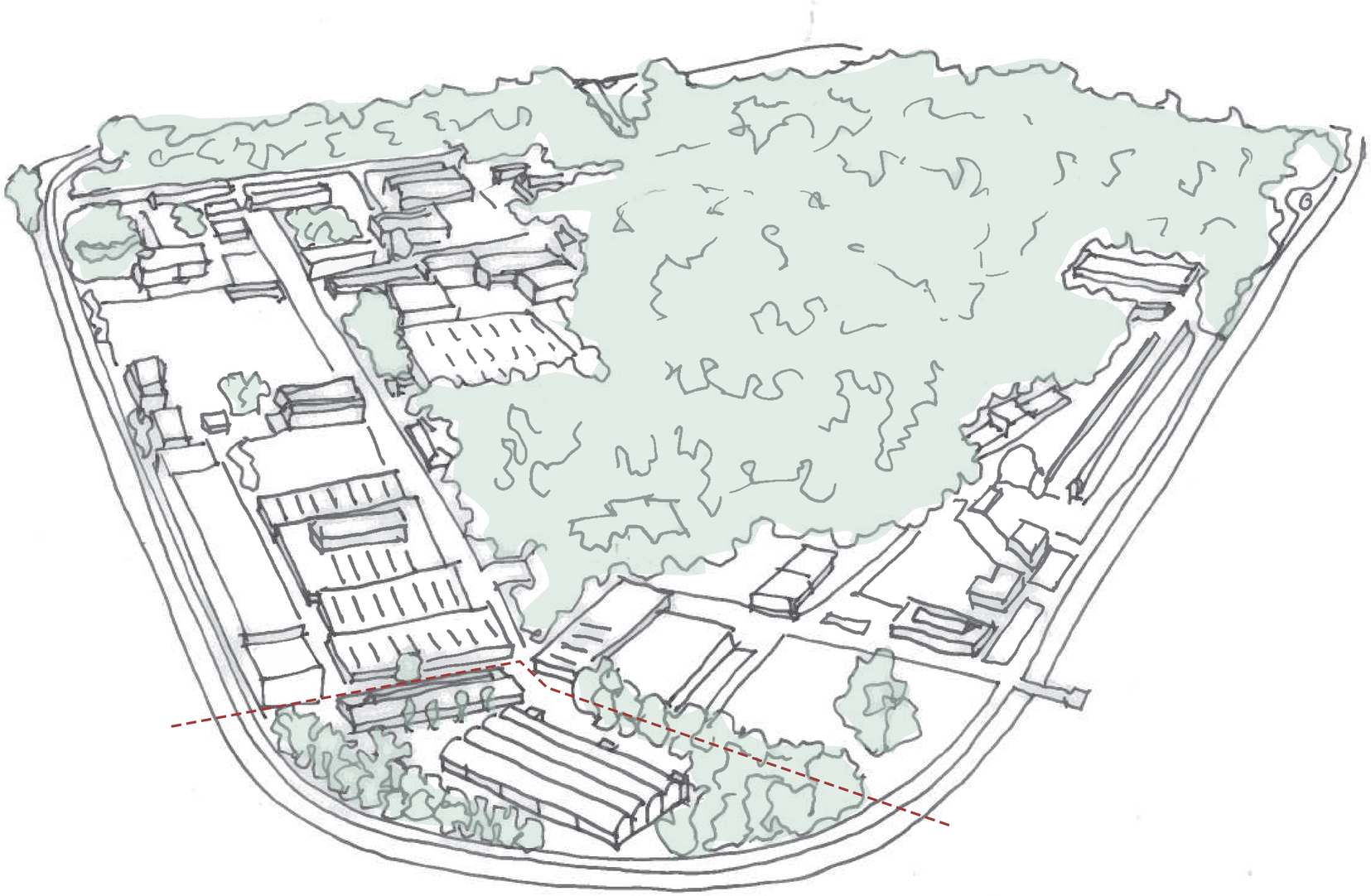
Hembrug penisula in between North Sea Canal and Side canal G



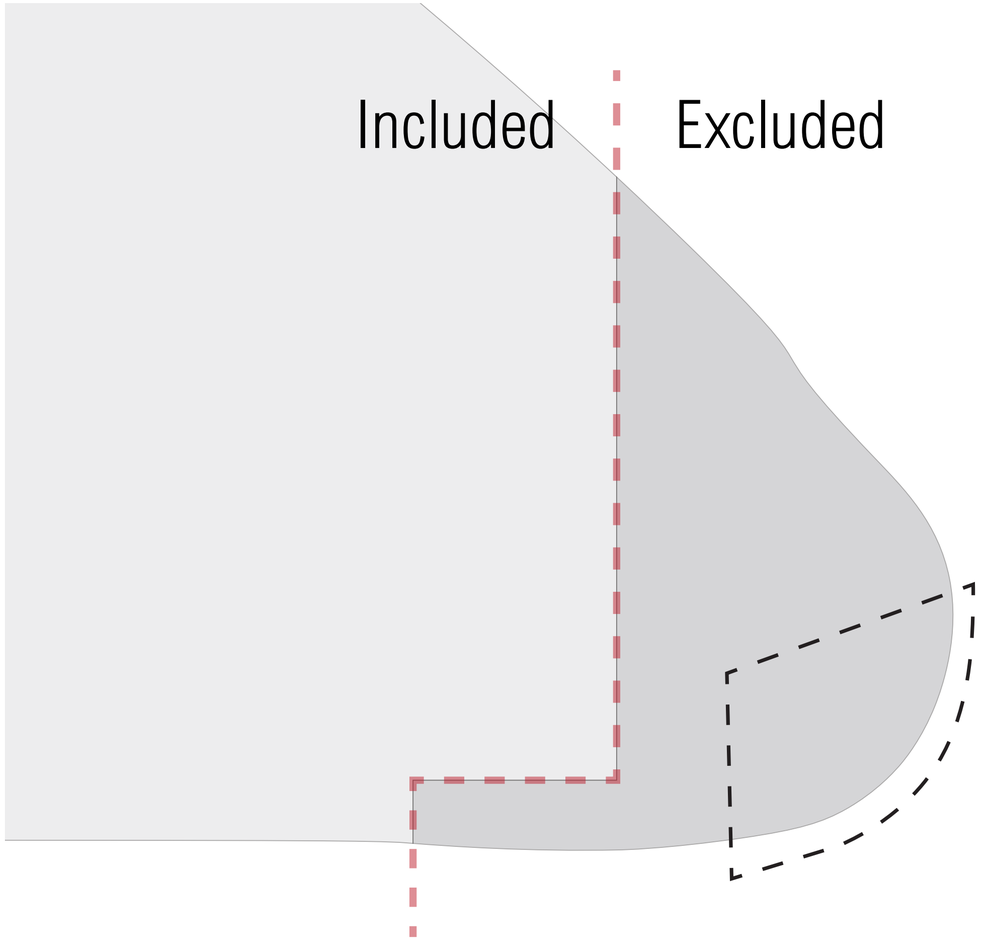
Connections Hembrug area with Zaandam & Amsterdam



Ensembles distinguished by Palmbout

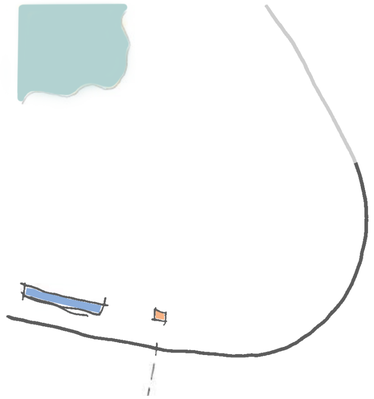


Green Head of the Cape South

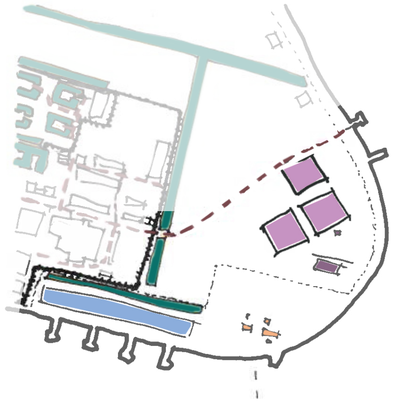


Excluded from the military production process

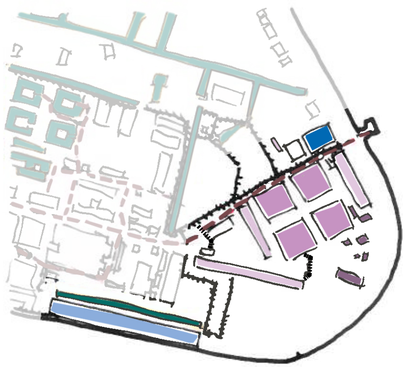
1895



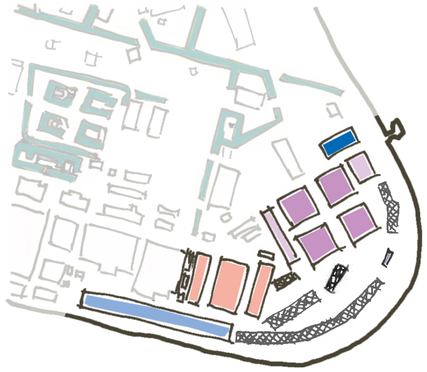
1901



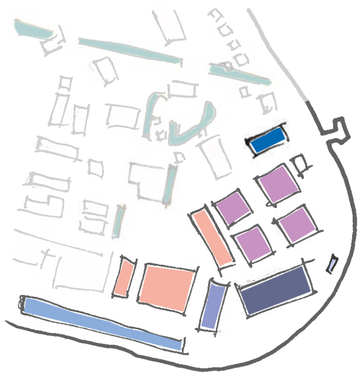
1924



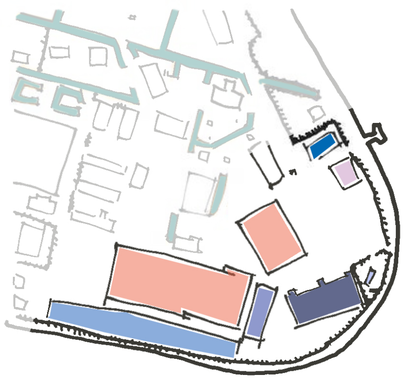
1941



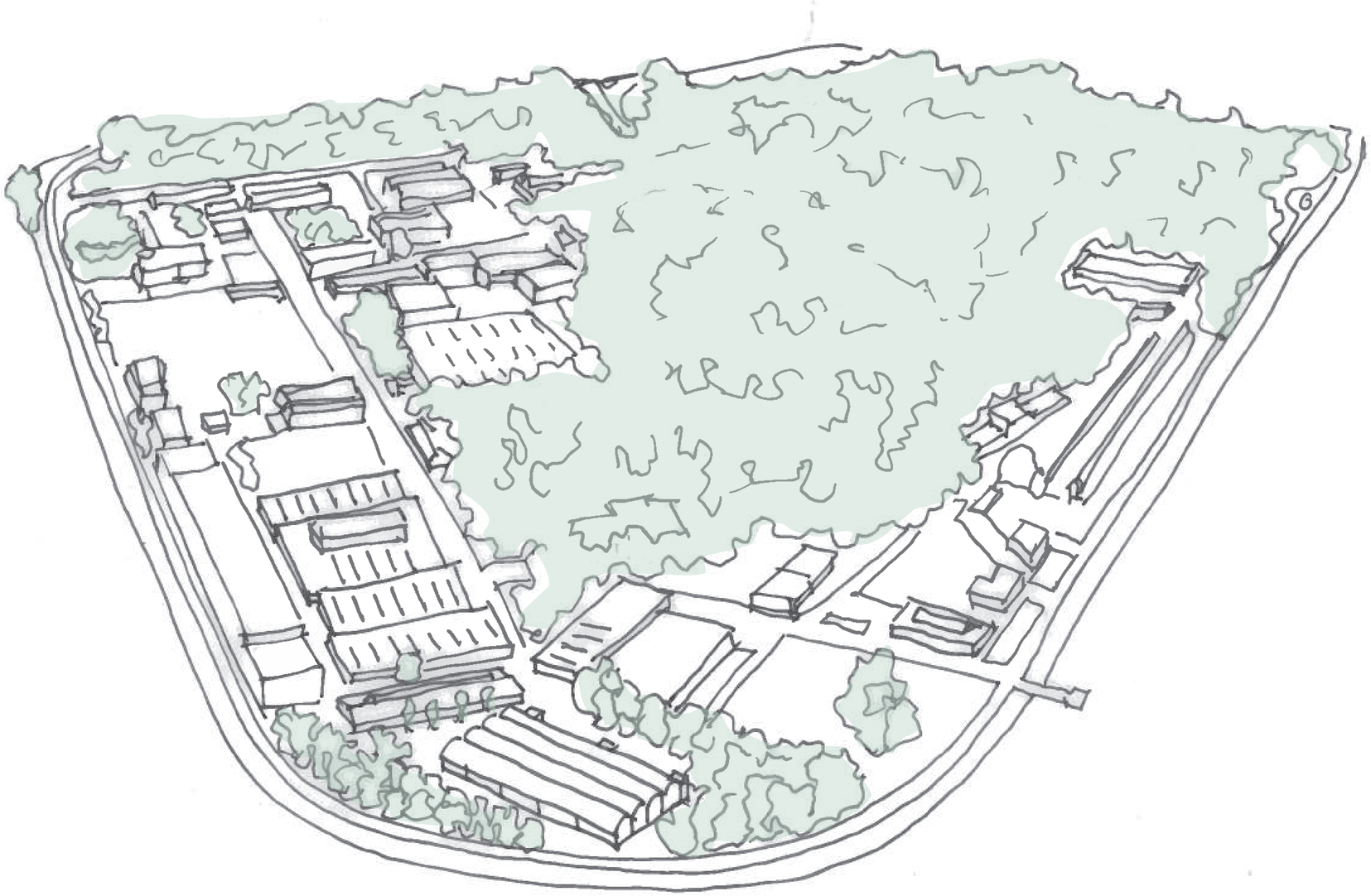
1966



1996







Green Head of the Cape South



The Romney hut
512



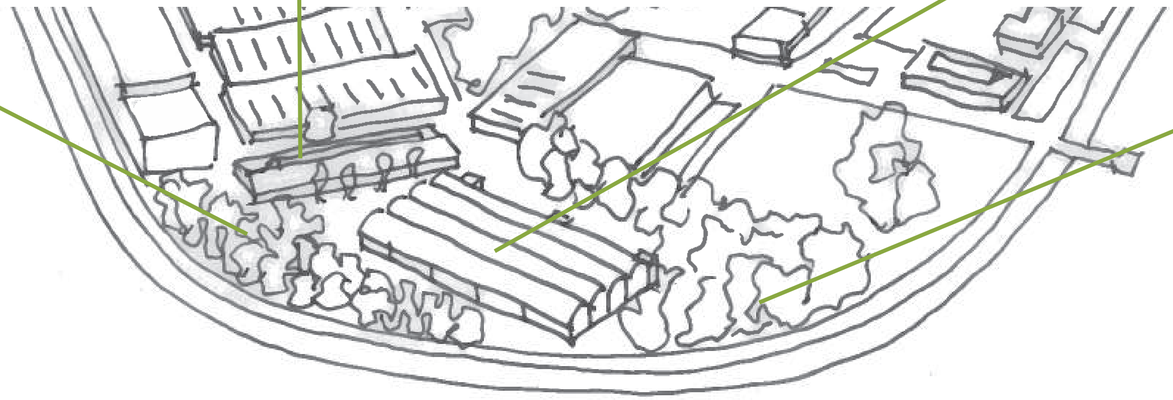
The Storage hall
421



The Factory
430



The Shelter
382





Green squares defined by buildings



Green squares defined by buildings and trees



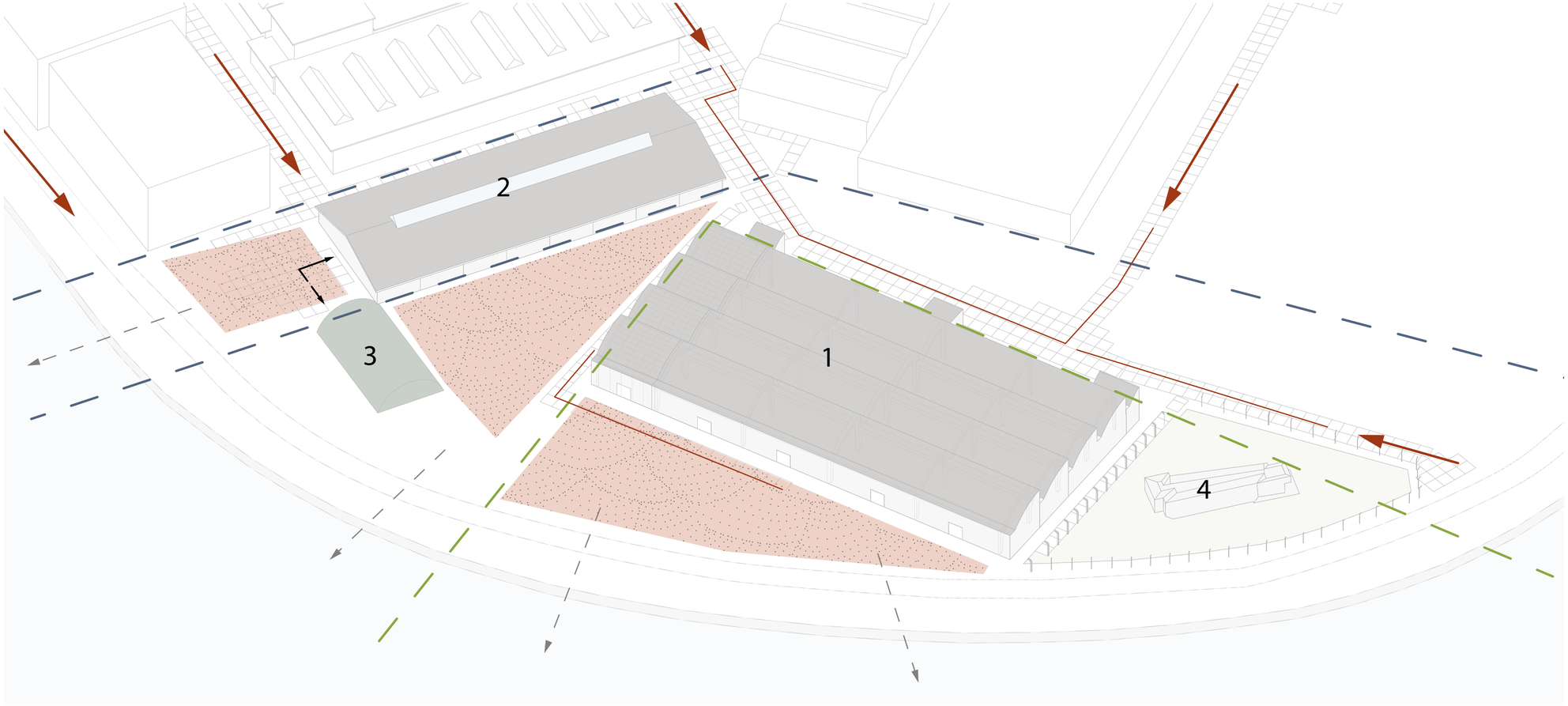
Ensemble enclosed by fence



Blocked connection: shelter



View to the waterfront



Different typologies;
Connection Hembrug

Green character
View to waterfront

Green squares defined
by building directions

Accessible;
but enclosed

Main values ensemble



The Romney hut
512



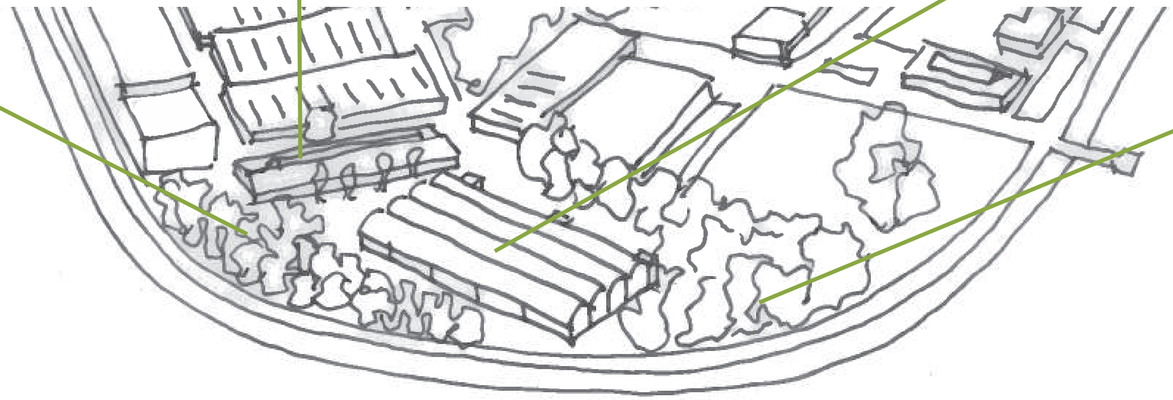
The Storage hall
421

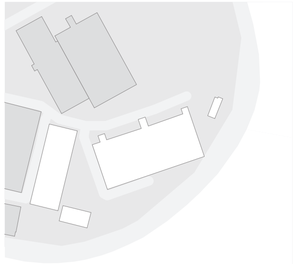


The Factory
430



The Shelter
382

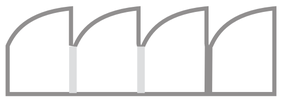


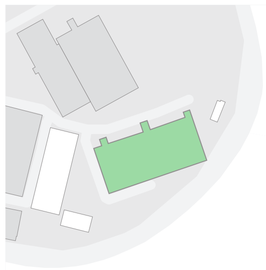


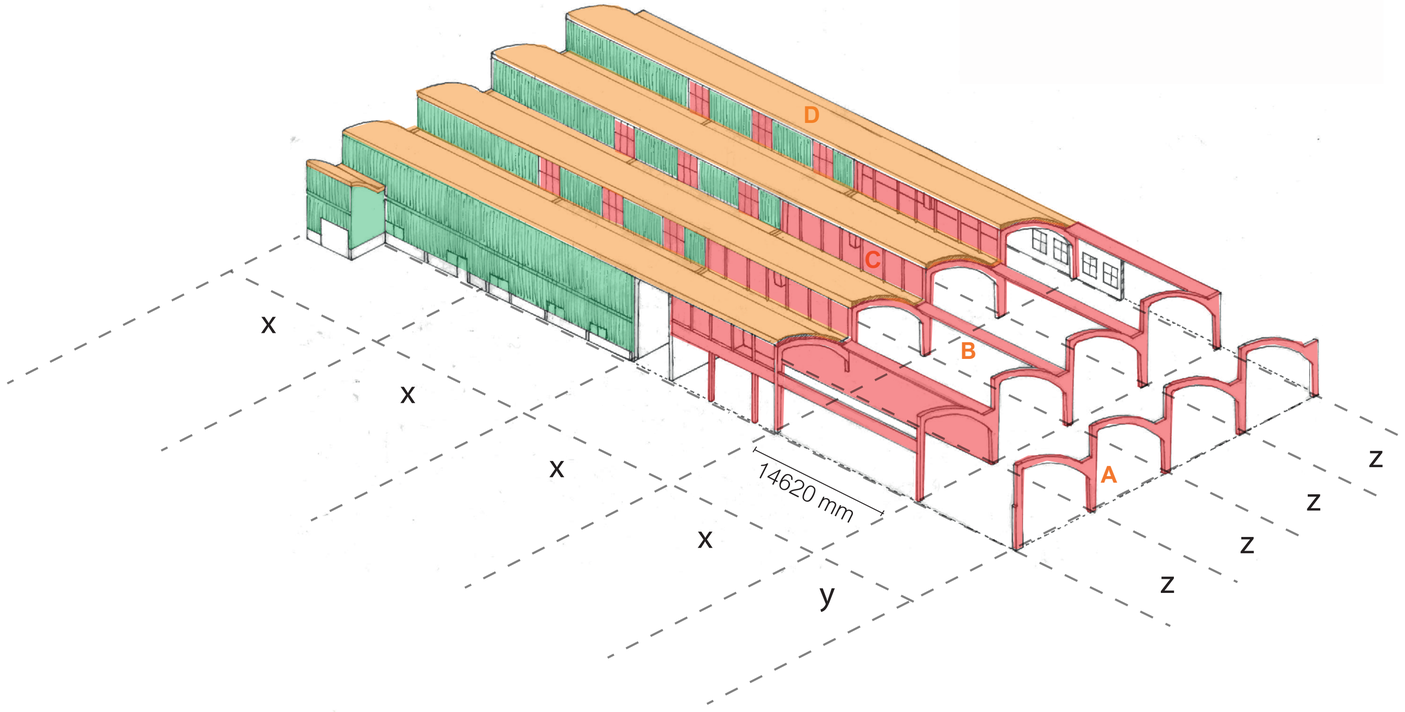
Buildings

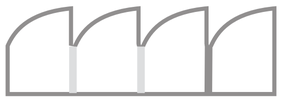


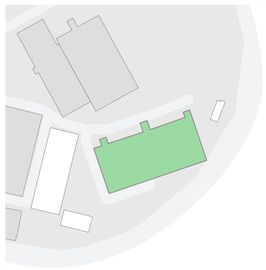


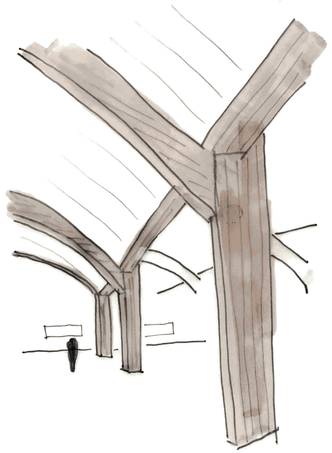


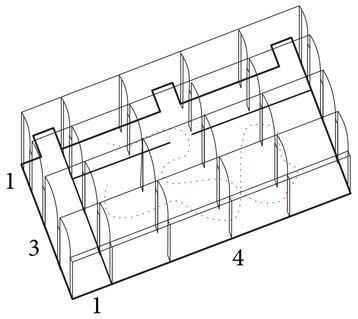


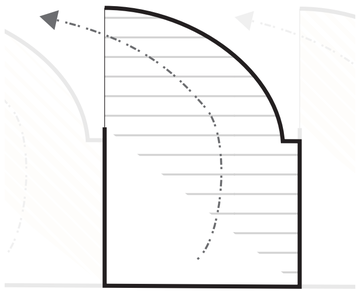

D
C
B
A
x
x
x
x
y
z
z
z
z
14620 mm







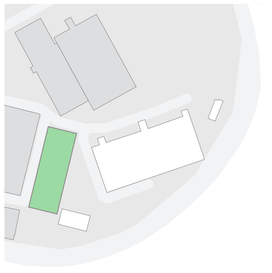

1
3
4
1

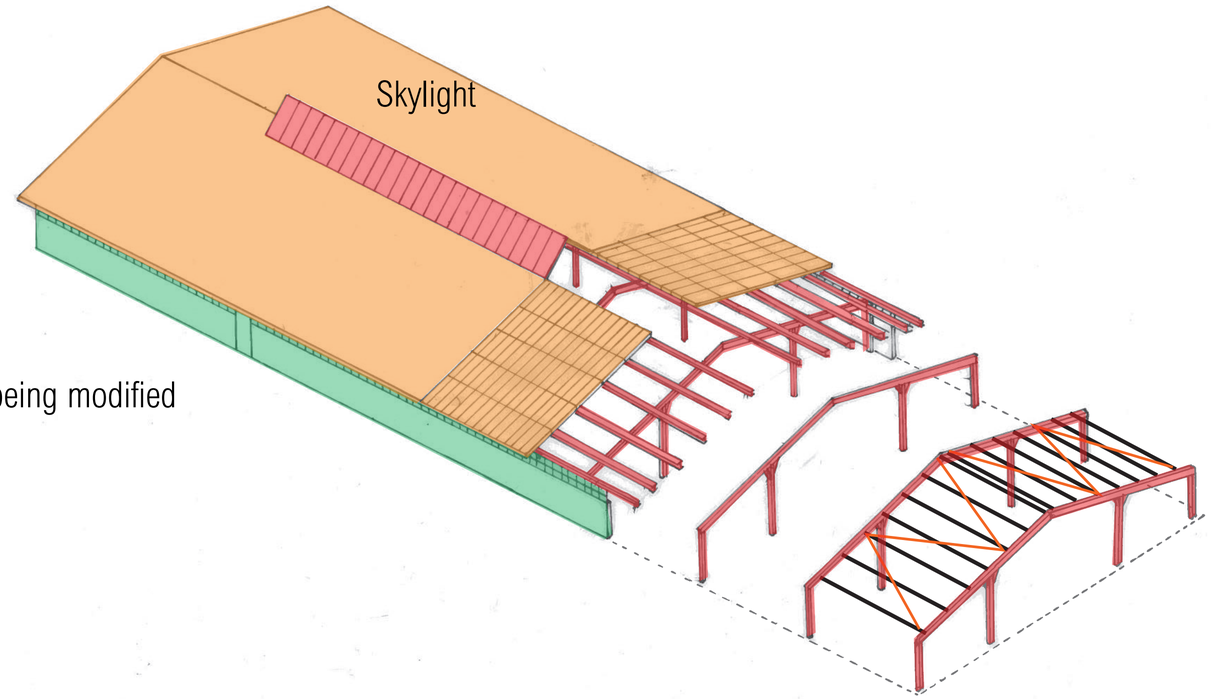


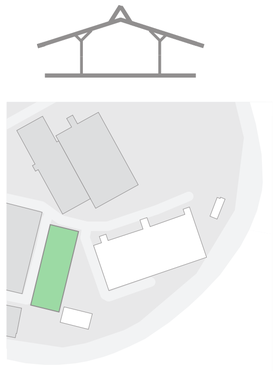


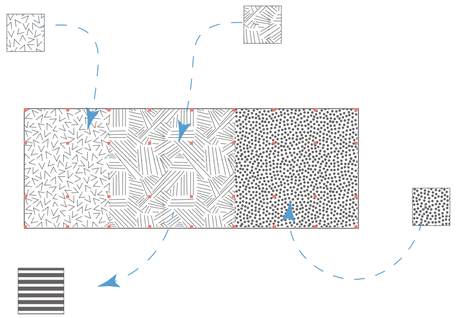


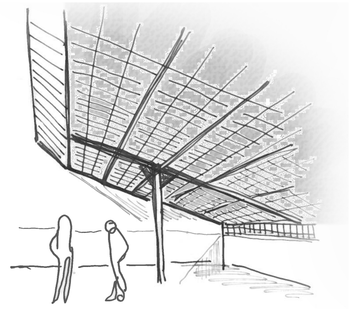


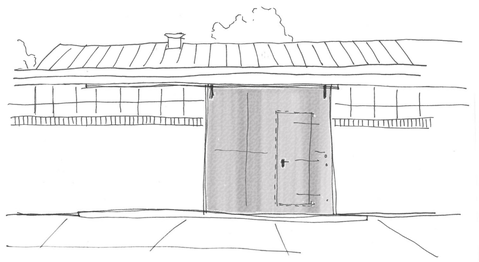



Skylight
Facade being modified
Steel structure

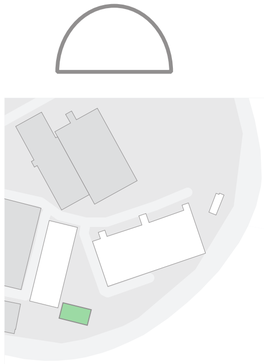


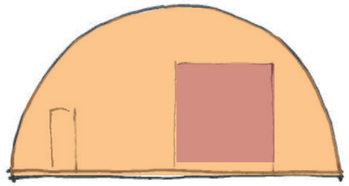




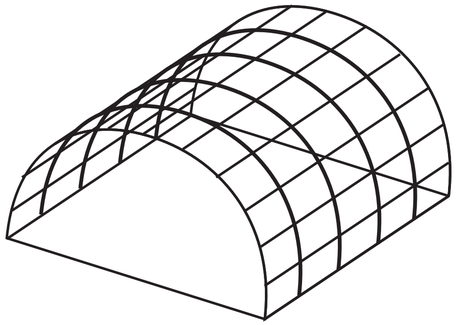


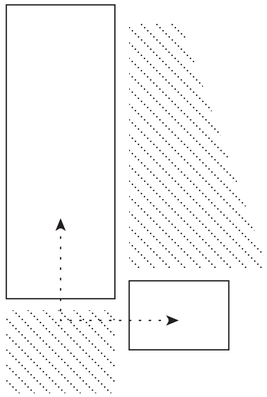




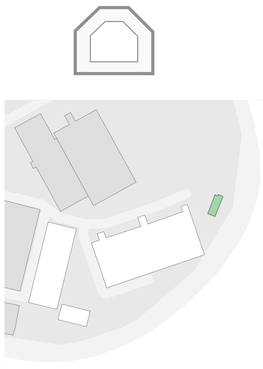


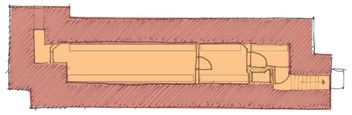
West

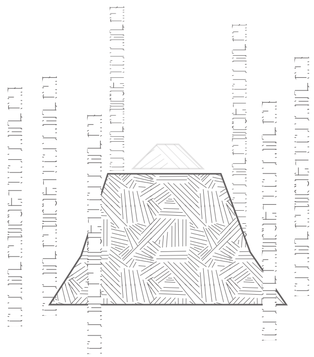


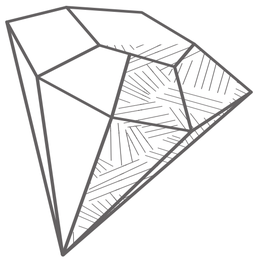


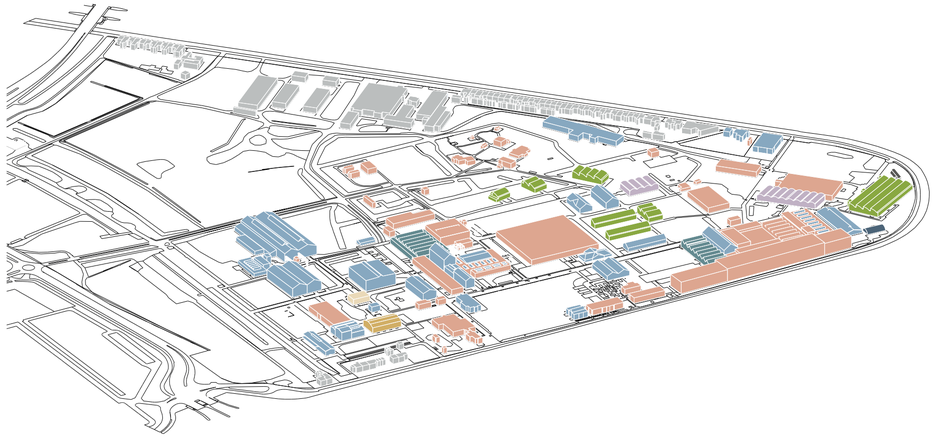




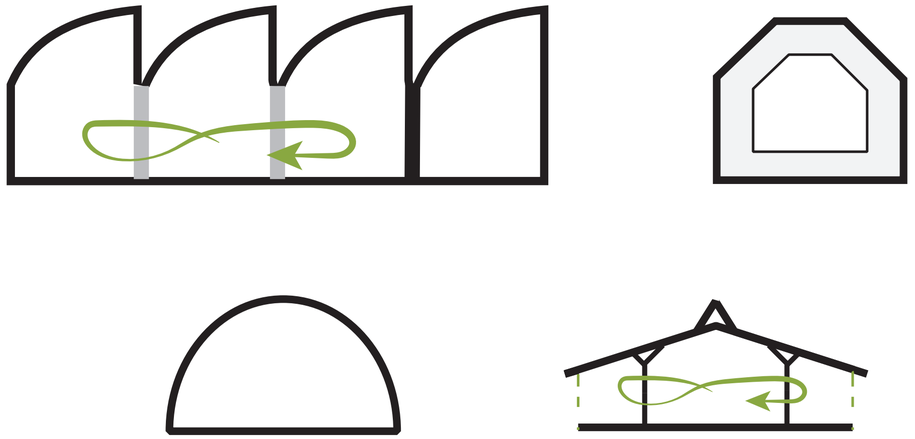




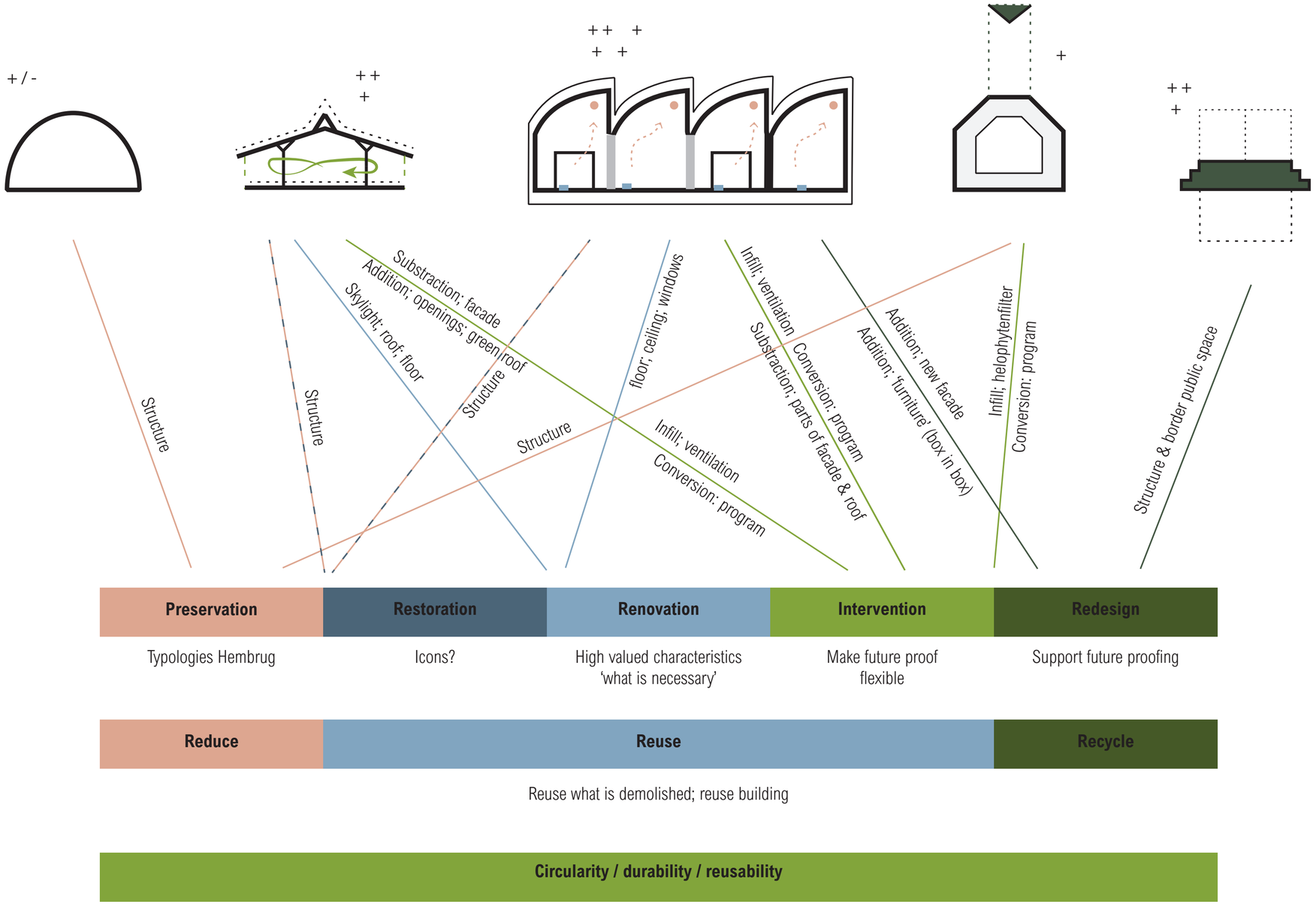




Interconnect with the other buildings on Hembrug

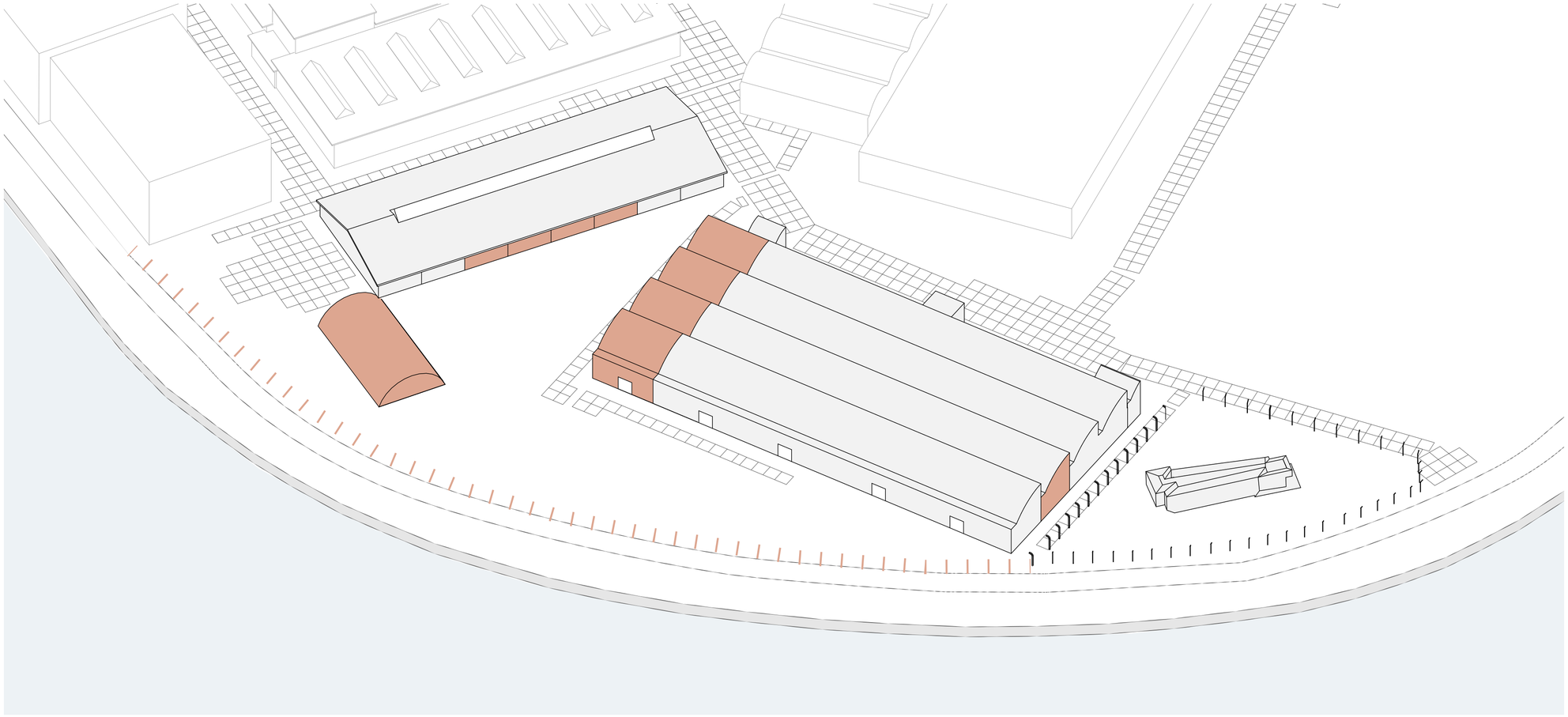


Prove them to be future proof!



Heritage position: showcase different solutions

Program & Design



Parts will be demolished



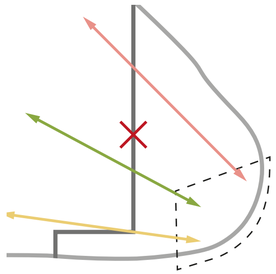
Volumes will be added



Defining the public spaces



Creating new connections



Connect with Hembrug area



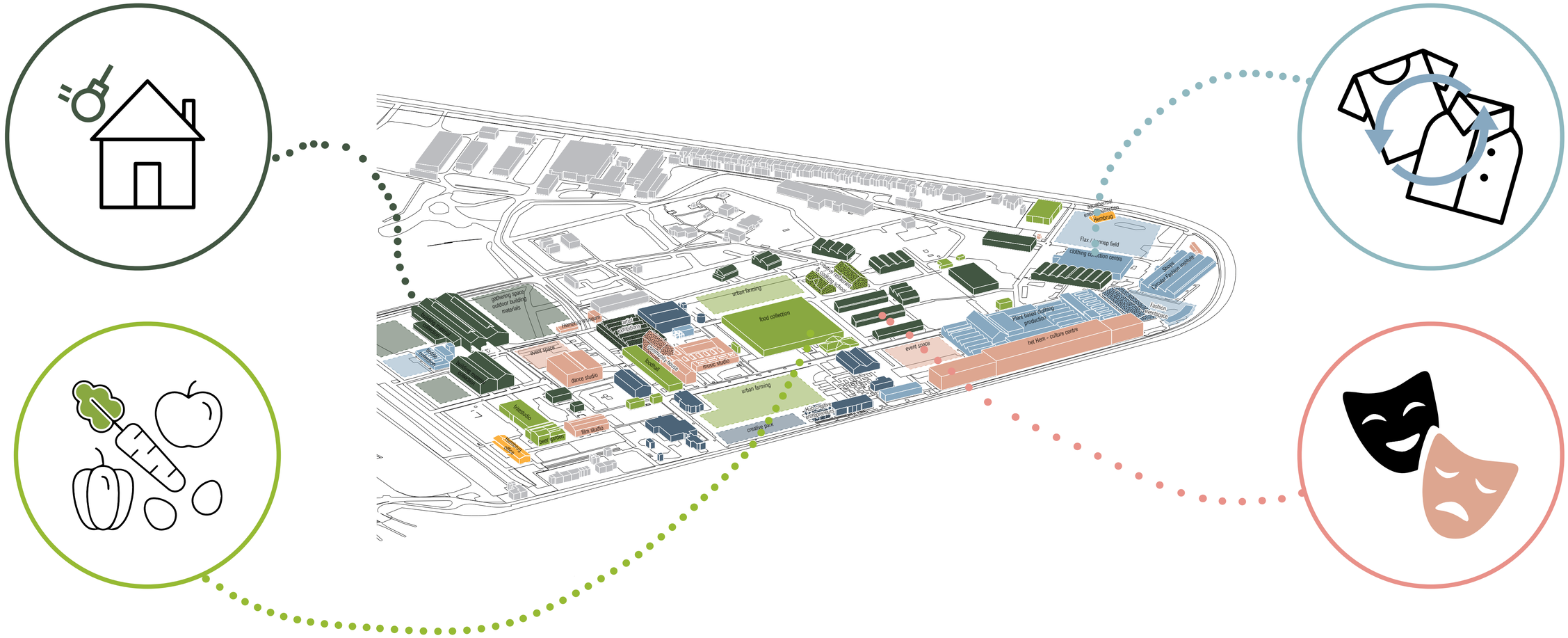
Accessible for everyone



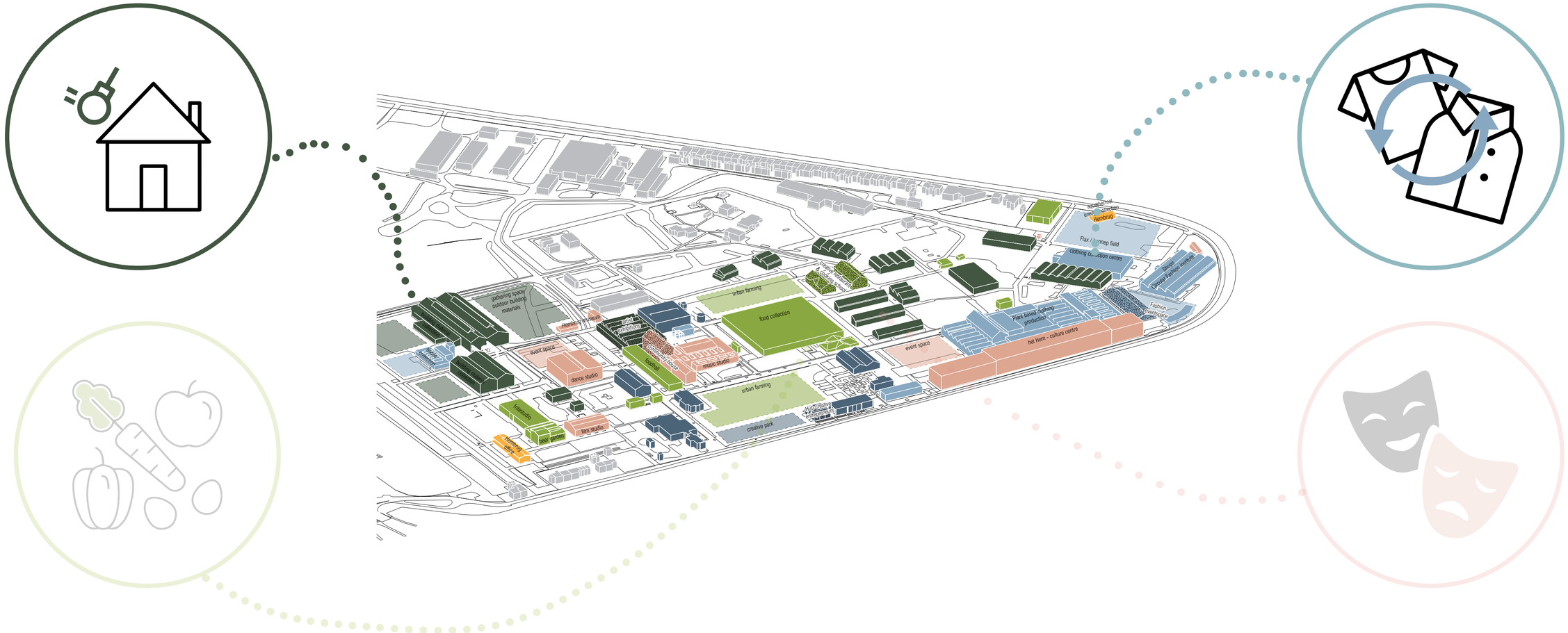
Creating/improving awareness towards a more circular fashion and building industry

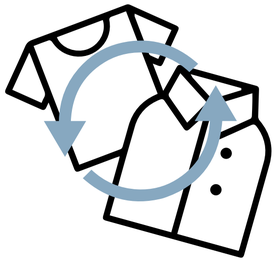


Making use of existing building structures



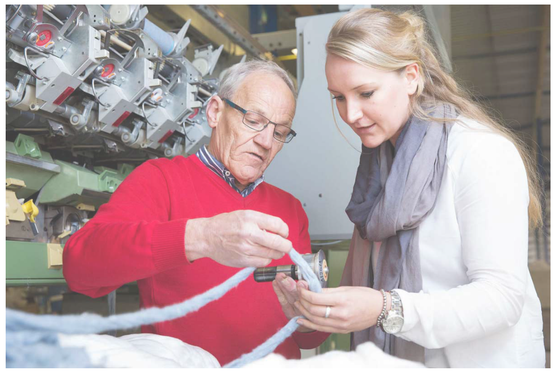
Proposal: Hembrug as Circular Peninsula


gathering space
outdoor building
materials
Hembrug museum
event space
dance studio
music studio
urban farming
food collection
creative park
film studio
beer garden
Hembrug
Flax / hennep field
clothing collection centre
Plant based clothing
production
Fashion
Eventspace
event space
het Hem - culture centre



Recycling of clothing

TEXPERIUM
OPEN INNOVATIE CENTRUM



Het open innovatiecentrum Texperium streeft ernaar om de milieu-impact van de textielbranche significant te verminderen. Als nationaal en internationaal opererende onderneming zijn we gespecialiseerd op het gebied van de mechanische textielrecycling en hoogwaardige herverwerking.



Plant based production of clothing

Vlas: een zeer veelzijdig gewas

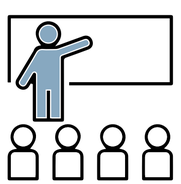
GROEN
Andrea Holwerda – 27 juni 2011



▲ Een veld vol vlas in Noord-Brabant. "Bij het verbouwen ervan zijn nauwelijks bestrijdingsmiddelen nodig." ©Van de Bilt BV

Met vlas kun je linnen maken, maar het zit ook in brandslangen en fietspaddestoelen. En het is net zo sterk als glasvezel. In Enschede wordt het product de komende maanden gepromoot.

https://www.trouw.nl/groen/vlas-een-zeer-veelzijdig-gewas~a3307e9c/



Institutional functions

- Production lab 500 m2
- Recycling lab 500 m2
- Office 500 m2
- Pantry 80 m2



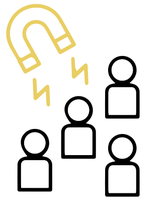
Supportive to institute

- Greenhouse 200 m2
- Farmland 1400 m2



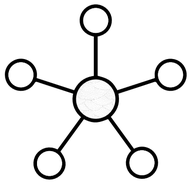
Educational functions

- Educational museum 200 m2
- Exhibition space 200 m2
- Workshop space 40 m2
- Lecture room 80 m2



Commercial functions

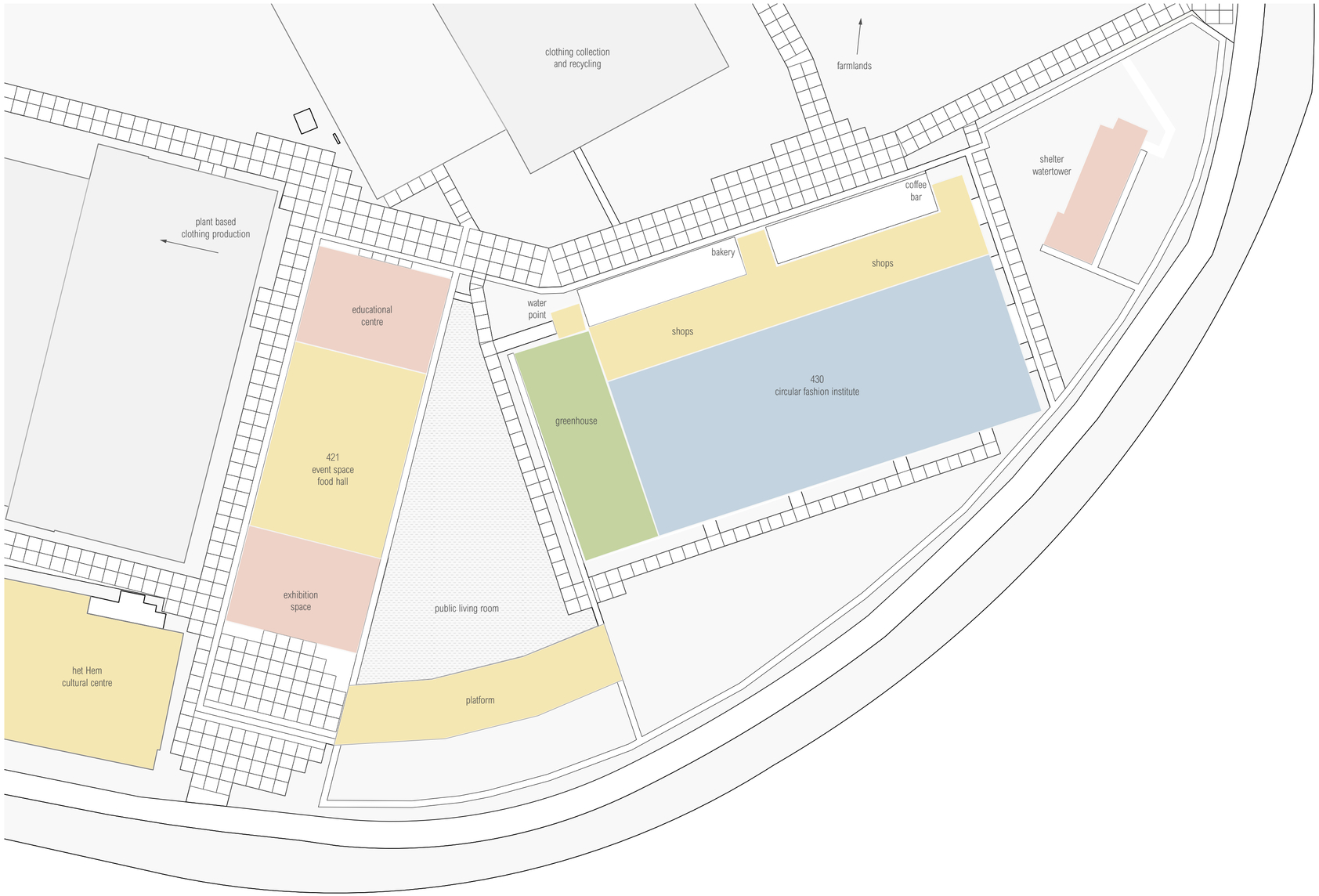
- Event space food hall 500 m2
- Shops 500 m2
- Storage 200 m2
- Café's 70 m2



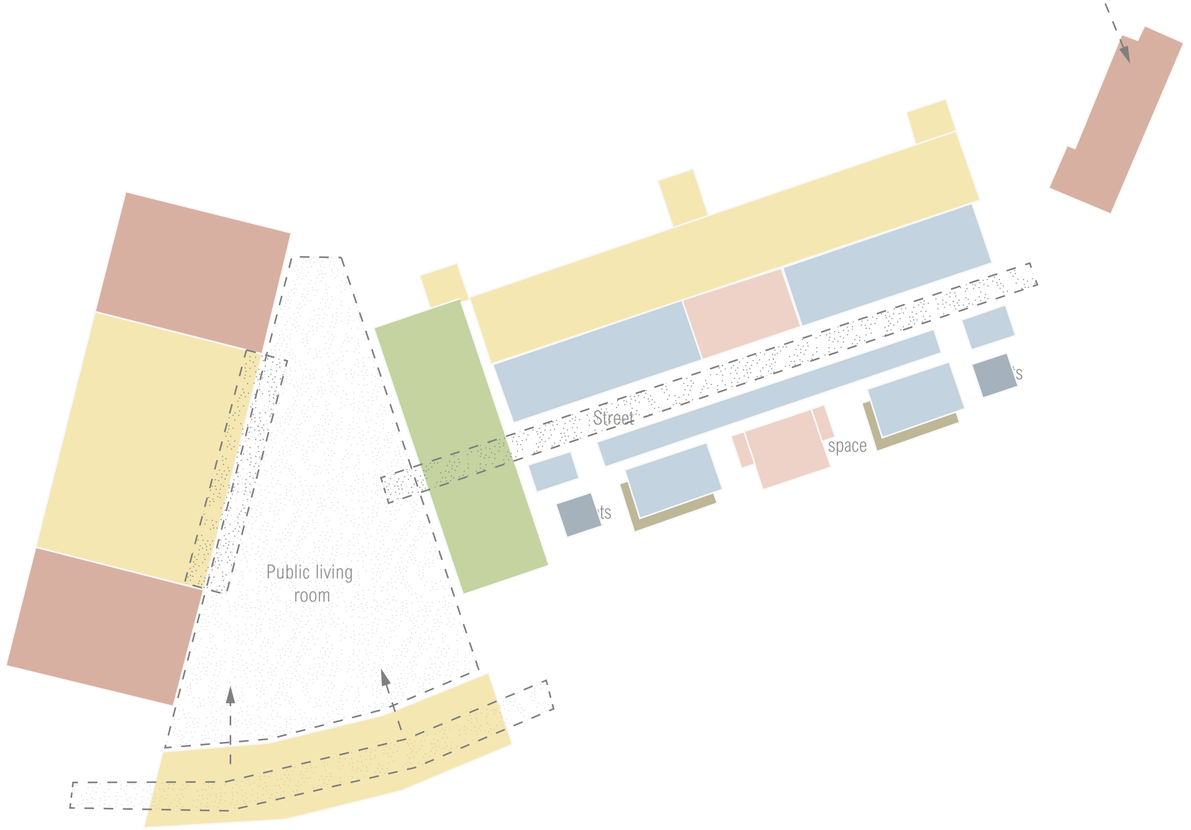
Connecting mixed use space

- Public living room
- Corridor "Street"

Program and square metres



Masterplan Hembrug



Commercial functions

Educational functions

Institutional functions

Supportive to institute

Connecting mixed use space

Masterplan Hembrug



Recycling of clothing

Plant based production of clothing



TEXPERIUM
OPEN INNOVATIE CENTRUM

Het open innovatiecentrum Texperium streeft ernaar om de milieu-impact van de textielbranche significant te verminderen. Als nationaal en internationaal opererende onderneming zijn we gespecialiseerd op het gebied van de mechanische textielrecycling en hoogwaardige herverwerking.

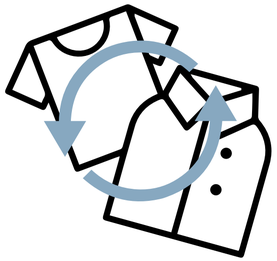
Vlas: een zeer veelzijdig gewas

GROEN

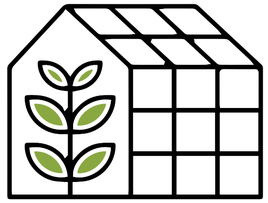
Andrea Holwerda – 27 juni 2011

Met vlas kun je linnen maken, maar het zit ook in brandslangen en fietspaddestoelen. En het is net zo sterk als glasvezel. In Enschede wordt het product de komende maanden gepromoot.

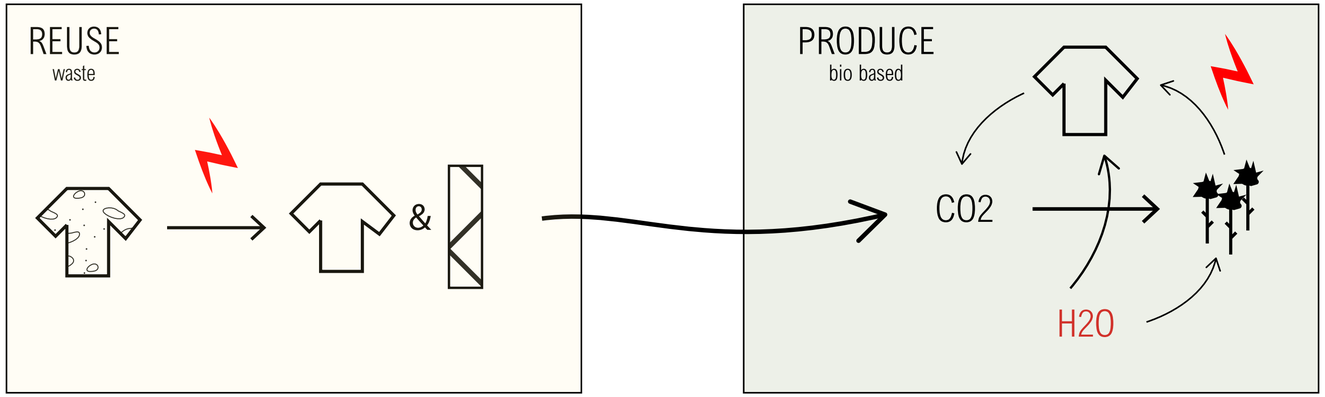
https://www.trouw.nl/groen/vlas-een-zeer-veelzijdig-gewas~a3307e9c/



Recycling of clothing

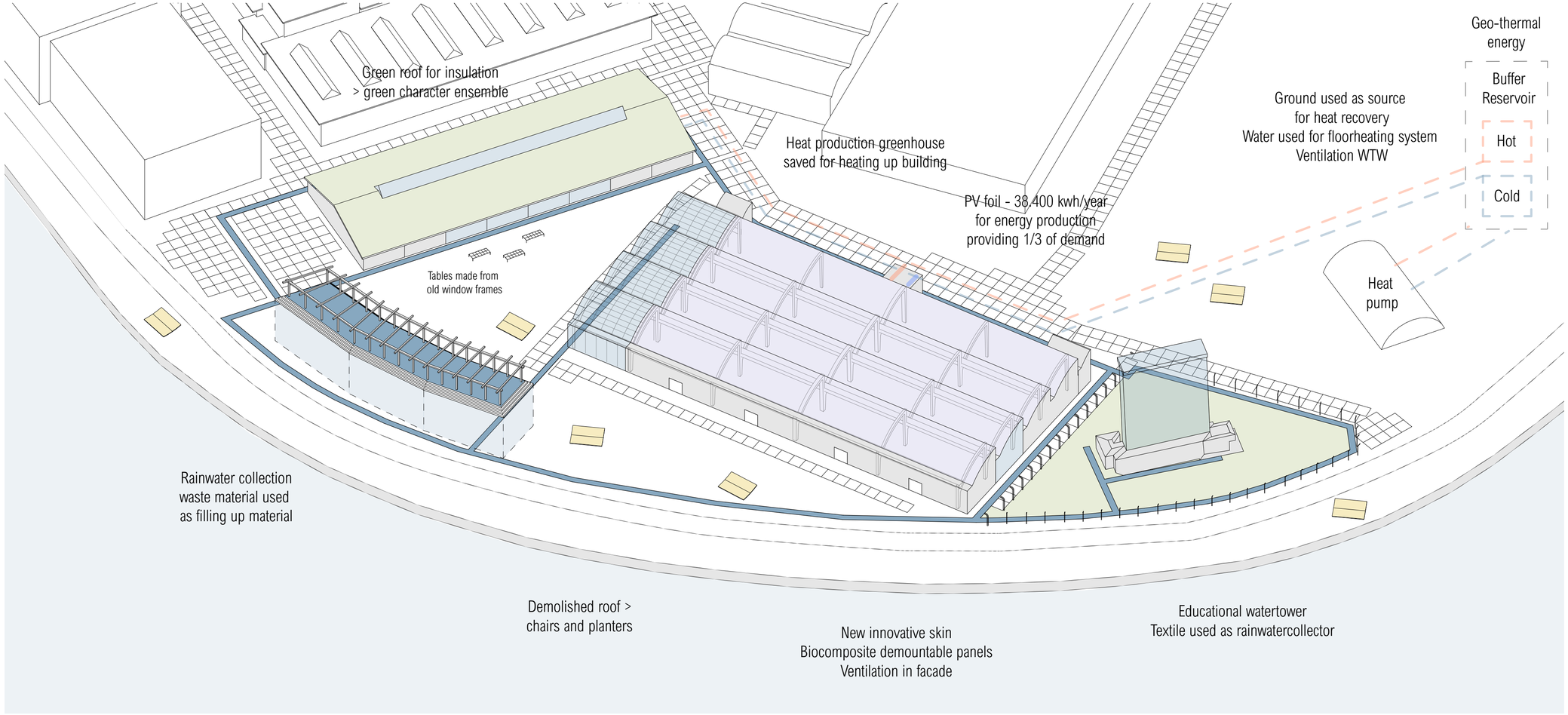


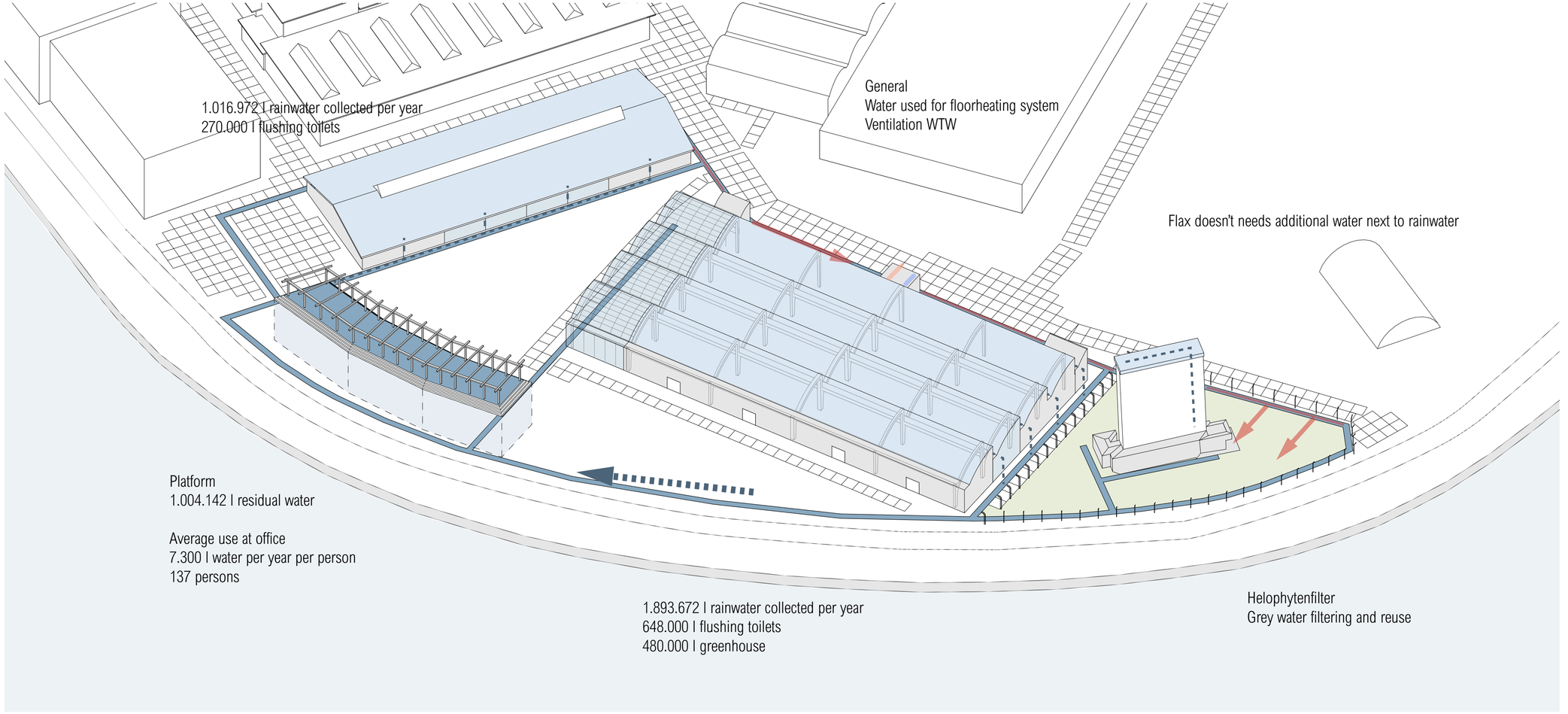
Plant based production of clothing



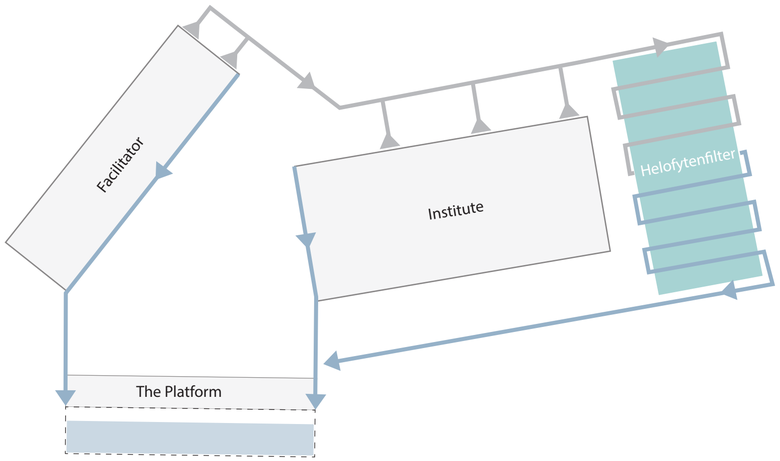
Energy

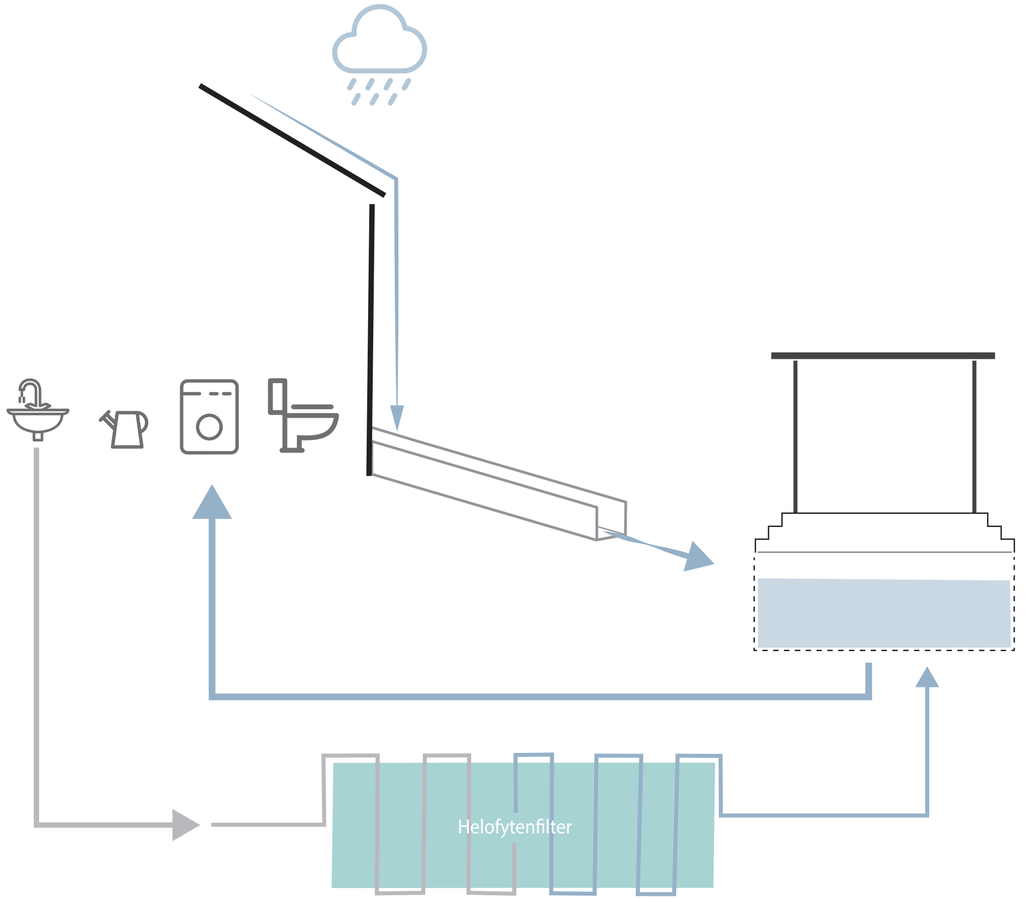
Water + Energy (+ CO2)

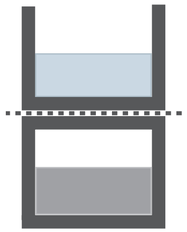

Green roof for insulation
> green character ensemble
Heat production greenhouse
saved for heating up building
PV foil - 38.400 kwh/year
for energy production
providing 1/3 of demand
Ground used as source
for heat recovery
Water used for floorheating system
Ventilation WTW
Geo-thermal
energy
Buffer
Reservoir
Hot
Cold
Heat
pump
Tables made from
old window frames
Rainwater collection
waste material used
as filling up material
Demolished roof >
chairs and planters
New innovative skin
Biocomposite demountable panels
Ventilation in facade
Educational watertower
Textile used as rainwatercollector

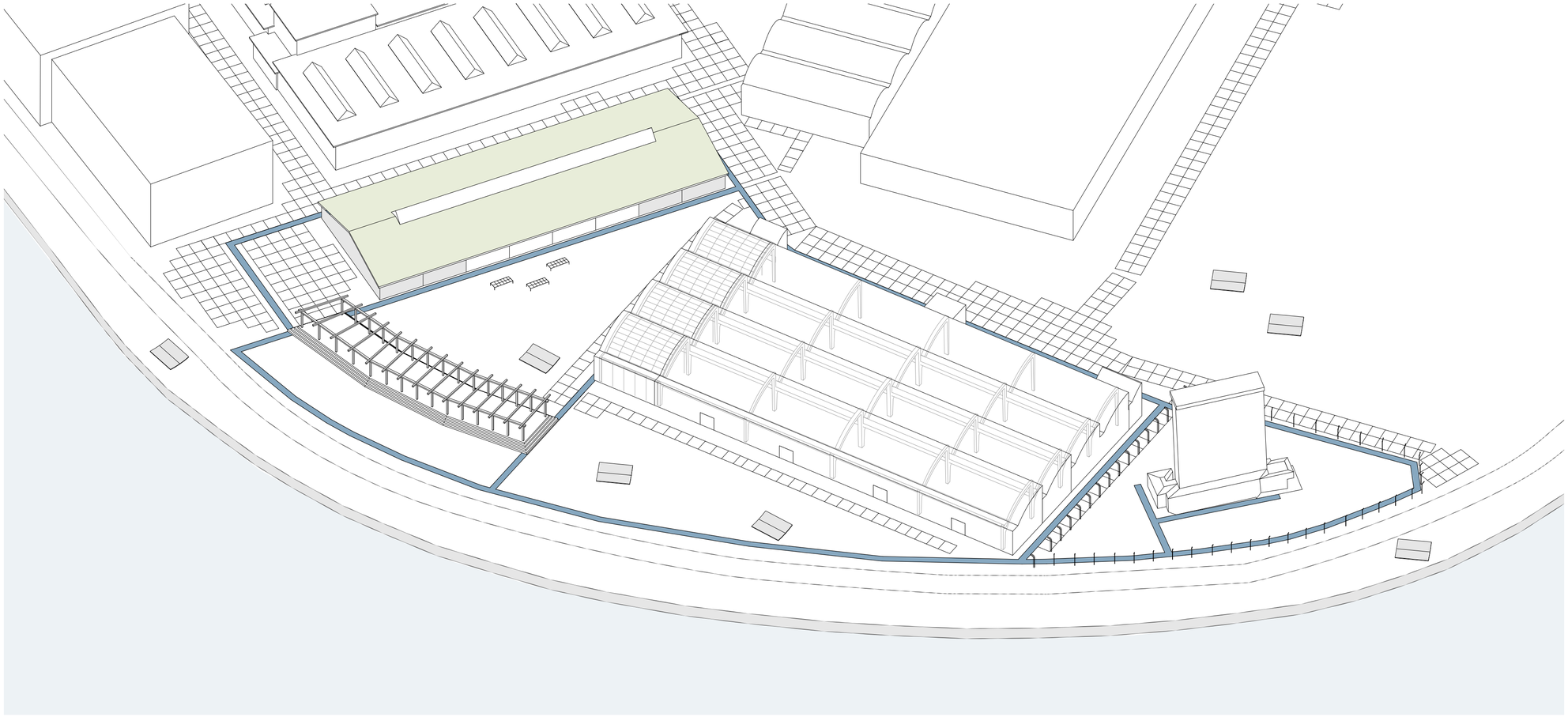

1.016.972 l rainwater collected per year
270.000 l flushing toilets
General
Water used for floorheating system
Ventilation WTW
Flax doesn't needs additional water next to rainwater
Platform
1.004.142 l residual water
Average use at office
7.300 l water per year per person
137 persons
1.893.672 l rainwater collected per year
648.000 l flushing toilets
480.000 l greenhouse
Helophytenfilter
Grey water filtering and reuse

Water cycle

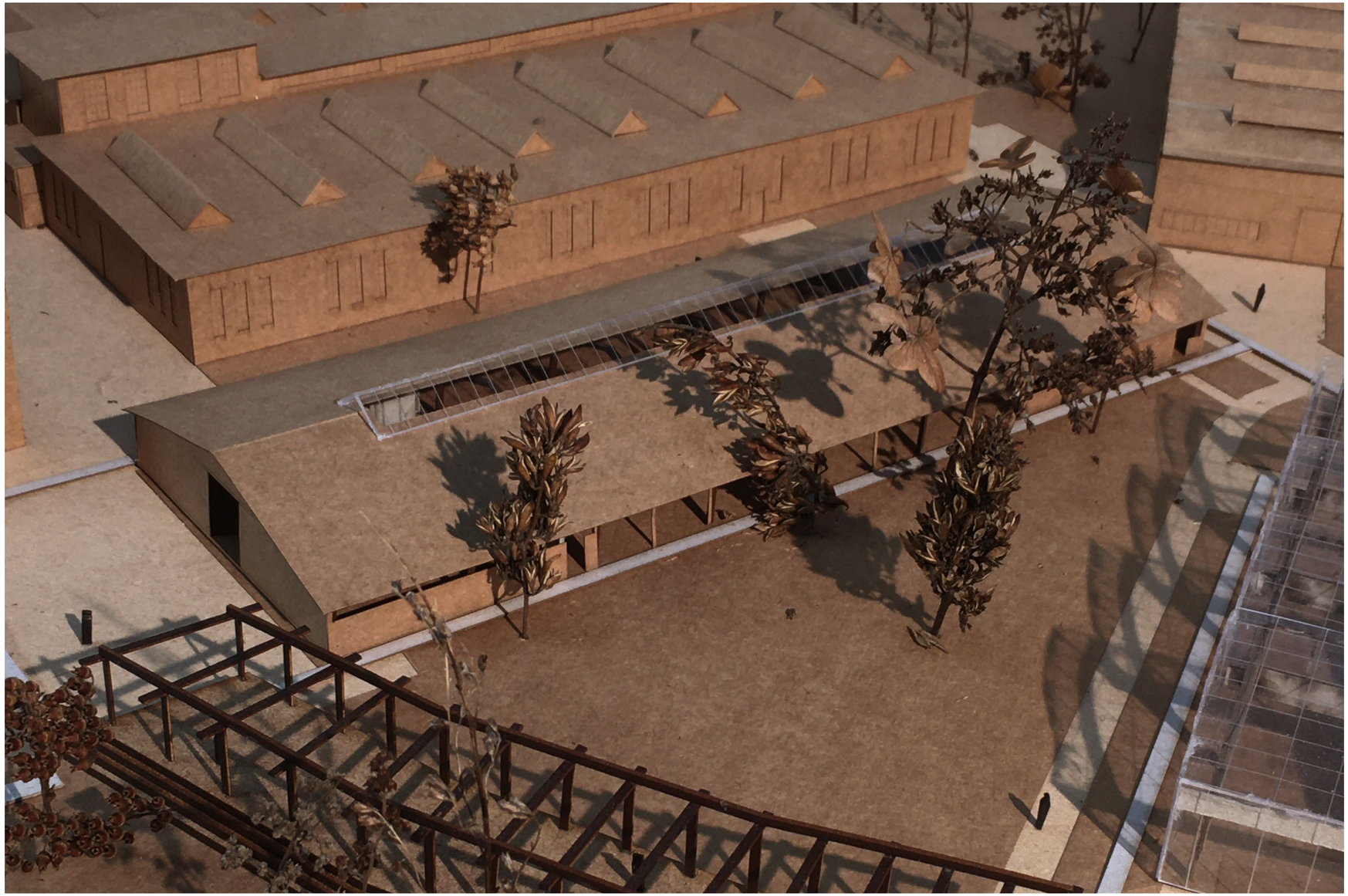

Facilitator
Institute
Helofytenfilter
The Platform

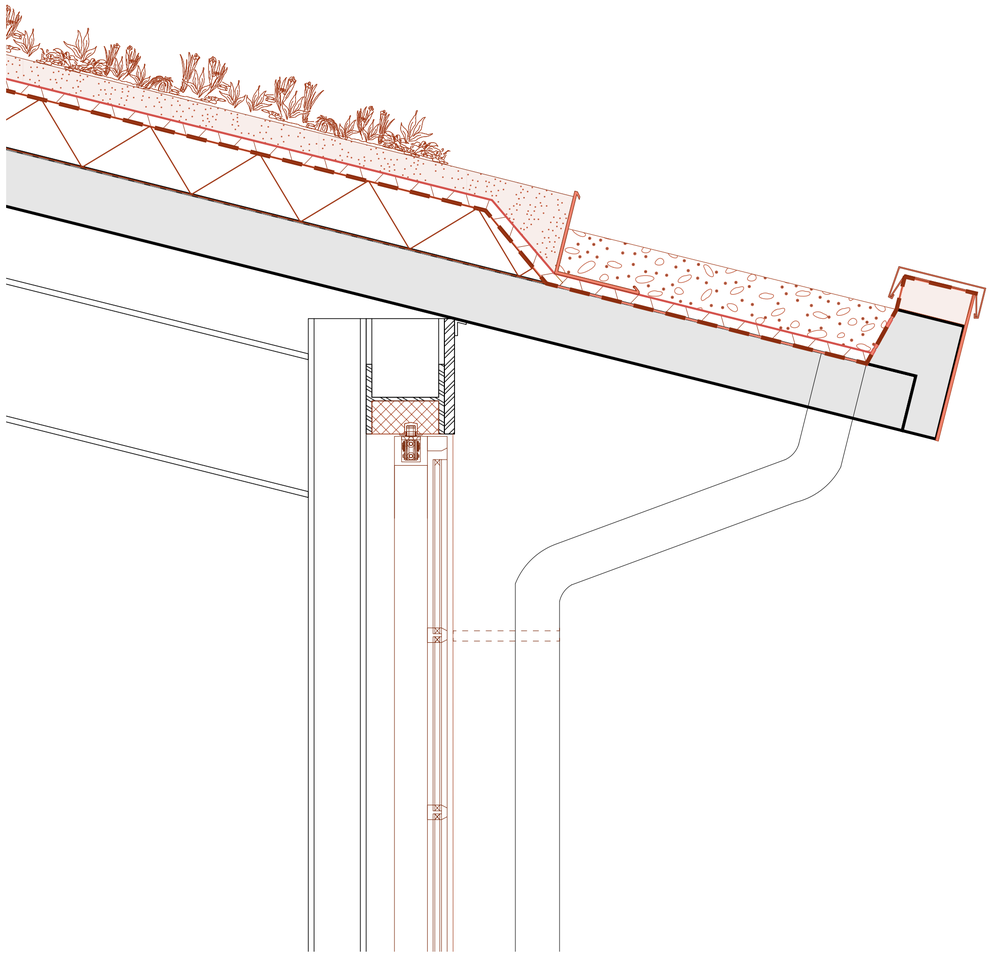

Helofytenfilter



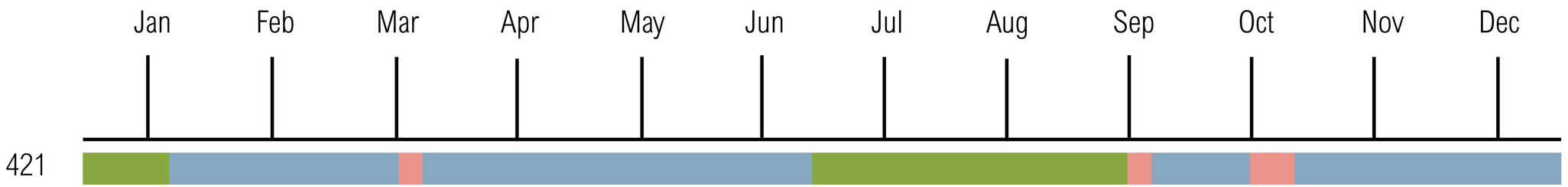


The Facilitator - Event hall + food hall / education centre / exhibition centre



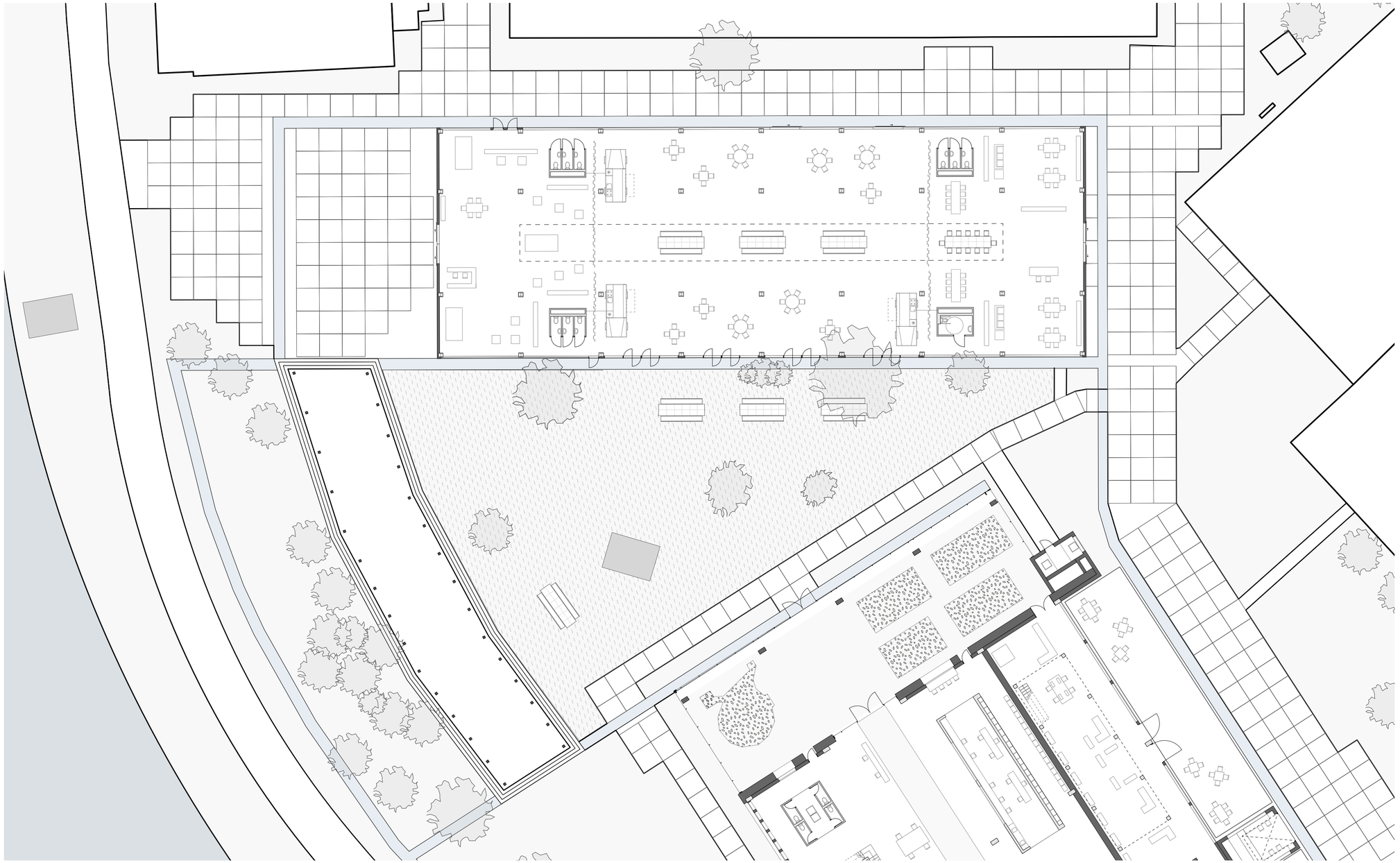


Green roof

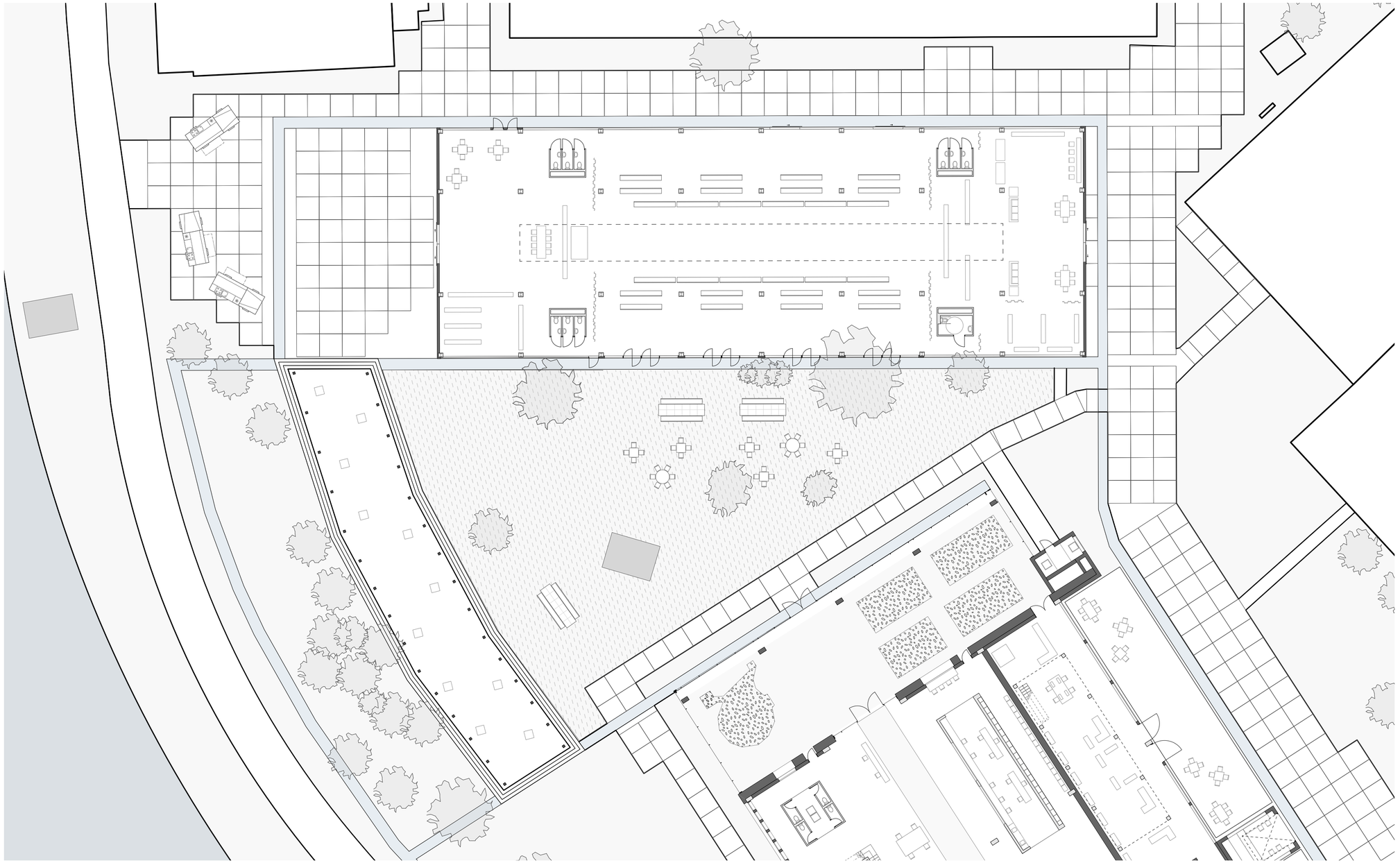


Public events
Foodhall
Fashion week

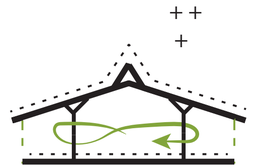
Timeframe program

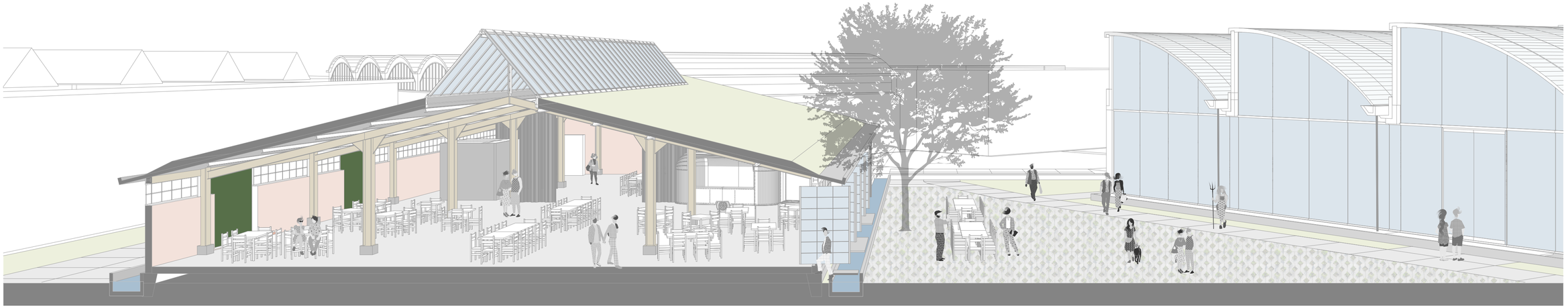


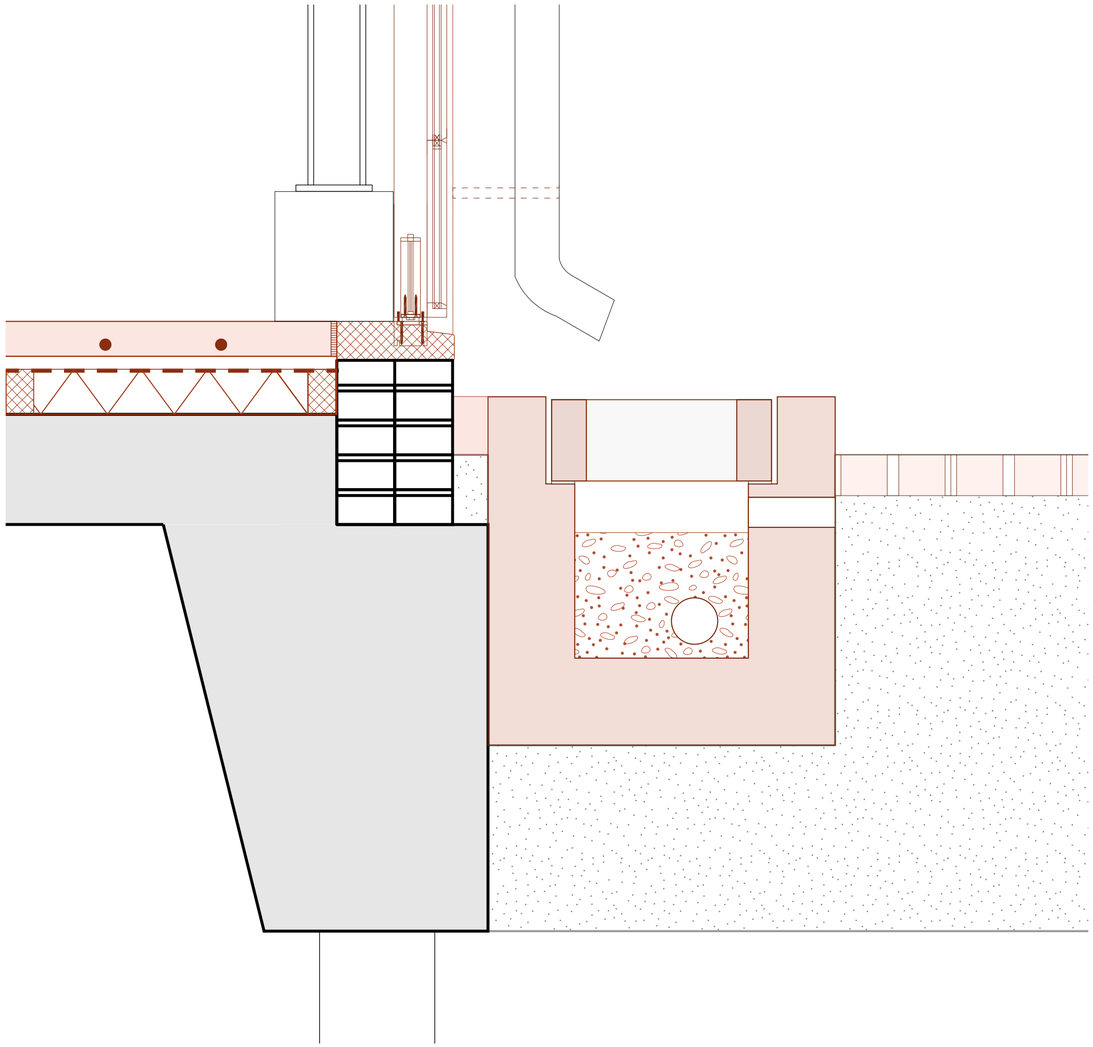
421 - floorplan regular



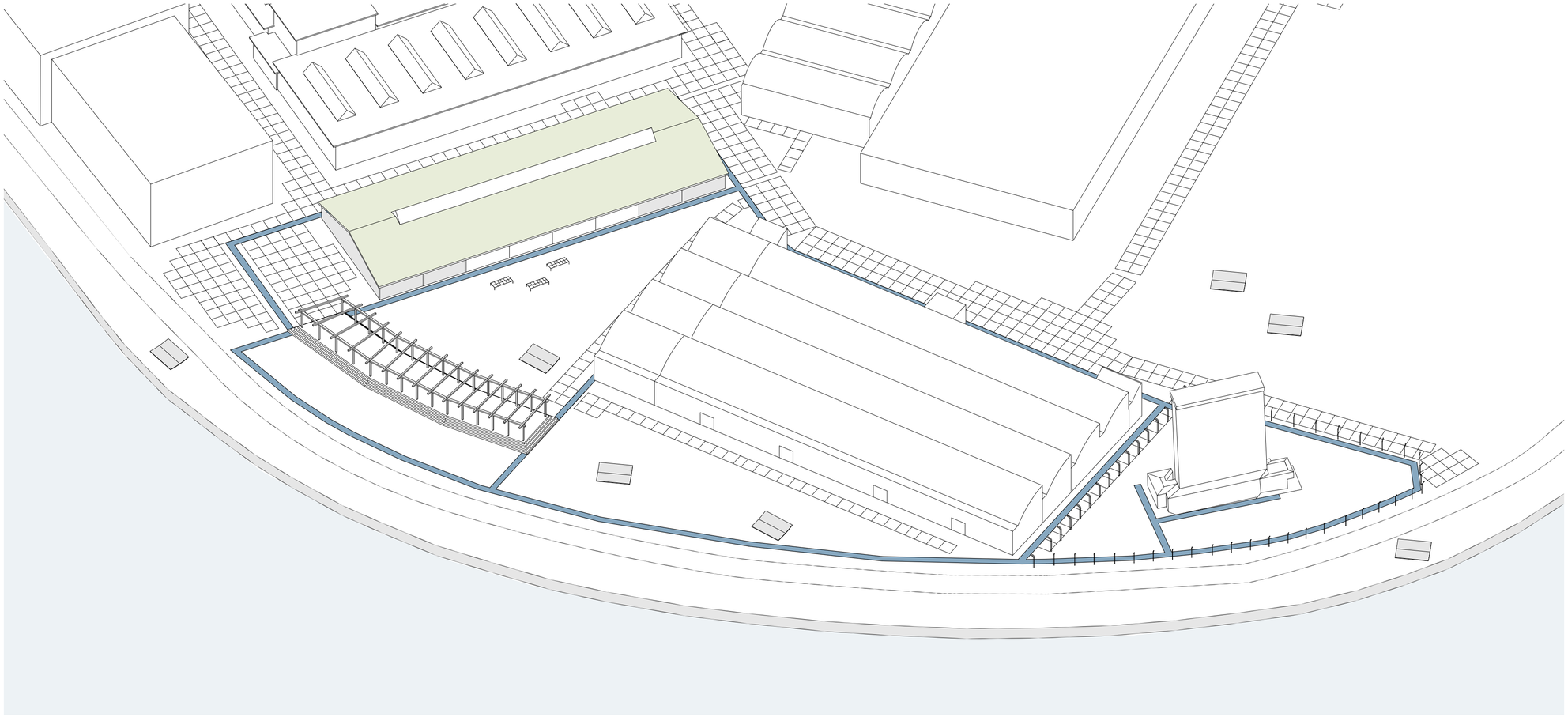
421 - floorplan event

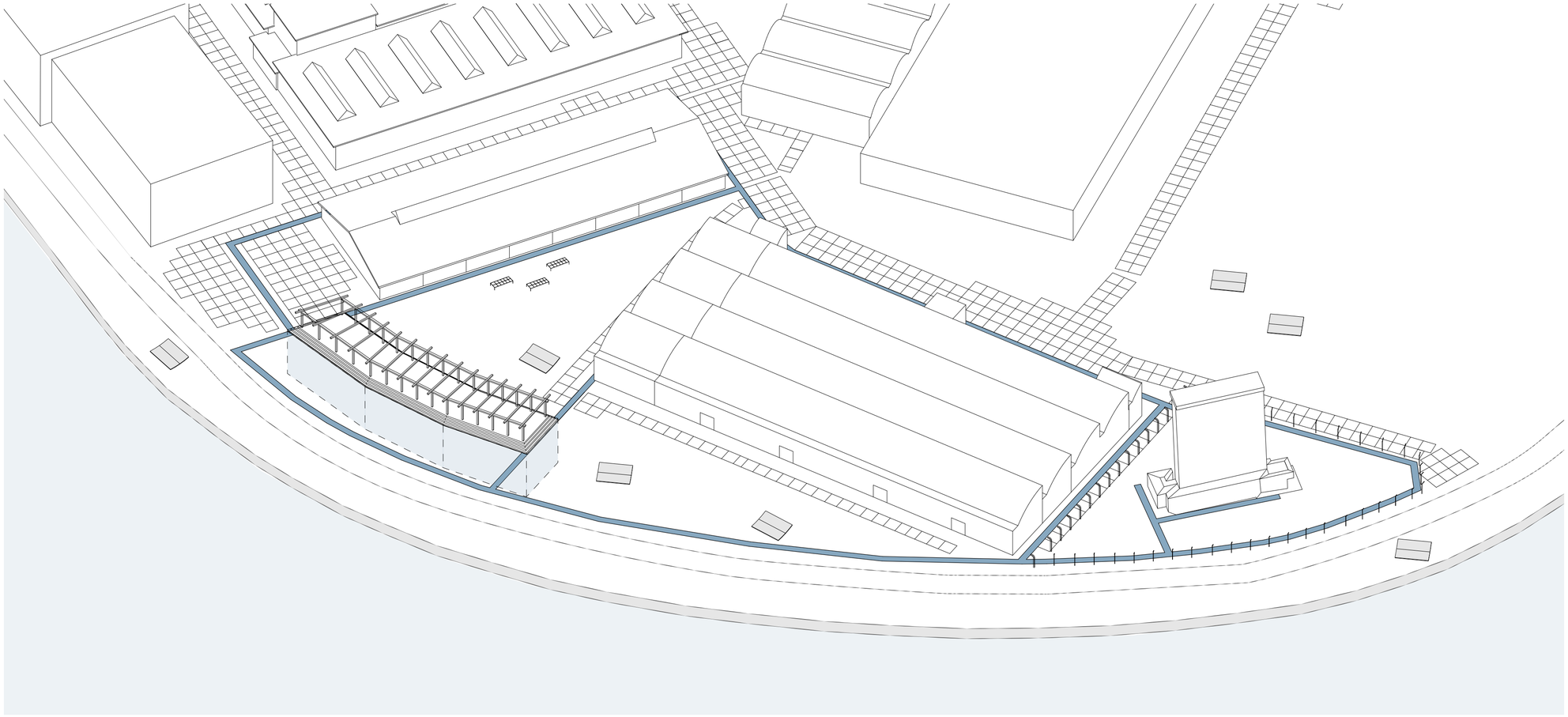




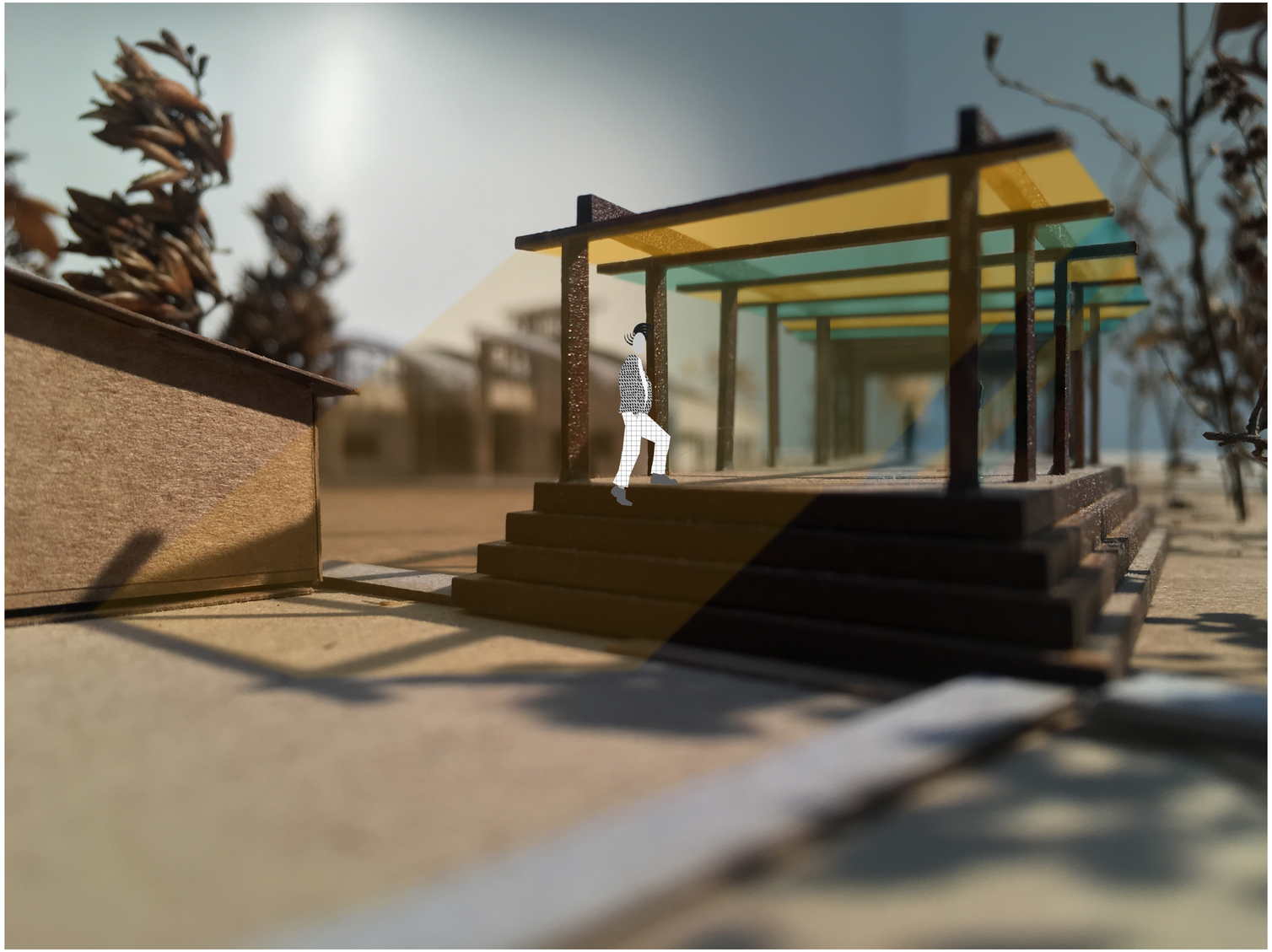


Sewage system visible througout ensemble



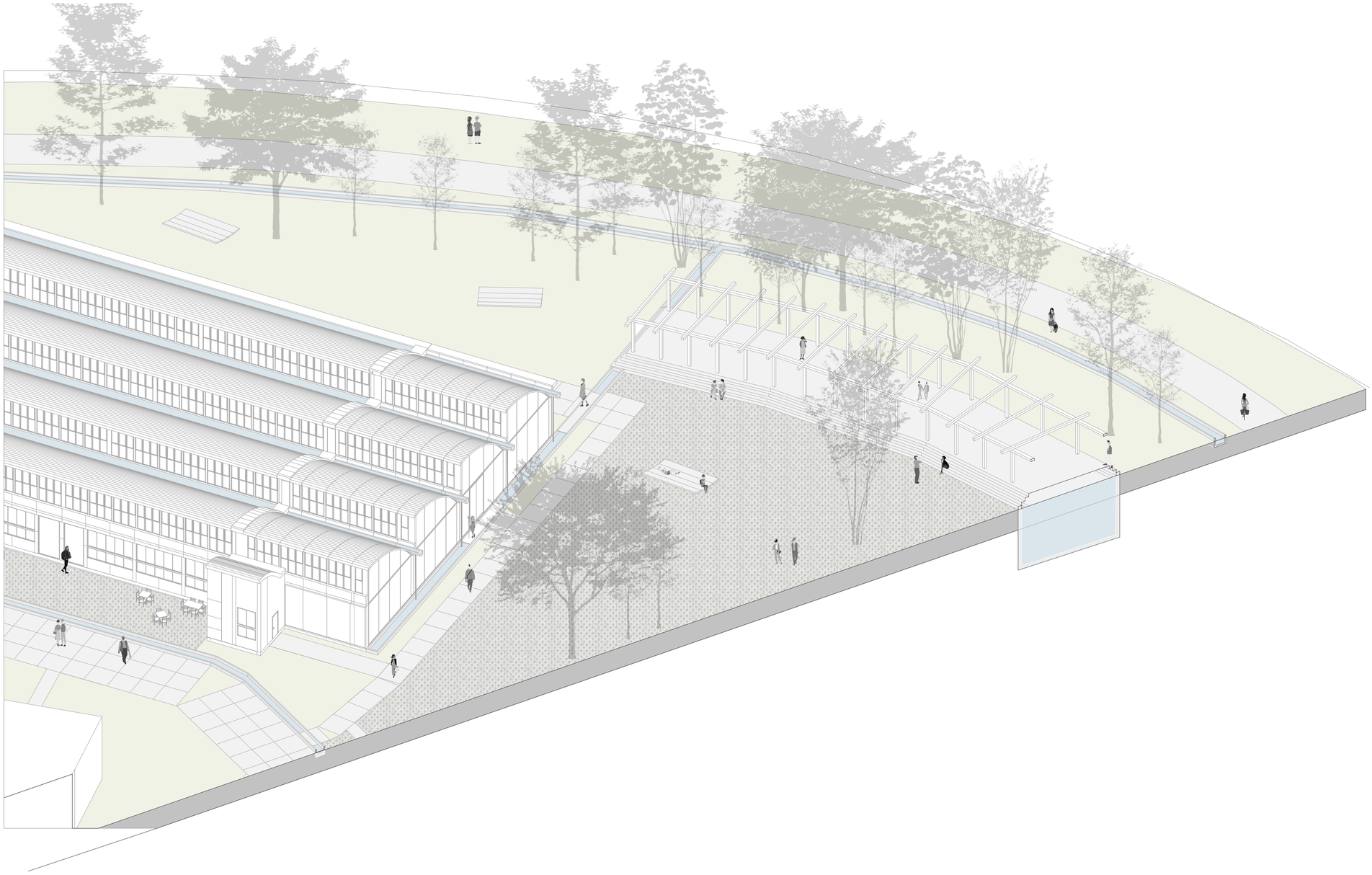


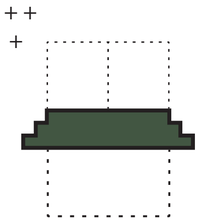
The Platform - water storage / stage / catwalk / tribune



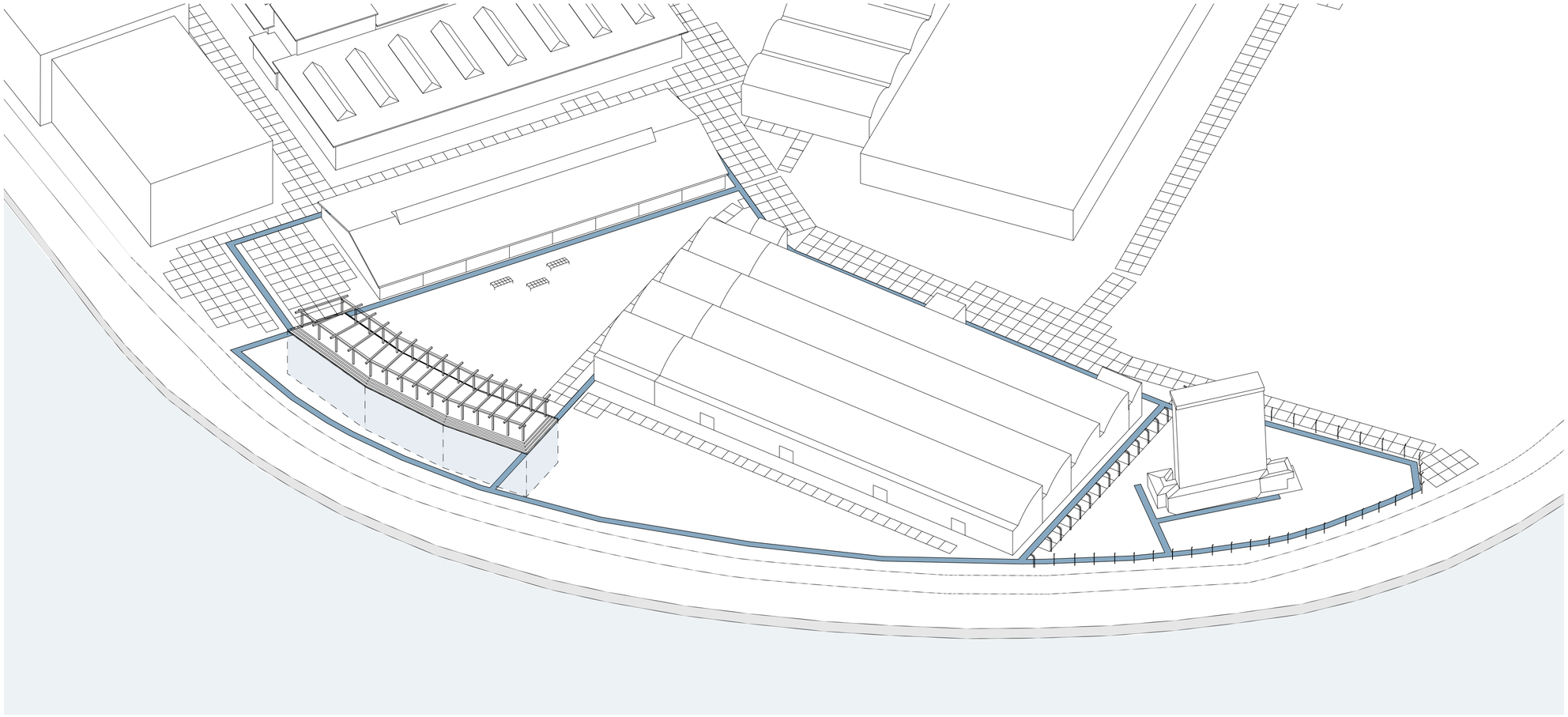


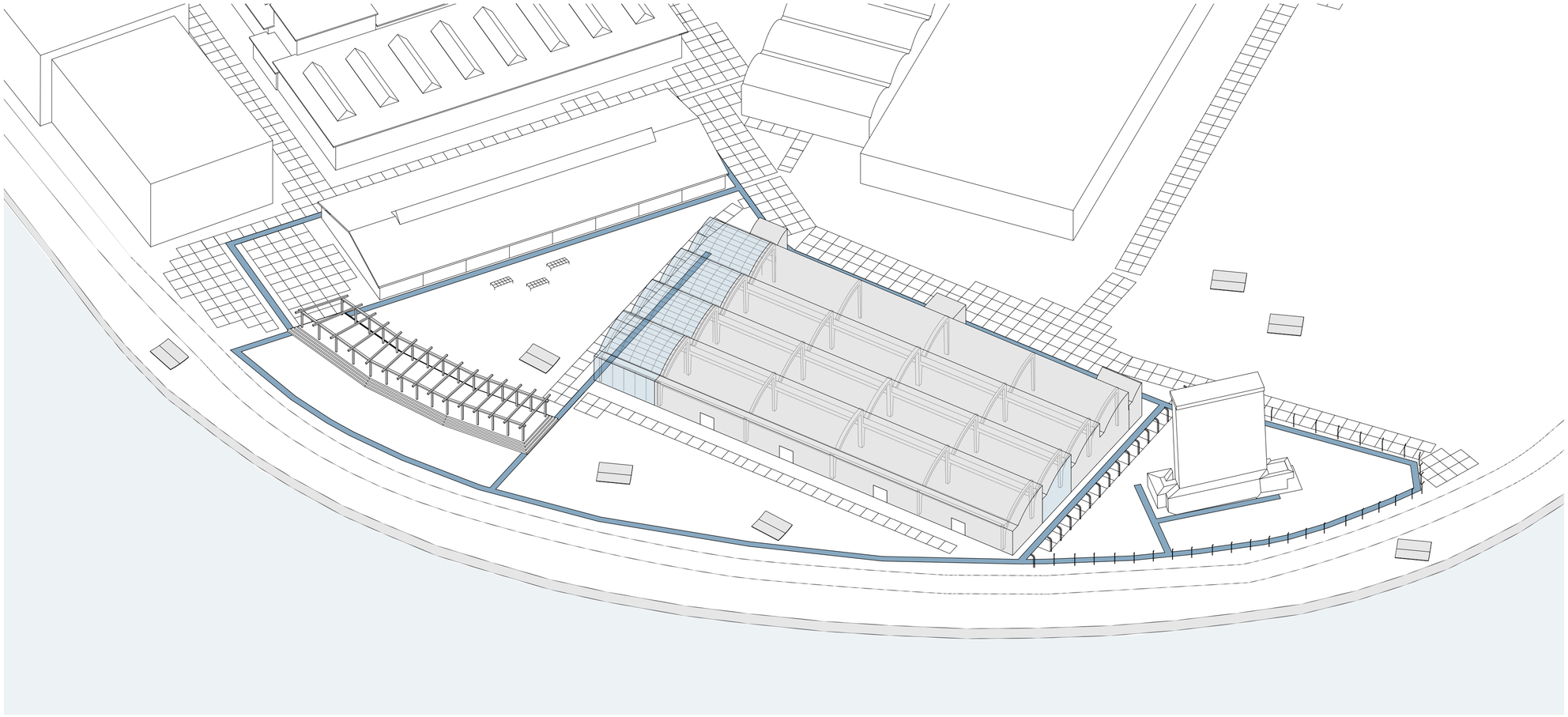

Farmland
Café
Café
Storage
Shops
Storage
Recycling lab
Storage
Shops
Lecture room
Storage
Production lab
toilets
Office
Office
Pantry
Street
Work shop space
Office
Pantry
Toilets
Educational
museum
Toilets
Toilets
Event space
Food hall
Greenhouse
Public living
room
Toilets
Toilets
Exhibition
space
Event space





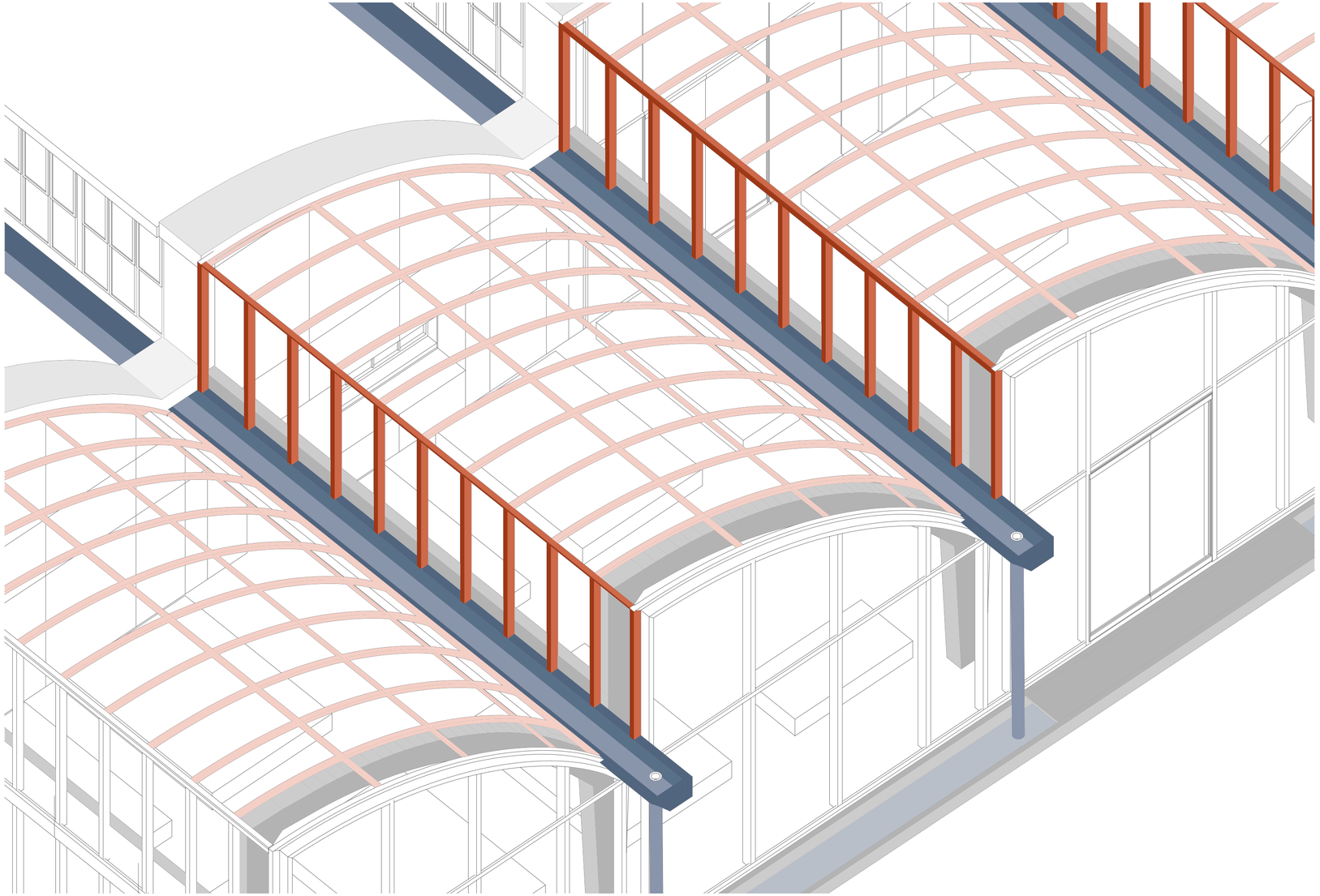
Connecting and unfolding public spaces; tribune towards the water and public living room



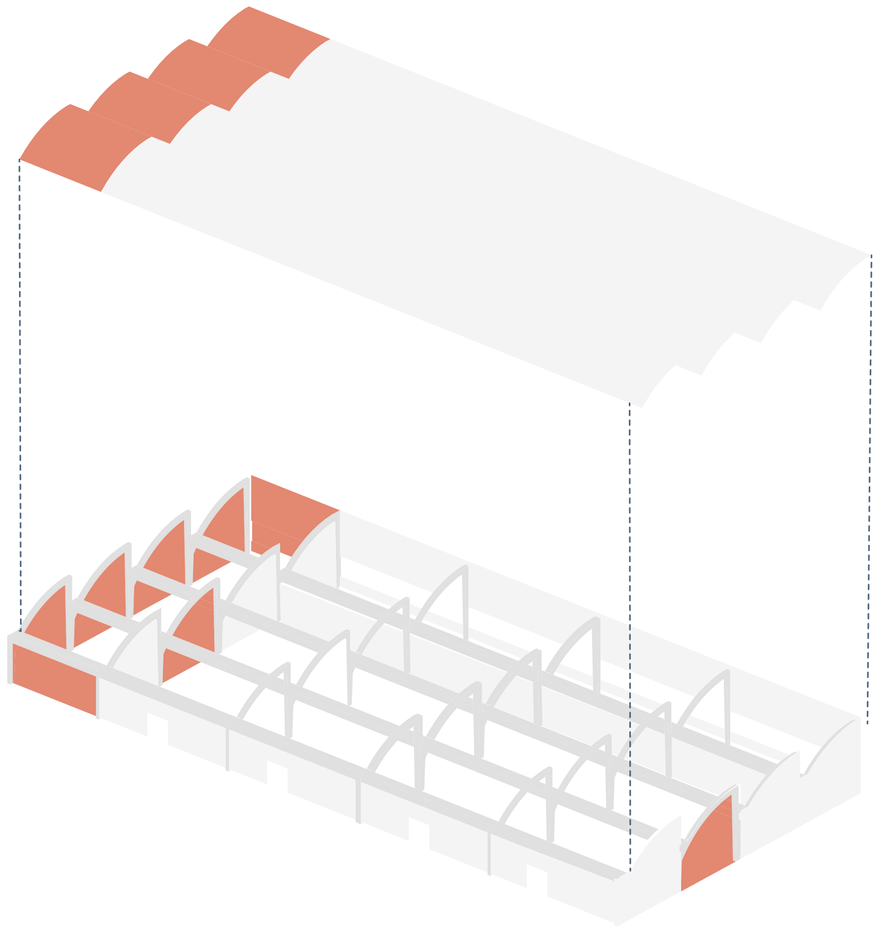


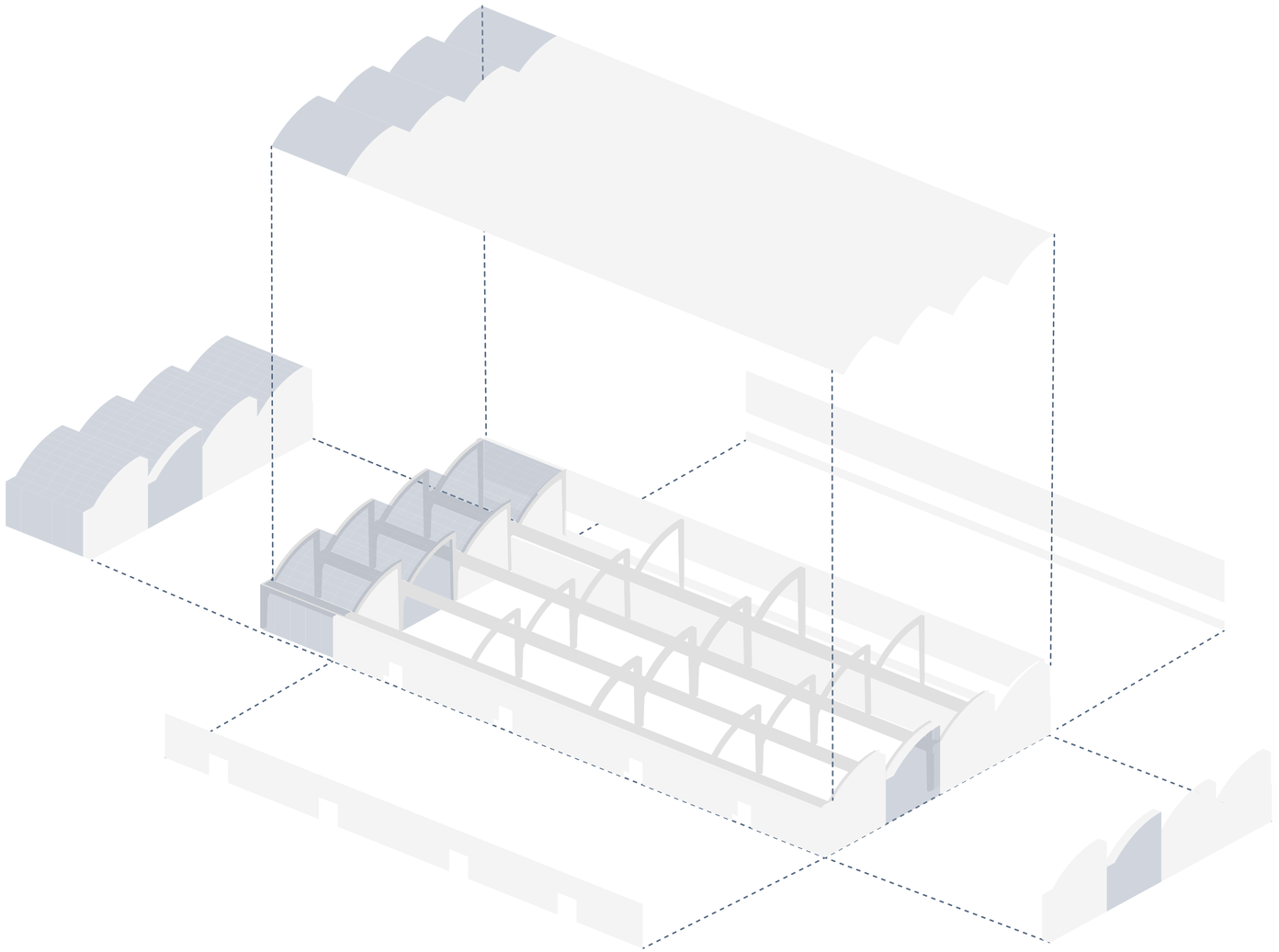
Circular Institute of Fashion - Greenhouse / shops / coffeebar / waterpoint / bakery



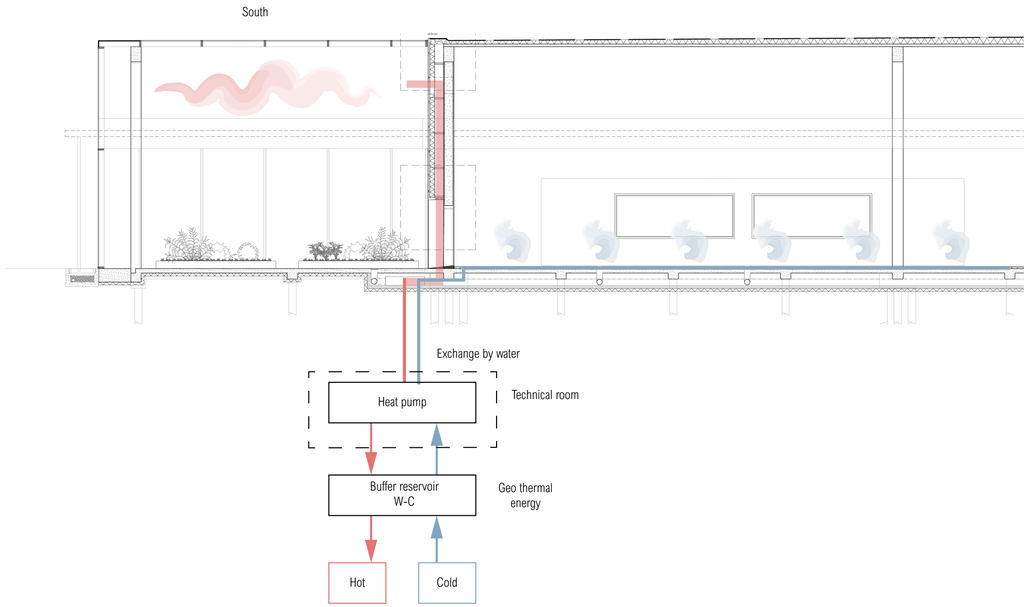




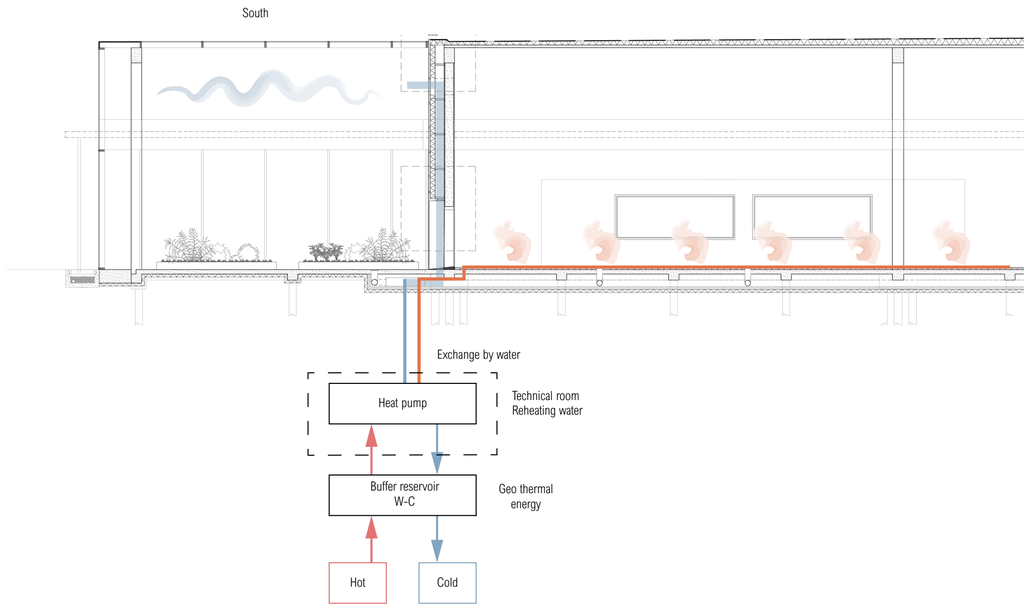


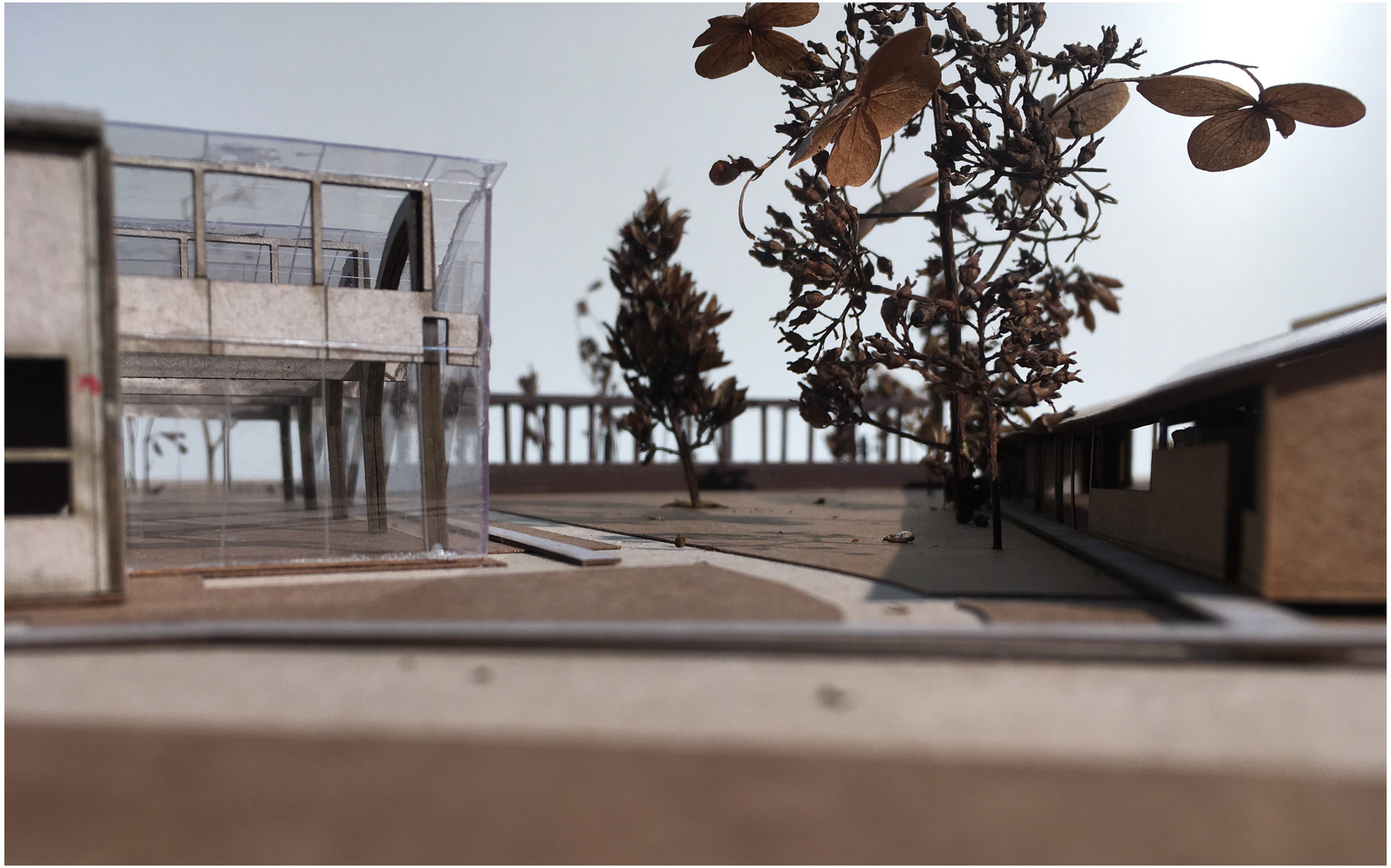


Summer



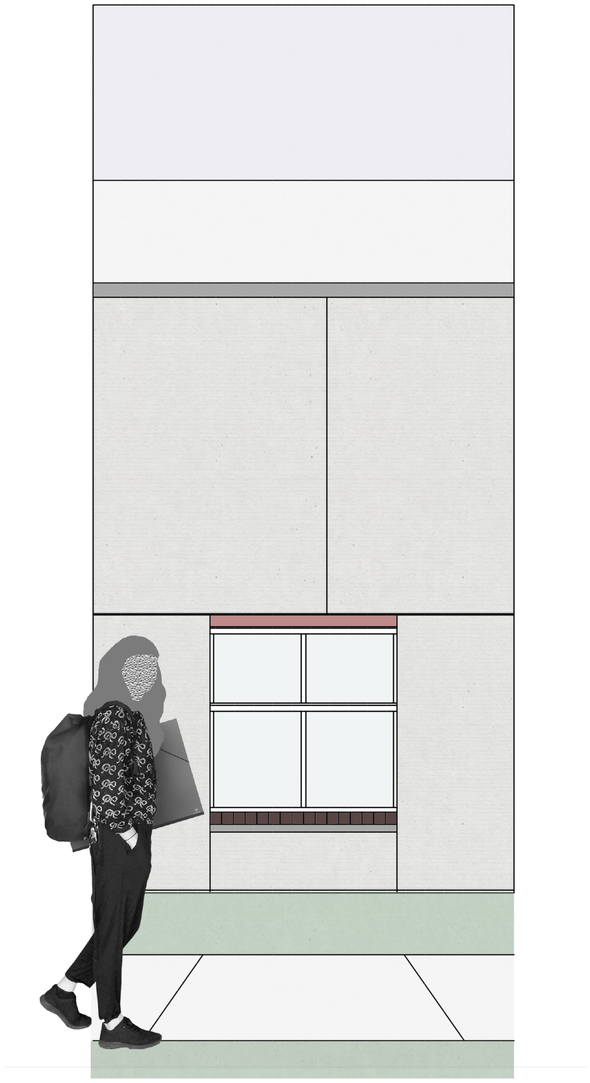
Winter

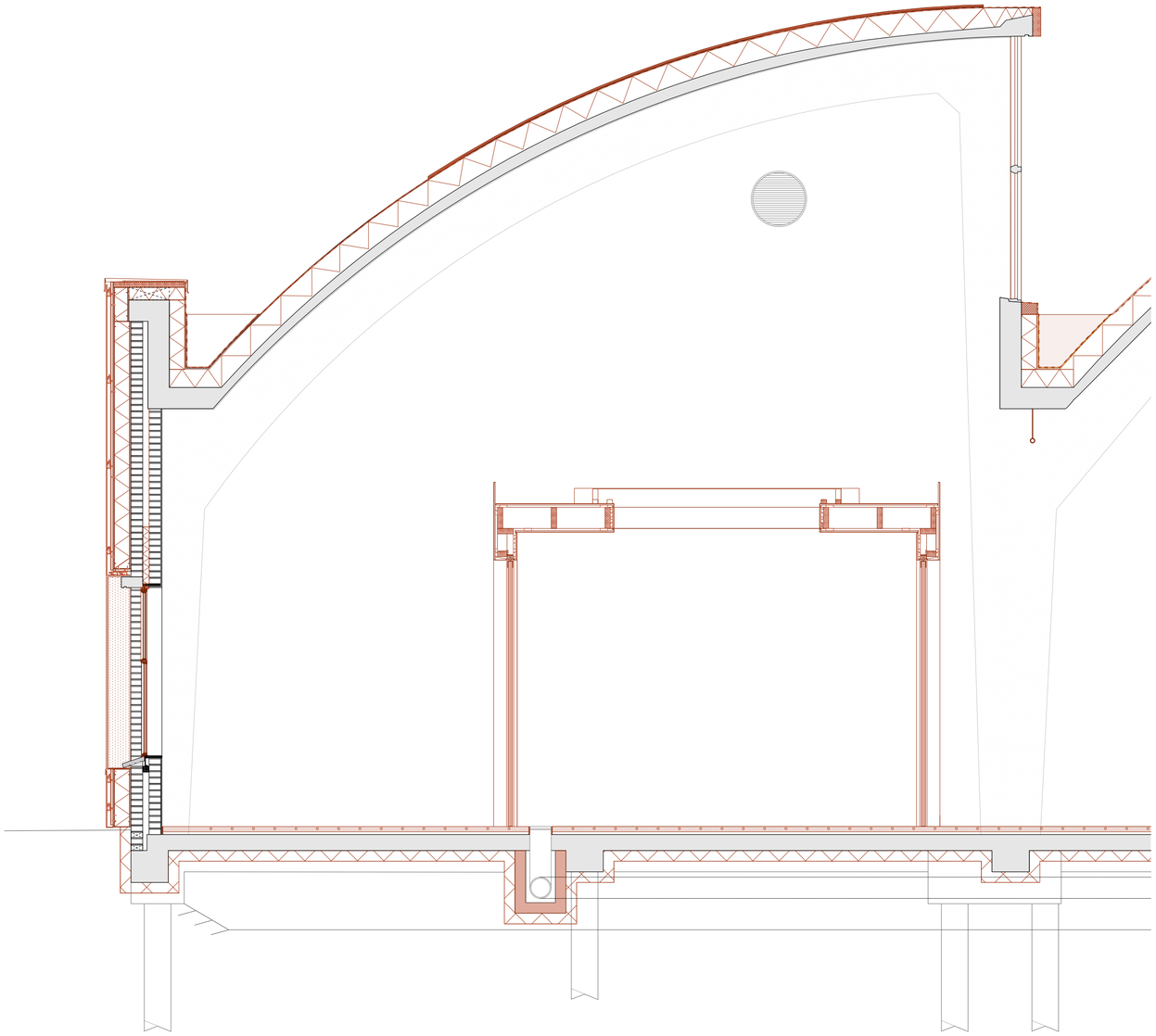




Greenhouse and public living room







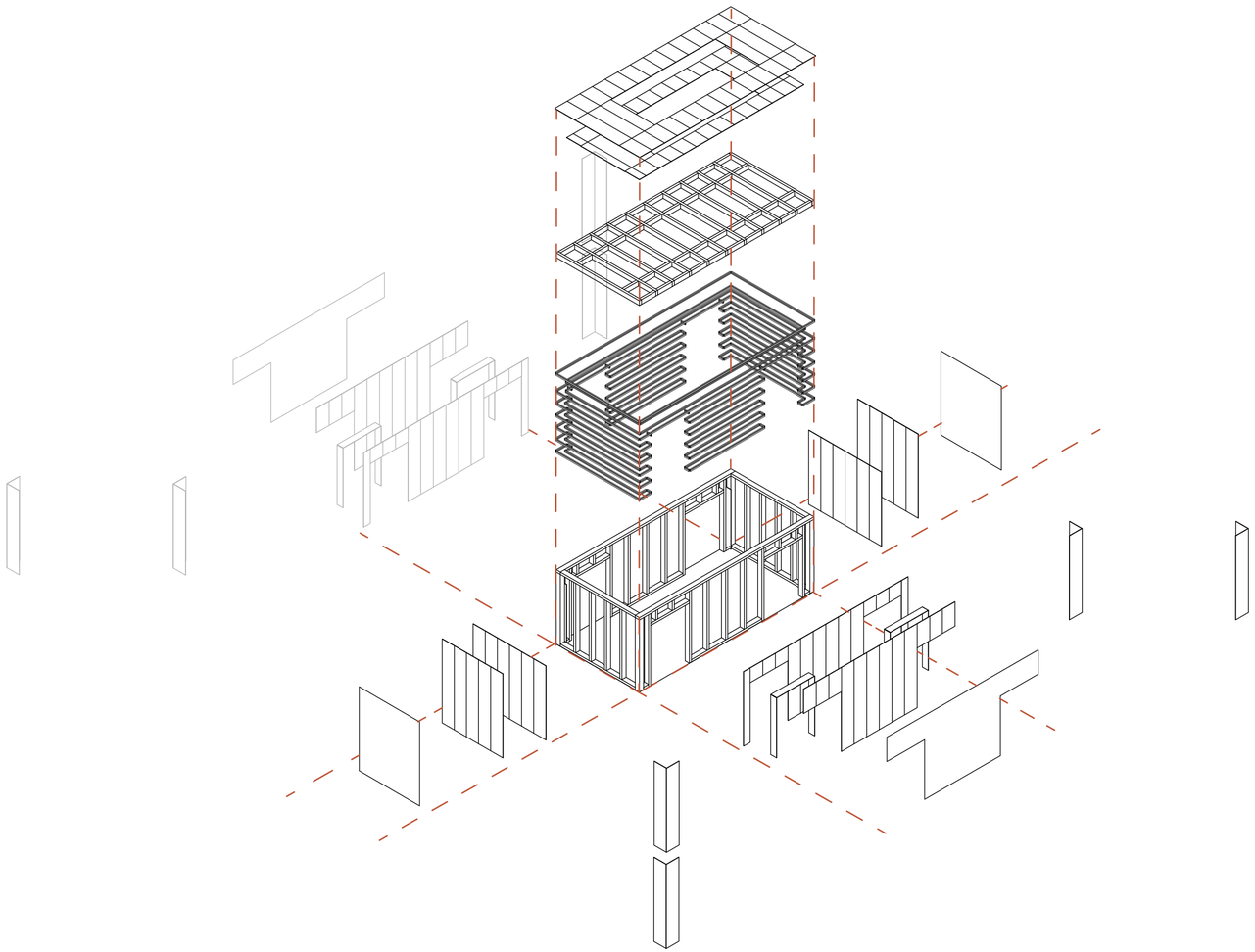


Produce

Reuse







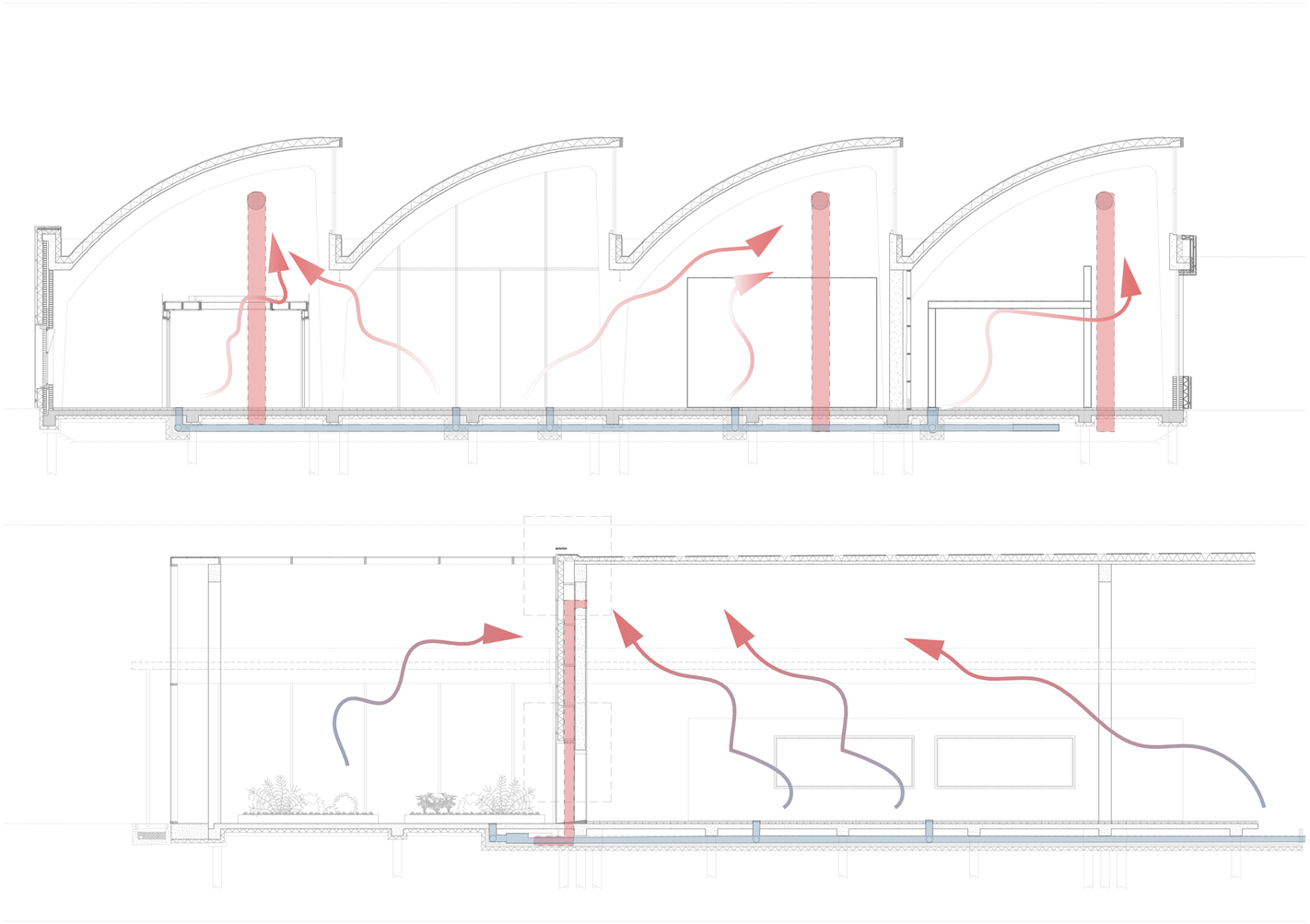




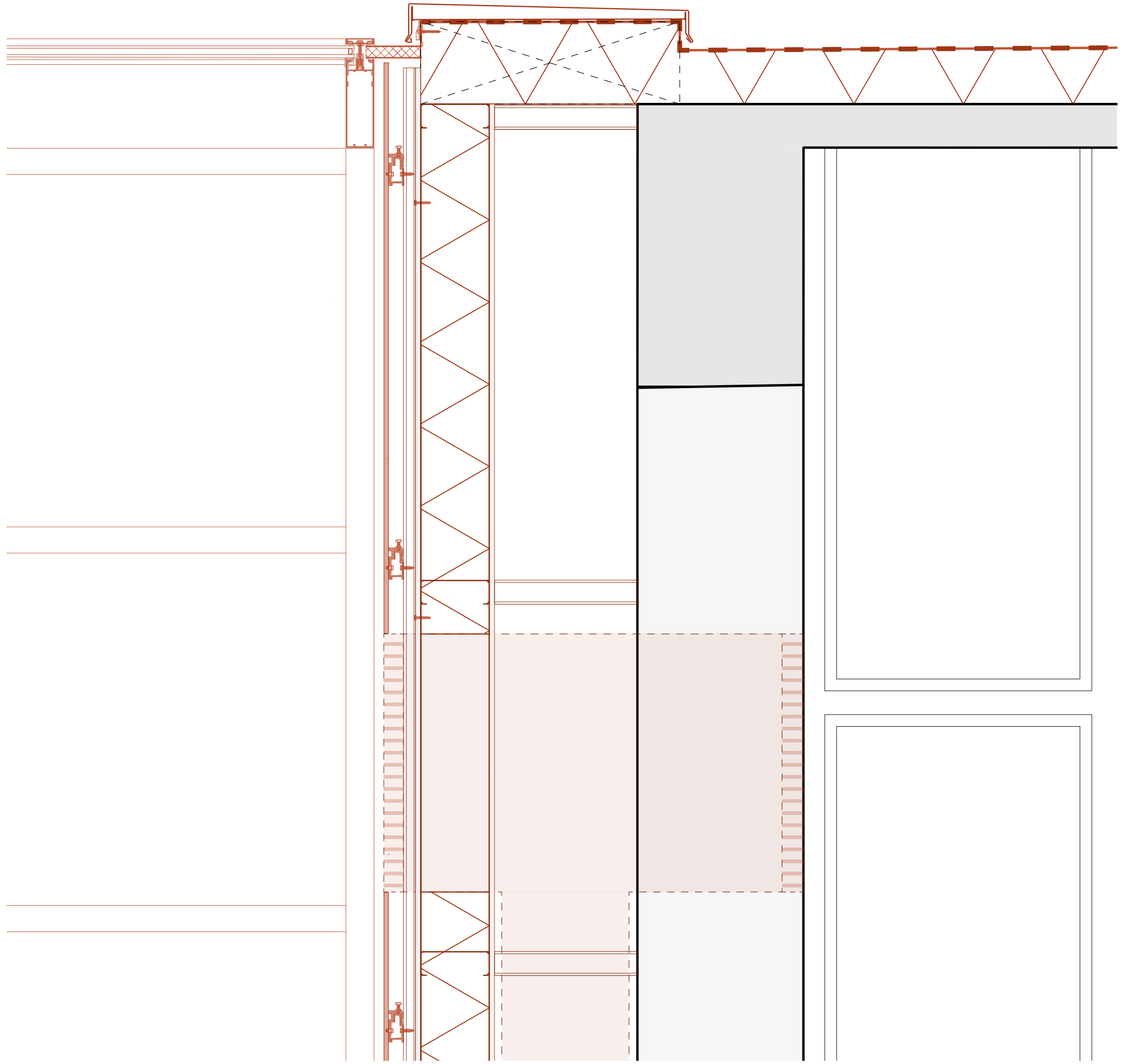
Demountable interior spaces



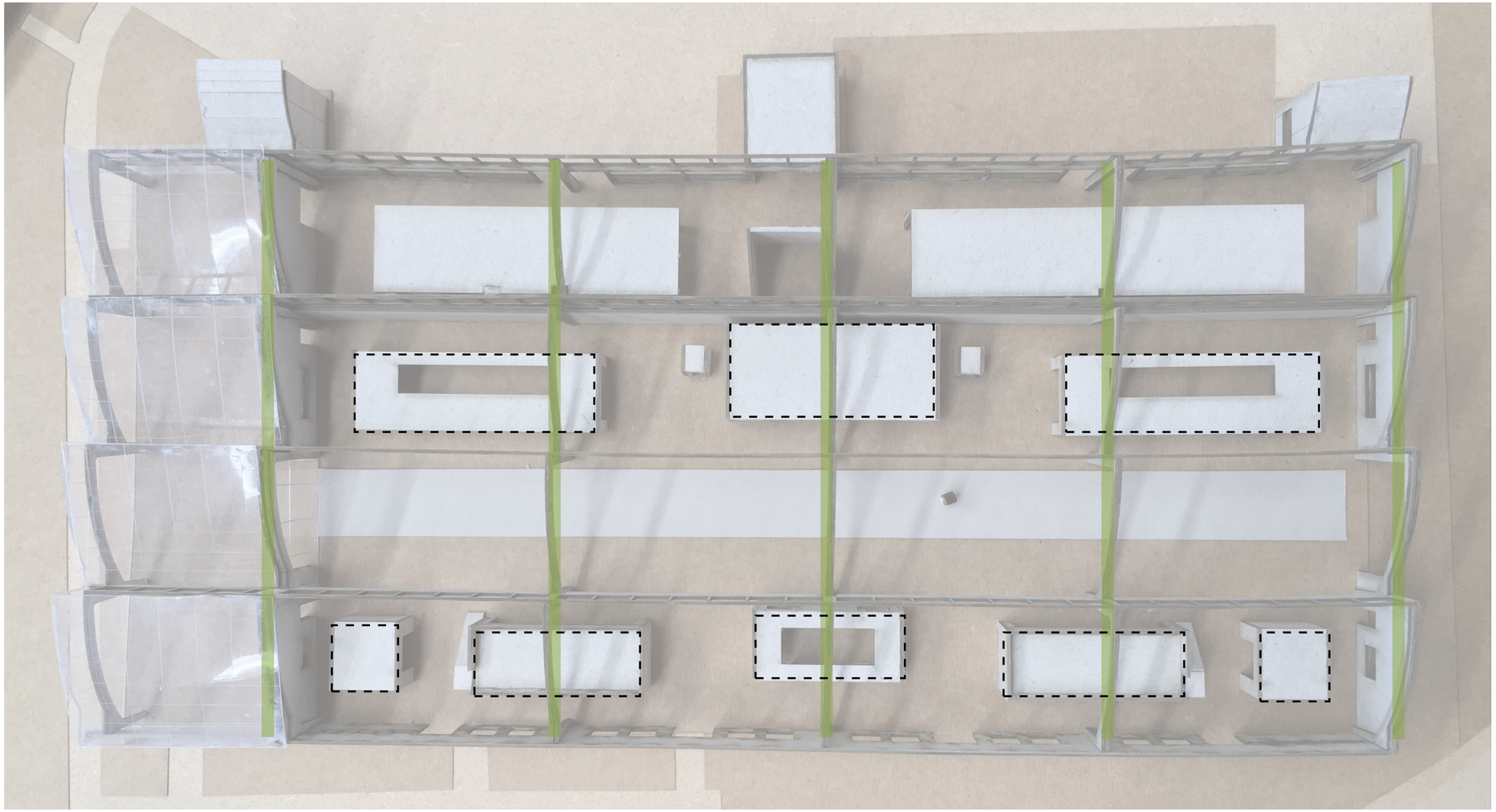
Ventilation diagram



Ventilation through end facade into ventilation shaft



Detail: Greenhouse and Institute, with ventilation shaft



Aqoustic barriers



Spatial idea and placing

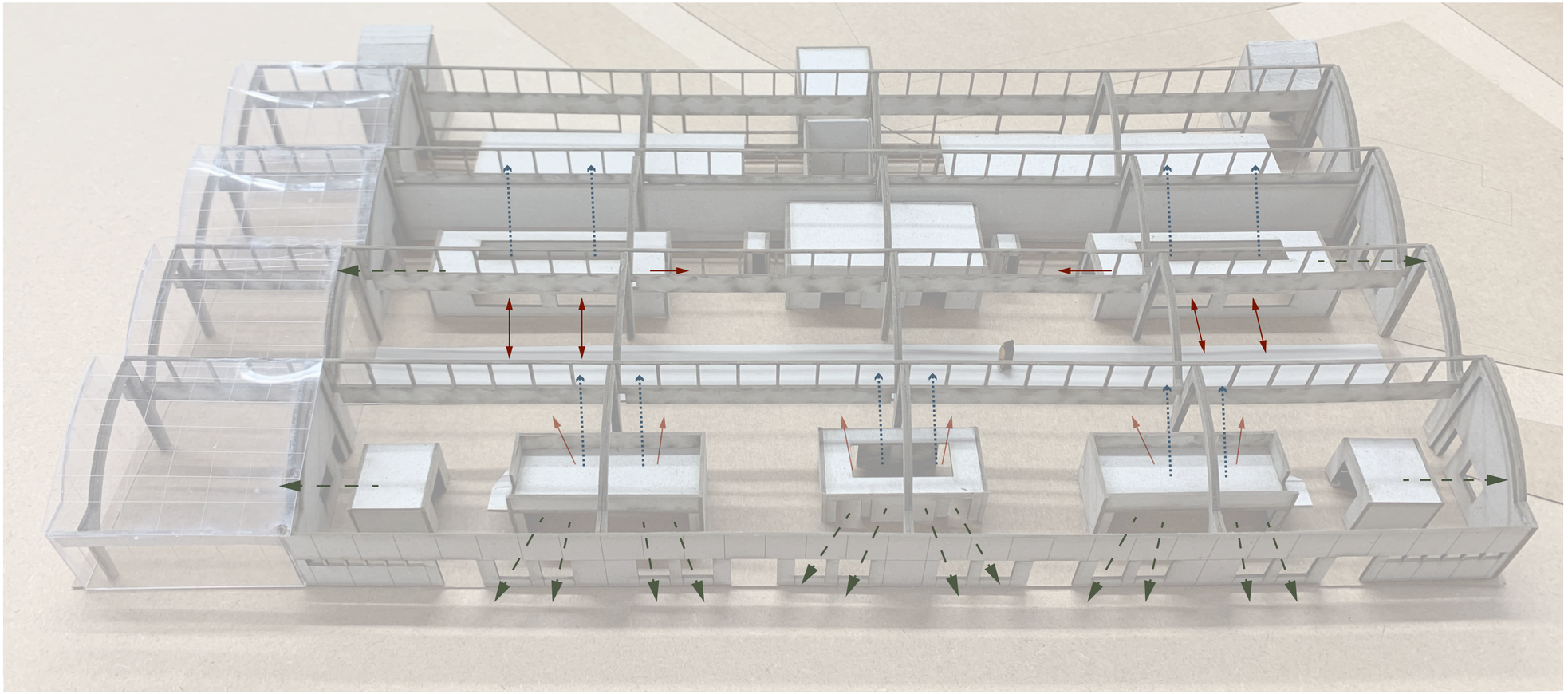


Spatial idea and placing



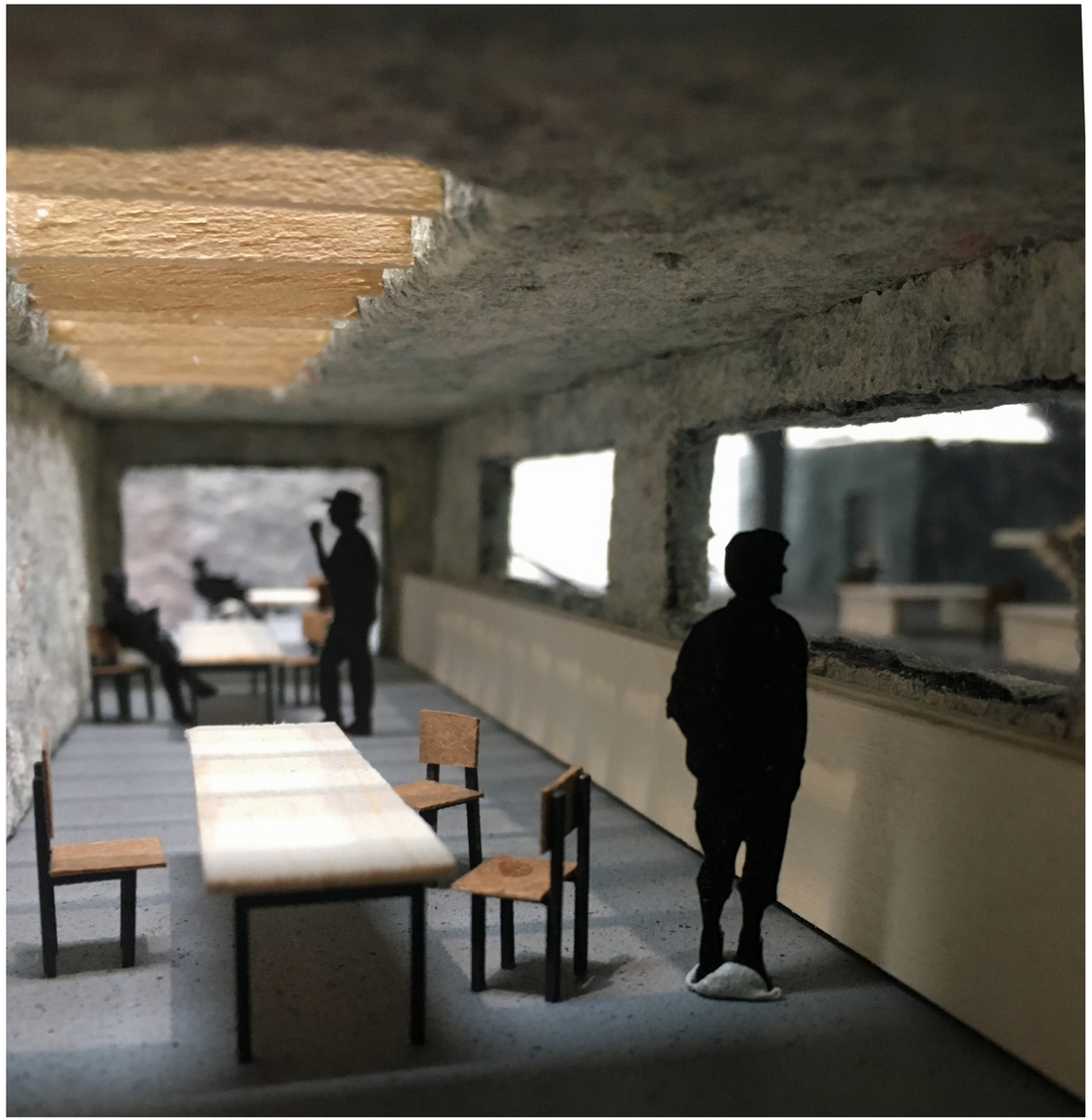
Spatial idea and placing

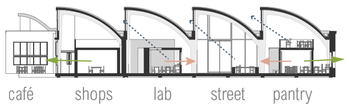




View outside
View to street
View up

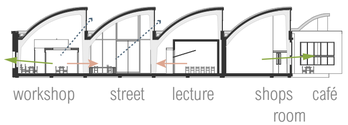
Sightlines building





Lab view to street





Workshop area and acclaimed spaces outside interior space

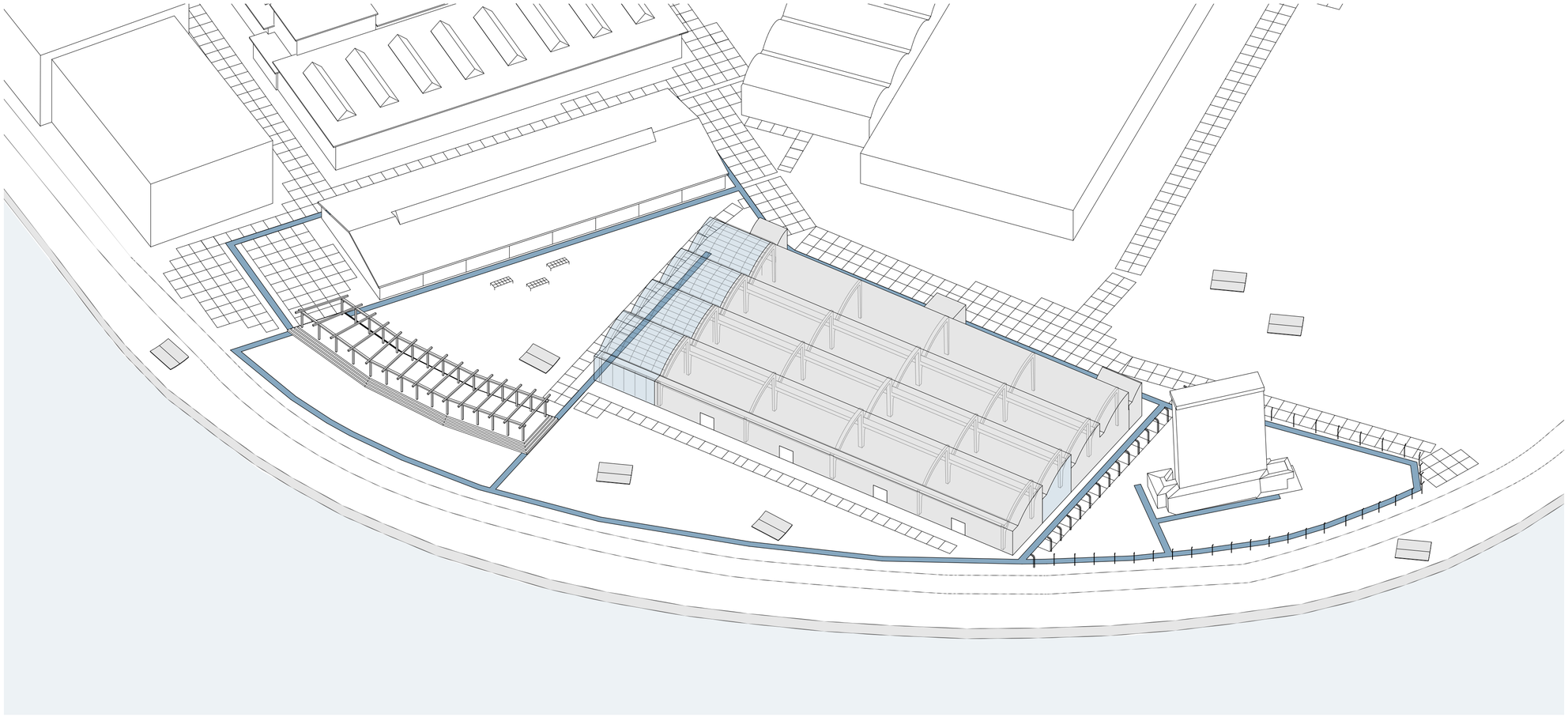


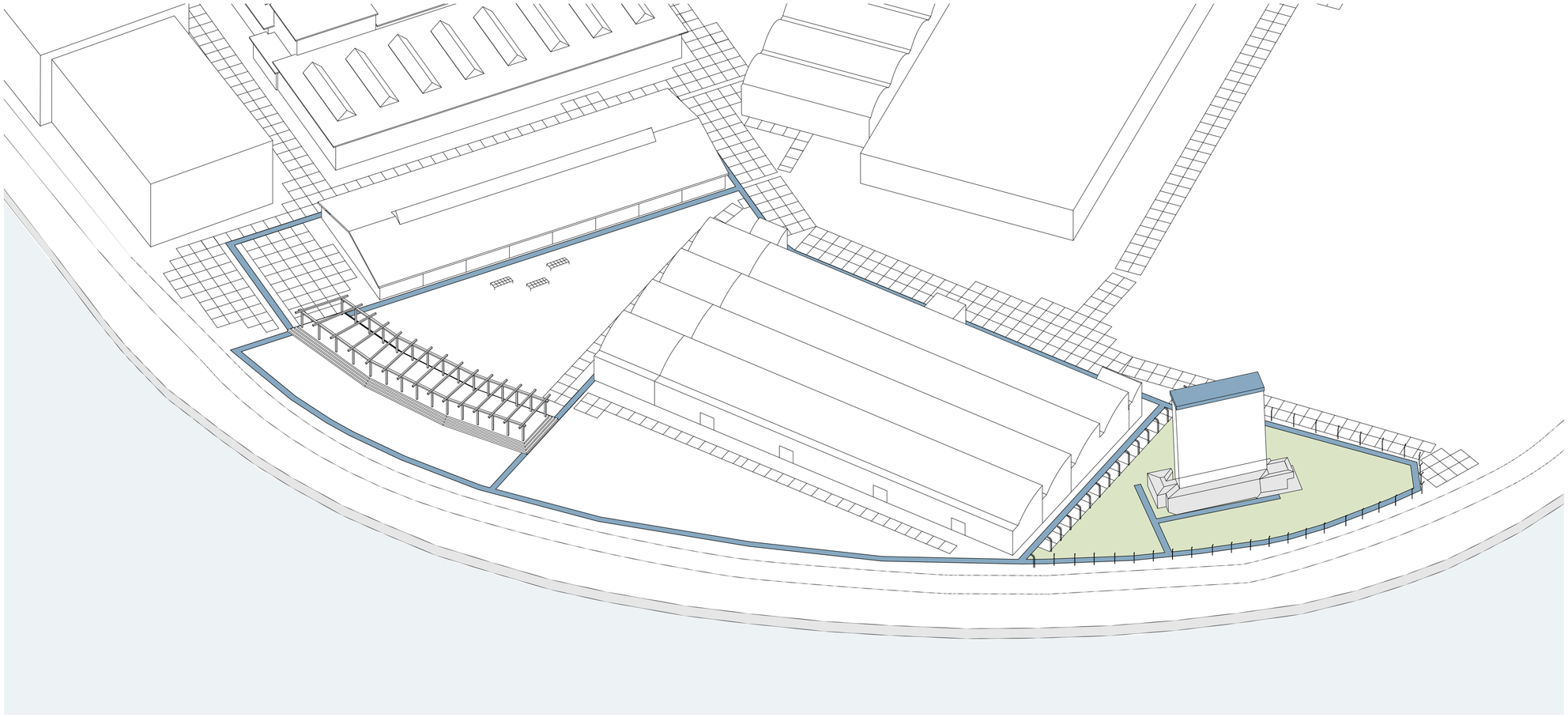
North facade; rythm of old blow out walls and structure



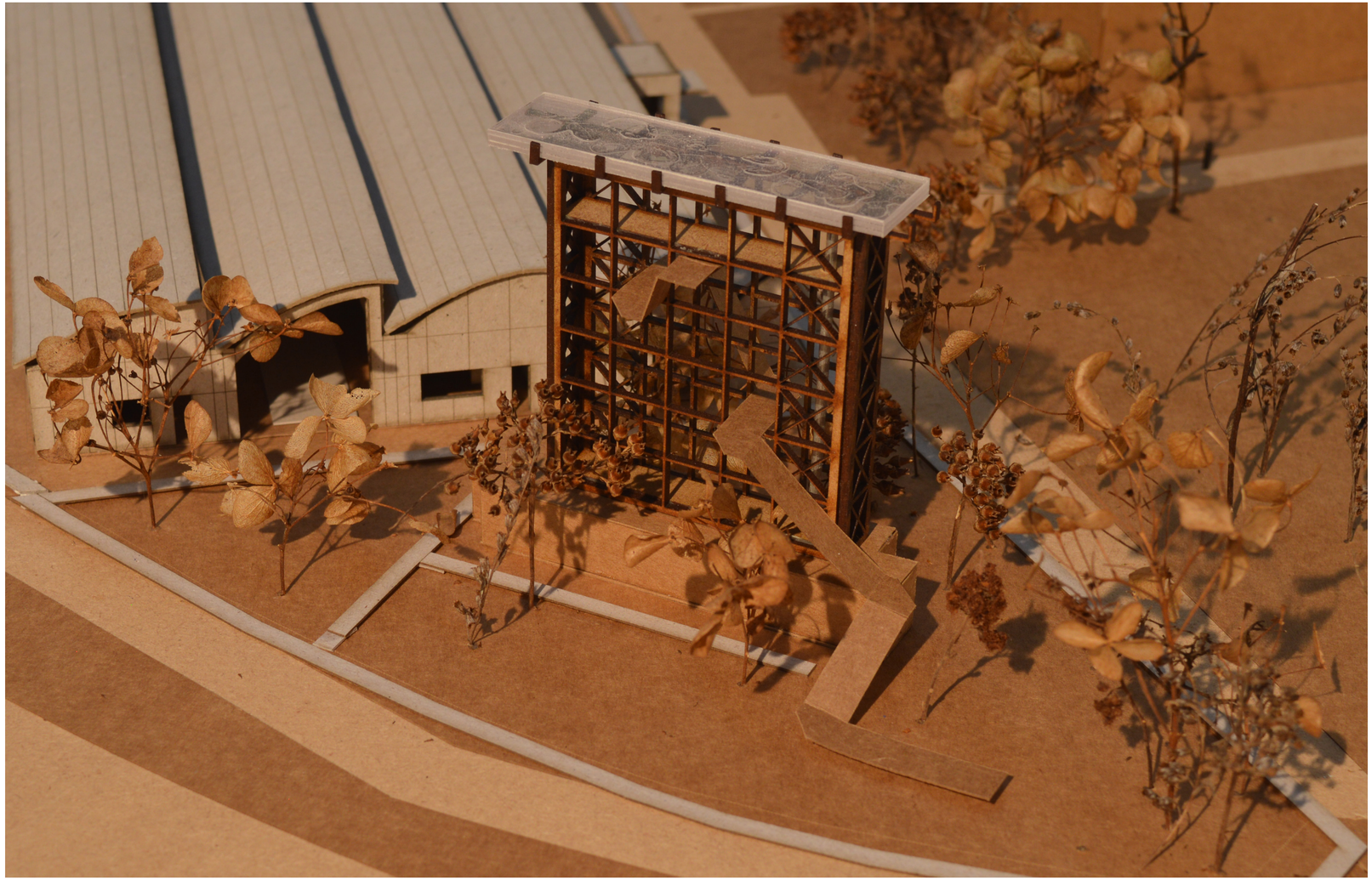
Storage following rythm of old blow out walls; creating more intimate shopping space and storage

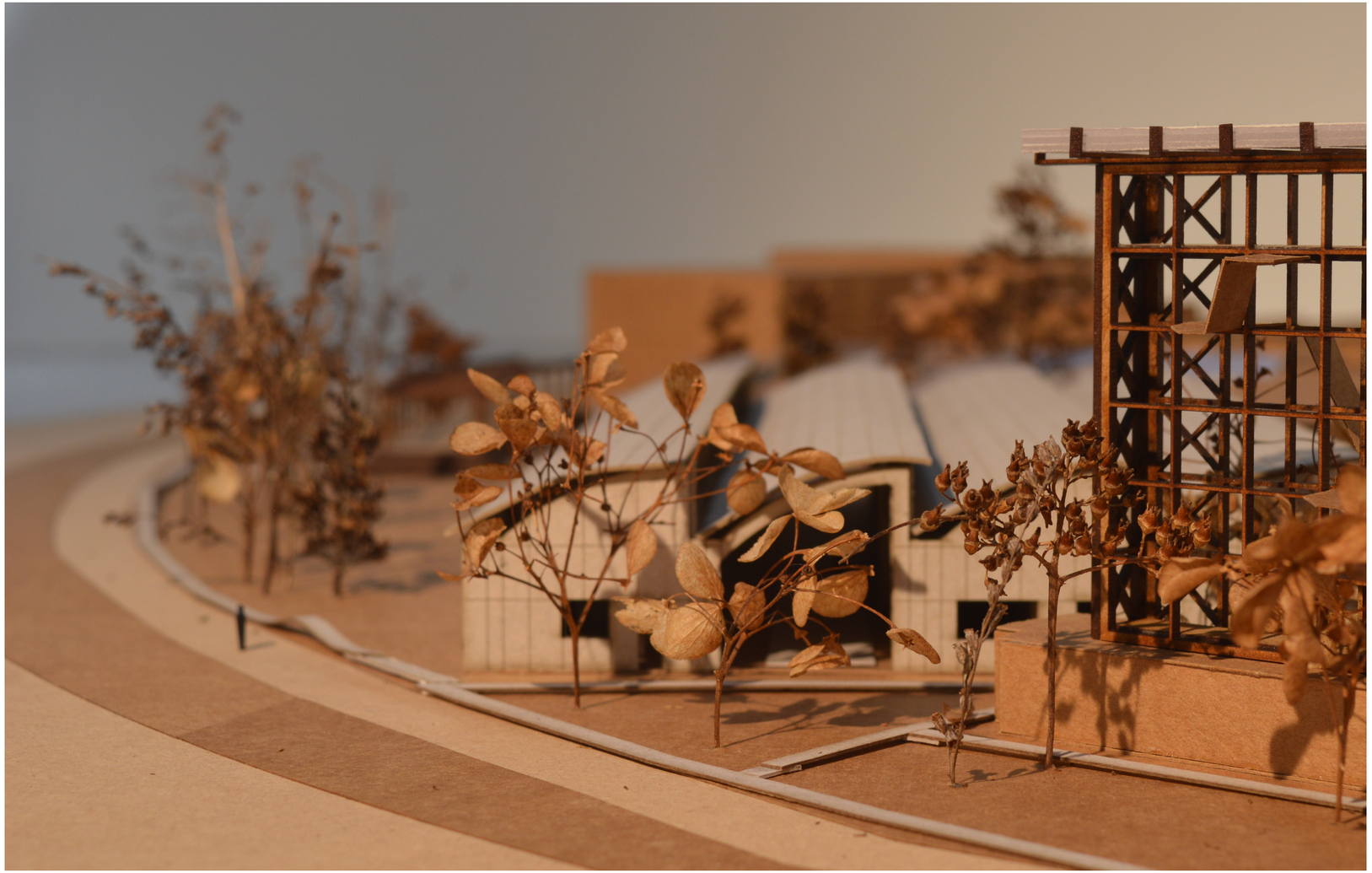




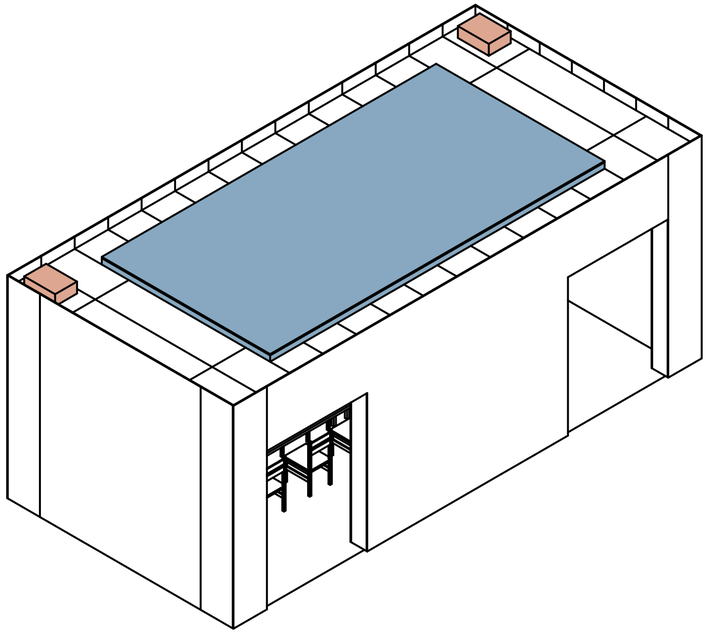


The Shelter - Helophytenfilter / observation deck



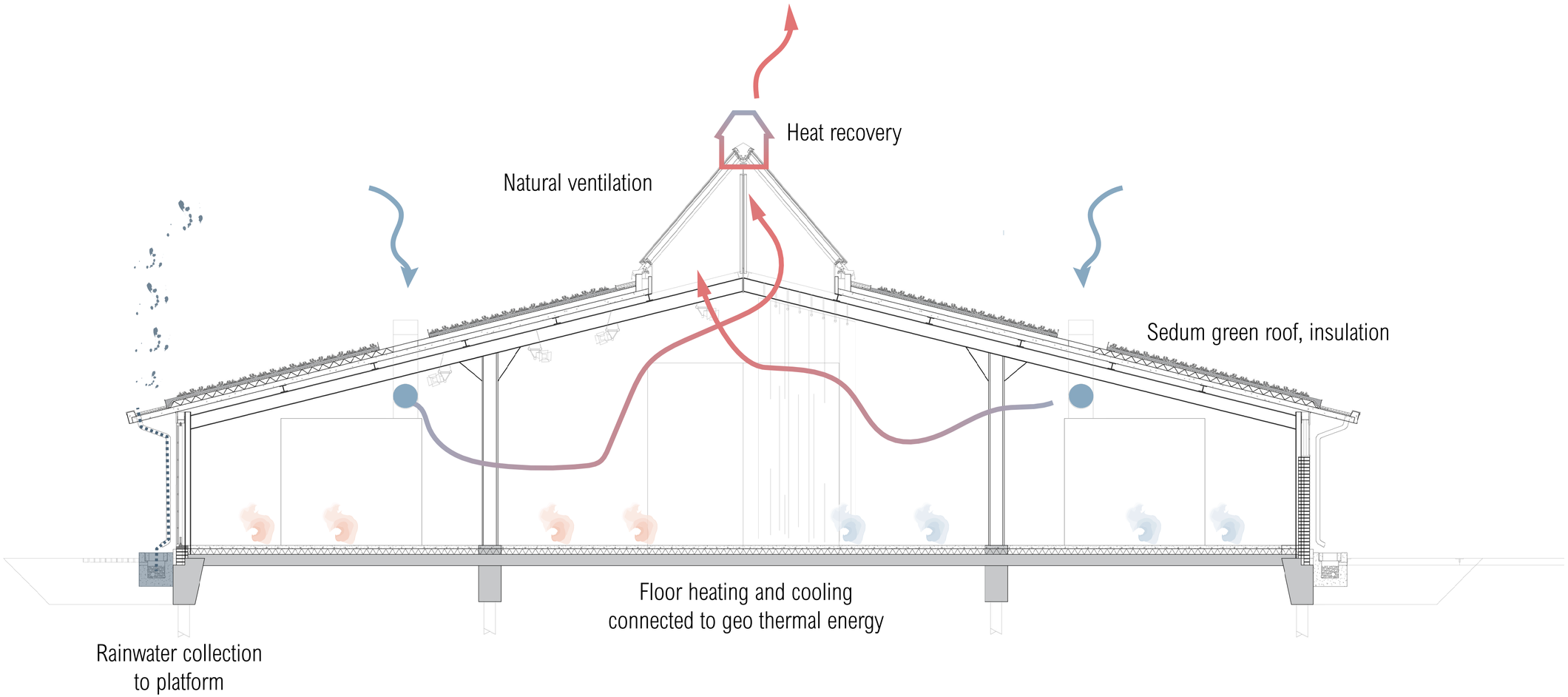


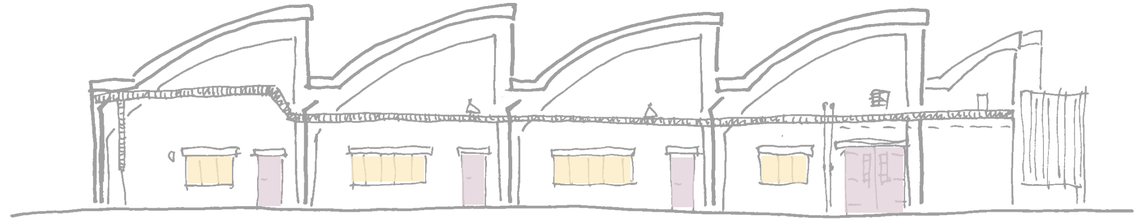
Reflection

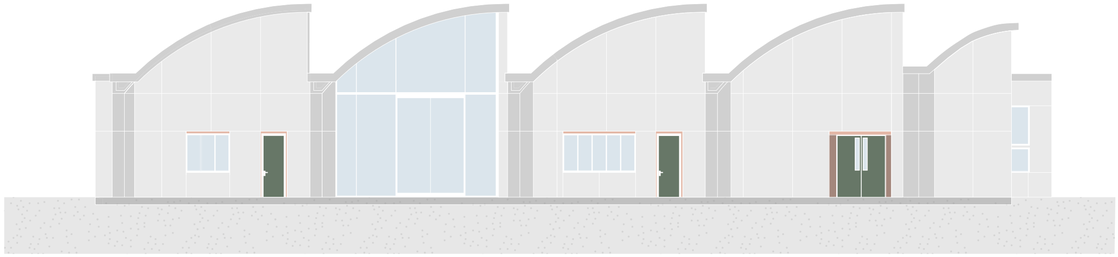




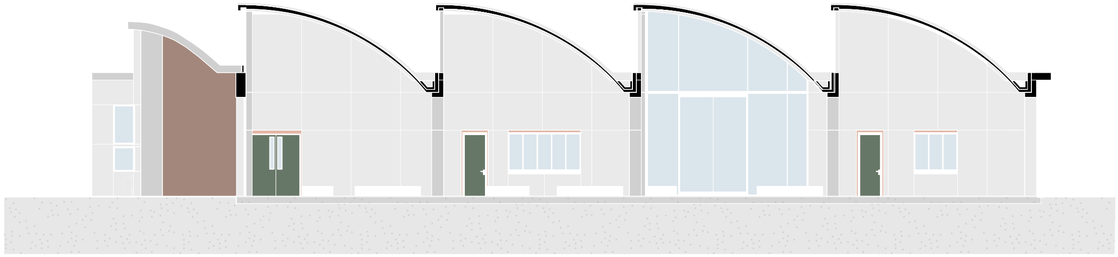
Box ventilation


Heat recovery
Natural ventilation
Sedum green roof, insulation
Floor heating and cooling
connected to geo thermal energy
Rainwater collection
to platform

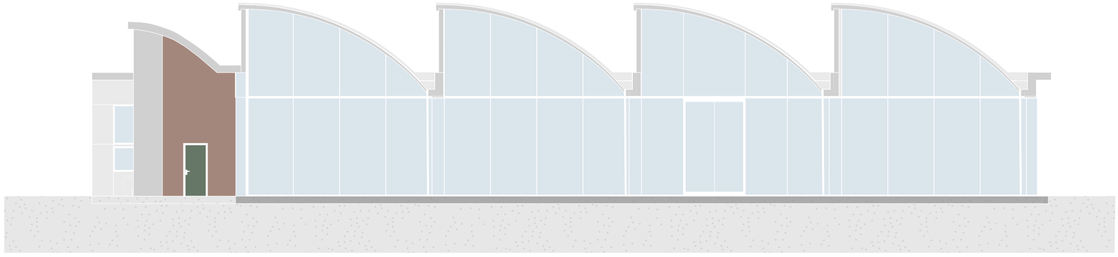




East



West, interior

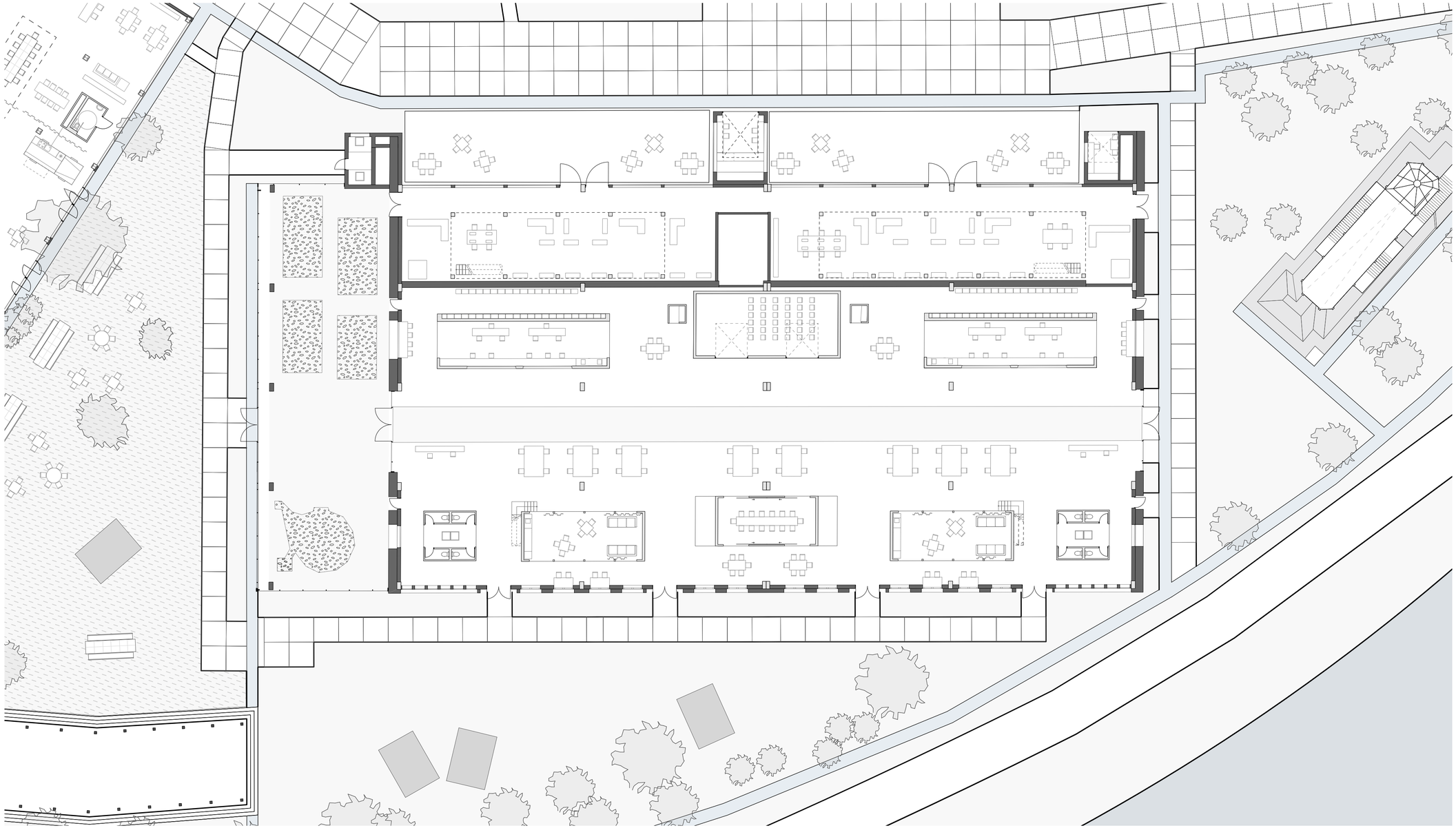


West

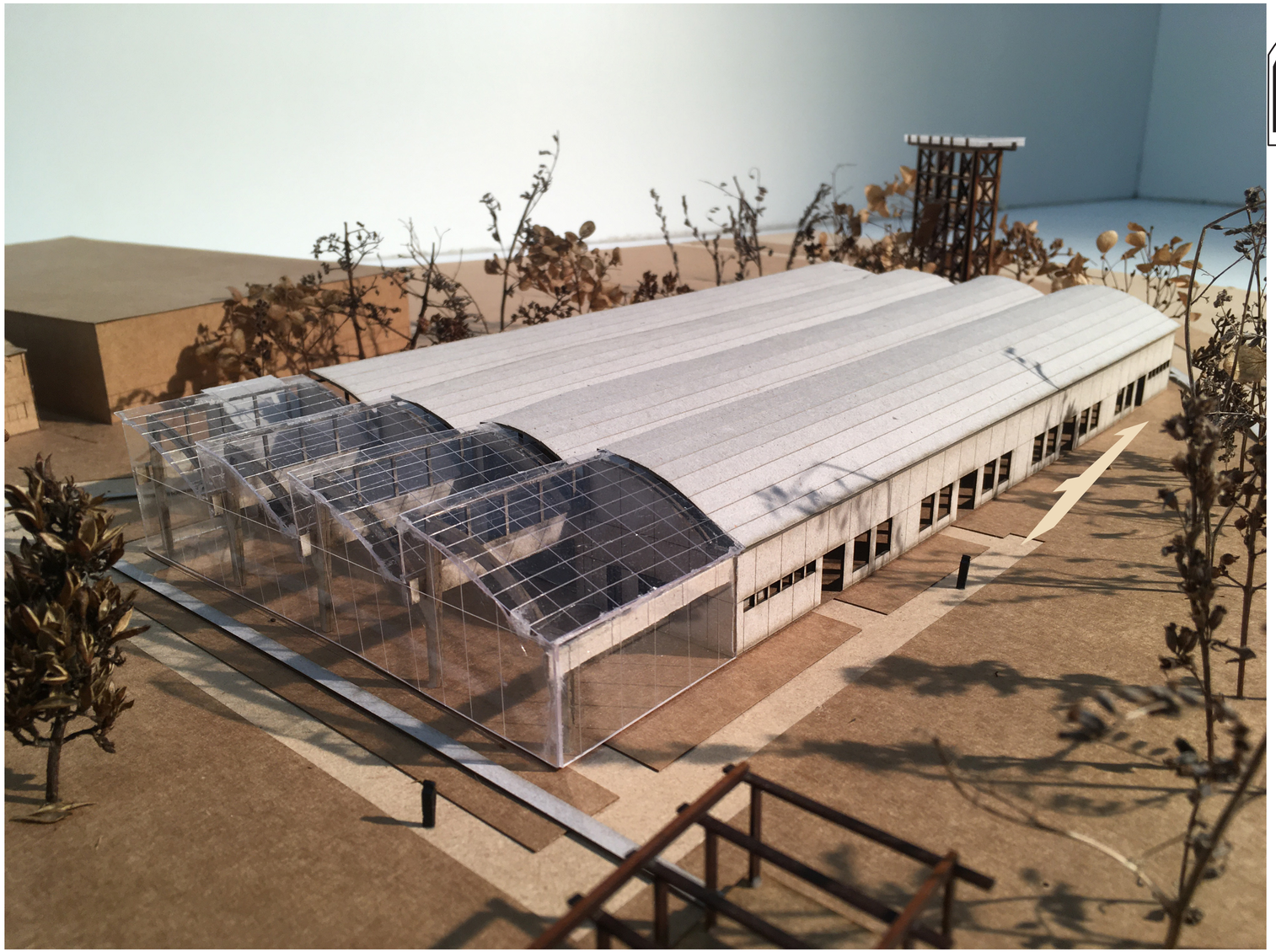
East & West facade; previous and new

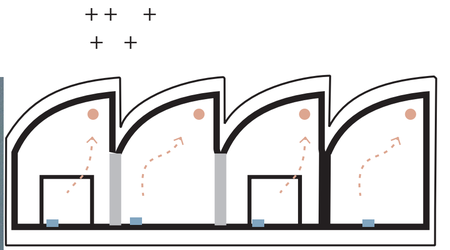


North & South facade; previous and new



Floorplan

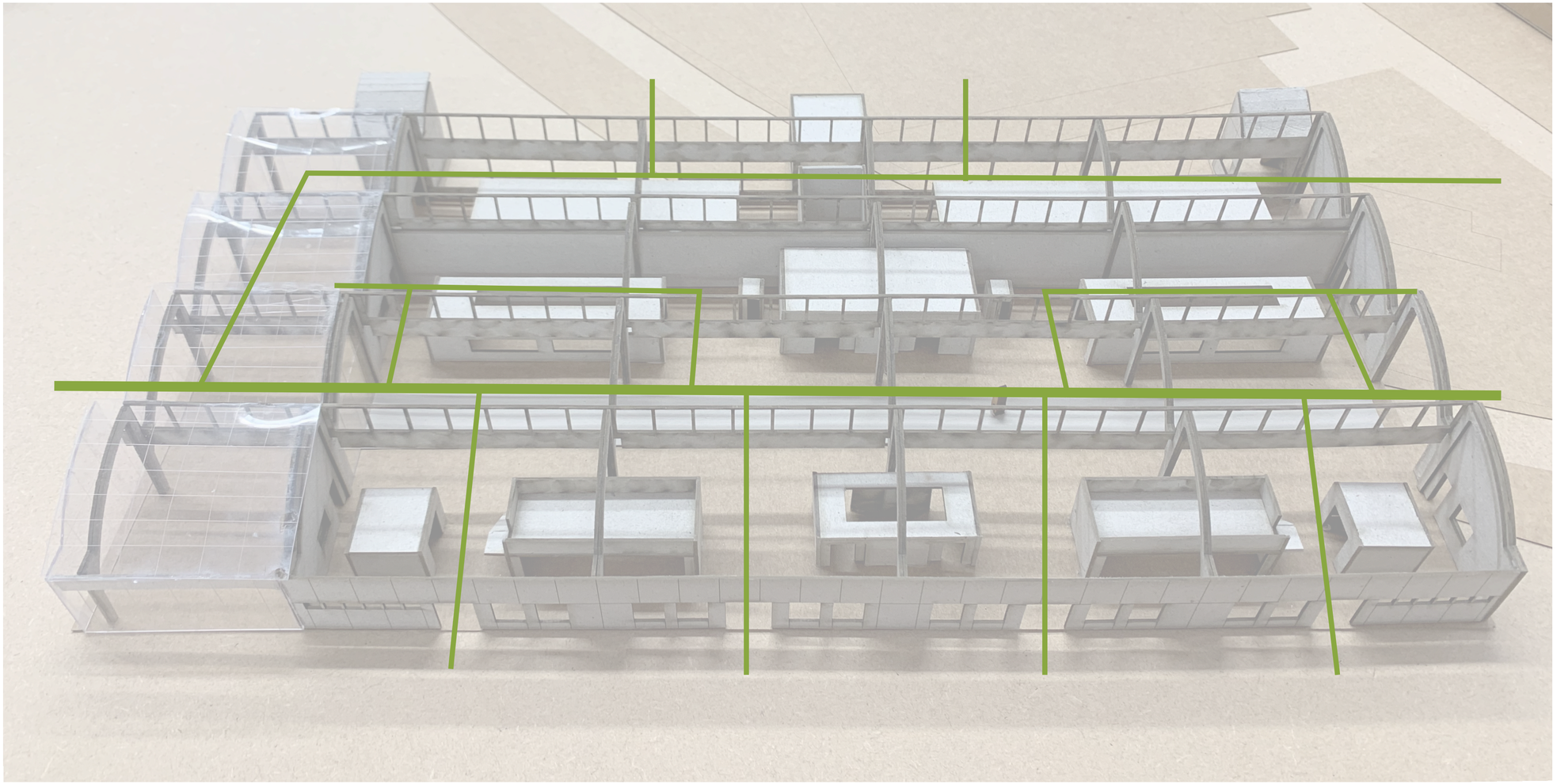




PV-cells for energy



Goal: Tangible and intangible purpose based on values and making the building future proof



Corridor spaces



Source: https://www.rijksoverheid.nl/actueel/nieuws/2018/01/08/verkoop-hembrugterrein

Future plans OMA



Future plans OMA: Het Hem culture centre. “Home for art and culture, hotel and movietheatre”