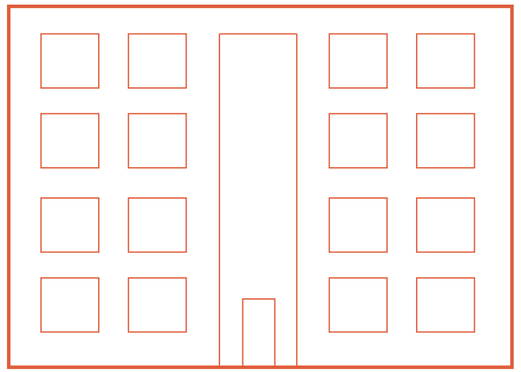
*Nikki de Boer*

*docenten*
*Emiel Lamers*
*Paddy Tomesen*
*Thaleia Konstantinou*

# DE TOEKOMST VAN DE PORTIEKFLAT



*Graduation Presentation*

*INTECTURE*
*beyond the current*

*03|07|2018*

# INHOUD PRESENTATIE

## *introductie*

*probleemstelling*
*context*
*doel*
*onderzoeksvraag*

## *onderzoek*

*Carnisse*
*potentieel kringlopen*
*connectie kringlopen*
*portiekflats*
*wensen bewoners*

*raamwerk*

## *ontwerp*

*sluit lokale kringlopen*
*verbeter openbare ruimte*
*diversiteit*
*update portiekflat*

*introductie*

*probleemstelling*
*context*
*doel*
*onderzoeksvraag*

*onderzoek*

*Carnisse*
*potentieel kringlopen*
*connectie kringlopen*
*portiekflats*
*wensen bewoners*

*raamwerk*

*ontwerp*

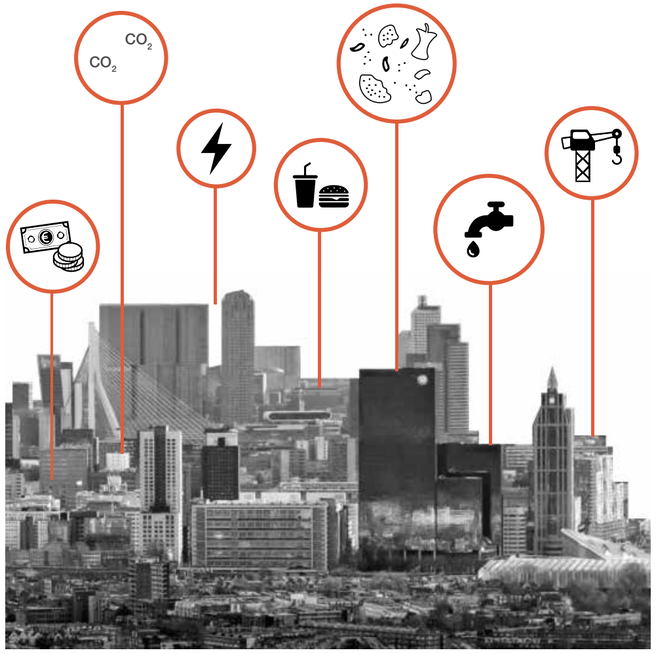
*sluit lokale kringlopen*
*verbeter openbare ruimte*
*diversiteit*
*update portiekflat*

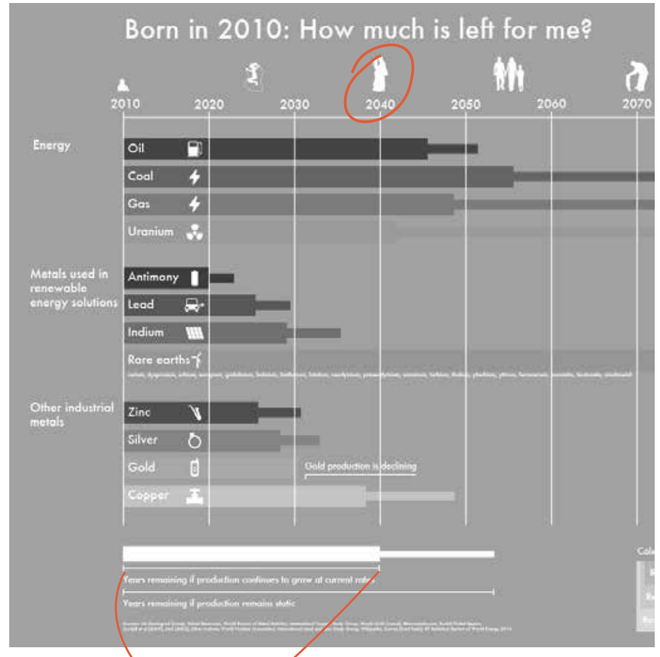
*probleemstelling*

*consumerende steden*

*95% afhankelijk van middelen van buiten de steden*

*natuurlijke hulpbronnen beginnen al op te raken*



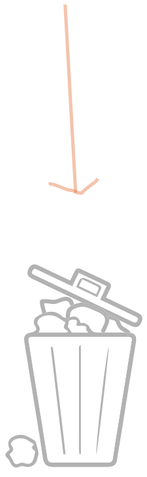

source: http://www.visualcapitalist.com/forecast-when-well-run-out-of-each-metal/

years remaining if production continues to grow at current rate, until 2040!

*probleem stelling*

verleden

*lineaire economie*



heden

*recycle economie*

NU/TOEKOMST

*circulaire economie*

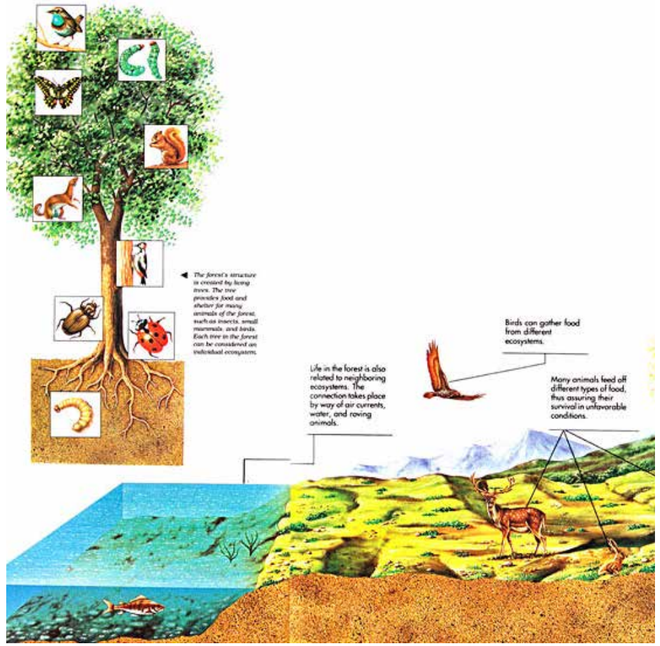
GEEN AFVAL!

*probleem stelling*

*ecosystemen als*
*perfect voorbeeld*

*source: https://www.goodnet.org/articles/200-countries-join-forces-to-reduce-plastic-waste*

our human made industries



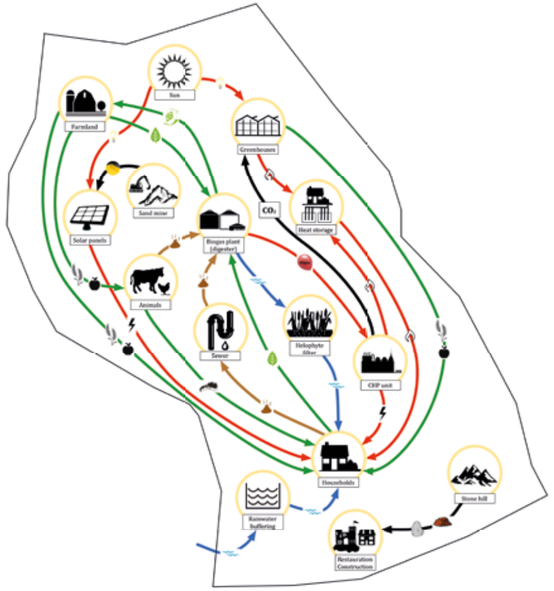

*source: http://www.kidsgen.com/school_projects/forest_depletion/forest_as_an_ecosystem.htm*

ecosystem of a forest

*probleemstelling*

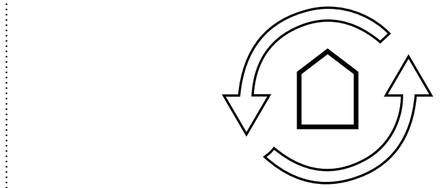
*globaal en open*
*vs*
*lokaal and regionaal*

*updaten huidige gebouwvoorraad*



*source: 2012 Architecten, & Goossens, F. (2009). Recyclicity: Industrial Ecology applied in the urban environment.*

local looped system for MSP Heerlen by Superuse Studios



not depending on external resources. no waste.

*probleemstelling*

**1/3** *van de gebouwvoorraad is gebouwd na WOII*

*voldoet niet aan de huidige duurzaamheids standaarden*

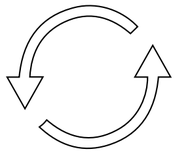
**Beyond the Current**

post-war neighnourhood, Rotterdam

walk-up apartments Eilandenbuurt
designed by Jo van den Broek

*doel*

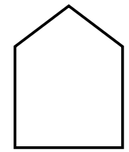
*overgang naar duurzamere wijken waar kringlopen lokaal gesloten zijn*



*FLOW vs STOCK*

*(kringlopen v.s. gebouwvoorraad)*

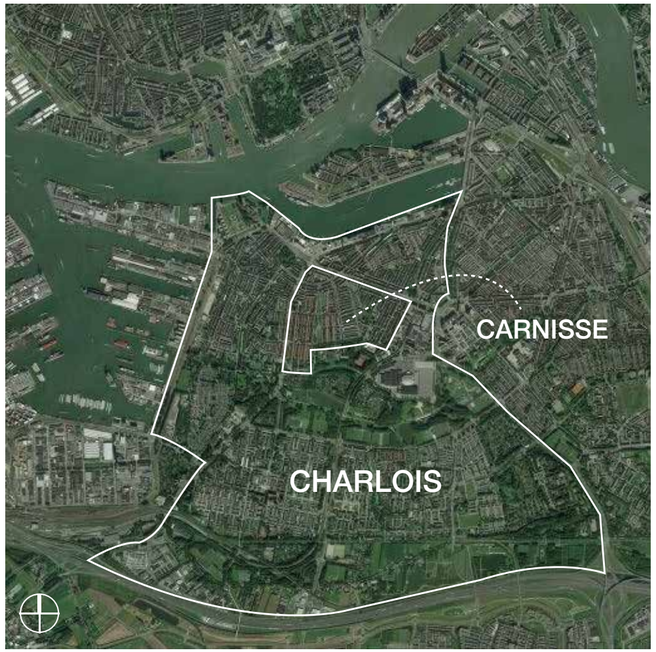
*na-oorlogse wijken met een verouderde gebouwvoorraad en sociale problemen als vandalisme en weinig diversiteit*



*context*

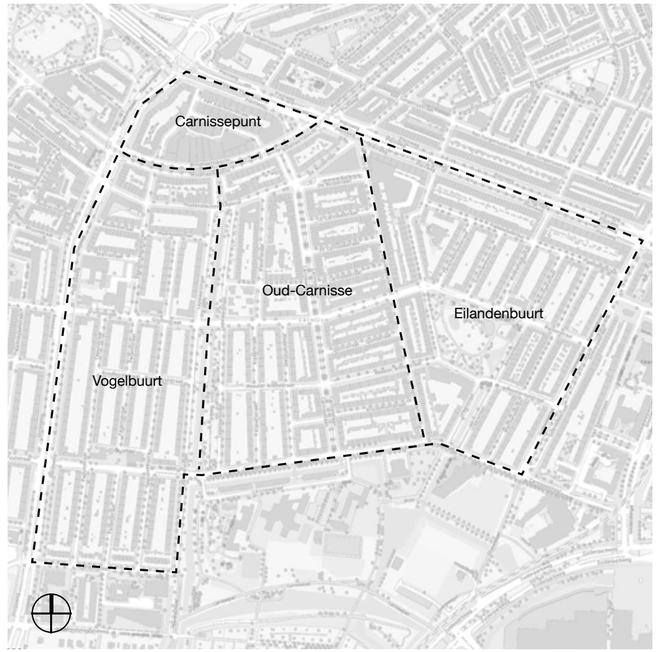
source: Bingmaps

Rotterdam



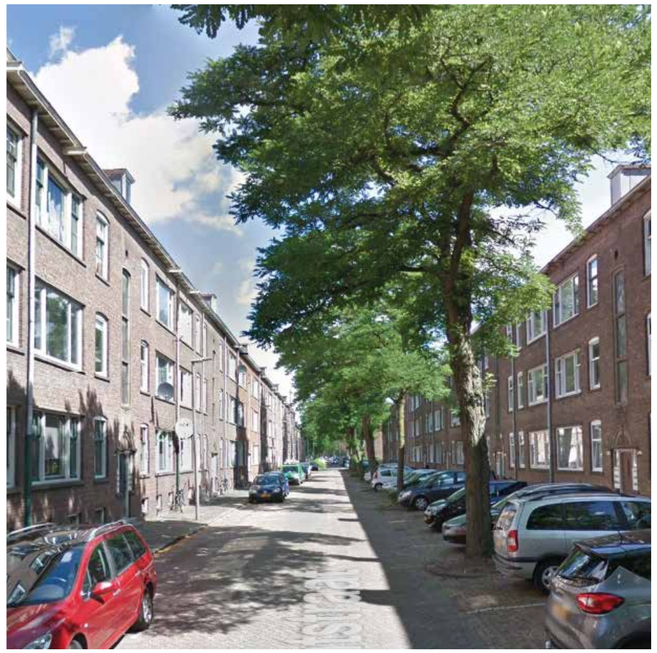

source: Bingmaps

situation in city of Rotterdam




different areas in Carnisse

*context*



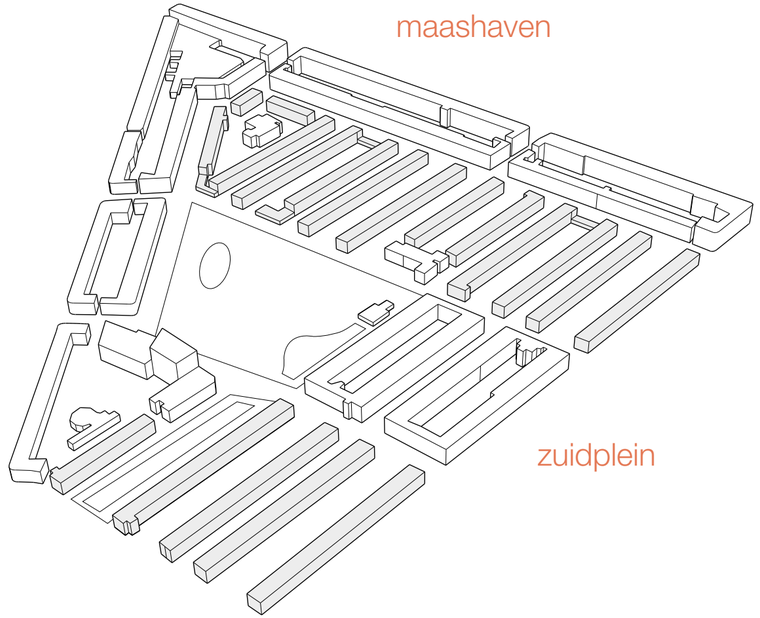
vogelbuurt

oud-carnisse

Eilandenbuurt

*context*

*portiekflats ontworpen door Jo van den Broek*




herhaling van hetzelfde ontwerp door Jo van den Broek

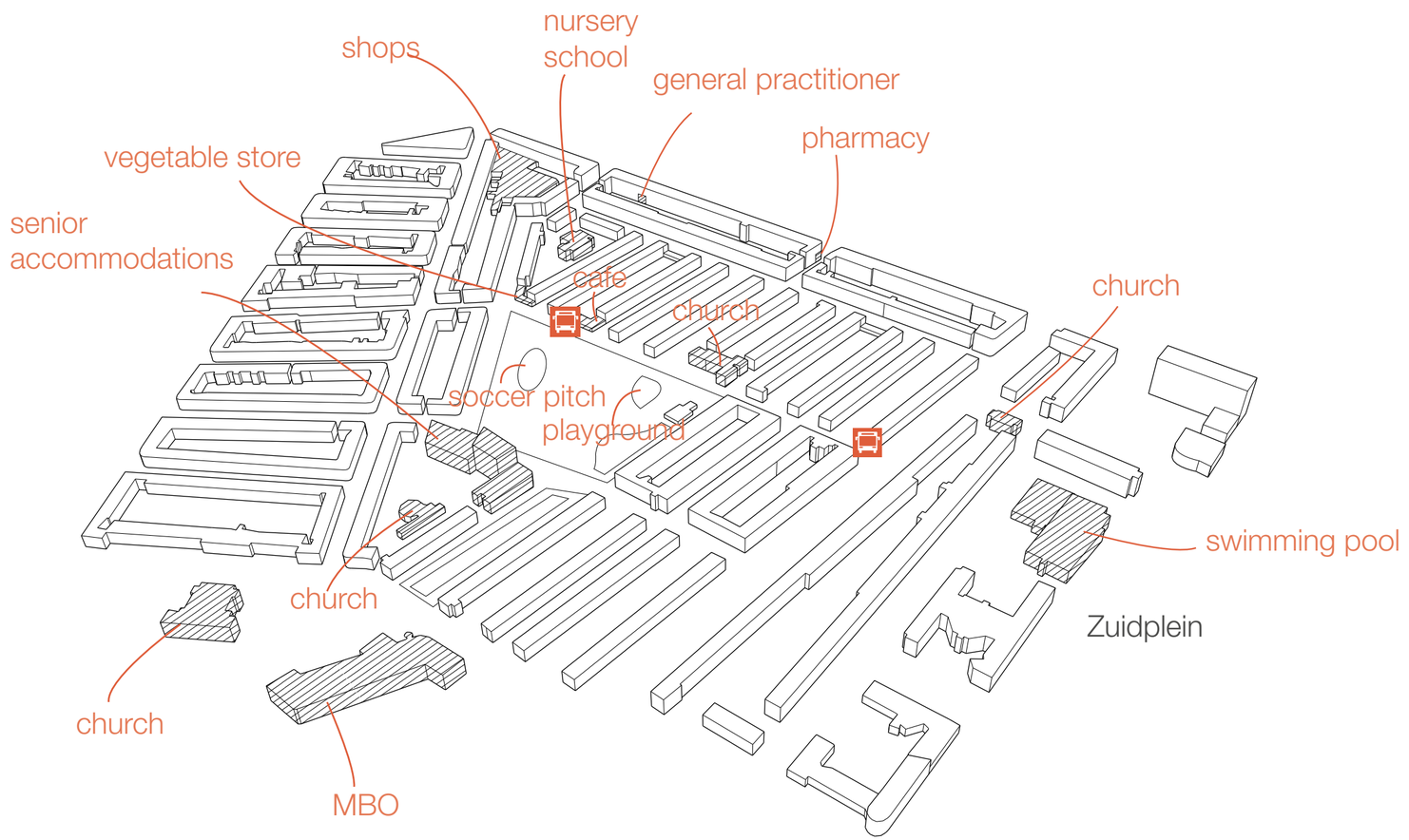

*source: Bingmaps*

Vogelvlucht van het zuiden van Eilandenbuurt

*context*

*Eilandenbuurt*

*functies*



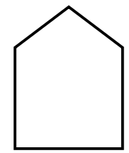
*context*

*doel*



*FLOW vs STOCK*

*(kringlopen v.s. gebouwvoorraad)*



*Hoe kan de wijk Carnisse herontwikkeld worden, op zo'n manier dat de verschillende kringlopen (energie, water, afval, voedsel, materiaal) op lokaal niveau gesloten worden, terwijl tegelijkertijd de diversiteit in woningen en functies en de kwaliteit van de woningen en de publieke ruimte wordt verbeterd, zodat de wijk duurzamer en veerkrachter wordt voor de toekomst?*

*kringlopen*

*waarde stedenbouwkundige ruimte*

*waarde van de naoorlogse architectuur*

*raamwerk voor herontwikkeling naar een duurzamere wijk*

*introductie*

*probleemstelling*
*context*
*doel*
*onderzoeksvraag*

*onderzoek*

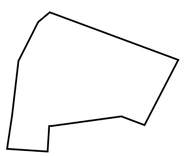
*Carnisse*
*potentieel kringlopen*
*infrastructuur kringlopen*
*portiekflat*
*wensen bewoners*

*raamwerk*

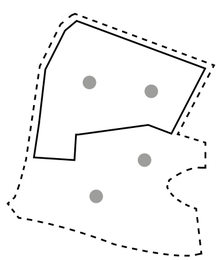
*ontwerp*

*sluit lokale kringlopen*
*verbeter openbare ruimte*
*diversiteit*
*update portiekflat*

*verschillende schalen*



*Carnisse*

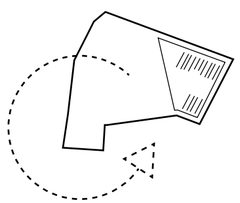


*Potentieel kringlopen*

*analyse huidige systeem kringlopen*

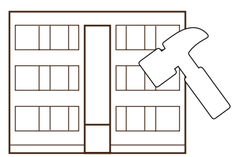
*potentieel om kringlopen te sluiten*

*nieuwe systeem*



*Connectie kringlopen*

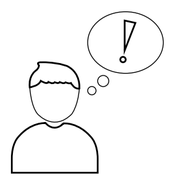
*aansluiting kringlopen met woningen*



*Portiekflats*

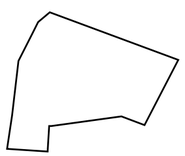
*Huidige prestaties*

*Architectuur*

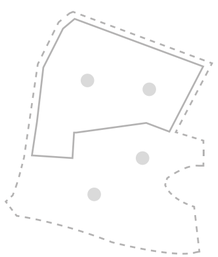


*Wensen bewoners*

# ONDERZOEK



*Carnisse*

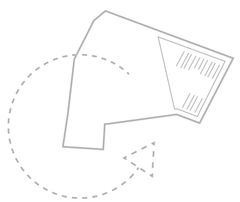


*Potentieel kringlopen*

*analyse huidige systeem kringlopen*

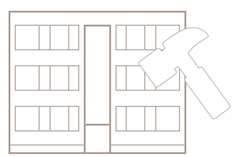
*potentieel om kringlopen te sluiten*

*nieuwe systeem*



*Connectie kringlopen*

*aansluiting kringlopen met woningen*



*Portiekflats*

*Huidige prestaties*

*Architectuur*

*Wensen bewoners*

*59 ha*

*(120 voetbalvelden)*

*11.083 inwoners*

*gemiddelde waarde woningen €86.000*

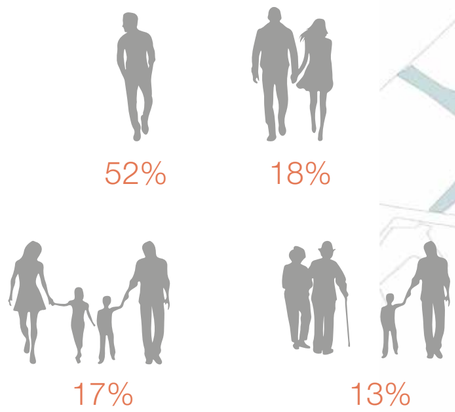
**70% portiekflat**

*70%  1 of 2 persoons huishouden*

*84% woonfunctie*

*49% < 1945 (bouwjaar)*

*44% 1945-1969 (bouwjaar)*




*Carnisse*

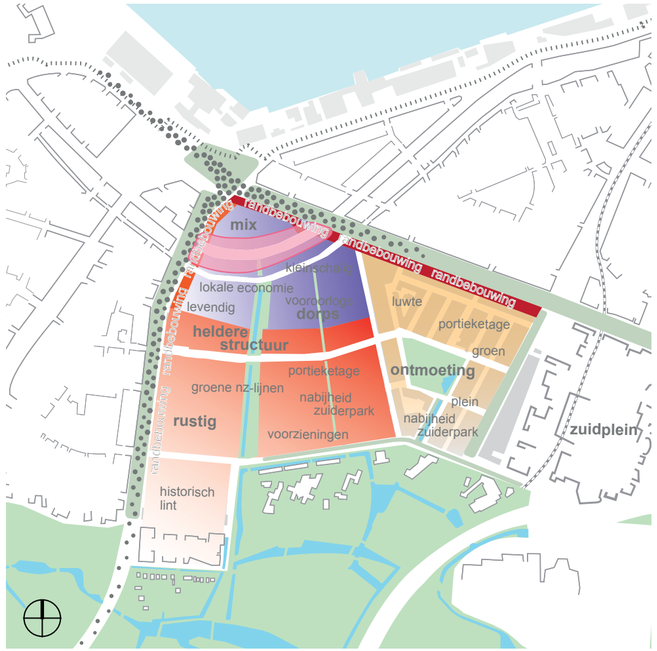
## *problemen*

*60% verhuisd binnen 4 jaar*

*geen sterke band met de wijk*

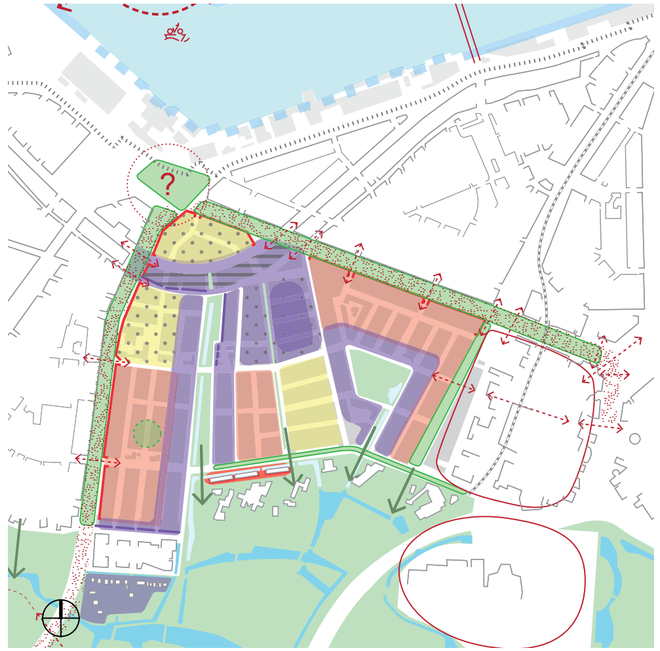
*weinig diversiteit in woningen en inwoners*

*vandalisme en overlast*




*source images: https://www.rotterdam.nl/wonen-leven/opgave-nprz/handelingsperspectief-Carnisse.pdf*

huidige situatie Carnisse, verschillende buurten en atmosferen (Gemeente Rotterdam)




toekomst visie gemeente Rotterdam

*Carnisse*

*problemen*

*60% verhuisd binnen 4 jaar*

*geen sterke band met de wijk*

*weinig diversiteit in woningen en inwoners*

*vandalisme en overlast*




*meer diversiteit in woningen/functies en inwoners*

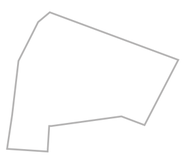
*hoge kwaliteit en energy efficiente woningen, flexibel voor veranderende behoeften*

*versterk het karakter en identiteit van de wijk*

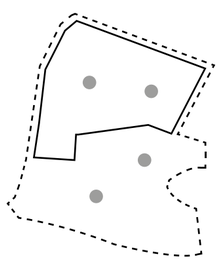
*verbeteren van de publieke ruimte en groen*

**toekomst visie gemeente Rotterdam**

# ONDERZOEK



*Carnisse*

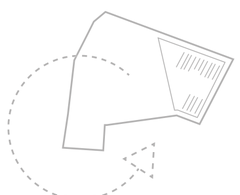


*Potentieel kringlopen*

*analyse huidige systeem kringlopen*

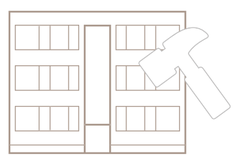
*potentieel om kringlopen te sluiten*

*nieuwe systeem*



*Connectie kringlopen*

*aansluiting kringlopen met woningen*



*Portiekflats*

*Huidige prestaties*

*Architectuur*

*Wensen bewoners*

*systeem analyse*

*system boundaries*

*(125 ha)*

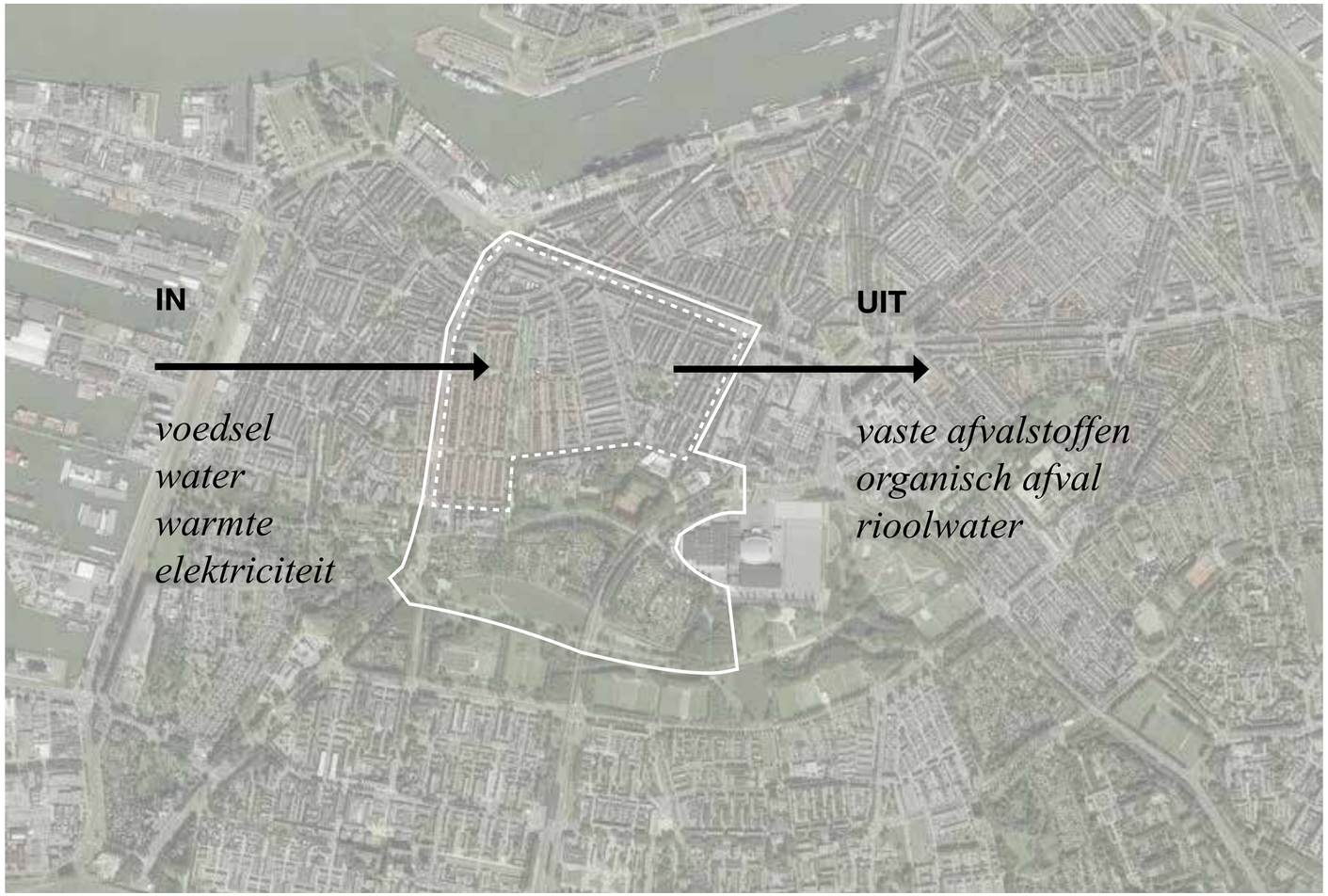
*Carnisse*

*(59 ha)*

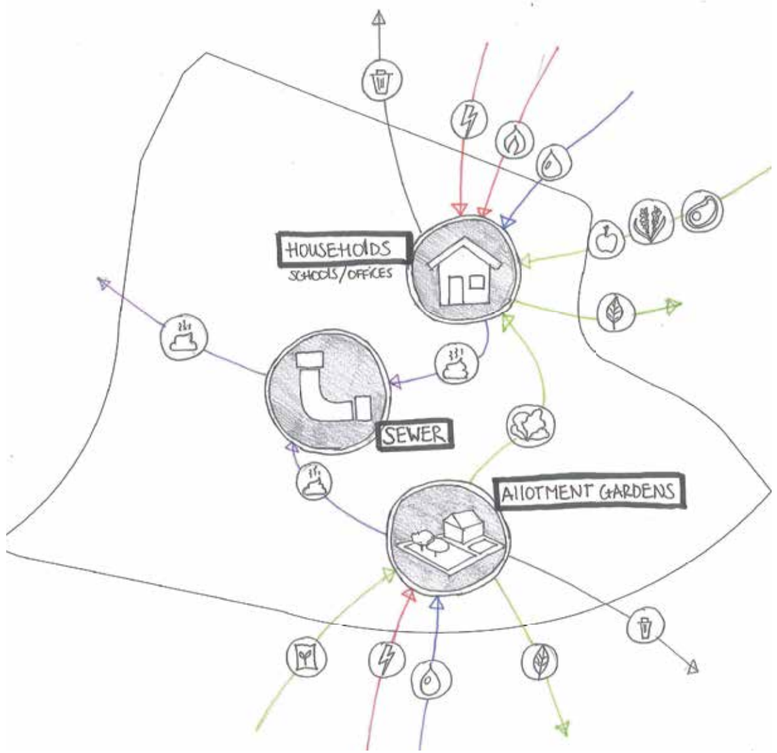
*11.000 inhabitants*
*3500 students*

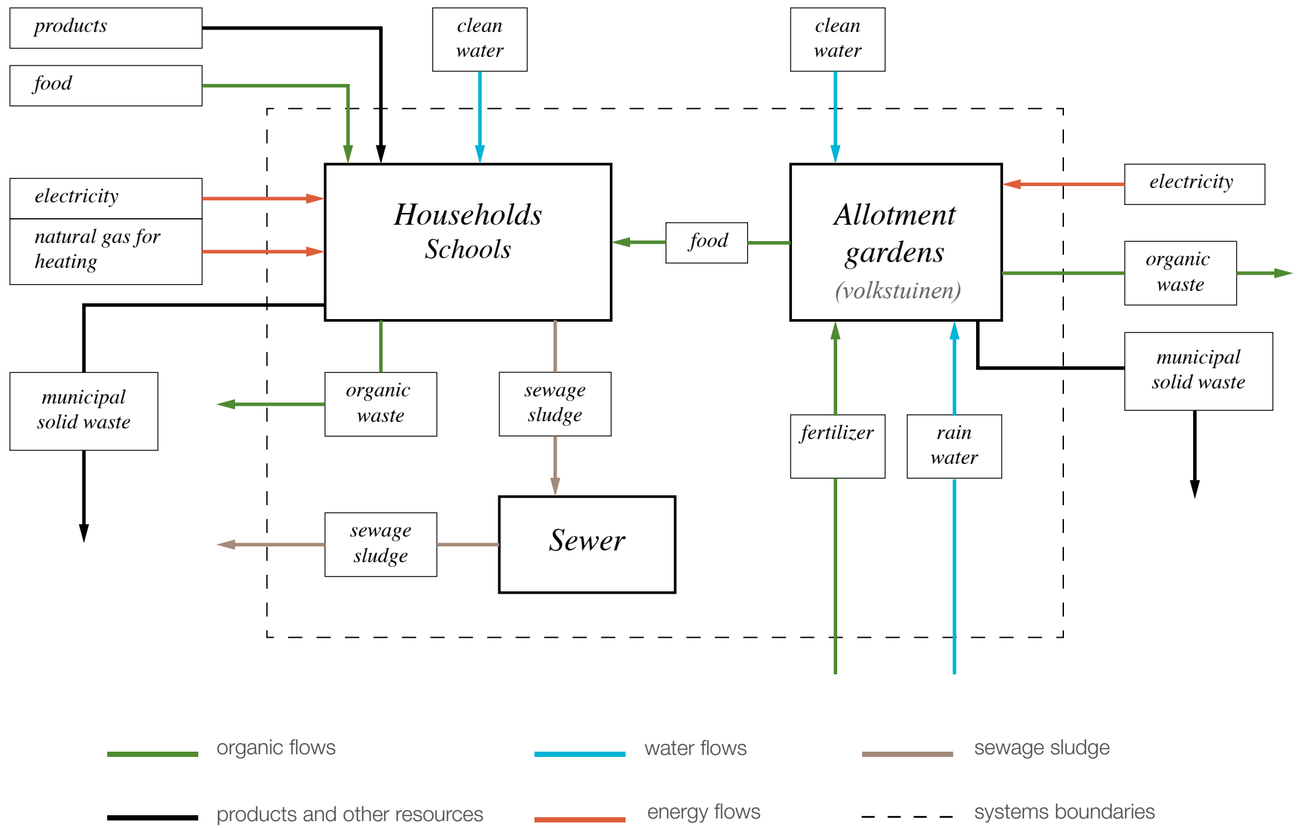
**specials**
*schools*
*allotment gardens*
*greens structure Zuiderpark*

*systeem analyse*



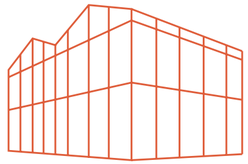
*systeem analyse*



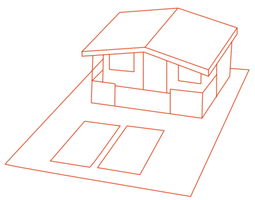



*potentieel manieren voor sluiten kringlopen*

## VOEDSEL

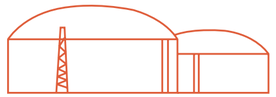


*kassen*



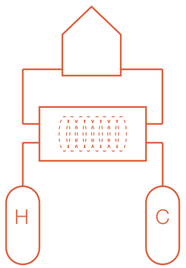
*volkstuinen*

## ENERGIE

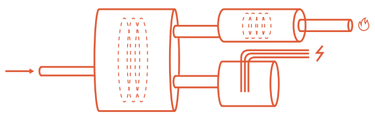


*Biogas plant*

*PV-panelen*



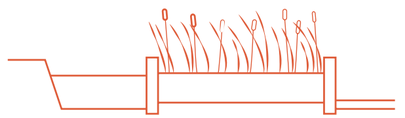

*warmte-koude opslag*



*CHP unit*

## WATER

*bestaande singels en oppervlakte water*



*helofyten filter*

SUN

PV - PANELS

electricity

heat

RAIN

HOUSEHOLDS

food

drinking water

food

sewage sludge

clean water

grey water

organic waste

GREENHOUSES

electricity

heat

HELOPHYTE FILTER

used water

waste heat

heat

clean water

electricity

grey water

fertilizer

heat

SEWER

biogas

sewage sludge

water

SCHOOLS

organic waste

BIOGAS PLANT

heat

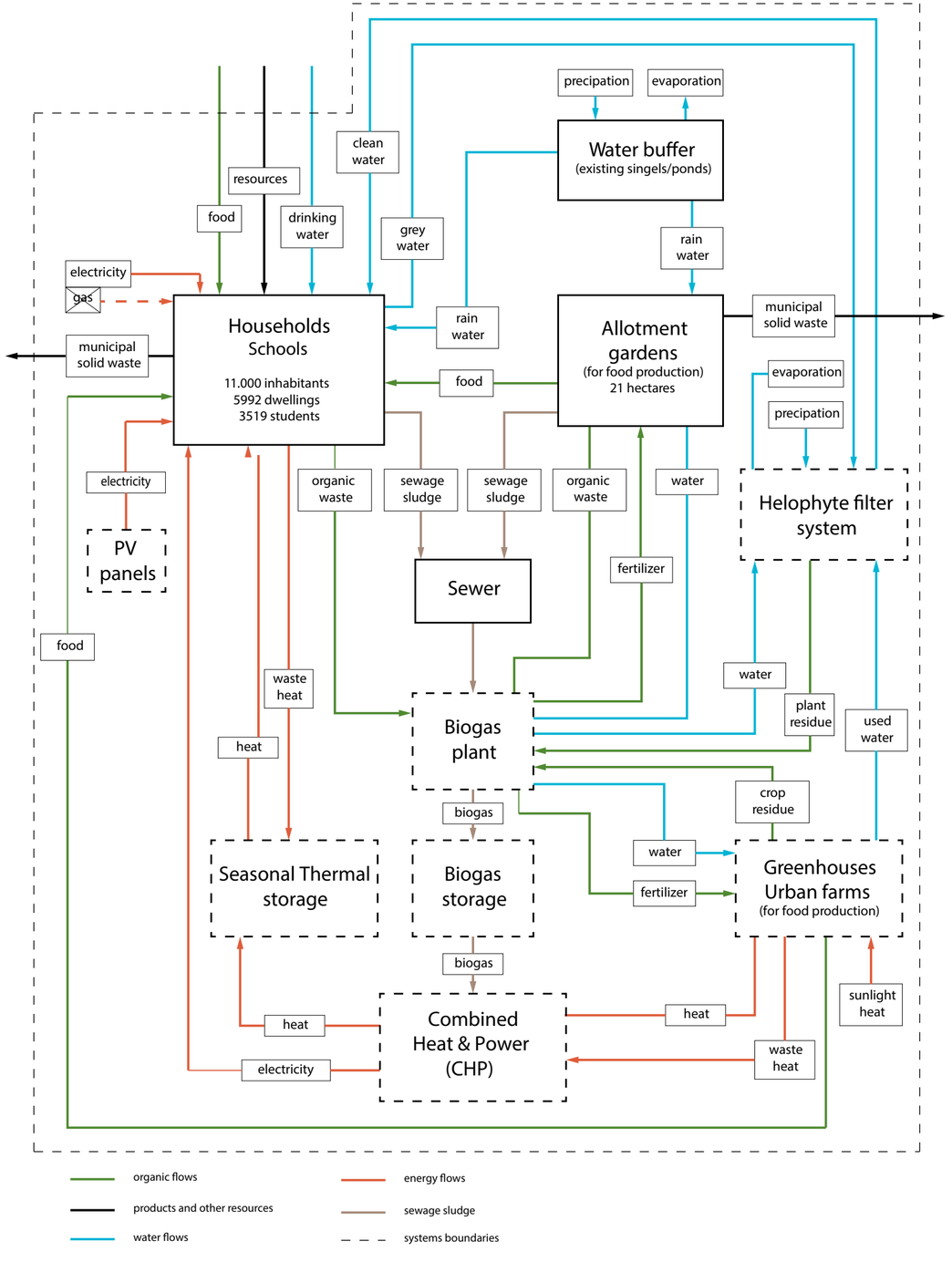
WKO

CHP UNIT

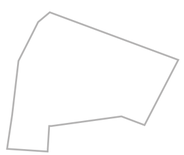
sewage sludge

VOLKSTUINEN

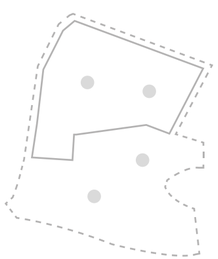
sewage sludge


precipation
evaporation
Water buffer
(existing singels/ponds)
clean water
resources
food
drinking water
grey water
rain water
electricity
gas
municipal solid waste
Households
Schools
11.000 inhabitants
5992 dwellings
3519 students
rain water
food
Allotment gardens
(for food production)
21 hectares
municipal solid waste
evaporation
precipation
electricity
organic waste
sewage sludge
sewage sludge
organic waste
water
Helophyte filter system
PV panels
Sewer
fertilizer
food
waste heat
water
plant residue
used water
Biogas plant
heat
crop residue
biogas
water
Seasonal Thermal storage
Biogas storage
fertilizer
Greenhouses
Urban farms
(for food production)
biogas
sunlight heat
heat
heat
Combined Heat & Power (CHP)
waste heat
electricity
organic flows
energy flows
products and other resources
sewage sludge
water flows
systems boundaries

# ONDERZOEK



*Carnisse*

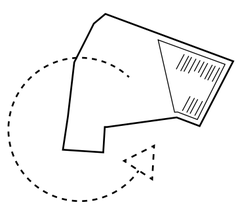


*Potentieel kringlopen*

*analyse huidige systeem kringlopen*

*potentieel om kringlopen te sluiten*

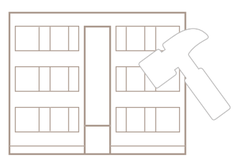
*nieuwe systeem*



*Connectie kringlopen*

*aansluiting kringlopen met woningen*

*nieuwe infrastructuur*



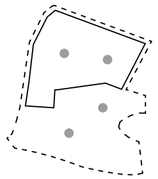
*Portiekflats*

*Huidige prestaties*

*Architectuur*

*Wensen bewoners*

*benodigde infrastructuur voor kringlopen*



FOOD

Allotment gardens

Greenhouses → *need to be placed in between the housing blocks*

ENERGY

Biogas plant → *pipes compatible to heat and electricity from biogas*

→ *collection of organic household waste*

CHP unit

Seasonal Thermal Storage

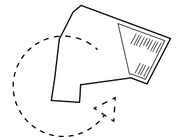
PV panels → *placement on roof/facade*

WATER

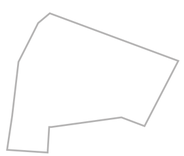
Local wastewater treatment → *storage for rain water*

→ *separate black and grey water*

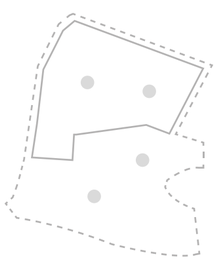
helophyte filter → *outgoing pipe black water*
*outgoing pipe grey water*
*incoming pipe grey water*
*incoming pipe rain water*



# ONDERZOEK



*Carnisse*

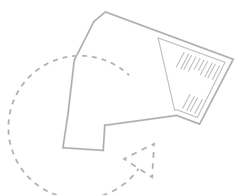


*Potentieel kringlopen*

*analyse huidige systeem kringlopen*

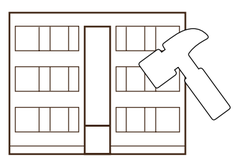
*potentieel om kringlopen te sluiten*

*nieuwe systeem*



*Connectie kringlopen*

*aansluiting kringlopen met woningen*



*Portiekflats*

*Huidige prestaties/staat*

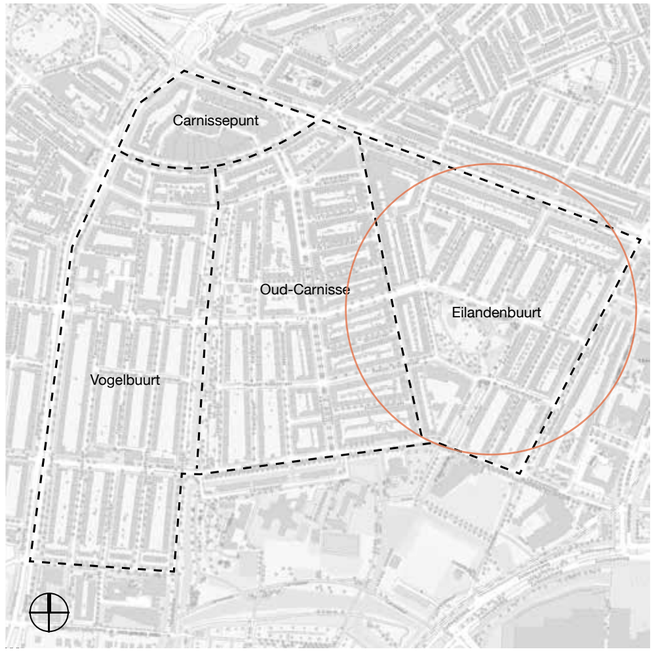
*Architectuur*

*Wensen bewoners*

*portiekflat*

*focus op Eilandenbuurt*

*ontwerp door Jo van den Broek*




Carnisse

Eilandenbuurt

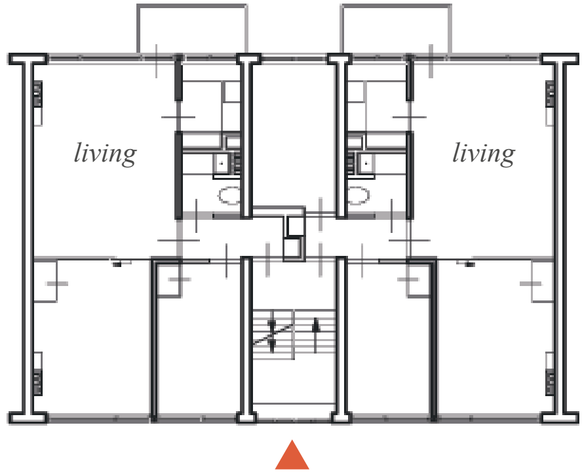
*portiekflat*

*portiekflat*

repetitive design ‘Algemeen Belang’

Type A
Type B
--- Balcony

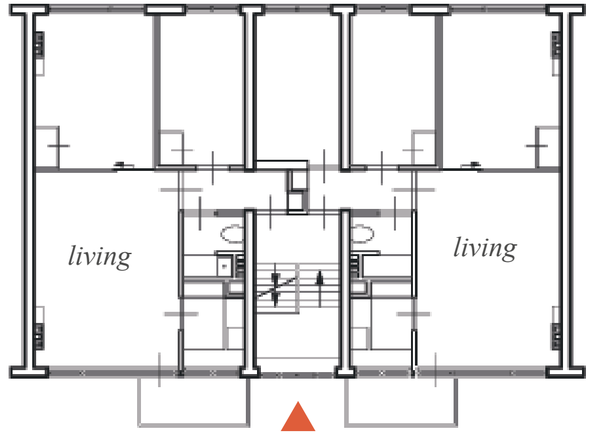
tuin




straat

*Type A*
*Balkon aan*
*tuinkant*

tuin

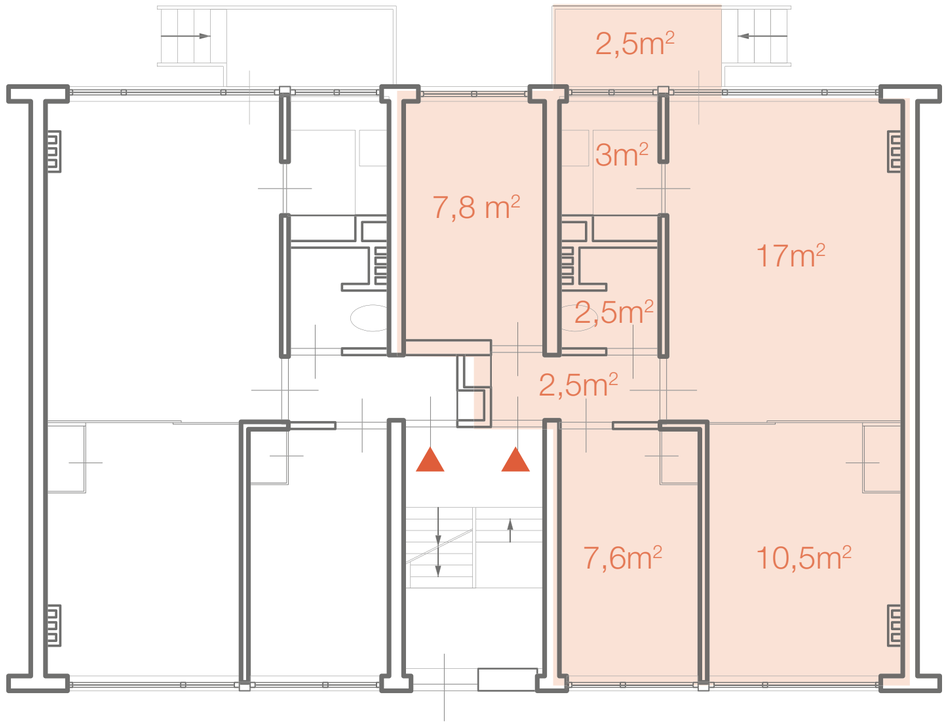



straat

*Type B*
*Balkon aan*
*straatkant*

*portiekflat*

tuin




*45m²*

*53m²*

straat

*portiekflat*

*fundering op palen*

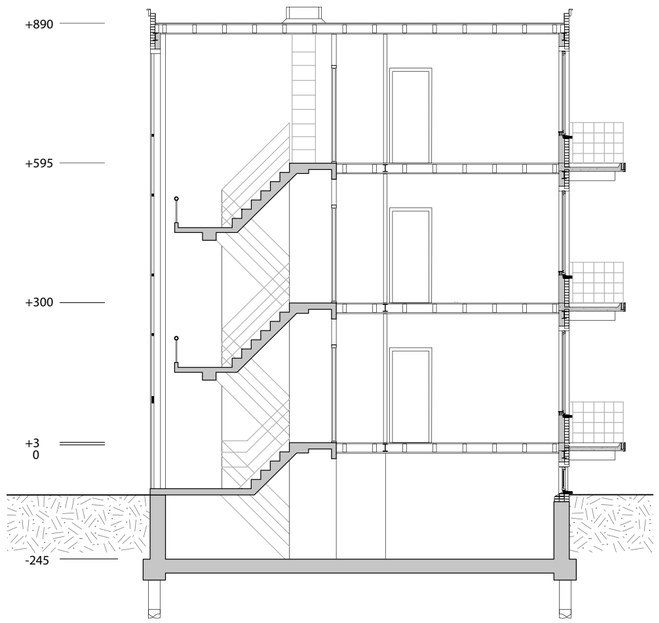
*dragende bakstenen wanden*

*houten balken vloeren*

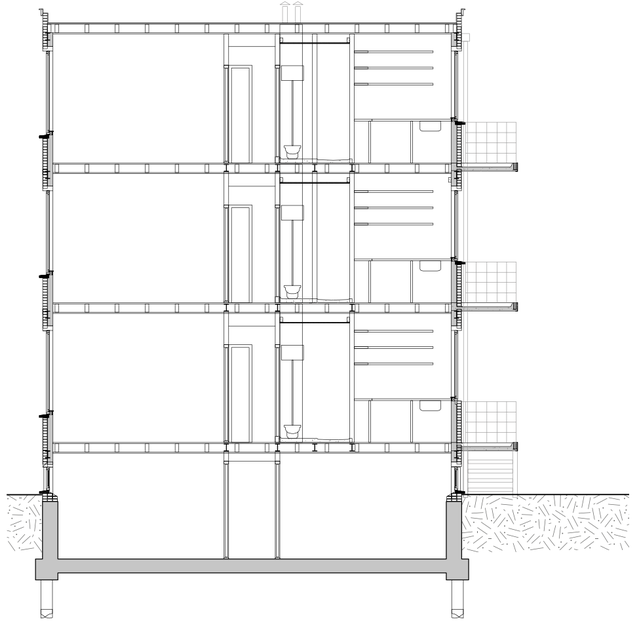
*zelf dragende bakstenen gevels*

*geen isolatie*

*half verdiepte kelder*



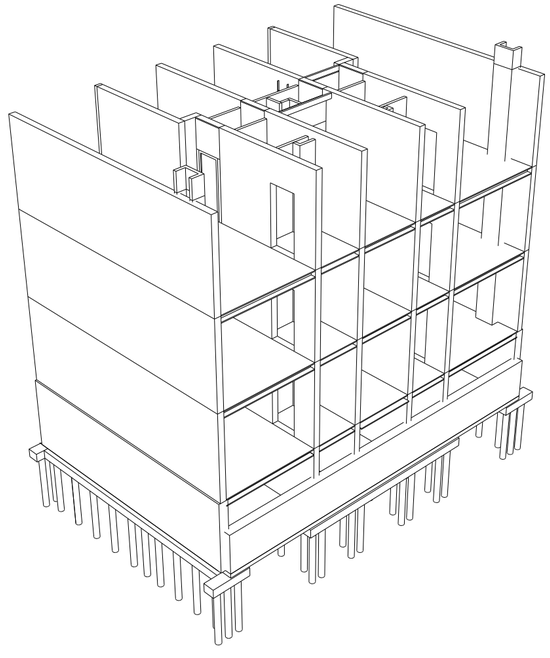

doorsnede

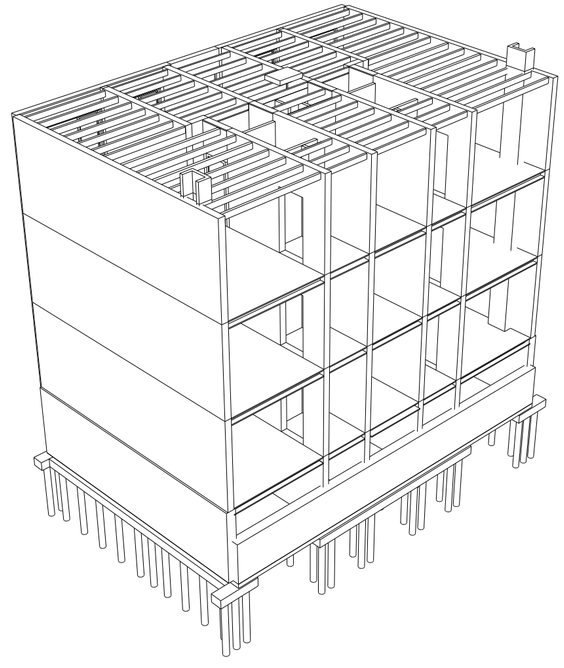


doorsnede

*portiekflat*

*constructie*





*portiekflat*

**problematiek**

*kleine badkamer en keuken*

*hoog energie verbruik*

*koudebruggen*

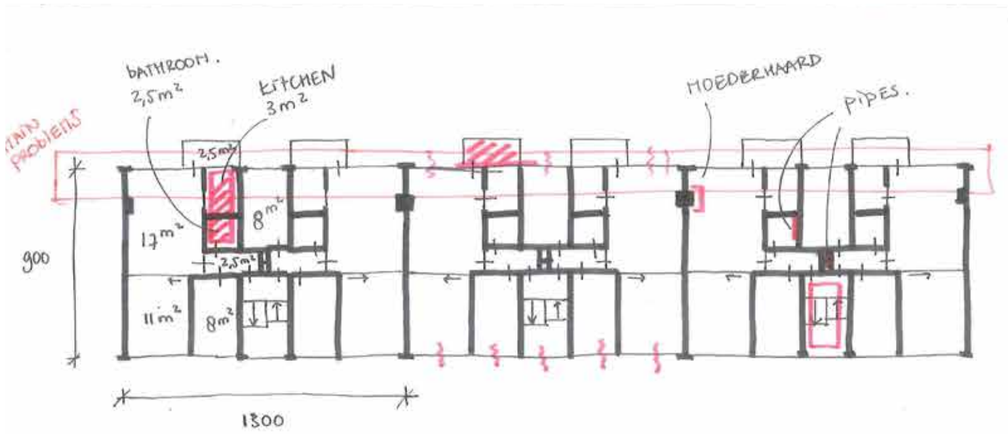
*verweerd balkon*

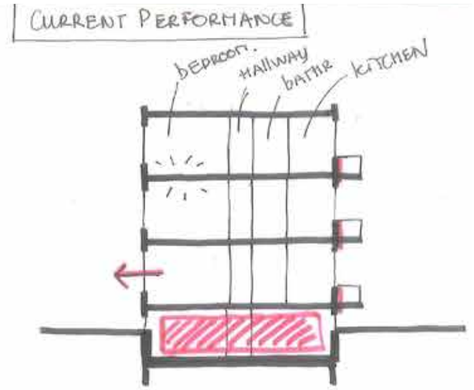
*vochtproblemen*

*geluidsoverlast en brandgevaar door vervangen houten vloer*

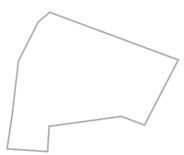
*connectie met maaiveld*

*inefficiente opslag in de kelder*

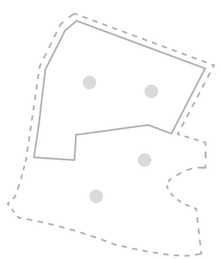


# ONDERZOEK



*Carnisse*

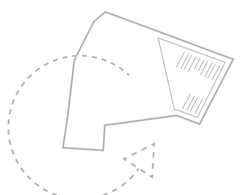


*Potentieel kringlopen*

*analyse huidige systeem kringlopen*

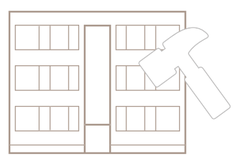
*potentieel om kringlopen te sluiten*

*nieuwe systeem*



*Connectie kringlopen*

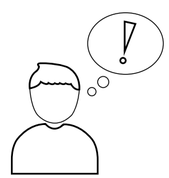
*aansluiting kringlopen met woningen*



*Portiekflats*

*Huidige prestaties/staat*

*Architectuur*



*Wensen bewoners*

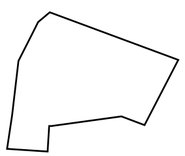
*wensen bewoners*

VERGROTEN VAN DE WONING
MET EEN GLAZEN UITBOUW

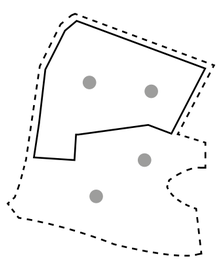
RENOVATIE VAN DE KEUKEN
EN BADKAMER

VERMINDER GELUIDSOVERLAST
VAN BUREN

*bron: Leo Oorschot, Beyond the Current*



*Carnisse*

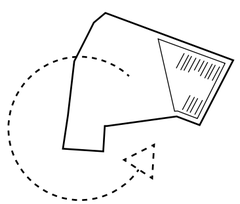


*Potentieel kringlopen*

*analyse huidige systeem kringlopen*

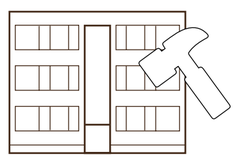
*potentieel om kringlopen te sluiten*

*nieuwe systeem*



*Connectie kringlopen*

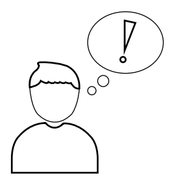
*aansluiting kringlopen met woningen*



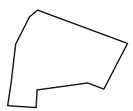
*Portiekflats*

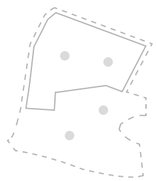
*Huidige prestaties*

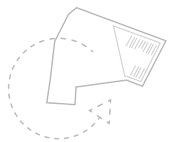
*Architectuur*



*Wensen bewoners*







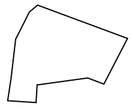
**General problems**
and **future vision**
municipality

*more variety of dwellings*
*and inhabitants*

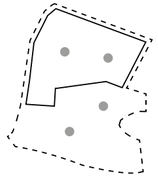
*more variety of functions*
*living/working/recreation*

*high quality and energy*
*efficient housing*

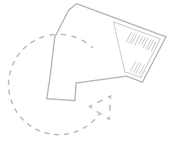
*strong character and*
*identity!*



**General problems**
and **future vision**
municipality



Needed **cyclifiers** to
close streams in Carnisse



*more variety of dwellings and inhabitants*

*more variety of functions living/working/recreation*

*high quality and energy efficient housing*

*strong character and identity!*

FOOD

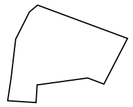
- Allotment gardens
- Greenhouses

ENERGY

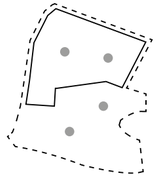
- Biogas plant
- CHP unit
- Seasonal Thermal Storage
- PV panels

WATER

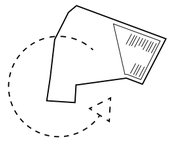
- Local wastewater treatment
- helophyte filter



**General problems**
and **future vision**
municipality



Needed **cyclifiers** to
close streams in Carnisse



Interventions needed in
**walk-up** apartments to
connect to the streams

*more variety of dwellings and inhabitants*

*more variety of functions living/working/recreation*

*high quality and energy efficient housing*

*strong character and identity!*

FOOD

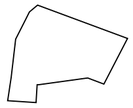
- Allotment gardens
- Greenhouses → *need to be placed in between the housing blocks*

ENERGY

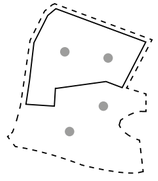
- Biogas plant → *pipes compatible to heat and electricity from biogas*
- → *collection of organic household waste*
- CHP unit
- Seasonal Thermal Storage
- PV panels → *placement on roof/facade*

WATER

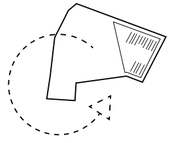
- Local wastewater treatment → *storage for rain water*
- → *separate black and grey water*
- helophyte filter → *outgoing pipe black water*
  *outgoing pipe grey water*
  *incoming pipe grey water*
  *incoming pipe rain water*



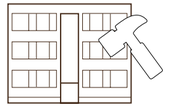
**General problems**
and **future vision**
municipality



Needed **cyclifiers** to
close streams in Carnisse



Interventions needed in
**walk-up** apartments to
connect to the streams



Interventions to improve
**current performance**
of walk-up apartment and
to meet the users wishes

*more variety of dwellings and inhabitants*

*more variety of functions living/working/recreation*

*high quality and energy efficient housing*

*strong character and identity!*

FOOD

Allotment gardens

Greenhouses → *need to be placed in between the housing blocks*

ENERGY

Biogas plant → *pipes compatible to heat and electricity from biogas*

→ *collection of organic household waste*

CHP unit

Seasonal Thermal Storage

PV panels → *placement on roof/facade*

WATER

Local wastewater treatment → *storage for rain water*

→ *separate black and grey water*

helophyte filter → *outgoing pipe black water*
*outgoing pipe grey water*
*incoming pipe grey water*
*incoming pipe rain water*

*refurbishment of kitchen and bathroom*

*lower the energy demand*

*solve cold bridges*

*replace degrading balcony*

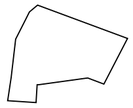
*solve moisture problems due to lack of ventilation*

*noise reduction and firesafety (wooden floors)*

*replace outdated installations and piping*

*connection with ‘maaiveld’*

*inefficient storage in basements*



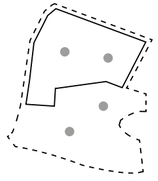
**General problems**
and **future vision**
municipality

*more variety of dwellings and inhabitants*

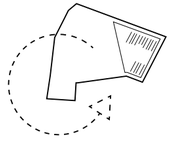
*more variety of functions living/working/recreation*

*high quality and energy efficient housing*

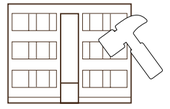
*strong character and identity!*



Needed **cyclifiers** to
close streams in Carnisse



Interventions needed in
**walk-up** apartments to
connect to the streams



Interventions to improve
**current performance**
of walk-up apartment and
to meet the users wishes

Users wishes

FOOD

Allotment gardens

Greenhouses → *need to be placed in between the housing blocks*

ENERGY

Biogas plant → *pipes compatible to heat and electricity from biogas*

→ *collection of organic household waste*

CHP unit

Seasonal Thermal Storage

PV panels → *placement on roof/facade*

WATER

Local wastewater treatment → *storage for rain water*

→ *separate black and grey water*

helophyte filter → *outgoing pipe black water*
*outgoing pipe grey water*
*incoming pipe grey water*
*incoming pipe rain water*

*refurbishment of kitchen and bathroom*

*lower the energy demand*

*solve cold bridges*

*replace degrading balcony*

*solve moisture problems due to lack of ventilation*

*noise reduction and firesafety (wooden floors)*

*replace outdated installations and piping*

*connection with ‘maaiveld’*

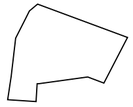
*inefficient storage in basements*

*refurbishment of kitchen and bathroom*

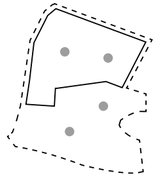
*enlarge the dwelling by adding a glass house*

*noise reduction and firesafety (wooden floors)*

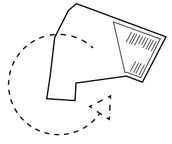
*sustainability is visible*



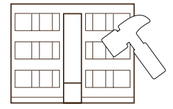
**General problems**
and **future vision**
municipality



Needed **cyclifiers** to
close streams in Carnisse



Interventions needed in
**walk-up** apartments to
connect to the streams



Interventions to improve
**current performance**
of walk-up apartment and
to meet the users wishes

Users wishes

*more variety of dwellings and inhabitants*

*more variety of functions living/working/recreation*

*high quality and energy efficient housing*

*strong character and identity!*

FOOD

Allotment gardens

Greenhouses → *need to be placed in between the housing blocks*

ENERGY

Biogas plant → *pipes compatible to heat and electricity from biogas*

→ *collection of organic household waste*

CHP unit

Seasonal Thermal Storage

PV panels → *placement on roof/facade*

WATER

Local wastewater treatment → *storage for rain water*

→ *separate black and grey water*

helophyte filter → *outgoing pipe black water*
*outgoing pipe grey water*
*incoming pipe grey water*
*incoming pipe rain water*

*refurbishment of kitchen and bathroom*

*lower the energy demand*

*solve cold bridges*

*replace degrading balcony*

*solve moisture problems due to lack of ventilation*

*noise reduction and firesafety (wooden floors)*

*replace outdated installations and piping*

*connection with ‘maaiveld’*

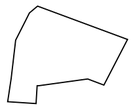
*inefficient storage in basements*

*refurbishment of kitchen and bathroom*

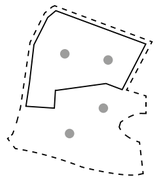
*enlarge the dwelling by adding a glass house*

*noise reduction and firesafety (wooden floors)*

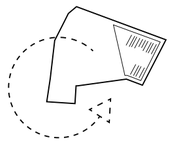
*sustainability is visible*



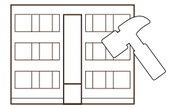
**General problems**
and **future vision**
municipality



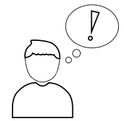
Needed **cyclifiers** to
close streams in Carnisse



Interventions needed in
**walk-up** apartments to
connect to the streams



Interventions to improve
**current performance**
of walk-up apartment and
to meet the users wishes



Users wishes

*more variety of dwellings and inhabitants*

*more variety of functions living/working/recreation*

*high quality and energy efficient housing*

*strong character and identity!*

FOOD

Allotment gardens

Greenhouses → *need to be placed in between the housing blocks*

ENERGY

Biogas plant → *pipes compatible to heat and electricity from biogas*

→ *collection of organic household waste*

CHP unit

Seasonal Thermal Storage

PV panels → *placement on roof/facade*

WATER

Local wastewater treatment → *storage for rain water*

→ *separate black and grey water*

helophyte filter → *outgoing pipe black water*
*outgoing pipe grey water*
*incoming pipe grey water*
*incoming pipe rain water*

*refurbishment of kitchen and bathroom*

*lower the energy demand*

*solve cold bridges*

*replace degrading balcony*

*solve moisture problems due to lack of ventilation*

*noise reduction and firesafety (wooden floors)*

*replace outdated installations and piping*

*connection with 'maaiveld'*

*inefficient storage in basements*

*refurbishment of kitchen and bathroom*

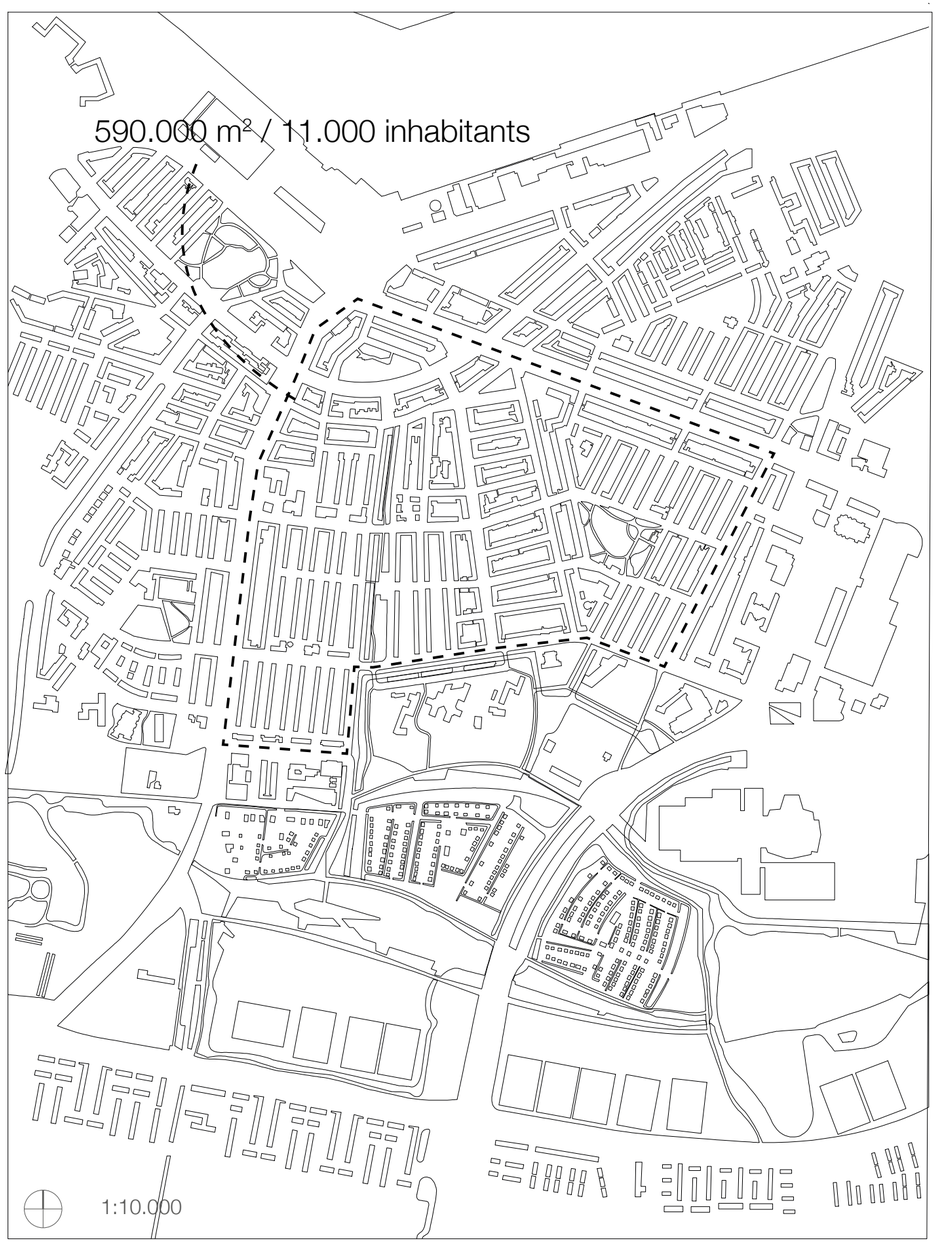
*enlarge the dwelling by adding a glass house*

*noise reduction and firesafety (wooden floors)*

*sustainability is visible*

*Wat is de ruimtelijke impact van de interventies die nodig zijn om de kringlopen te sluiten?*

*Hoeveel m² is hier voor nodig?*




## FOOD

TOTAL
521.200 m2

Aquaponic Greenhouse

*124.000 m²*

Potato Greenhouse

*136.000 m²*

Super Dwarf Wheat and legumes Greenhouse

*250.000 m²*

Cows

*9000 m²*

Chickens

*2200 m²*

## WATER

TOTAL
57.000 m²

Helophyte filter

*34.000 m²*

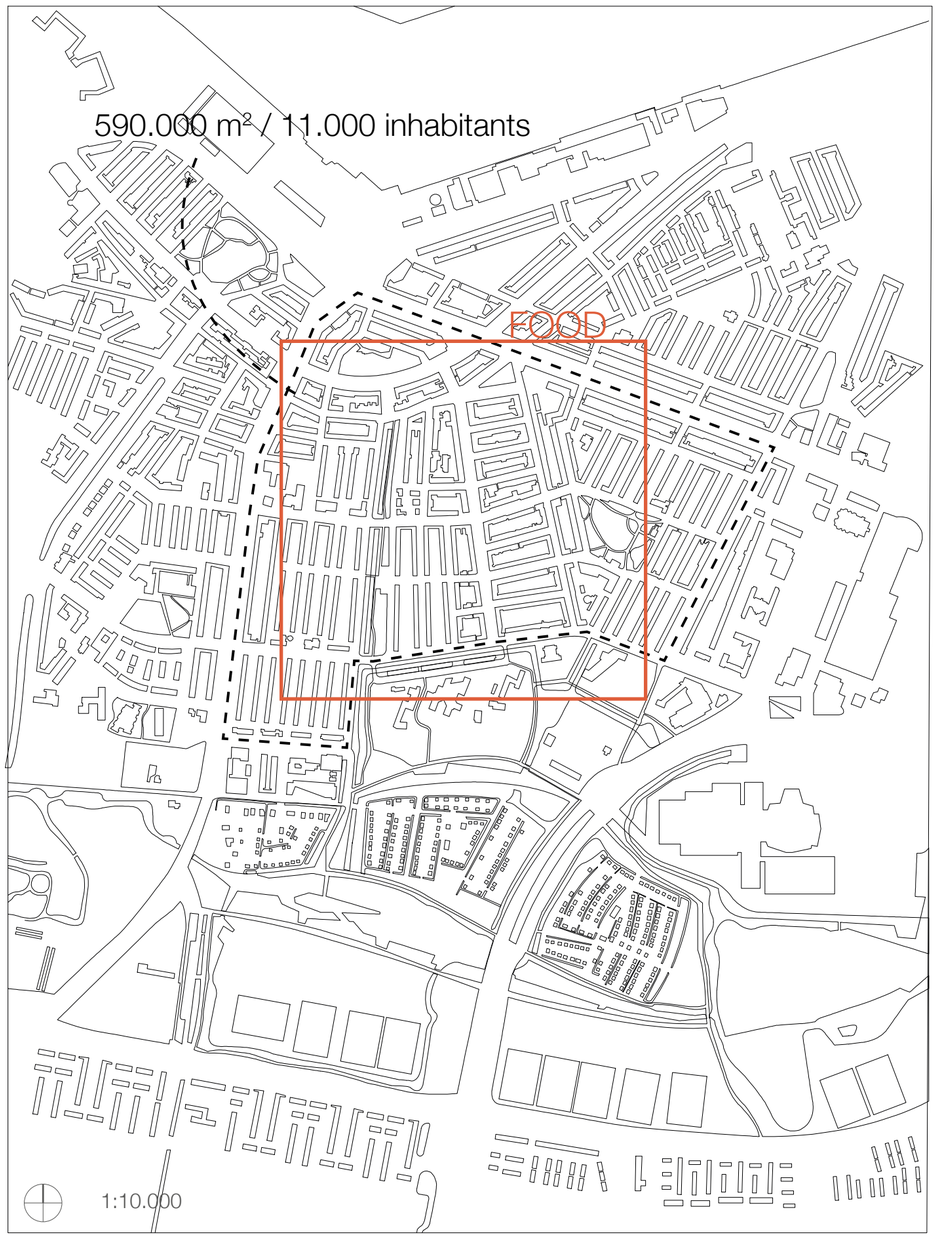
Storage rainwater in m³ 1x1x1 m

*23.000 m³*

## ENERGY

Biogas plant

= 1 voetbalveld van 5000 m2




## FOOD

TOTAL
521.200 m2

= 104
voetbalvelden

Aquaponic Greenhouse

*124.000 m²*

Potato Greenhouse

*136.000 m²*

Super Dwarf Wheat and legumes Greenhouse

*250.000 m²*

Cows

*9000 m²*

Chickens

*2200 m²*

## WATER

TOTAL
57.000 m²

= 11
voetbalvelden

Helophyte filter

*34.000 m²*

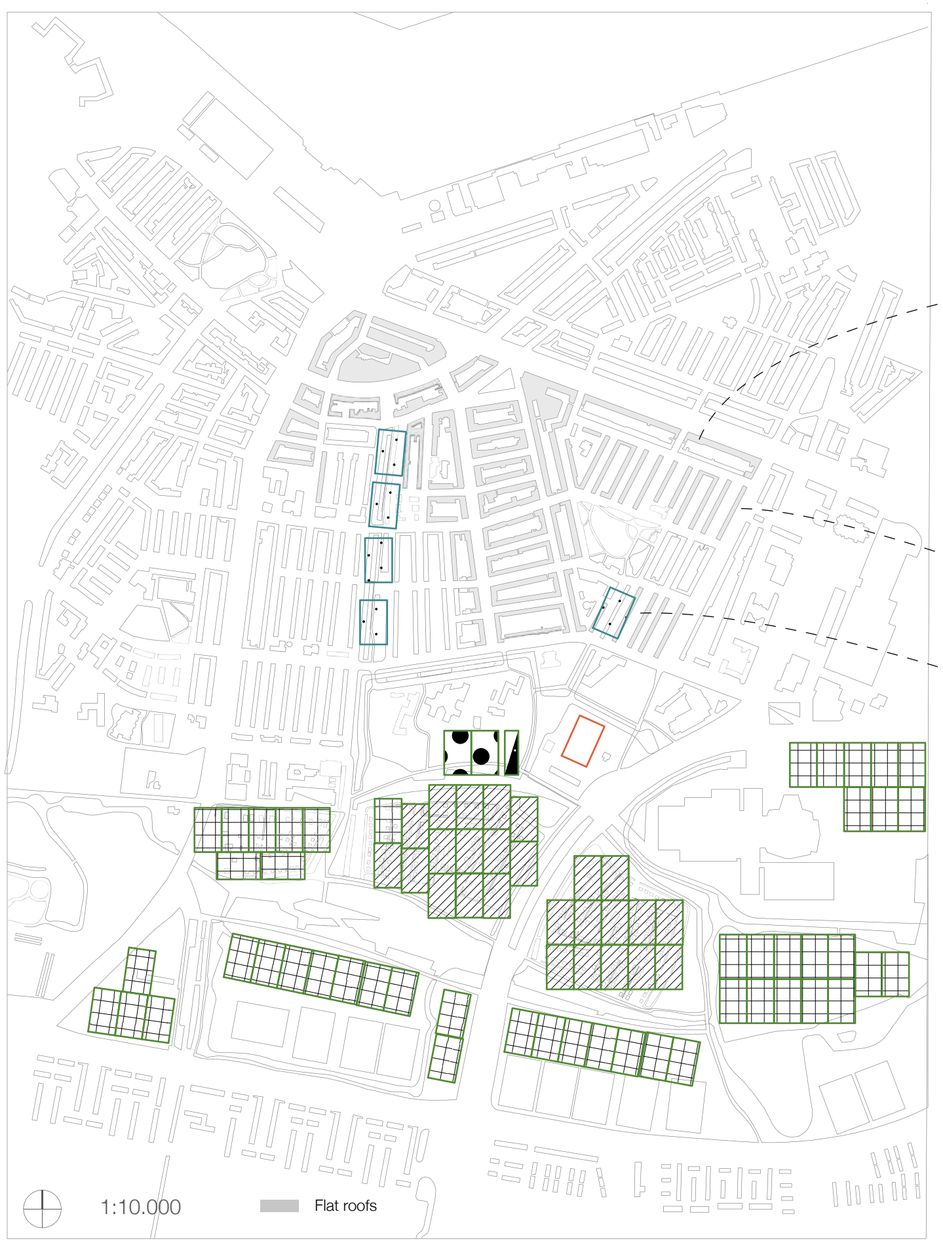
Storage rainwater
in m³ 1x1x1 m

*23.000 m³*

## ENERGY

Biogas plant

= 1 voetbalveld van 5000 m2




Aquaponic Greenhouse

Potato Greenhouse

Super Dwarf Wheat and legumes Greenhouse

Cows

Chickens

Helophyte filter

Storage rainwater in $m^3$ 1x1x1 m

*Use basements for water storage*

Biogas plant

*ruimtelijke impact sluiten kringlopen*

*niet alle nodige m2 passen buiten de bouwblokken*

*gebruik daken en binnentuinen*

*gebruik kelders*

*helofyten filter onderdeel van openbare ruimte*

FLOWS

Aquaponic greenhouse

*greenhouse 1550 m²*

*fish 950 m²*

Helophyte filter

*330 - 660 m²*

Rainwater storage

*440 m²*

## FUNCTIONS

Urban farming education centre

150 $m^2$

Urban farming market place

60 $m^2$

‘Pluktuin’

200 $m^2$

Urban farming packaging

80 $m^2$

Urban farming restaurant

150 $m^2$

Bicyle storage
1 spot per inhabitant

325 $m^2$

Housing

5000 $m^2$

Living/working

1000 $m^2$

*in plinth flexible*

Working

800 $m^2$

## INHABITANTS

starters singles

40%

*50 - 60 $m^2$*

creative class

15%

*60 - 110 $m^2$*
*living/working*

families

20%

*90 - 110 $m^2$*
*garden*

(vital) elderly

20%

*50 - 60 $m^2$*
*10 $m^2$ balcony*
*ground floor/ elevator*

single parent

5%

*50 - 60 $m^2$*
*ground floor*
*social connection*

*introductie*

*probleemstelling*
*context*
*doel*
*onderzoeksvraag*

*onderzoek*

*Carnisse*
*potentieel kringlopen*
*infrastructuur kringlopen*
*portiekflat*
*wensen bewoners*

*raamwerk*

*ontwerp*

*sluit lokale kringlopen*
*verbeter openbare ruimte*
*diversiteit*
*update portiekflat*

*ontwerp strategie Eilandenbuurt*

*Sluit lokale kringlopen*

*Verbeter openbare ruimte*

*Diversiteit*

*Update portiekflat*

*Sluit lokale kringlopen*

*Verbeter openbare ruimte*

*Diversiteit*

*Update portiekflat*

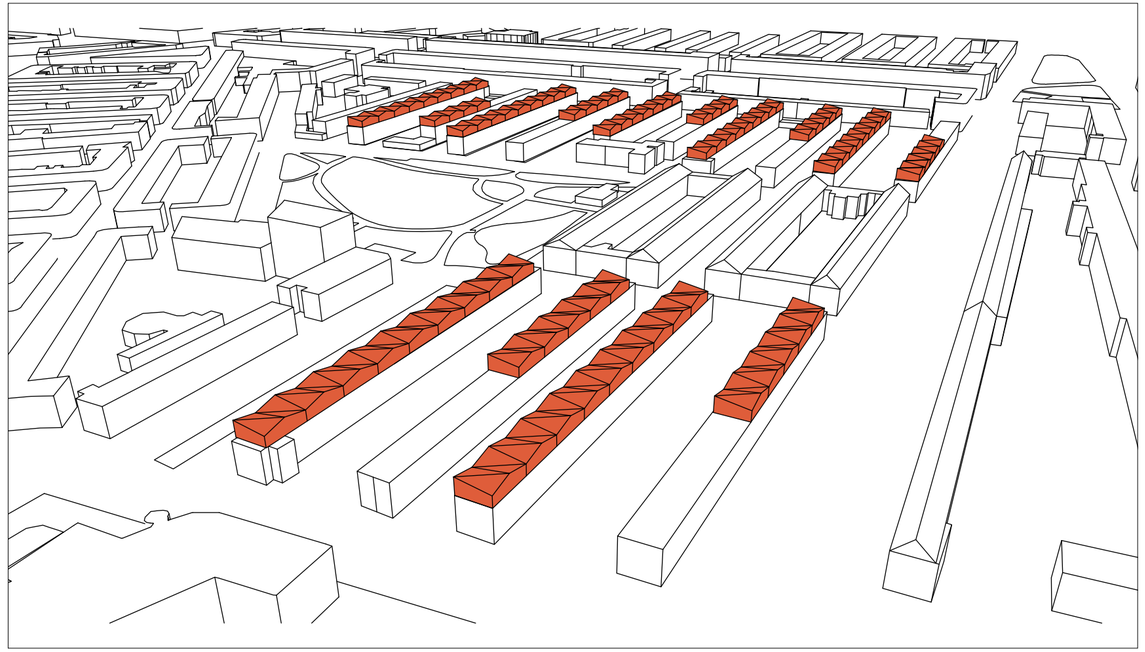
*lokale voedsel productie (stadslandbouw in kassen)*

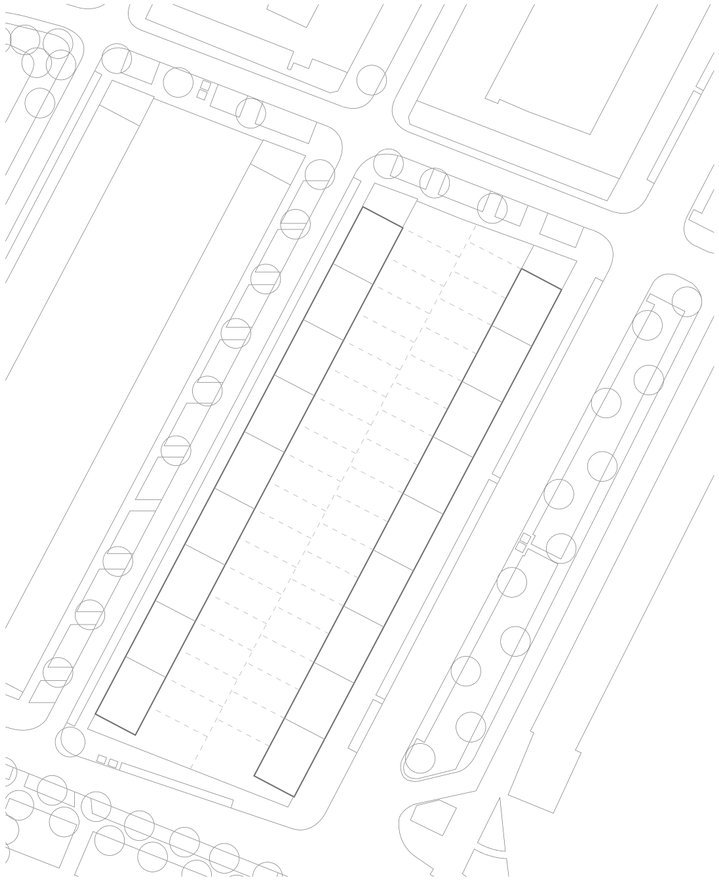
*lokale waterzuivering*

*lokale energie opwekking*

*hydroponic kassen op daken*

*kassen zijn een nieuwe architectonische vormentaal voor de wijk*





*bestaande situatie*

ONTWERP

URBAN FARMING CENTRE

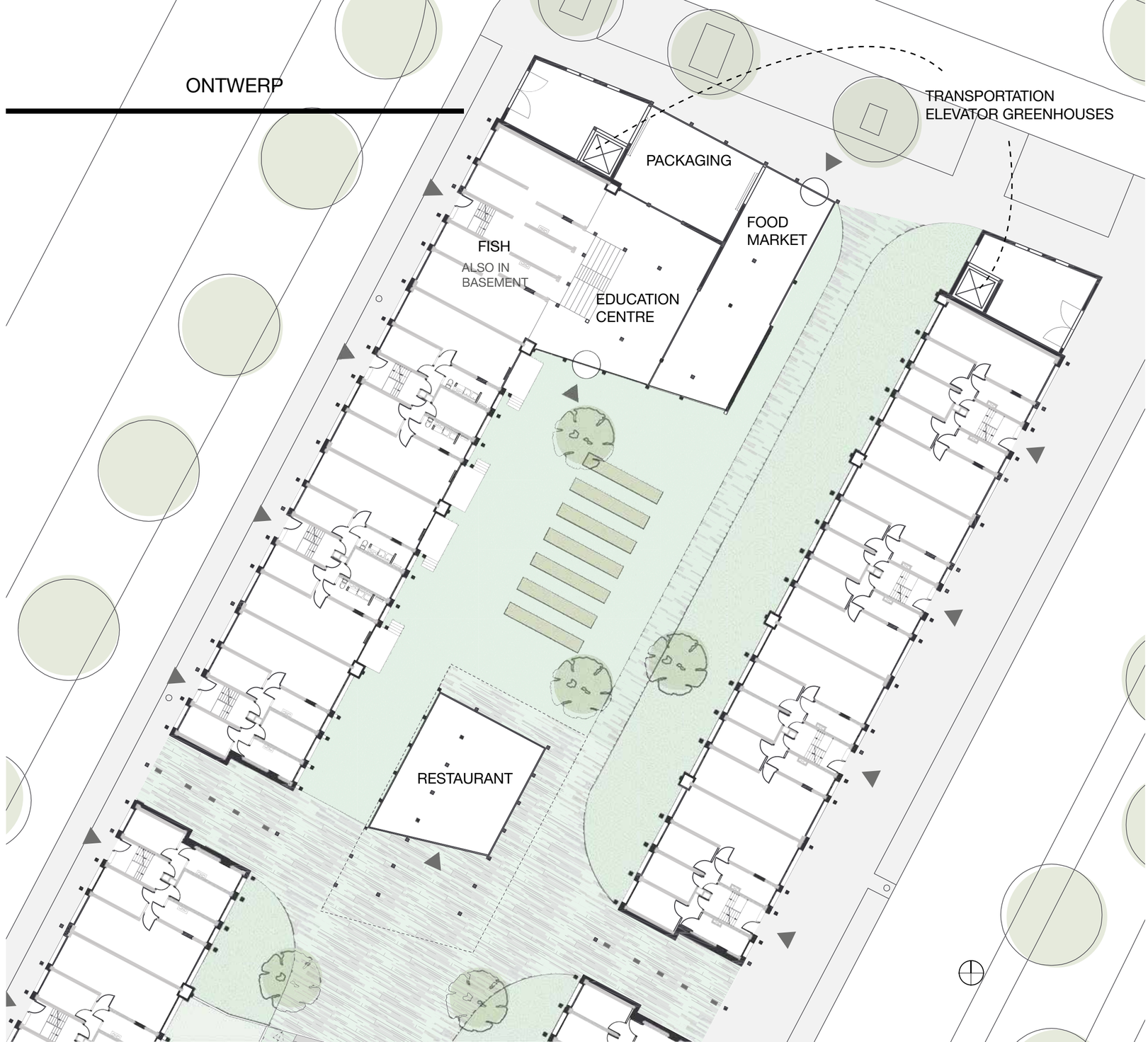
AQUAPONIC
GREENHOUSES

RESTAURANT

HELOPHYTE FILTER

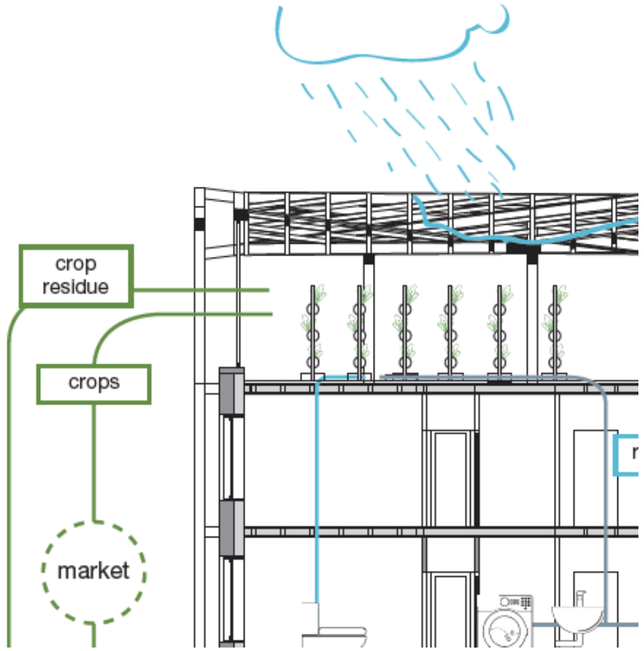
*VOEDSEL*

*stadslandbouw*



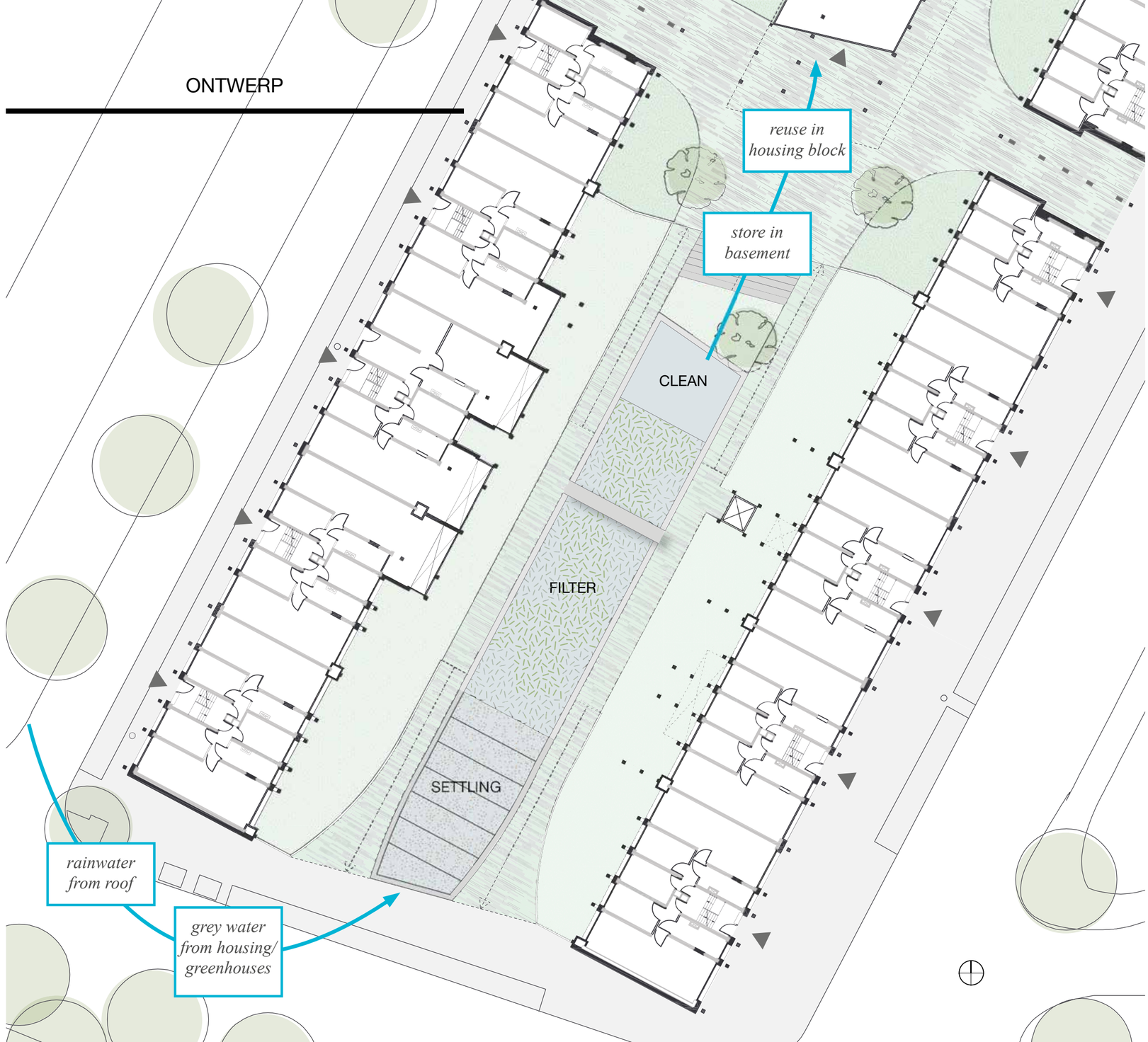
*VOEDSEL*

*kas*




*WATER*

*helofyten filter*



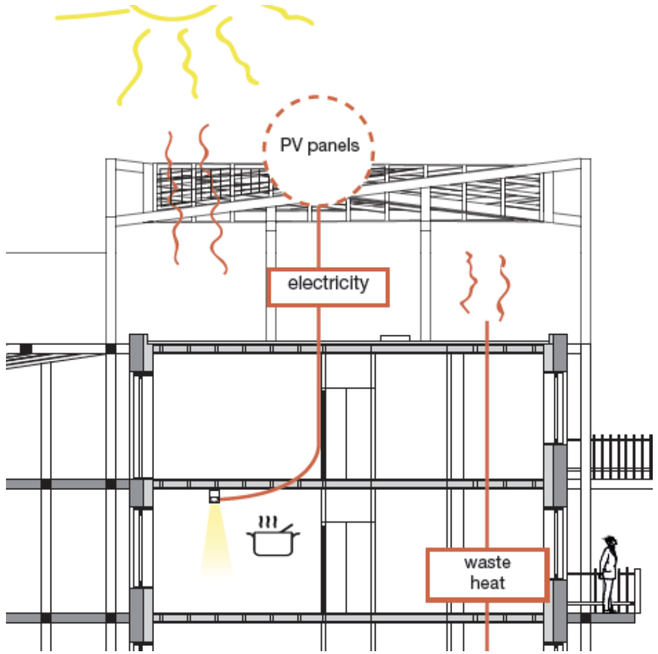
*ENERGIE*

*pv panels in roof greenhouses*

*collection of organic waste: biogas plant*

*waste heat stored in ground*

*‘stadsverwarming’*

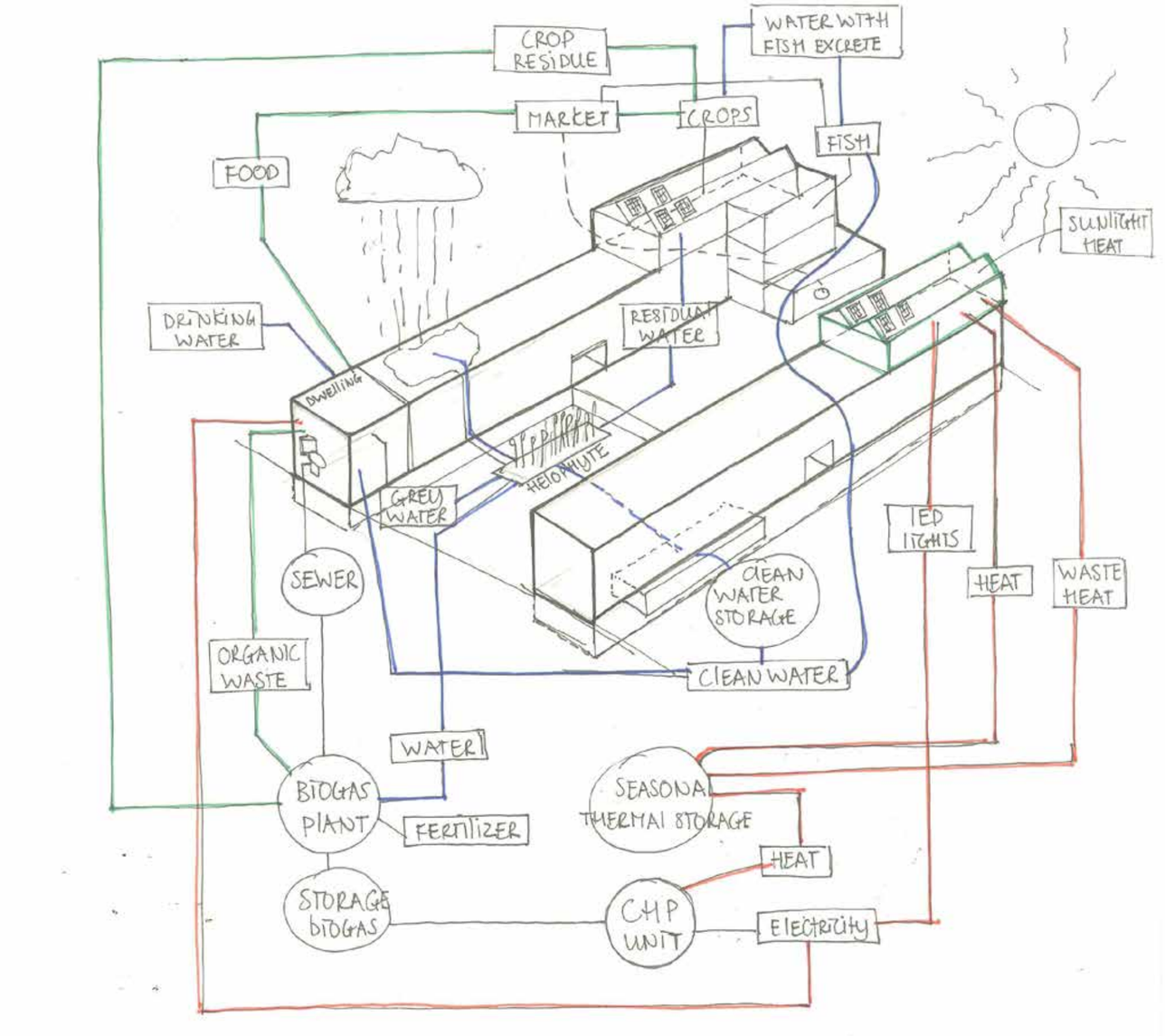




VOEDSEL


WATER


ENERGIE


CROP RESIDUE
WATER WITH FISH EXCRETE
MARKET
CROPS
FISH
FOOD
SUNLIGHT HEAT
DRINKING WATER
RESIDUAL WATER
DWELLING
GREY WATER
HELOPHYTE
LED LIGHTS
HEAT
WASTE HEAT
SEWER
CLEAN WATER STORAGE
ORGANIC WASTE
CLEAN WATER
WATER
BIOGAS PLANT
FERTILIZER
SEASONAL THERMAL STORAGE
HEAT
STORAGE BIOGAS
CHP UNIT
ELECTRICITY

*Sluit lokale kringlopen*

*Verbeter openbare ruimte*

*Diversiteit*

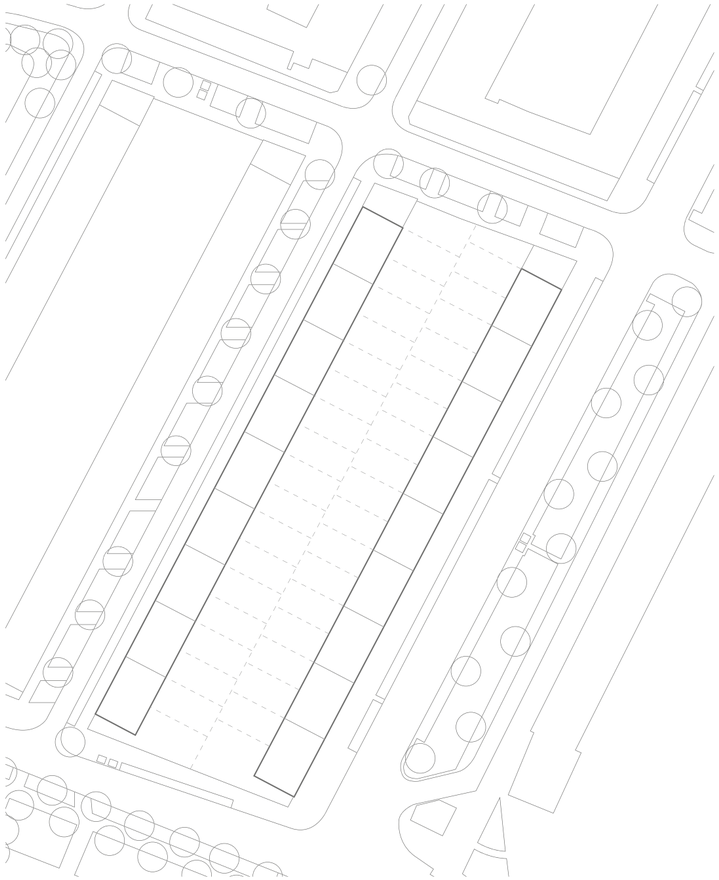
*Update portiekflat*

*gedeelde binnentuin*

*zichtbare kringlopen*

*connectie met maaiveld*

*passage*



*bestaande situatie*

ONTWERP

PROCES OF
URBAN FARMING
VISIBLE FOR
PUBLIC

'PLUKTUIN'

PASSAGE
TROUGH THE
MIDDLE OFF
THE BLOCK

PUBLIC
COURTYARD

HELOPHYTE
FILTER PART
OF THE PUBLIC
SPACE

*Sluit lokale kringlopen*

*Verbeter openbare ruimte*

*Diversiteit*

*Update portiekflat*

*huizen geschikt voor verschillende doelgroepen/ levensloopbestendig*

*woningtype*

*meer functies wonen/werken*

starters singles

40%

*50 - 60 m²*

creative class

15%

*60 - 110 m² living/working*

families

20%

*90 - 110 m² garden*

(vital) elderly

20%

*50 - 60 m² 10 m² balcony ground floor/ elevator*

single parent

5%

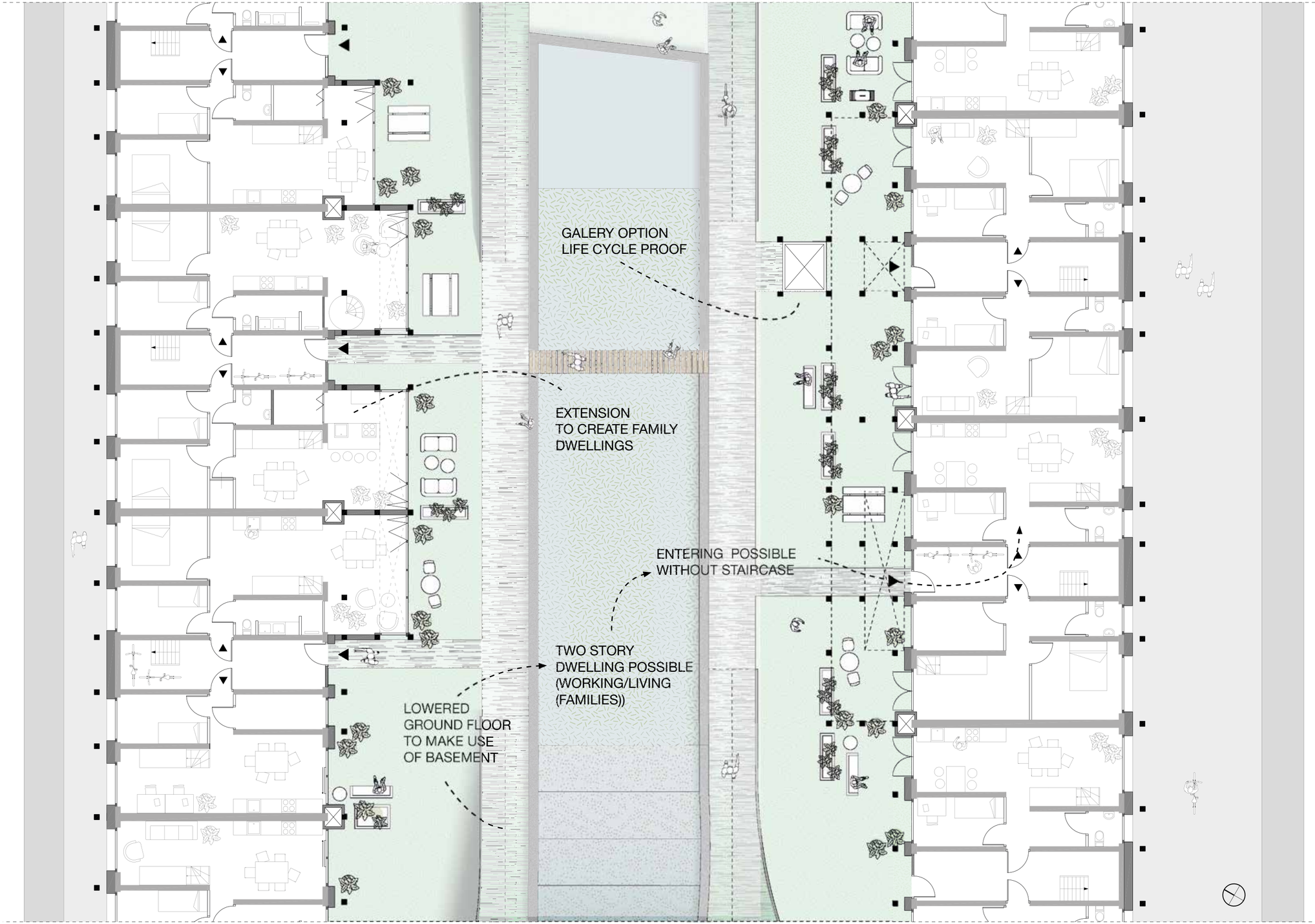
*50 - 60 m² ground floor social connection*

*niet alleen wonen*

*wonen/werken*

*kantoorruimte*

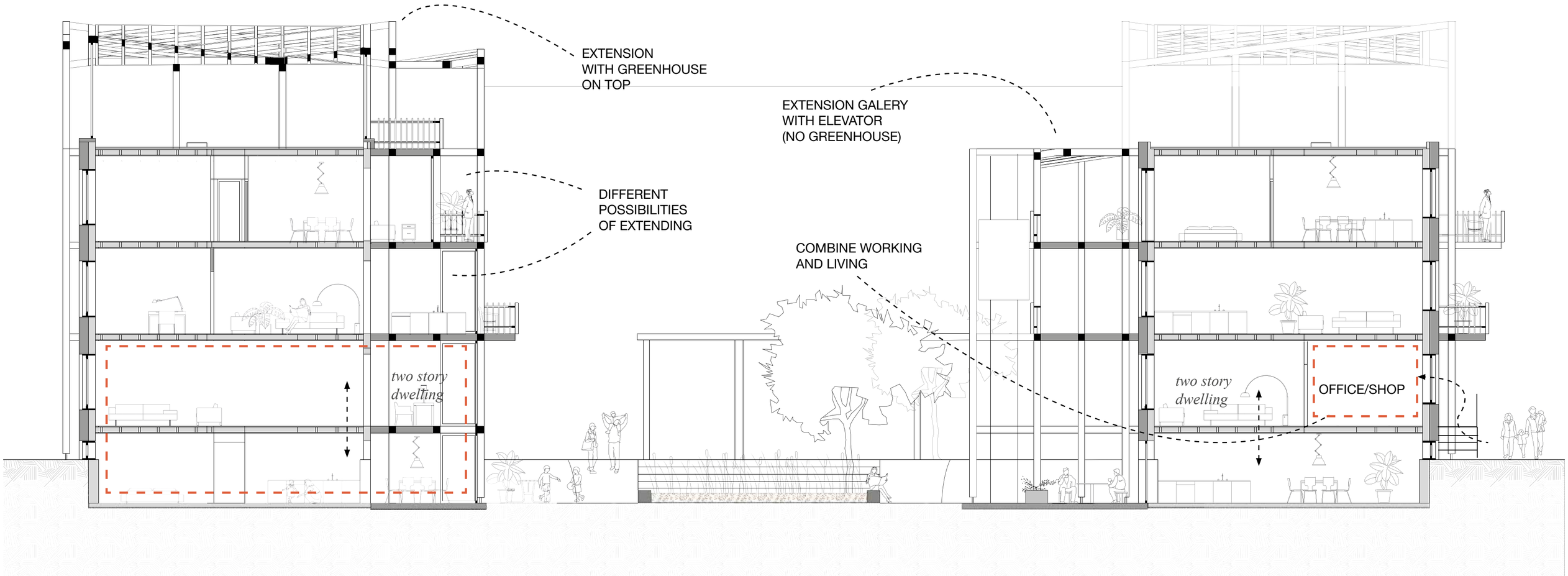
*24uurs gebruik*


GALERY OPTION
LIFE CYCLE PROOF
EXTENSION
TO CREATE FAMILY
DWELLINGS
ENTERING POSSIBLE
WITHOUT STAIRCASE
TWO STORY
DWELLING POSSIBLE
(WORKING/LIVING
(FAMILIES))
LOWERED
GROUND FLOOR
TO MAKE USE
OF BASEMENT

# ONTWERP

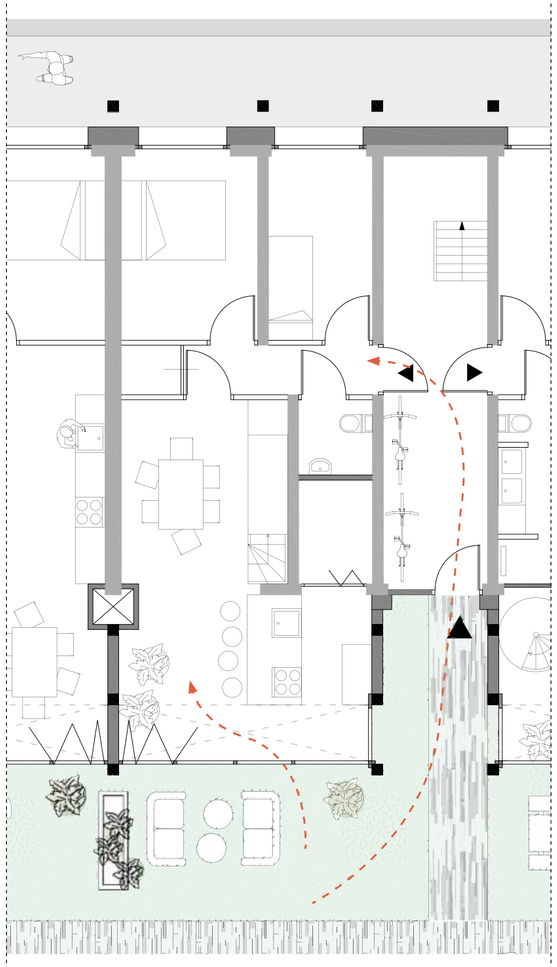
TYPE A

TYPE B

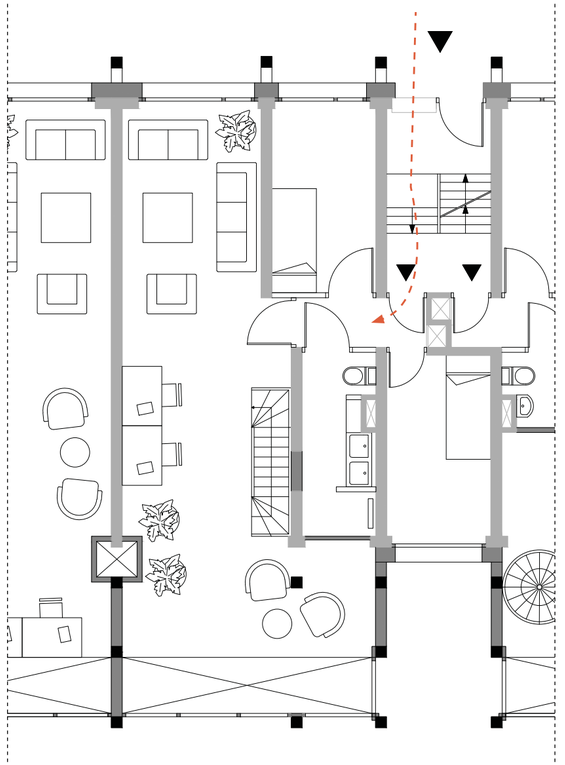


*nieuw woningtype*
*voor grotere families*

Type A - Basement



Type A - Ground floor



*Sluit lokale kringlopen*

*Verbeter openbare ruimte*

*Diversiteit*

*Update portiekflat*

*renovatie strategie*
*Type A/ Type B*

*flexibiliteit*

*sluit aan op kringlopen*

*levensloopbestendig*

*renovatie strategie*

NIEUWE HUID

ISOLATIE

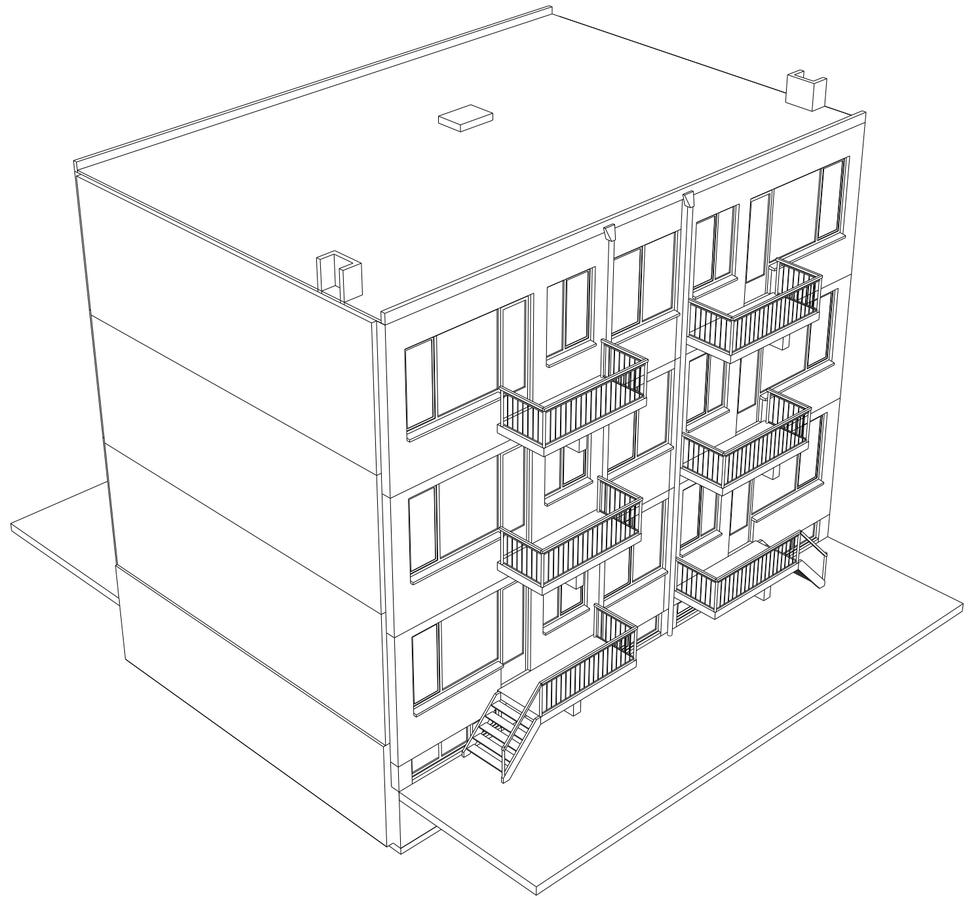
NIEUWE SCHACHT

NIEUWE LEIDINGEN
EN INSTALLATIES

EXTERNE
CONSTRUCTIE

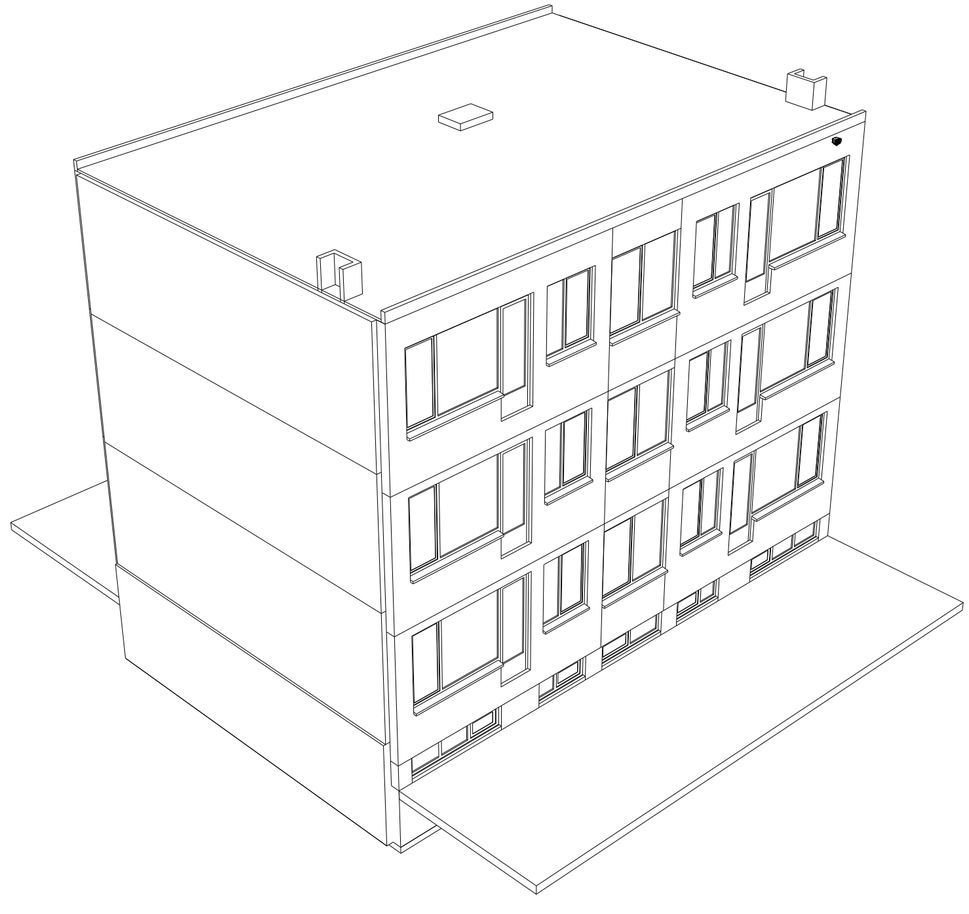
UITBREIDINGS
MOGELIJKHEDEN

*Type A*



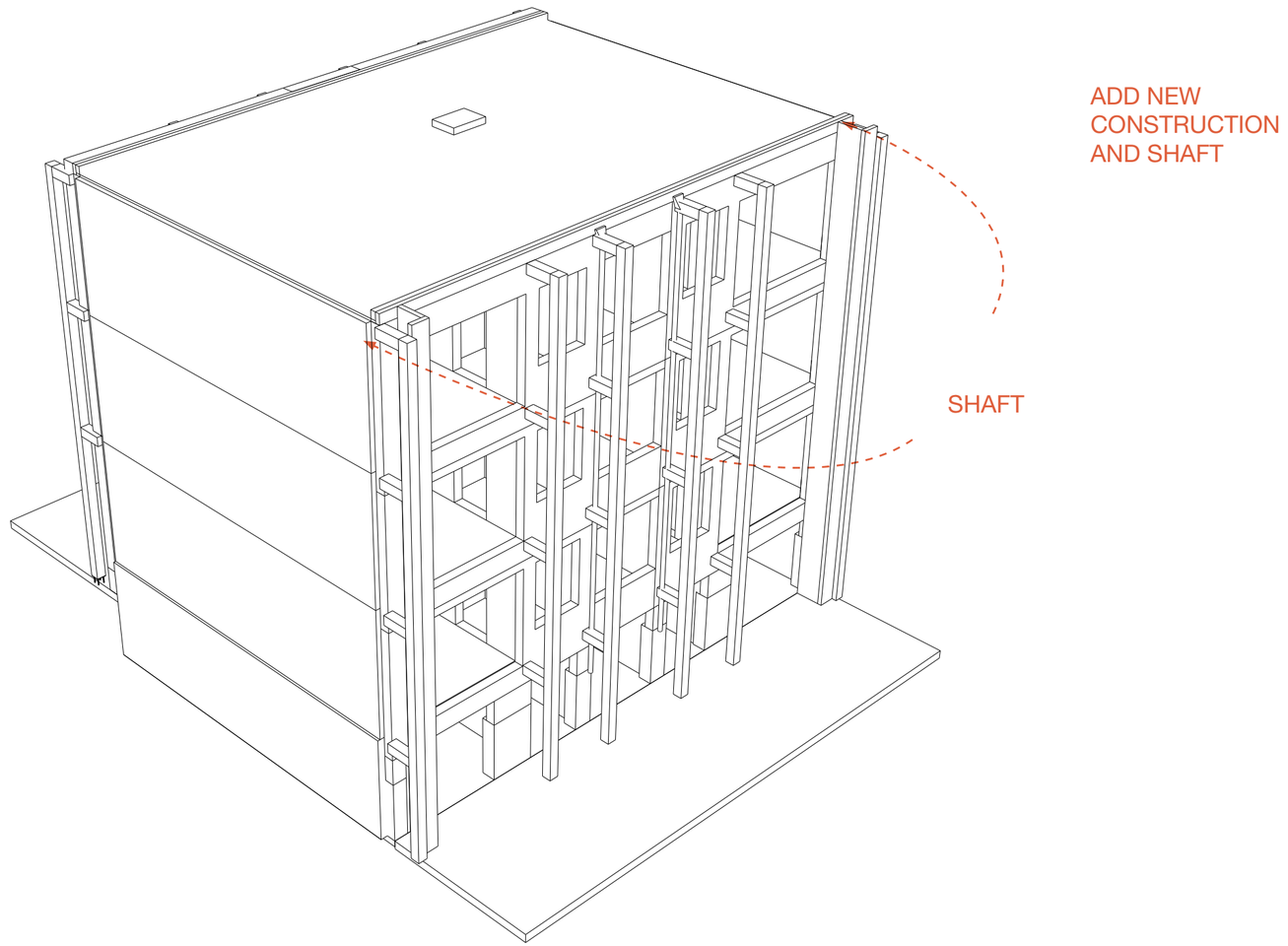
EXISTING SITUATION

*Type A*

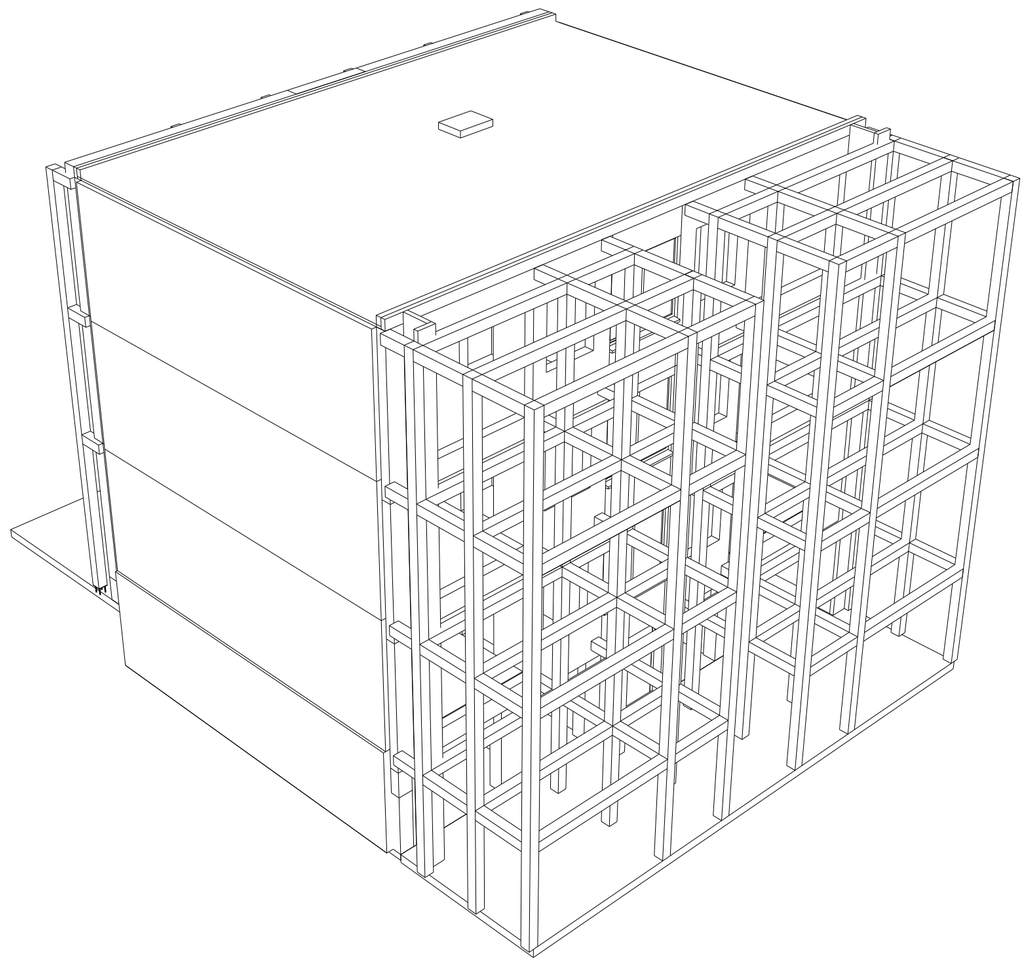


REMOVE BALCONIES

*Type A*

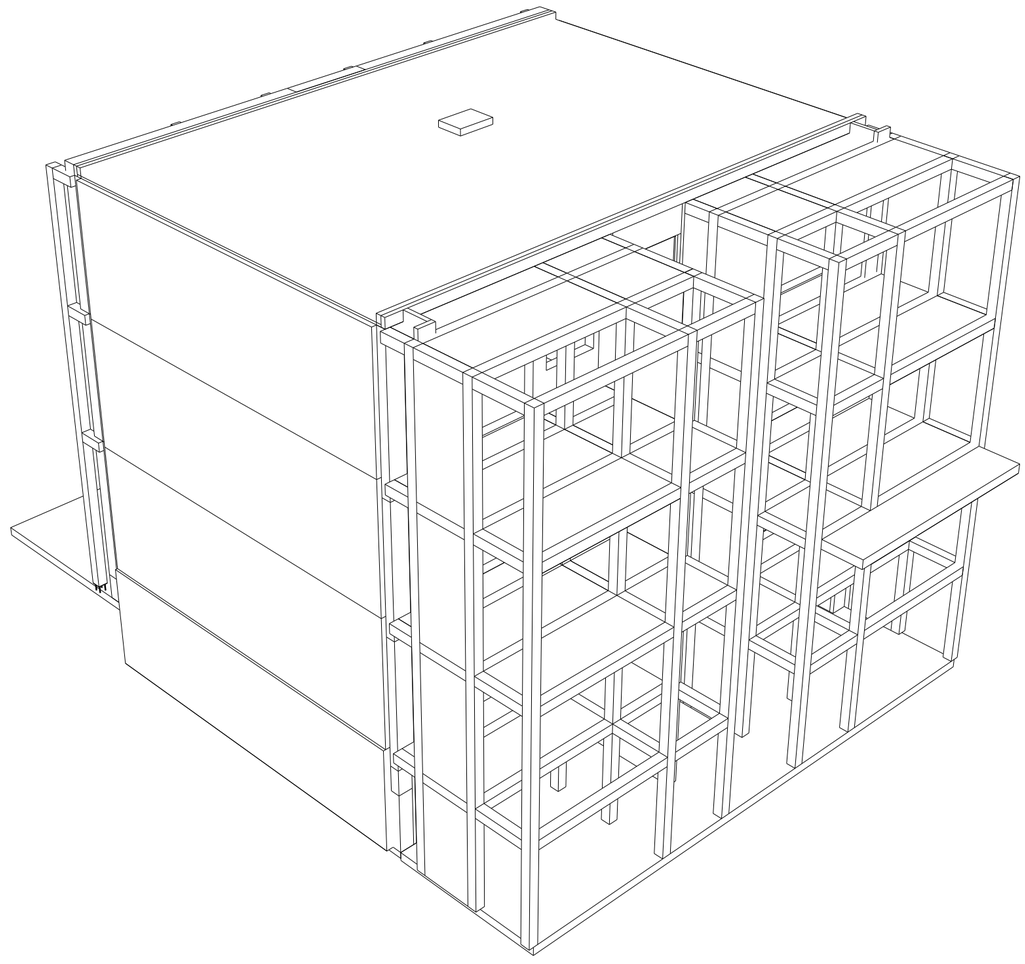


*Type A*



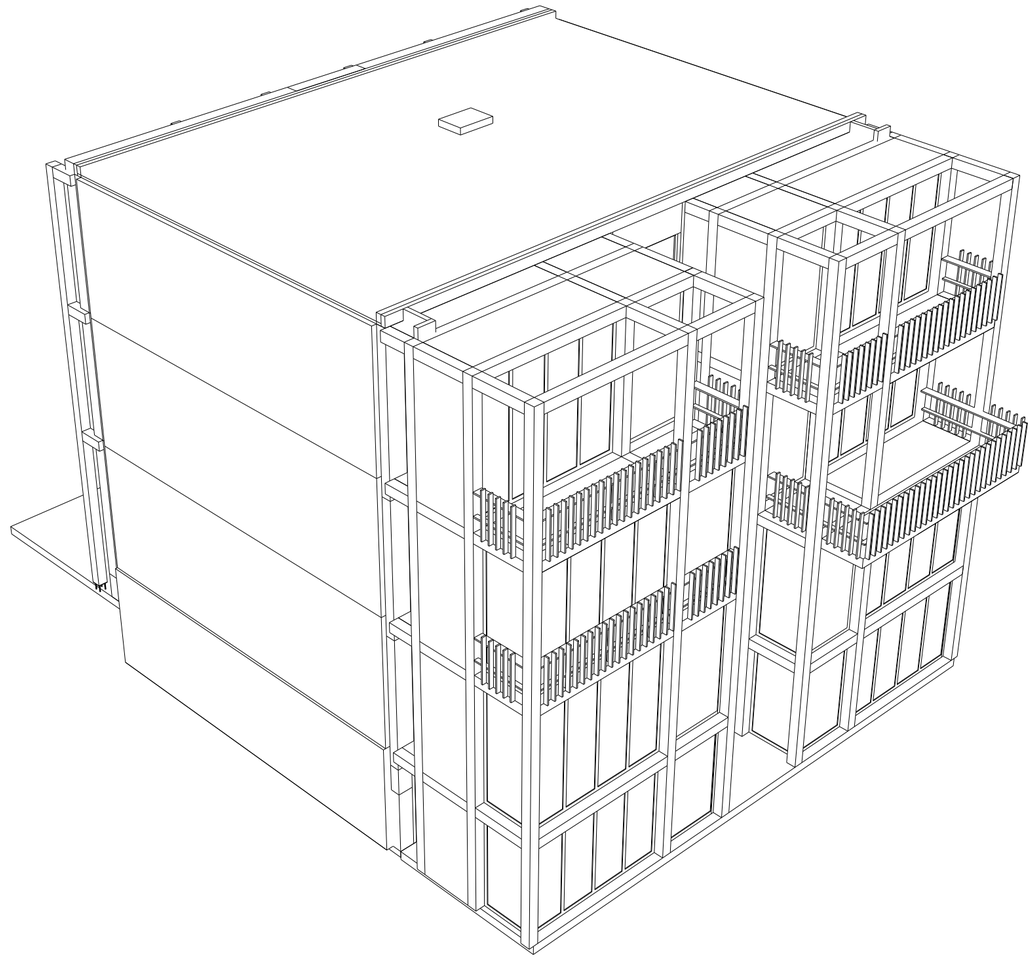
ADD NEW
CONSTRUCTION
FOR EXTENSION

*Type A*



ADD FLOORS

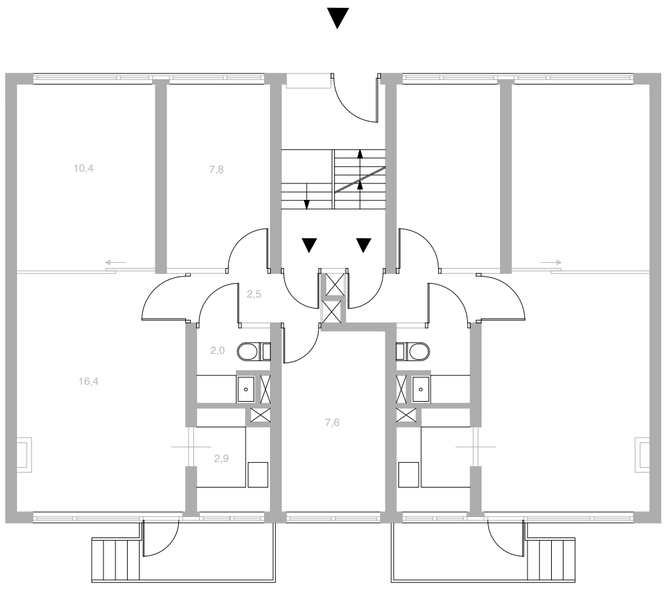
*Type A*



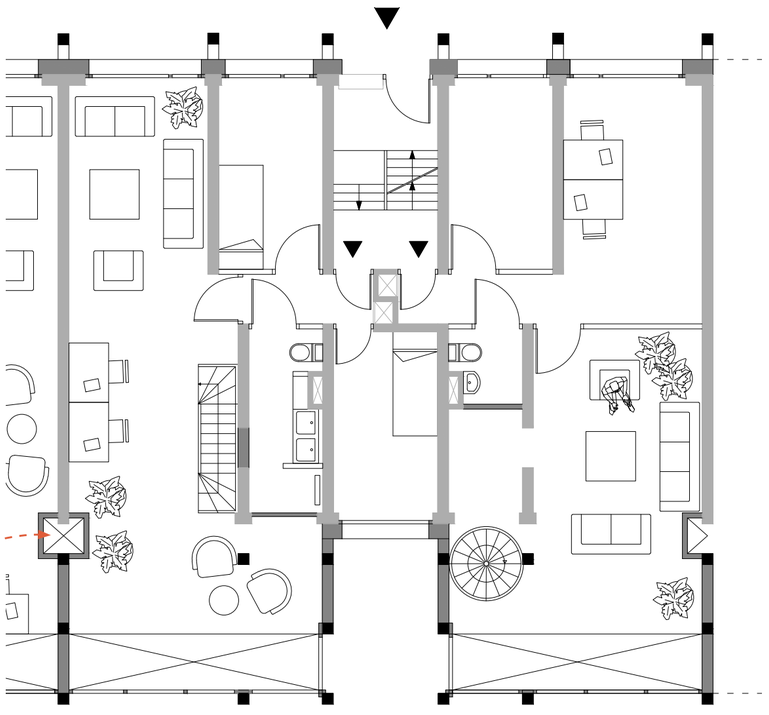
ADD WINDOW
FRAMES AND
BALCONY RAILINGS

*old vs new*
*Type A*

EXISTING

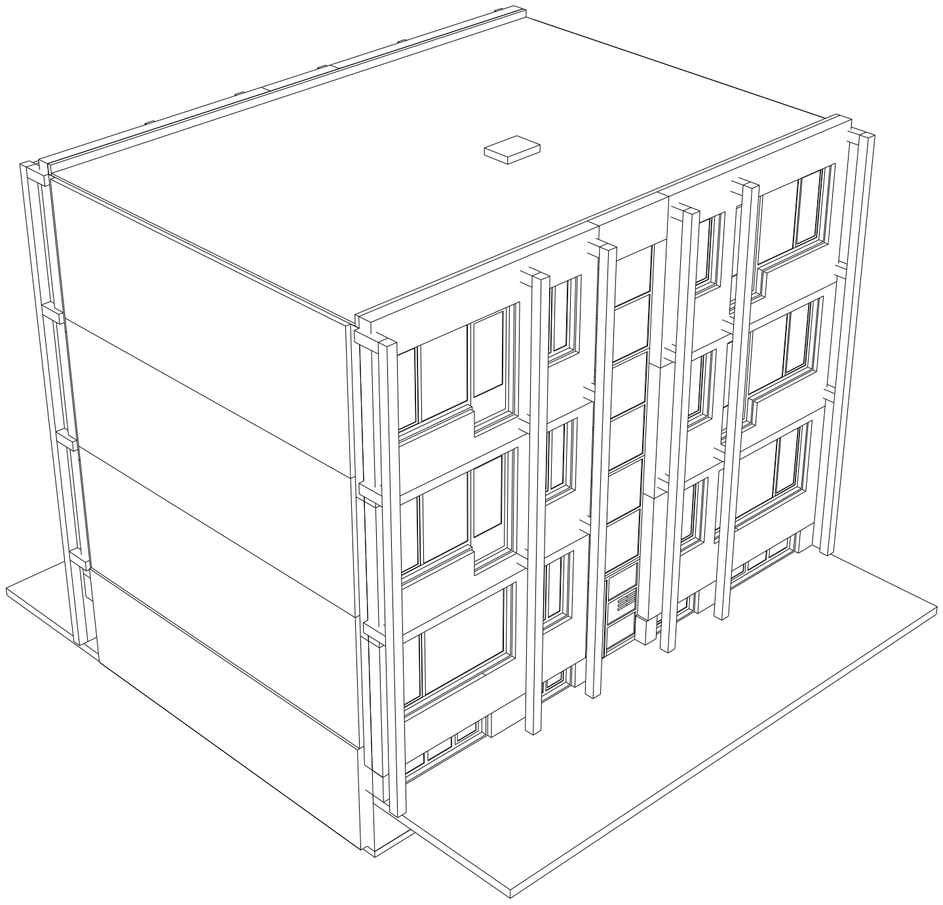


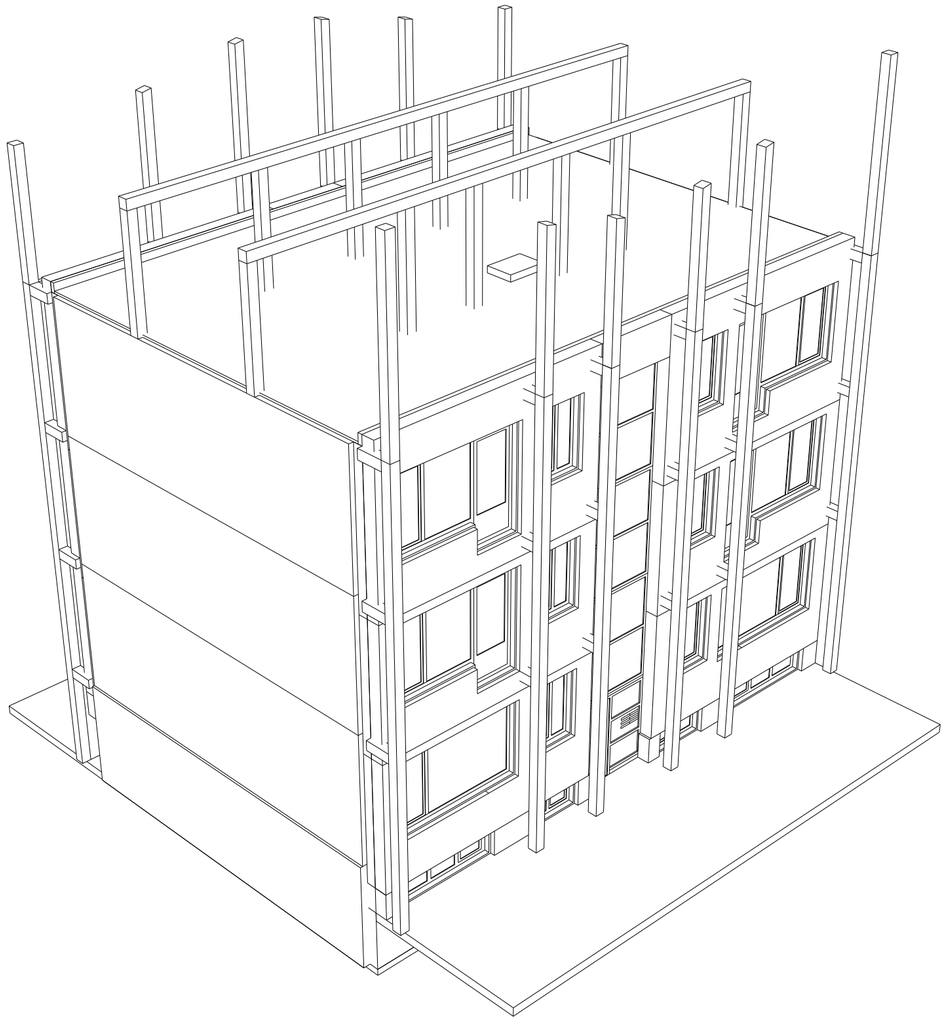

NEW

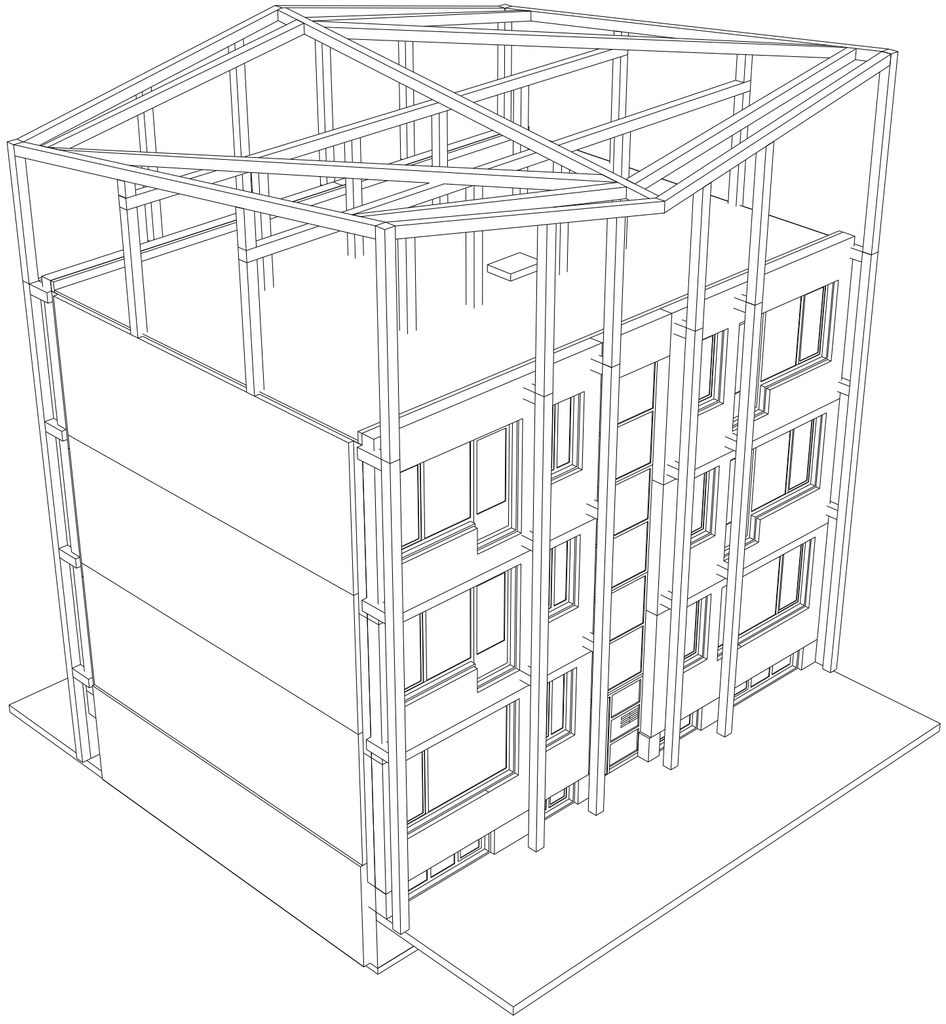


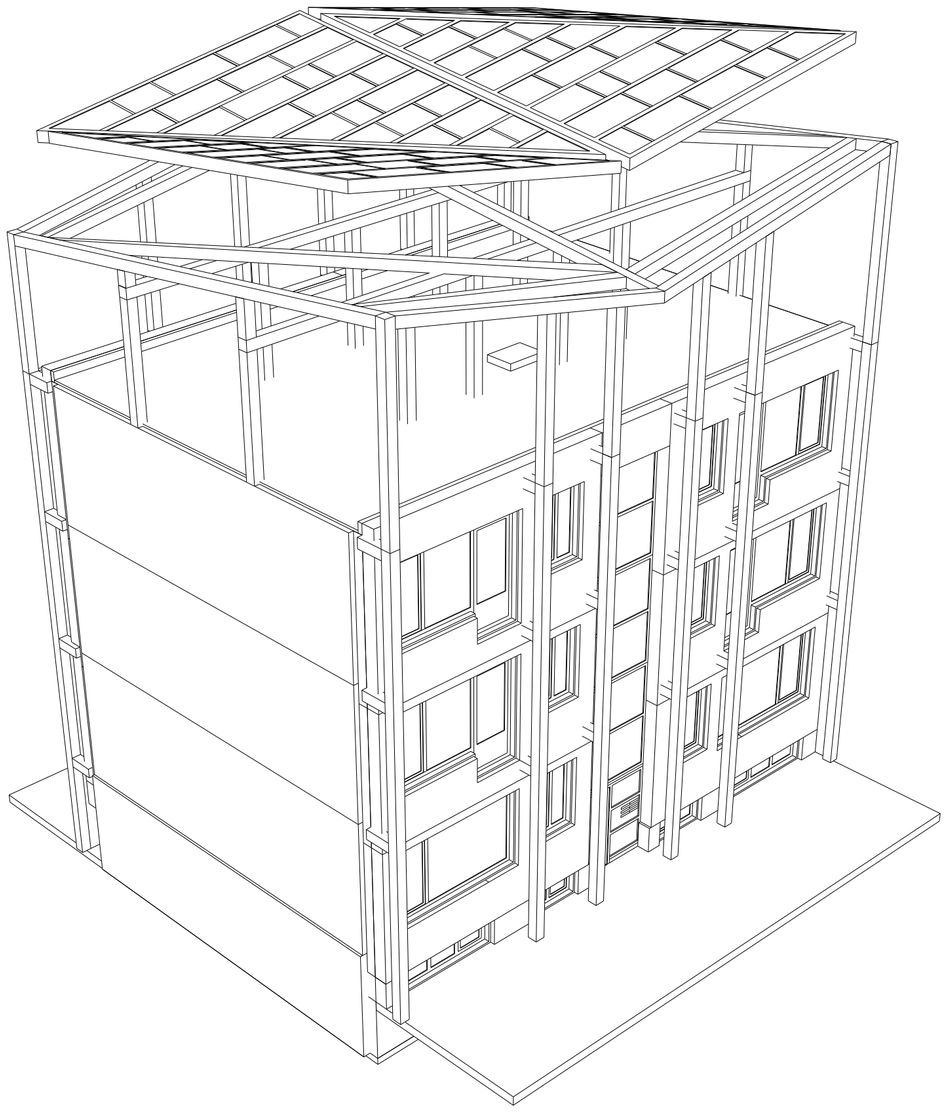
SHAFT

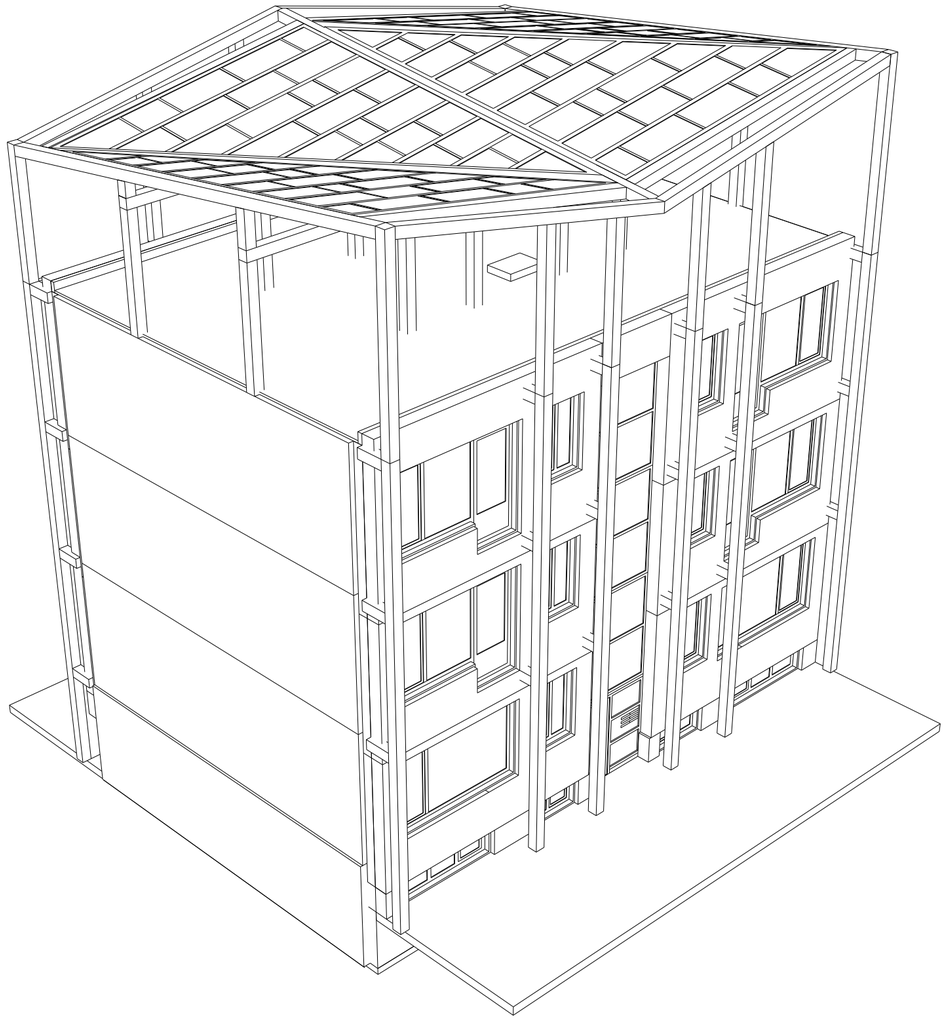
*kas*

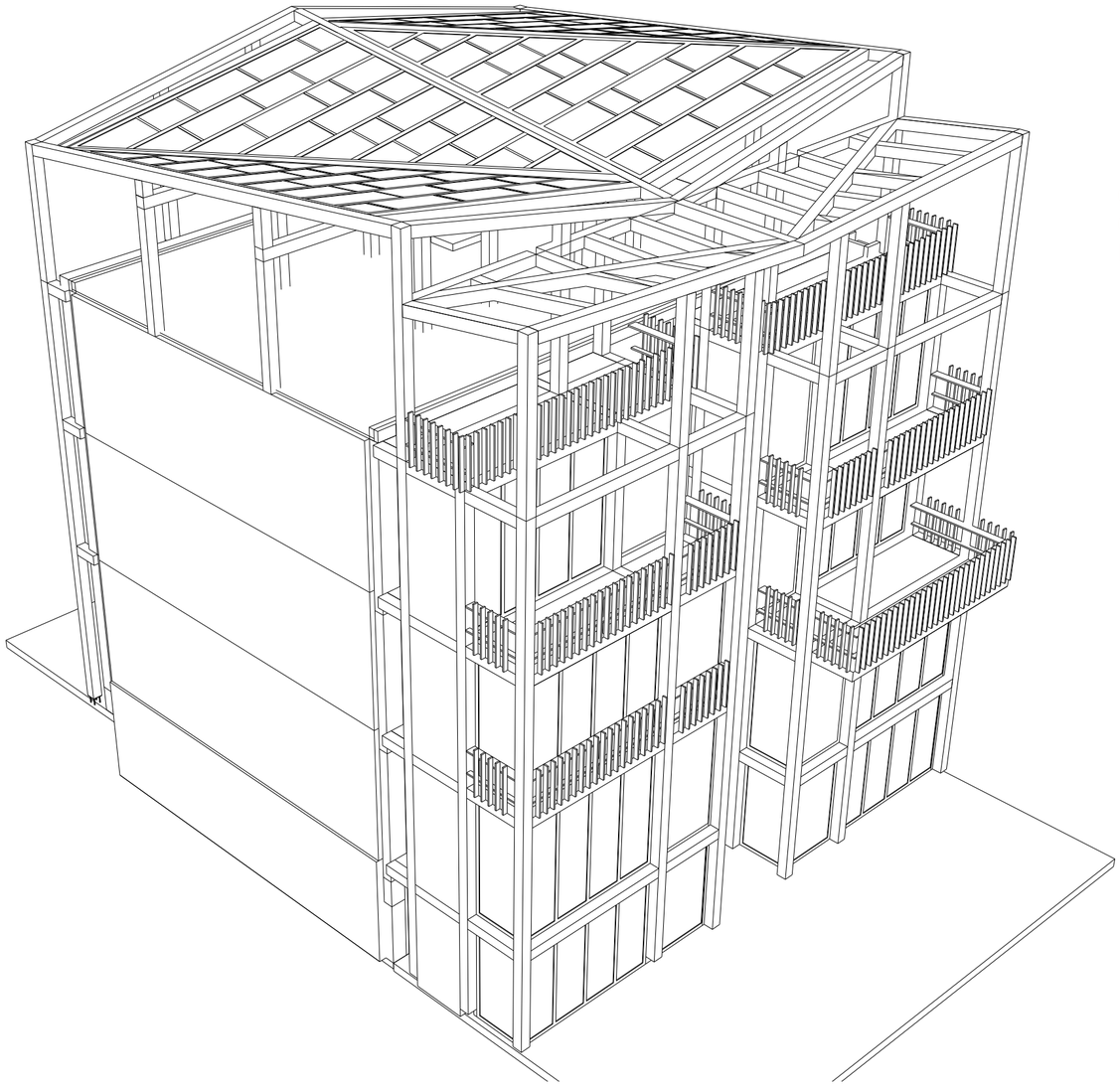






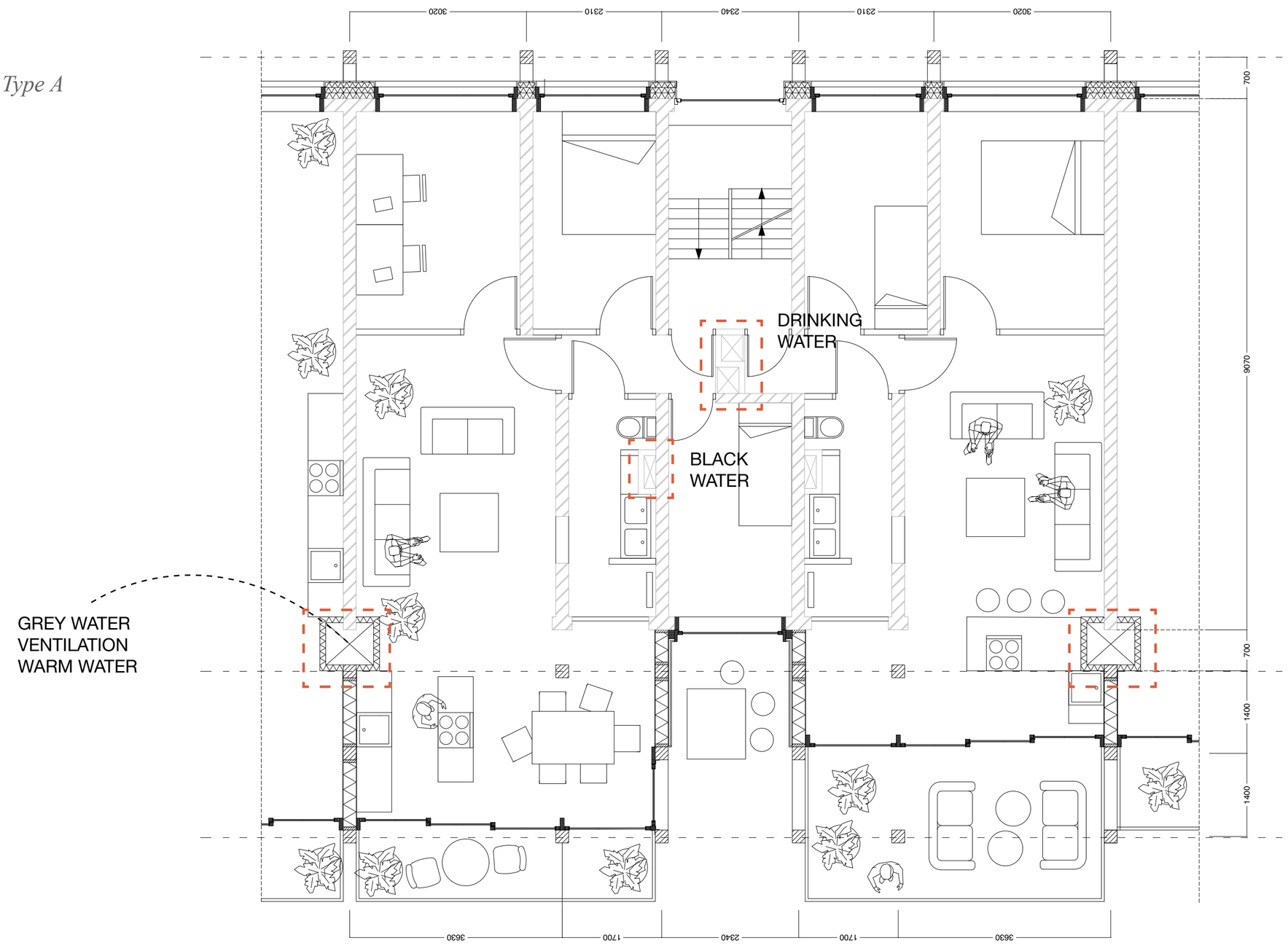


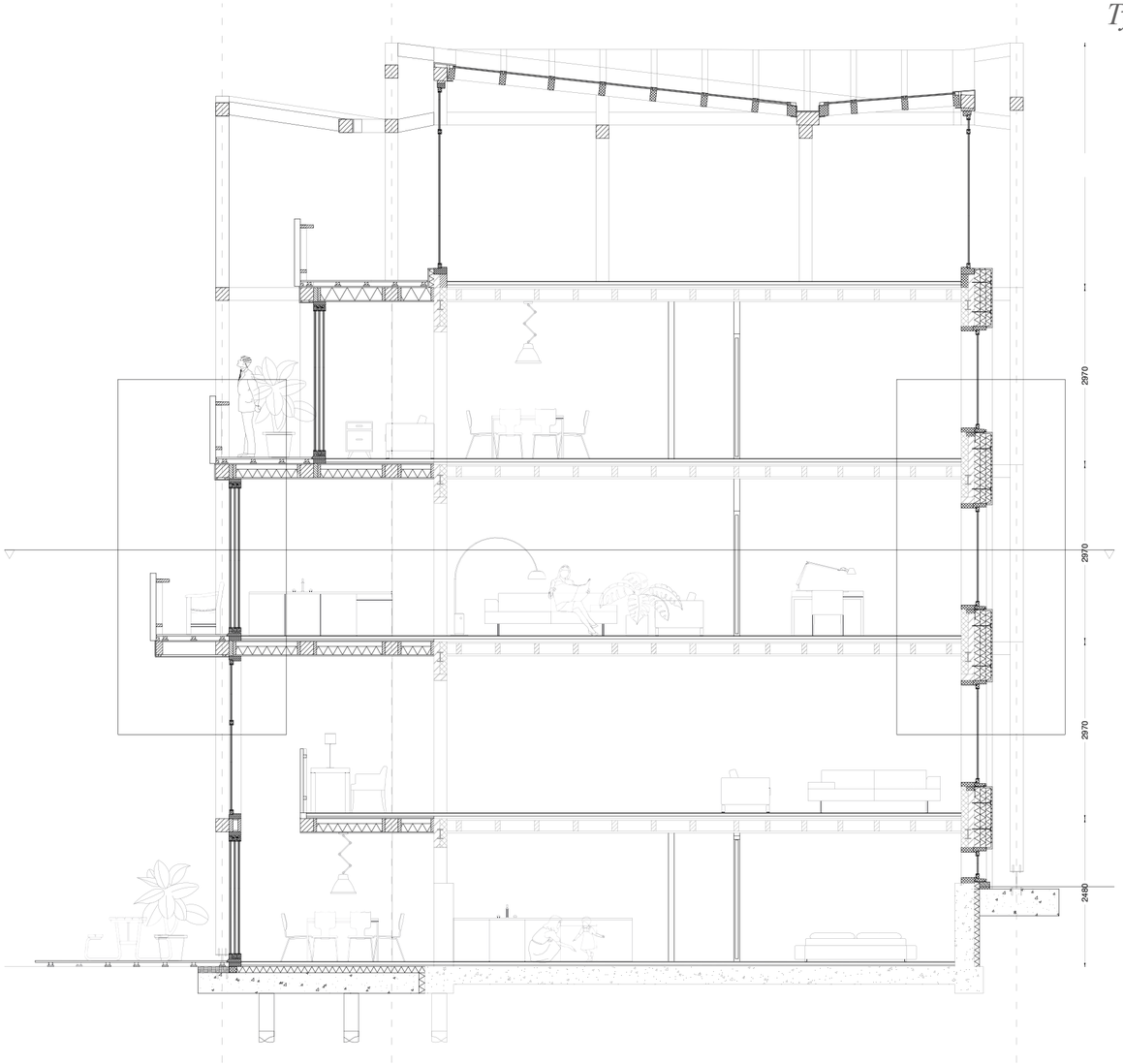




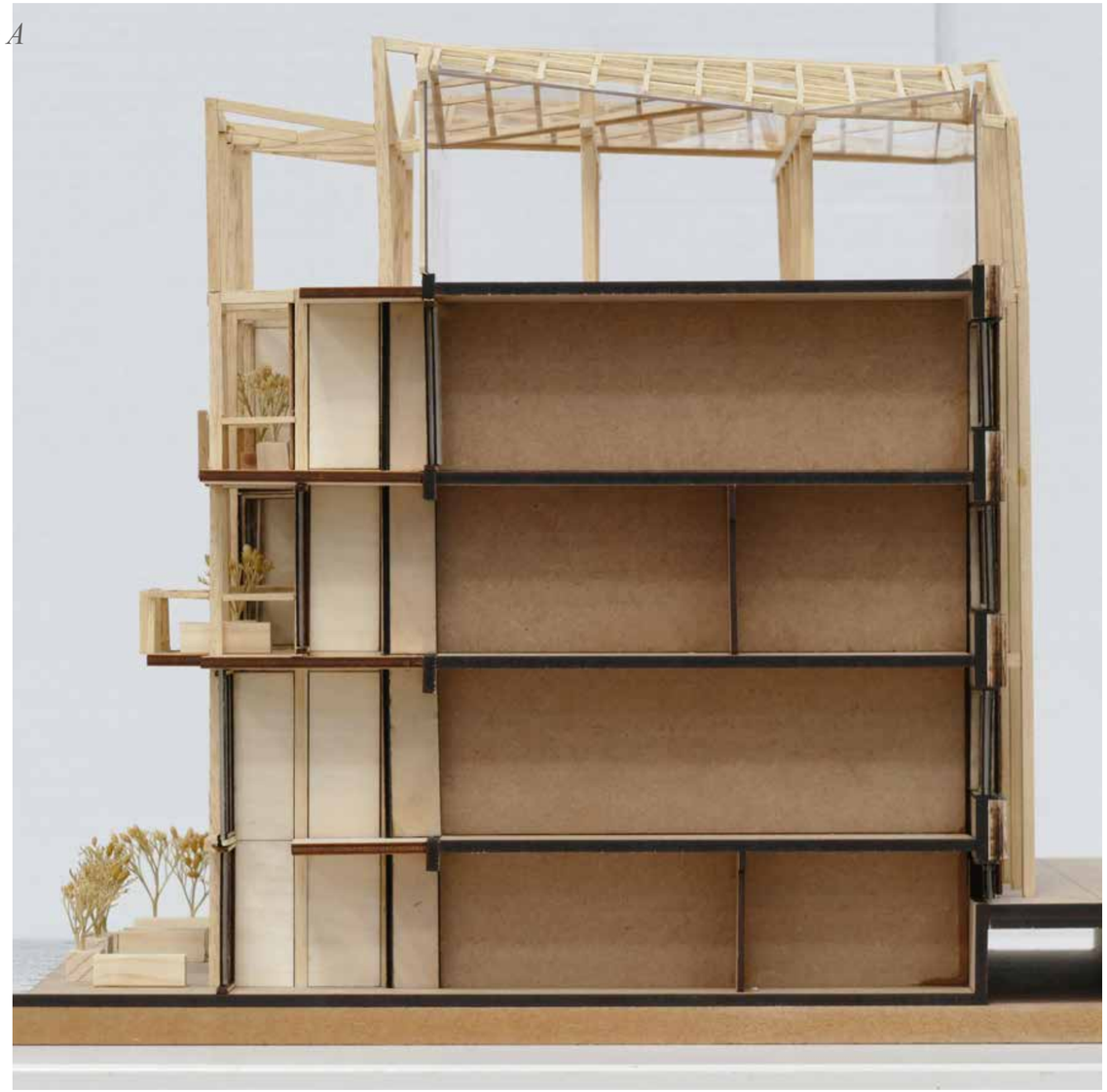
OPTION:
GREENHOUSE
ROOFTOP EXTENSION

*Type A*


3020
2310
2340
2310
3020
700
9070
DRINKING
WATER
BLACK
WATER
GREY WATER
VENTILATION
WARM WATER
700
1400
1400
3630
1700
2340
1700
3630



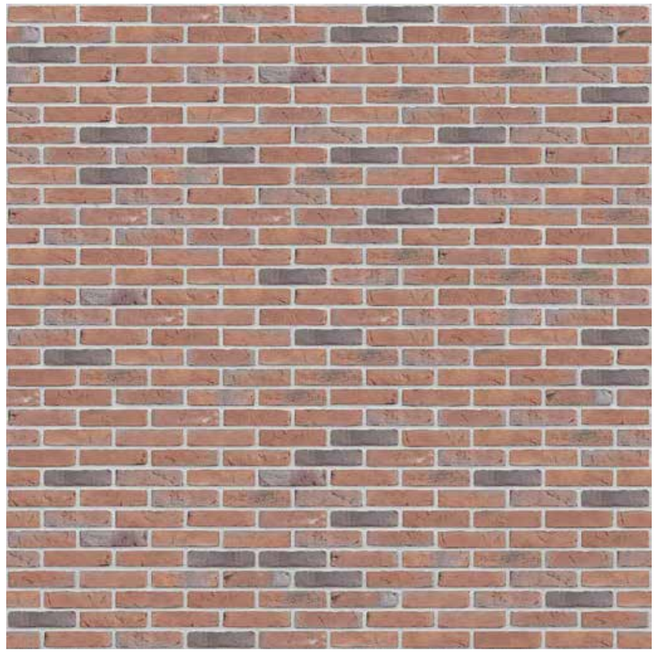

*Type A*

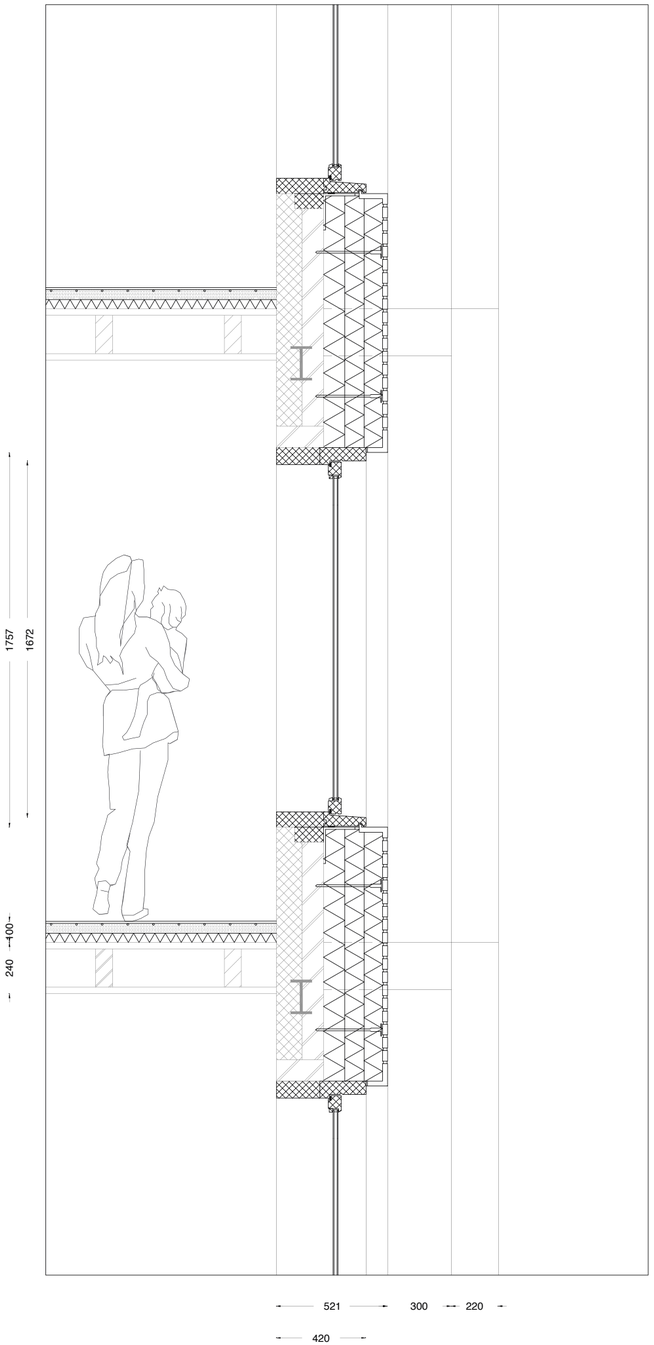


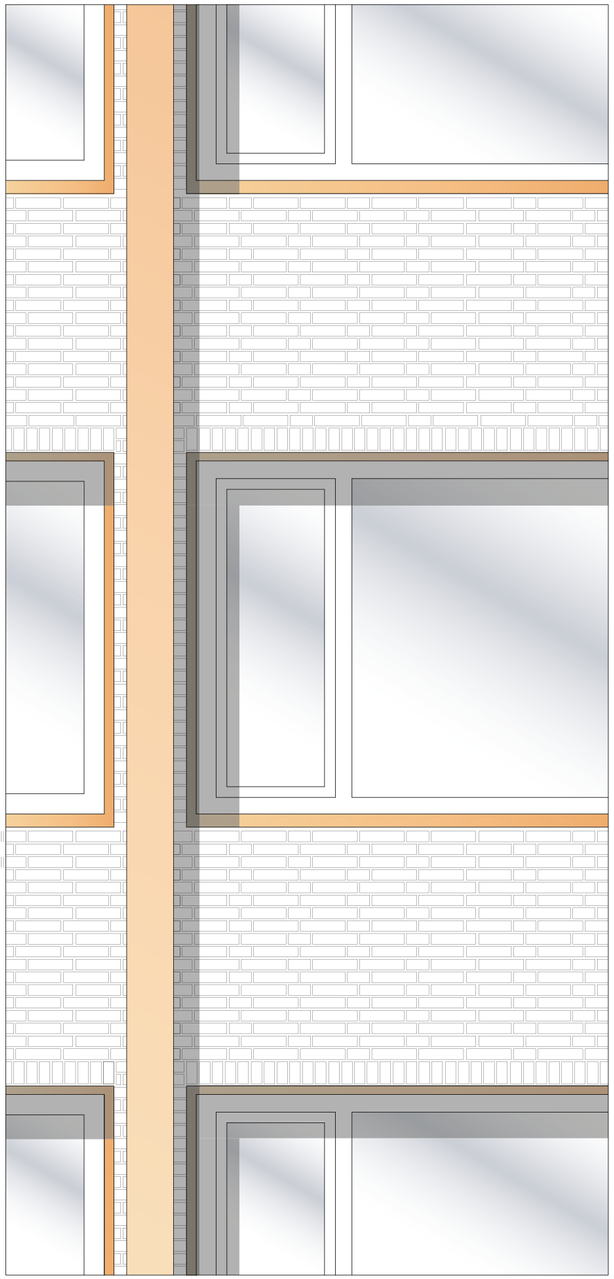
*materiaal*

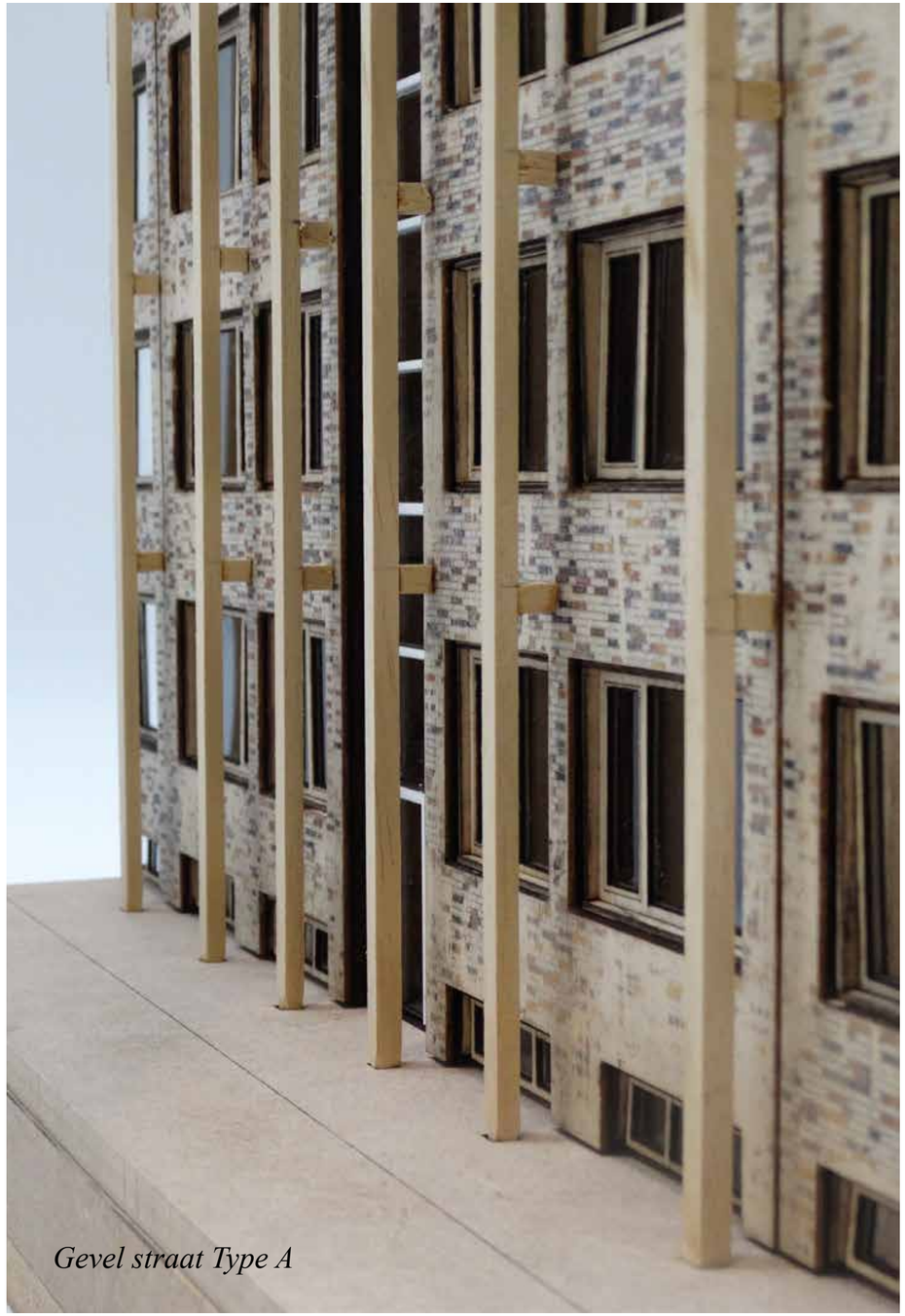
*Europees Douglas*

*red brown brick with shades of Douglas*



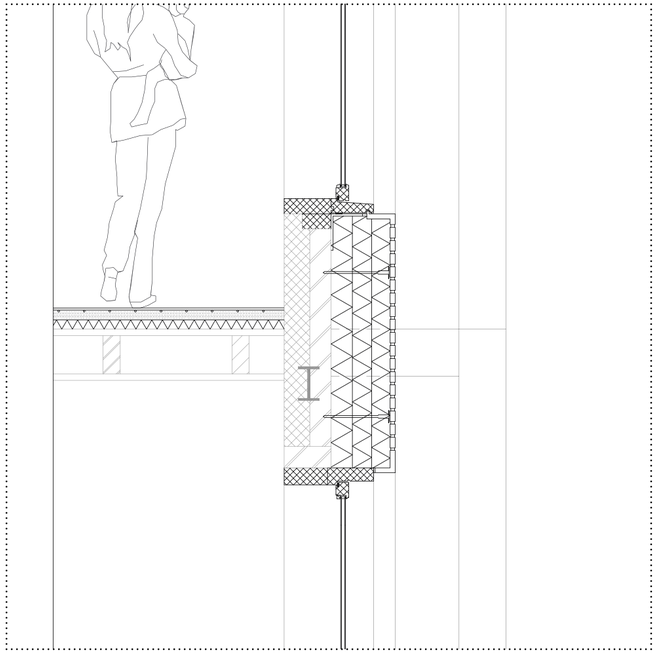


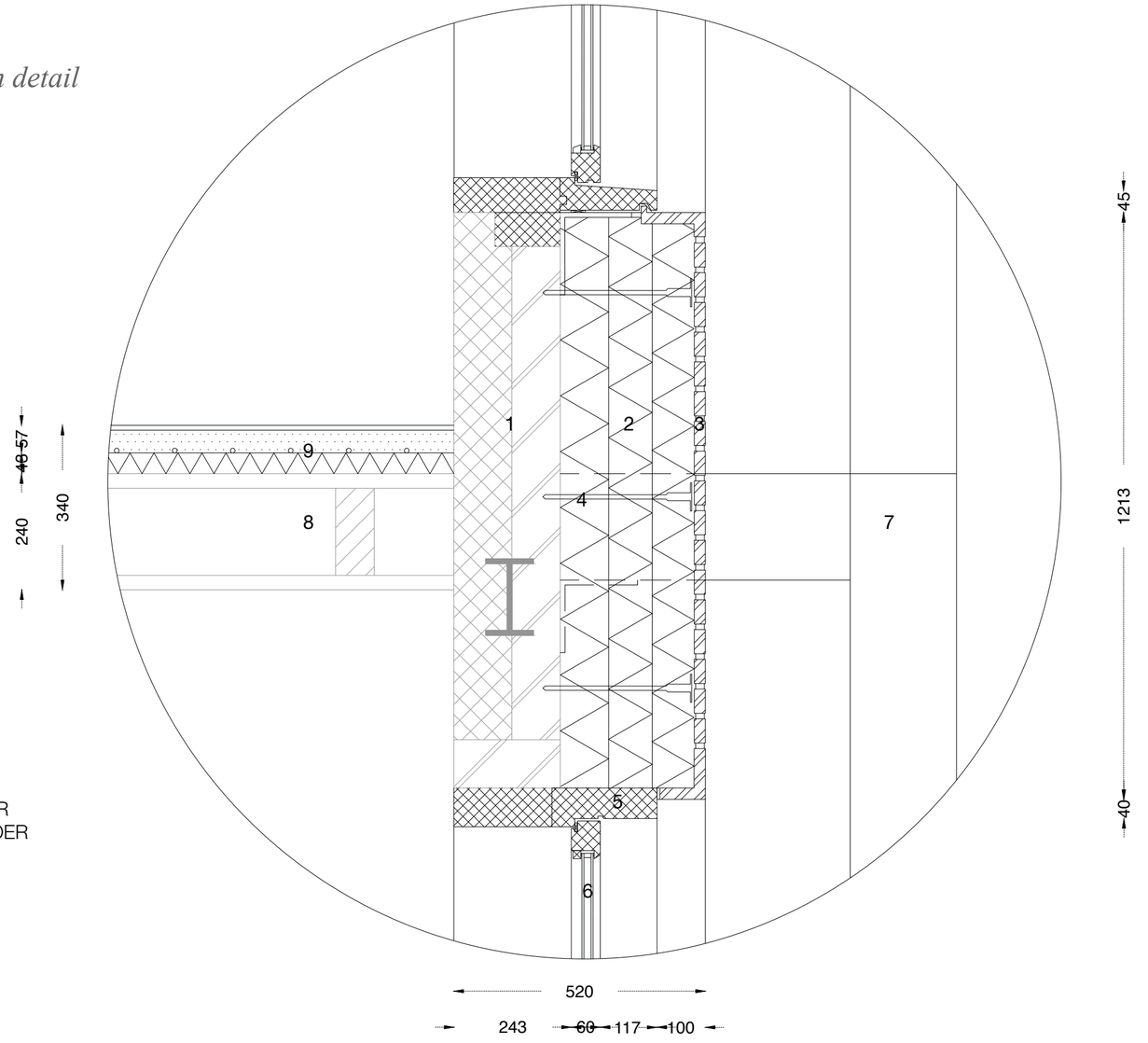





*Gevel straat Type A*

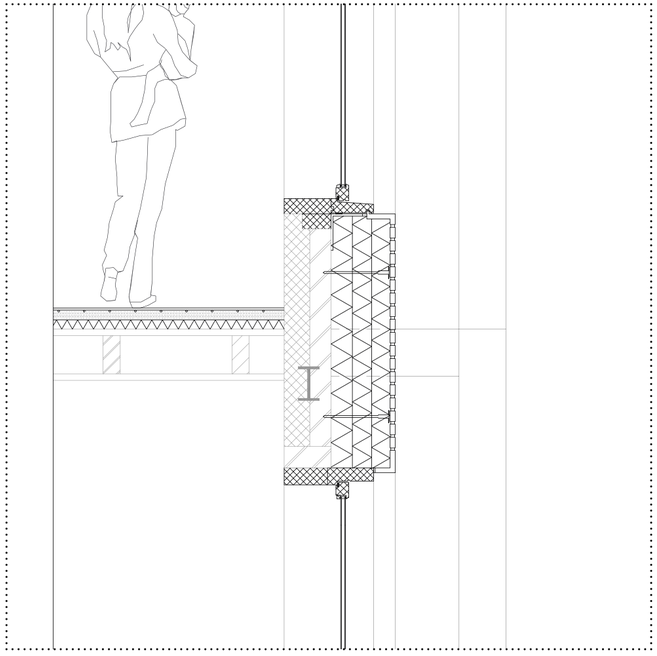
*in detail*



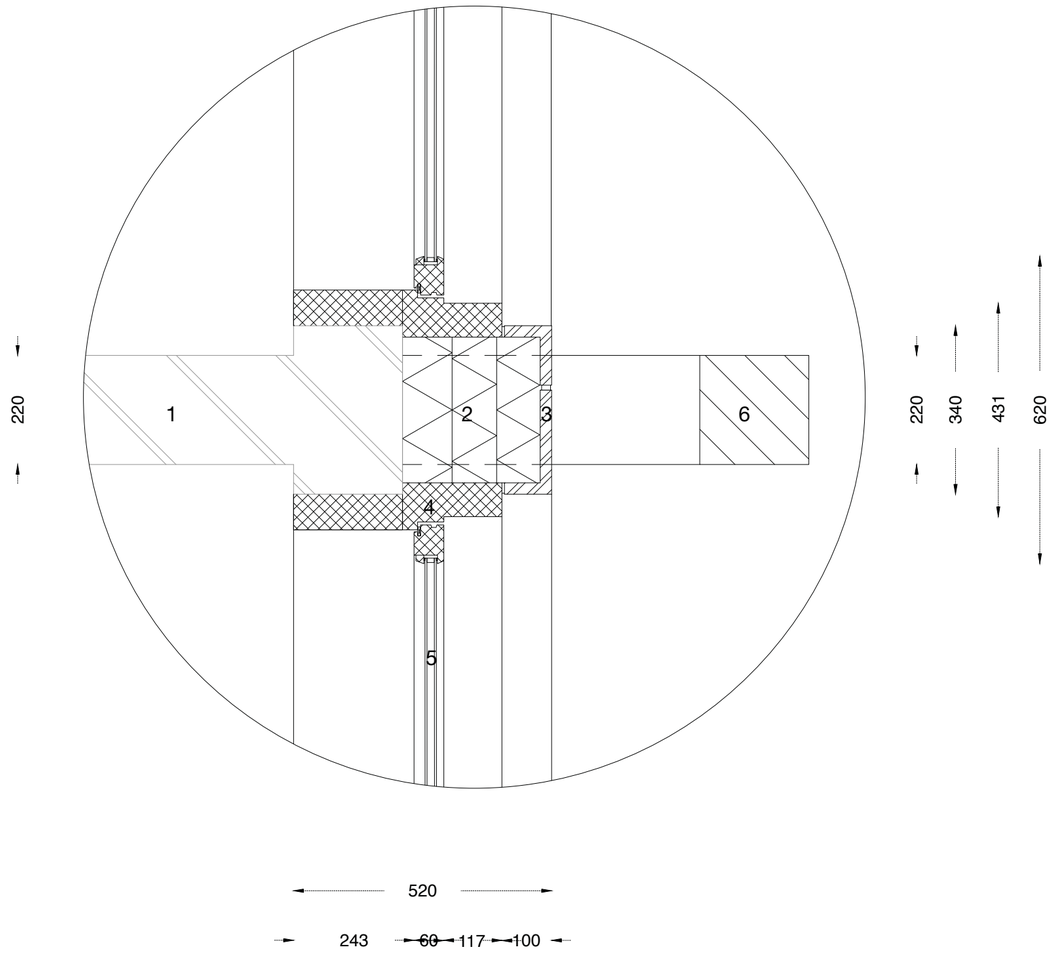


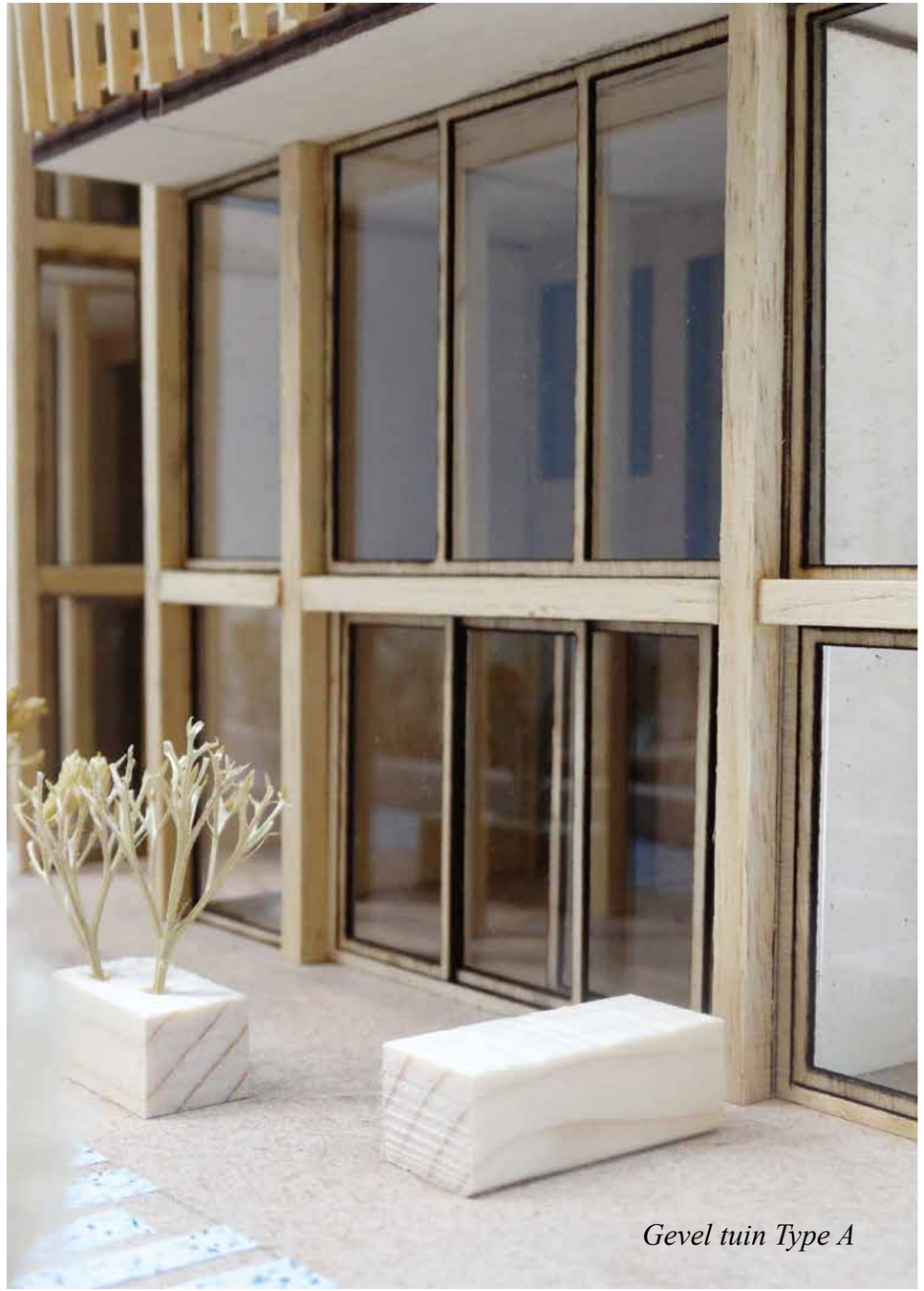

1 EXISTING BRICK WALL
2 INSULATION
3 STONE STRIPS
4 ANCHOR
5 WOODEN WINDOW FRAME
6 GLASS HR++
7 EUROPEES DOUGLAS
220X220
8 BESTAANDE HOUTEN VLOER
9 DROGE ZWEVENDE DEKVLOER

*in detail*

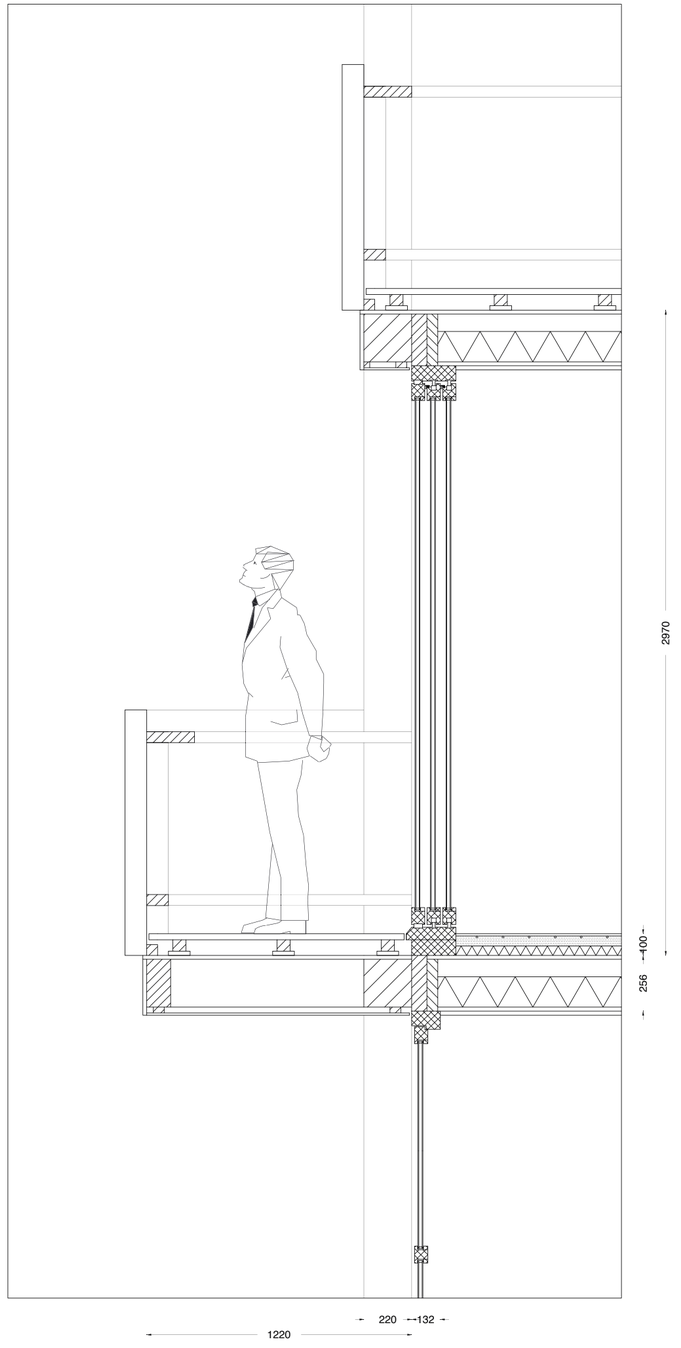


1 EXISTING BRICK WALL
2 INSULATION
3 STONE STRIPS
4 WOODEN WINDOW FRAME
5 GLASS HR++
6 EUROPEES DOUGLAS
220X220

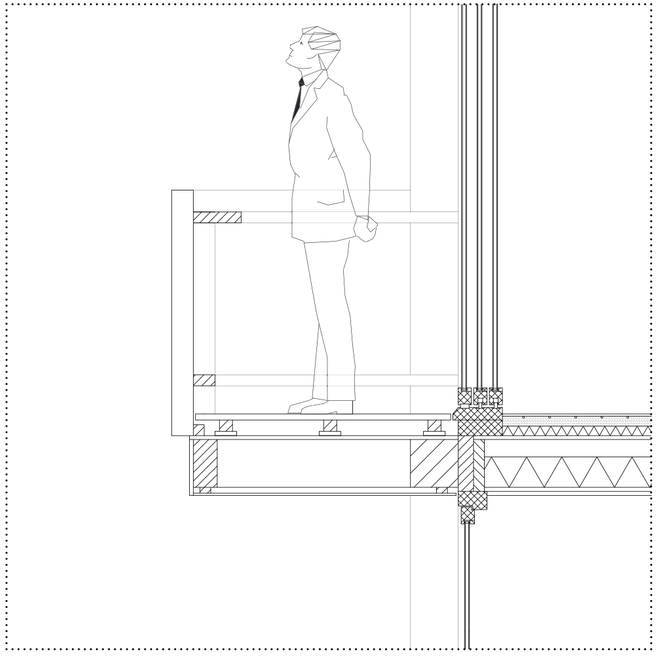




*Gevel tuin Type A*

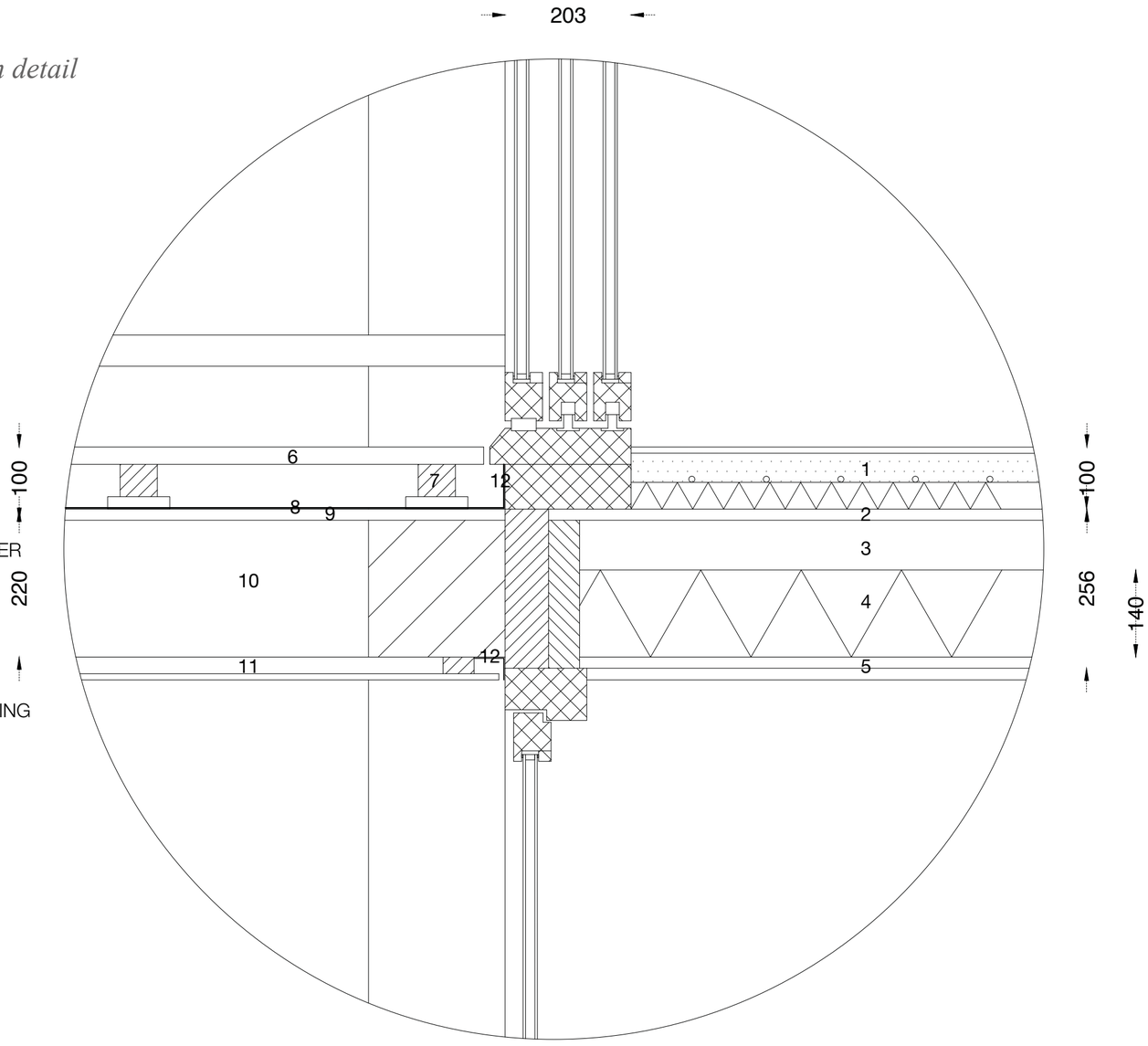


*in detail*

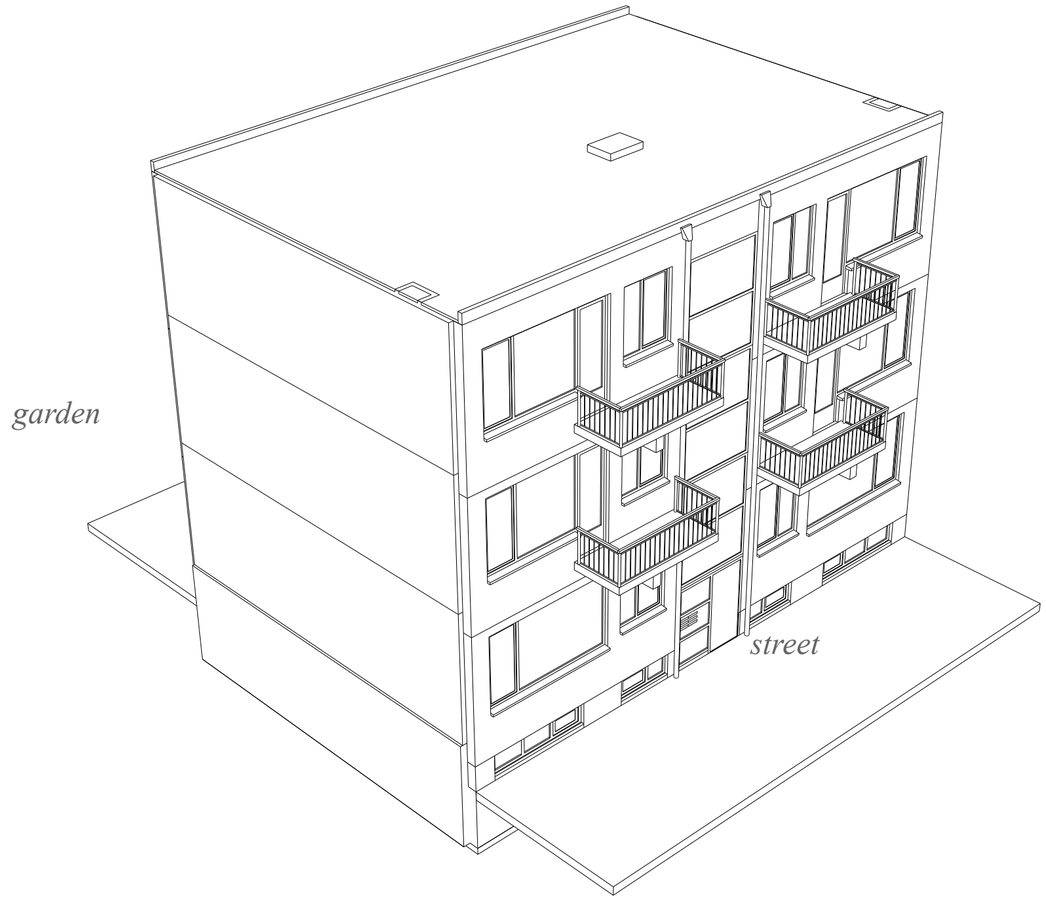


1

1 DROGE ZWEVENDE DEKVLOER
2 VLOERDEK 18 MM
3 BALKEN 220X45
4 MINERALE WOL 140 MM
5 PLAFONDPLAAT 30 MM
6 VLONDER
7 TEGELDRAGERS
8 BAANVORMIGE DAKBEDEKKING
9 VLOERDEK 18 MM
10 BALKEN 220X45
11 BUITENPLAAT
12 WATERKERENDE LAAG

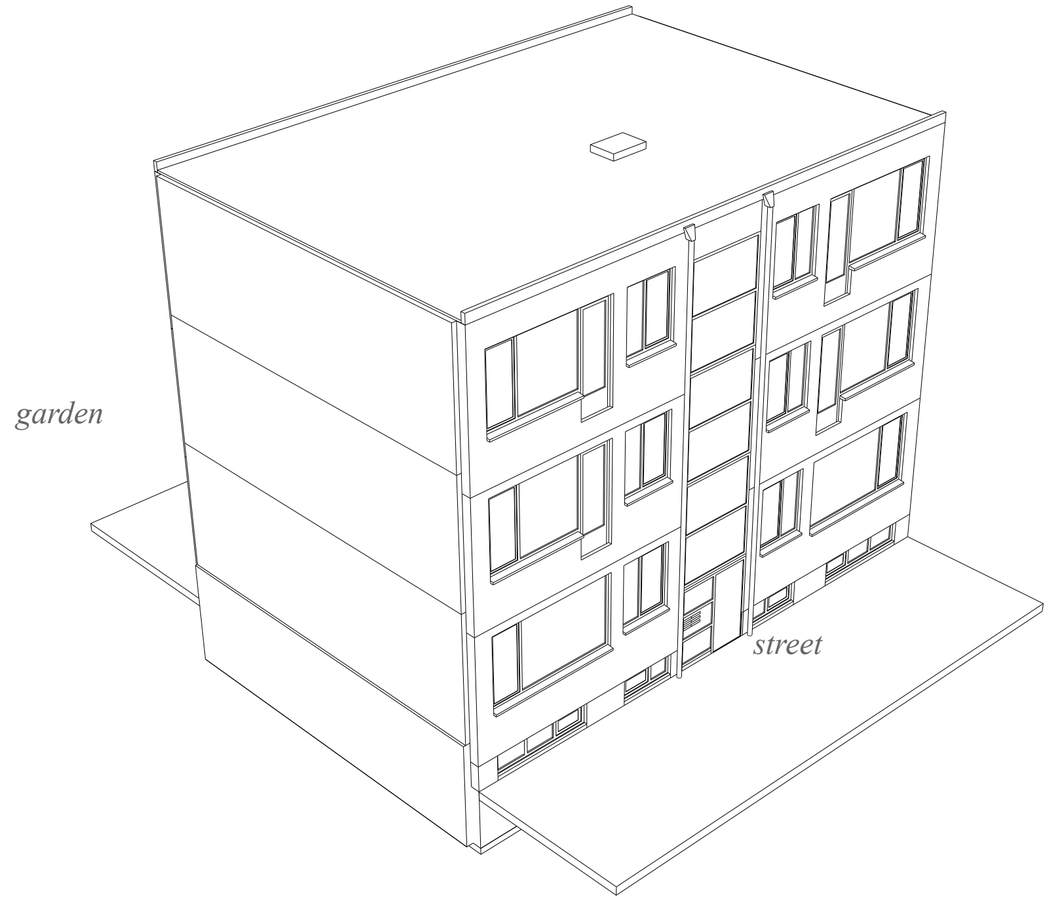


*type B*



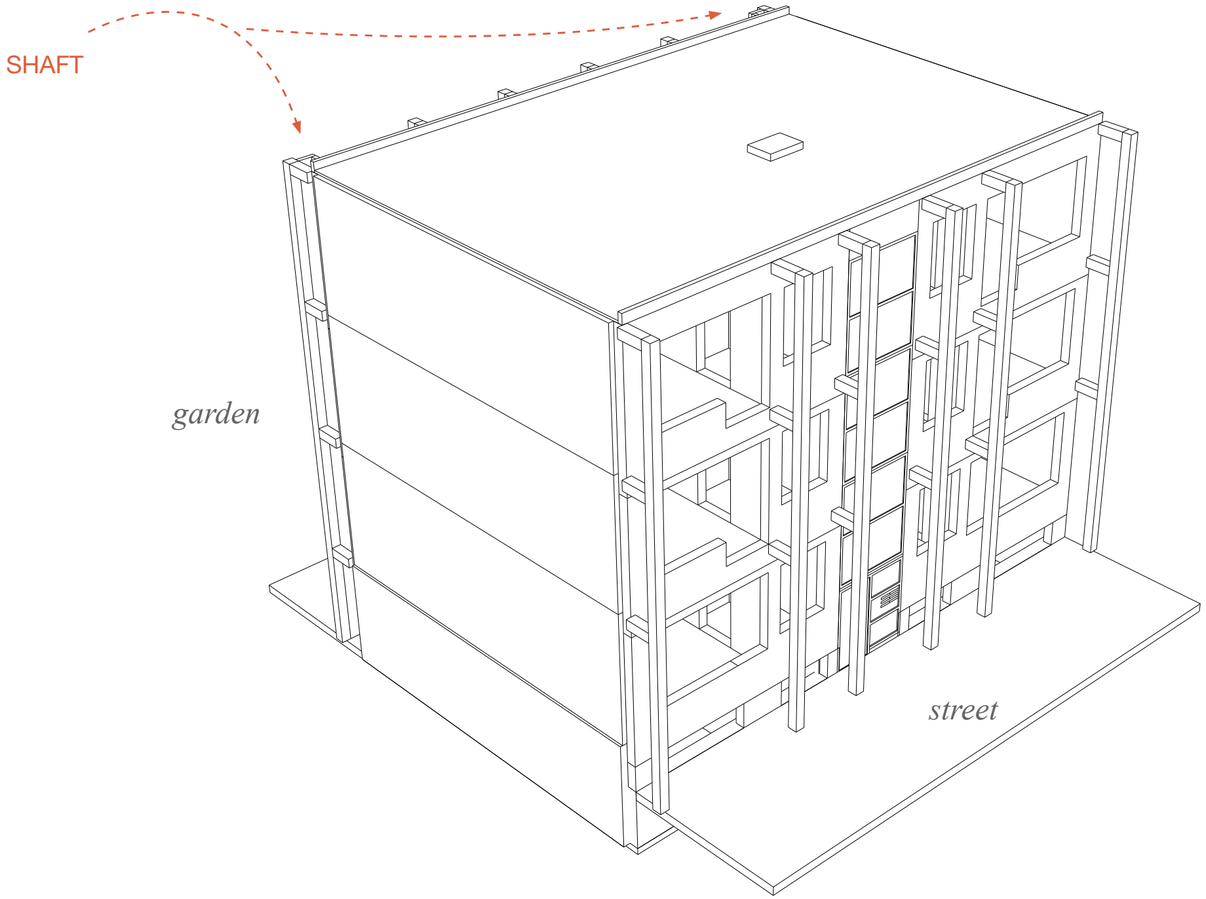

EXISTING SITUATION

*Type B*




REMOVE BALCONIES

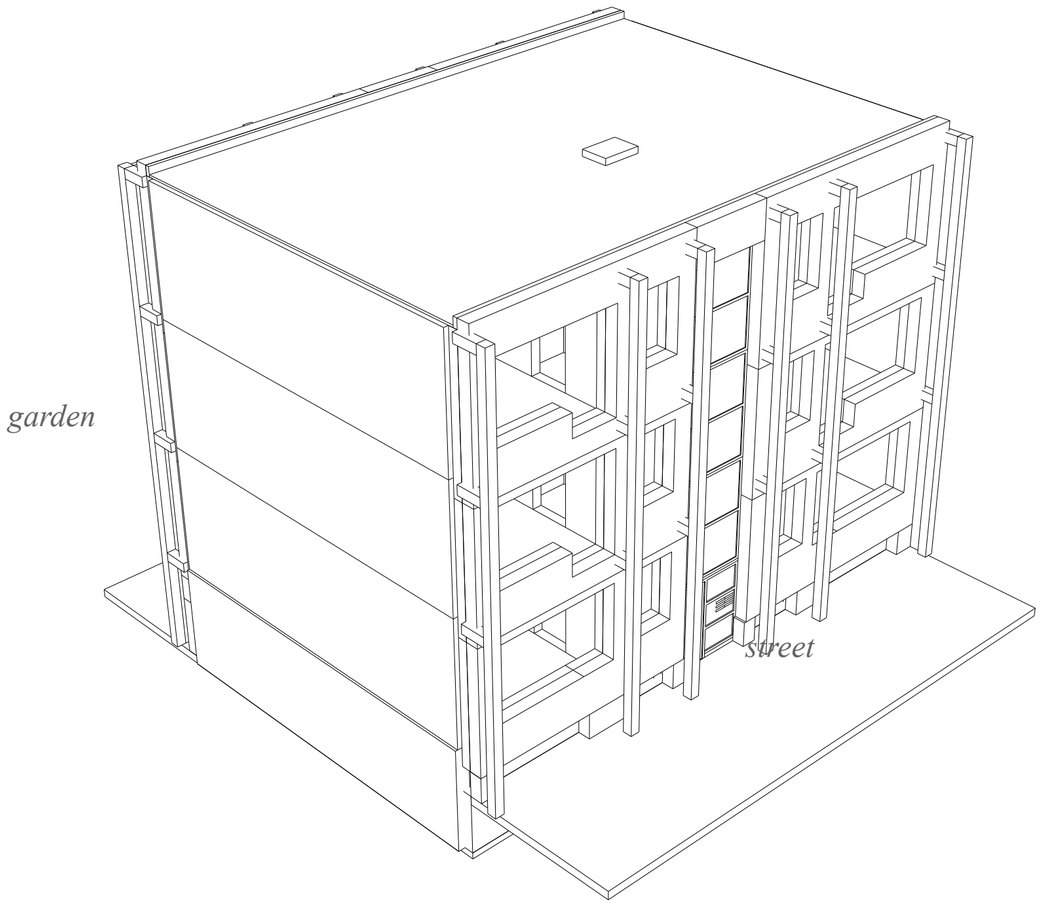
*Type B*




ADD NEW CONSTRUCTION

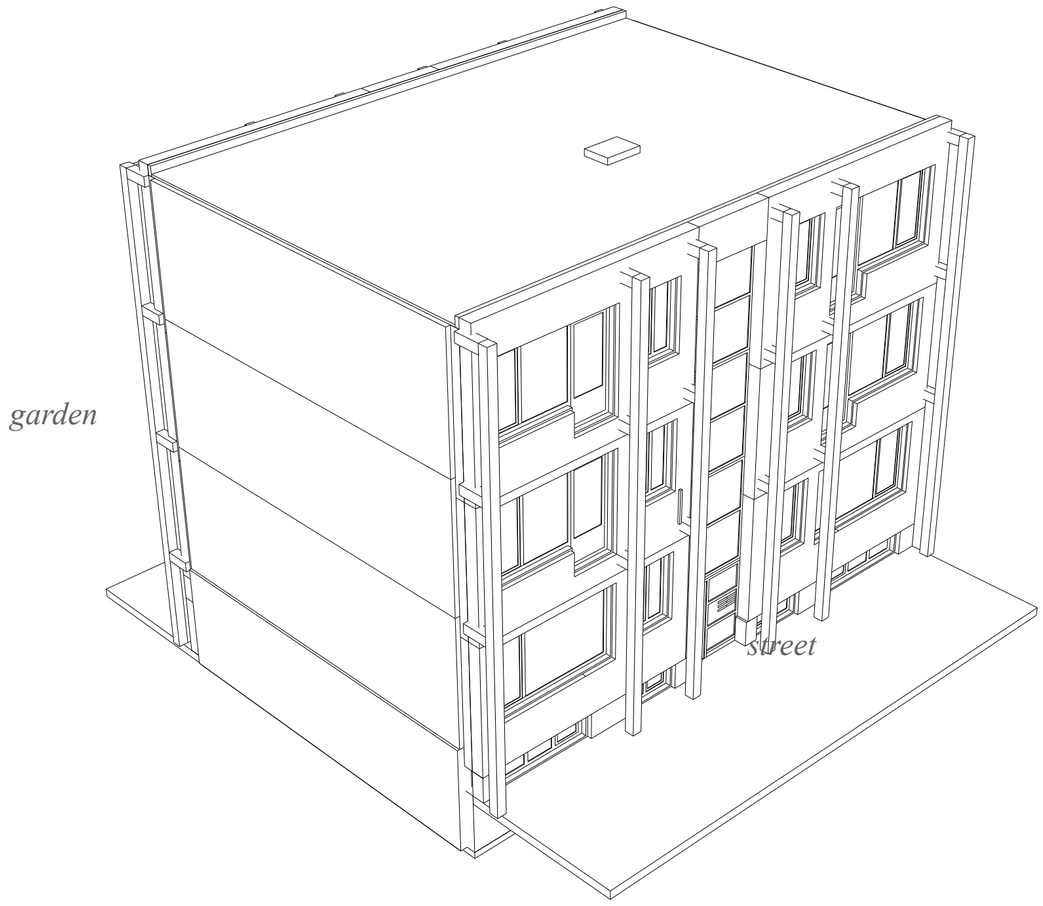
ADD SHAFT FOR NEW INSTALLATIONS AND PIPES

*Type B*



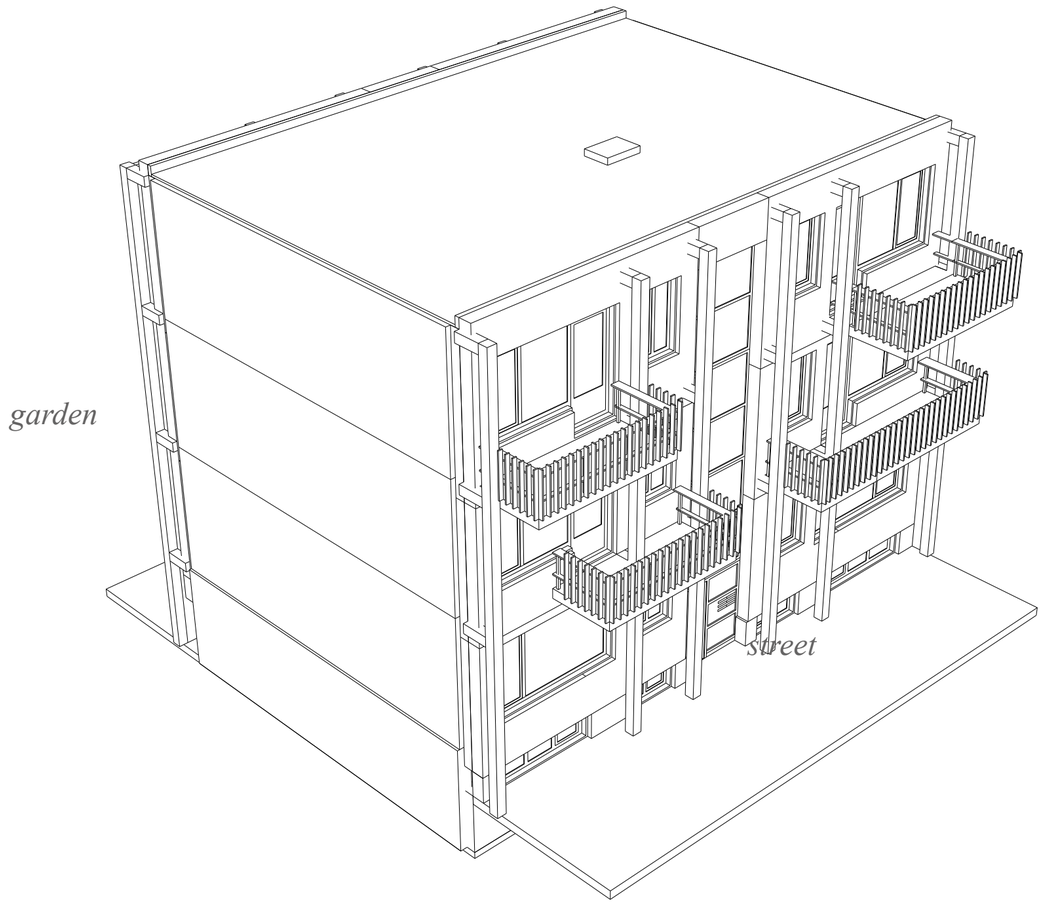

ADD INSULATION

*Type B*



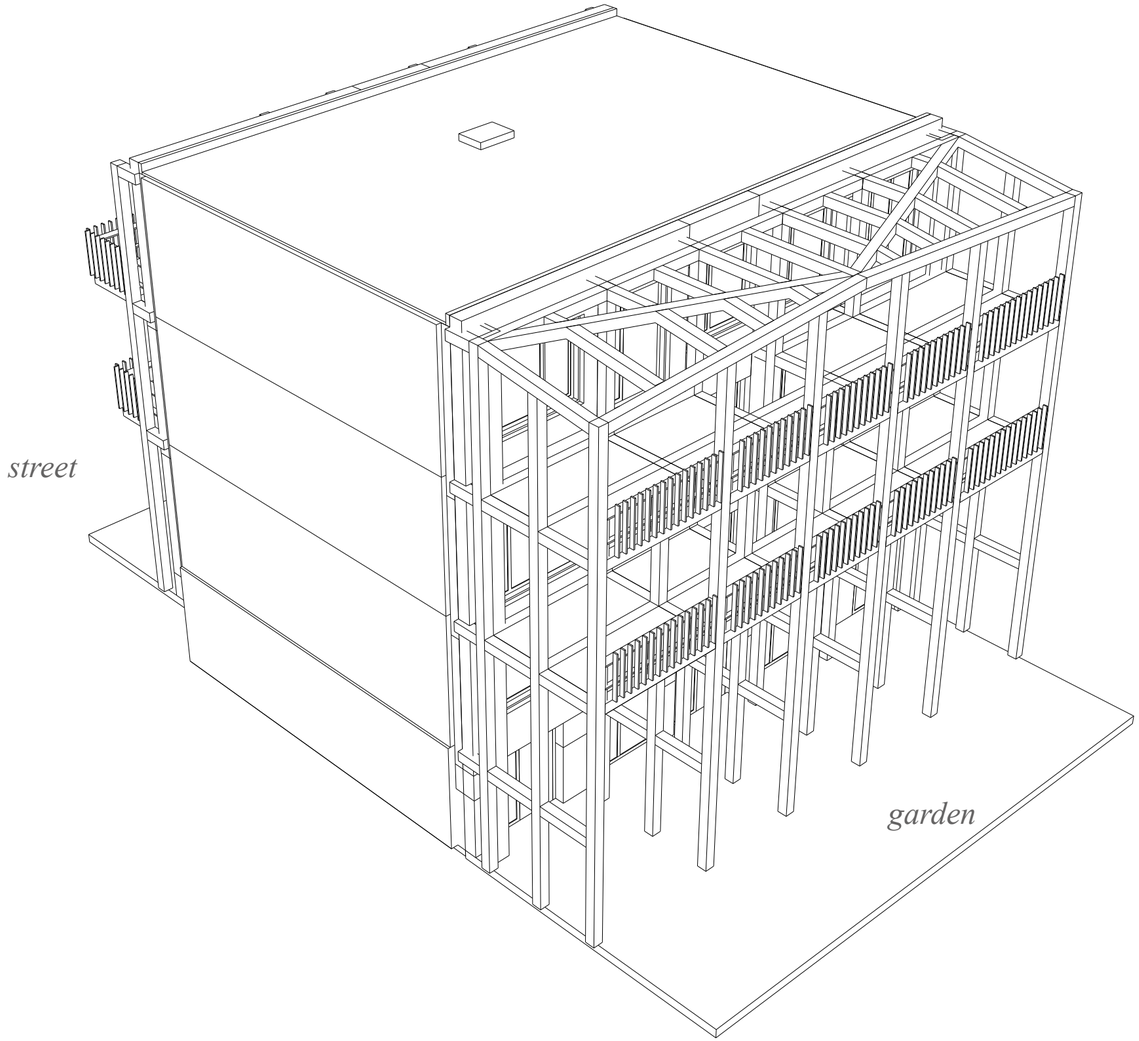

ADD NEW WINDOW FRAMES

*Type B*




ADD NEW BALCONIES

# ONTWERP

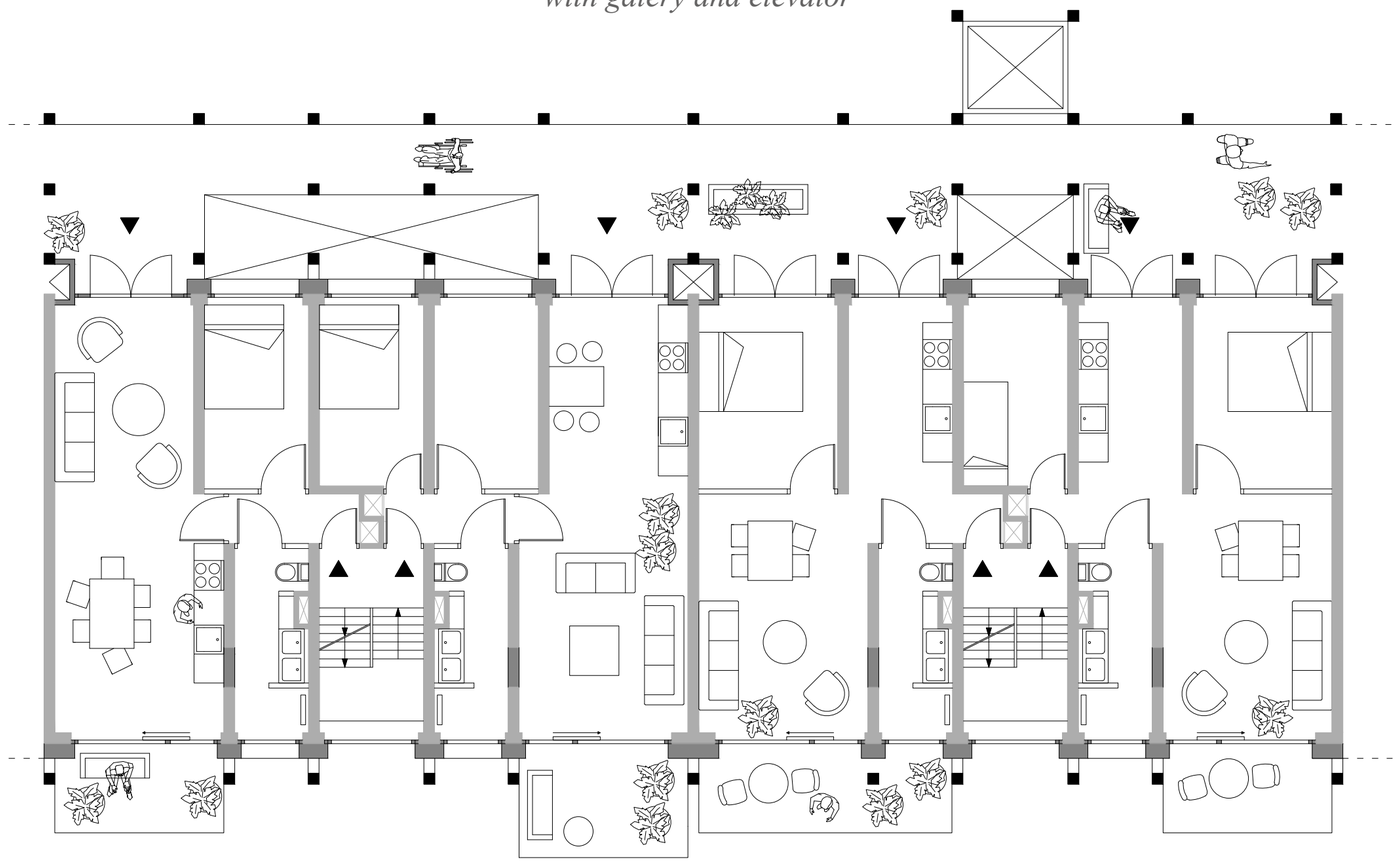


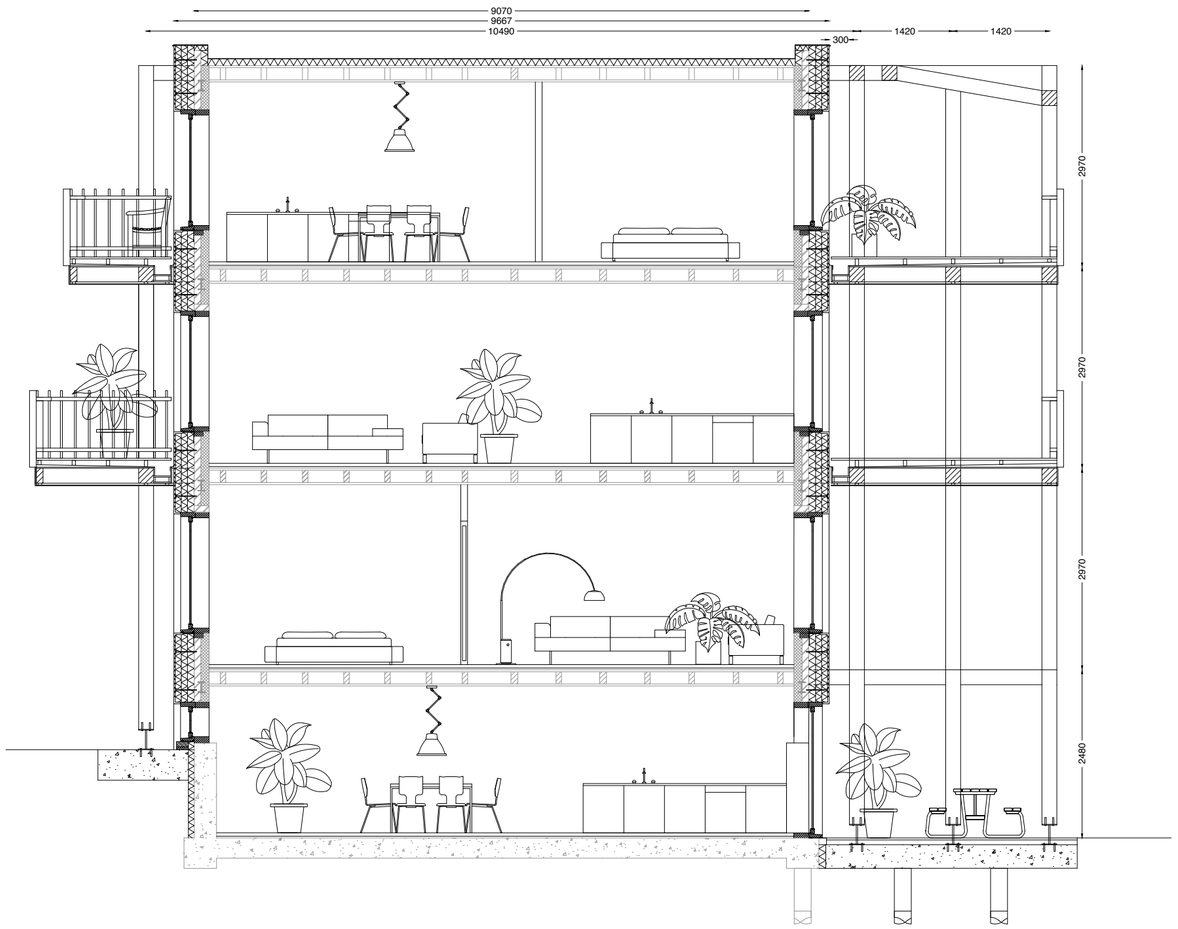

OPTIE:
GALERIJ MET LIFT!

MEER VOOR OUDEREN
LEVENSLOOPBESTENDIGHEID?


Lift

*Type B*
*with galery and elevator*



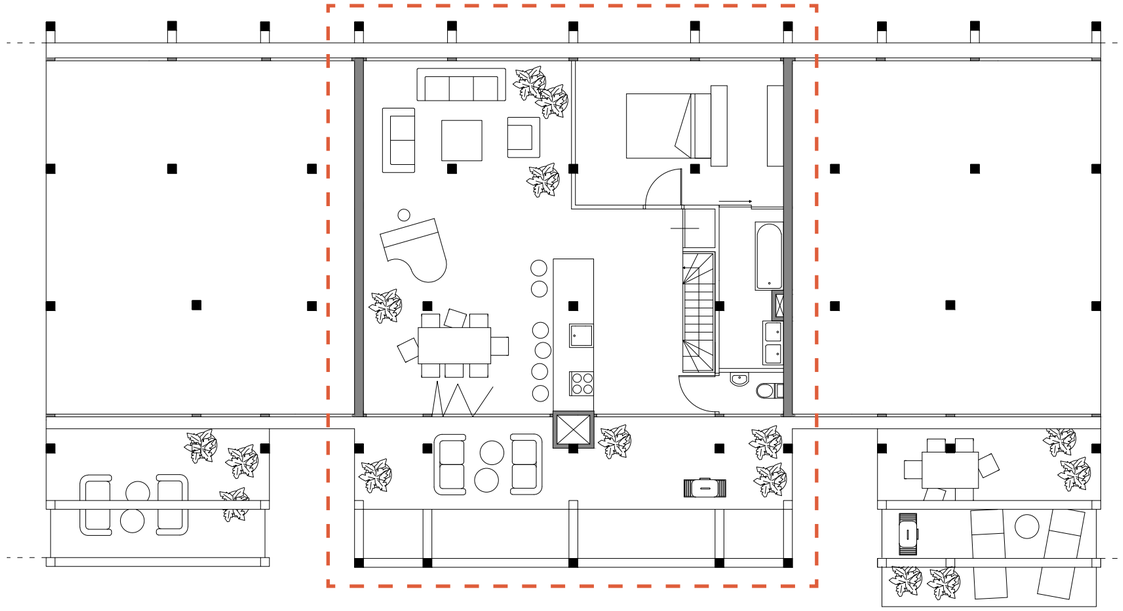

9070
9667
10490
300
1420
1420
2970
2970
2970
2450

*flexibiliteit*

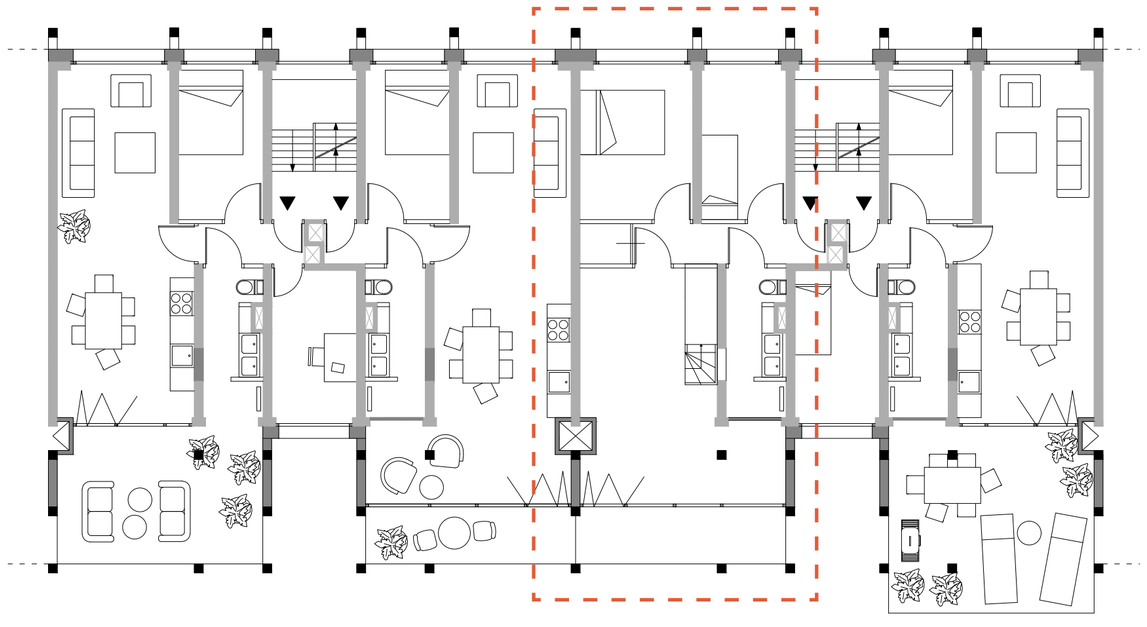
*flexibiliteit*

*flexibiliteit*

ROOFTOF
DWELLING



*rooftop*



*2 floor*

## *Sluit lokale kringlopen*

*lokale voedsel productie*

*lokale waterzuivering*

*lokale energie opwekking*

## *Verbeter openbare ruimte*

*gedeelde binnentuin*

*zichtbare kringlopen*

*connectie met maaiveld*

*passage*

## *Diversiteit*

*verschillende doelgroepen*

*functies*

*woningtypen*

## *Update portiekflat*

*0 op de meter*

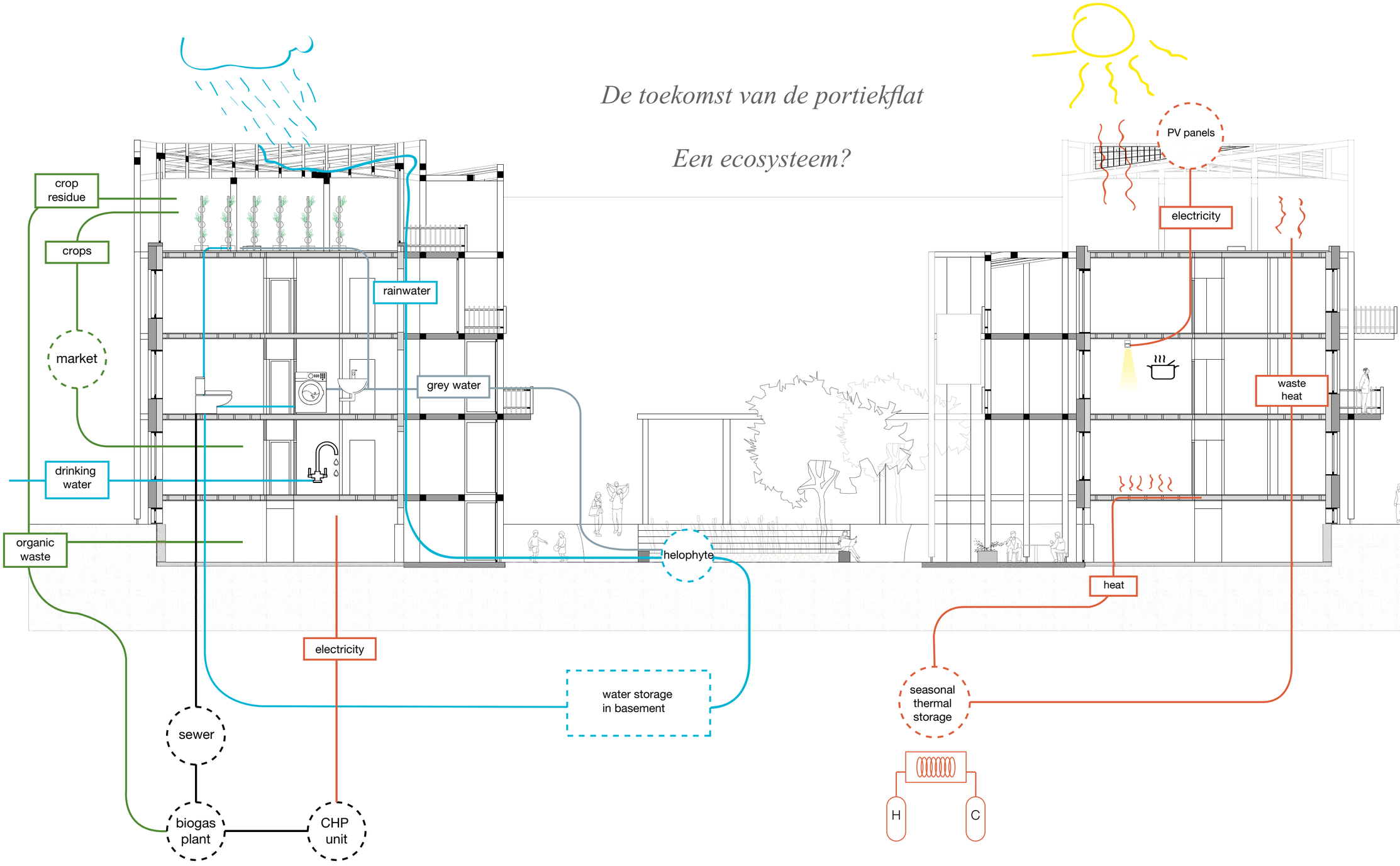
*connectie met kringlopen*

*flexibiliteit*

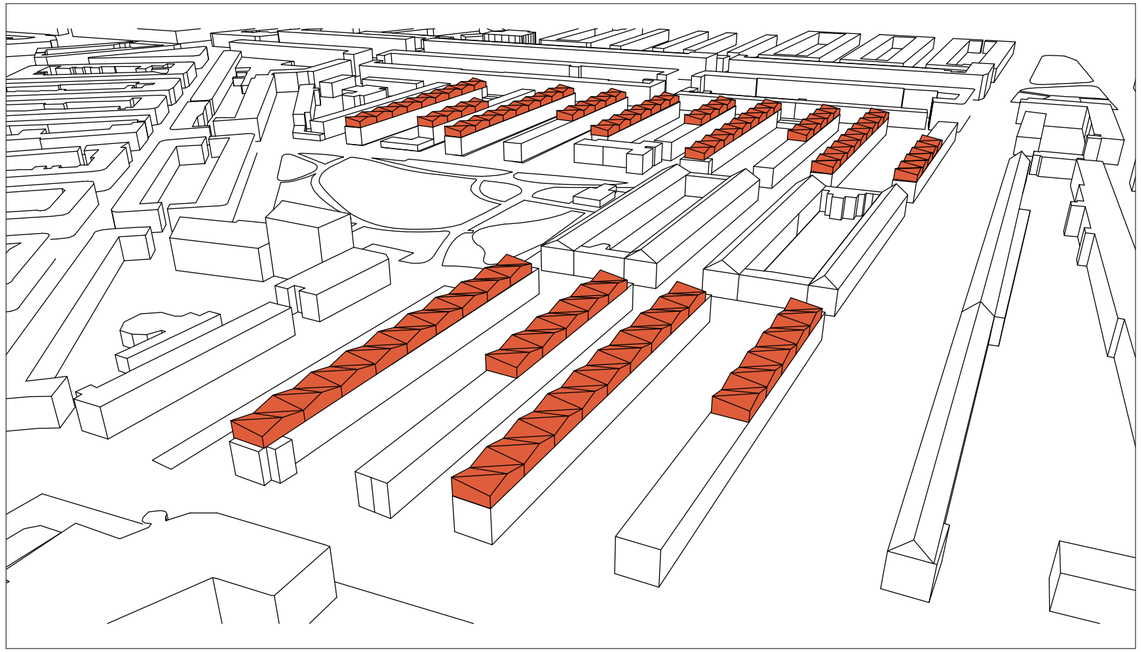
*levensloopbestendig*

*De toekomst van de portiekflat*

*Een ecosysteem?*



*Grote schaal versus kleine schaal*

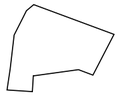


*toepasbaar in andere gebieden?*

*portiekflat is universieel*

*kringlopen tot op zekere hoogte*

# REFLECTIE



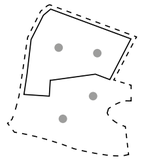
**General problems**
and **future vision**
municipality

*more variety of dwellings and inhabitants*

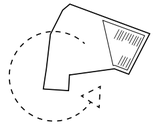
*more variety of functions living/working/recreation*

*high quality and energy efficient housing*

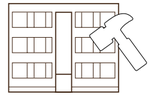
*strong character and identity!*



Needed **cyclifiers** to
close streams in Carnisse



Interventions needed in
**walk-up** apartments to
connect to the streams



Interventions to improve
**current performance**
of walk-up apartment and
to meet the users wishes

Users wishes

FOOD

Allotment gardens

Greenhouses → *need to be placed in between the housing blocks*

ENERGY

Biogas plant → *pipes compatible to heat and electricity from biogas*

→ *collection of organic household waste*

CHP unit

Seasonal Thermal Storage

PV panels → *placement on roof/facade*

WATER

Local wastewater treatment → *storage for rain water*

→ *separate black and grey water*

helophyte filter → *outgoing pipe black water*
*outgoing pipe grey water*
*incoming pipe grey water*
*incoming pipe rain water*

*refurbishment of kitchen and bathroom*

*lower the energy demand*

*solve cold bridges*

*replace degrading balcony*

*solve moisture problems due to lack of ventilation*

*noise reduction and firesafety (wooden floors)*

*replace outdated installations and piping*

*connection with ‘maaiveld’*

*inefficient storage in basements*

*refurbishment of kitchen and bathroom*

*enlarge the dwelling by adding a glass house*

*noise reduction and firesafety (wooden floors)*

*sustainability is visible*

*Staan mensen hiervoor open?*

*Andere manier van leven?*

# DE TOEKOMST VAN DE PORTIEKFLAT ALS EEN NIEUW ECOSYSTEEM