

# INTERACTIVE WATER STORAGE FOR BUIKSLOTERHAM

LISANNE VIERGEVER






# THE PROBLEM

# THE GOAL



Self-sufficient
in water use

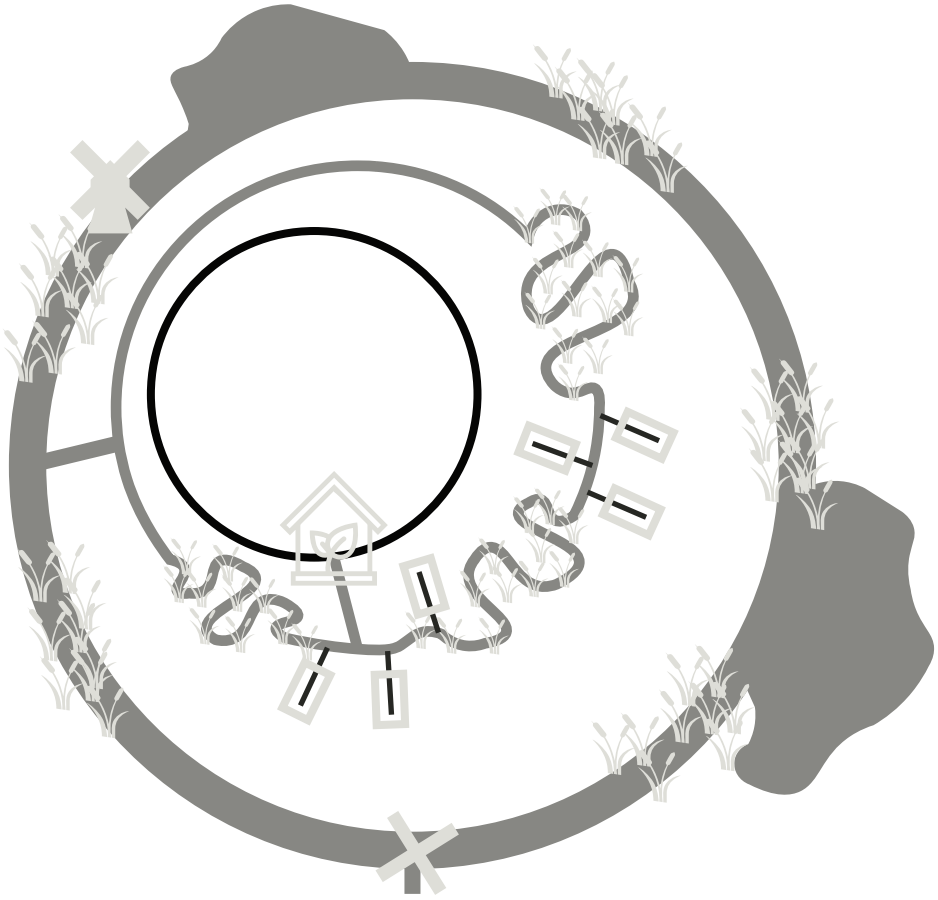


Water becomes part
of the identity



The area functions
as a sustainable
water community

# THE WATER SYSTEM



water

clean water system

grey water system

black water system (underground)

helofyte filters

mill for circulation

lock for water overflow

living machine greenhouse

grey water cleansing under building block couryard


OVERALL MAP
BUIKSLOTERHAM
1:5000
water
green area
building block in design area
paved area
street accessible to cars
(semi) private green area
building outside design area
clean water system
clean water system
green axis
living machine greenhouse
04

# THE WATER STORAGE





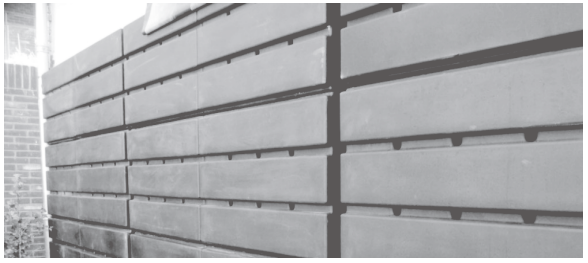




















# THE STORYLINE

THE RESULT

LOCATION & PROBLEMS

buiksloterham
community
climate change
sustainable development

GOALS & OBJECTIVES

spatial
water storage
interactive
flexible

OVERALL DESIGN

water system
water storage
grid

STREETS

green axis
n-s big
n-s small
e-w green
e-w car

SQUARE

water identity
flexibility
connected

PARK

native ecosystem
green-blue network
inhabitant
participation

THE RESULT




PEOPLE
DENSITY
PLANET
CLIMATE CHANGE
PROFIT
SUSTAINABLE DEVELOPMENT


PEOPLE
PLANET
PROFIT
COMMUNITY
CLIMATE CHANGE
SUSTAINABLE DEVELOPMENT

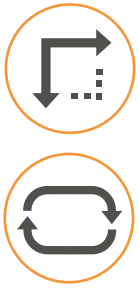
# HOW CAN A SPATIAL FLEXIBILE INTERACTIVE WATER STORAGE SYSTEM BE DESIGNED FOR BUISLOTERHAM

**To help it prepare for climate change, in a way that is also creates sustainable awareness through neighbourhood participation?**

The research question will always be approached from an angle where the results creates an attractive identity for the Buiksloterham area.

# THE GOALS

Self-sufficient in water use



Water becomes part of the identity



The area functions as a sustainable water community



Re-use rainwater



Re-use grey water



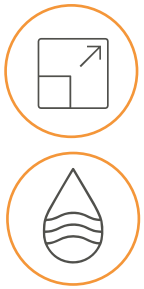
Create good quality water



# THE GOALS



Water storage will be flexible





Water storage will be interactive





Water storage will be applied through the different scales





Relieve heatstress





Increase biodiversity





Clean soil



# THE OVERALL PICTURE

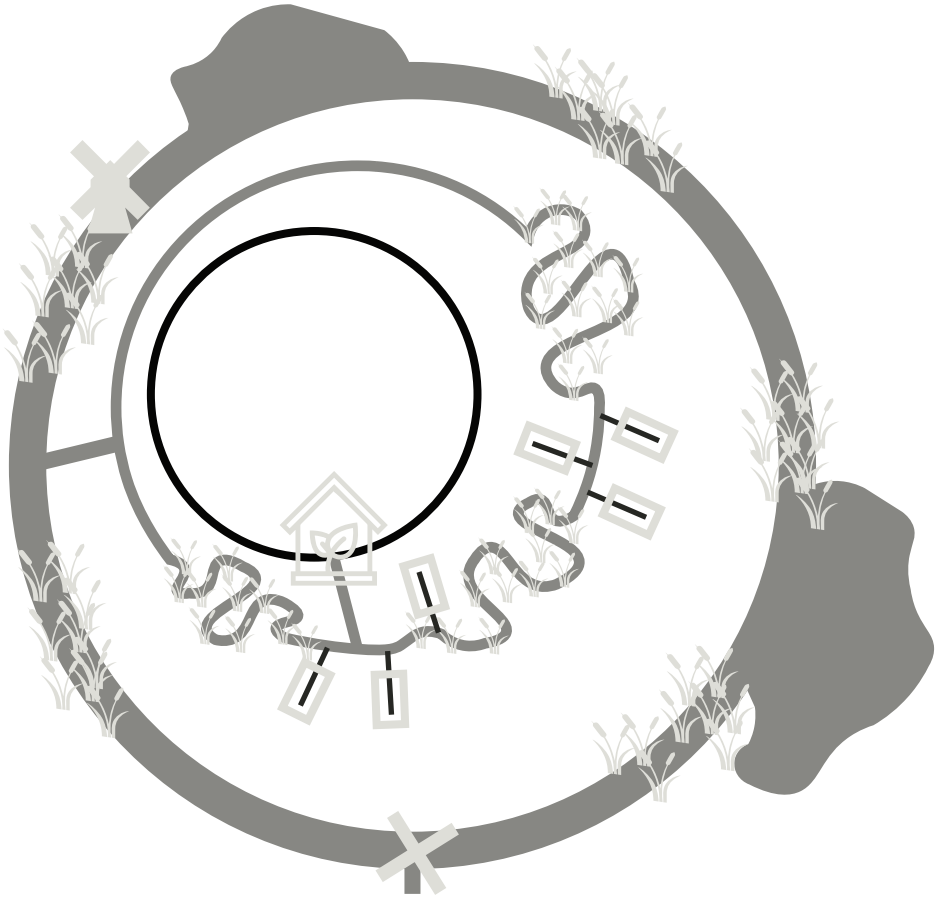



OVERALL MAP
BUIKSLOTERHAM
1:5000
water
green area
building block in design area
paved area
street accessible to cars
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clean water system
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green axis
living machine greenhouse
THE OVERALL PICTURE
18

# THE WATER SYSTEM



# THE WATER SYSTEM



water

clean water system

grey water system

black water system (underground)

helofyte filters

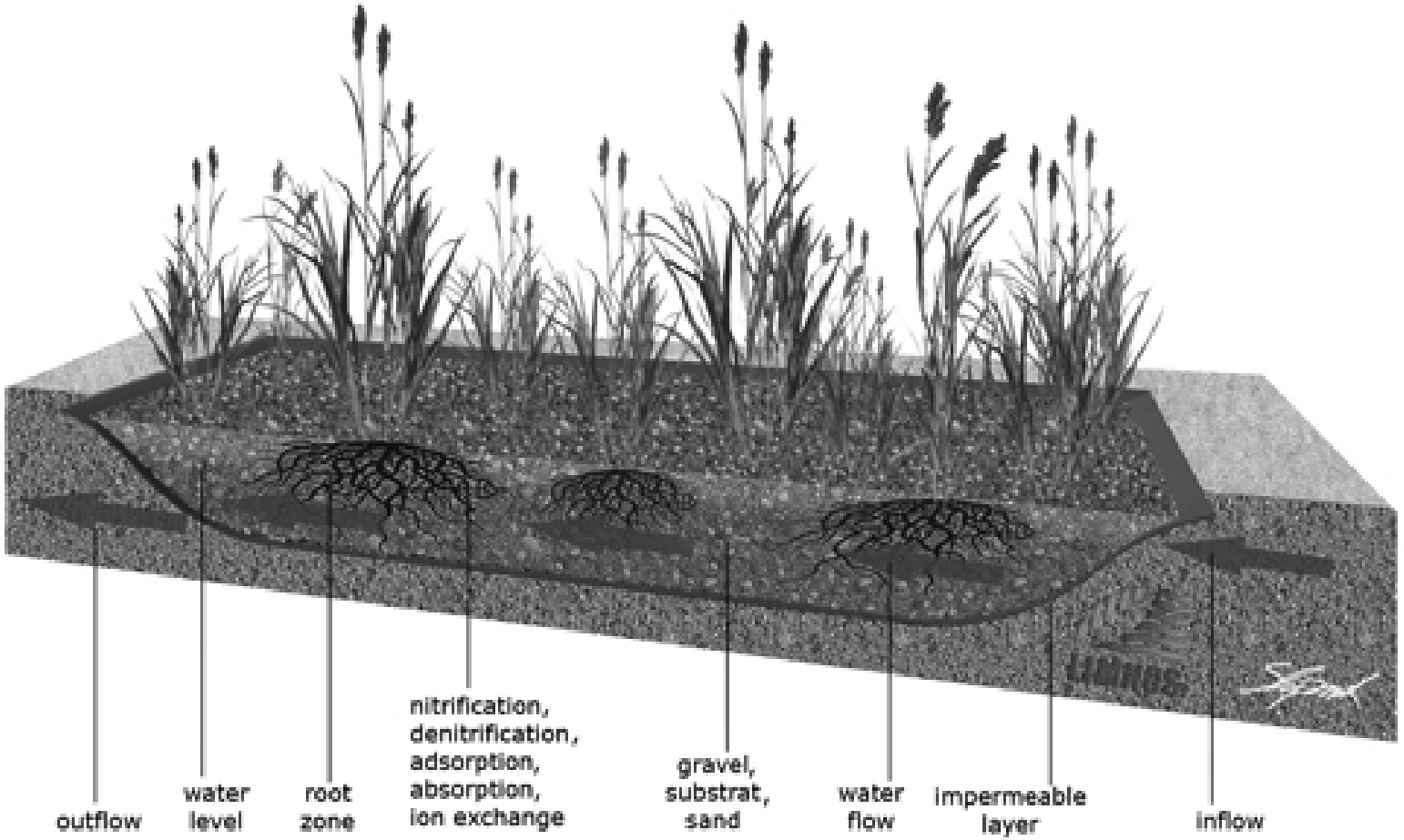
mill for circulation

lock for water overflow

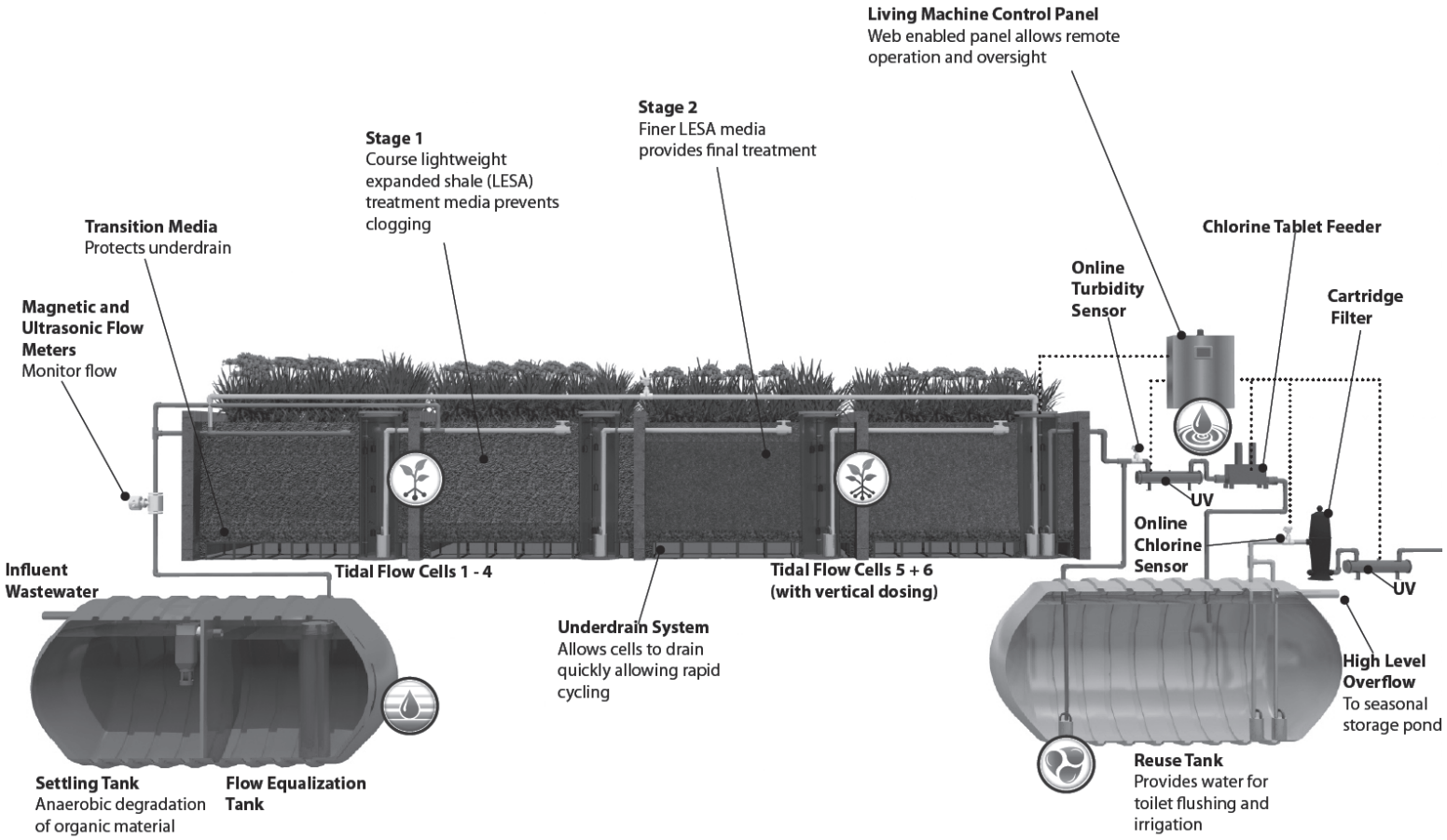
living machine greenhouse

grey water cleansing under building block couryard

# CONSTRUCTED WETLAND



# HYDROPONIC LIVING MACHINE



# THE WATER STORAGE



NEIGHBORHOOD+







NEIGHBORHOOD






BUILDING BLOCKS/STREETS











PRIVATE





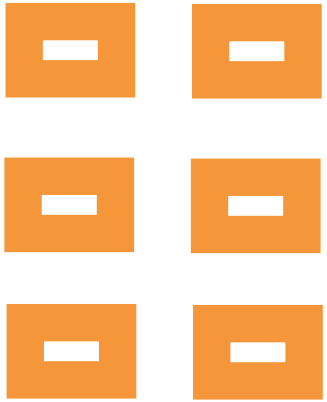


# THE GRID

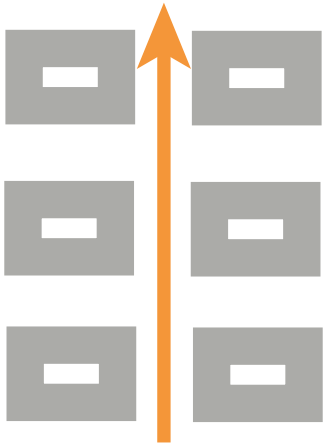


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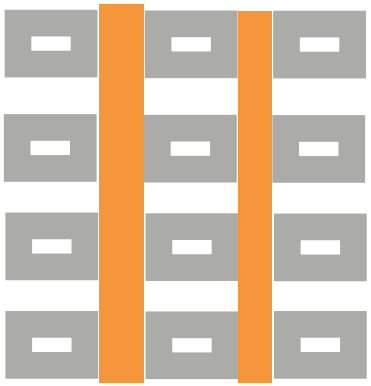
DENSITY



ORIENTATION



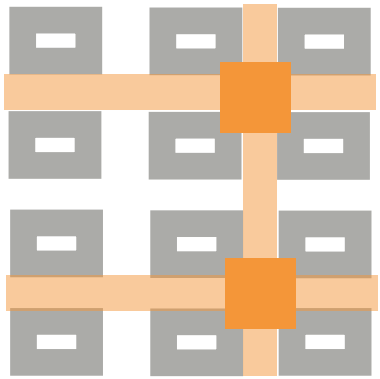
PUBLIC/PRIVATE



GREEN/CAR



SQUARE



# THE GRID

GREN AXIS



N-S BIG



N-S SMALL



E-W GREEN

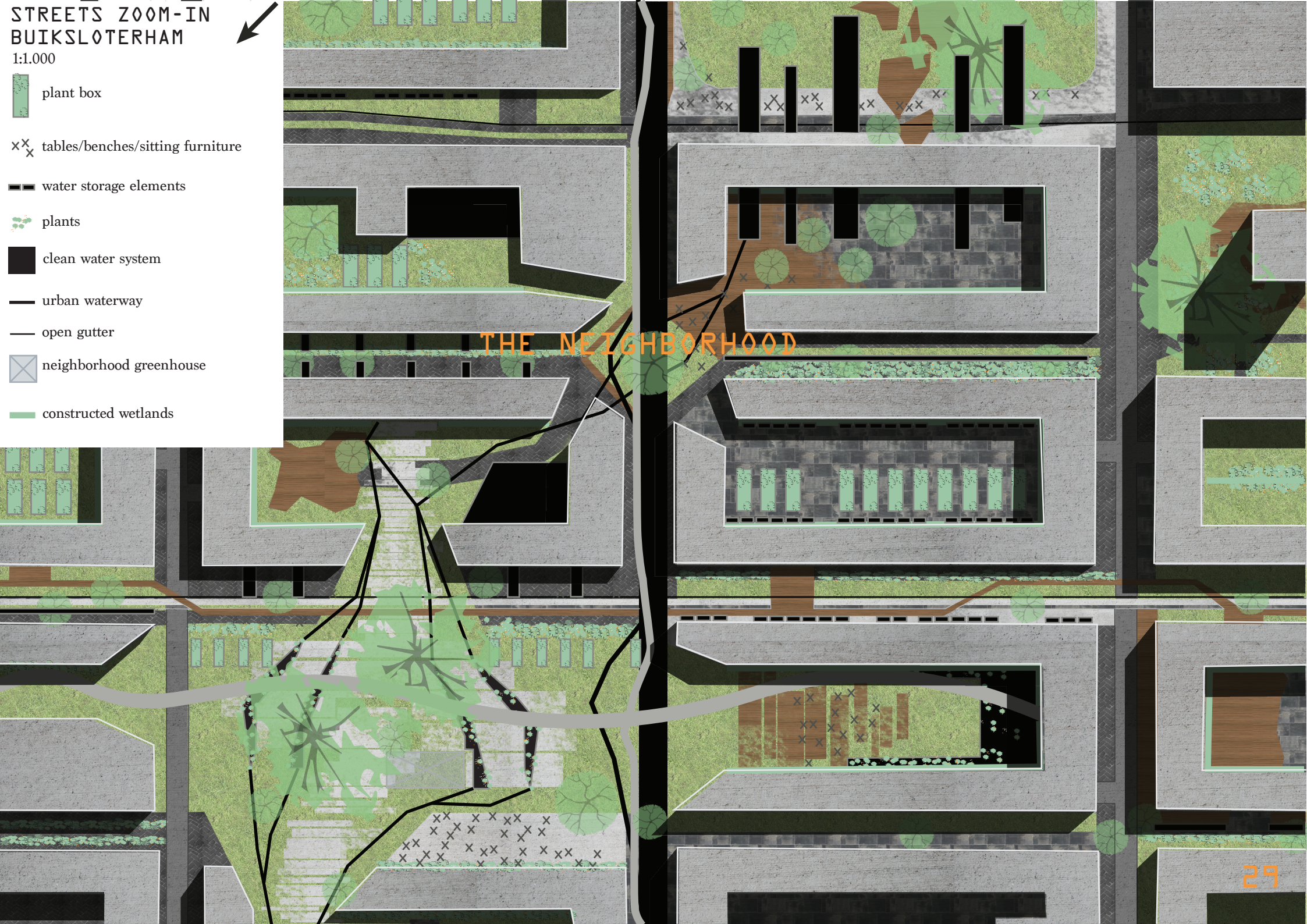


E-W CAR



# THE NEIGHBOURHOOD




STREETS ZOOM-IN
BUIKSLOTERHAM
1:1.000
plant box
tables/benches/sitting furniture
water storage elements
plants
clean water system
urban waterway
open gutter
neighborhood greenhouse
constructed wetlands
THE NEIGHBORHOOD



# THE STREETS



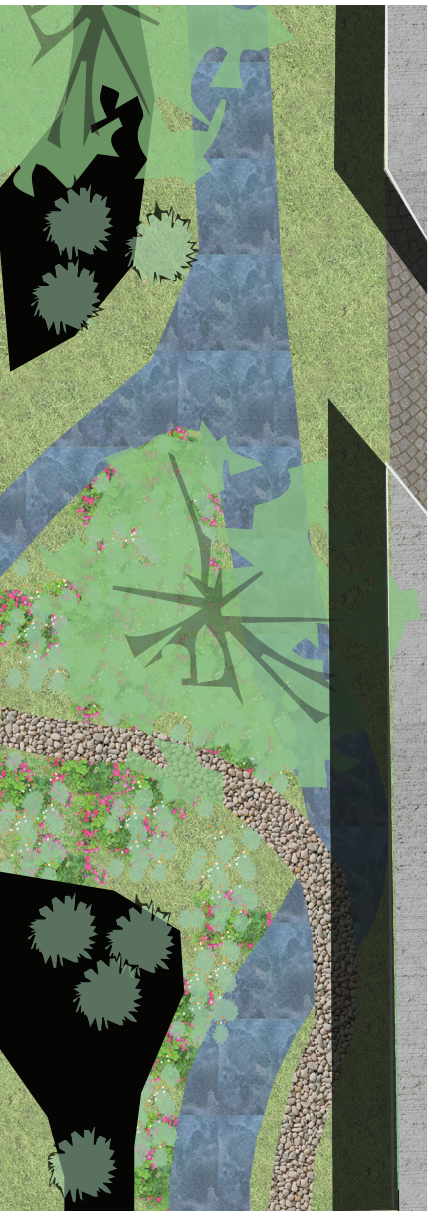
# STREET MAPS BUIKSLOTERHAM

1:500

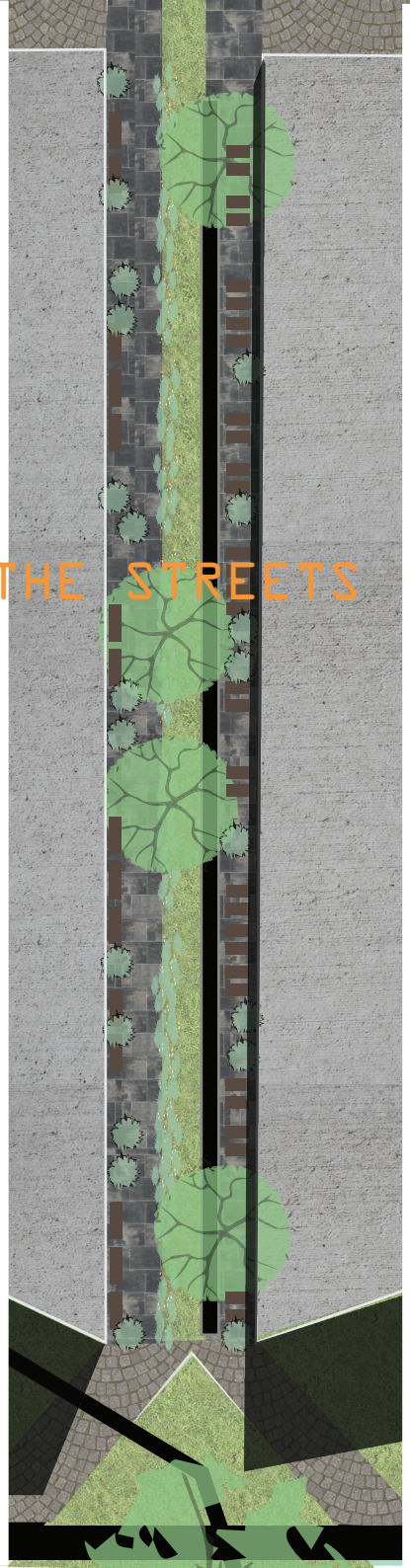
plants

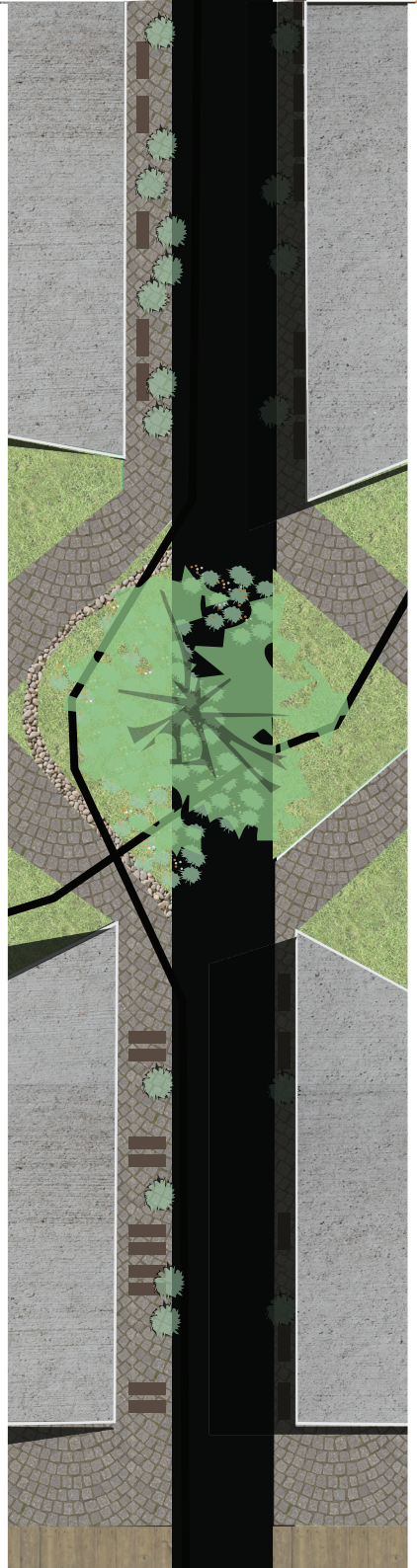
table/sitting furniture

open gutter







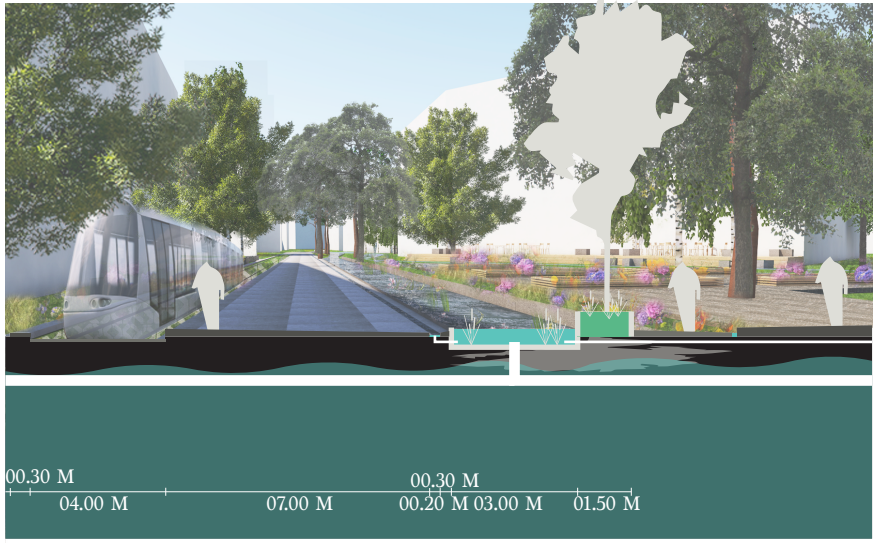


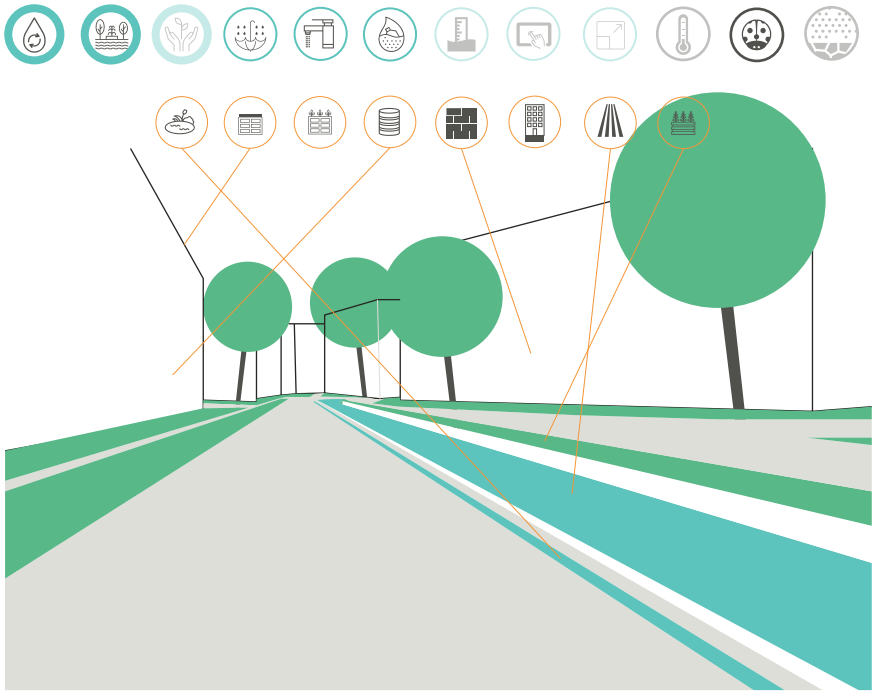


THE STREETS



# GREEN AXIS

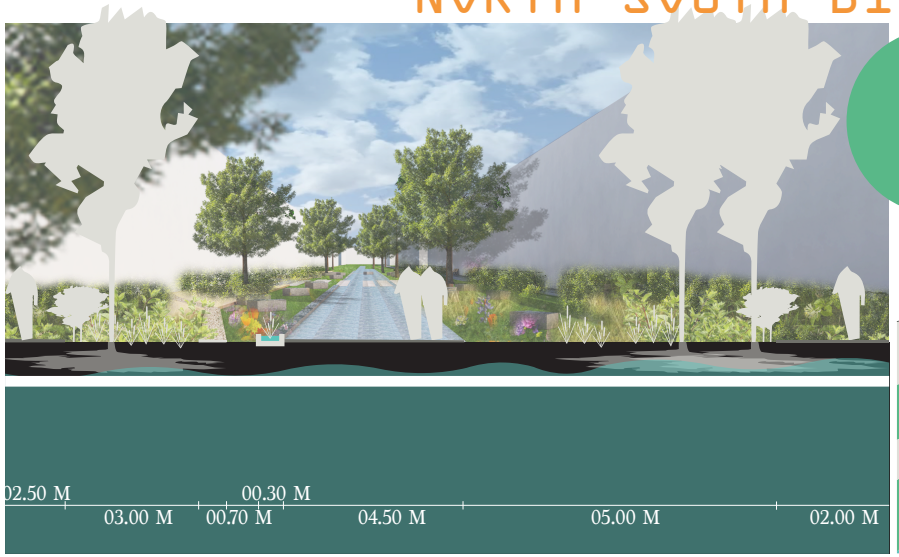


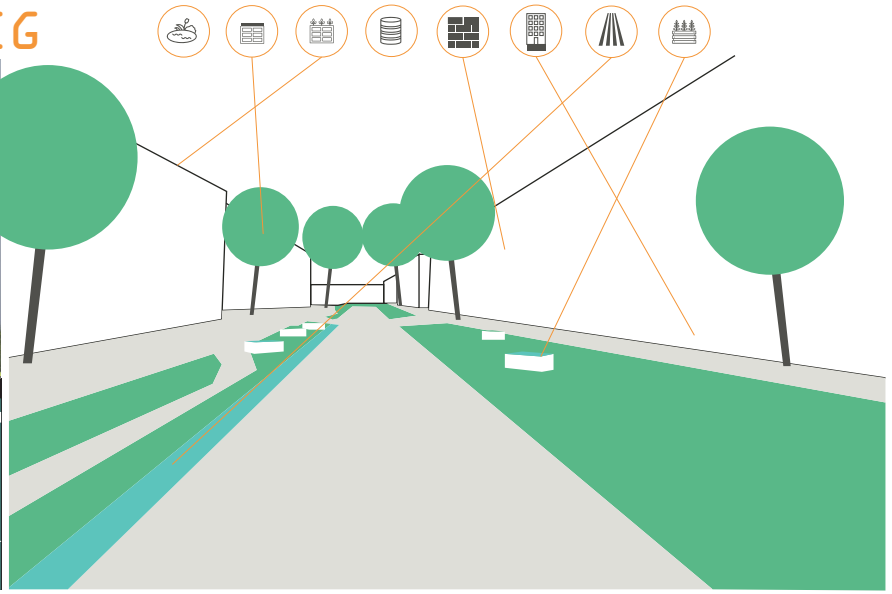





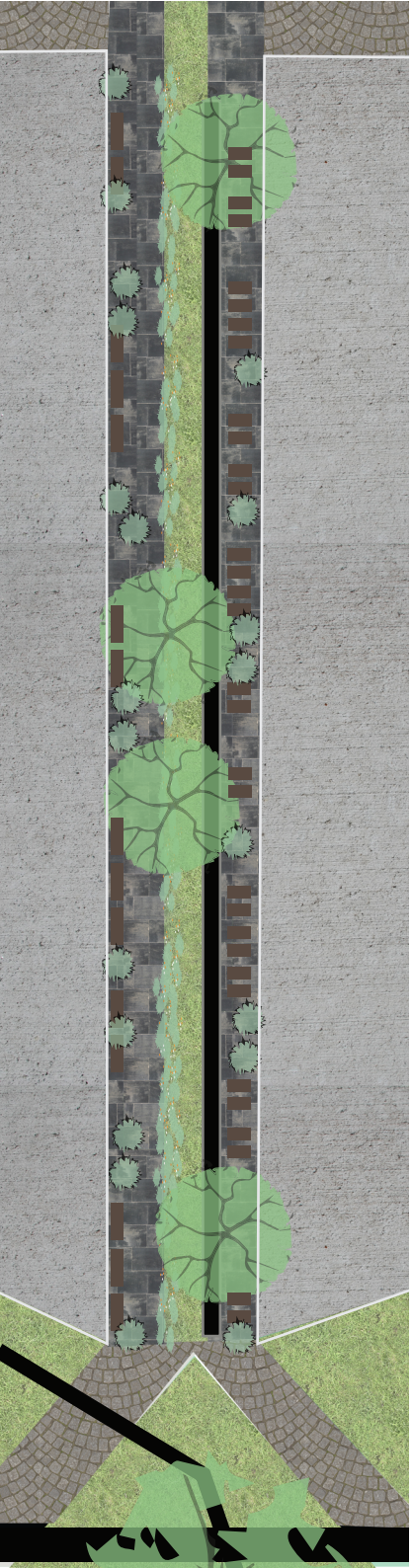


## NORTH SOUTH BIG

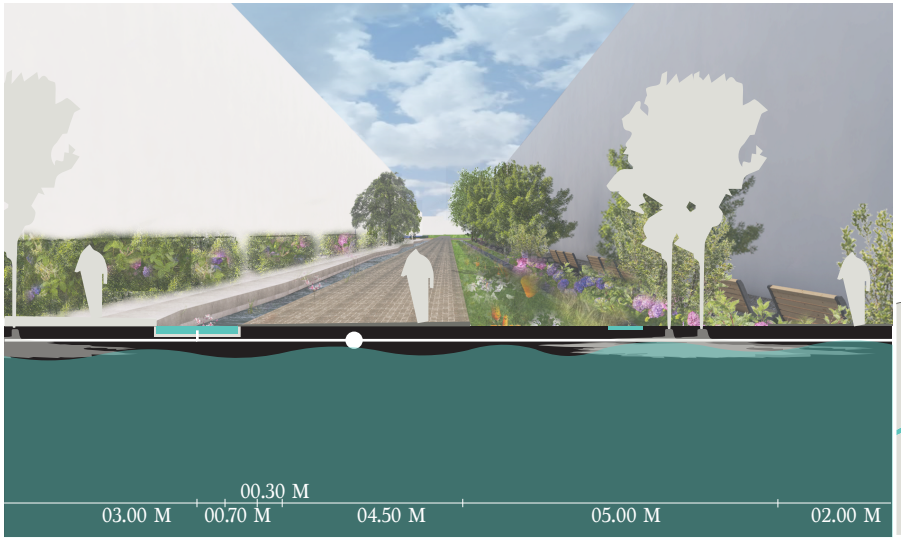


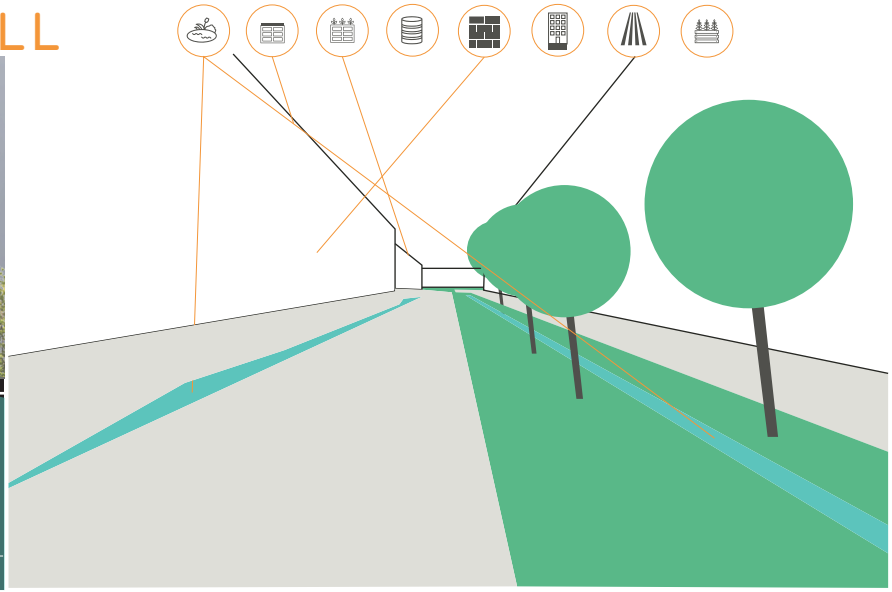





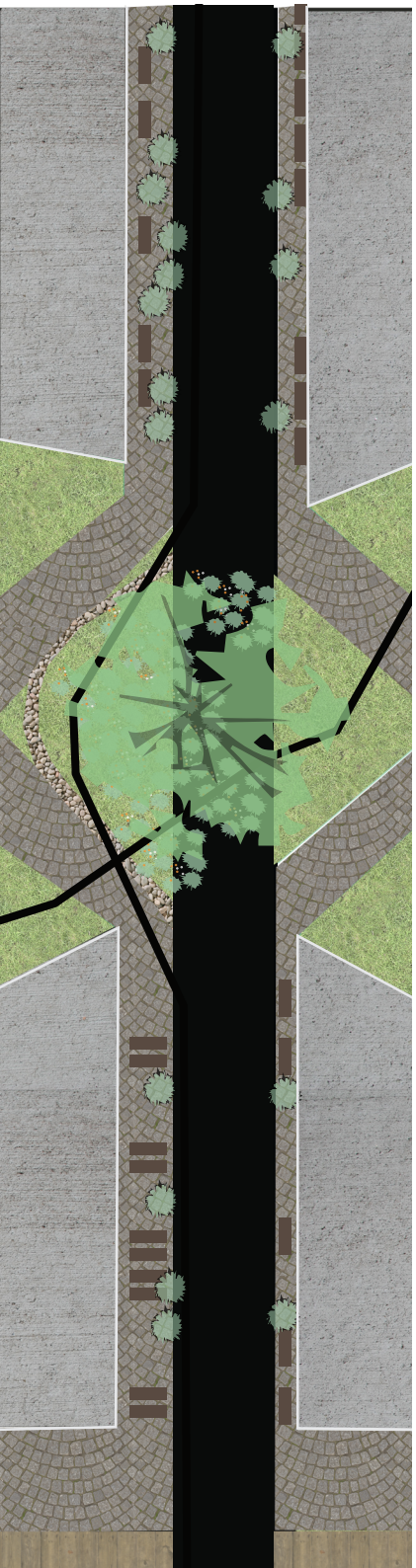


## NORTH SOUTH SMALL

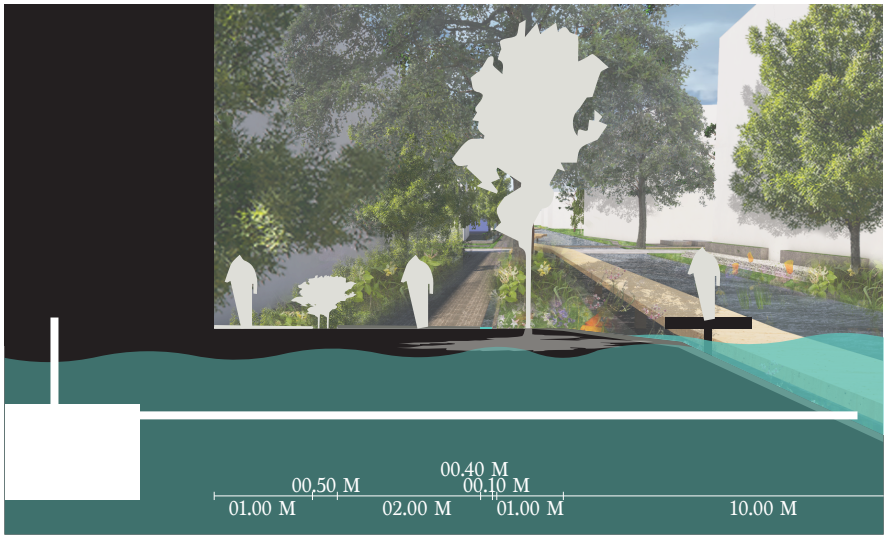


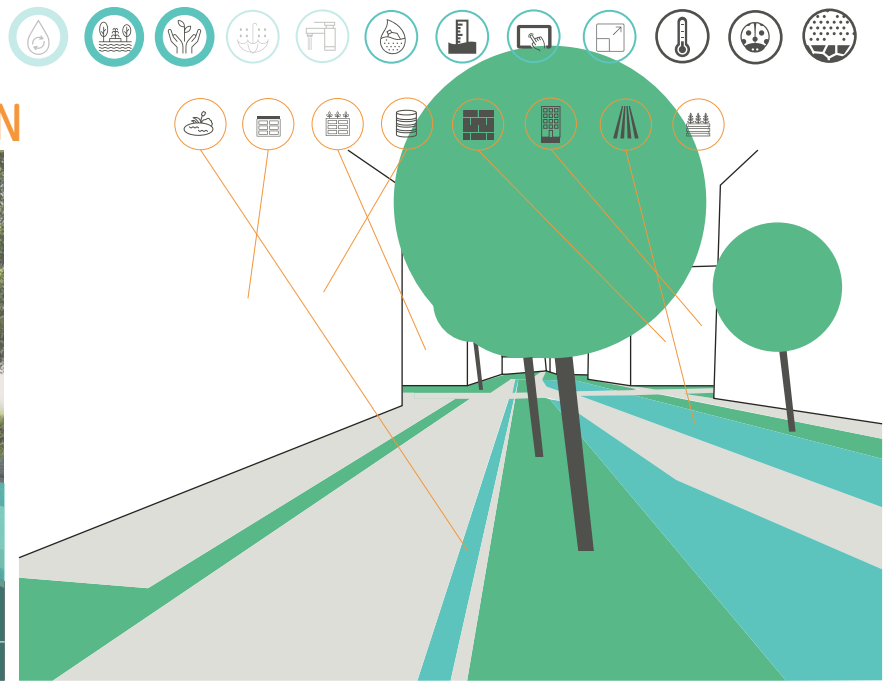





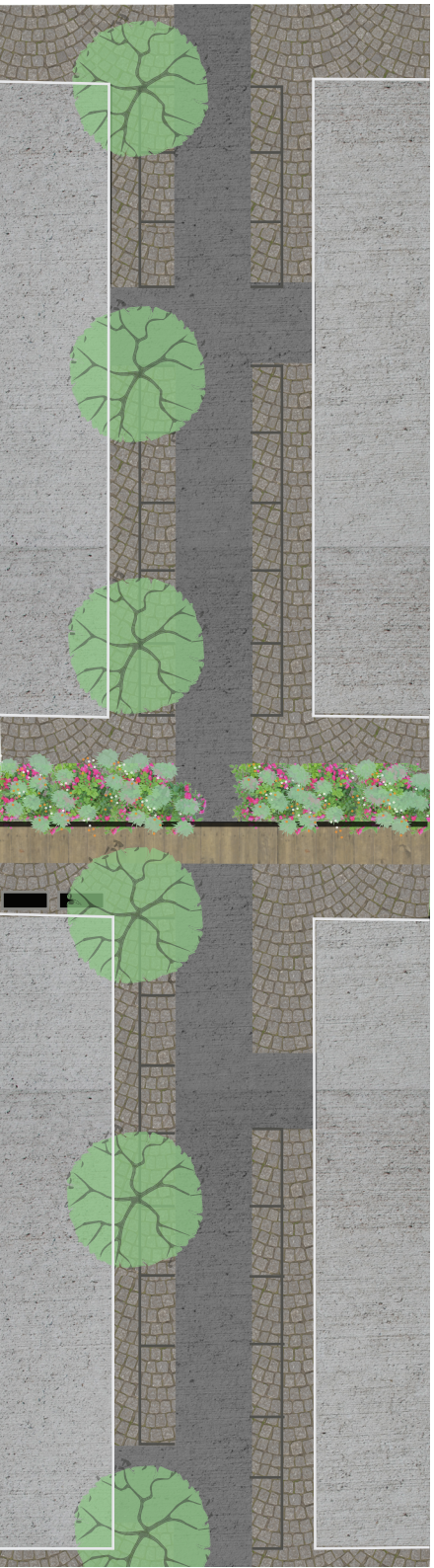


# EAST WEST GREEN

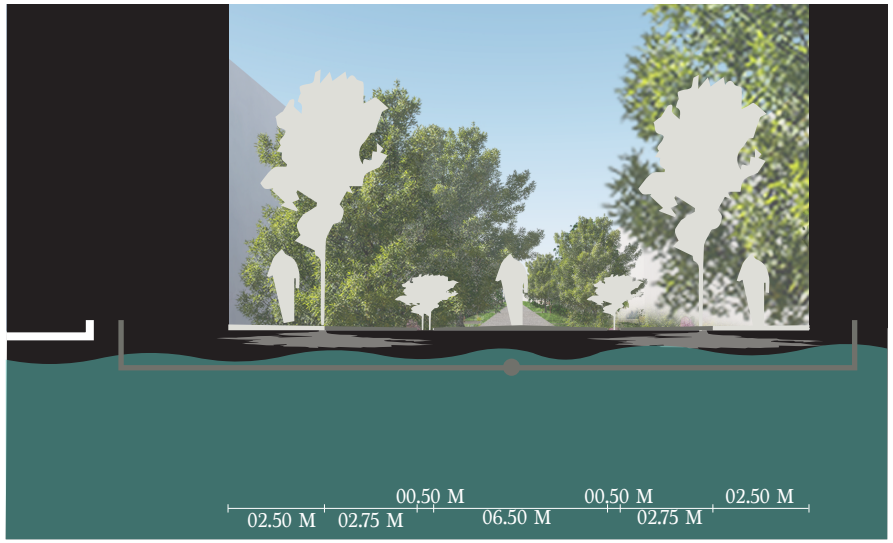


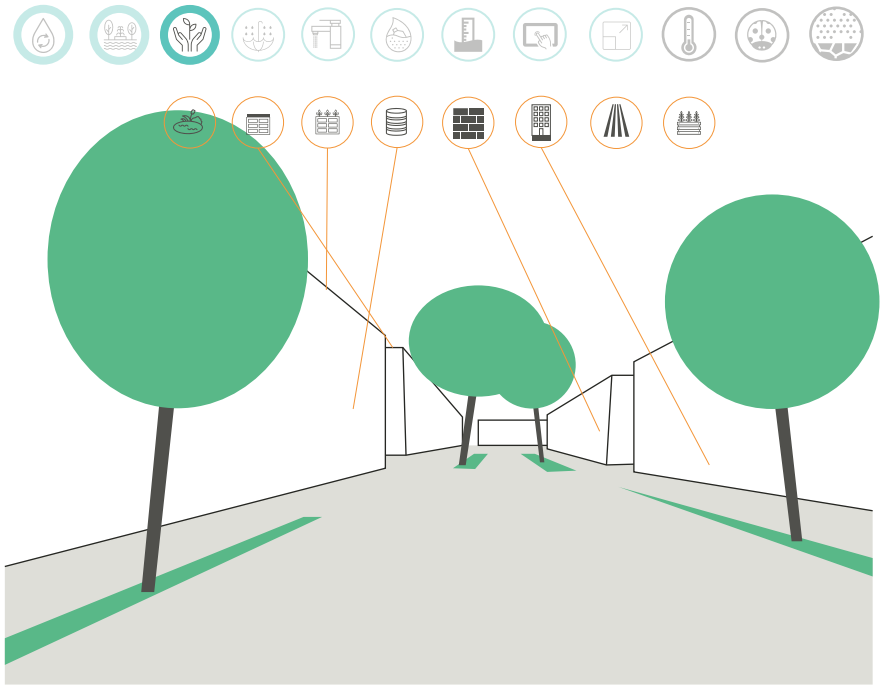







## EAST WEST CAR

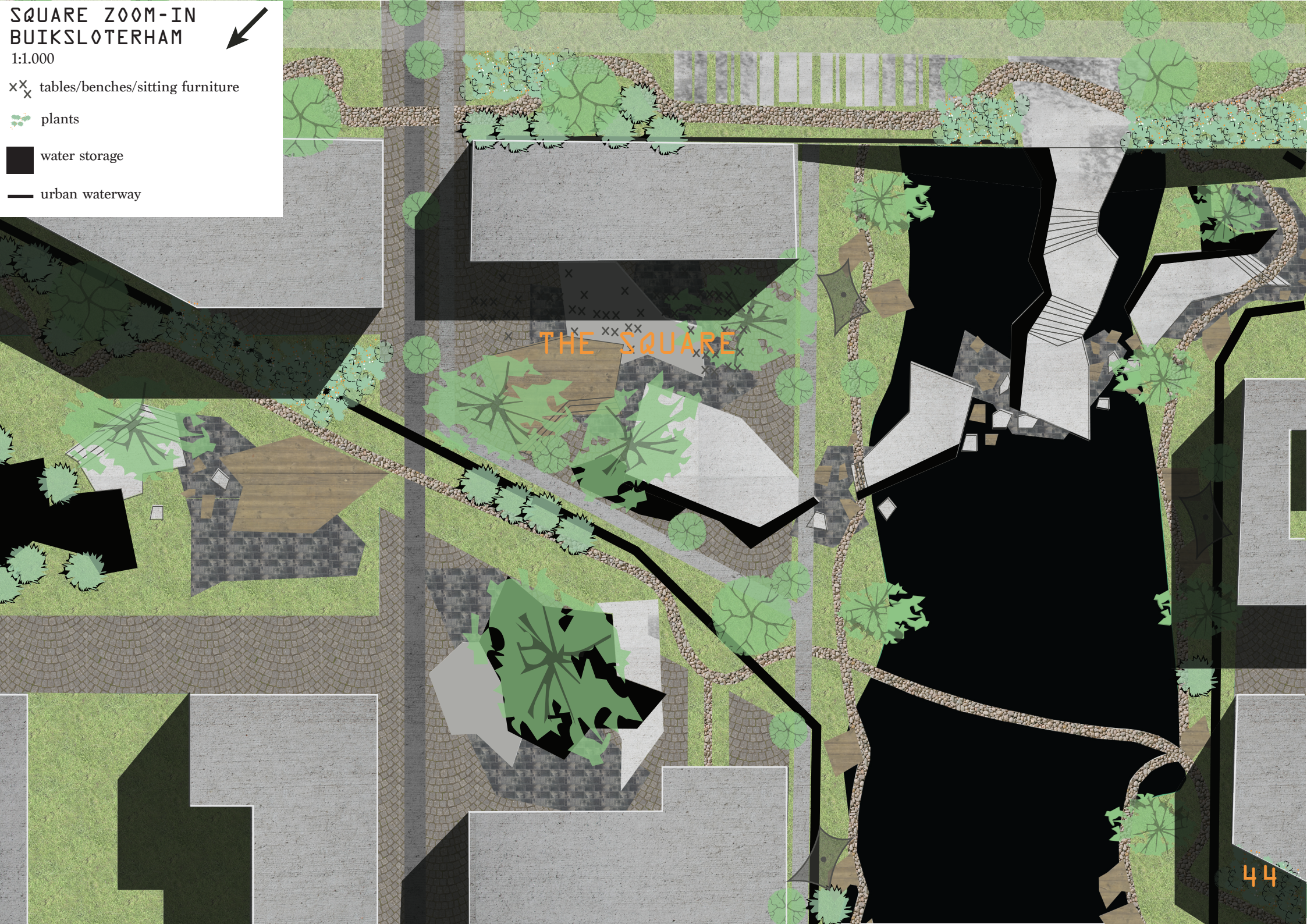




# THE SQUARE




SQUARE ZOOM-IN
BUIKSLOTERHAM
1:1.000
tables/benches/sitting furniture
plants
water storage
urban waterway
THE SQUARE
44



# THE INTERACTIVITY









# THE PARK




PARK ZOOM-IN
BUIKSLOTERHAM
1:1.000
plants
clean water system
urban waterway
THE PARK

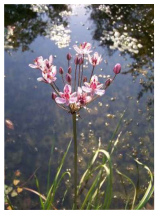


# THE MATERIALS



# THE LANDSCAPE

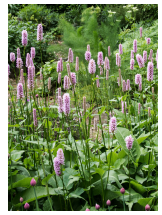
## NATURAL DUTCH LANDSCAPE - MODERN DUTCH LANSCAPE



BUTOMUS UMBELLATUS - ZWANENBLOEM



TYPHA LATIFOLIA - GROTE LISDODDE



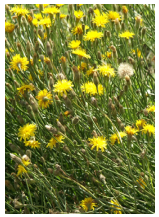
PERSICARIA BISTORTA - ADDERWORTEL



SALIX PENTANDRA - LAURIERWILG



SALIX BABYLONICA - TREURWILG



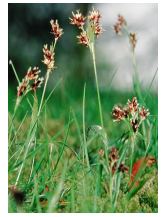
HYPERICUM PERFORATUM - SINT JANSKRUID



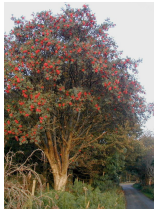
PINUS SYLVESTRIS - GROVE DEN



ROSEUM ELEGANS - RODODENDRON



LUZULA CAMPESTRIS - GEWONE VELDBIES



SORBUS AUCUPARIA - GEWONE LIJSTERBES



POPULUS NIGRA - ZWARTE POPULIER



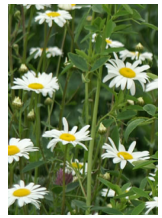
ERODIUM CICUTARIUM - GEWONE REIGERSBEK



FRAXINUM EXCELSIOR - GEWONE ES



CAMPANULA RAPUNCULUS - RAPUNZELKLOKJE



LEUCANTHEMUN VULGARE - GEWONE MARGRIET



CLETHRA ALNIFOLIA - SCHIJNELS



ALNUS GLUTINOSA - ZWARTE ELS



CREPIS CAPILLARIS - KLEIN STREEPZAAD



QUERCUS ROBUR - ZOMEREIK



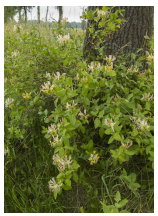
PRUNELLA VULGARIS - GEWONE BRUNEL



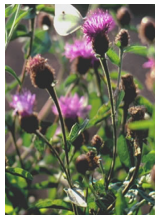
MALVA MOSCHATA - MUSKUSKAASJESKRUI



SAMBUCUS NIGRA - GEWONE VLIER



LONICERA PERICLYMENUM - WILDE KAMPERFOELIE



CENTAUREA JACEA - KNOOPKRUID



HYDRANGEA INVOLUCRATA - HORTENSIA

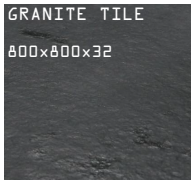


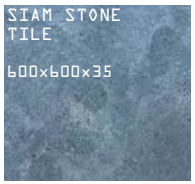
LEONTODON HISPIDUS - RUIGE LEEUWENTAND



IRIS PSEUDACORUS - GELE LIS

# THE MATERIALS











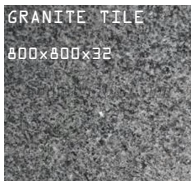


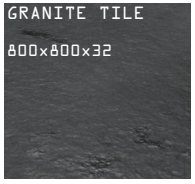
















































































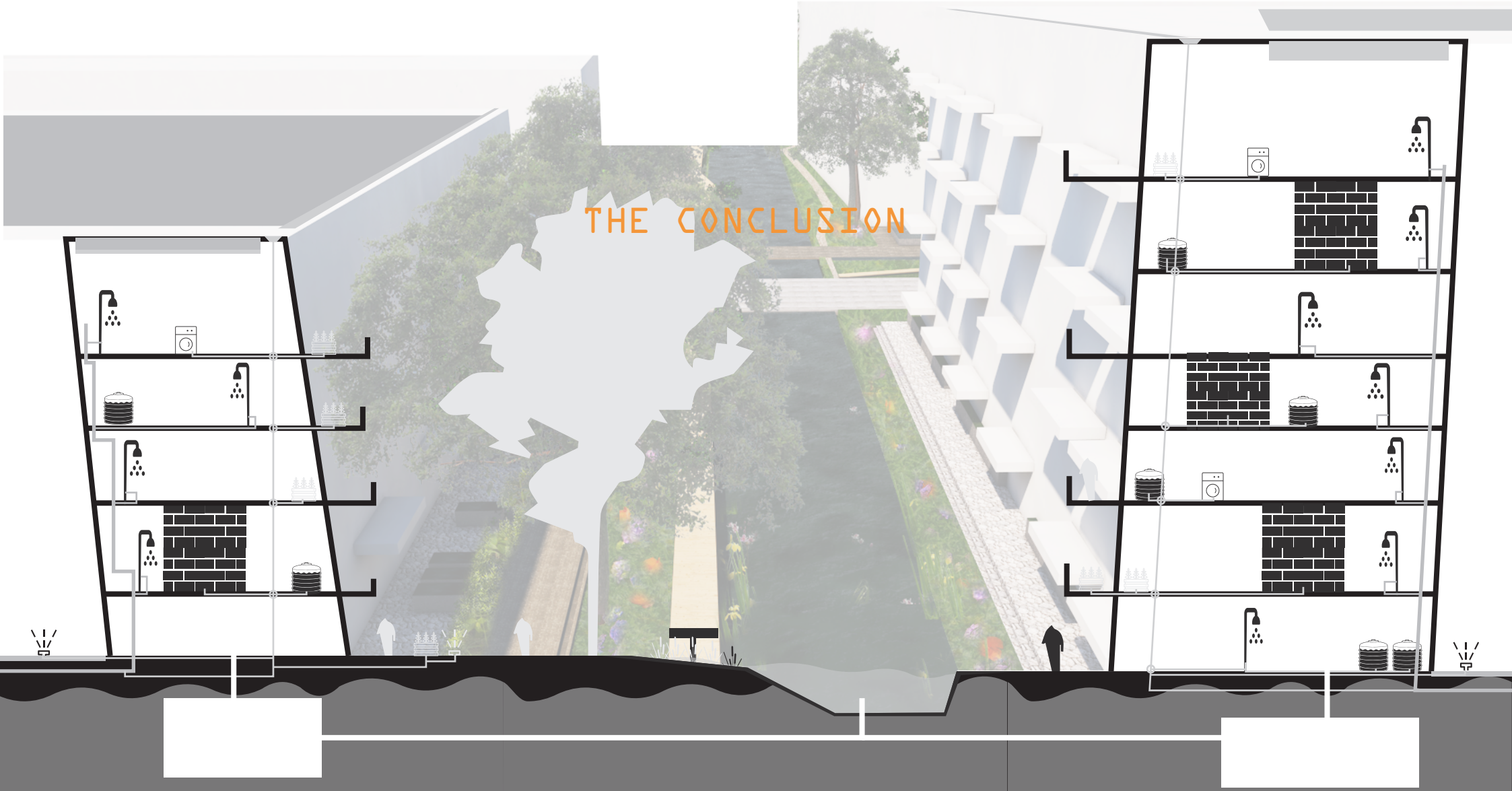




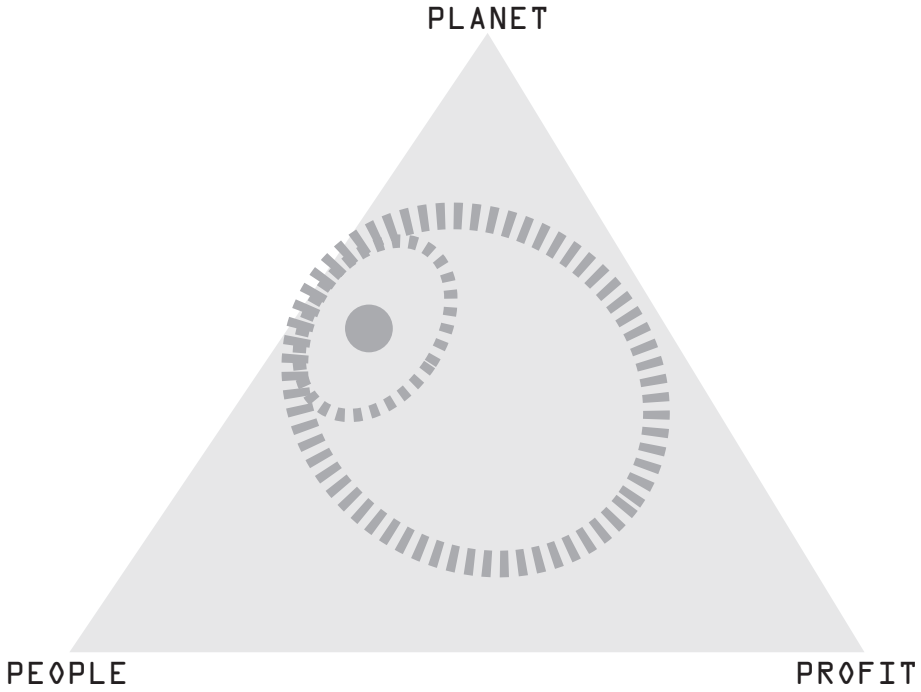



THE CONCLUSION

# THE CONCLUSION



# THE TRIANGLE



THE ONLY WAY, TO MAKE AMSTERDAM THE MOST IN-
NOVATIVE WATER CITY OF THE NETHERLANDS
IS TOGETHER


THE END