

Temporal Constructed Refugia

Towards New Urban Imaginaries

keywords:

hybridity

temporality

reconfiguration

regeneration

Human condition

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Architectural Design Crossovers Graduation Studio 2024/25

TU Delft Faculty of Architecture and the Built Environment

Sigurdur Gudmundsson | 1979











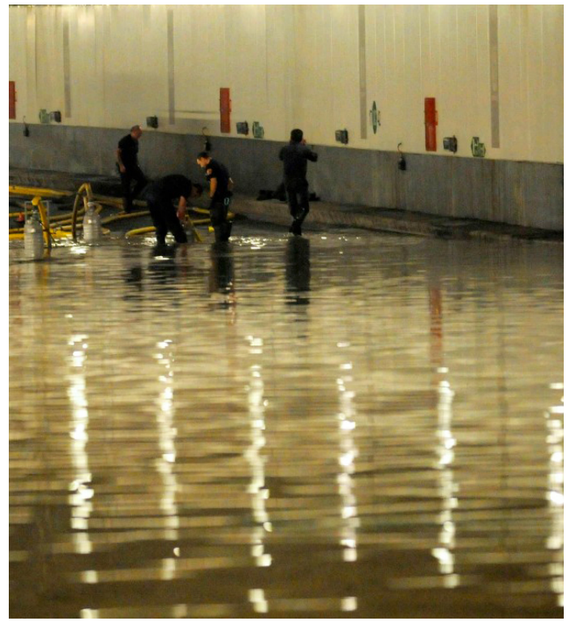

Extreme heat in Madrid: citizens create their own climate shelters in response to limited institutional action

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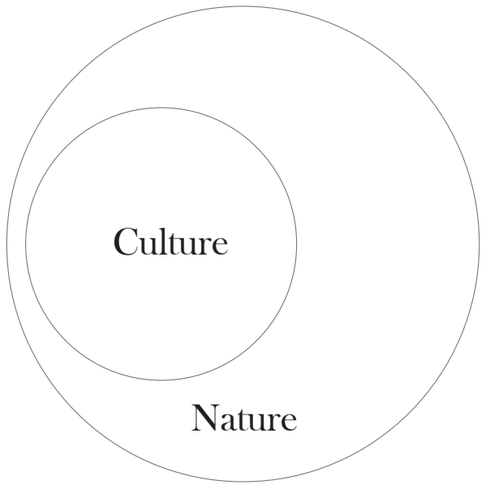
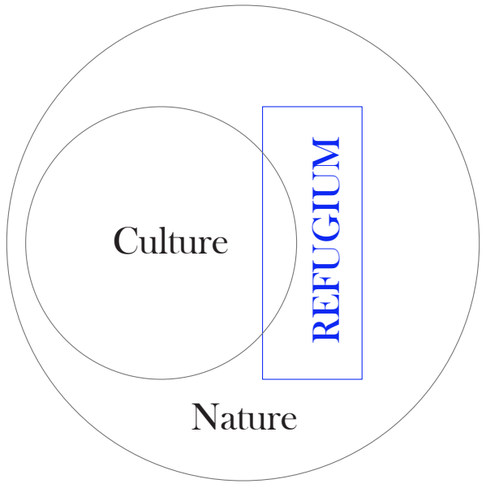
Antropocene



Antropocene



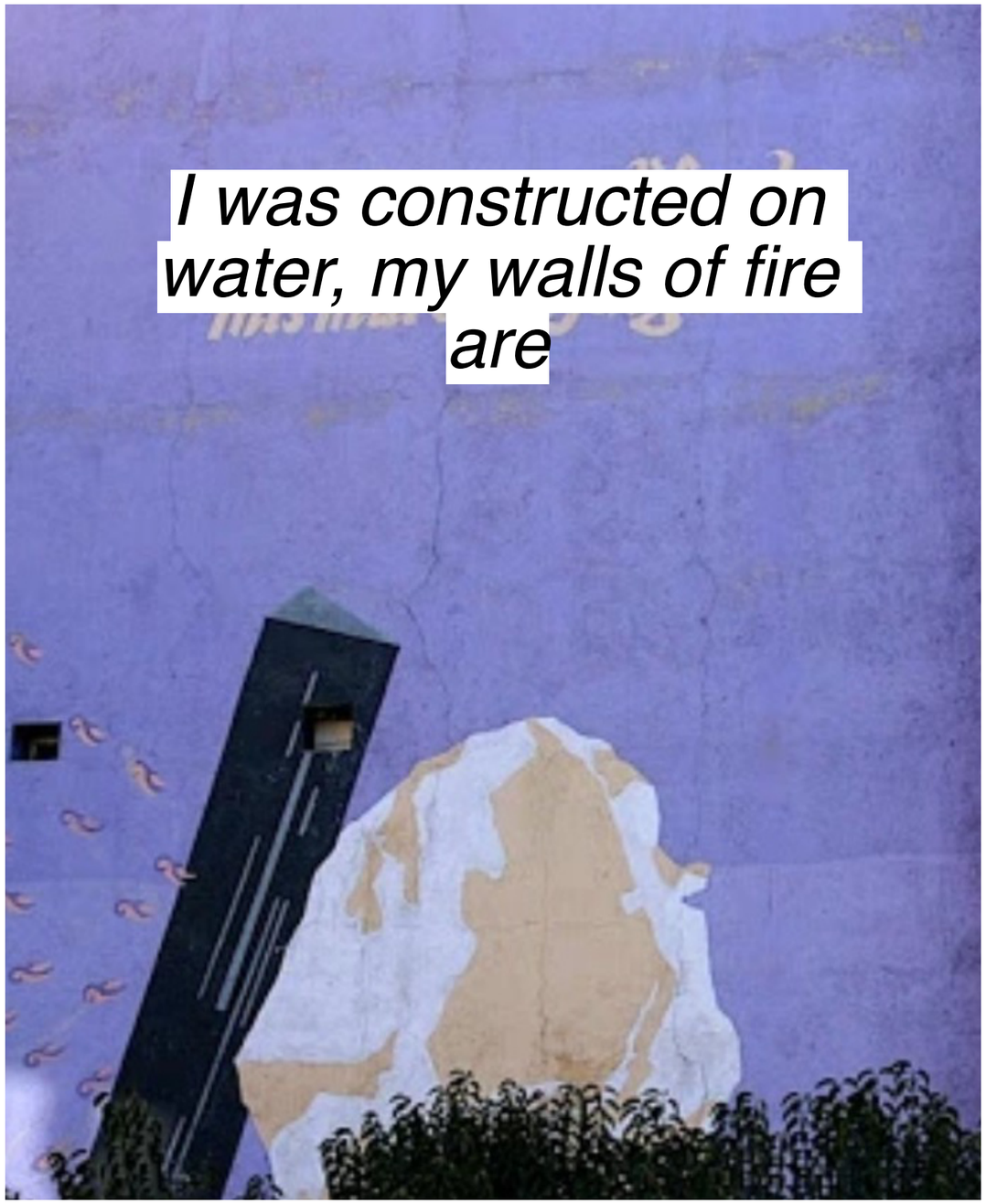
What if the need for contemporary refugia could fundamentally re-configurate the balance between human and non-human? How can design enter this balancing act to create heterogeneous places of regeneration?



The Garden of Earthly Delights, Center Panel, Hieronymus Bosch



Motto about the cities origin



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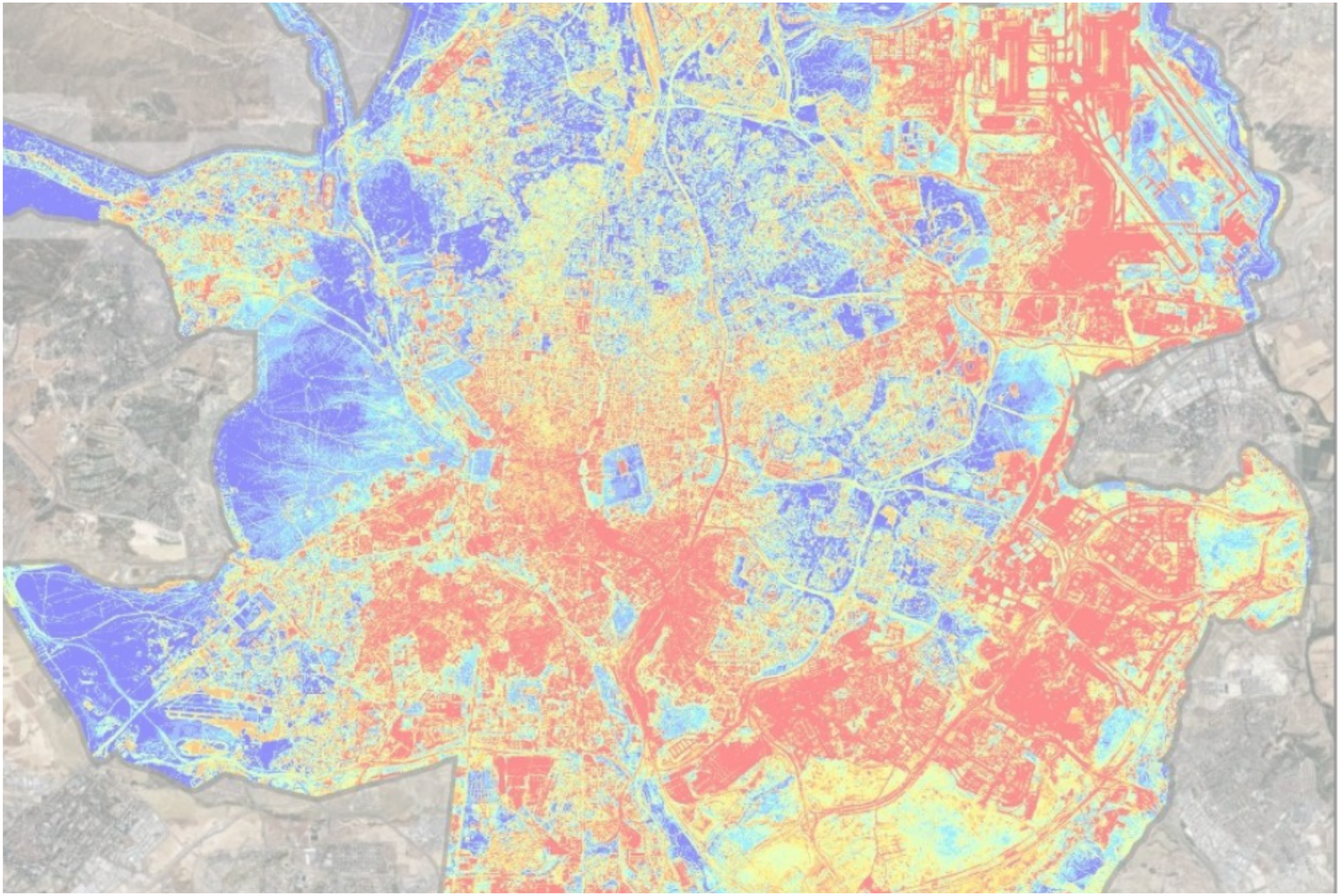
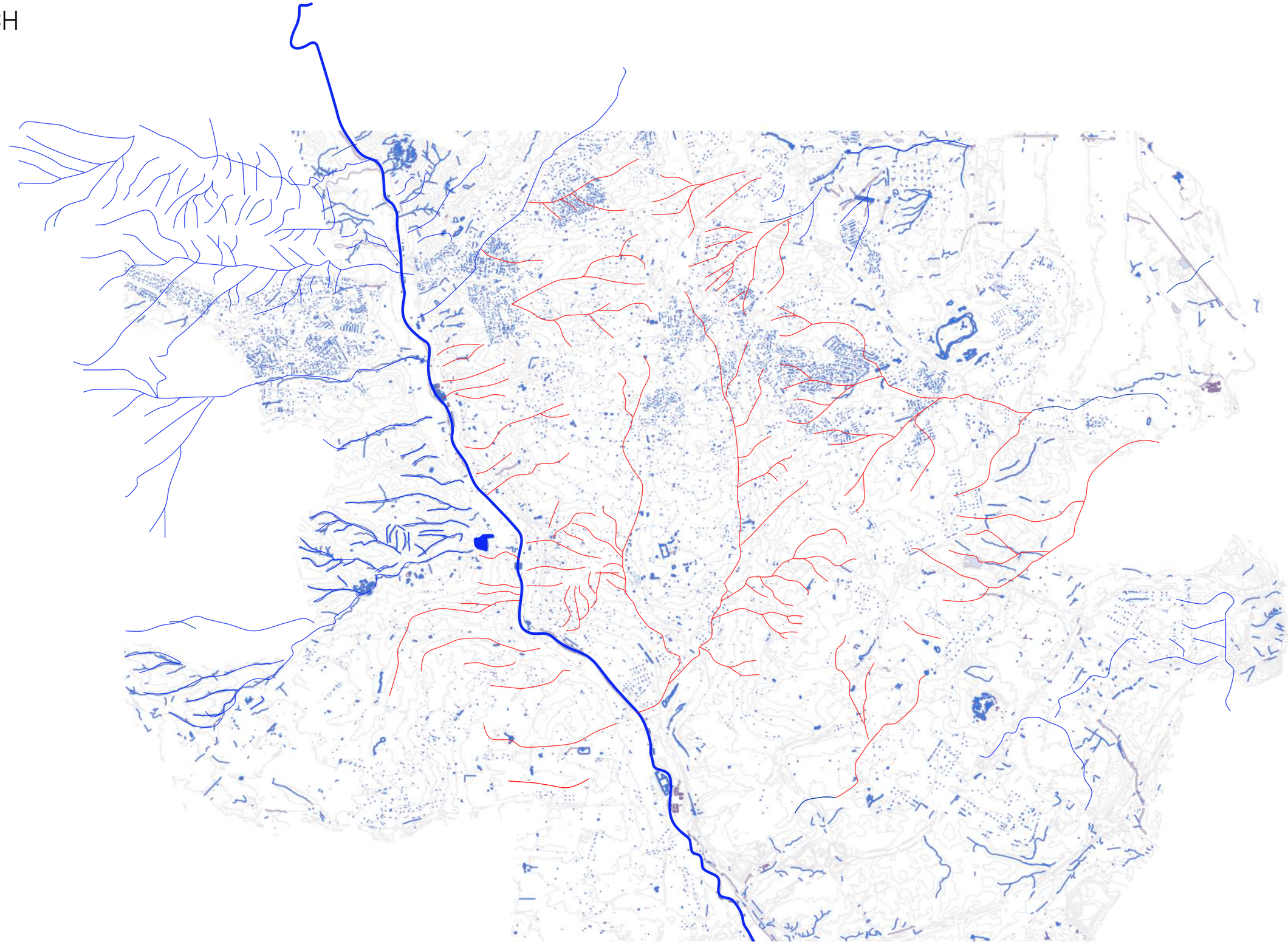


Zones of thermal comfort in Madrid



Map created by author, with QGIS_ Information source: Portillo, T., Portillo, T., & Portillo, T. (2024b, November 23). Madrid y sus arroyos olvidados: . El País. 1.100000



base map created with Google Satellite Images



Puerta de Sol, Madrid



base map created with Google Satellite Images

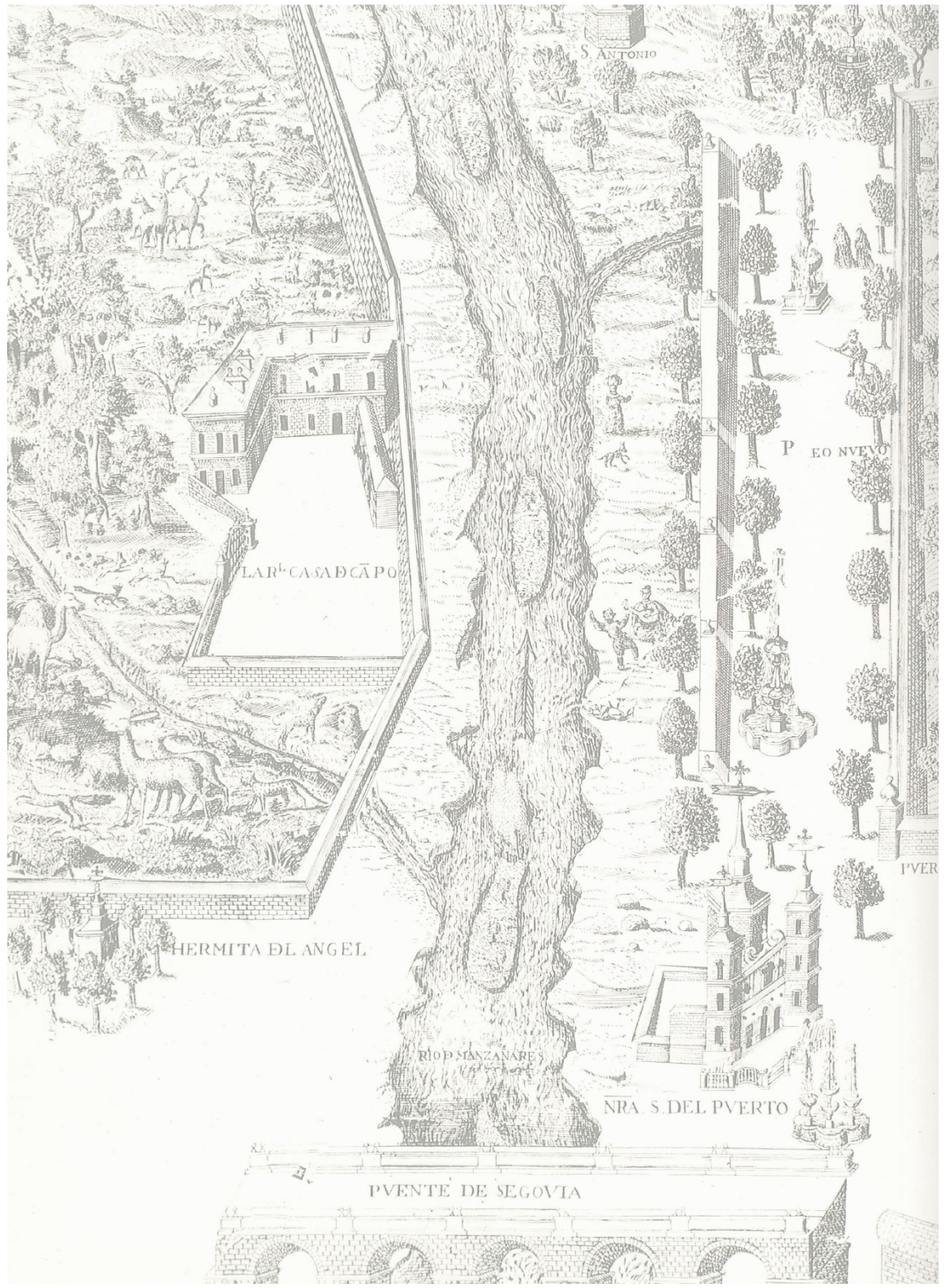






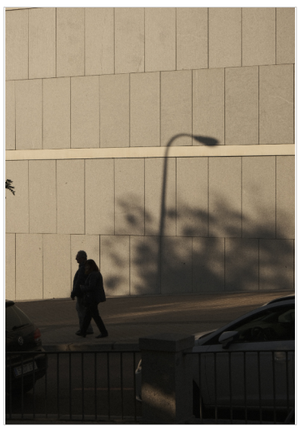


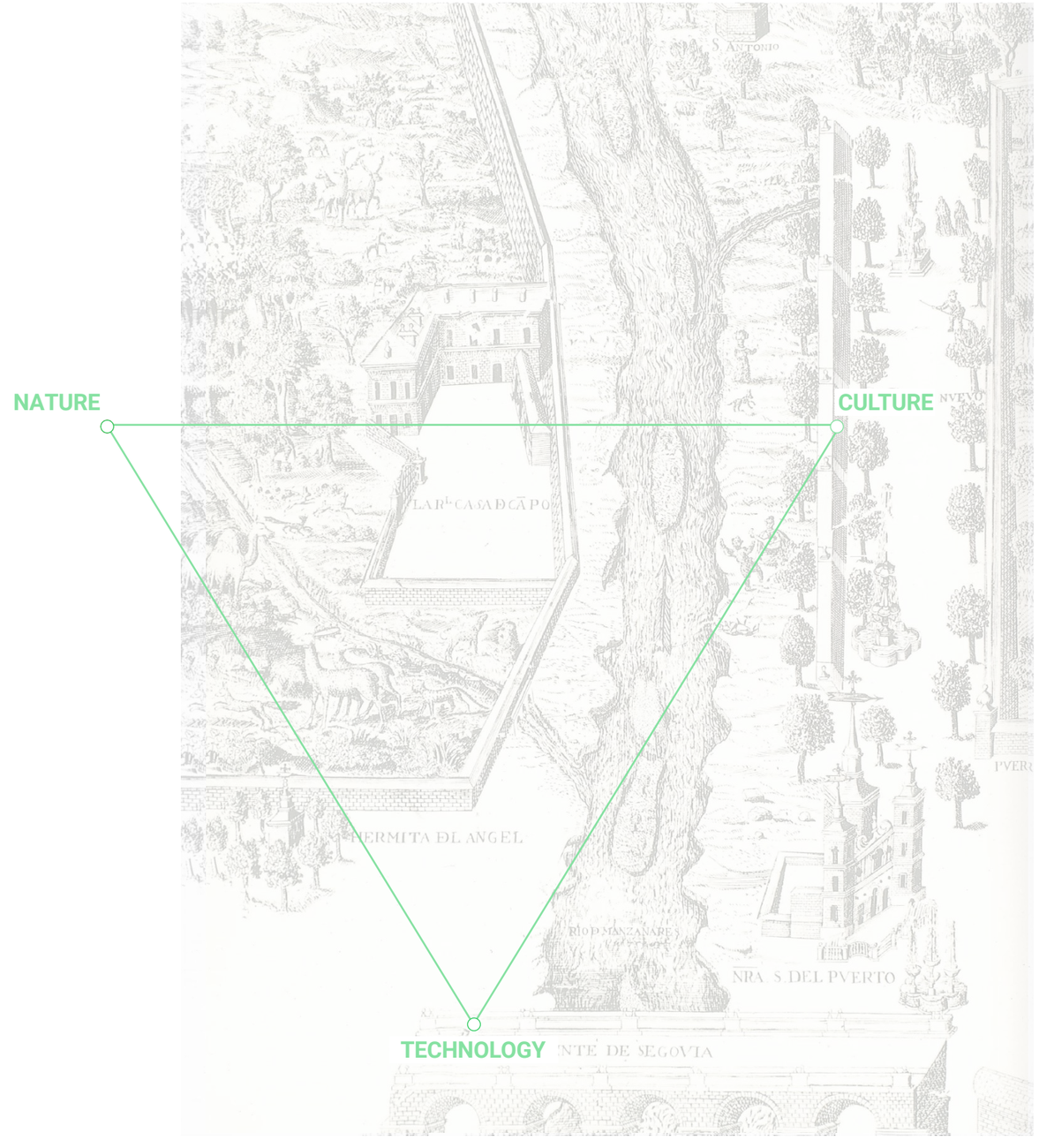


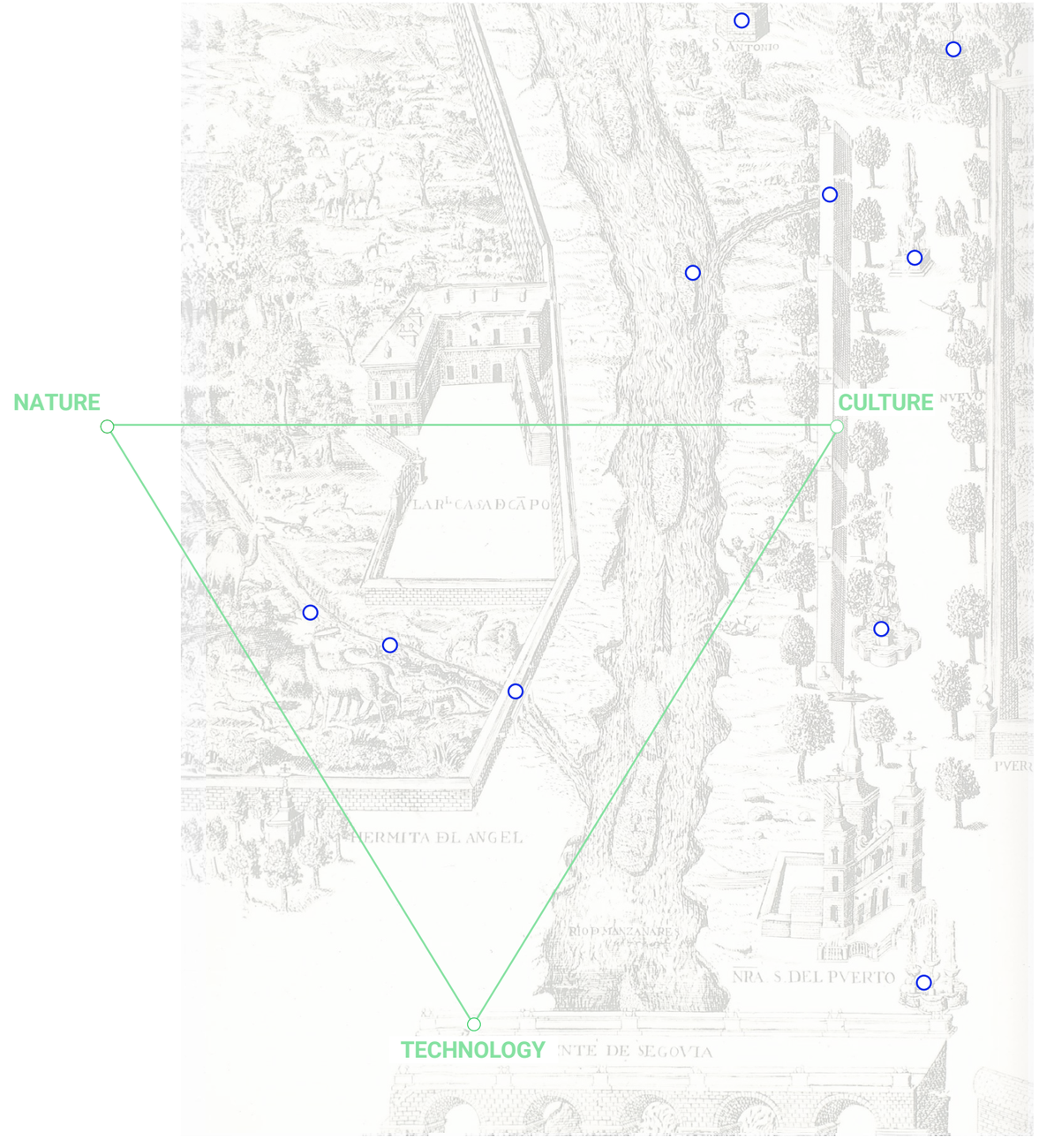

S. ANTONIO
LAR^L. CASA DE CAPO
P EO NVEVO
PVER
HERMITA DL ANGEL
RIO DE MANZANARES
NRA. S. DEL PVERTO
PVENTE DE SEGOVIA








NATURE
CULTURE
TECHNOLOGY
S. ANTONIO
NVEVO
LAR.L CASA DE CAPO
HERMITA DL ANGEL
RIO DE MANZANARES
NRA. S. DEL PVERTO
NTE DE SEGOVIA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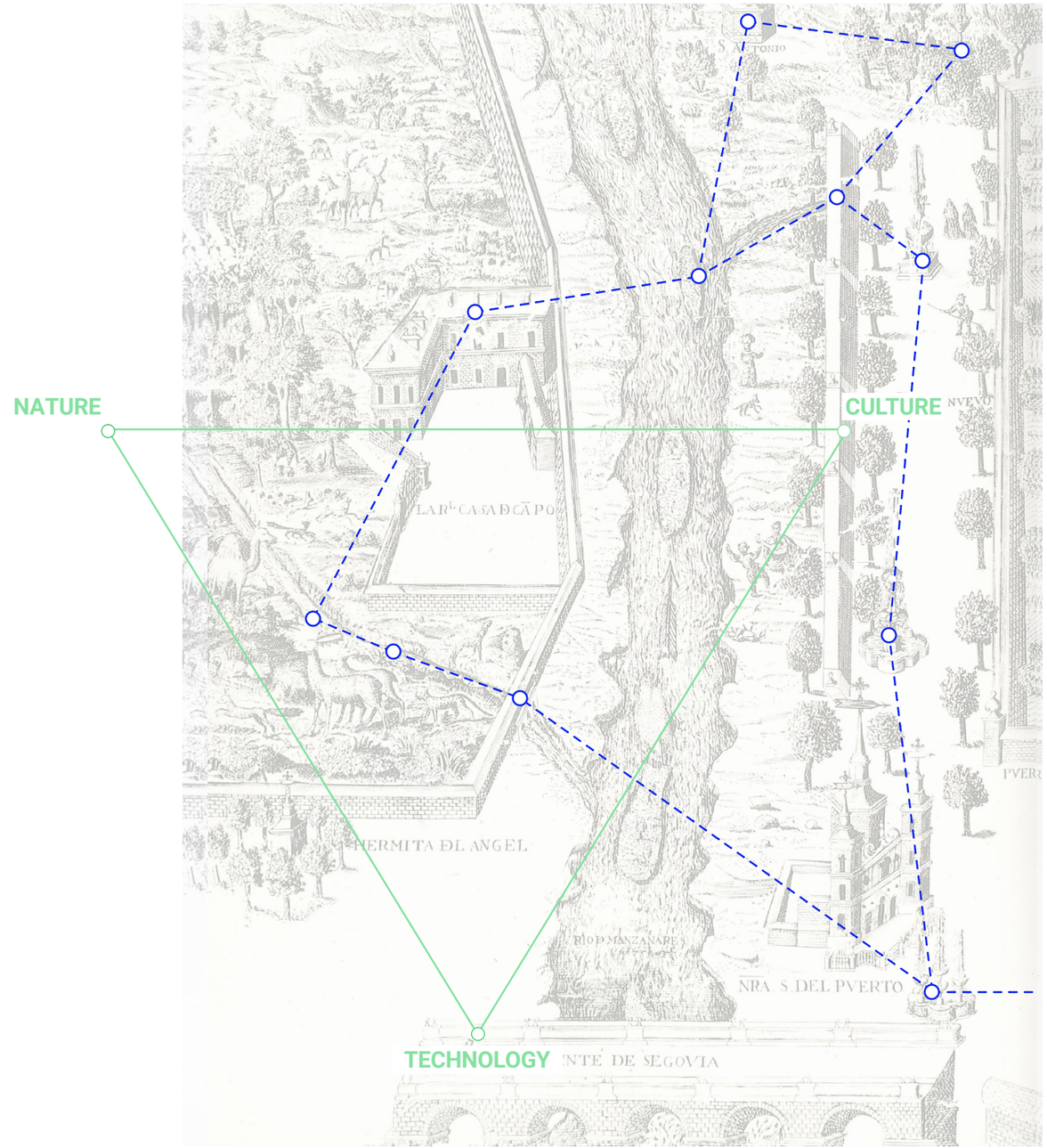
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LAR.L CASA DCAPO
HERMITA DL ANGEL
RIO D MANZANARES
NRA. S. DEL PVERTO
NTE DE SEGOVIA



Former Travels of Water throughout Madrid



Iberian Qanat



Fountains serving as social nods throughout the city

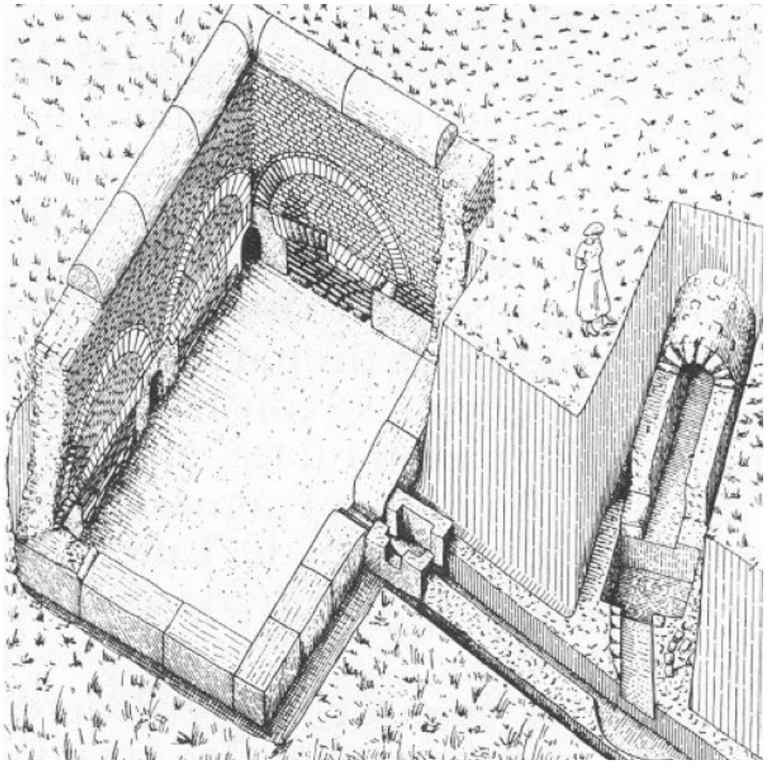


Water Irrigation System Alhambra



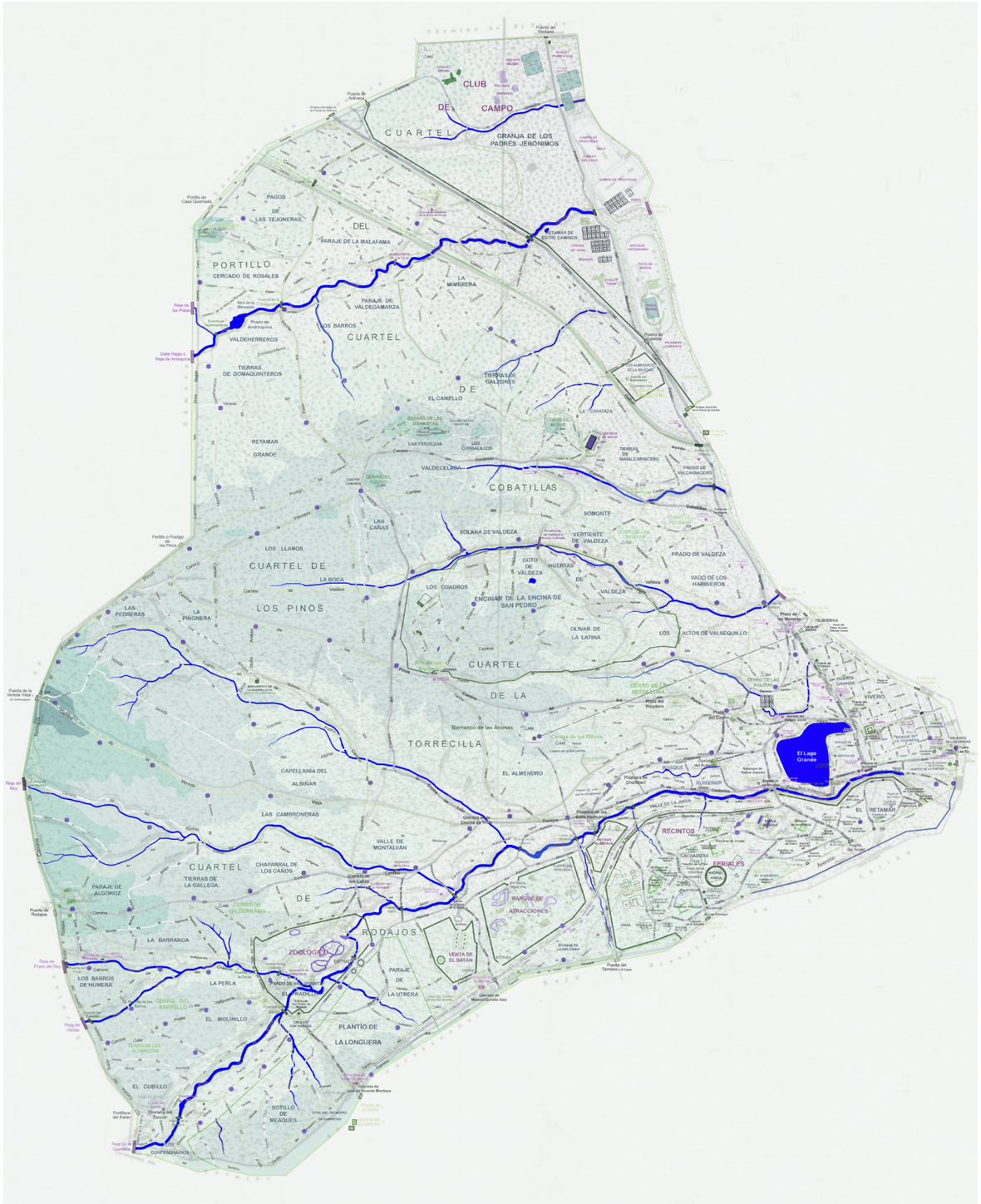


Water Irrigation System Alhambra

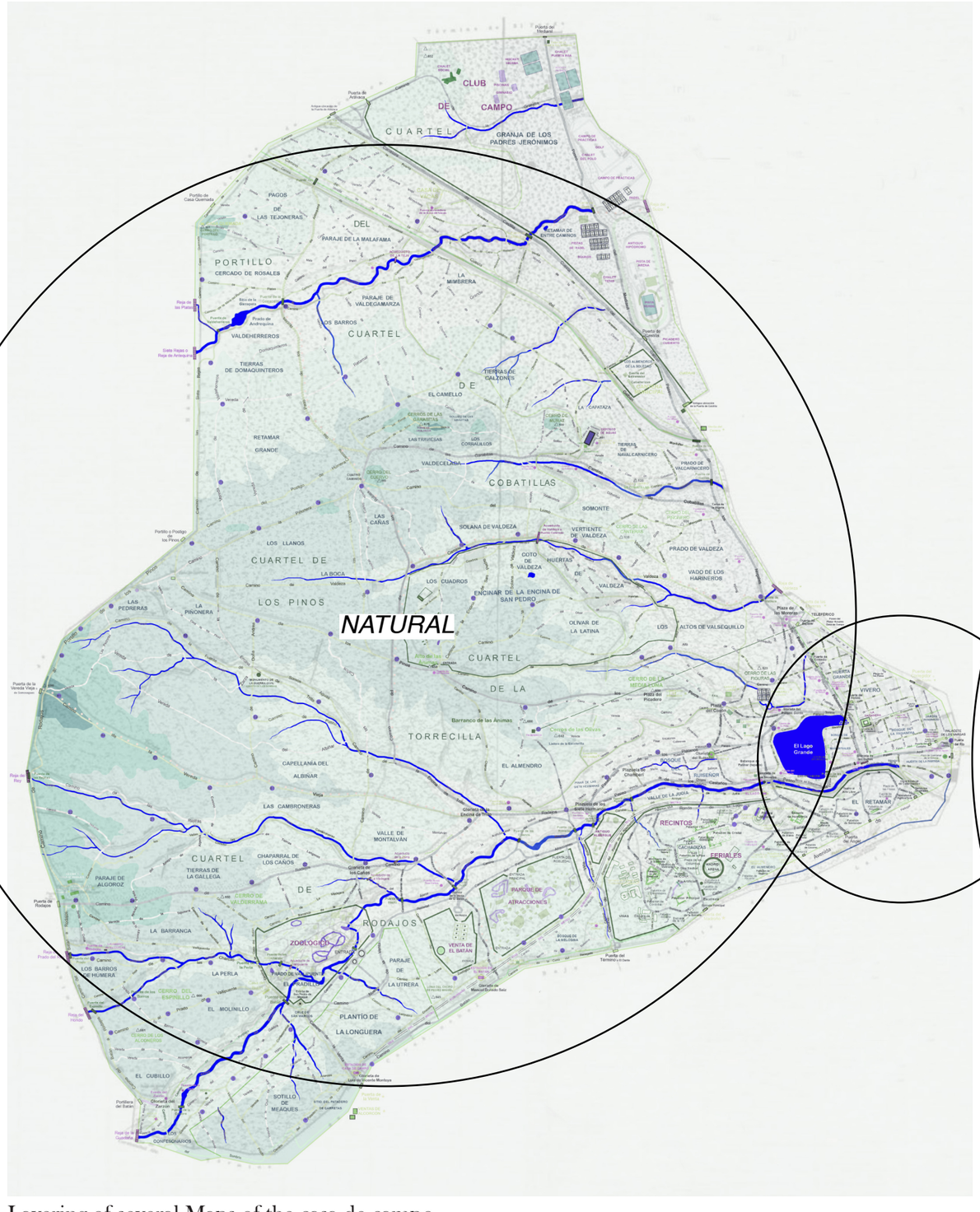




Roman Water Transportation System



Layering of several Maps of the casa de campo



Layering of several Maps of the casa de campo



Lake Casa de Campo nowadays

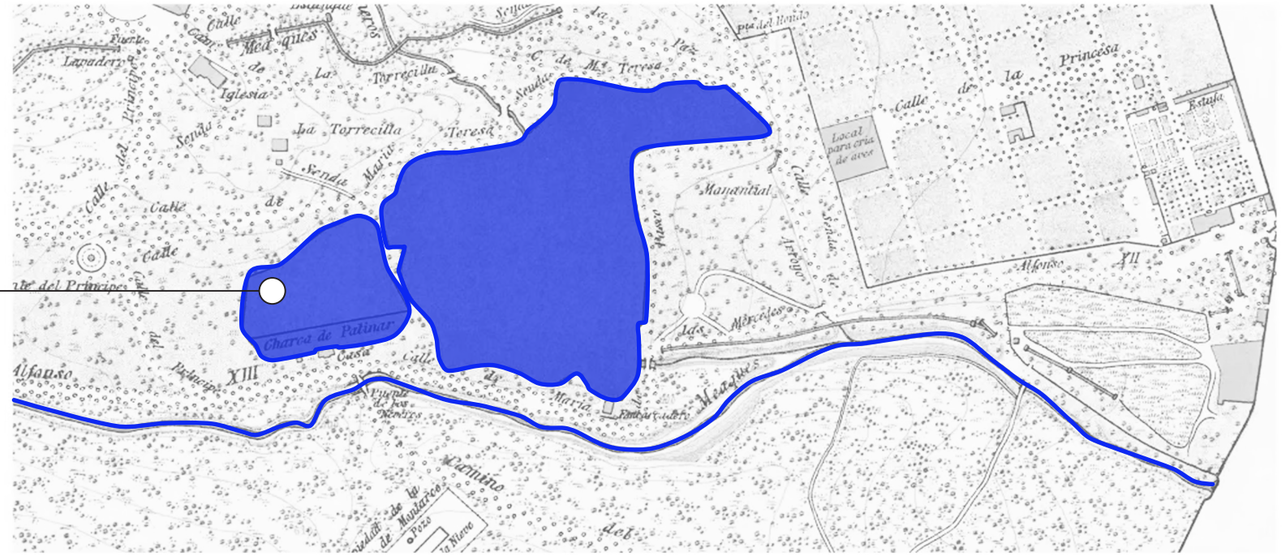
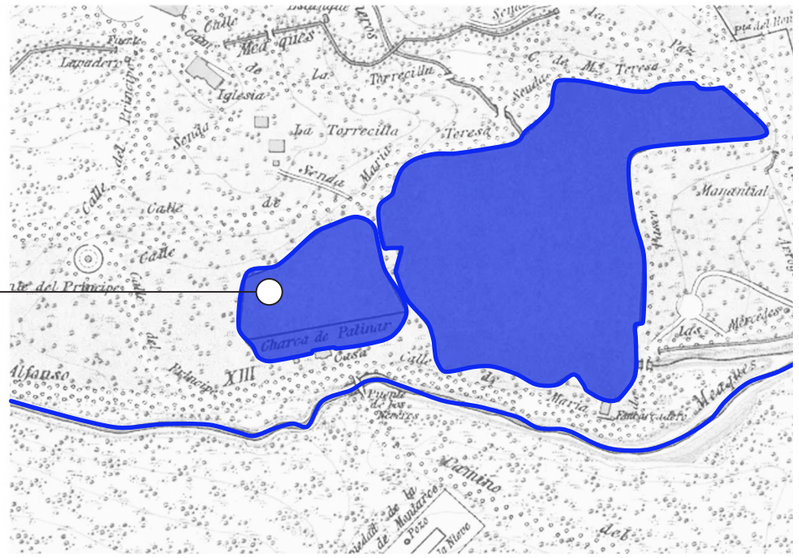


Figure adapted by author_ Original Source: acasadecampo.es. (2024b, August 17). El LAGO

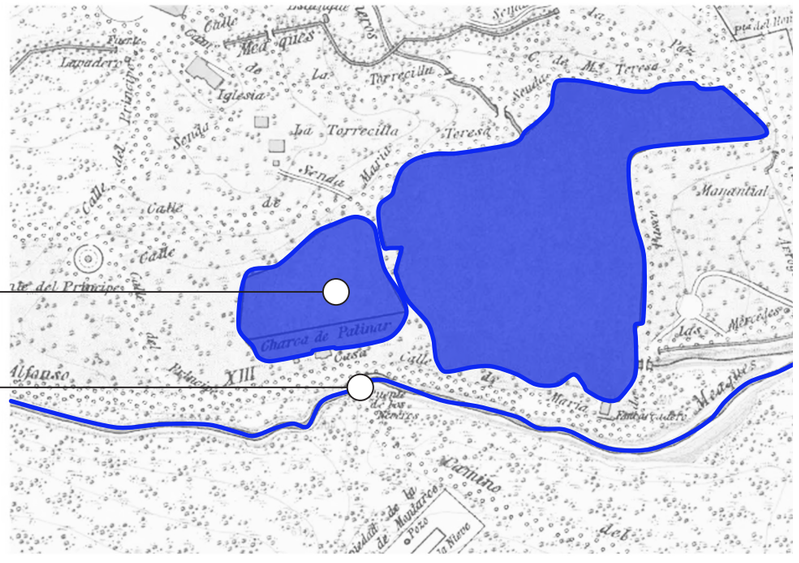
Ice-skating Lake



Original Source: acasadecampo.es. (2024b, August 17). El LAGO



The King and Queen of Spain skating on ice at the Skating Pond in the Casa de Campo, 1911



Original Source: acasadecampo.es. (2024b, August 17). El LAGO

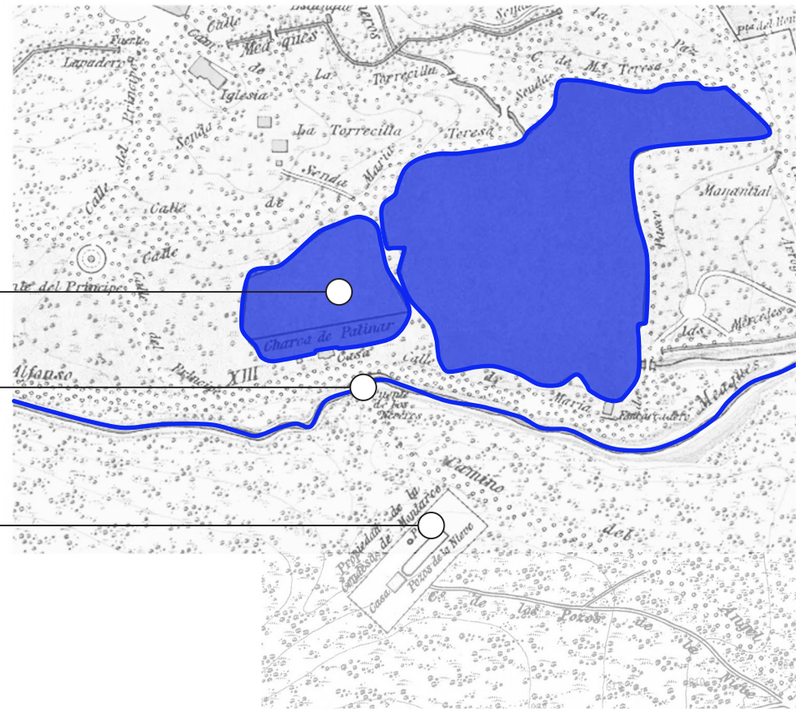


Carriage of Ice

Ice-skating Lake

Bridge of the Icecarriers

Pozos de Hielo



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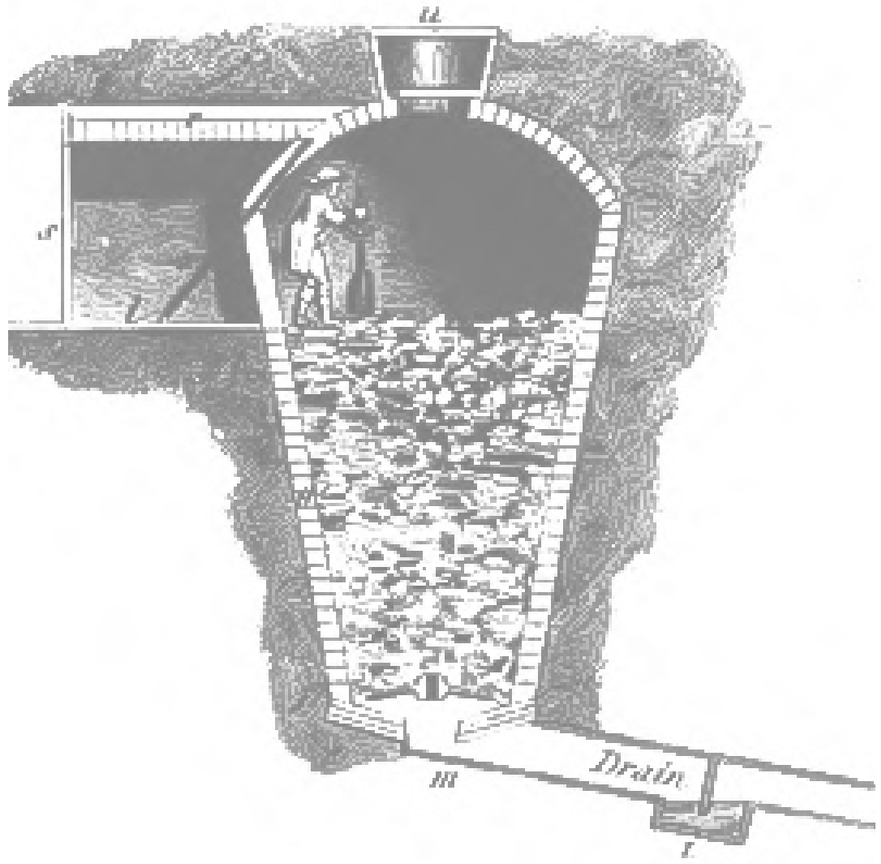
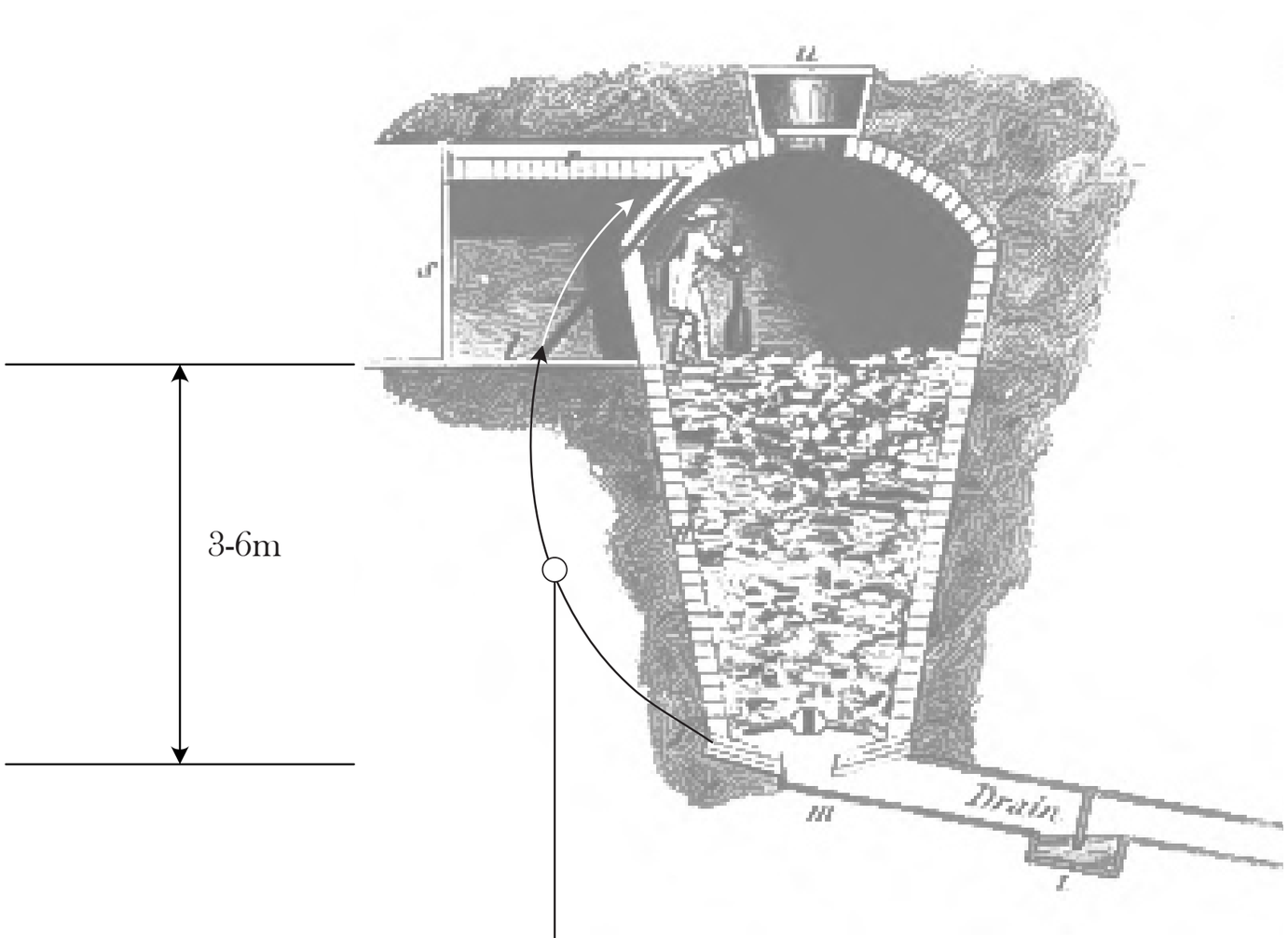
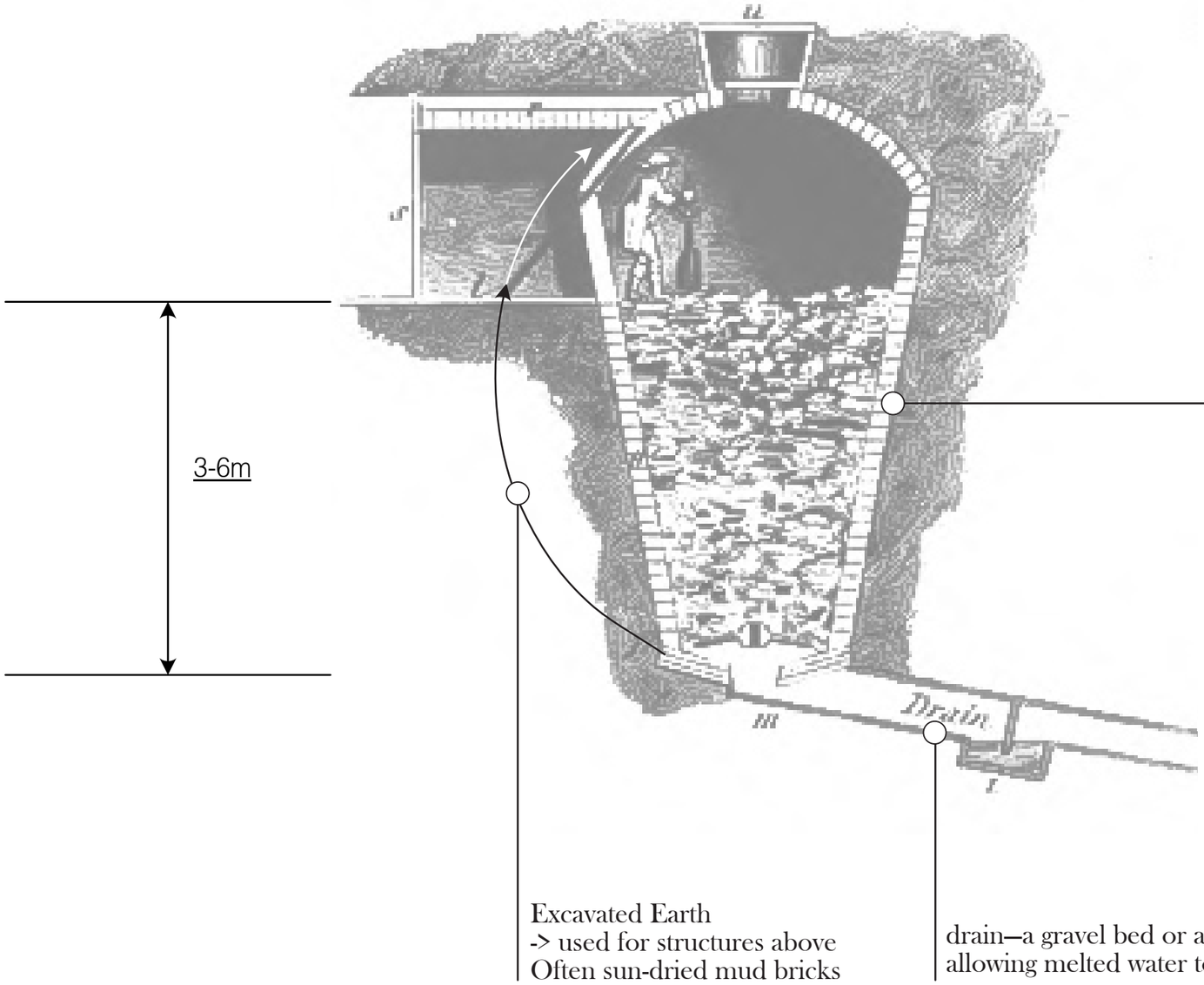


Ice Pit



Excavated Earth
-> used for structures above
Often sun-dried mud bricks



masonry
local stone | baked brick
bonded with lime mortar

Applicance for Waterproofing:

layer of clay or lime plaster was applied over the masonry to seal moisture and improve insulation

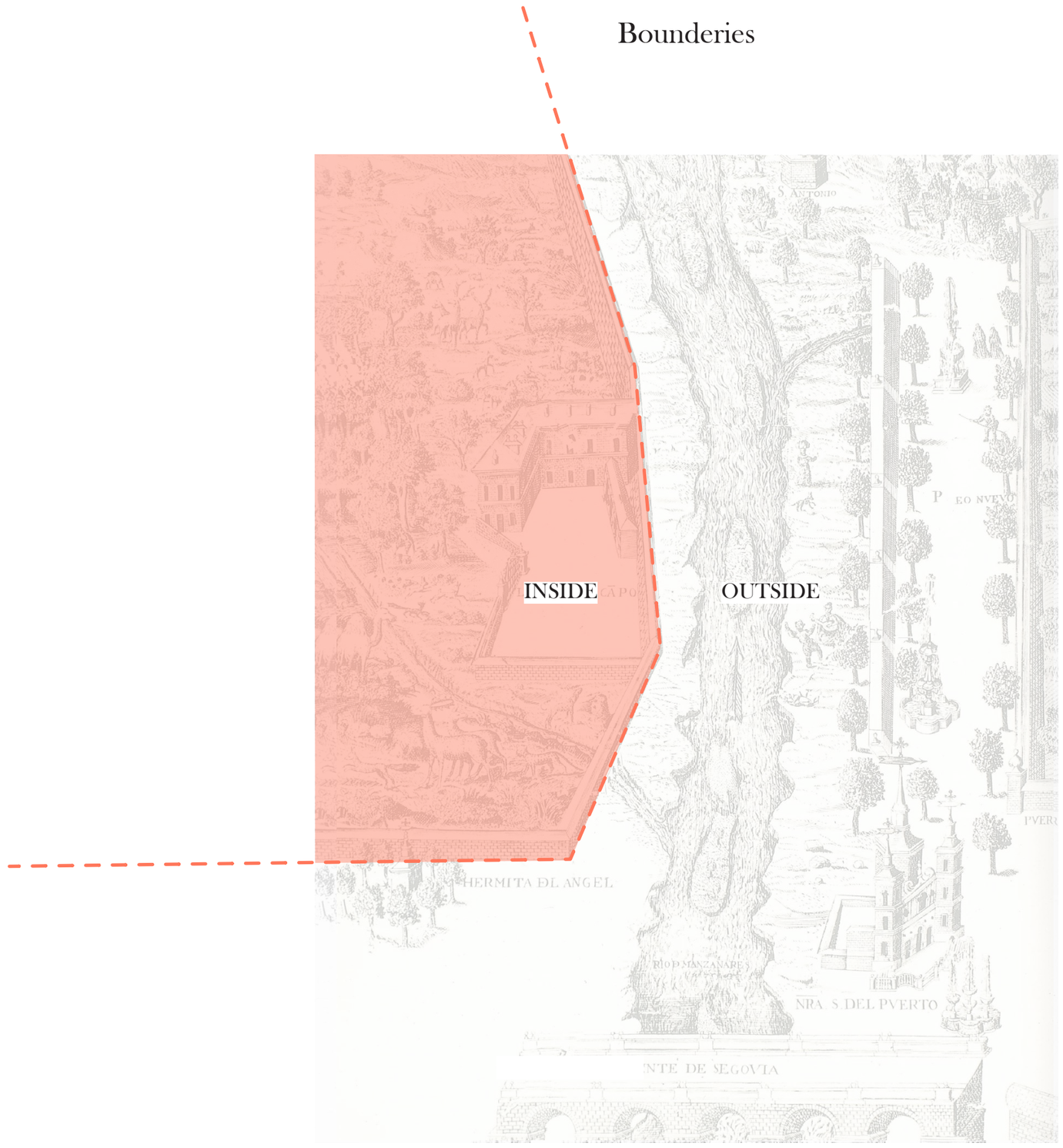
Excavated Earth
-> used for structures above
Often sun-dried mud bricks

drain—a gravel bed or a small channel allowing melted water to escape

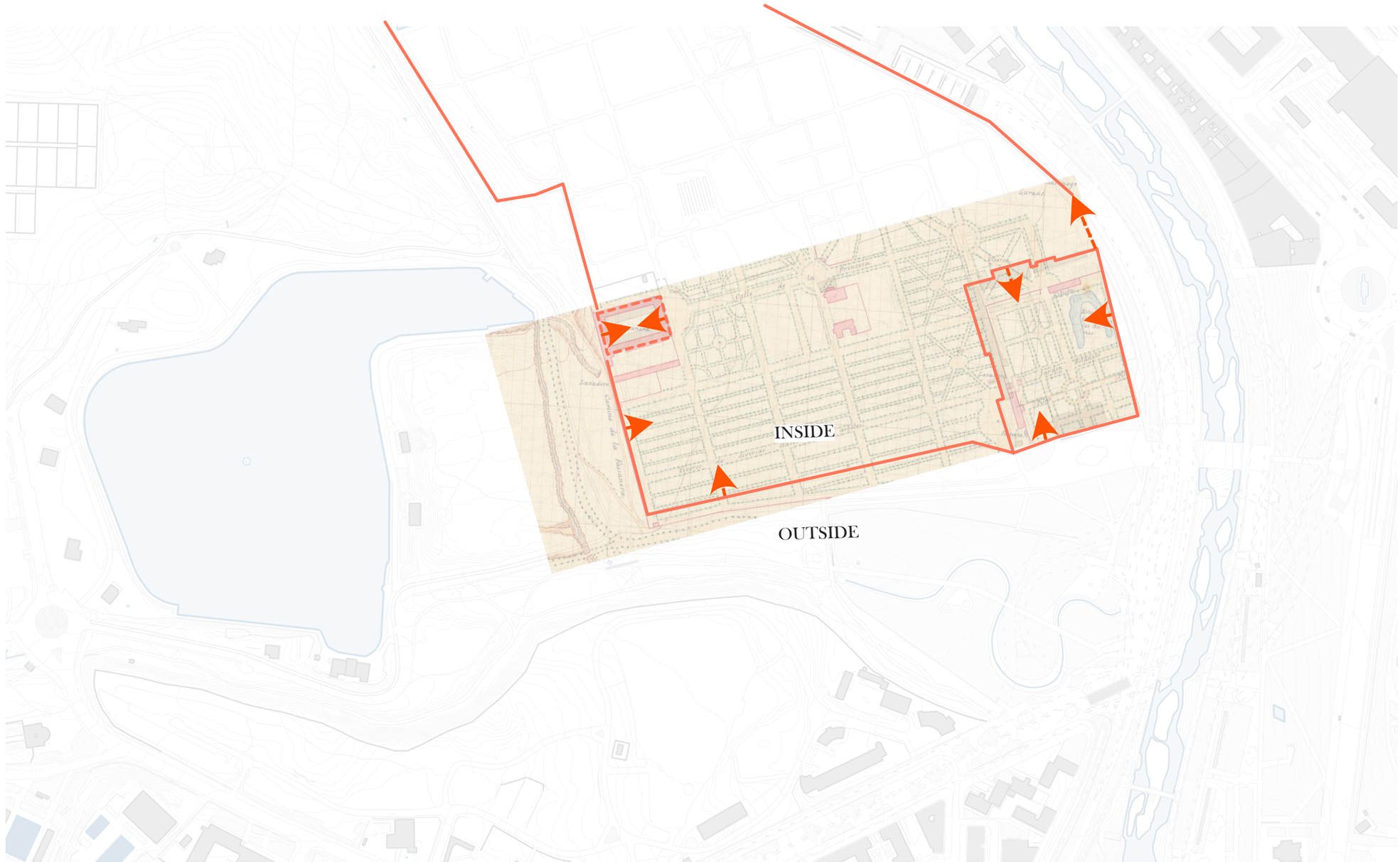
ABOVEGROUND

UNDERGROUND

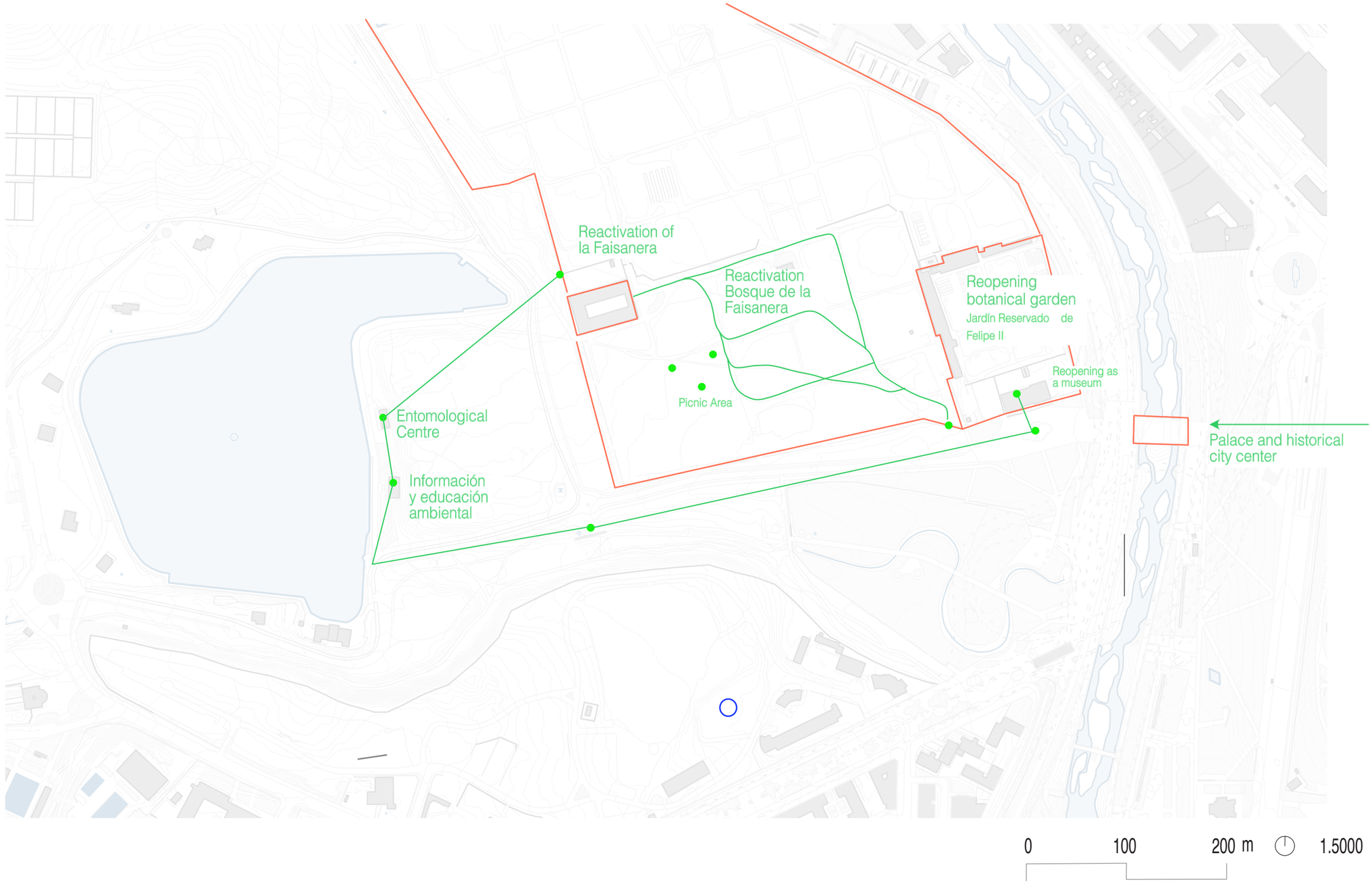
SITE


Bounderies
INSIDE
OUTSIDE
S ANTONIO
P EO NVEVO
PVERT
HERMITA DL ANGEL
RIO P MANZANARES
NRA S DEL PVERTO
NTE DE SEGOVIA

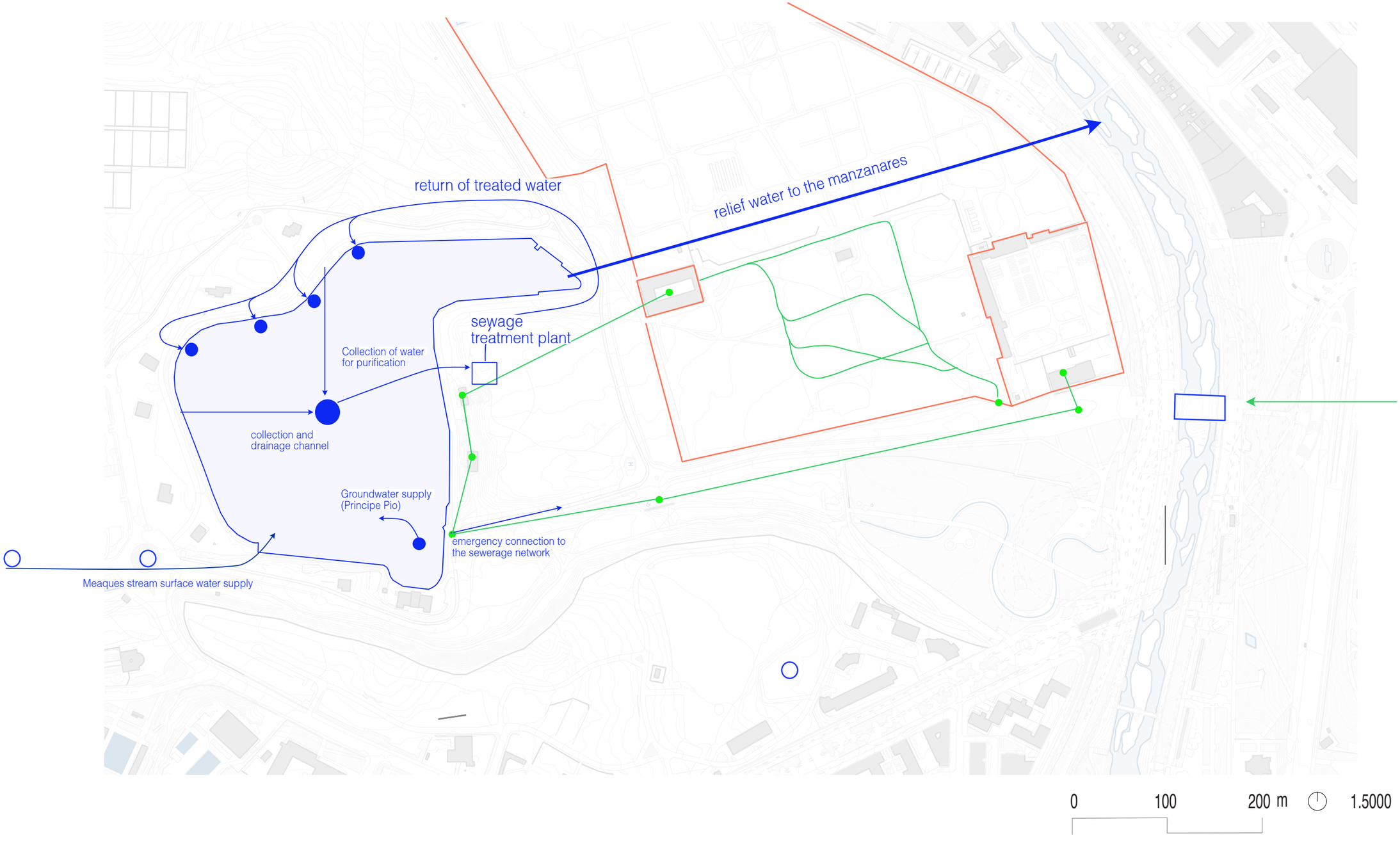
Bounderies



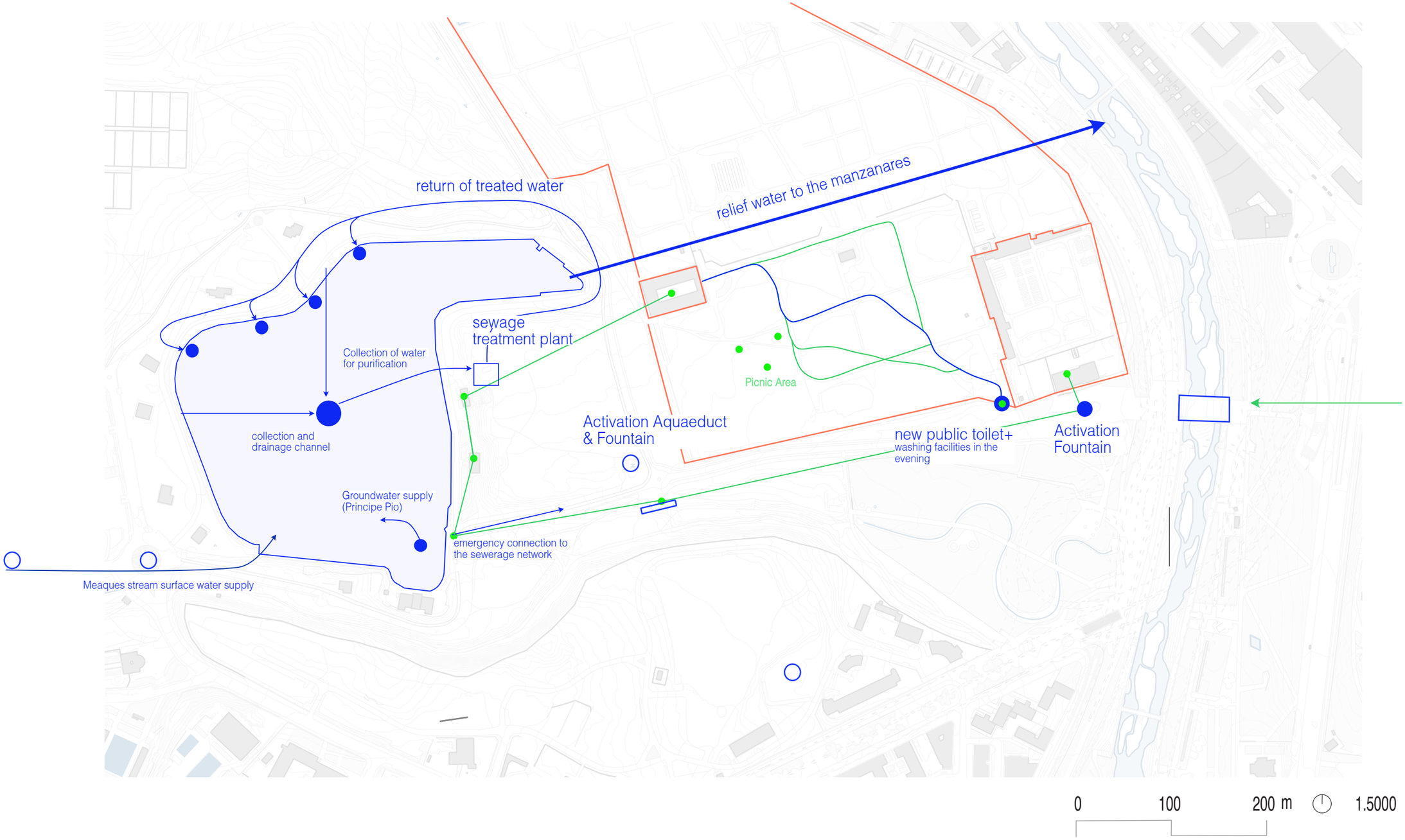
Masterplan


Reactivation of
la Faisanera
Reactivation
Bosque de la
Faisanera
Reopening
botanical garden
Jardín Reservado de
Felipe II
Reopening as
a museum
Picnic Area
Entomological
Centre
Información
y educación
ambiental
Palace and historical
city center
0
100
200 m
1.5000

Masterplan


return of treated water
relief water to the manzanares
sewage
treatment plant
Collection of water
for purification
collection and
drainage channel
Groundwater supply
(Principe Pio)
emergency connection to
the sewerage network
Meaques stream surface water supply
0
100
200 m
1.5000

Masterplan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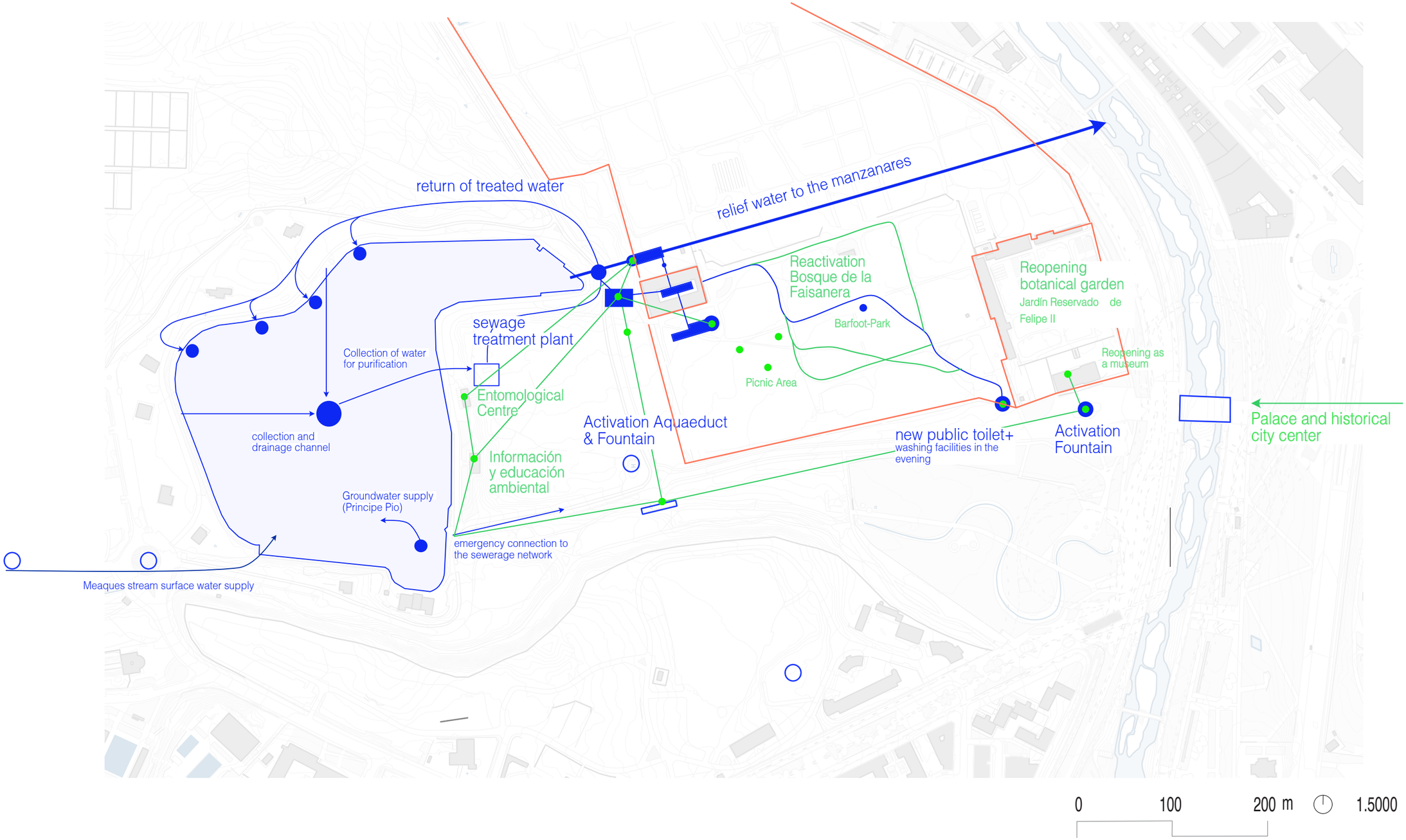
Picnic Area
Activation Aquaeduct
& Fountain
new public toilet+
washing facilities in the
evening
Activation
Fountain
0
100
200 m
1.5000

Masterplan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Bosque de la
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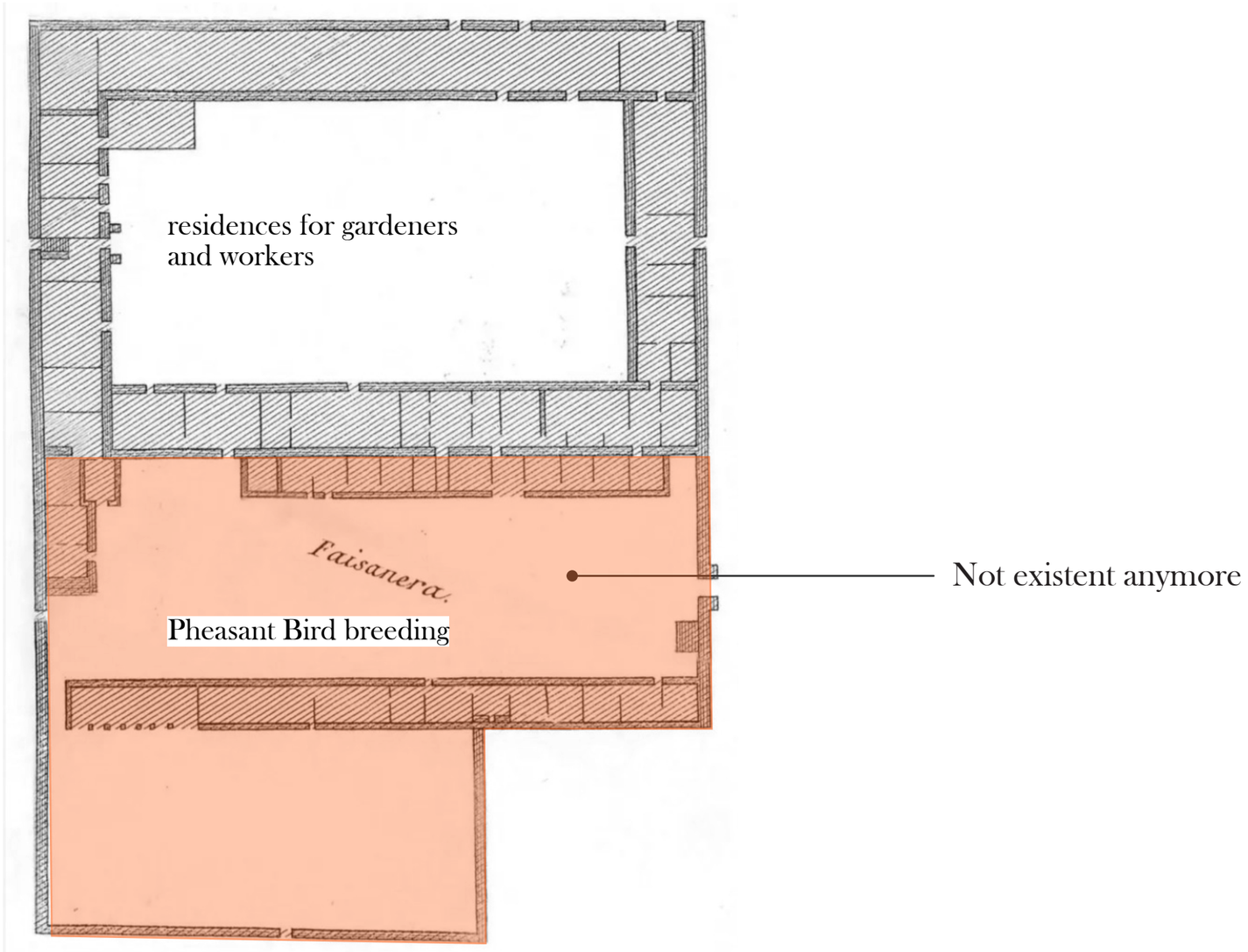
0
100
200 m
1.5000

Historical Phaesantry



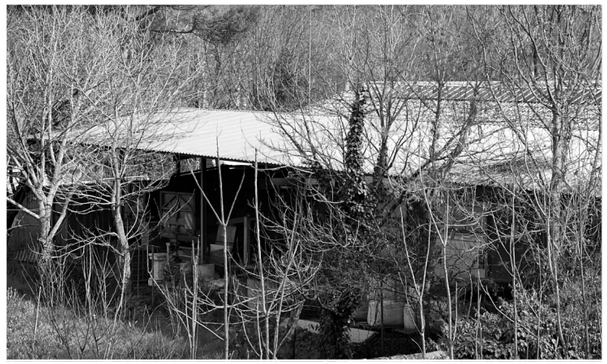


Historical Phaesantry



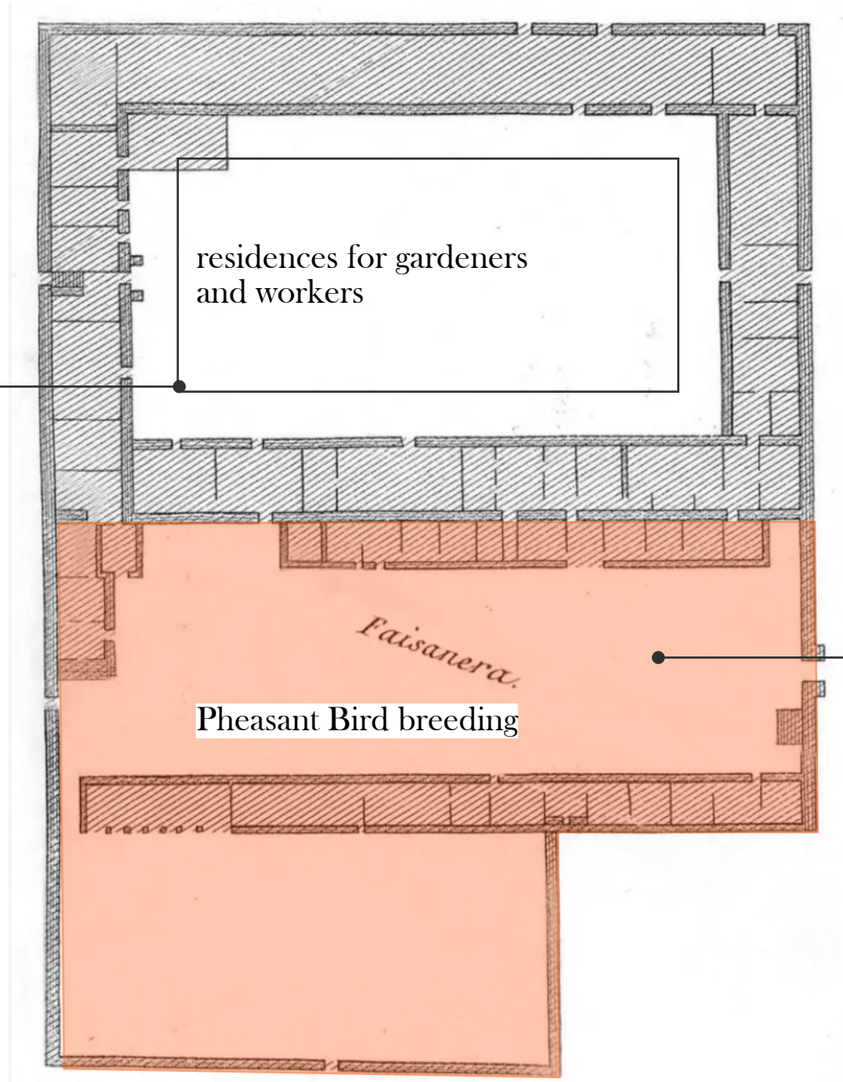
Historical Phaesantry

Added steel structure



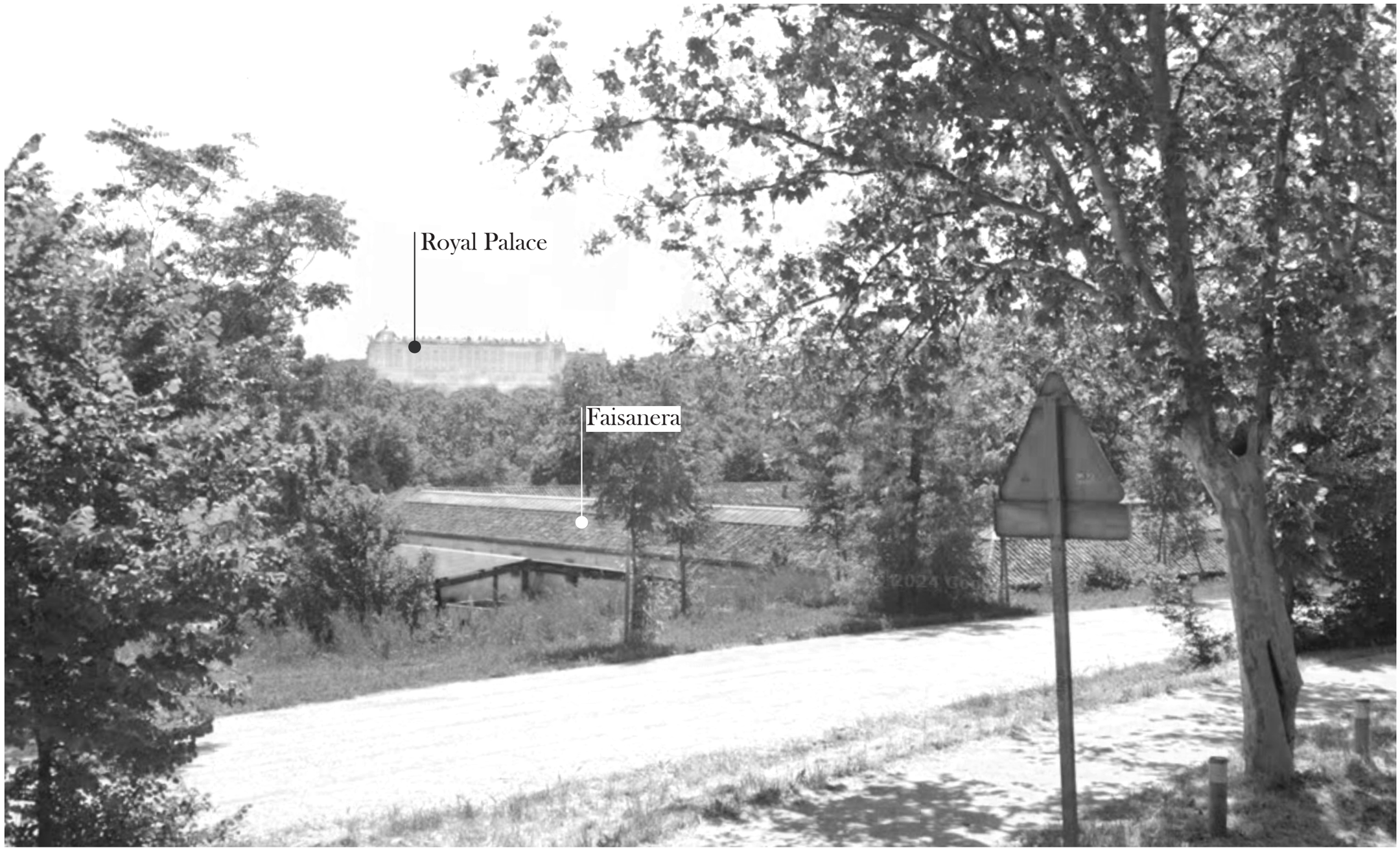
Added steel structure





Not existent anymore

Visual Connection Lake-Palace



Overview



Overview

Existing Toledean Stone Masonry Wall



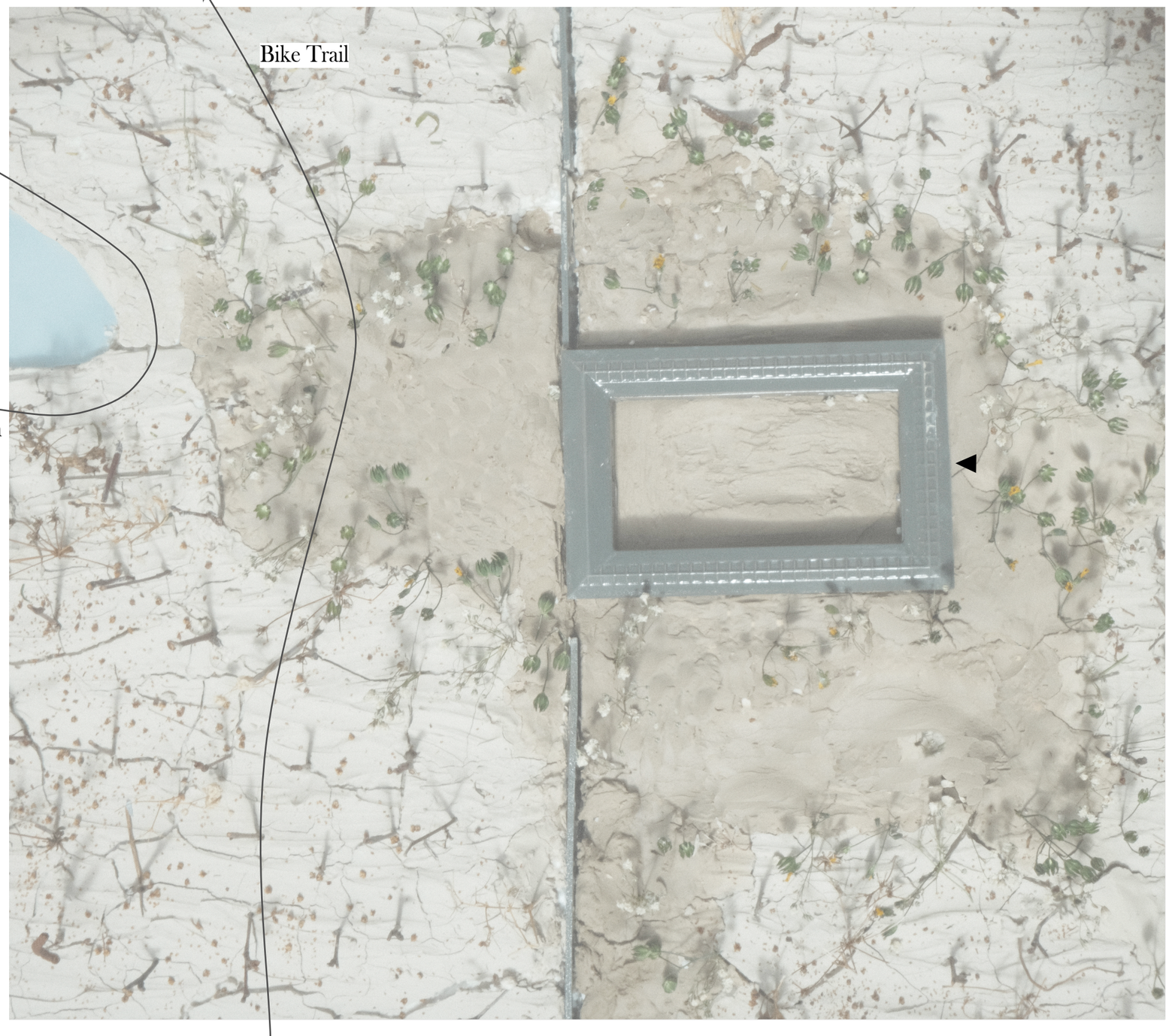




Overview


Returning of treated Lakewater
Connection Lake to River Manzanares

Overview





Existing Boulevard

Overview



Overview




II


III


IV



Overview



Activation of Water

activation

arriving



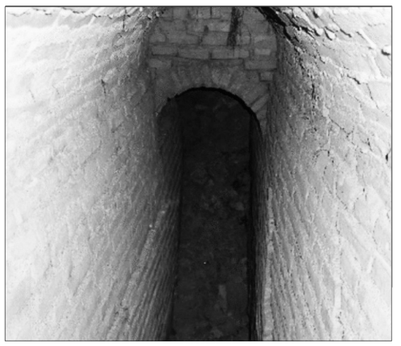
distributing



collecting



chanelling



guiding



Activation of Water

activation

effect

scarce



humid



abundant



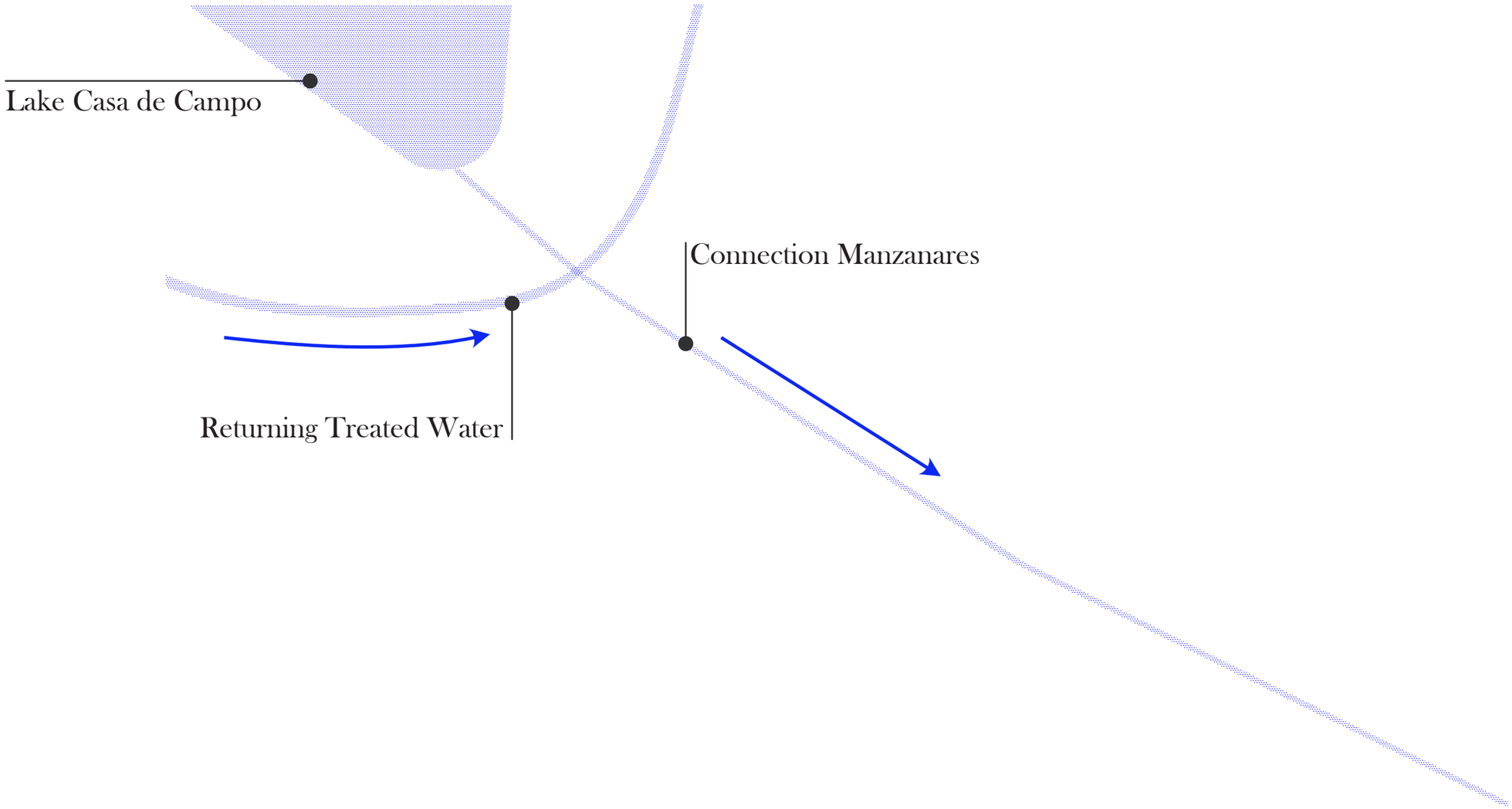
wet



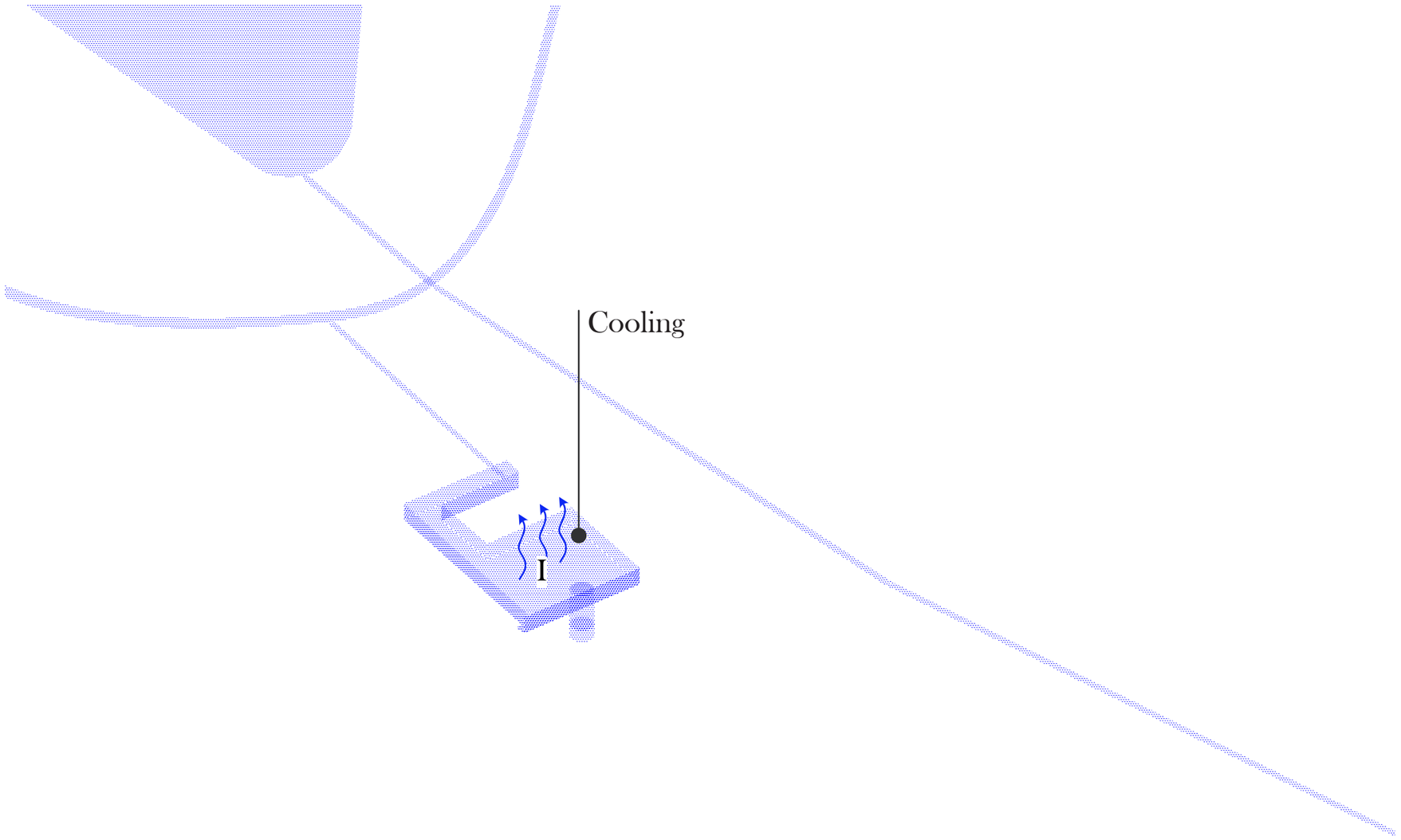
dry



Activation of Water



Activation of Water



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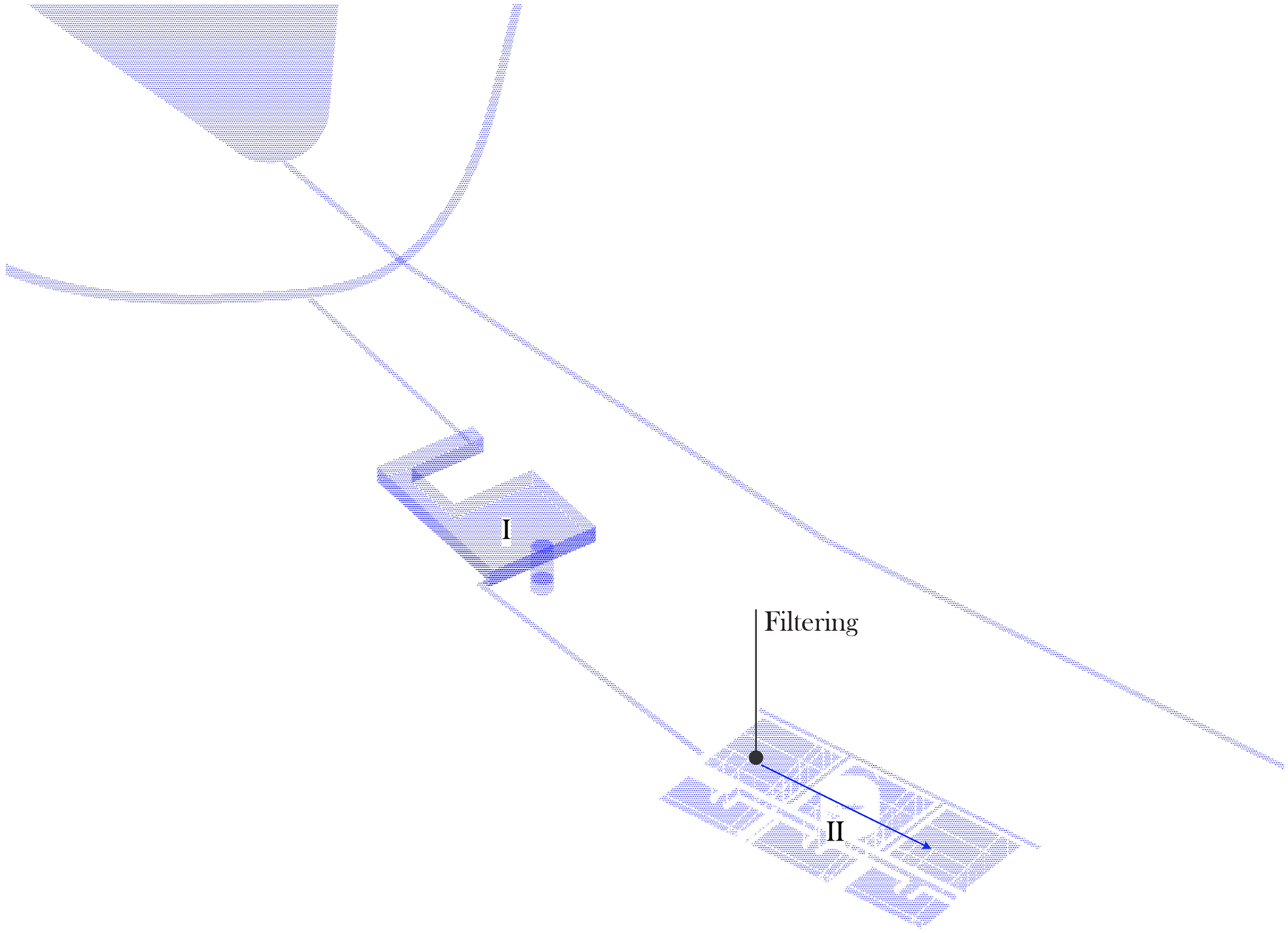

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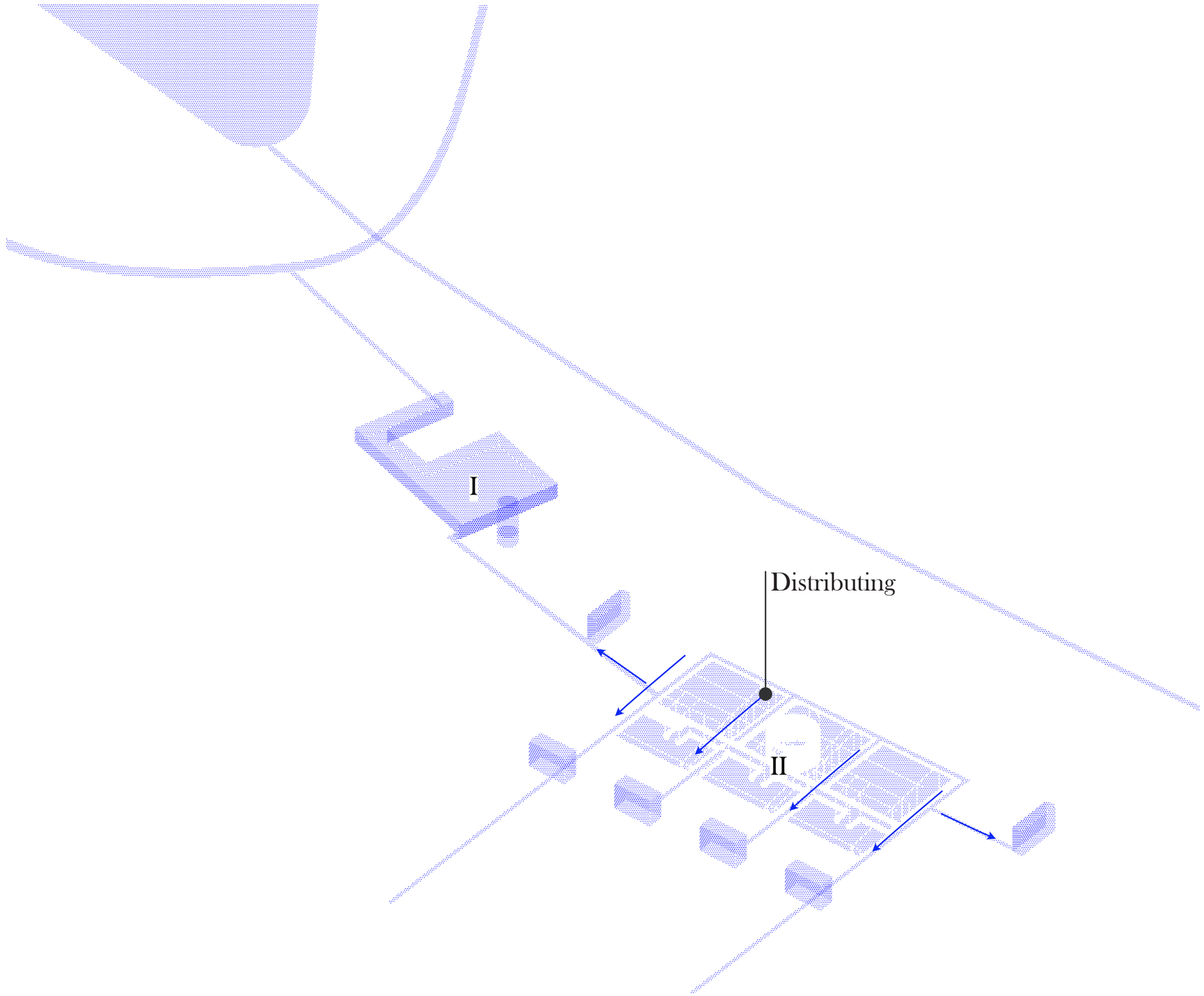

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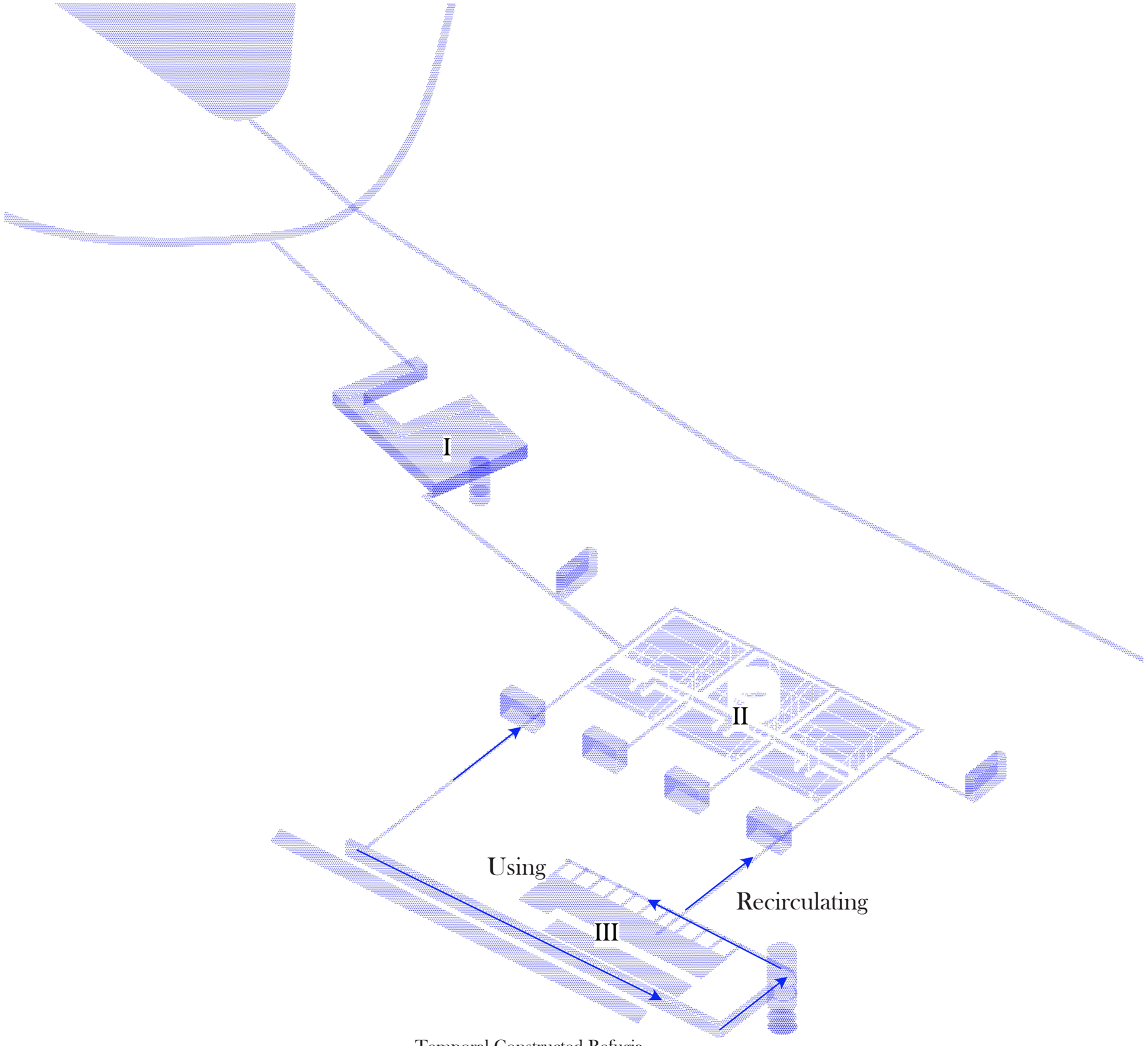

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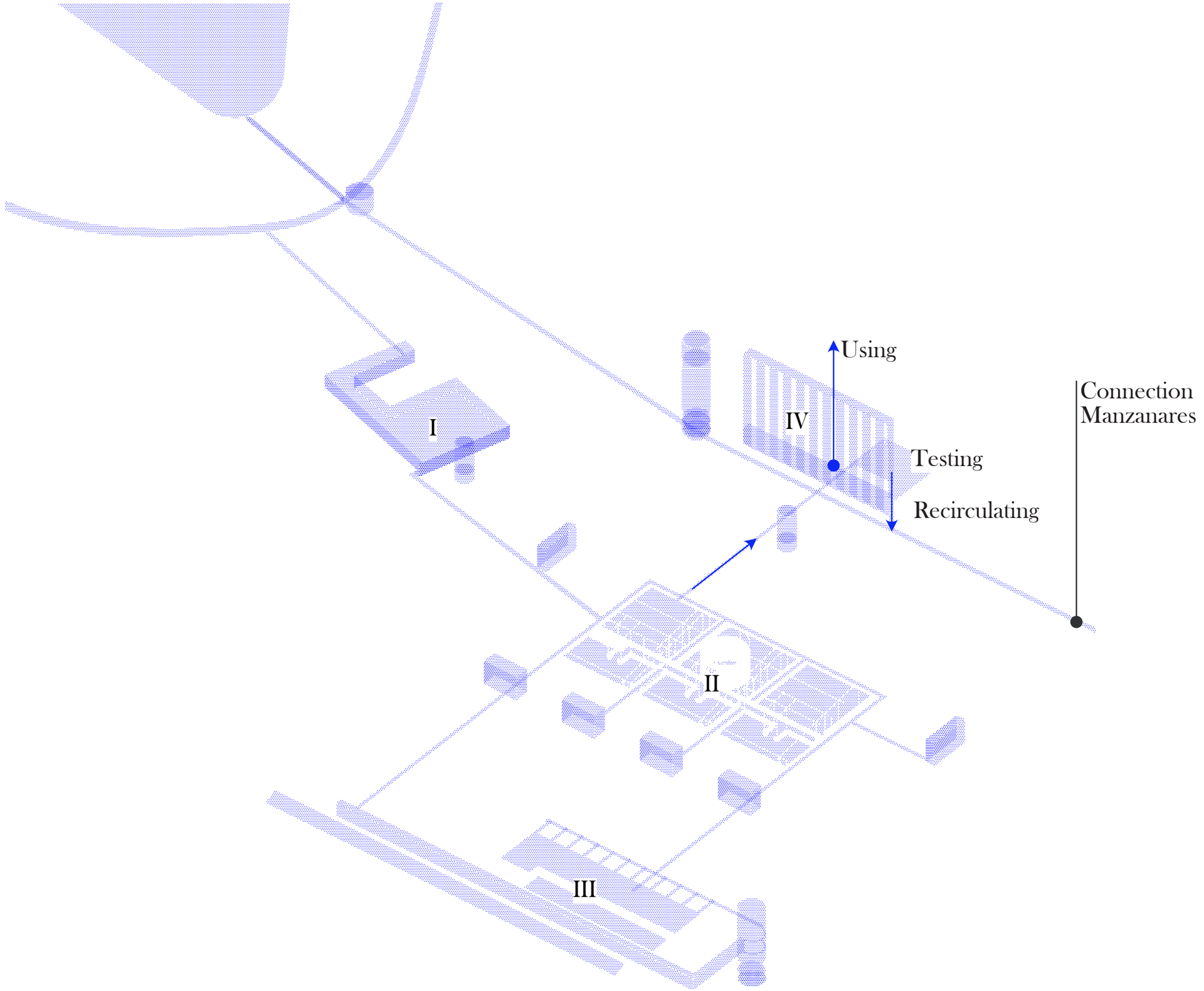

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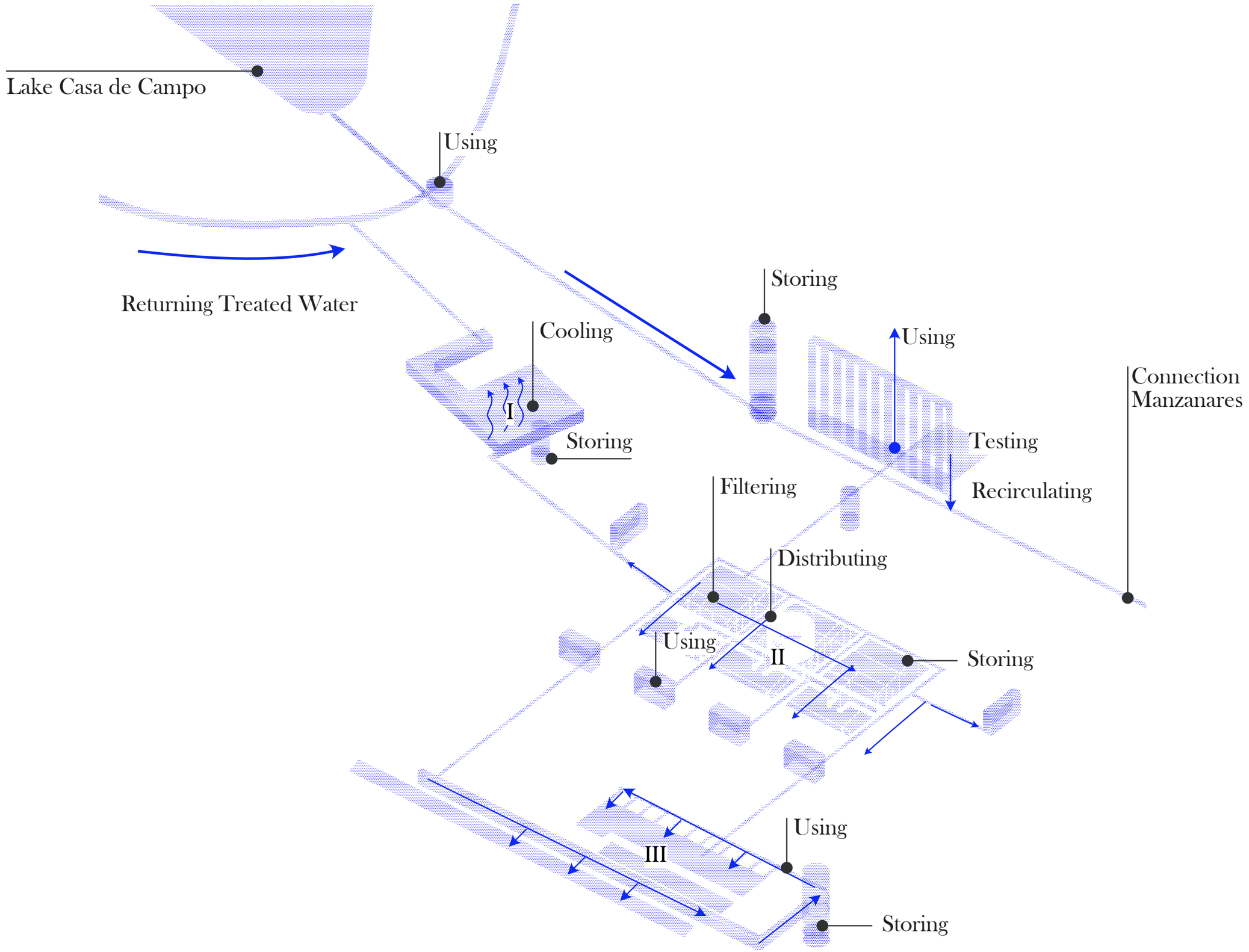
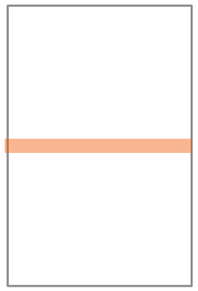
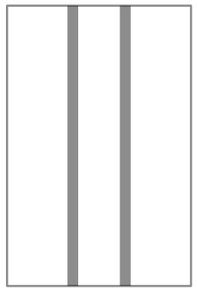


Design Elements

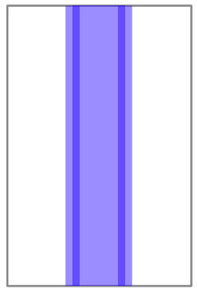
FIRE WALL



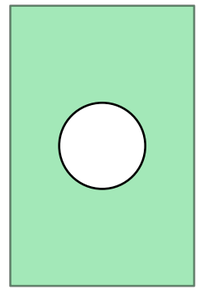
AIR SHAFT



WATER PIPE

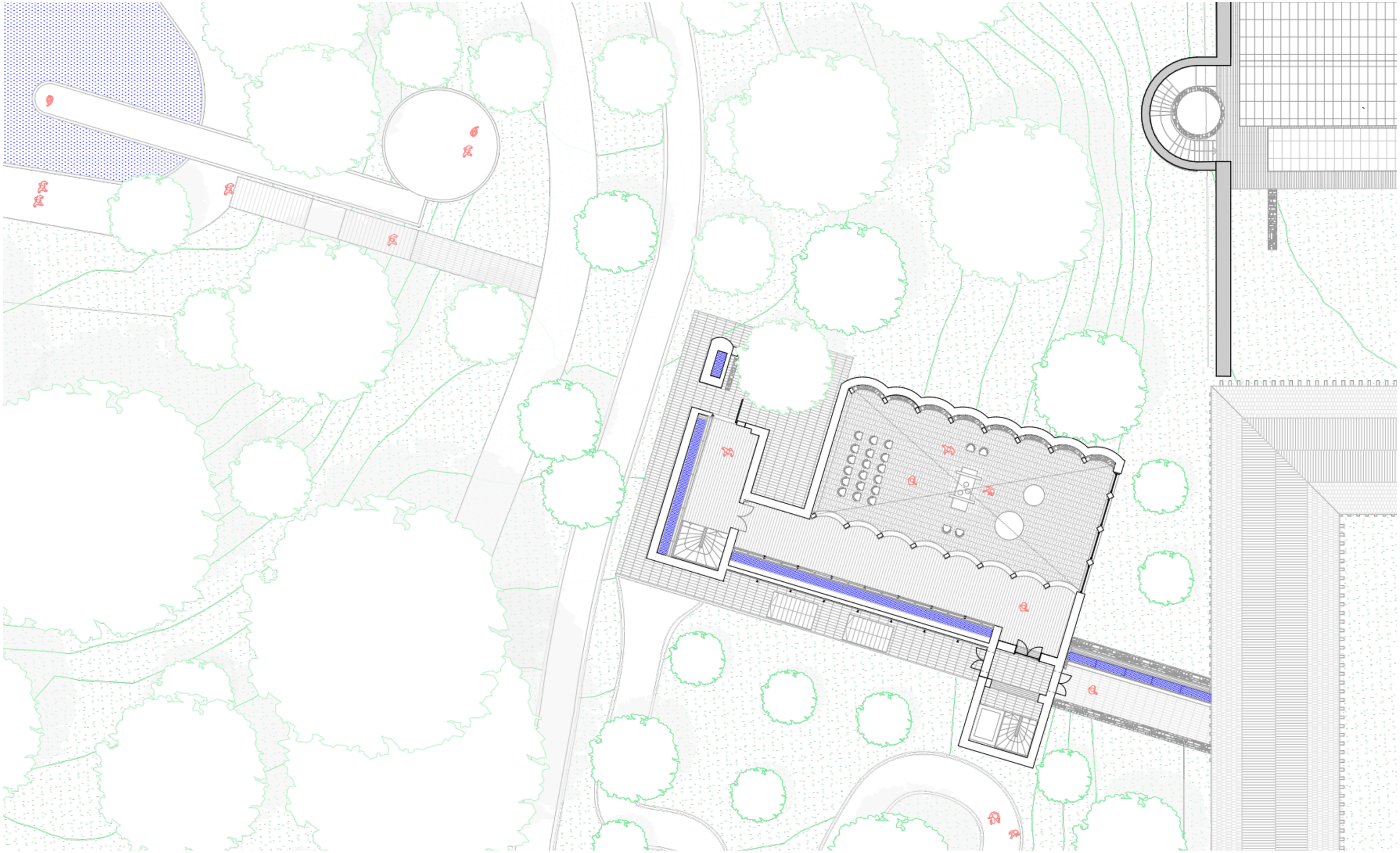


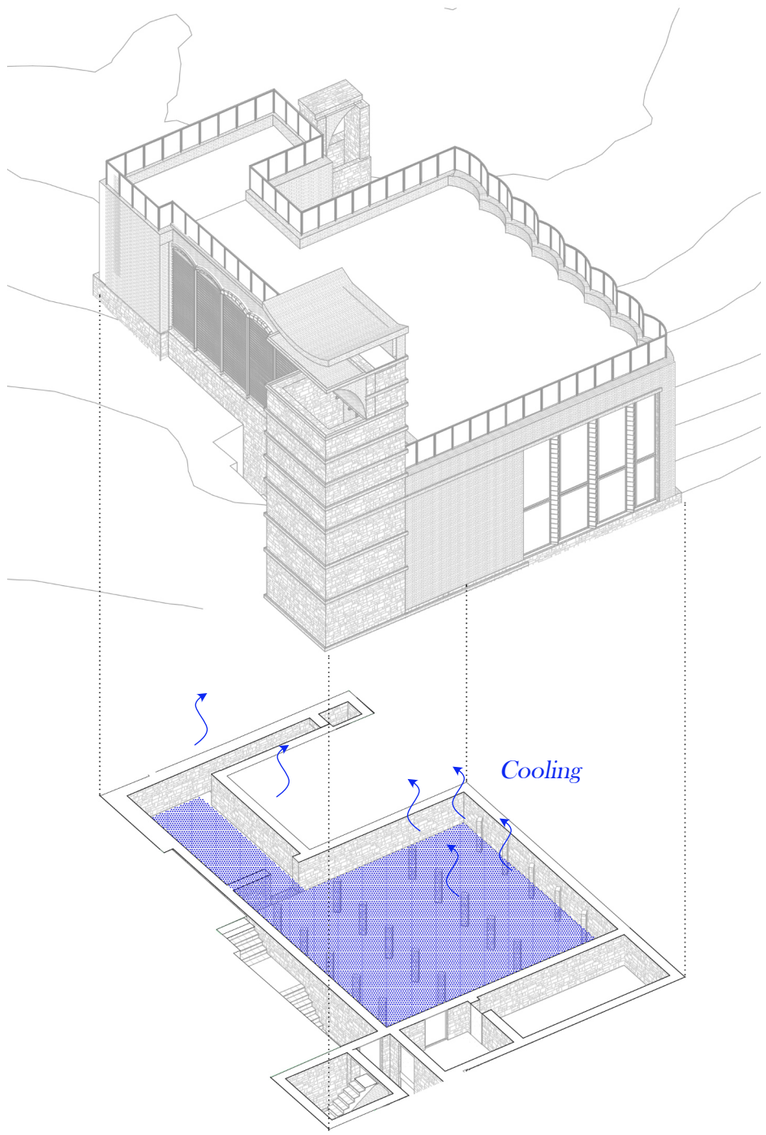
EARTH PIT

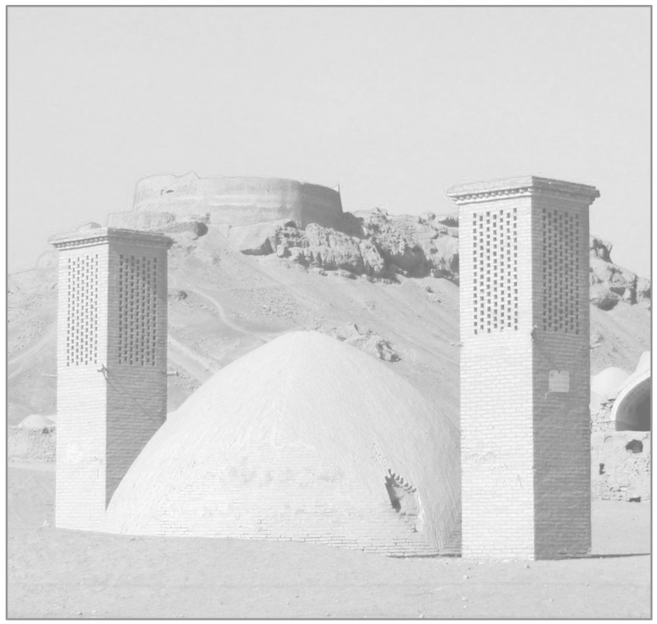


Lake

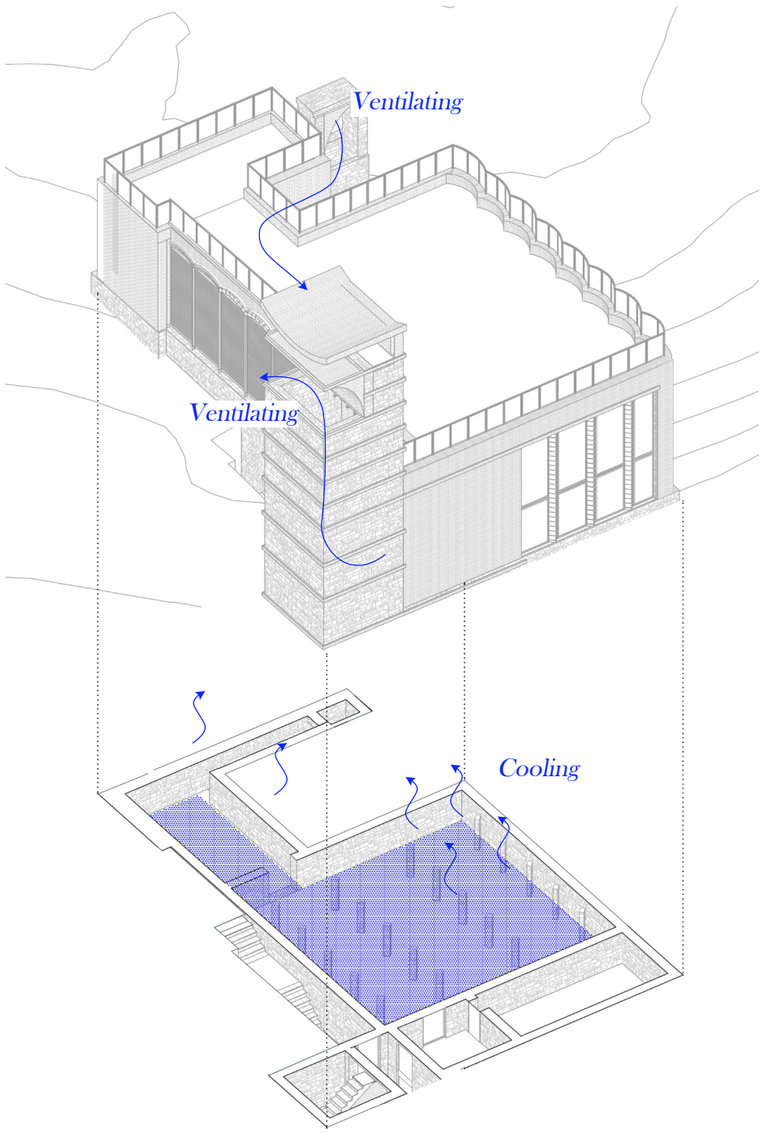


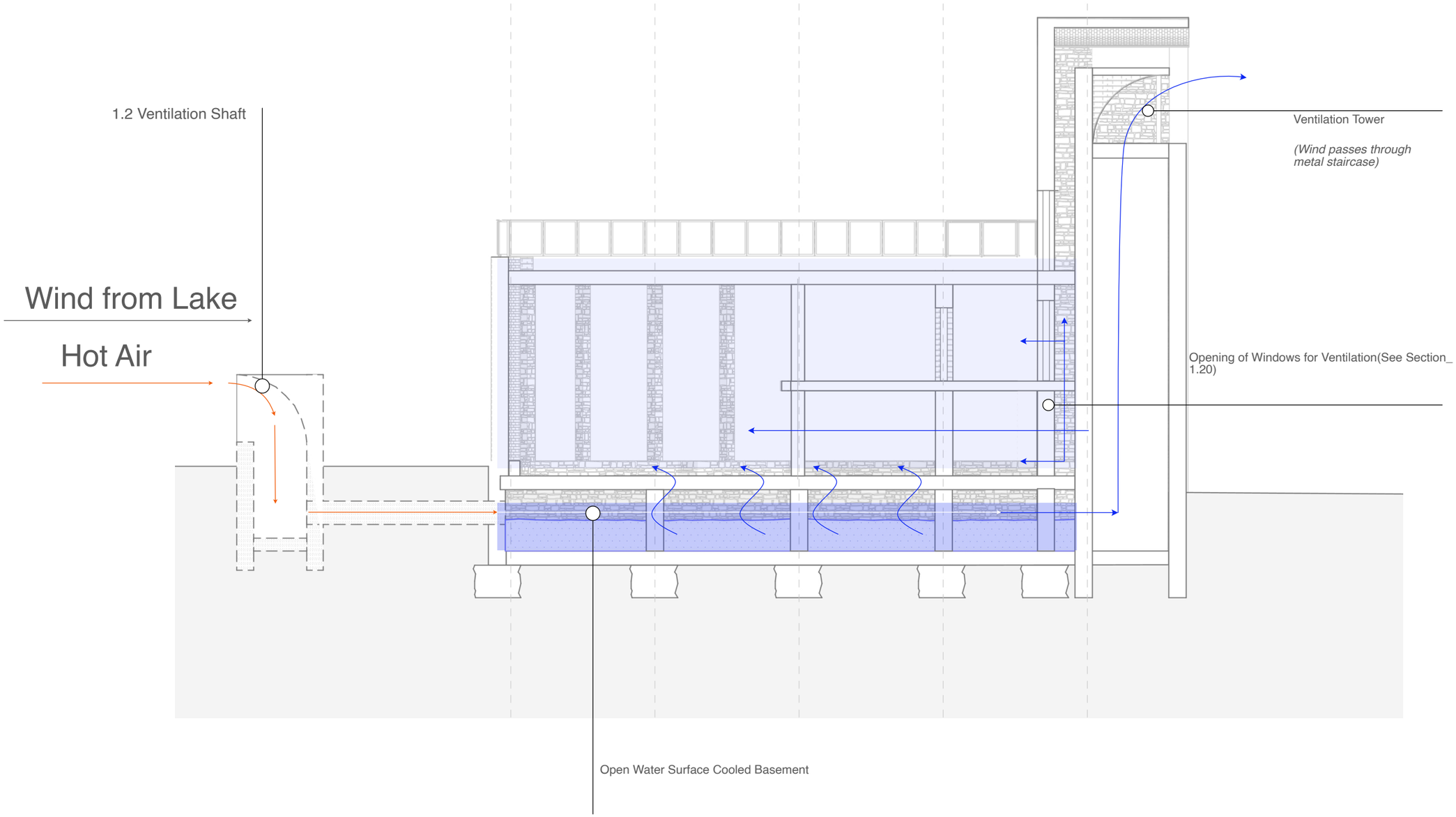


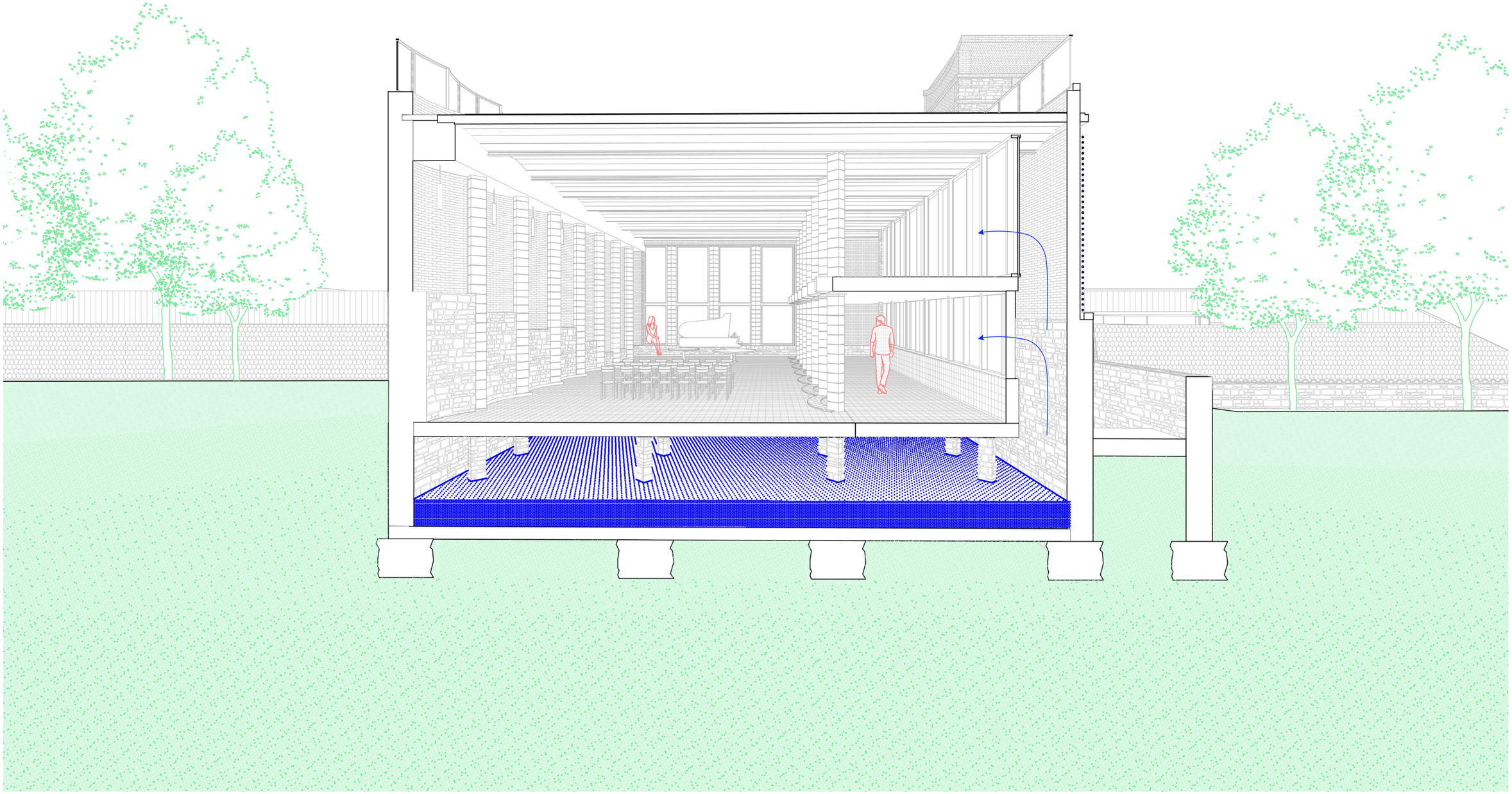

Cooling



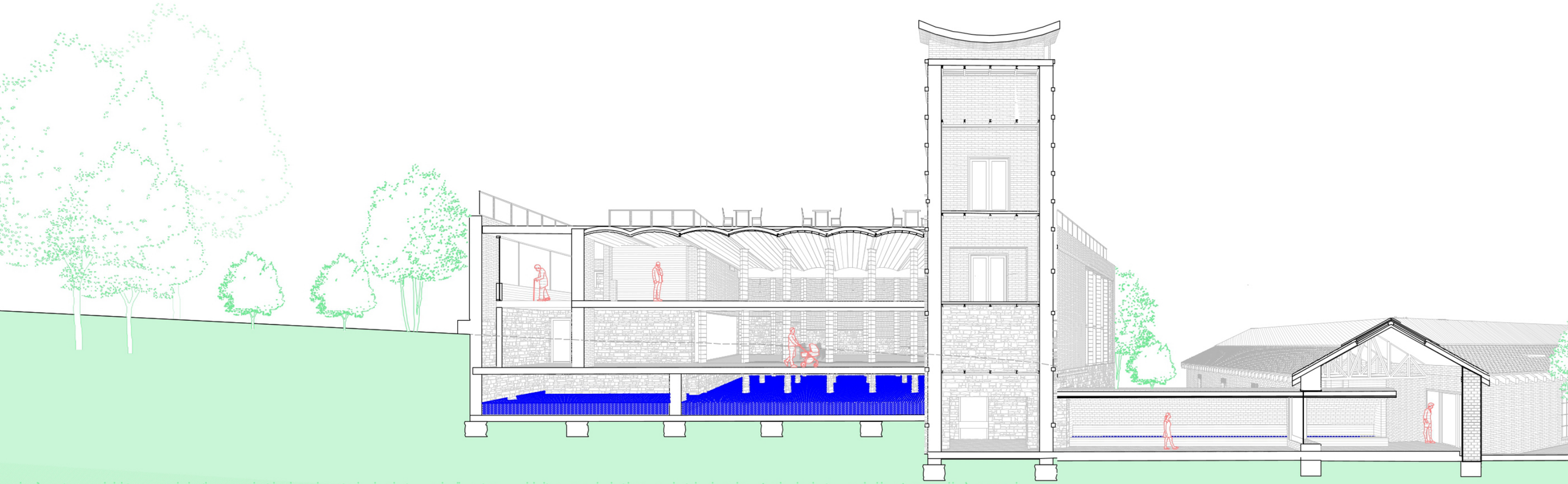
Ab Anbar Ventilation Tower



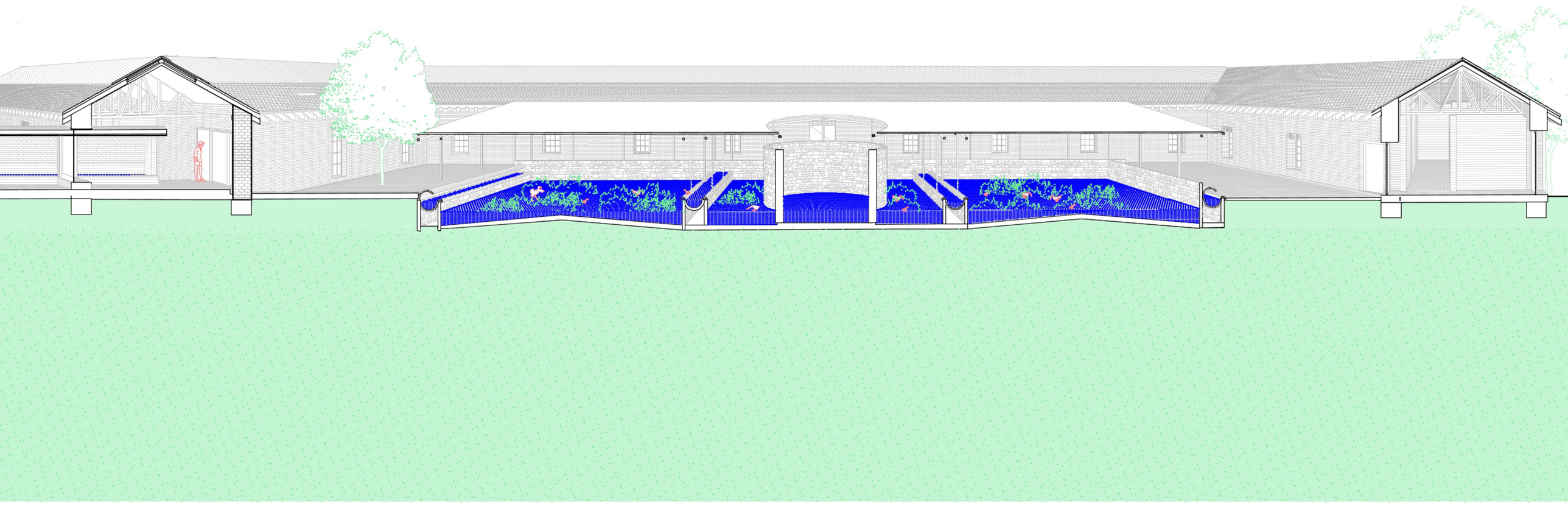

1.2 Ventilation Shaft
Wind from Lake
Hot Air
Ventilation Tower
(Wind passes through metal staircase)
Opening of Windows for Ventilation(See Section_ 1.20)
Open Water Surface Cooled Basement



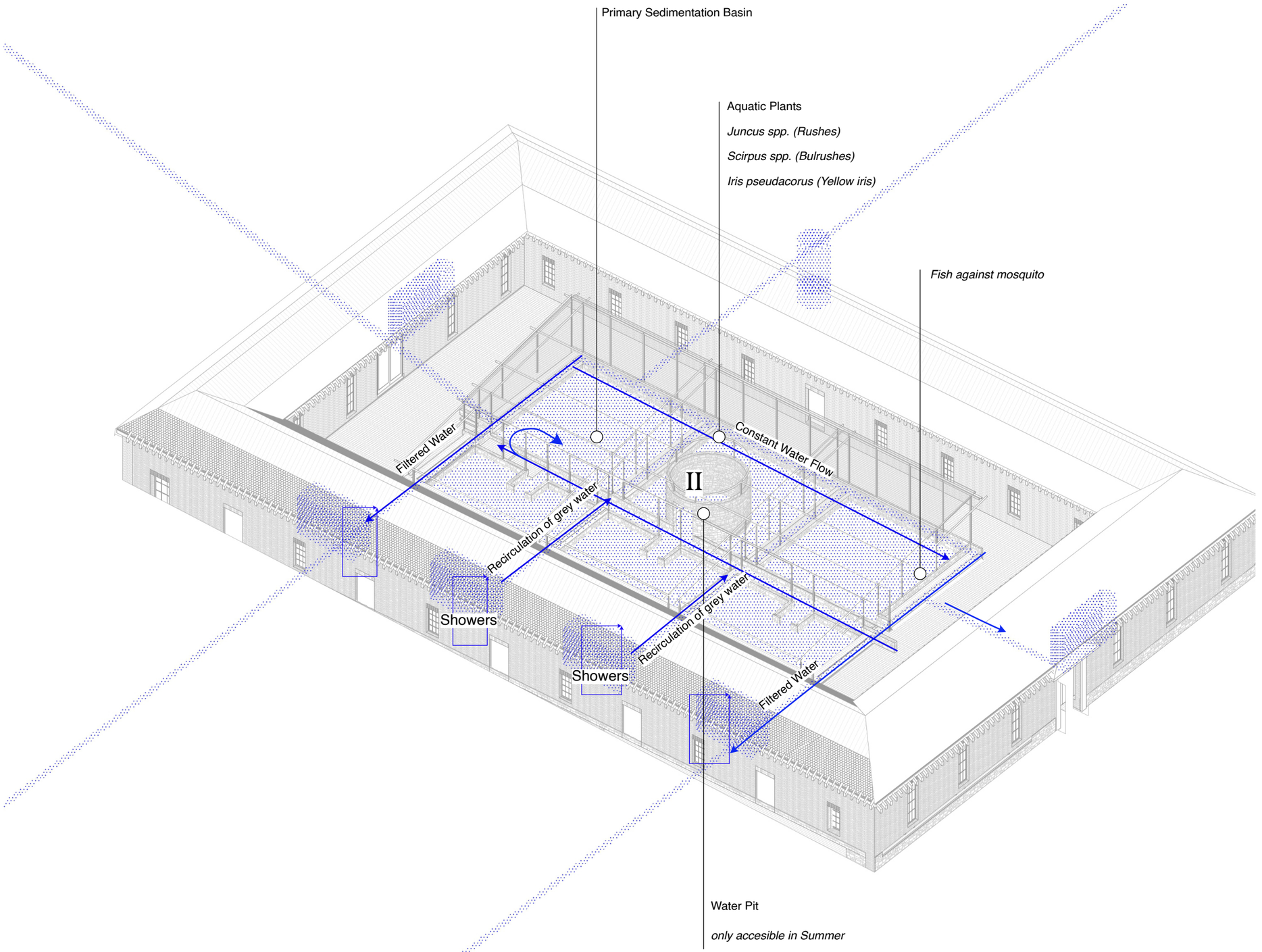


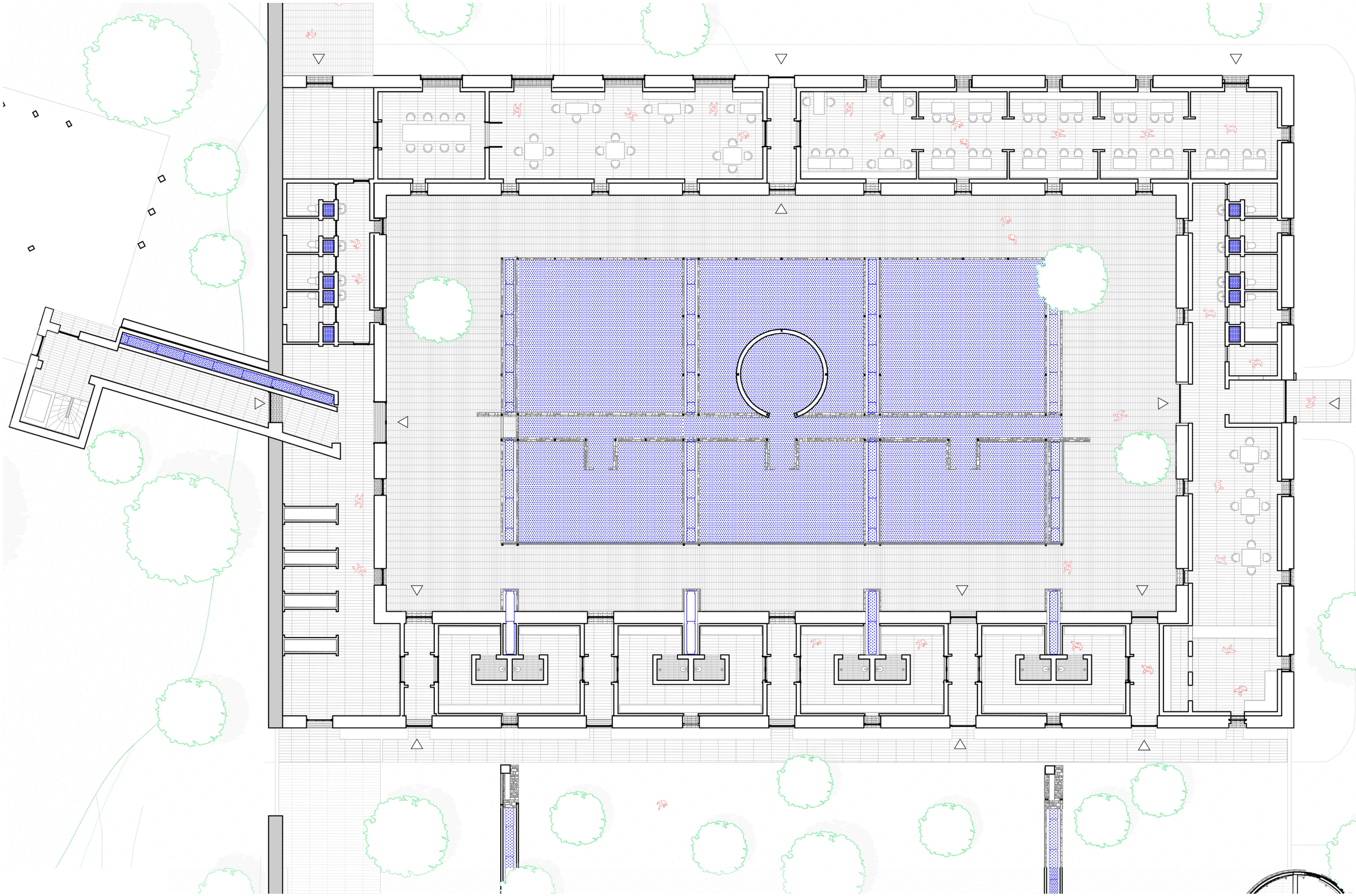


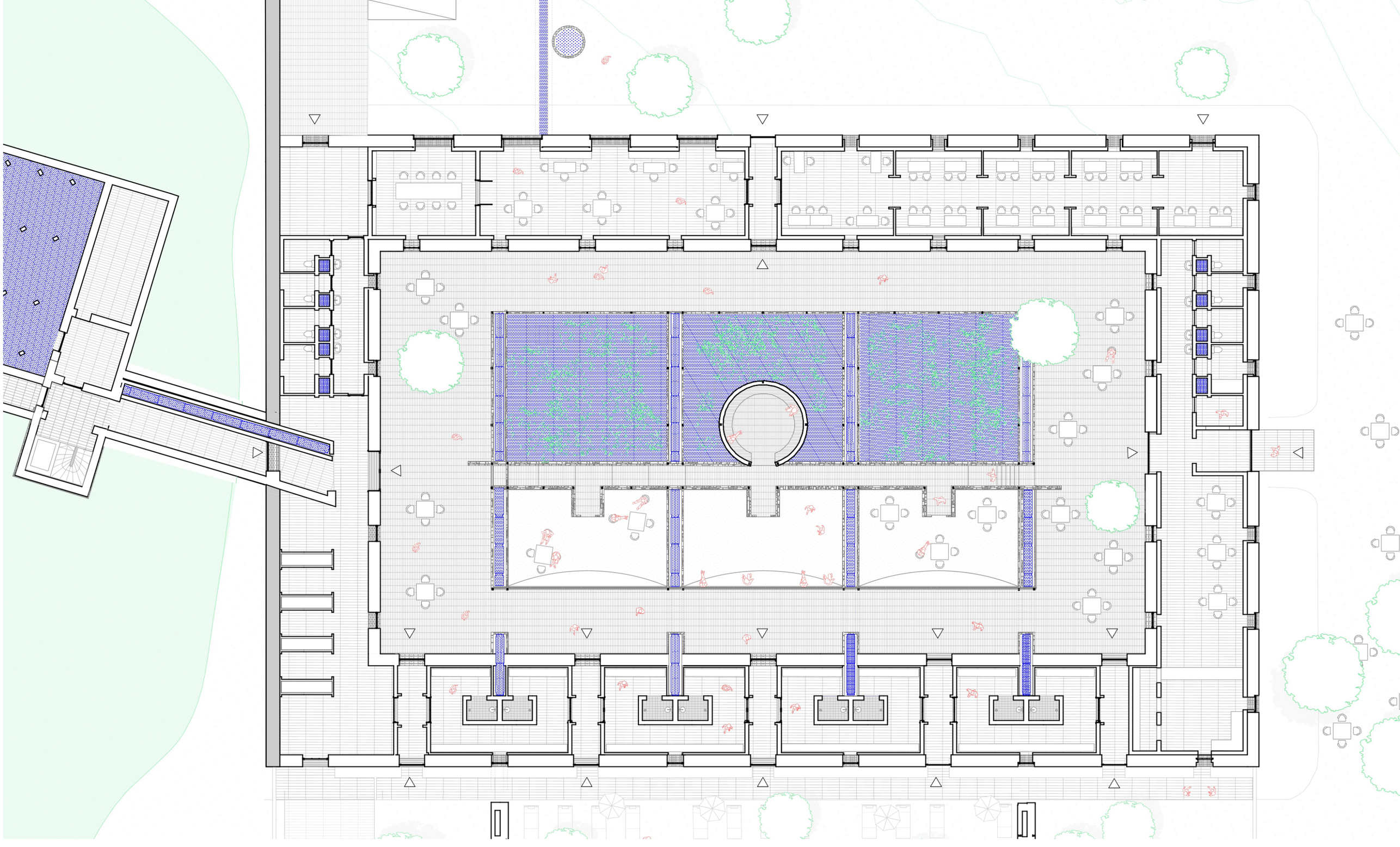
II Filtration Garden



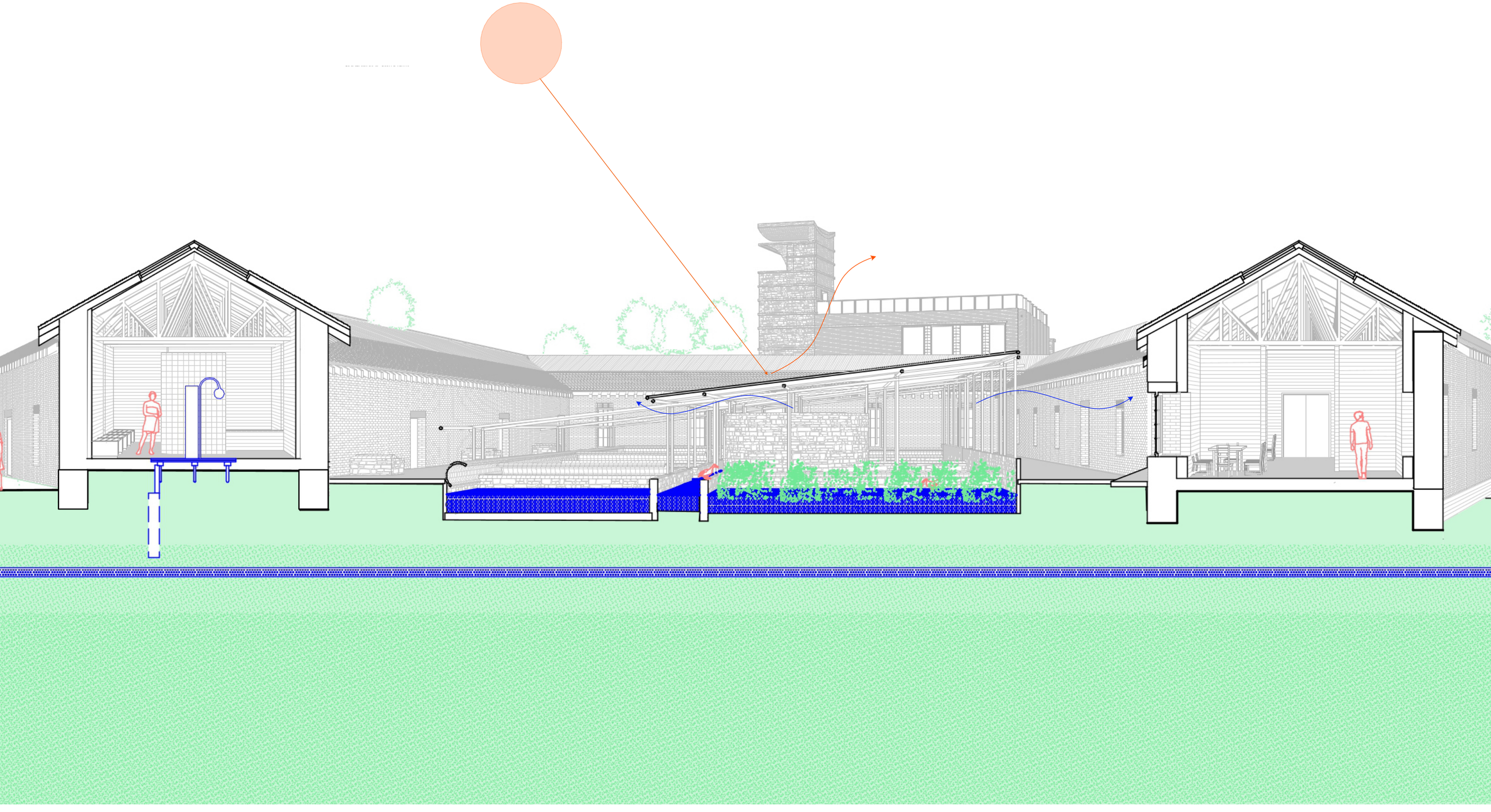
II Filtration Garden

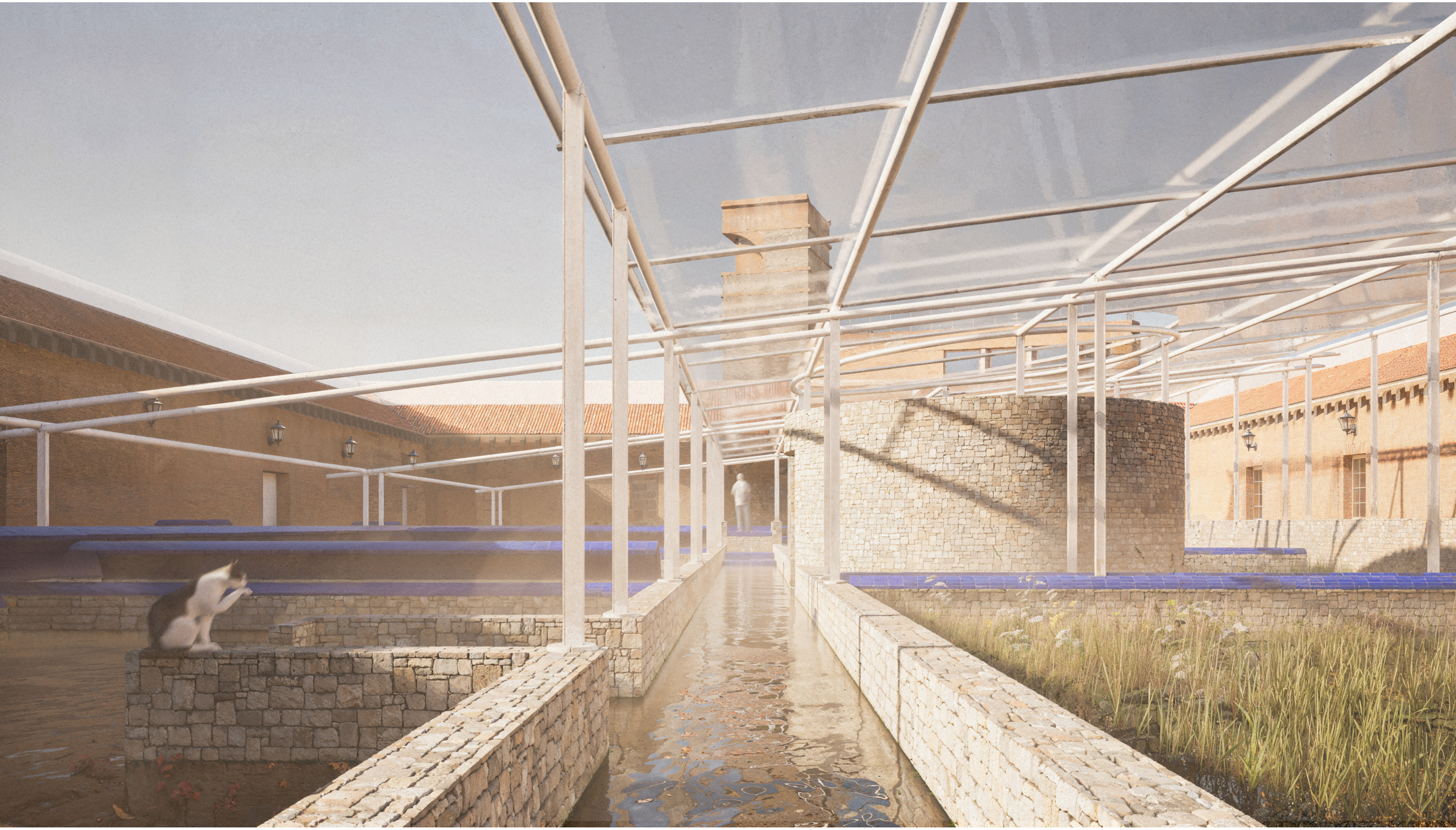




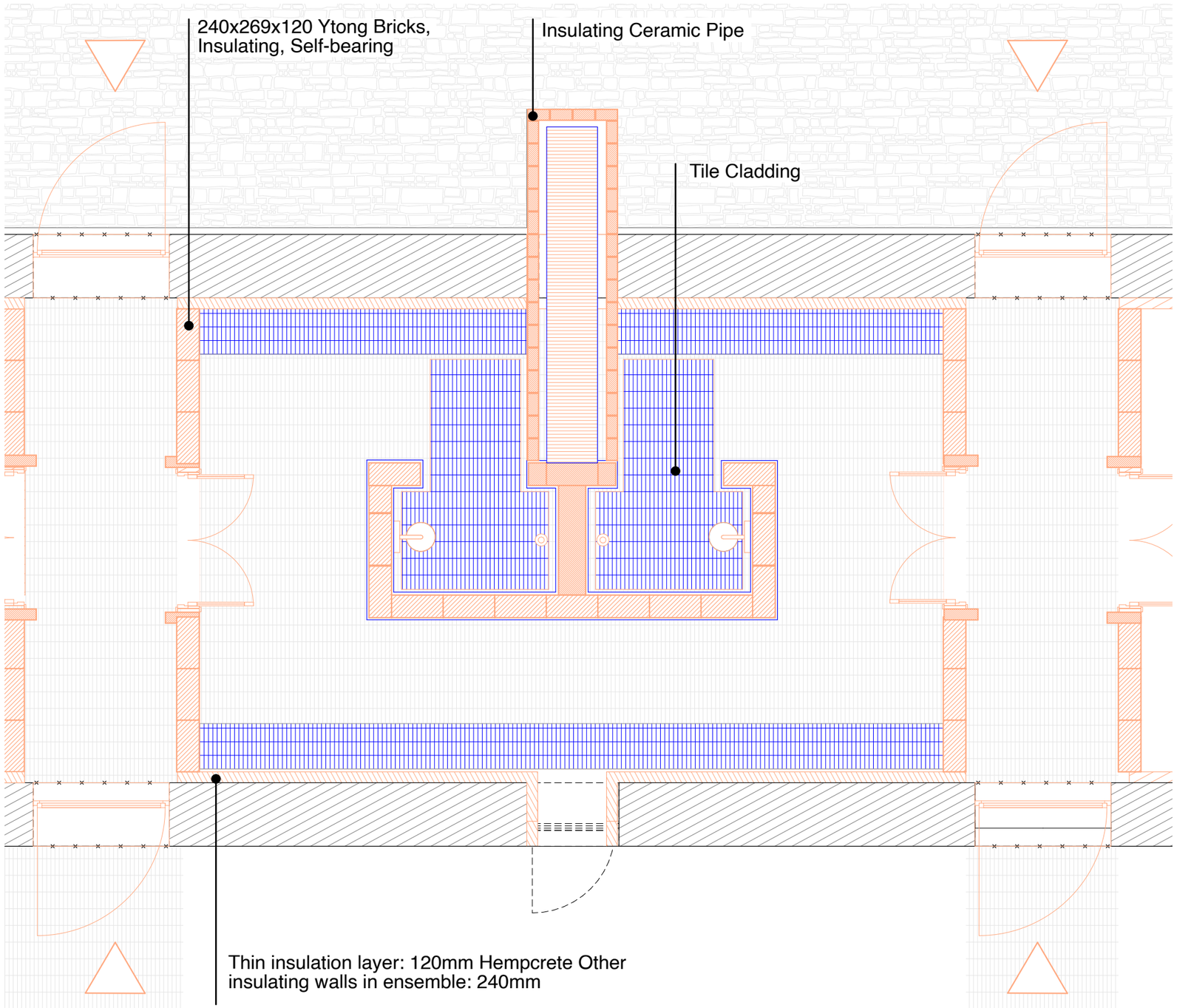


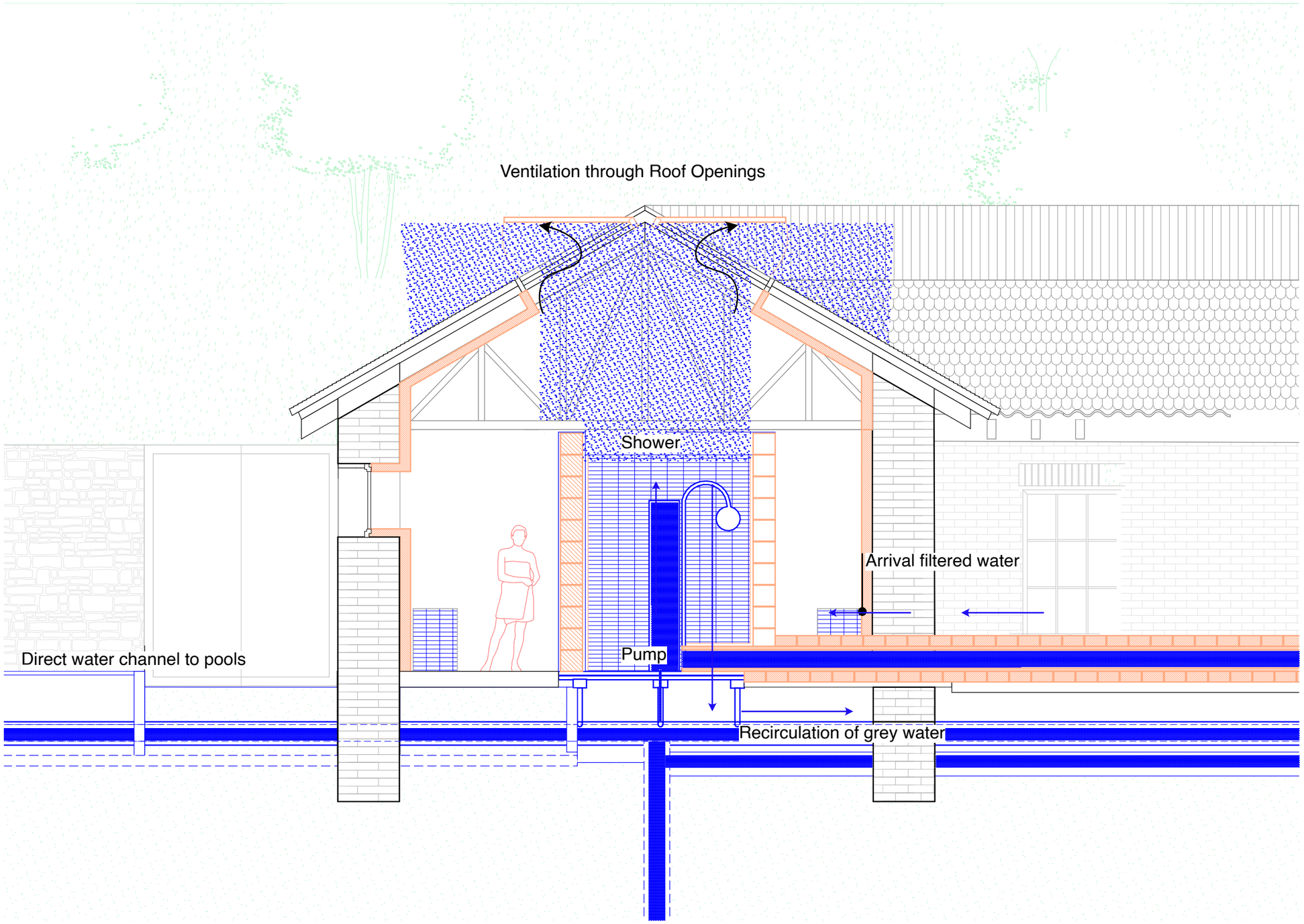
II Filtration Garden



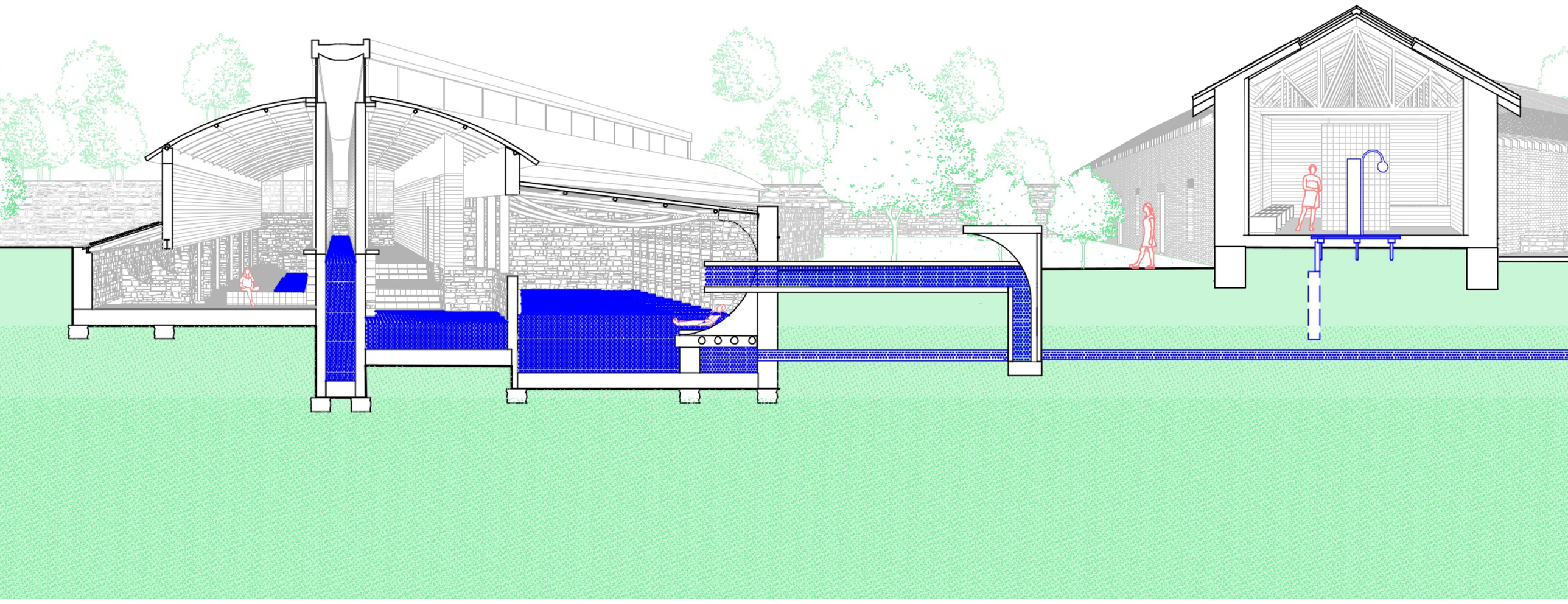


II_Floorplan_Shower and Changing_Rooms

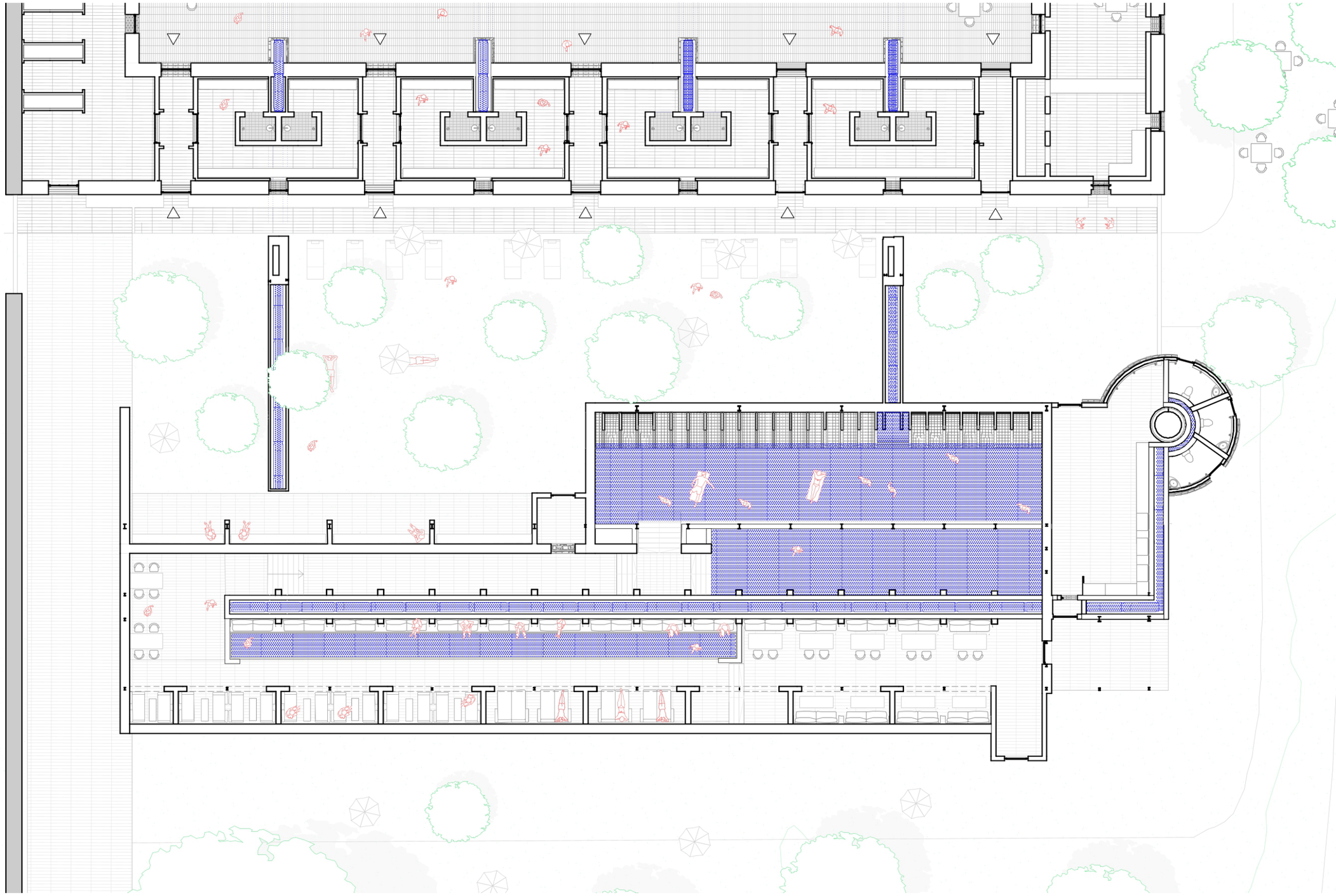


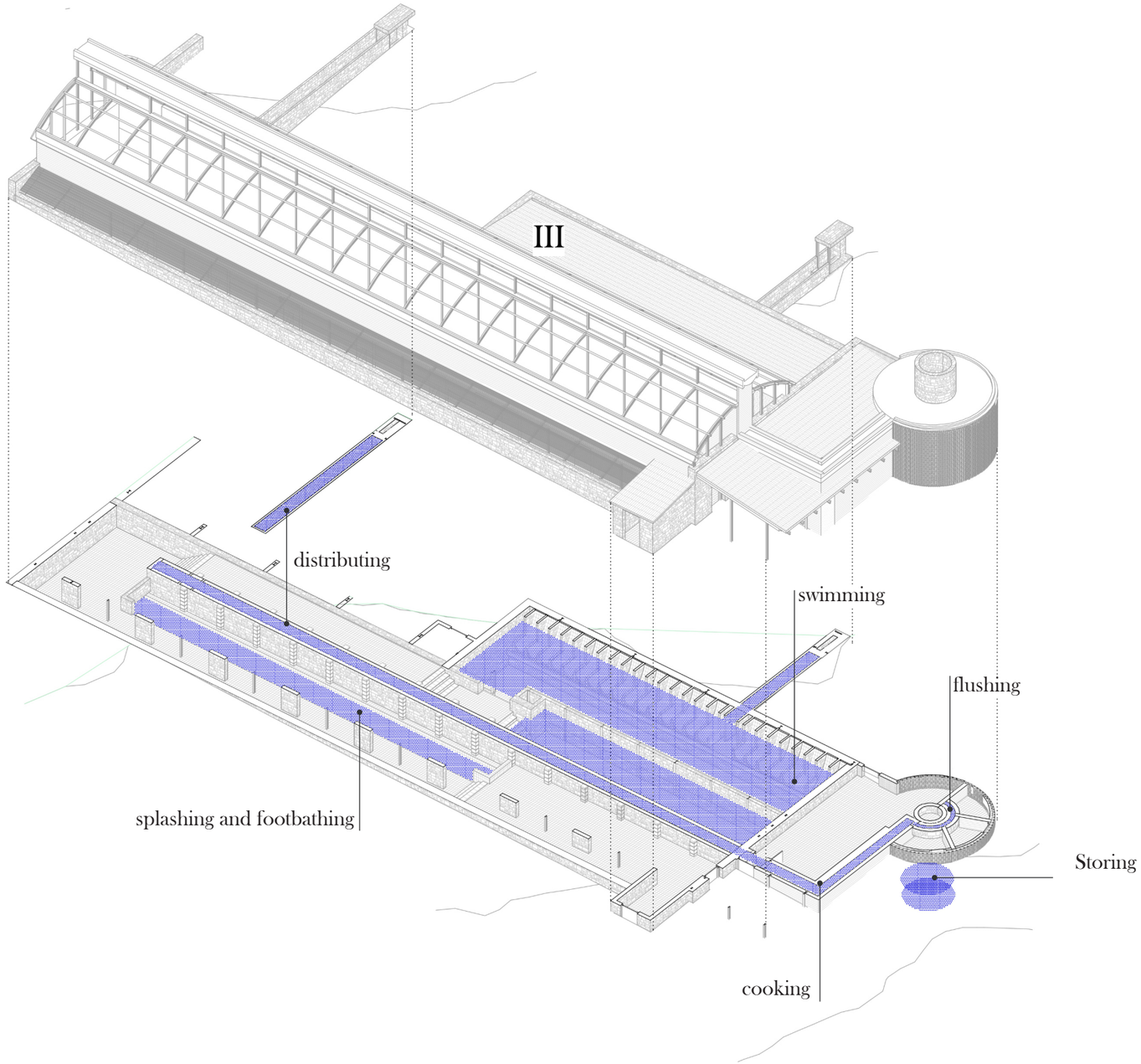

Ventilation through Roof Openings
Shower
Arrival filtered water
Pump
Direct water channel to pools
Recirculation of grey water

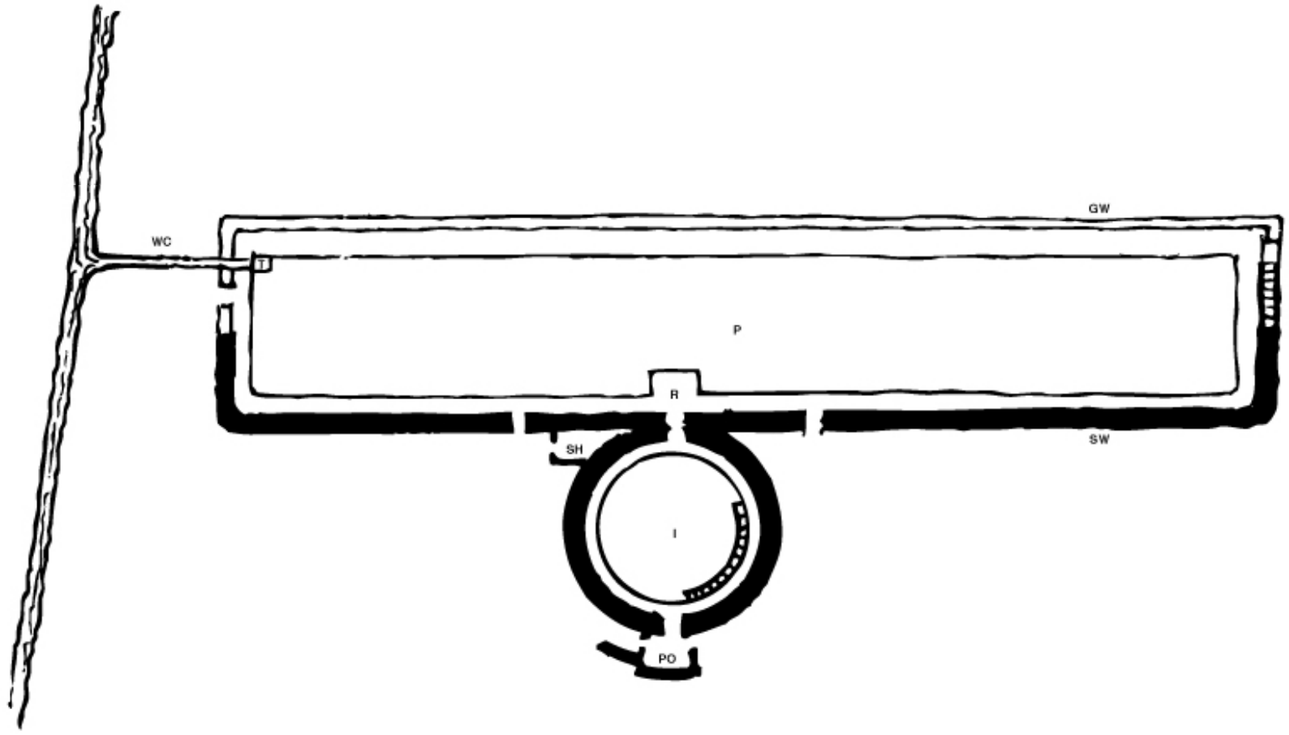
III (Temporary) Pools



III (Temporary) Pools

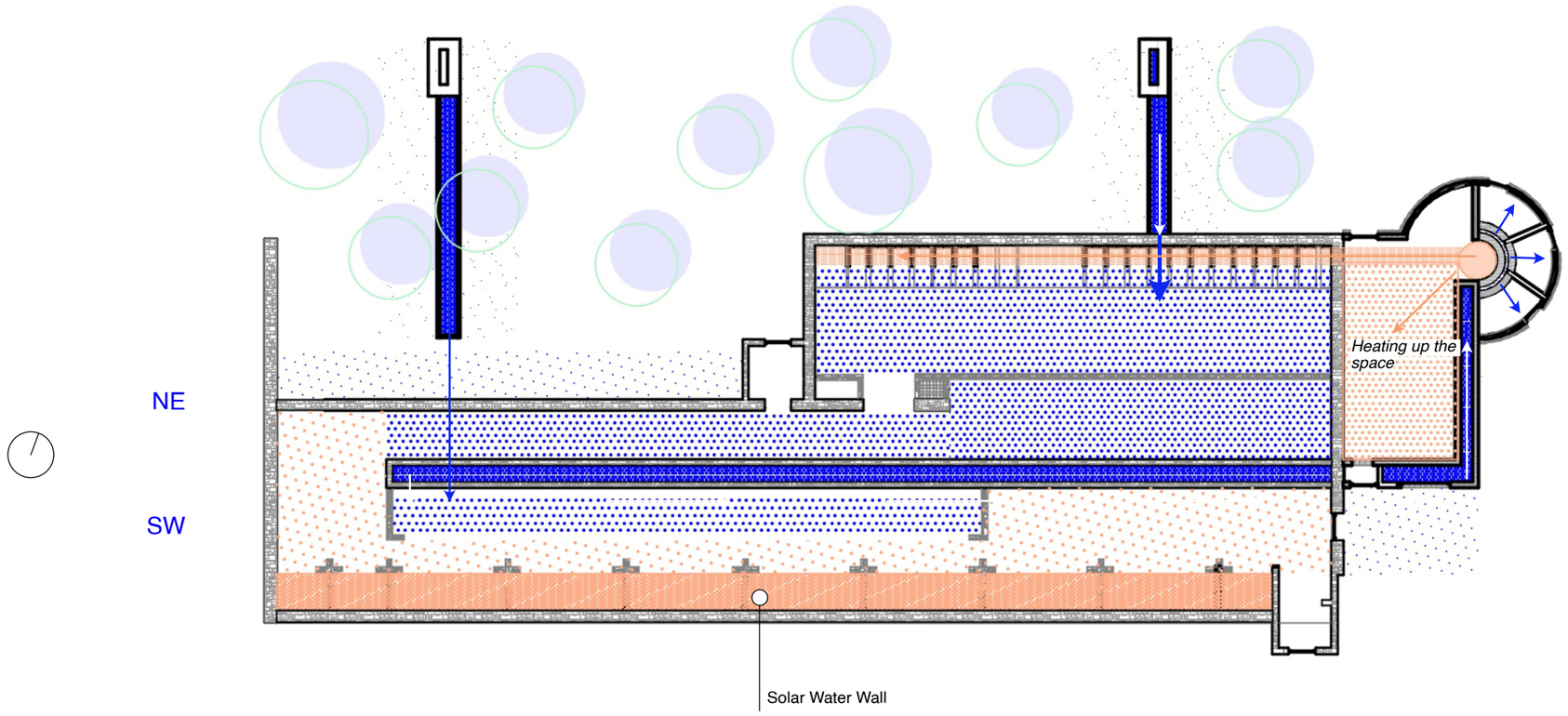



III
distributing
swimming
flushing
splashing and footbathing
Storing
cooking

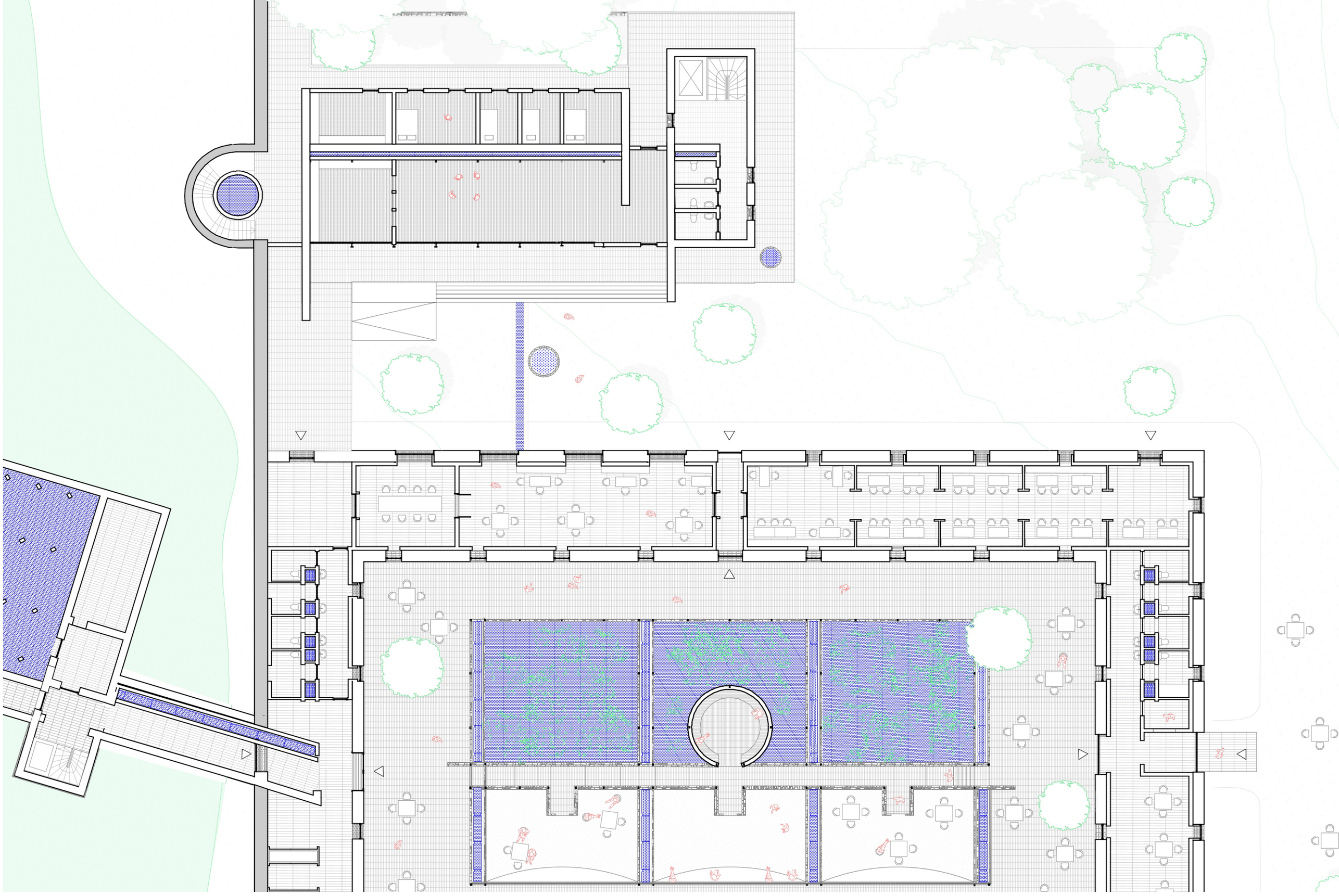


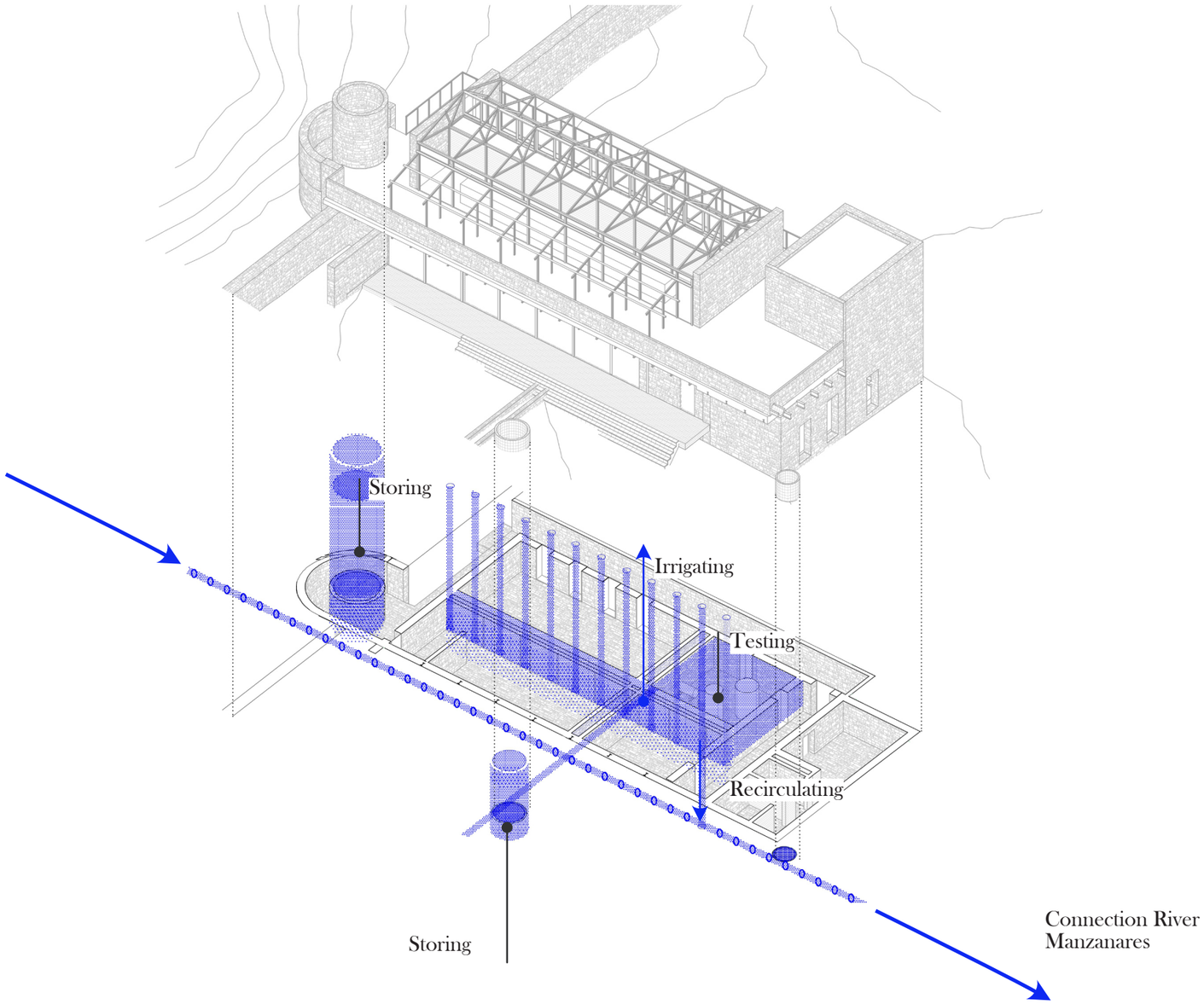
Iranian Ice-Pit_Connection Shade Wall

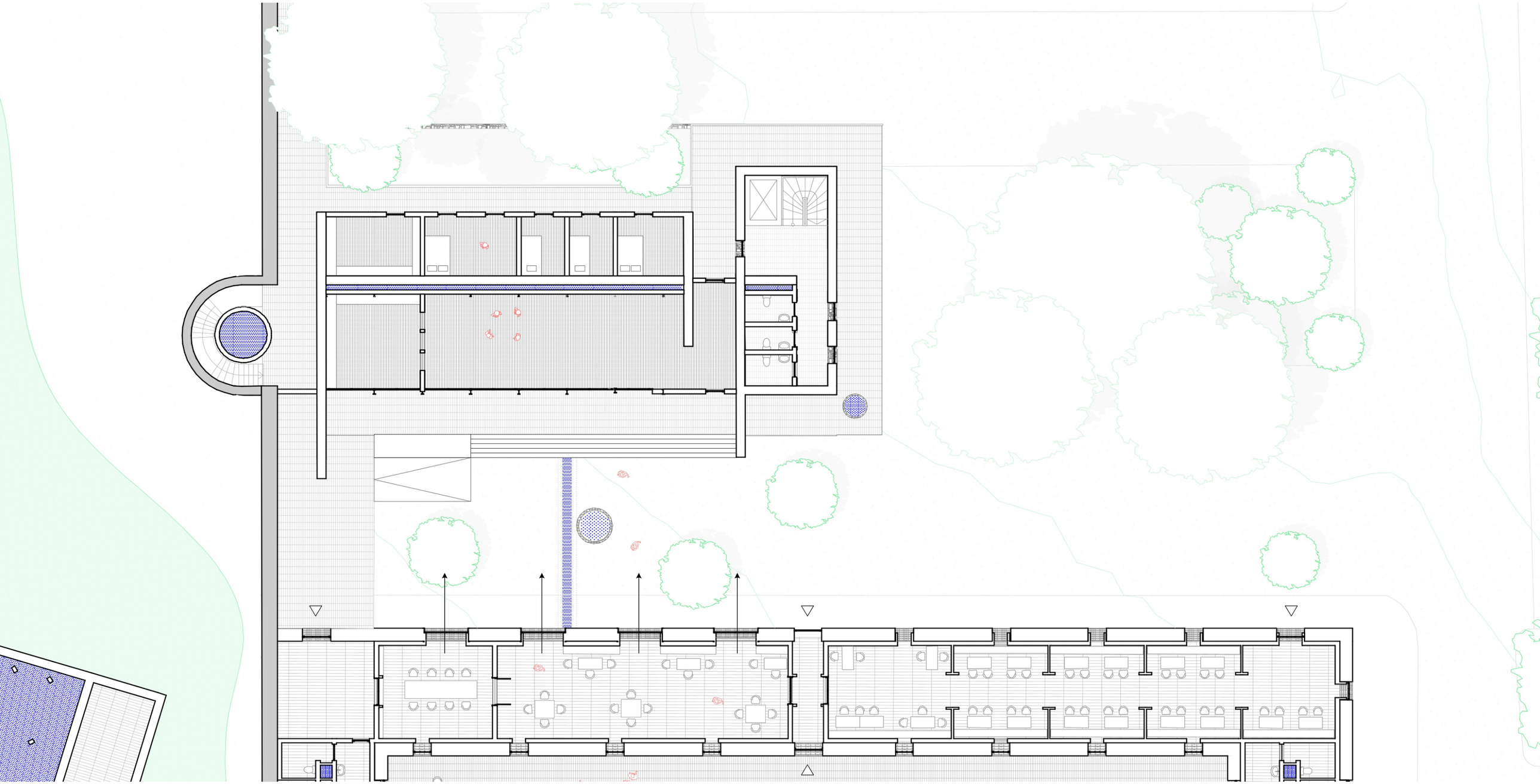
III (Temporary) Pools Climate Concept

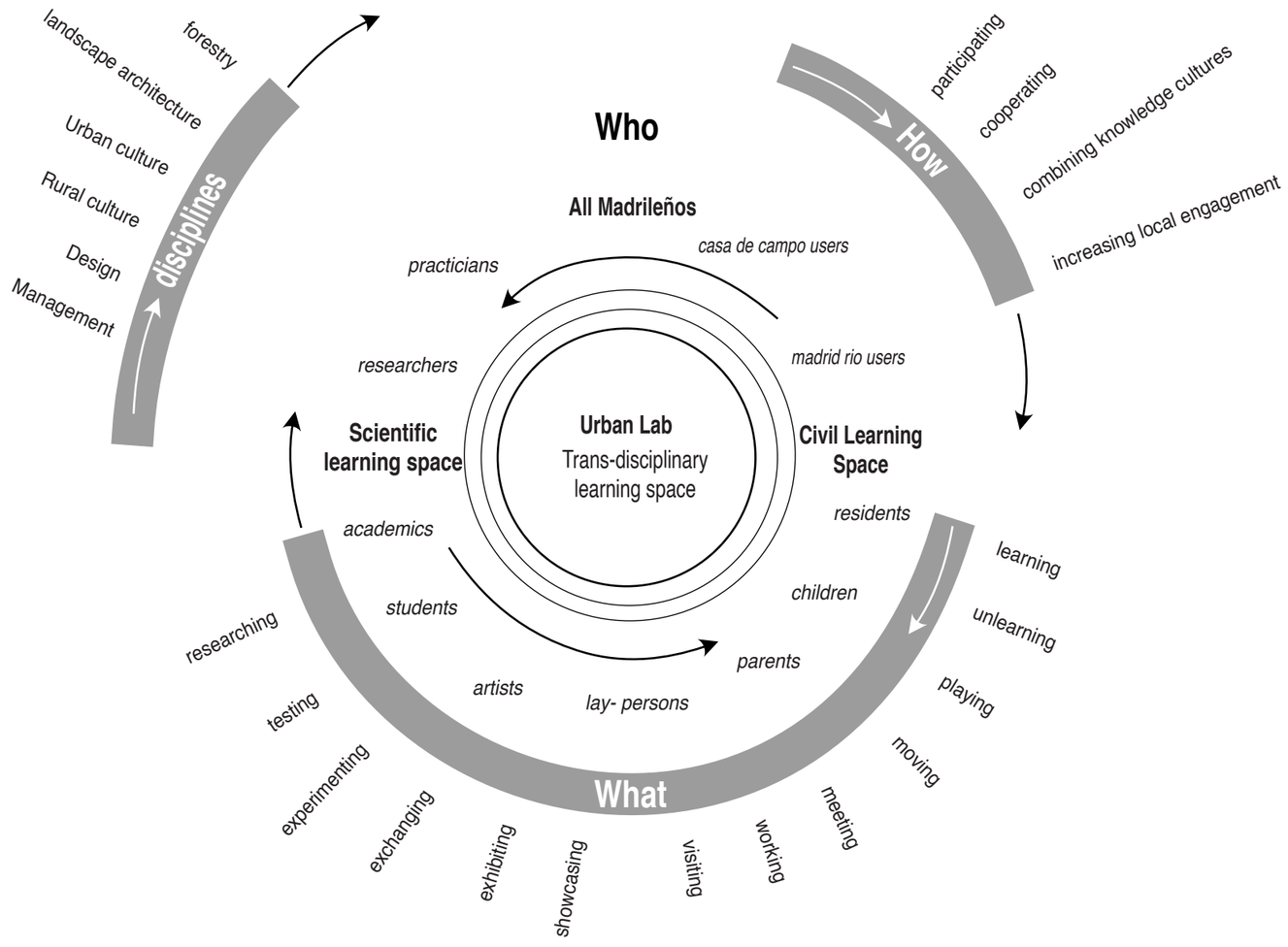


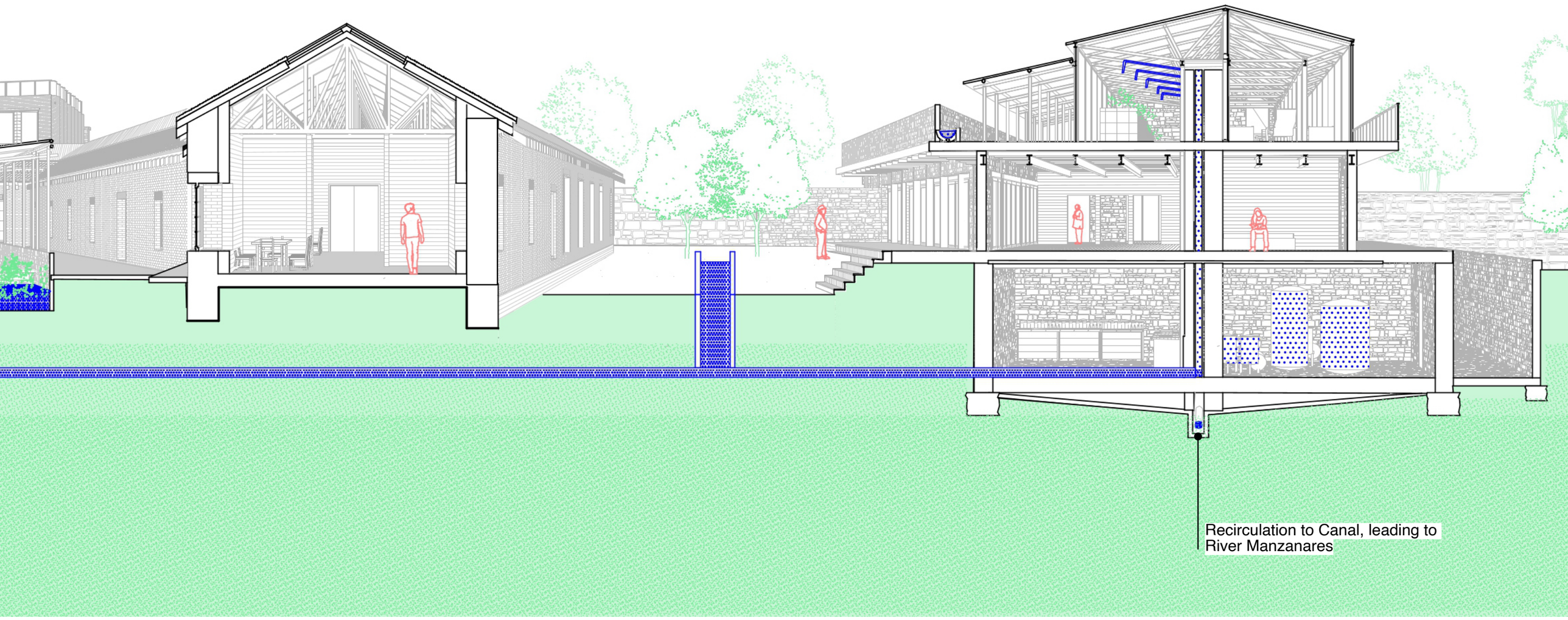





Storing
Irrigating
Testing
Recirculating
Storing
Connection River
Manzanares

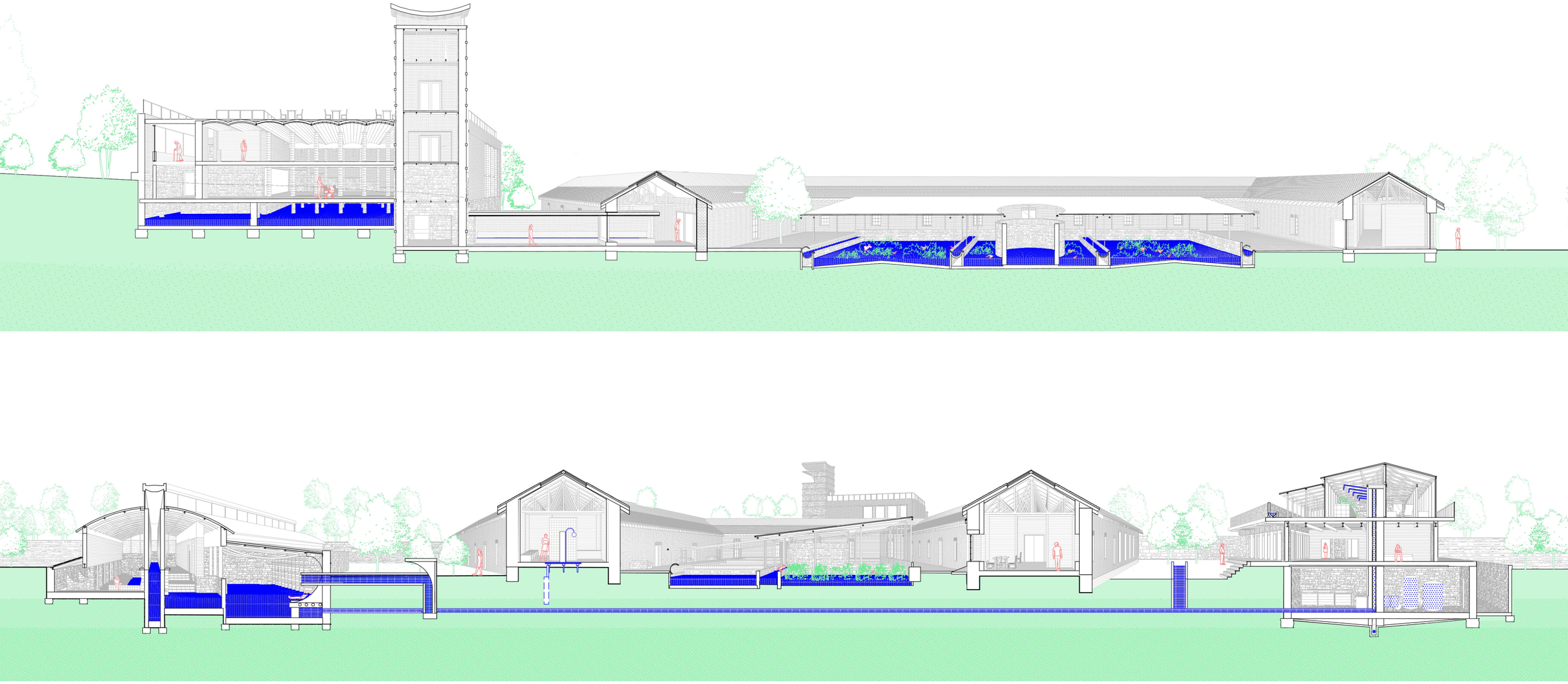



disciplines
forestry
landscape architecture
Urban culture
Rural culture
Design
Management
Who
All Madrileños
practicians
casa de campo users
researchers
madrid rio users
Scientific learning space
Urban Lab
Trans-disciplinary learning space
Civil Learning Space
academics
residents
students
children
parents
artists
lay- persons
How
participating
cooperating
combining knowledge cultures
increasing local engagement
What
researching
testing
experimenting
exchanging
exhibiting
showcasing
visiting
working
meeting
moving
playing
unlearning
learning


Recirculation to Canal, leading to
River Manzanares


BAÑOS

Whole Ensemble



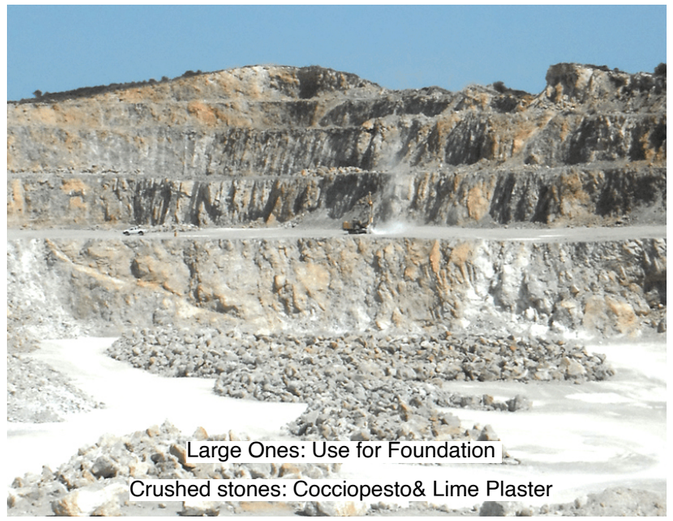


Restauration of the Retaining Wall of the Casa de Campo

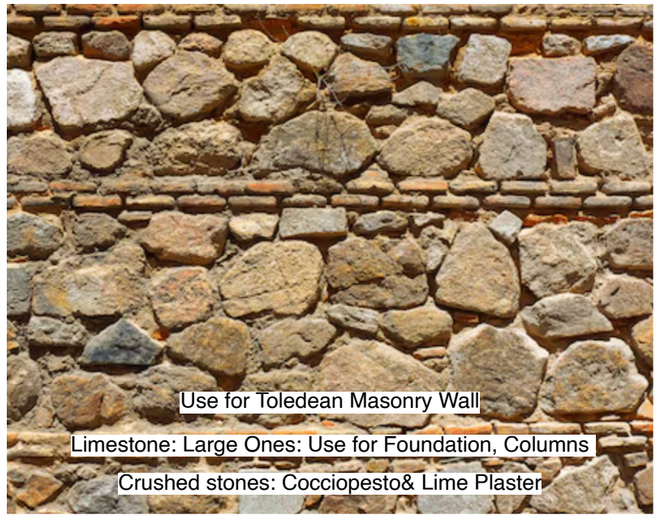
Gravel stones from park and excavation



Gravel from limestone quarries



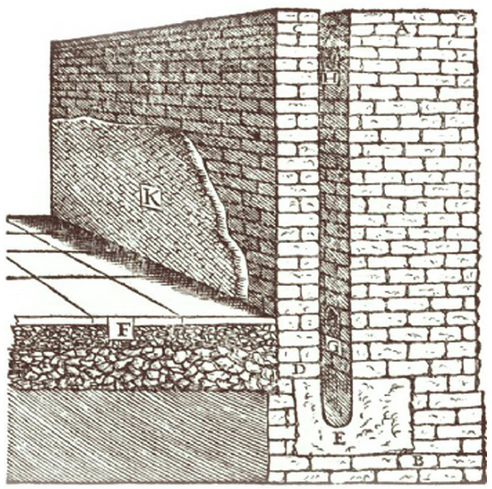
Gravel stones from park and limestone

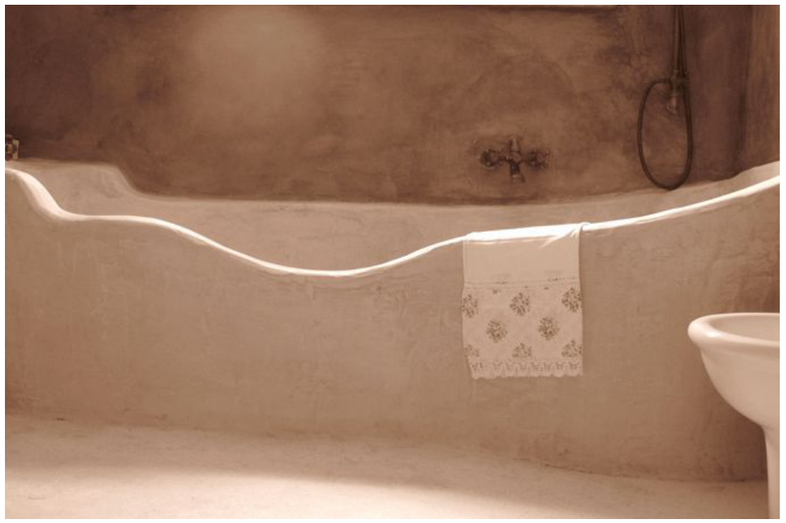


Opus signinum

Slaked lime + Crushed Tile or brick powder

Terracotta Tiles,
broken pottery





Compressed earth blocks



Ytong bricks



Hempcrete





Reused Ceramic roof tiles



Use Roof Tiles of added inner Structure for Cladding of Connection Tunnel I-II

Reused ceramic Wall/floor tiles



Use in walls/floors in direct contact with water & use for permeable path through ensemble

Manufactured Ceramics



Connecting to Madrid´s cultural heritage to produce reoccuring architectural features(ceramic pipes and tiles)

Connecting to Spains architectural heritage of catalan Vaults

Reuse Ceramic roof tiles



Use Roof Tiles of added inner Structure for Cladding of Connection Tunnel I-II

Reused ceramic Wall/floor tiles



Use in walls/floors in direct contact with water & use for permeable path through ensemble

Manufactured Ceramics

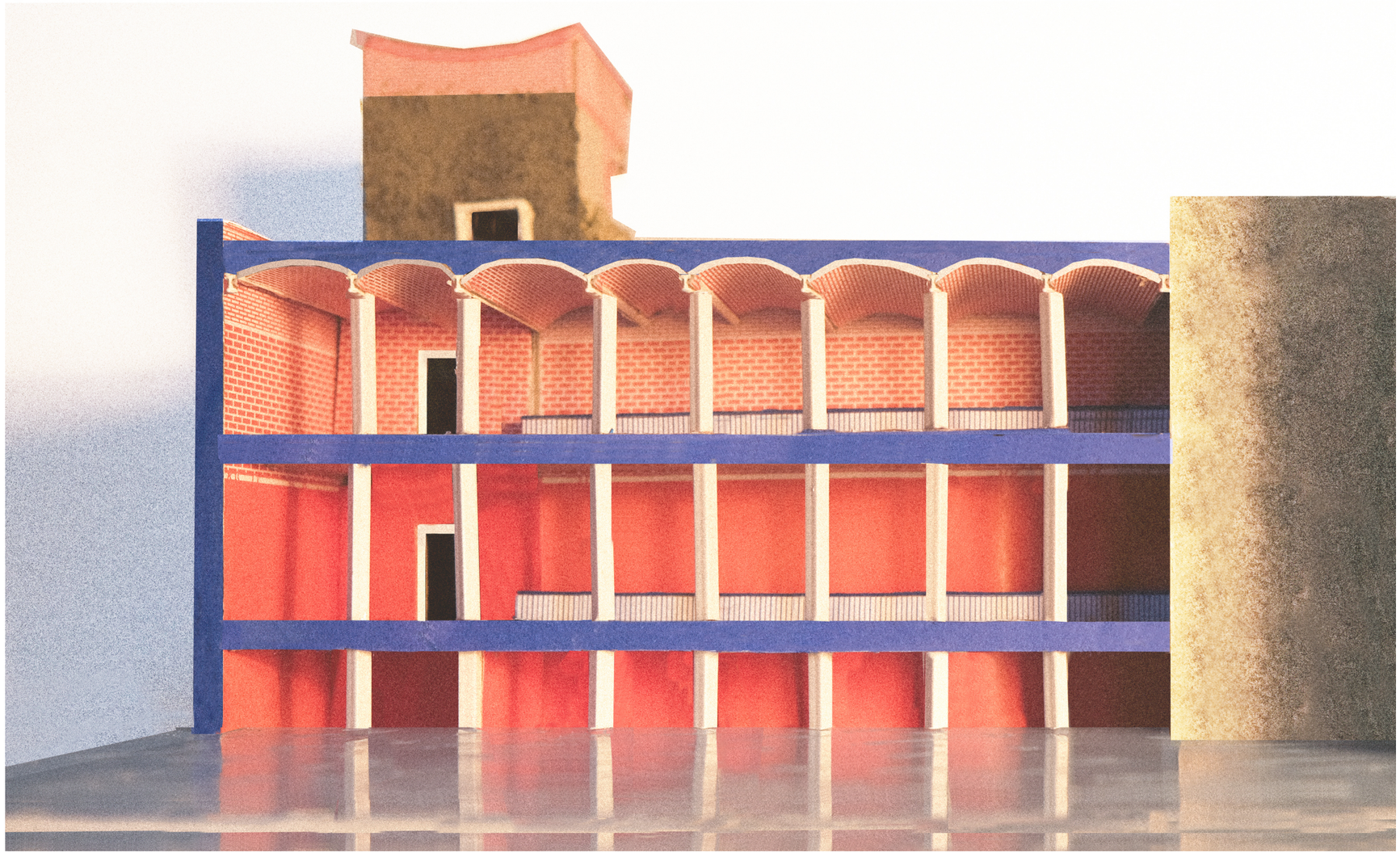


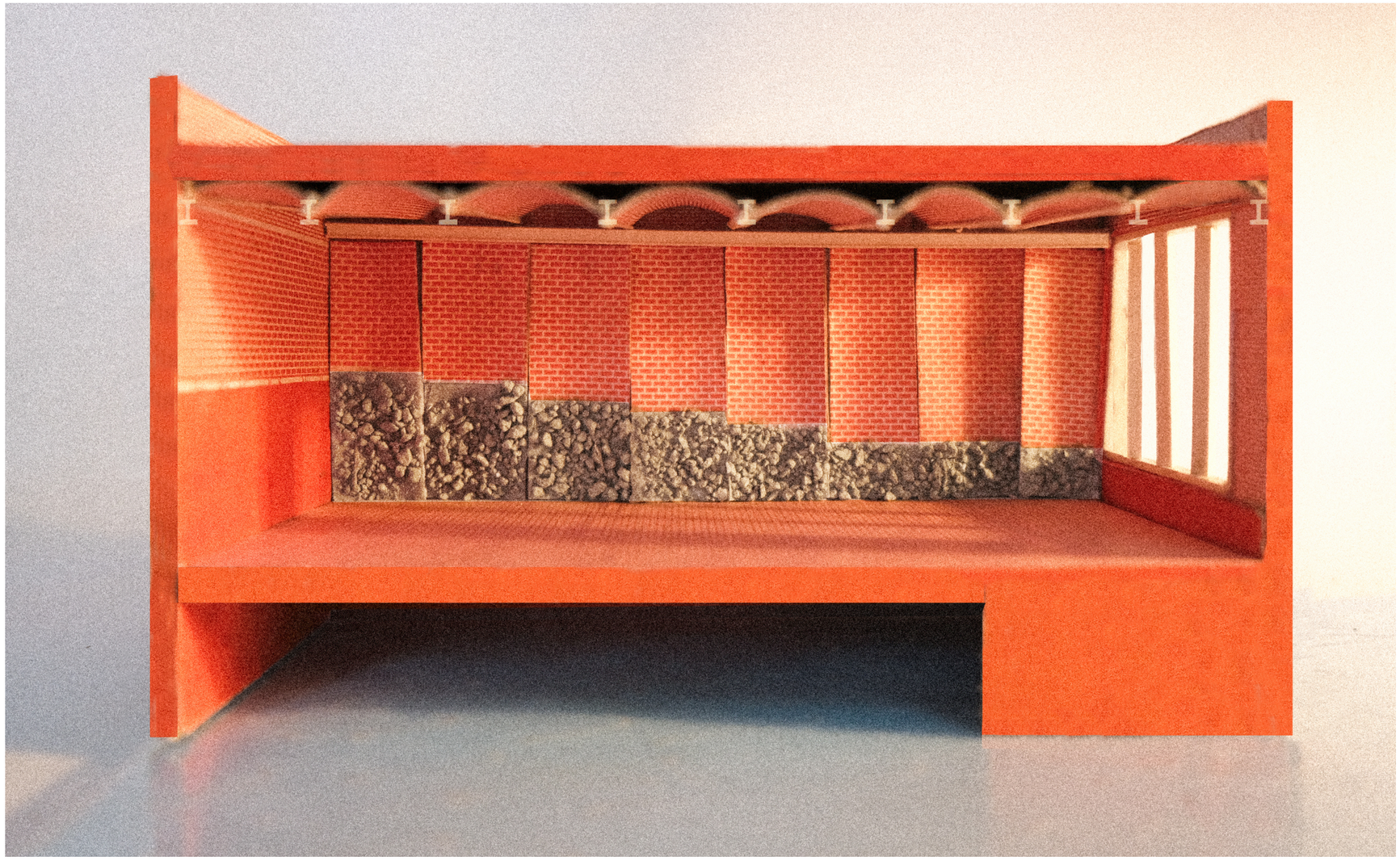
Connecting to Madrid´s cultural heritage to produce reoccuring architectural features(ceramic pipes and tiles)

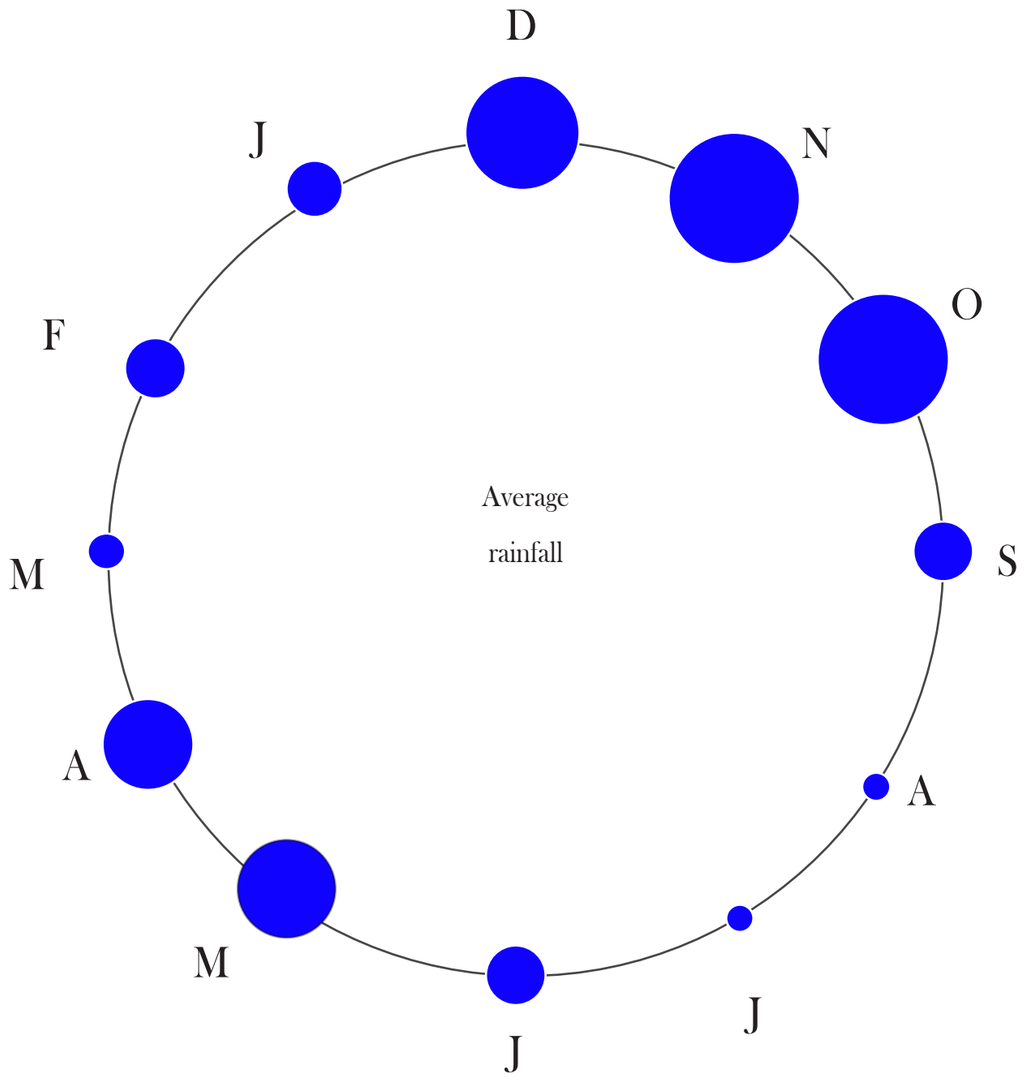
Connecting to Spains architectural heritage of catalan Vaults










D
J
N
F
O
Average
rainfall
M
S
A
A
M
J
J

Temporality

“permanence is contrary to existence”

- Enric Miralles



Casa de Campo in Winter, 2021



Historical Country House in Autumn 2024

Scenario: Hot summer day in III Temporary Pools

Temperature Outside

- +

Water Availability

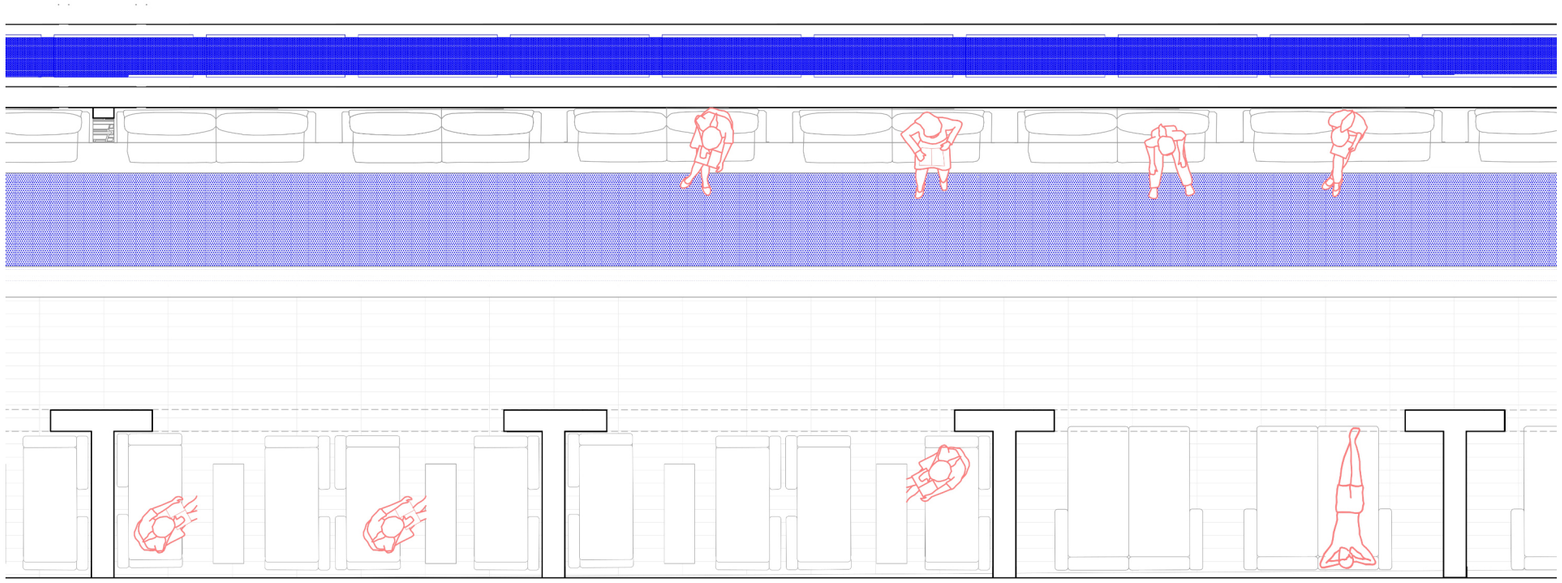
- +

Day Time

9am 9pm

Regeneration

Non-human human



- Water is protected from evaporation

- Finding refuge in naturally cooled indoor space
- Adults relaxing
- Children playing

Scenario: Rainy Day in III Temporary Pools

Temperature Outside



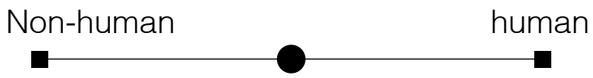
Water Availability



Day Time

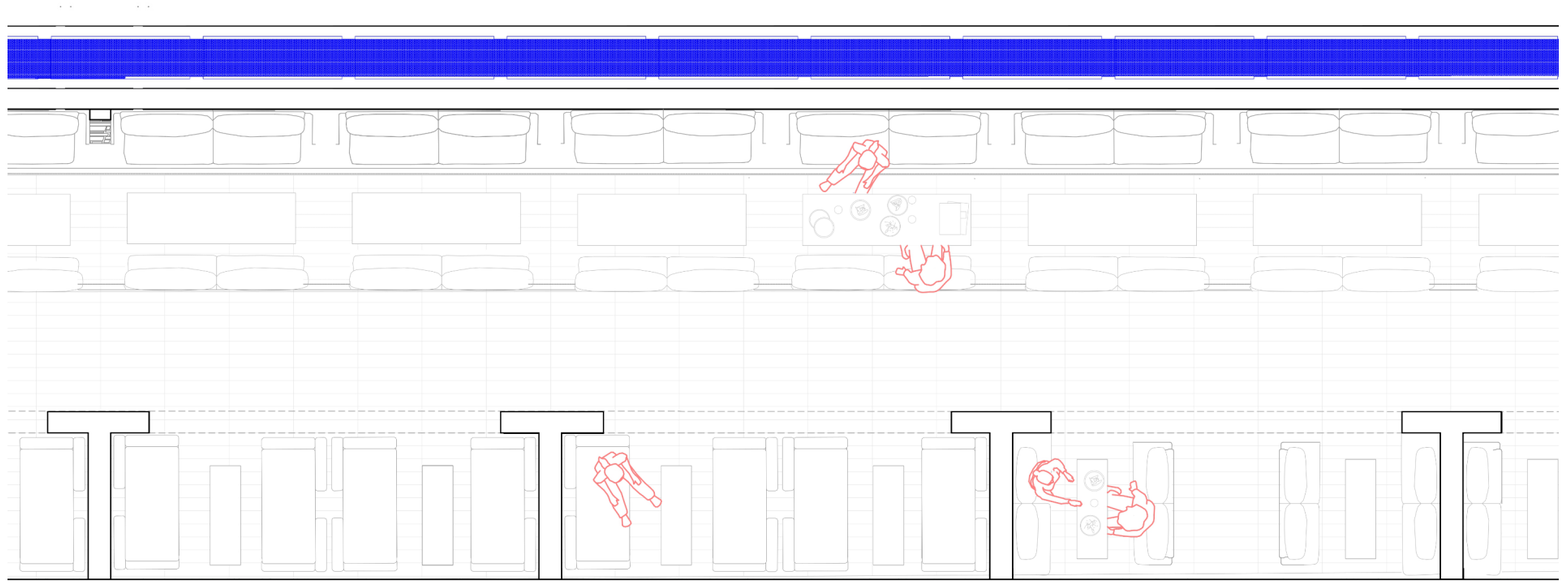


Regeneration



- Water buffers in the park and the filter system are recharching

- Finding refuge in heated indoor space
- Restaurant and Cafe attract more visitors



Temperature Outside



Water Availability

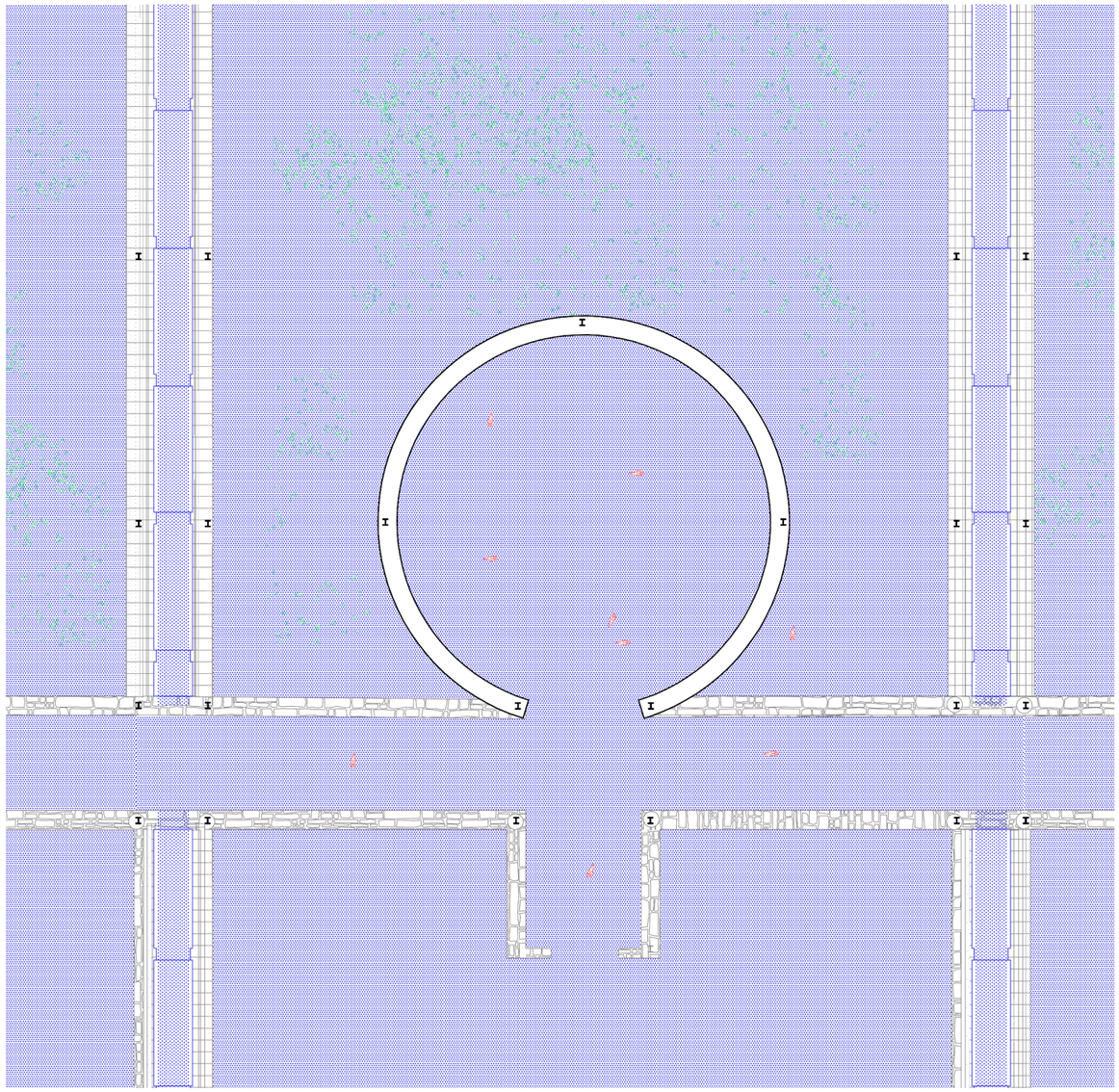


Day Time



Regeneration

- Water buffer storages are recharging
- Finding refuge in indoor spaces



Scenario: Hot summer day in II Filtration Garden

Temperature Outside



Water Availability



Day Time

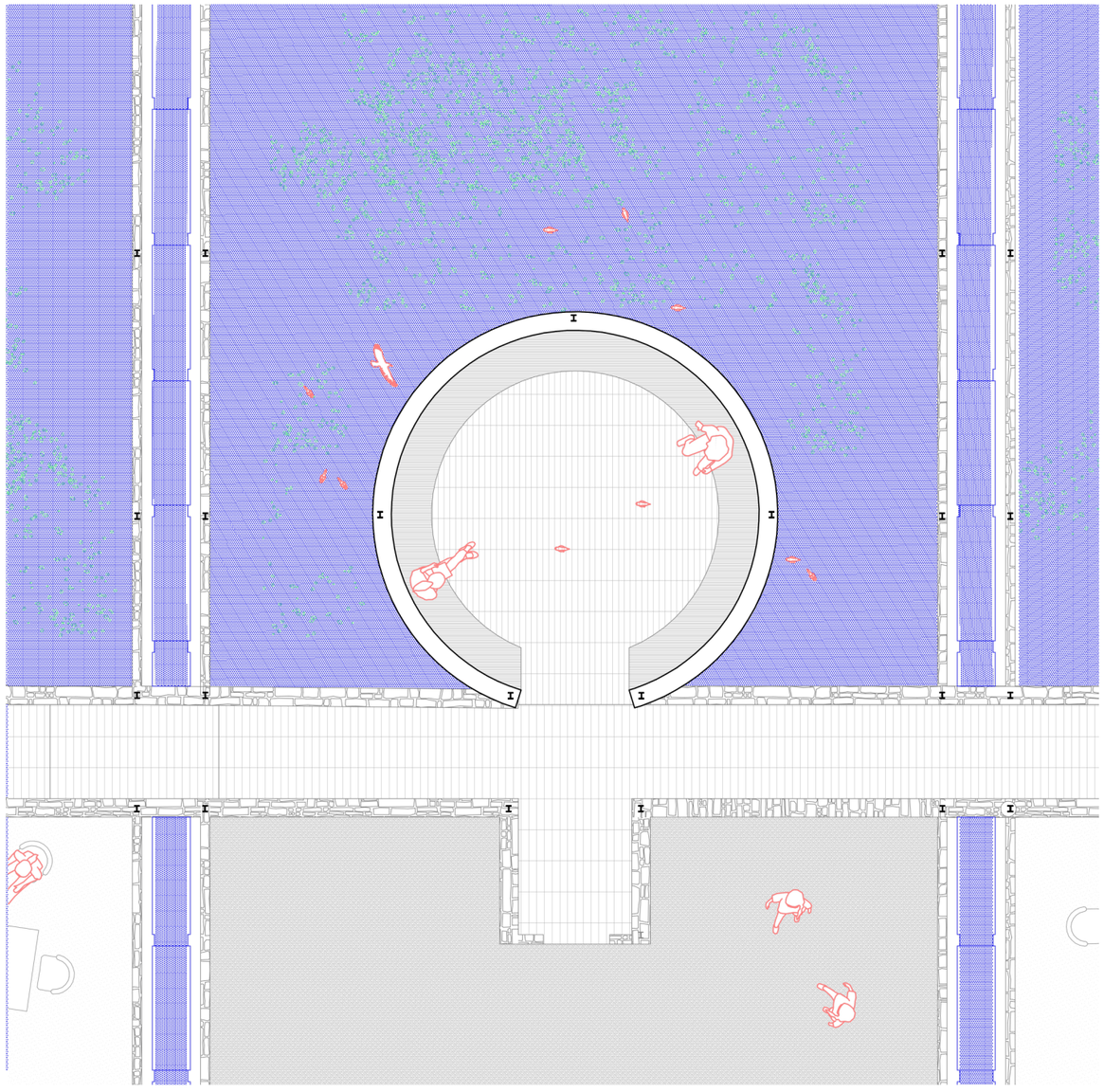


Regeneration



- Finding refuge in filtration garden also during hotspells
- Water is protected from evaporation

- Finding refuge in naturally cooled water pit and sunken garden





THANK YOU

