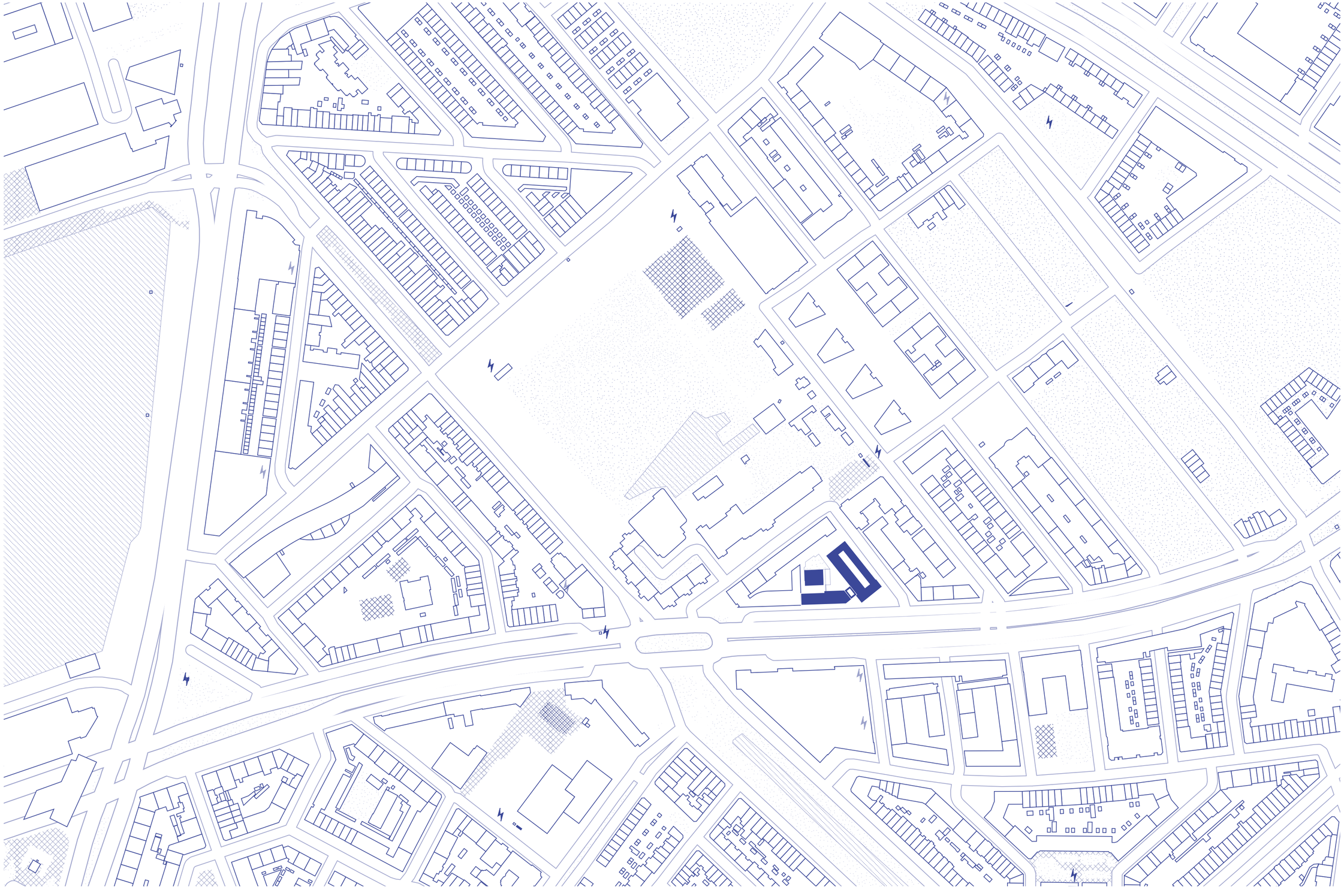
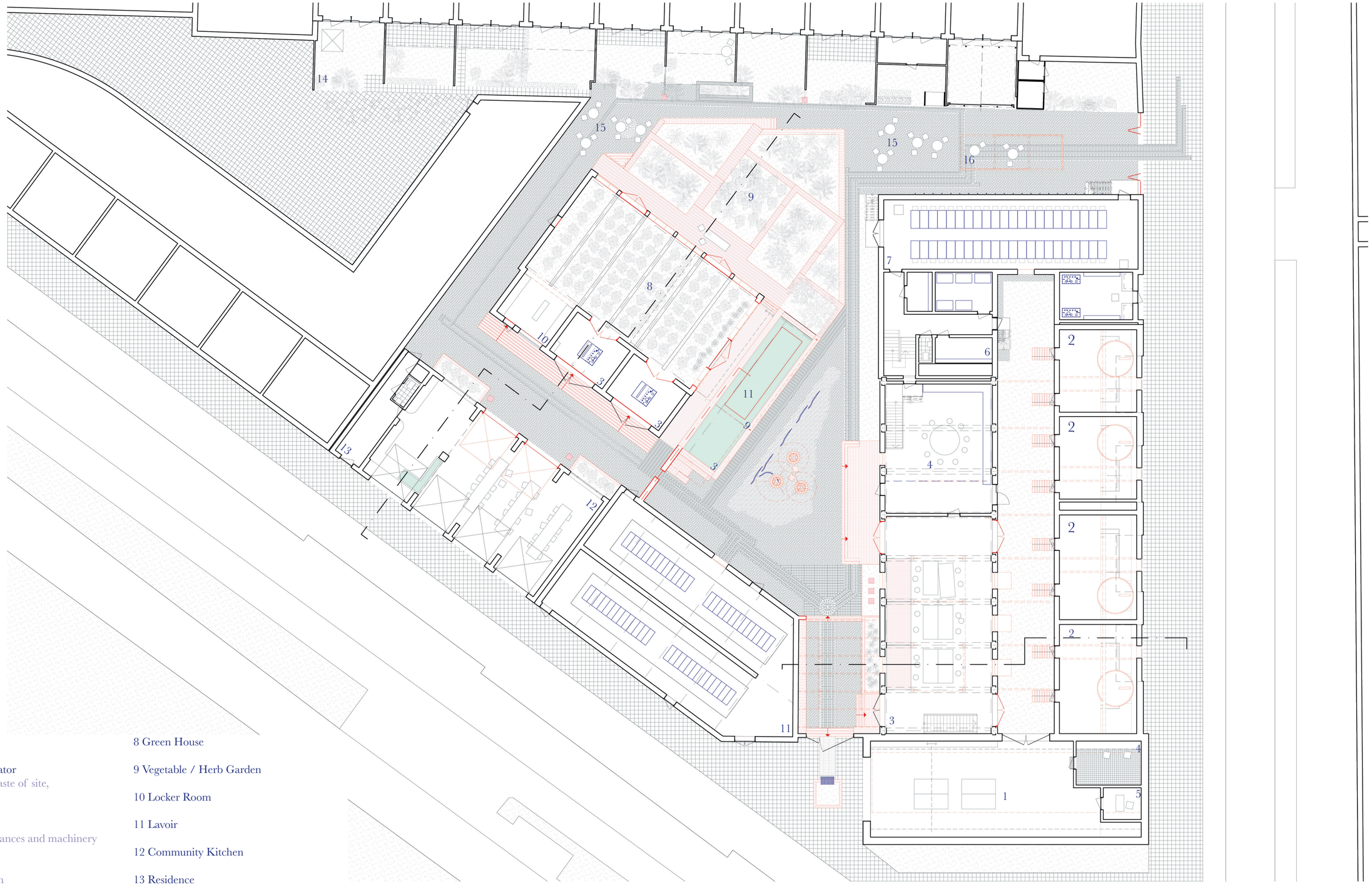
Site Plan



1:2000

Ground Floor
Adapted Situation



1 Tool Station

2 Biomass Generator
fuelled by food waste of site, market and locals

3 Workshop
fixing home appliances and machinery

4 Plenum
Conference Room

5 Office

6 Battery Storage

7 Transformer Room
50 > 10 KV

8 Green House

9 Vegetable / Herb Garden

10 Locker Room

11 Lavoir

12 Community Kitchen

13 Residence

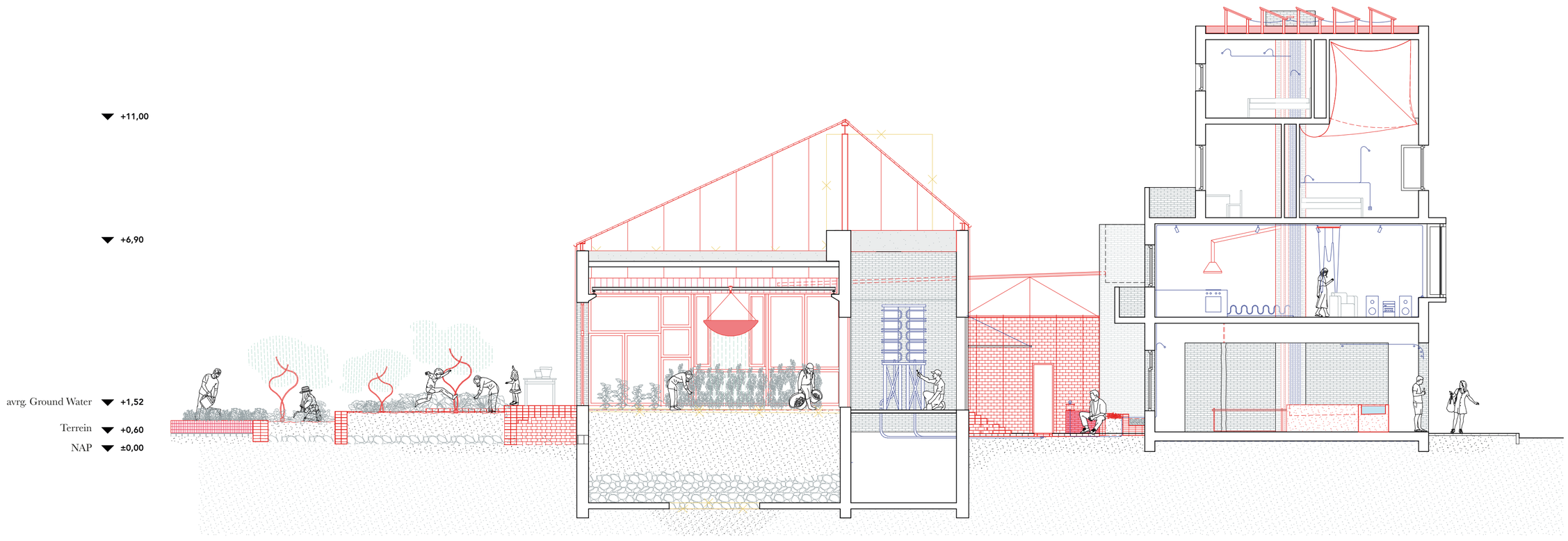
14 Private Garden

15 Semi-Public Outdoor Space

16 Pavilion

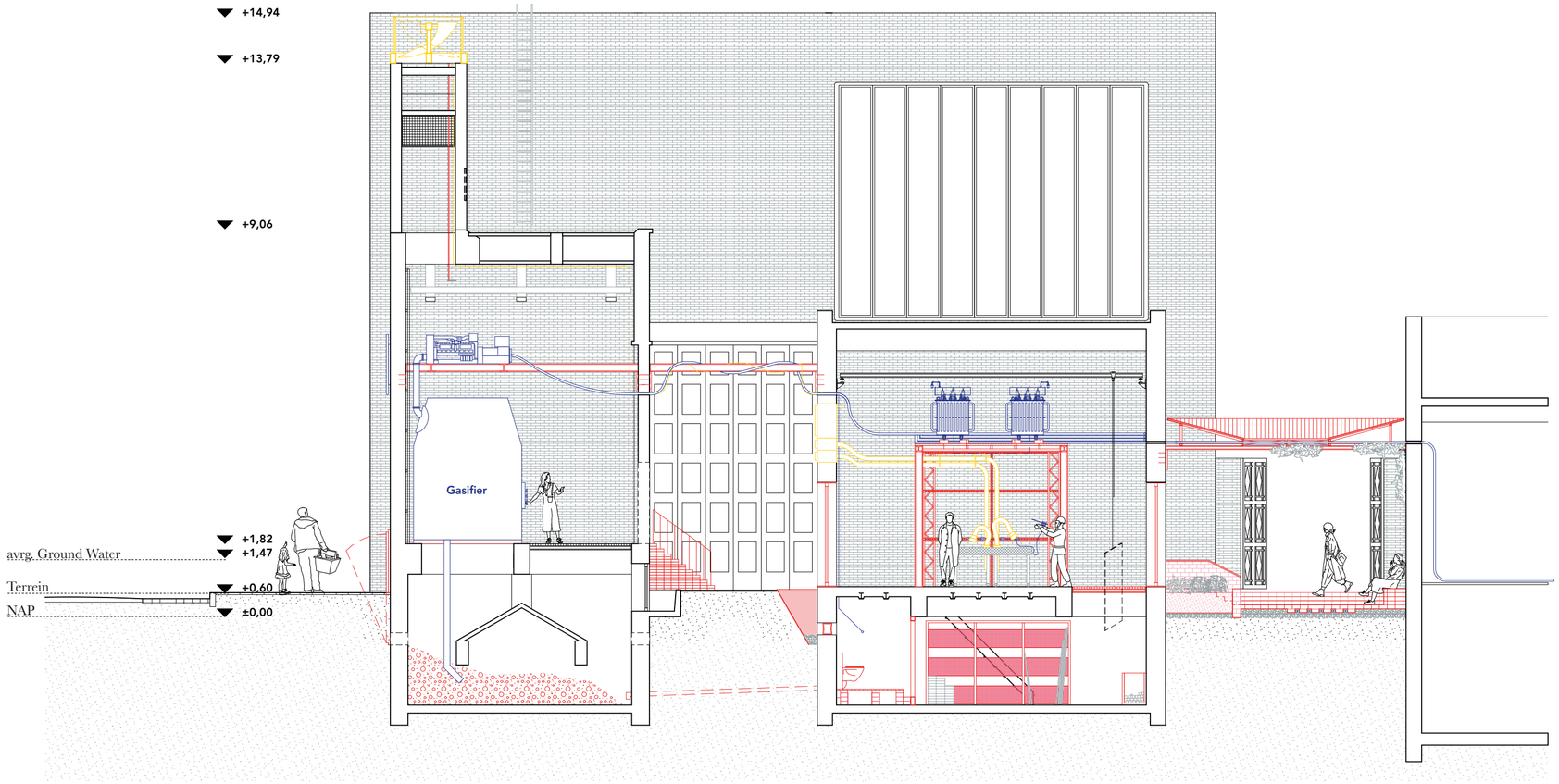
1:200

Section
Greenhouse



1:100

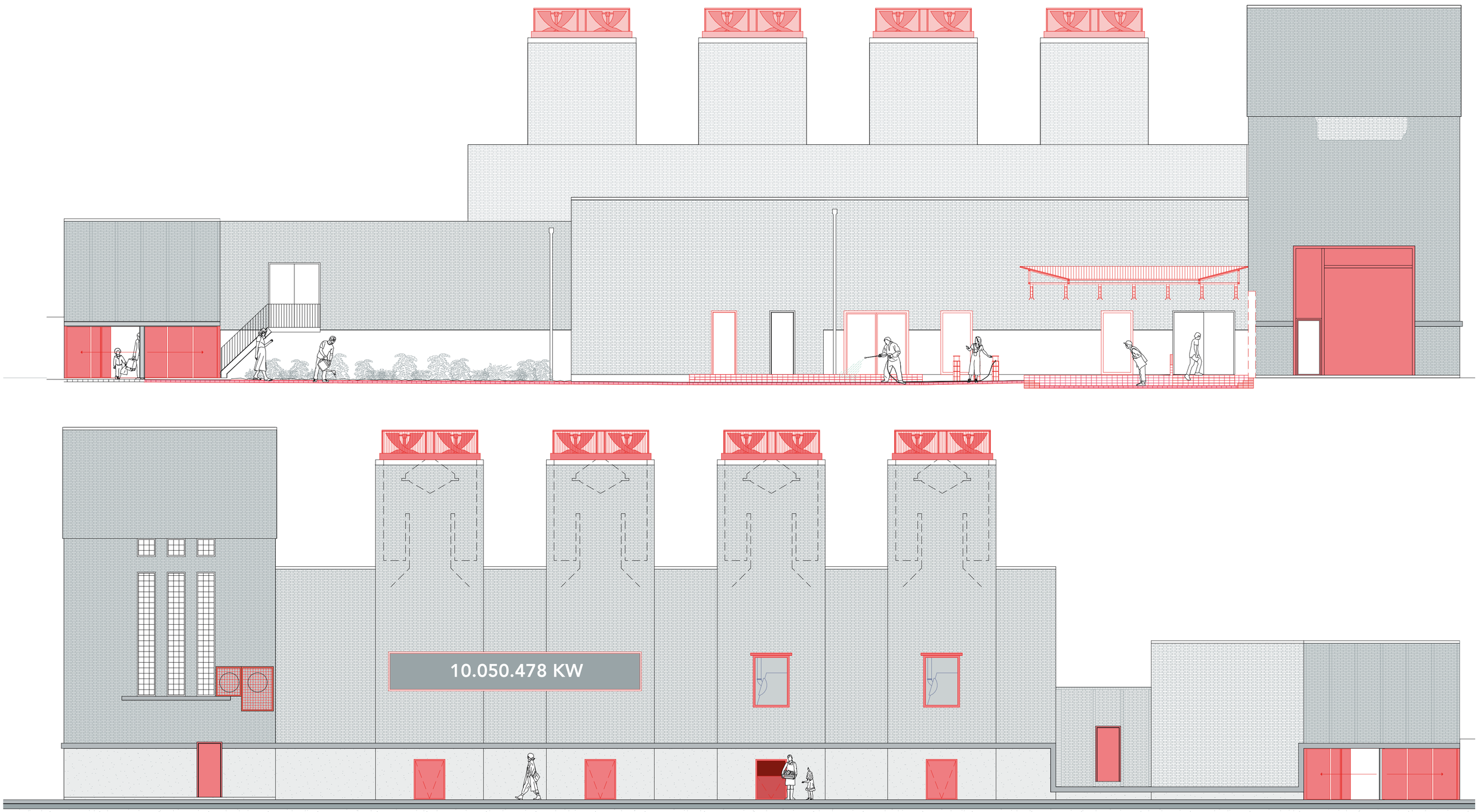
Section
Workshop + Biomass



1:100

Elevation

Biomass Generators and Workshop



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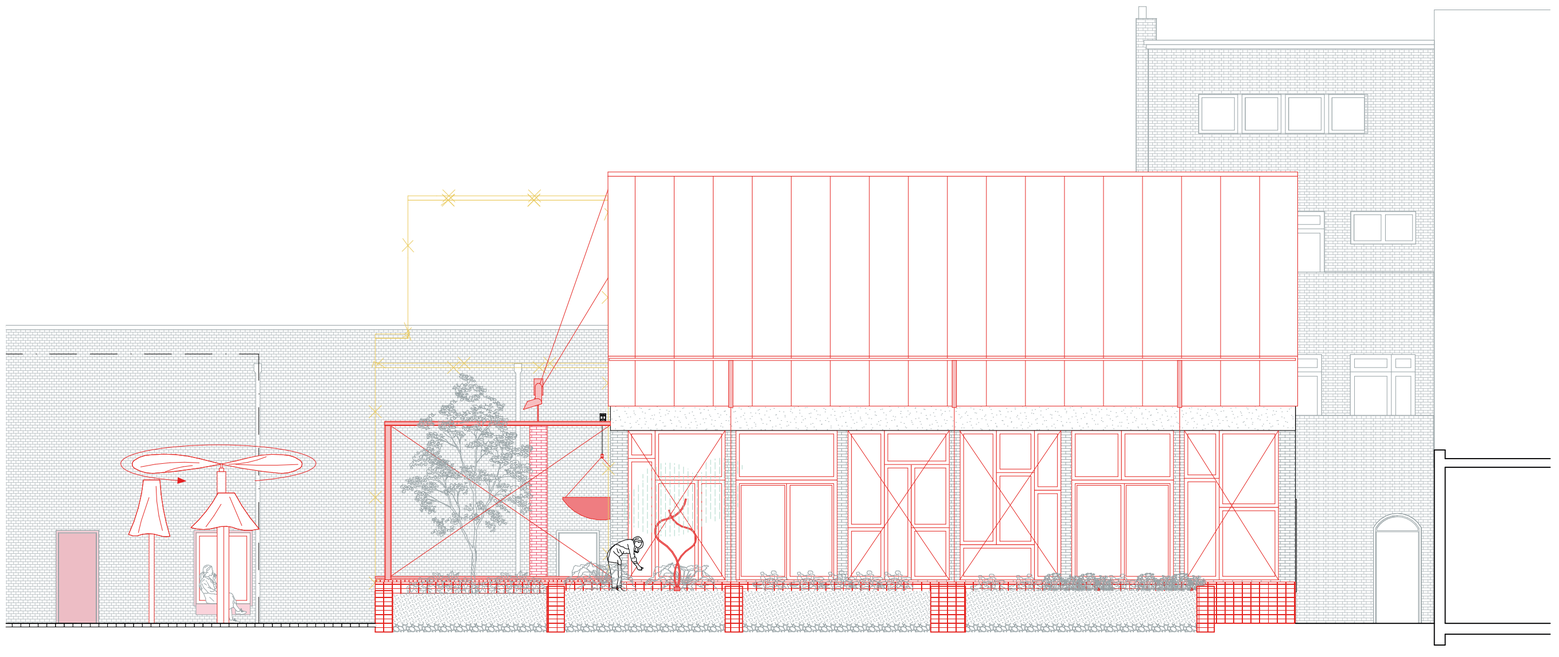
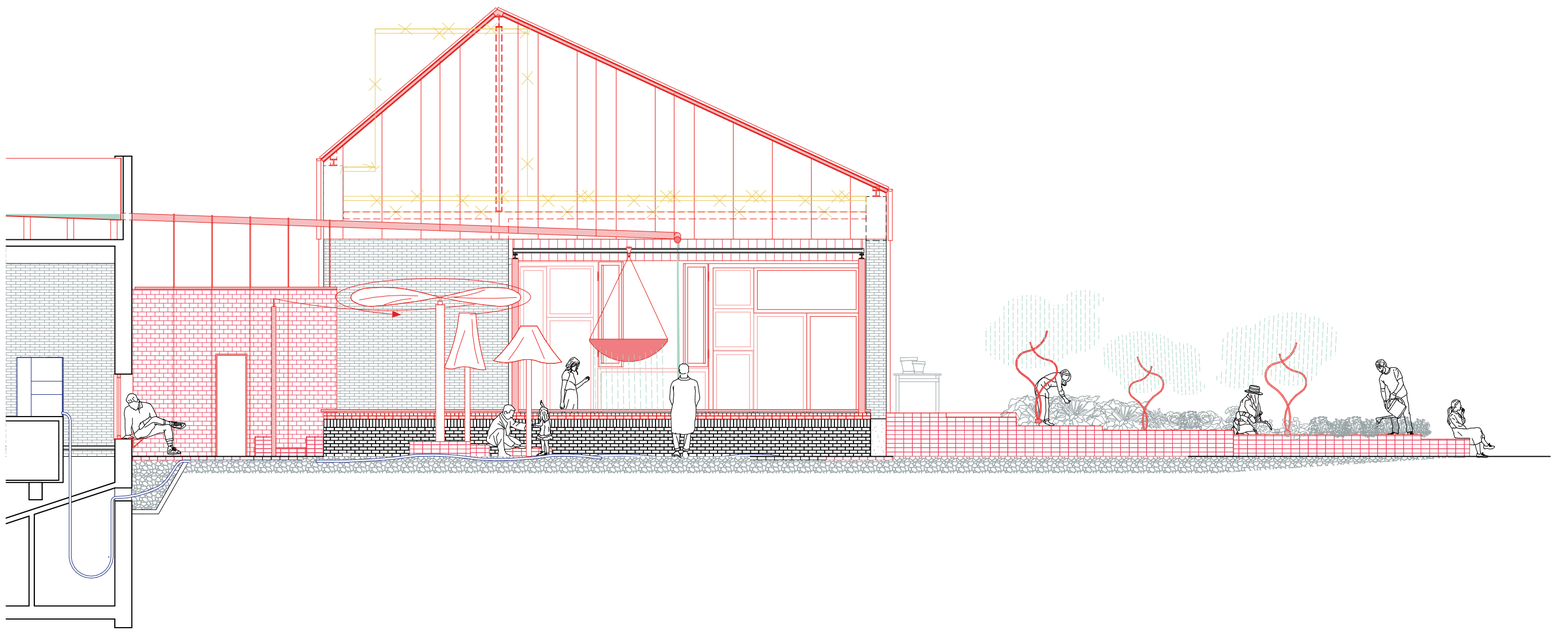
Elevation
Greenhouse





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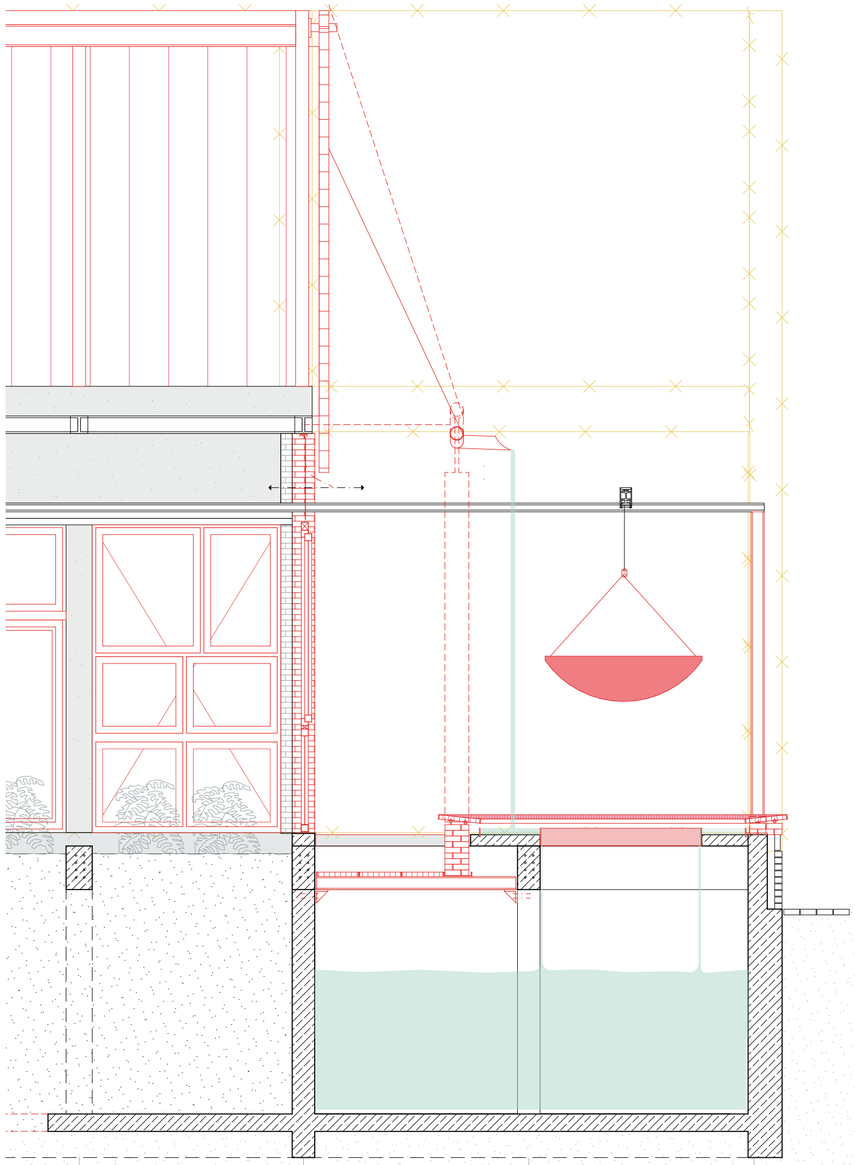
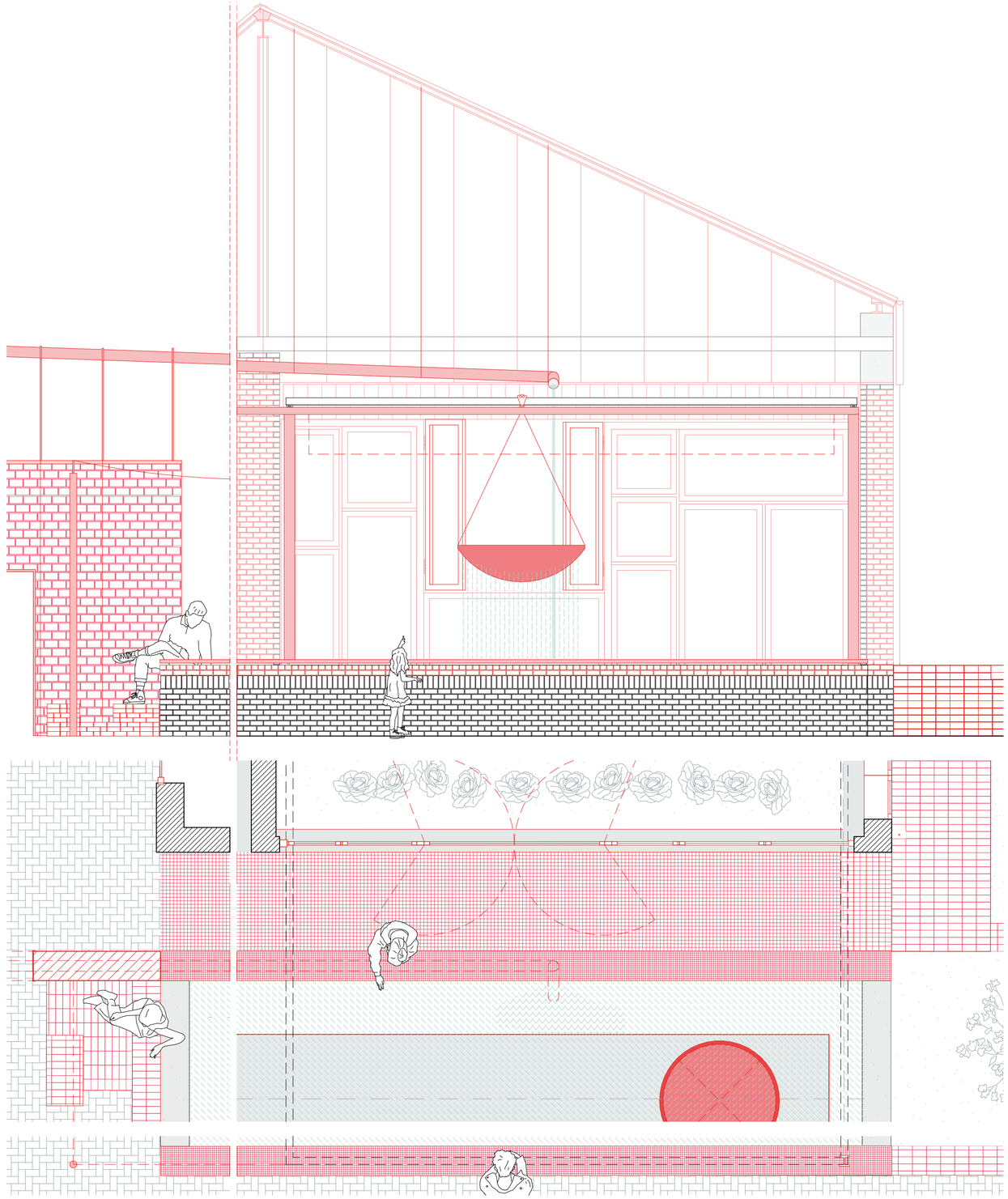
Fragment
Lavoir





1:50

Detail
Informing Material Relations

Electrical Stela

Stacked concrete paver
100 x 200 x 85 mm

Steel wire
d = 8 mm

Cable guard, wood
40 x 40 mm

Threaded rod
d = 8 mm

Folded sheet metal, steel
220 x 220 x 3 mm

Cable Trench & Drainage

Concrete Paver
100 x 200 x 85 mm

Klinker
180 x 85 x 65 mm

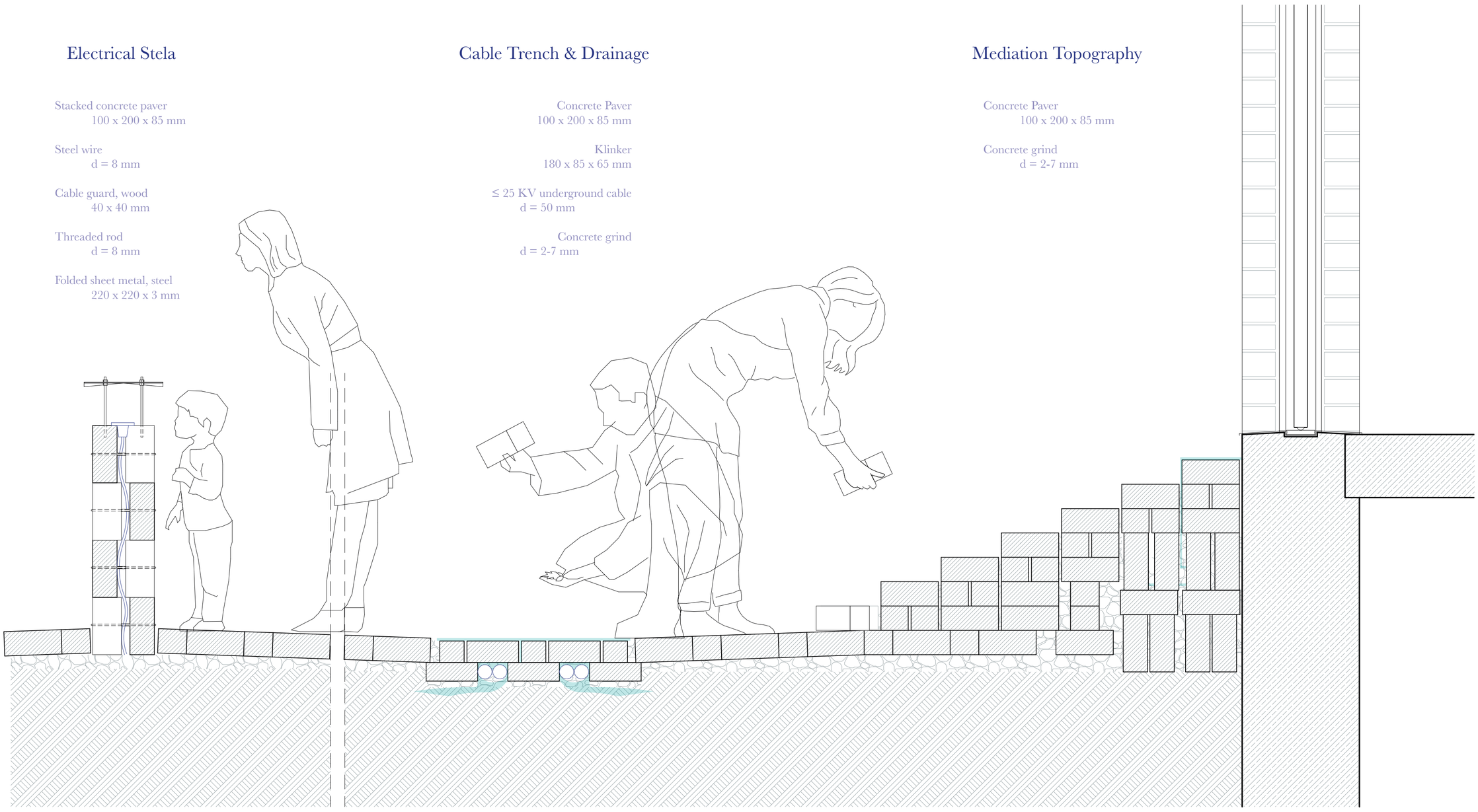
≤ 25 KV underground cable
d = 50 mm

Concrete grind
d = 2-7 mm

Mediation Topography

Concrete Paver
100 x 200 x 85 mm

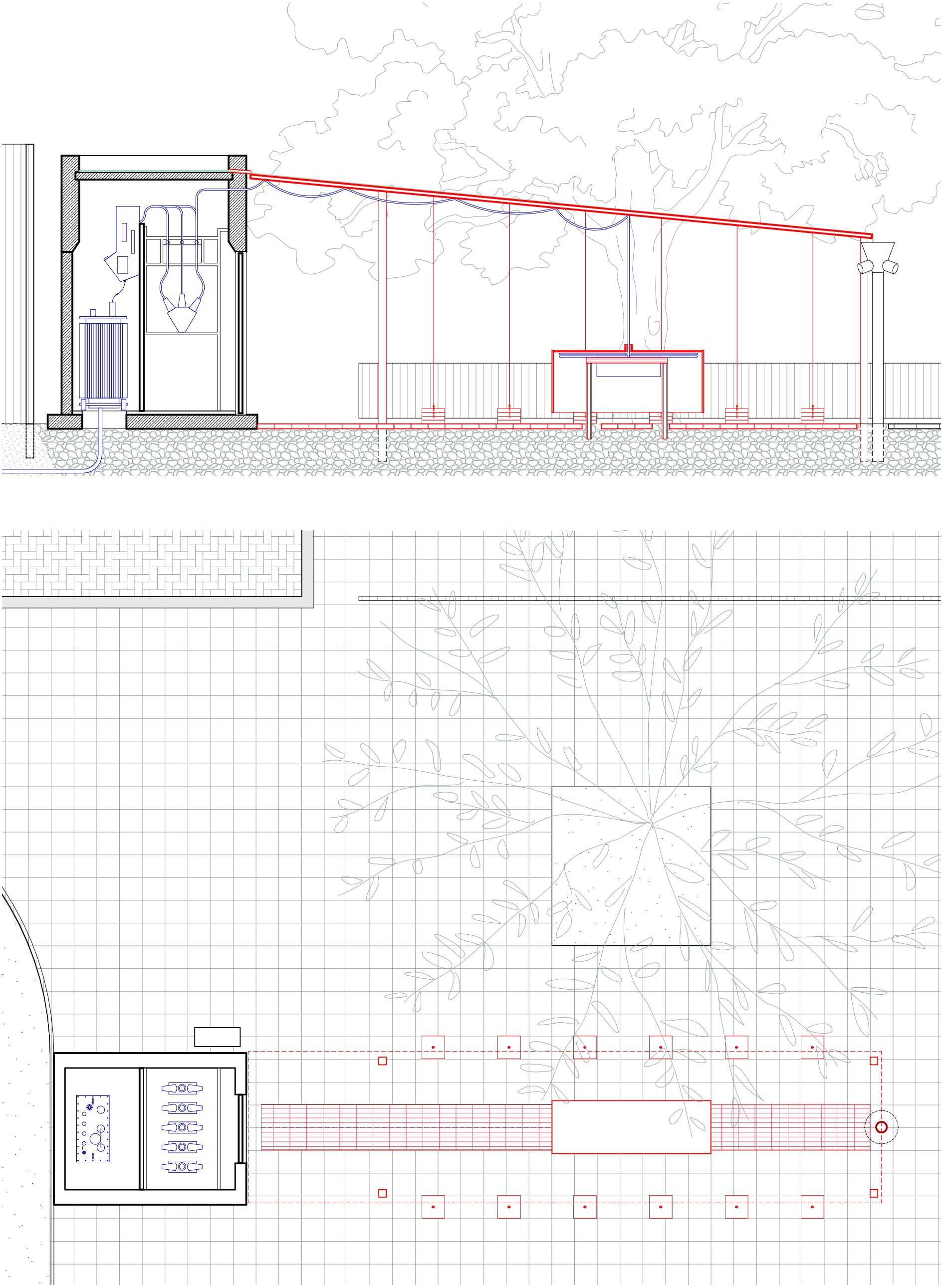
Concrete grind
d = 2-7 mm



1:10

TRAFO HOUSE PUTSEPLEIN

PLAN AND SECTION



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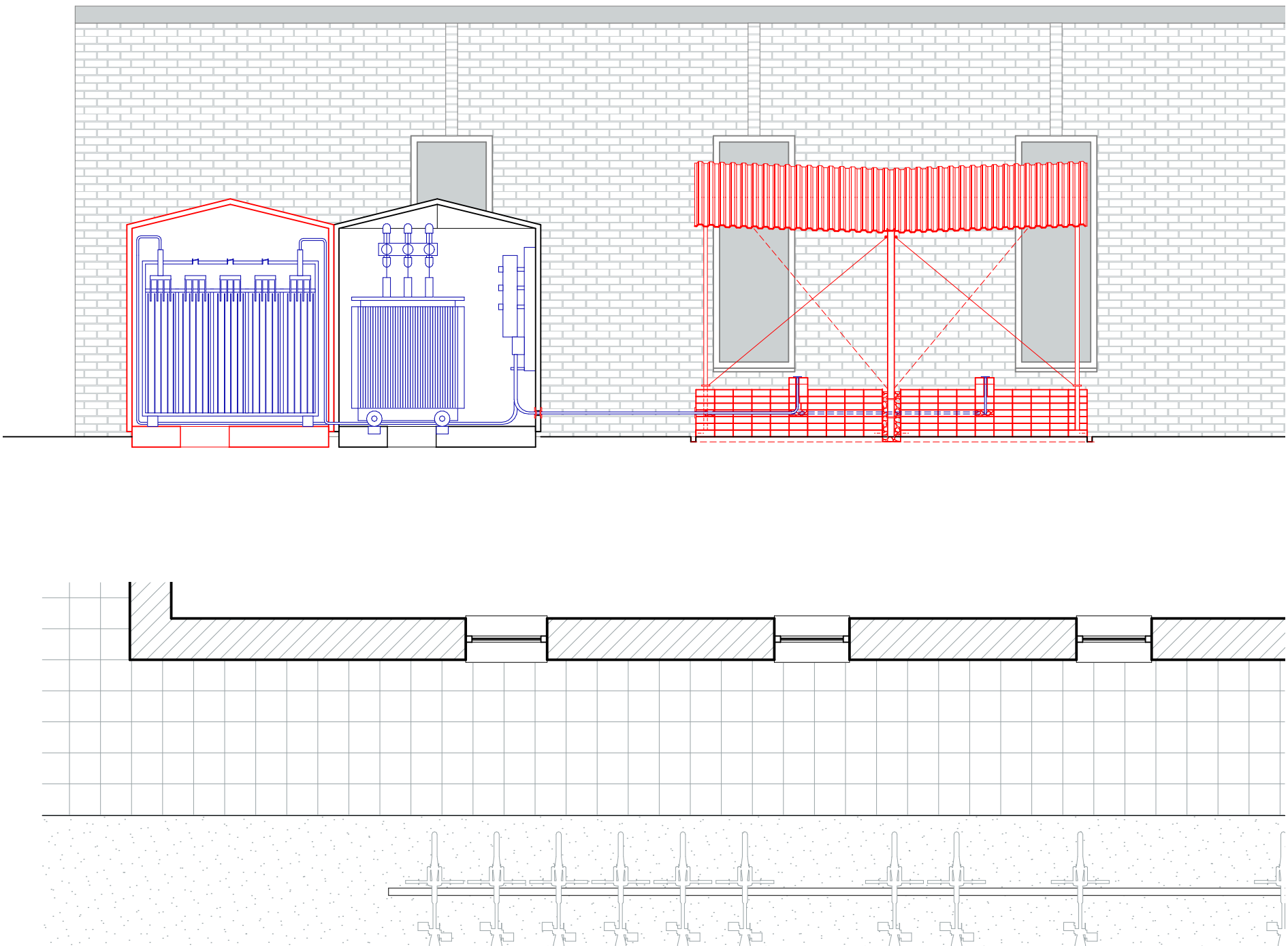
TRAFO HOUSE DE SLEUTEL

PLAN AND SECTION



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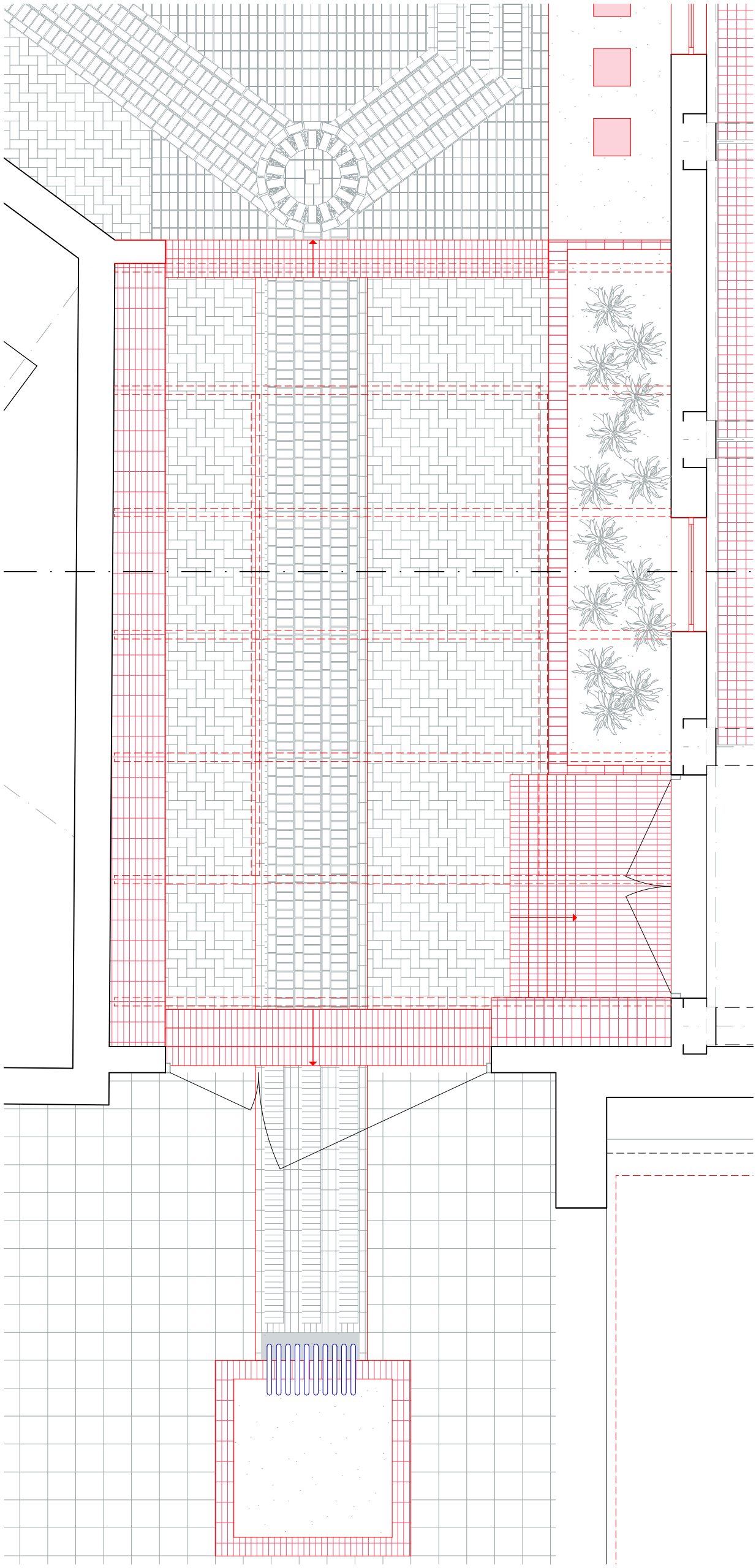
ENTRANCE SITUATION

PLAN



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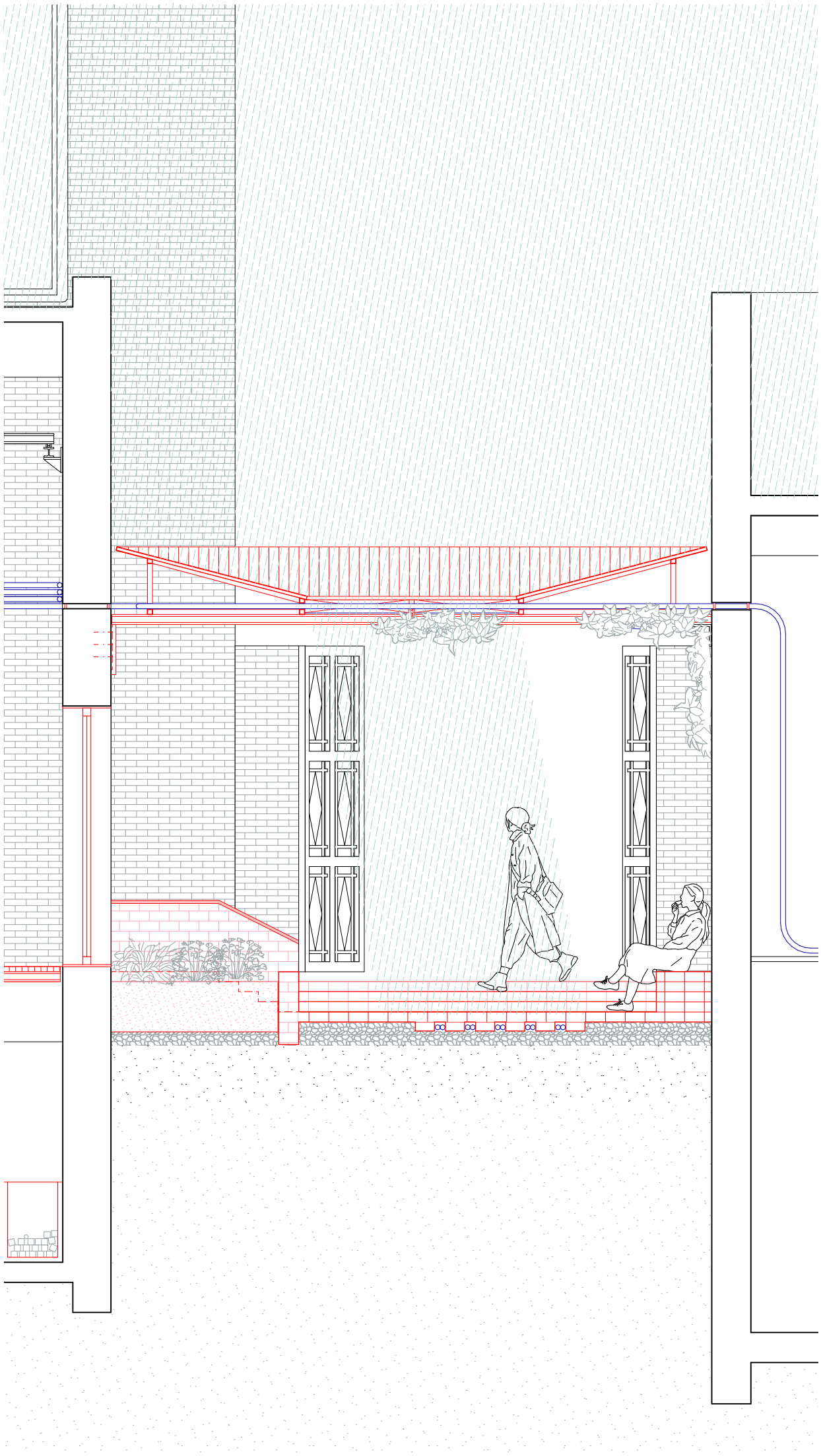
ENTRANCE SITUATION

SECTION



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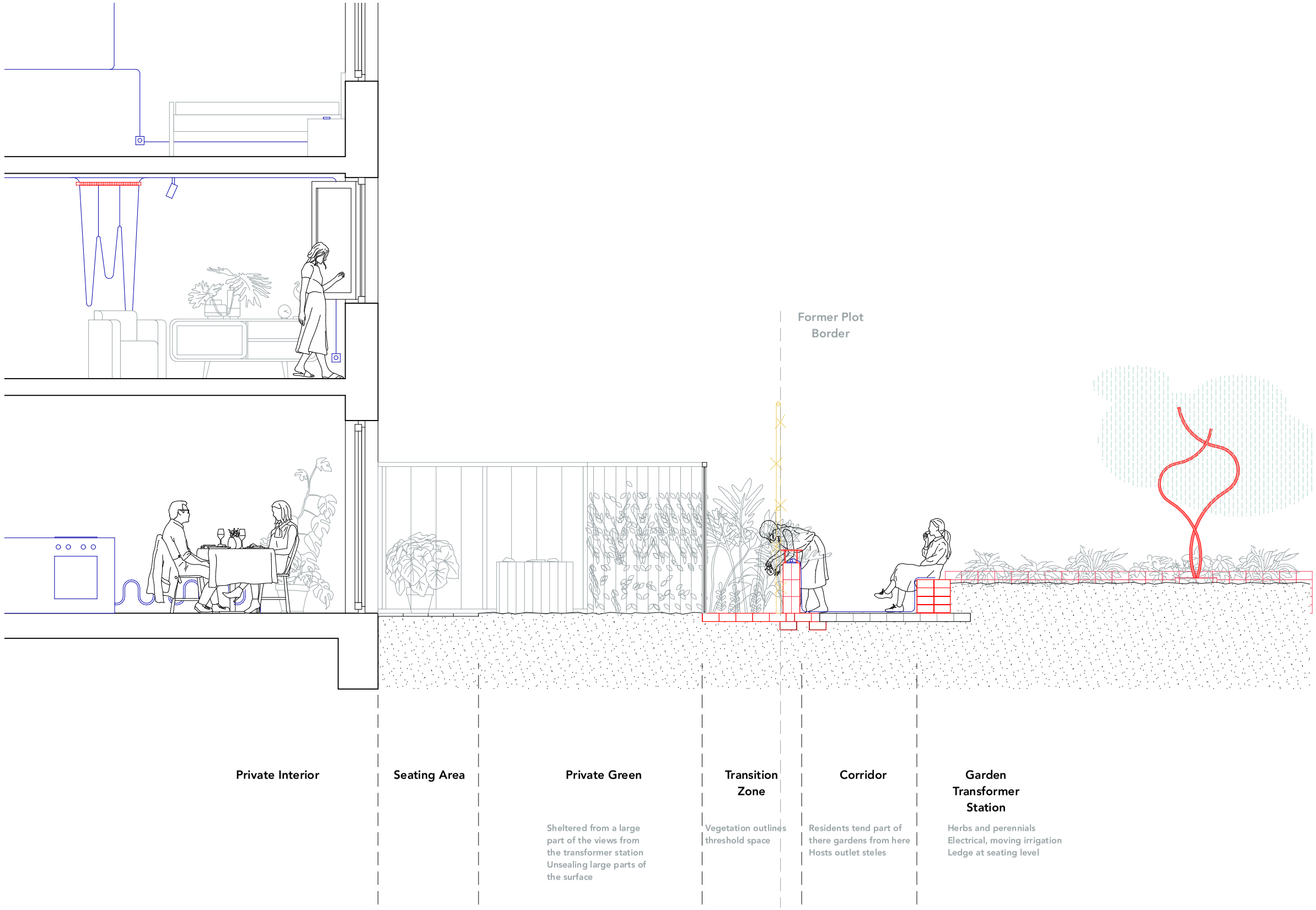
THRESHOLD NEIGHBOURS

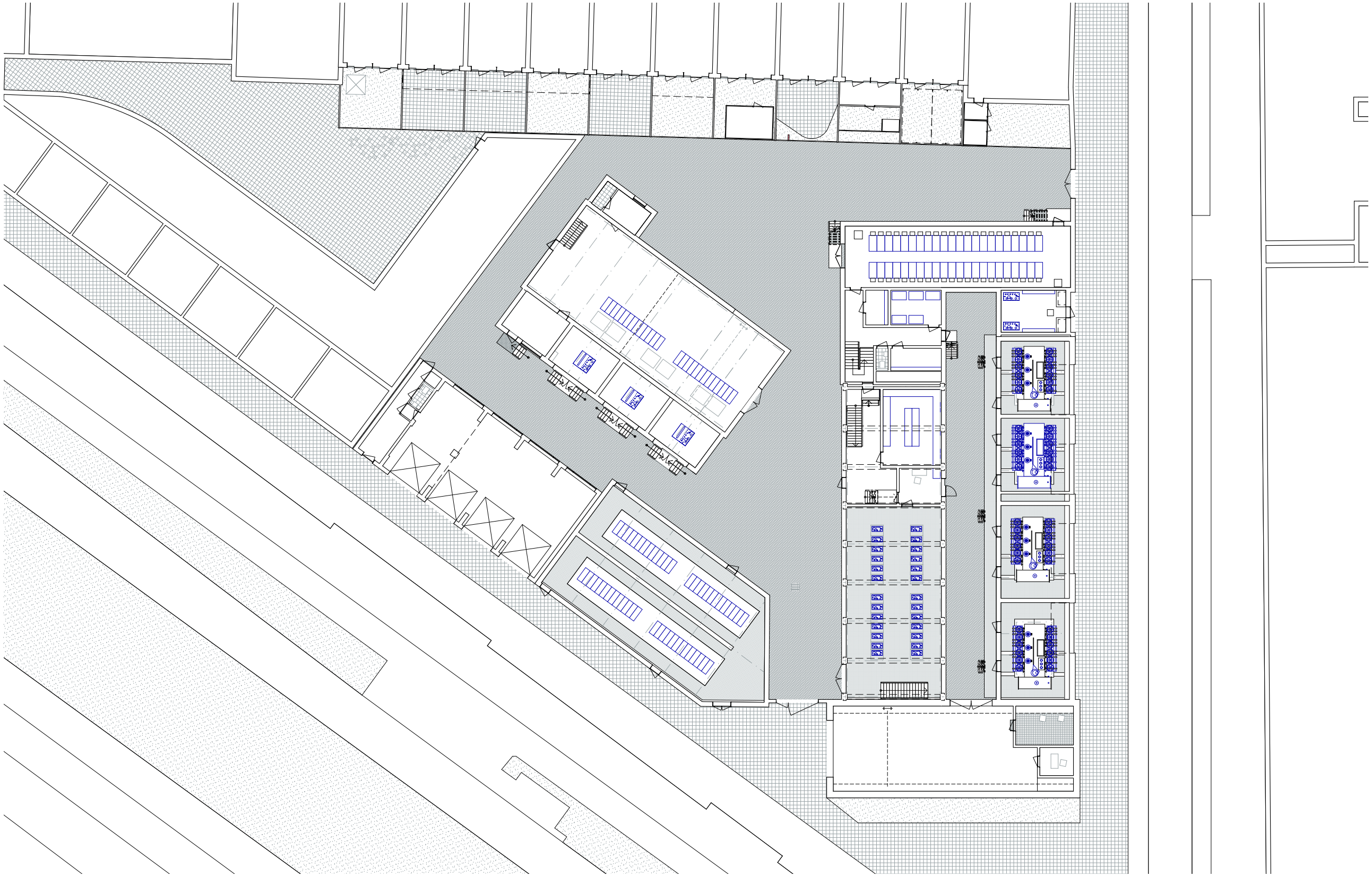


1:50

SITE

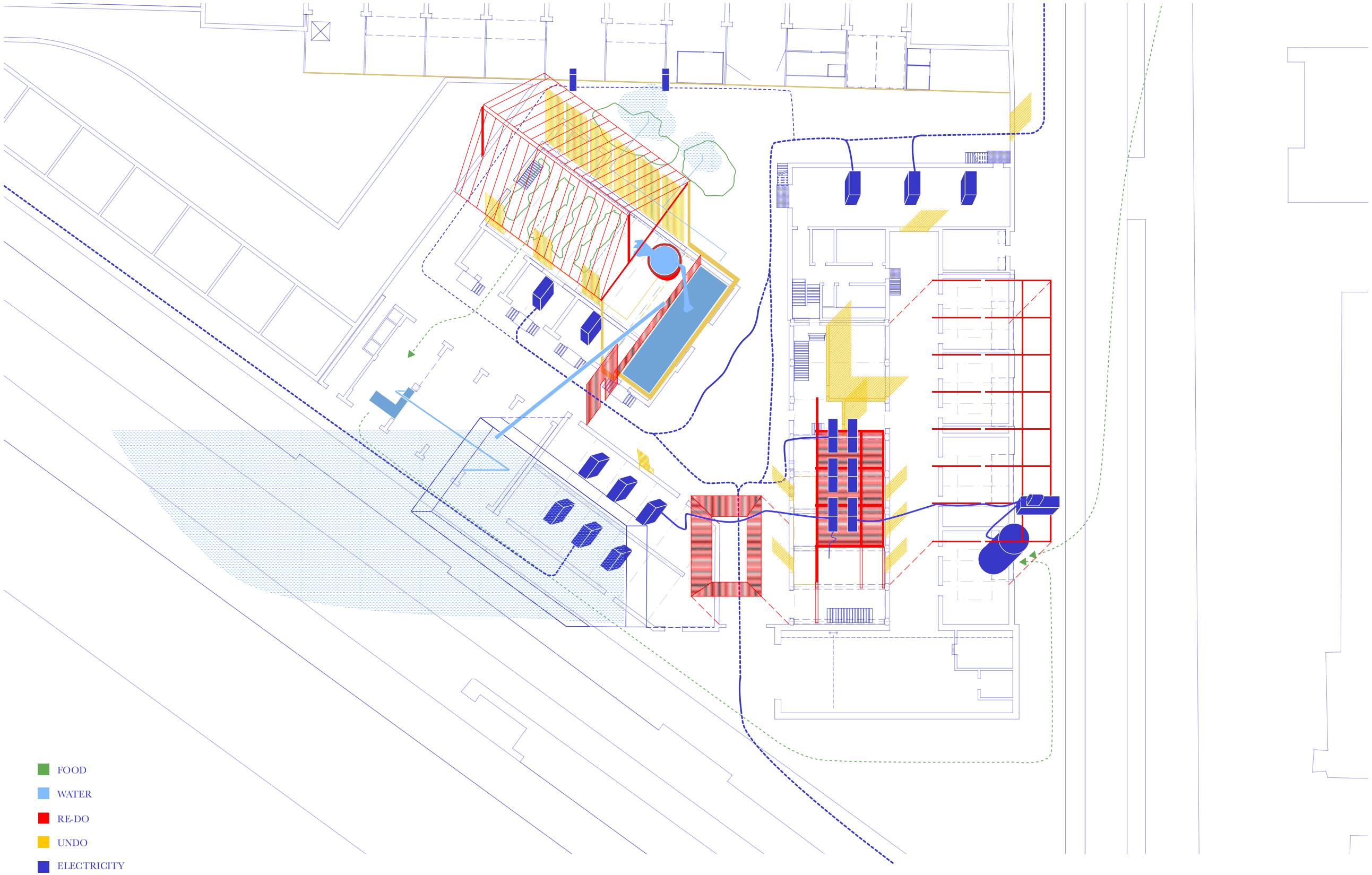
1:500

EXISTING SITUATION



1:333

INTERVENTIONS



1:500

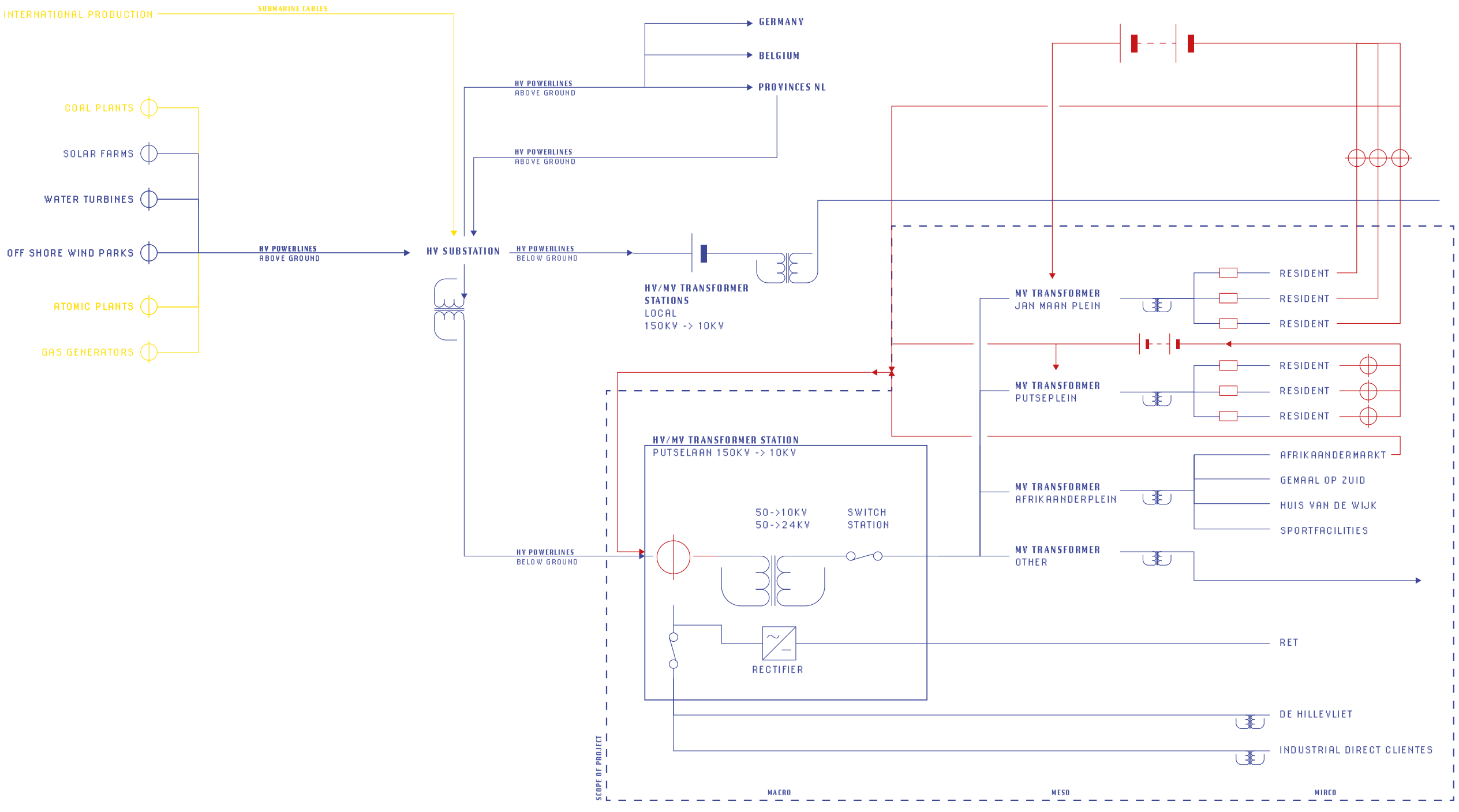
DECENTRALISATION OF THE NETWORK

HIGH VOLTAGE
(>50KV)

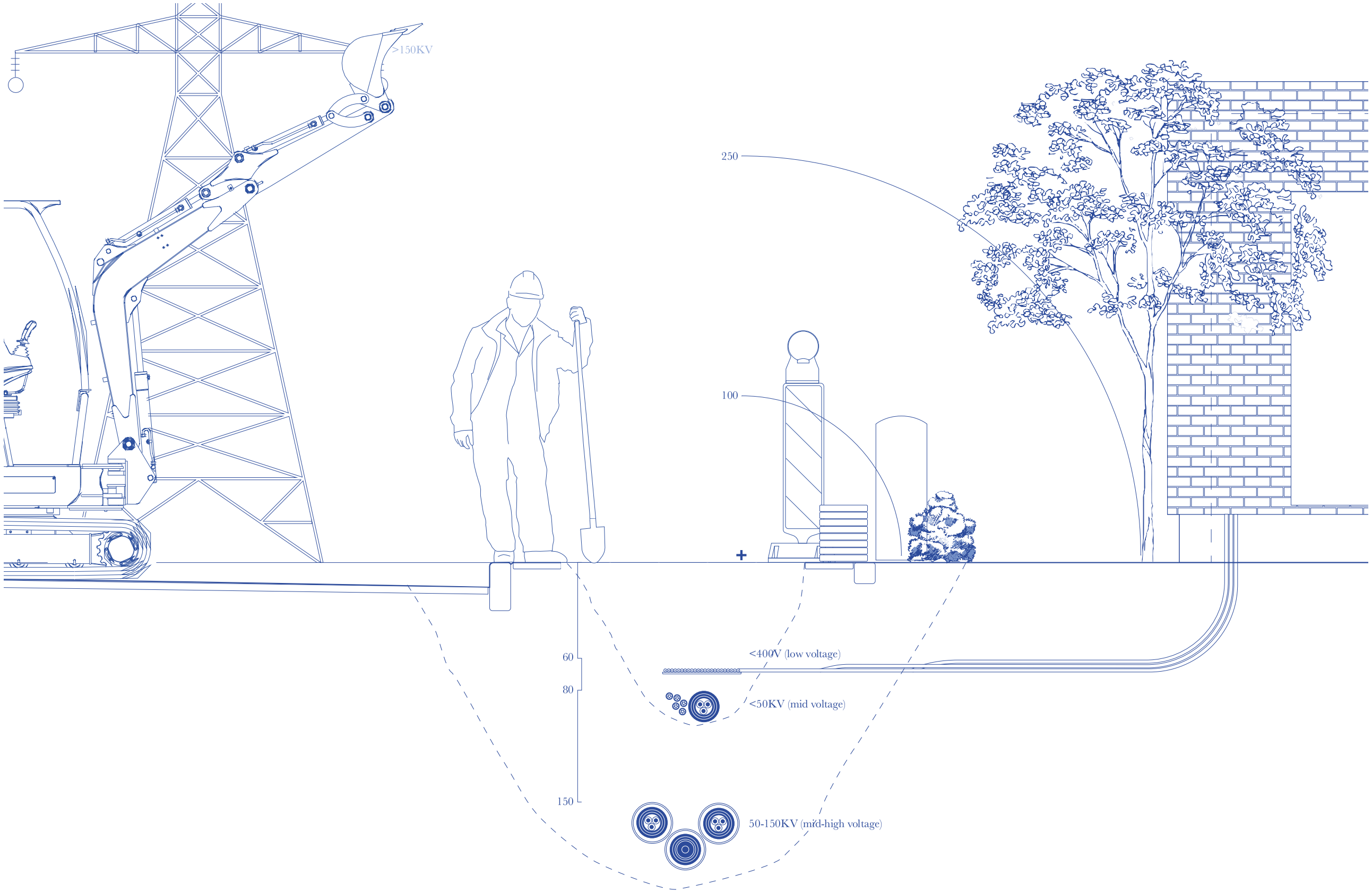
MID VOLTAGE
50KV - 400 V

LOW VOLTAGE
<400V

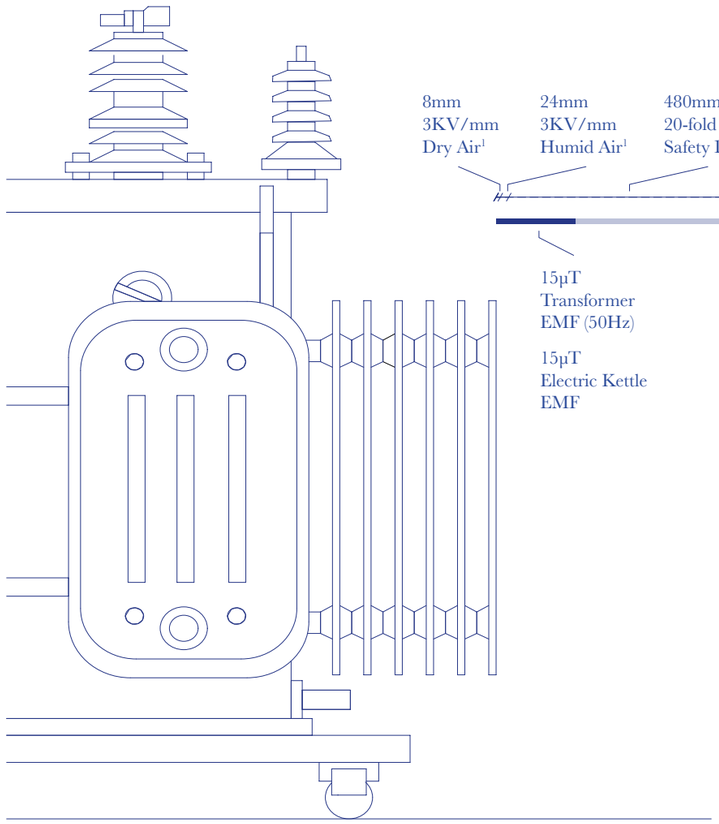
POWER SOURCE | NETWORK ENTRANCE | DISTRIBUTION I | DISTRIBUTION II | CONSUMPTION



PHYSICALITY OF ALIENATION



SAFETY CLEARANCES
24KV TRANSFORMER



8mm
3KV/mm
Dry Air[1]

24mm
3KV/mm
Humid Air[1]

480mm
20-fold
Safety Distance

1000mm
Recommendation
Manufacturer[2]

3000mmm
Governmental
Recommendation[3]

Electrical creepage through air

15µT
Transformer
EMF (50Hz)

15µT
Electric Kettle
EMF

100µT
WHO / IEEE
Recommendation
EMF (0-300Hz)[5]

Electromagnetic Field Radiation

1 **The creepage of electricity through air is calulated with 3KV/mm (1KV/mm in polluted/humid environments)**, Hogg, Michael vet al, "Electrical Breakdown of Short Non-Uniform Air Gaps" in *Digest of Technical Papers-IEEE International Pulsed Power Conference*, https://strathprints.strath.ac.uk/50857/1/Michael_Hogg_Electrical_Breakdown_of_Short_Non_uniform_Air_Gaps_10072013.pdf

2 https://electrical-engineering-portal.com/safety-clearance-recommendations-for-transformer

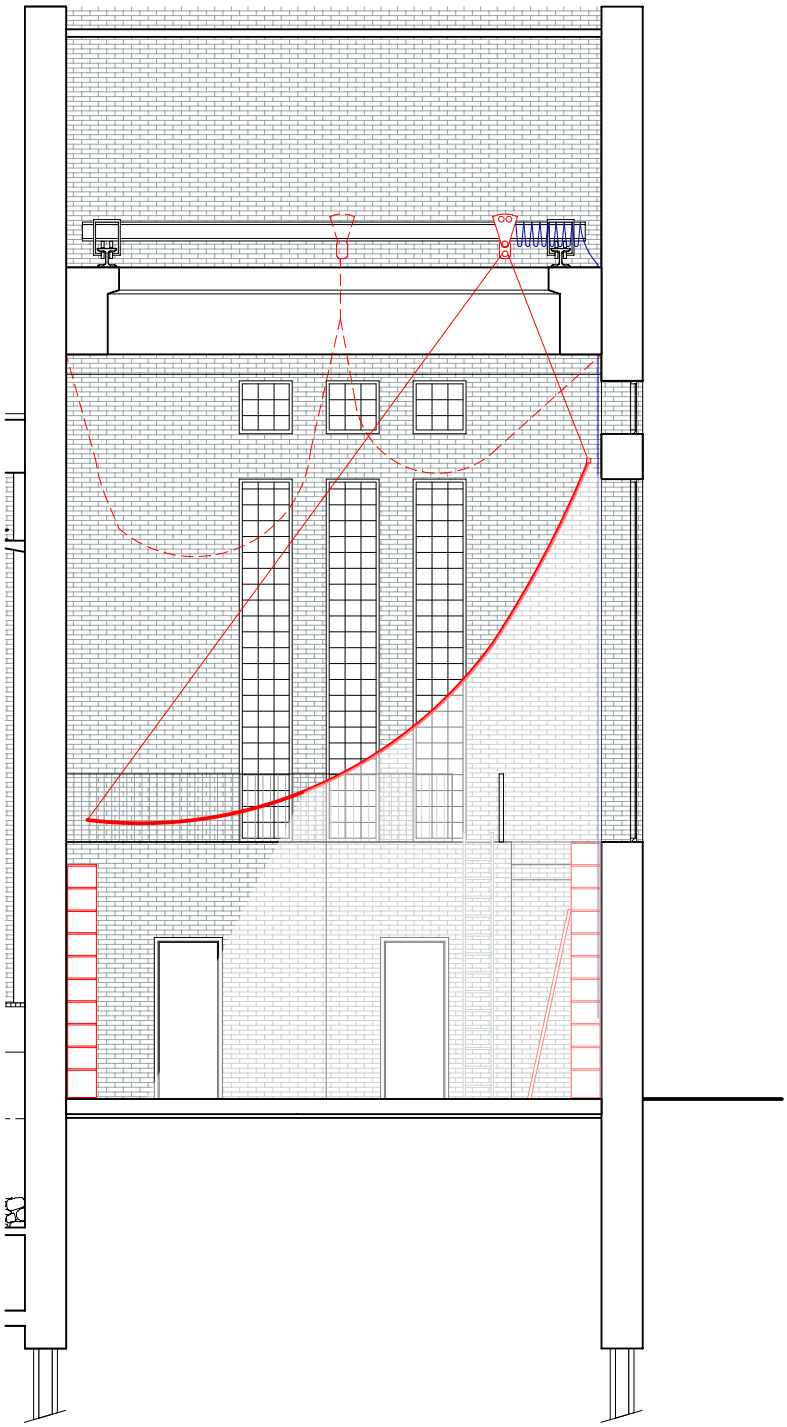
3 **Safety regulations according to manufacturer Henan Technology** https://www.switchgear-china.com/info/safety-distance-of-prefabricated-substation-48651806.html

4 **Manufacturer SGB smit,** https://www.sgb-smit.com/products/compact-substations/compact-station-ndv400/ndv401

5 **IEEE Standard** https://standards.ieee.org/ieee/C95.1/4940/

Workshop

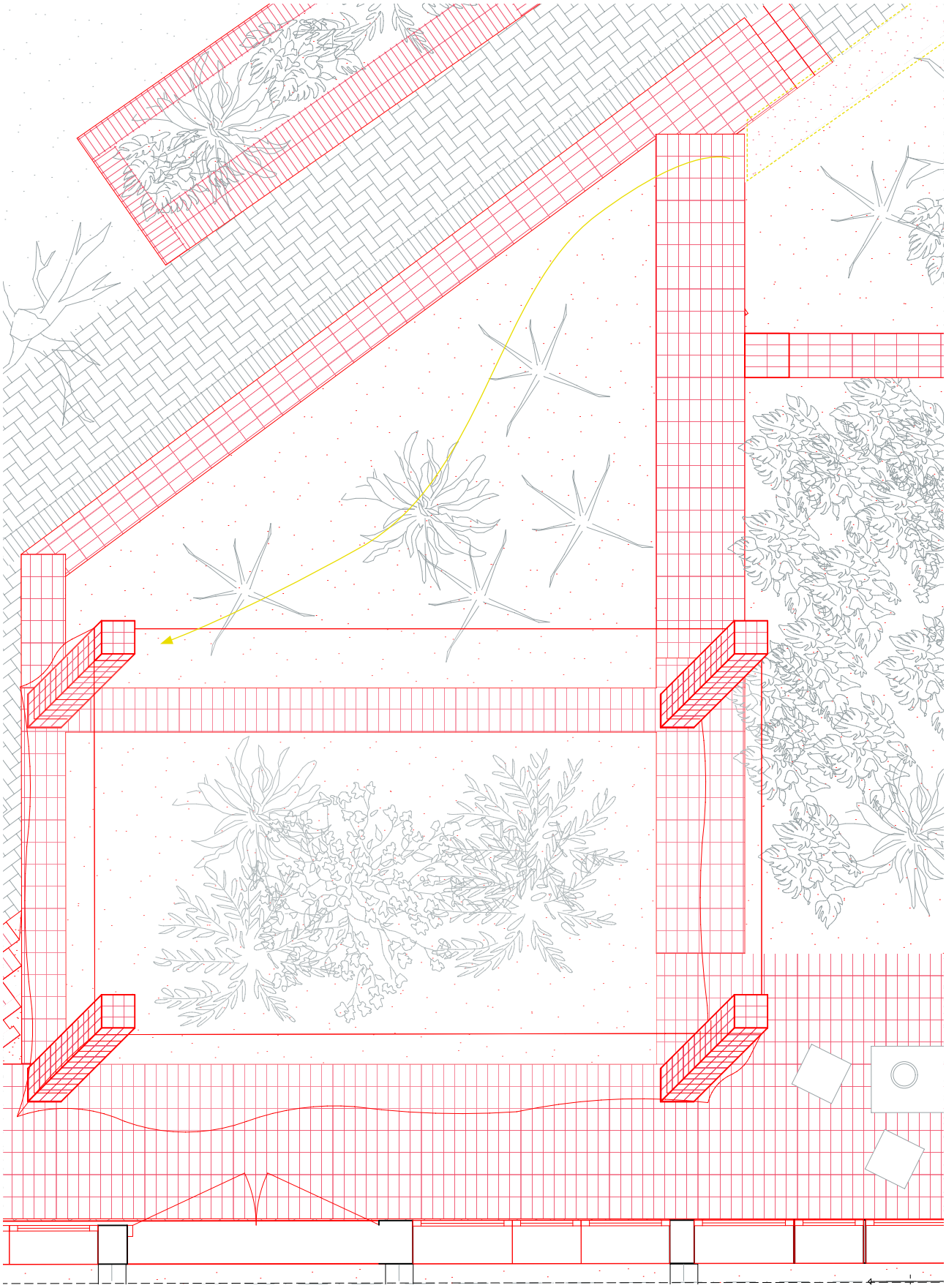
Compression of Space



1:100

Garden

Clothing



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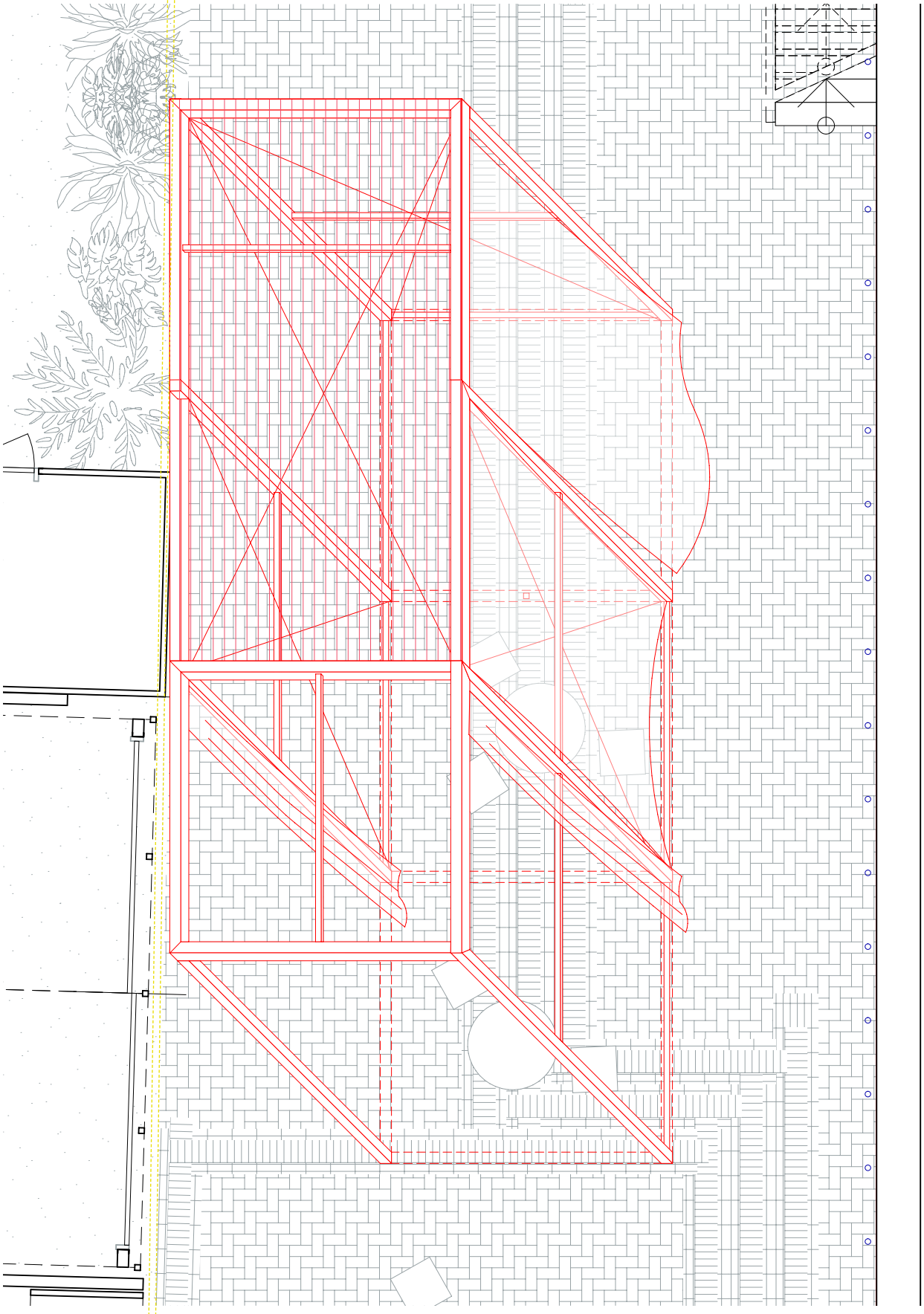
Pavilion

Clothing



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