

**SUSTAINABLE ESTATE
FOR THE FUTURE |**
*research and design
into a sustainable
reuse of Dutch estates
and in particular Huis
't Velde in Warnsveld*

**Graduation studio Vacant
Heritage - Vacant Police real
estate [AR3AH105]**

**In collaboration with Atelier
Politie Bouwmeester**

**P5 presentation
Mathyn Klein | June 16,
2022.**



Graduation studio Vacant Heritage

- Research and design for 8 out of 10 police real estates
- In colaboration with Atelier Politiebouwmeester
Police have to divest 700,000 m² real estate in coming years

Brief: research for the history, values and possibilities of vacant police real estate.

- Publication: Spatial Building Typology research volume 2

problem:

700,000 m²
divested



solution:

design proposals
of reuses for the
buildings

introduction

research

design

museum

conclusion



Den Haag



Eindhoven



Groningen



Haarlem



Warnsveld



Middelburg



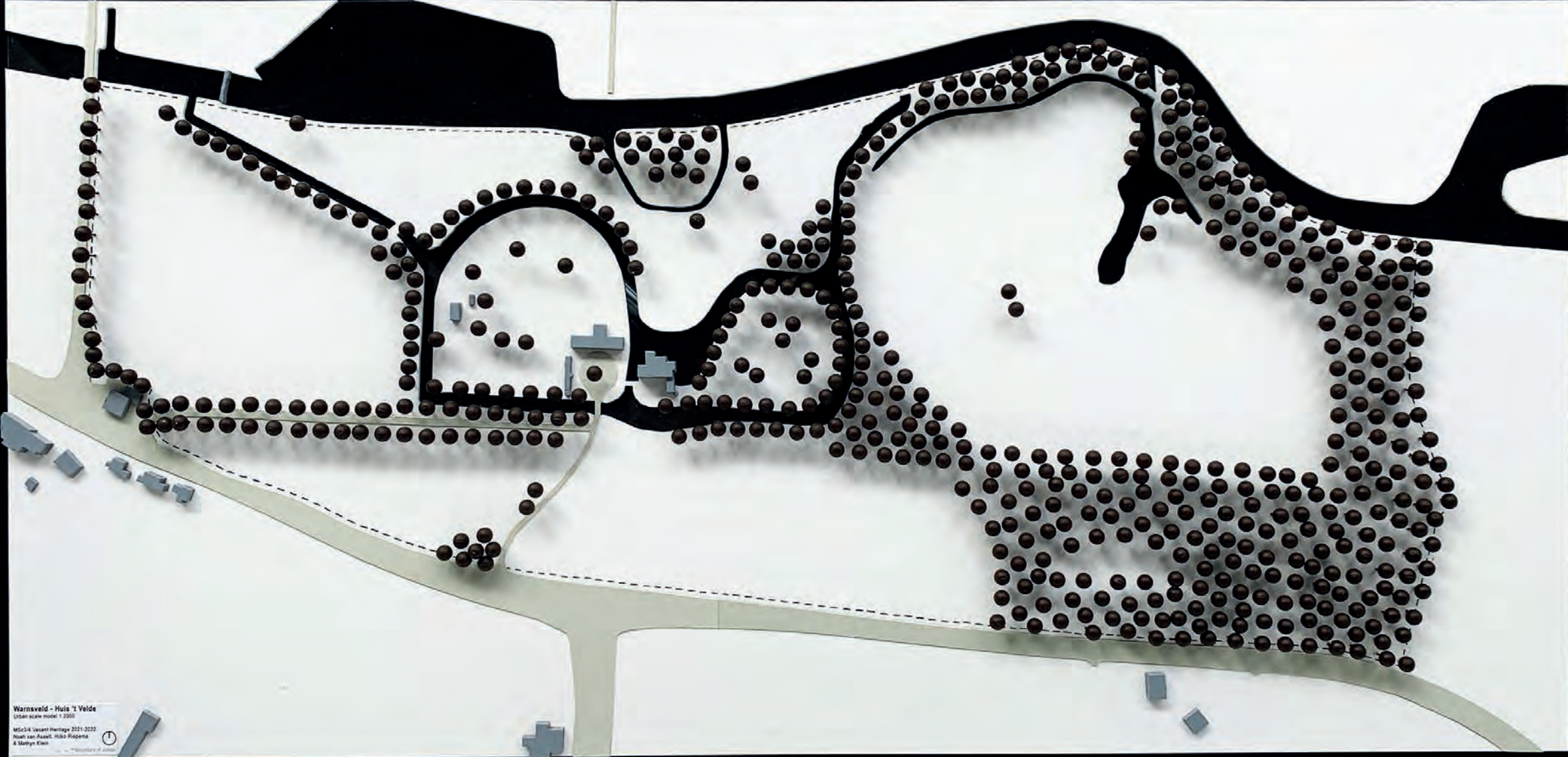
Rotterdam Haven



Rotterdam WdW

CURRENT
SITUATION





Built area: 950 m² = 0.3%

Huis 't Velde, Warnsveld (Zutphen)

Owner: Stichting Gelders Landschap en Kastelen (GLK)
User: Politie Rijksacademie (office)
Special use: Memorial garden 'Tuin van Bezinning'
Oldest parts: 16th century



Zutphen > Warnsveld

40 min. walk, 3 km.

16 min. with bike

8 min. with car

18 min. from highway A1



200m 100m

1:40 000

Recreational zone

Zutphense Groene Zone

Three hiking areas barely connected

No integral routing through the area





Huis 't Velde in Warnsveld (Netherlands, Gelderland)
main building front facade (+/- 1701)



Huis 't Velde in Warnsveld (Netherlands, Gelderland)
carriage building front facade (+/- 1806)



aviary (bird house and shed), (+/- 1810)



*memorial garden Tuin van Bezinning (2005)
by Bureau Poelmans Reesink Landschapsarchitectuur*

Source: website National Police, Tuin van Bezinning

**RESEARCH
& DESIGN**



Problem statement

Paul Meurs essay (2021): *'in the Dutch built environment sector are monuments seen as hopeless cases that consume energy and are impossible to insulate properly'.*

Strootman Landschapsarchitecten (2013): *'there is a big problem in the province of Gelderland. Owners of estates are not able to maintain and preserve the heritage estates. There is not enough money and the buildings lack in comfort'.*



Huis 't Velde during summer. By Noah van Asselt, 2021.

Research question:

'how can design approaches help in a contemporary reuse and redesign of a Dutch estate where both building, and nature, contribute to a sustainable redesign and in particular for Huis 't Velde in Warnsveld?'

Design attitudes Jo Coenen (2006)

Analysis > Inventory > Research > Position

5 attitudes for intervention:

1. Continuity (succession)
2. Polarity (contrast)
3. Dialogue (characteristics)
4. Congruence (form)
5. Blending (mixture)

Guideline for design choices. First research, then design



Design approaches Charles Bloszies (2012)

Combining new and old architecture together

Guiding principles/approaches:

1. Extreme (contrast)
2. Restrained (reserved)
3. Referential (similarities)

Approaches give direction in decision making

Qualities of existing influences the new design

No perfect general approach



The design process

Sustainability in the design process: A design attitude can help to make design choices

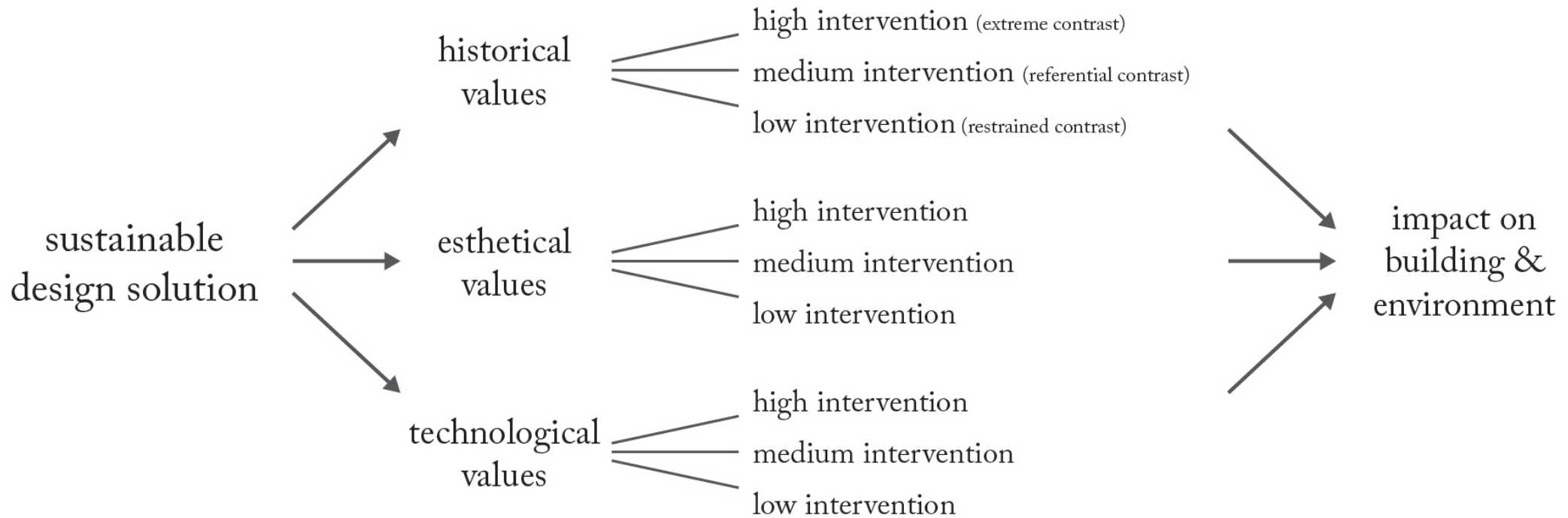
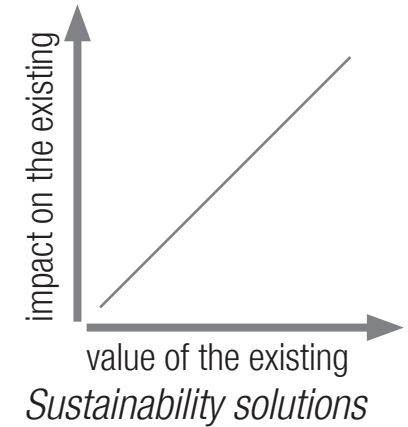
Research based design



Design approach can help

Impact

1. Interventions can have a major impact on the building and therefore the values of a monumental building.
2. Determine impact on values:



DESIGN



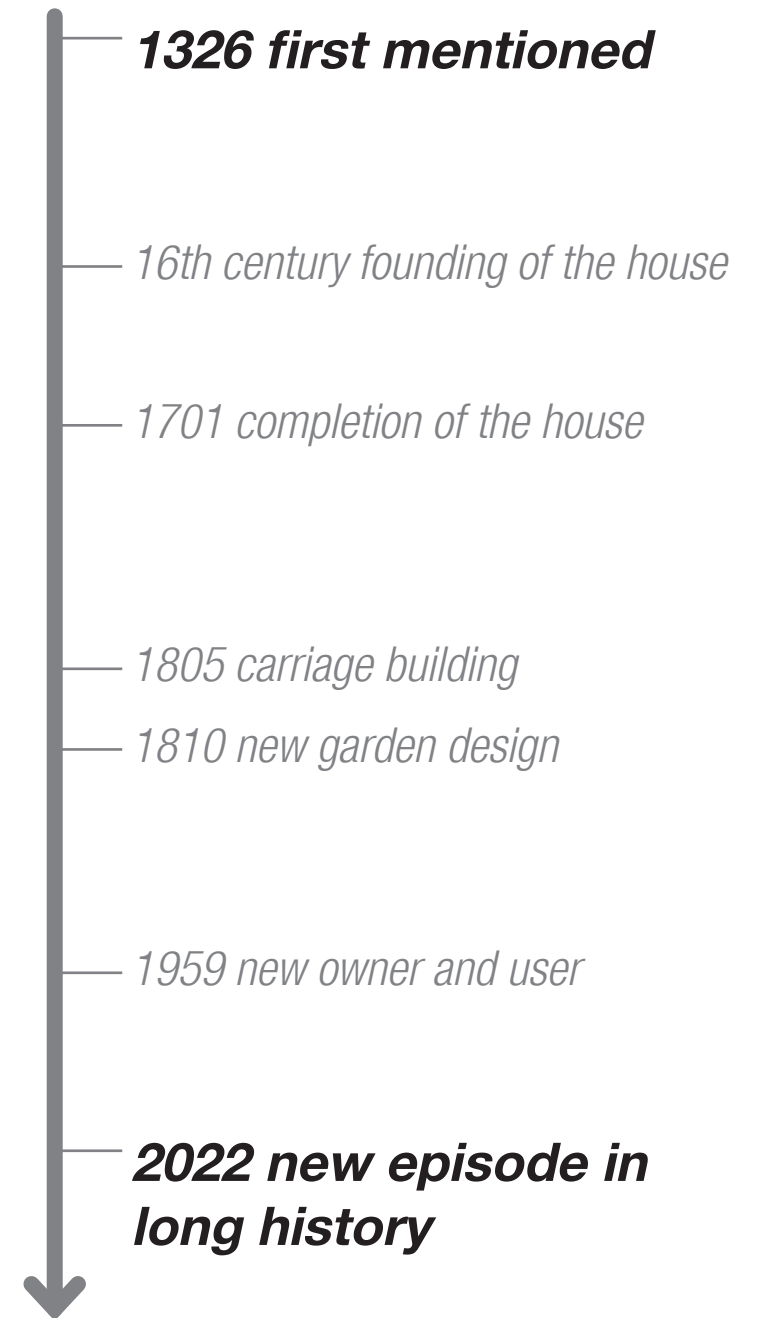
Design startingpoints

Design attitude: continuity

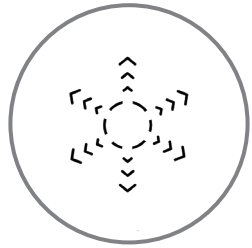
Succession - uninterrupted - coherence - continuous

New user function:

- Function fitted to the building
- Building improved, less adapted
- Monumental rooms public accessible
- Easy to change function in 10-15y.



Design startingpoints



Open the estate for cultural visitors

- redesign with a function mix + museum MORE
- make more public accessible



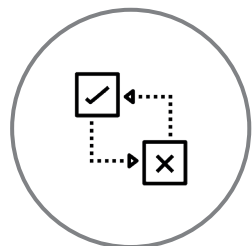
Present the time layers from the monument(s)

- preserve the 'entrance view'
- restore monumental parts
- present the history



Use the estate's lands to contribute to use and sustainability

- make use of the estate
- spread new user functions
- improve routing



Modernise the outdated building technology with 'green' energy systems

- insulate where possible
- make energy resources as green as possible

Users & functions



museum

11:00-17:00
tu-sa

existing buildings / temporary &
permanent exhibition for MORE
>visitors from all places



restaurant

12:00-24:00
tu-su

new building
>locals & museum visitors



memorial garden

1-2 moments a year

garden / need facilitation
>national police



residences

24/7 access

newly built residential areas
>residents

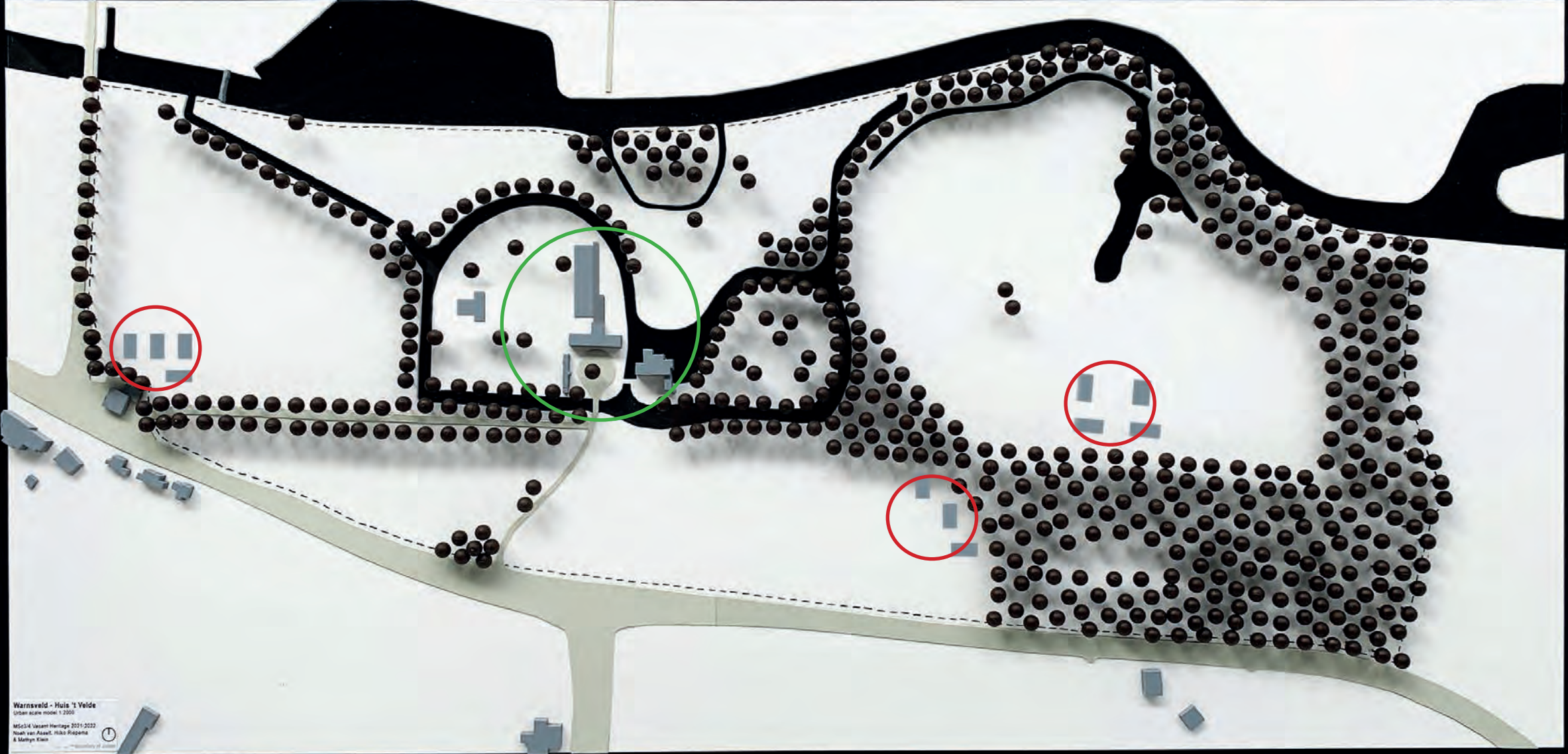


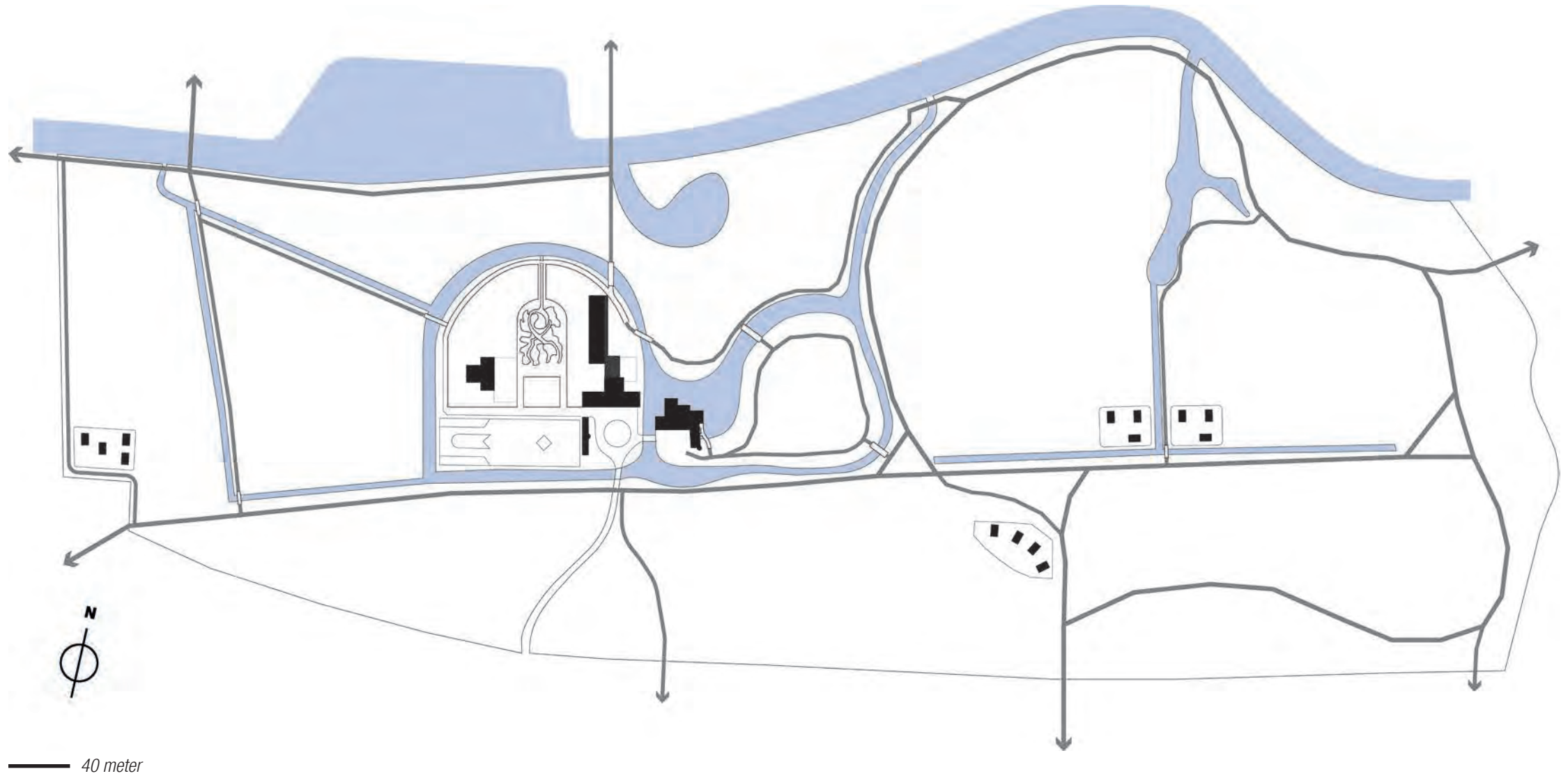
hiking/recreation

daytime access
mo-su

paths over the whole estate / connect to
the area
>residents, locals, museum &
restaurant visitors

function mix is part of sustainable future/income/maintenance/preservation



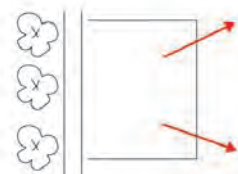
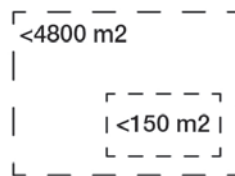
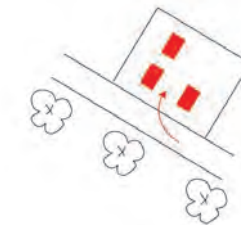
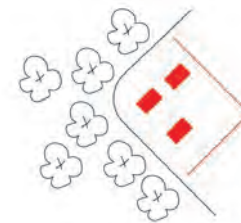
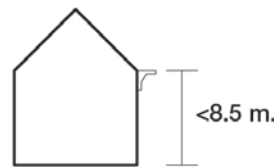


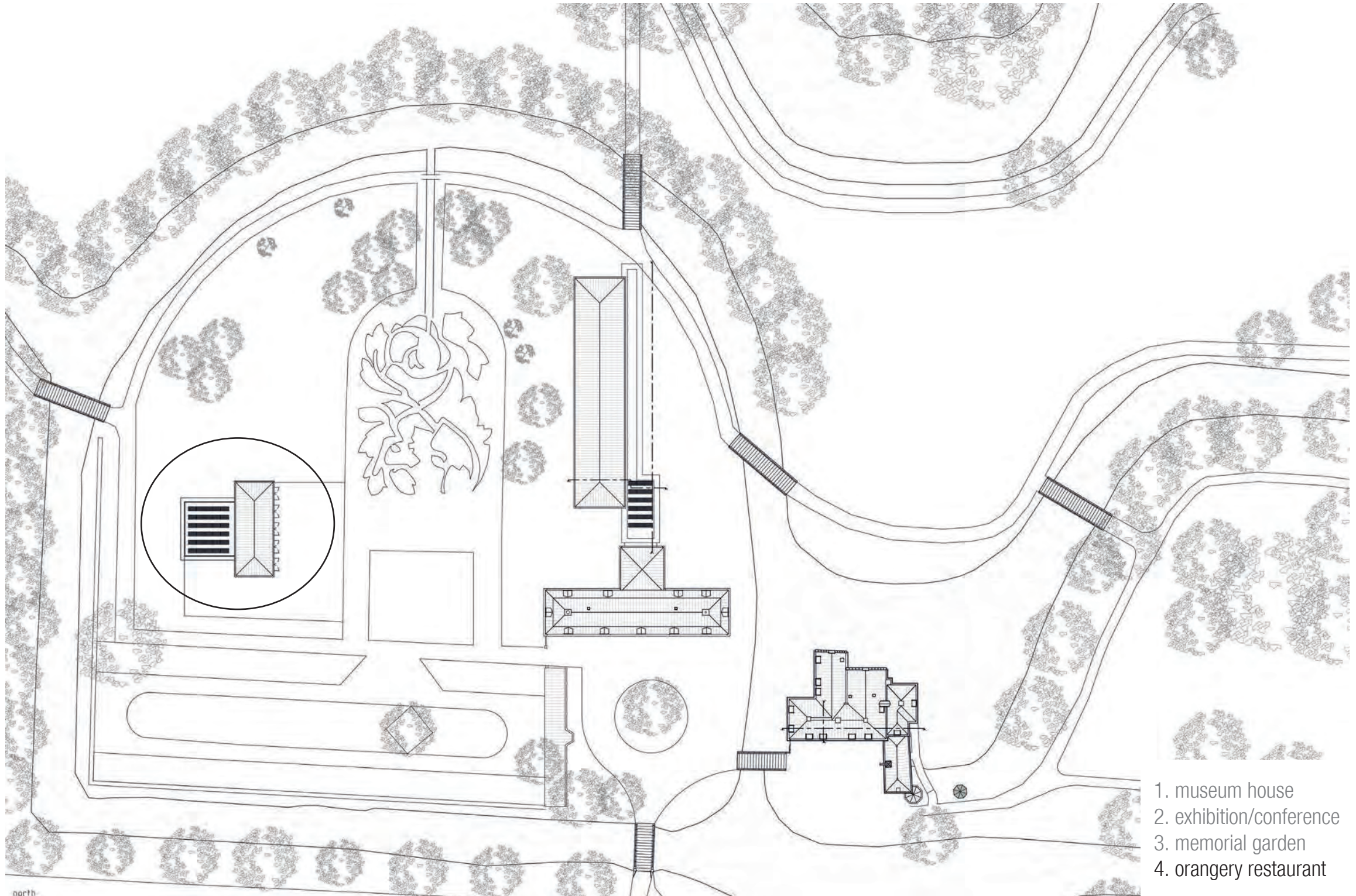
New buildings

Design assignment:
Boundary conditions, connect to
building typology of the estate

Sustainability:

- solar energy
- solar heat
- ground heat storage
- overcapacity for estate supply





1. museum house
2. exhibition/conference
3. memorial garden
4. orangery restaurant

Orangery | restaurant

Design assignment

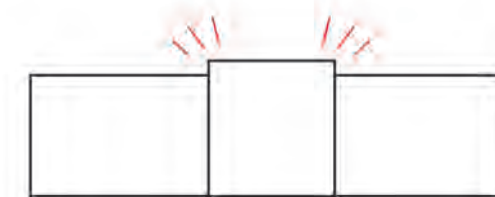
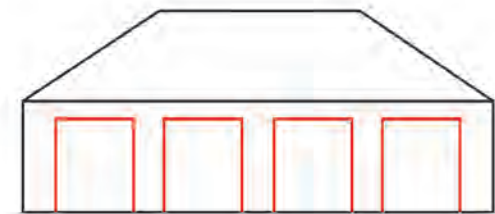
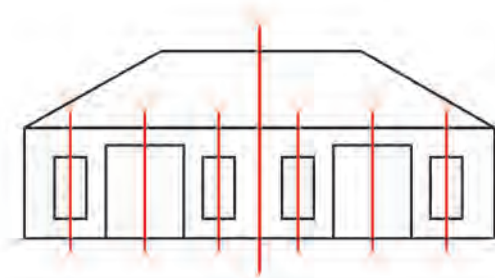
Typology of orangery

Connect to character of 't Velde

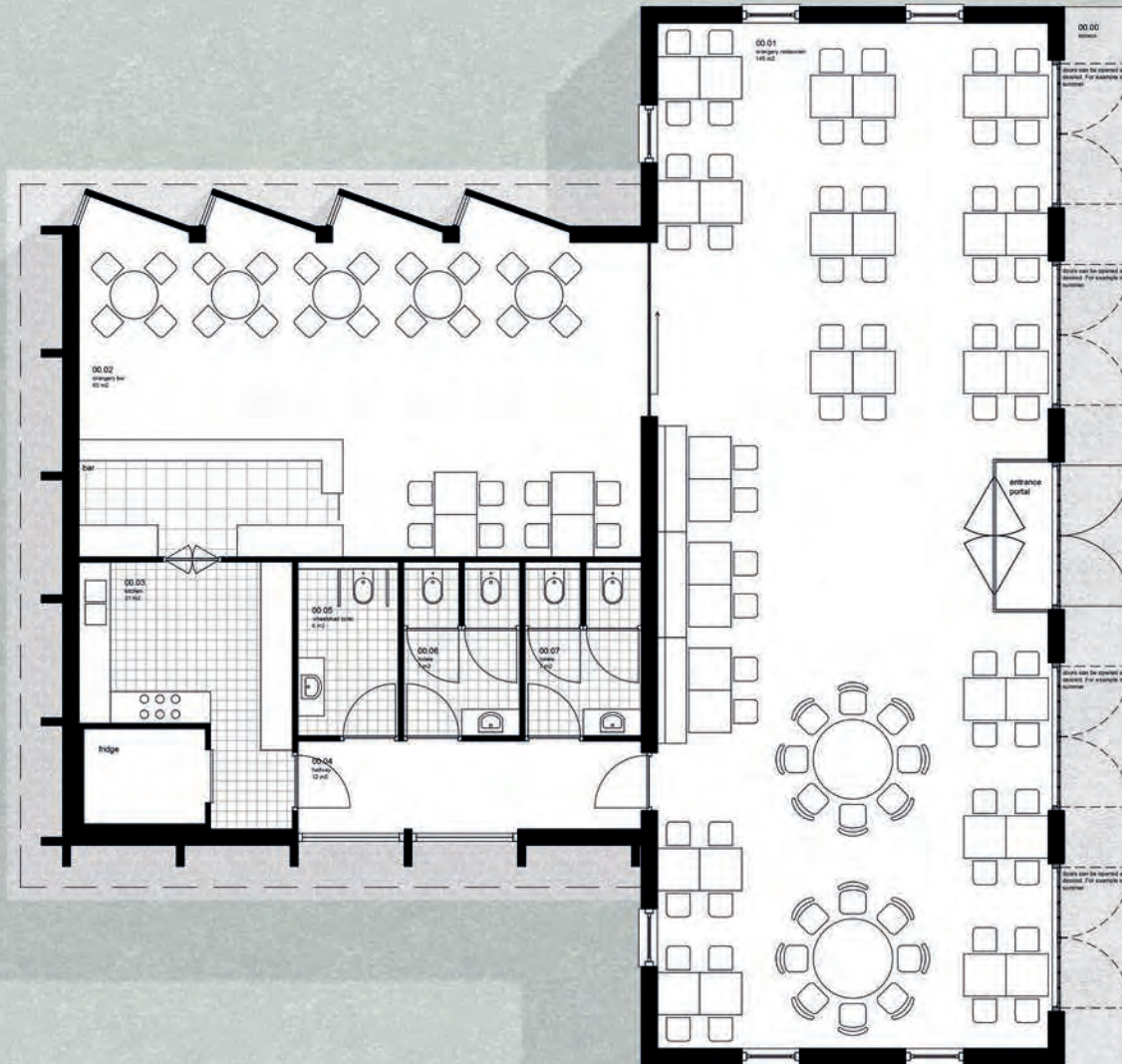
Facilitate garden & museum

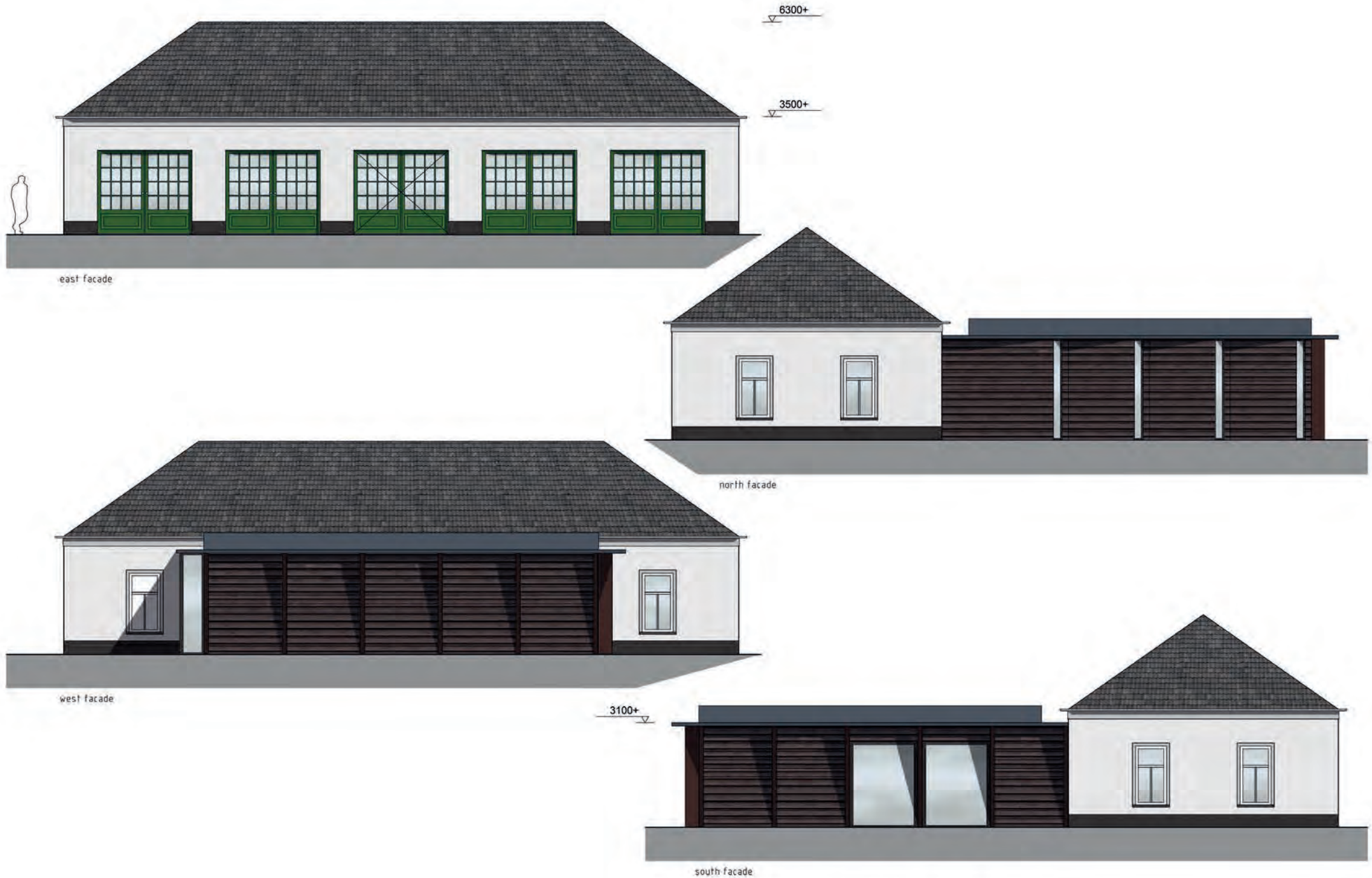
Sustainability:

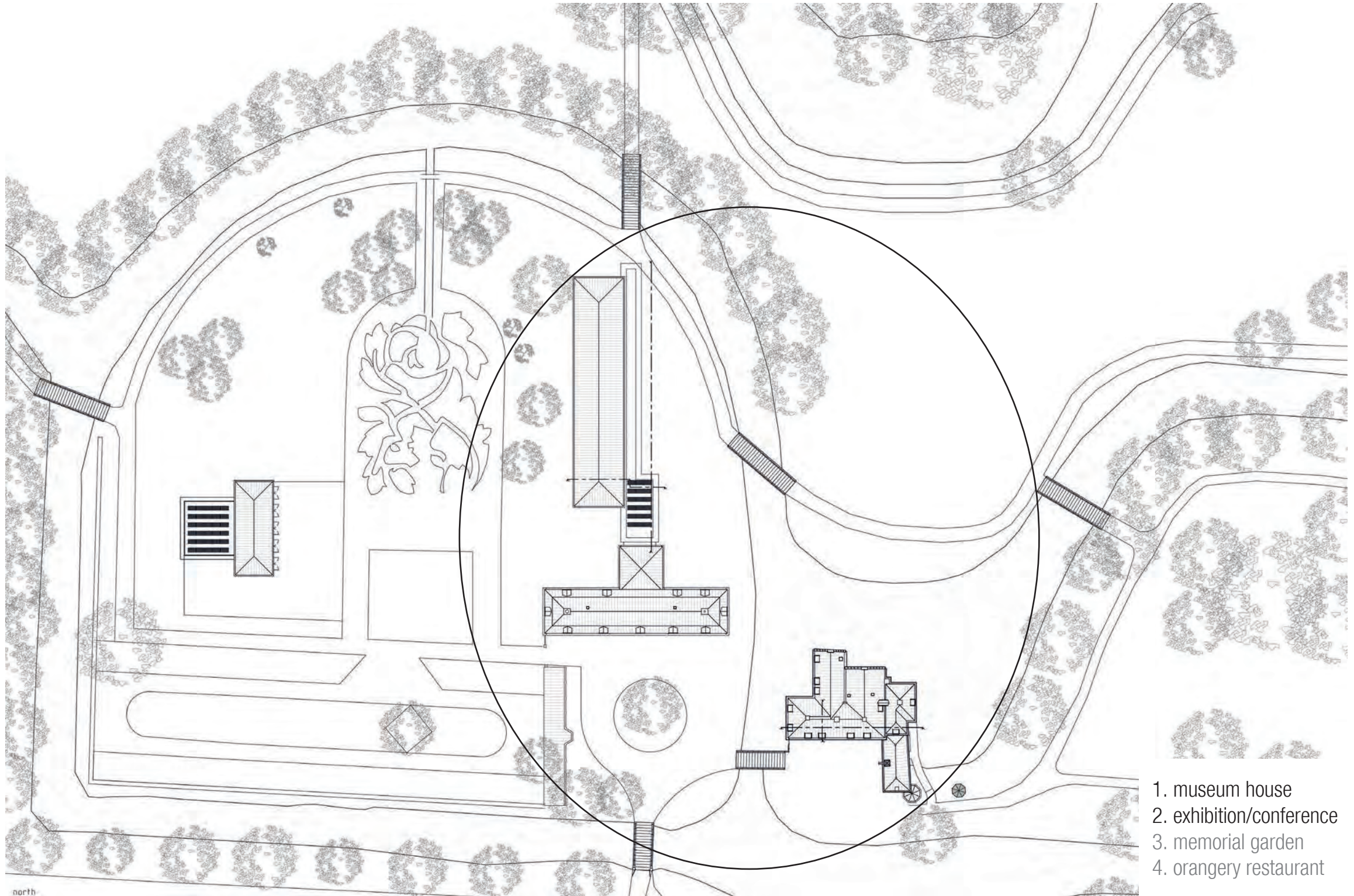
- solar energy
- solar heat
- ground heat storage
- overcapacity for estate supply



Oranjerie Soestdijk (reference), source: <https://www.paleissoestdijk.nl/de-oranjerie/>







1. museum house
2. exhibition/conference
3. memorial garden
4. orangery restaurant

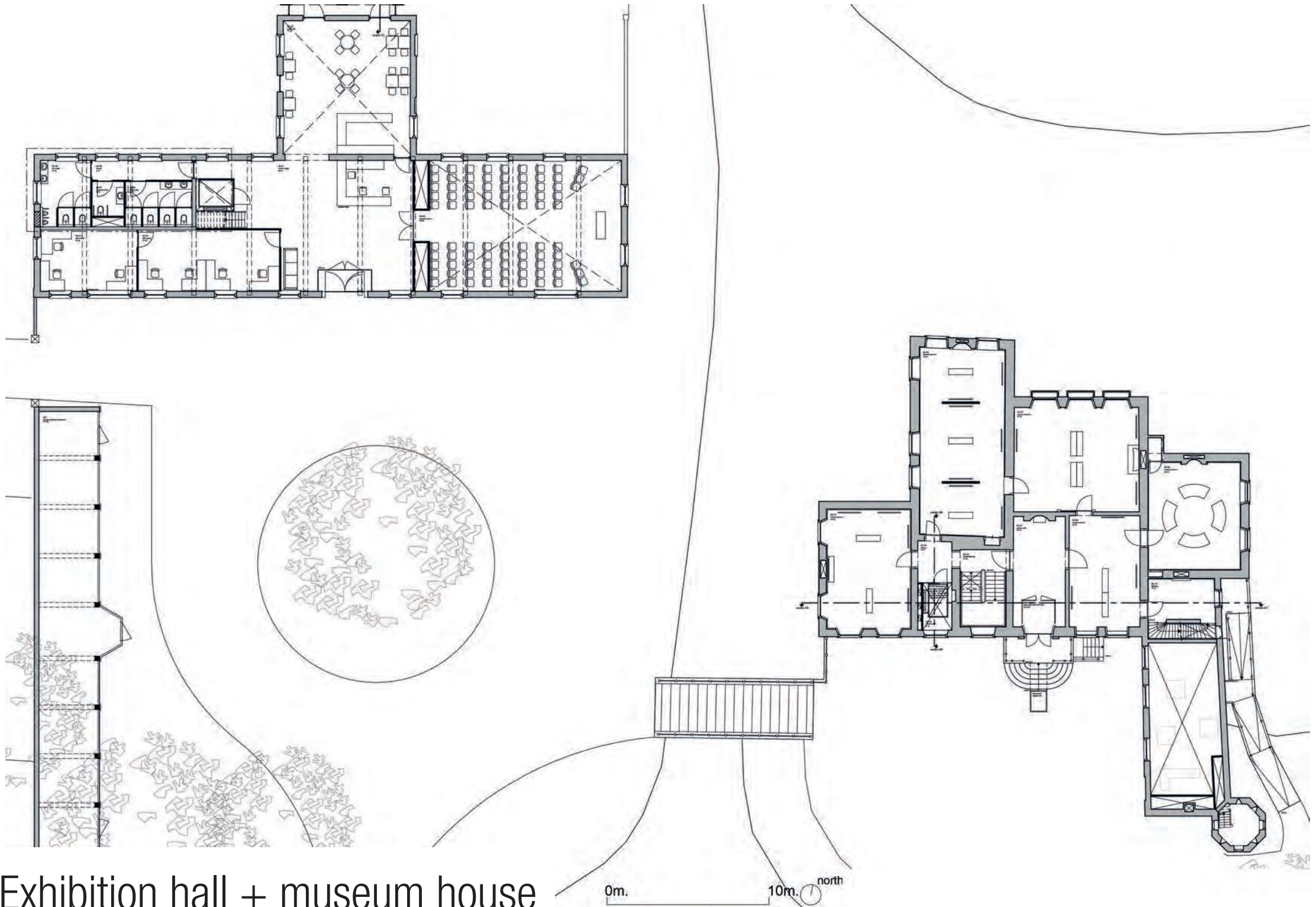
introduction

research

design

museum

conclusion



Exhibition hall + museum house

p5 presentation Mathyn Klein | June 16, 2022



Carriage Building exhibition hall + conference center

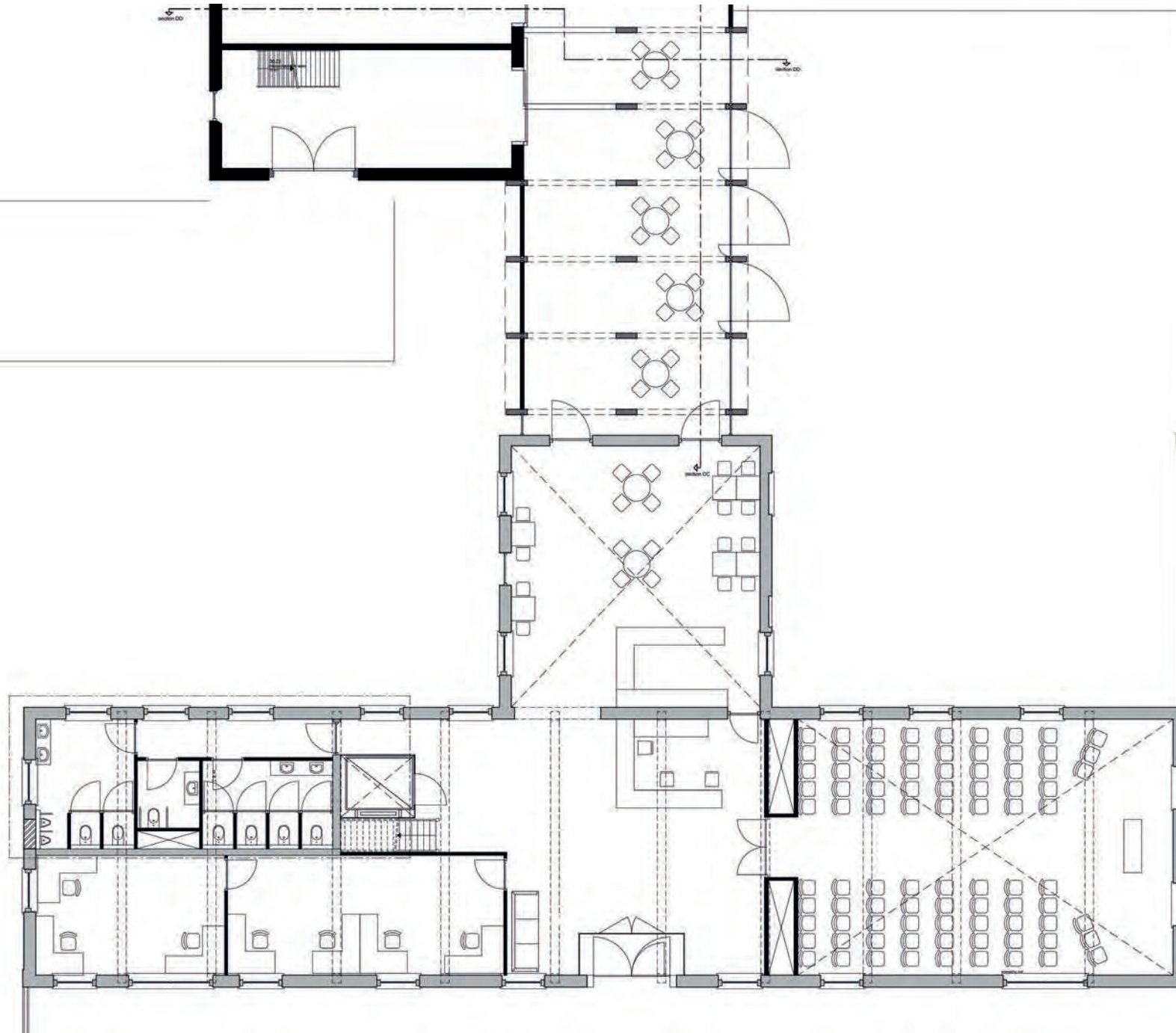
introduction

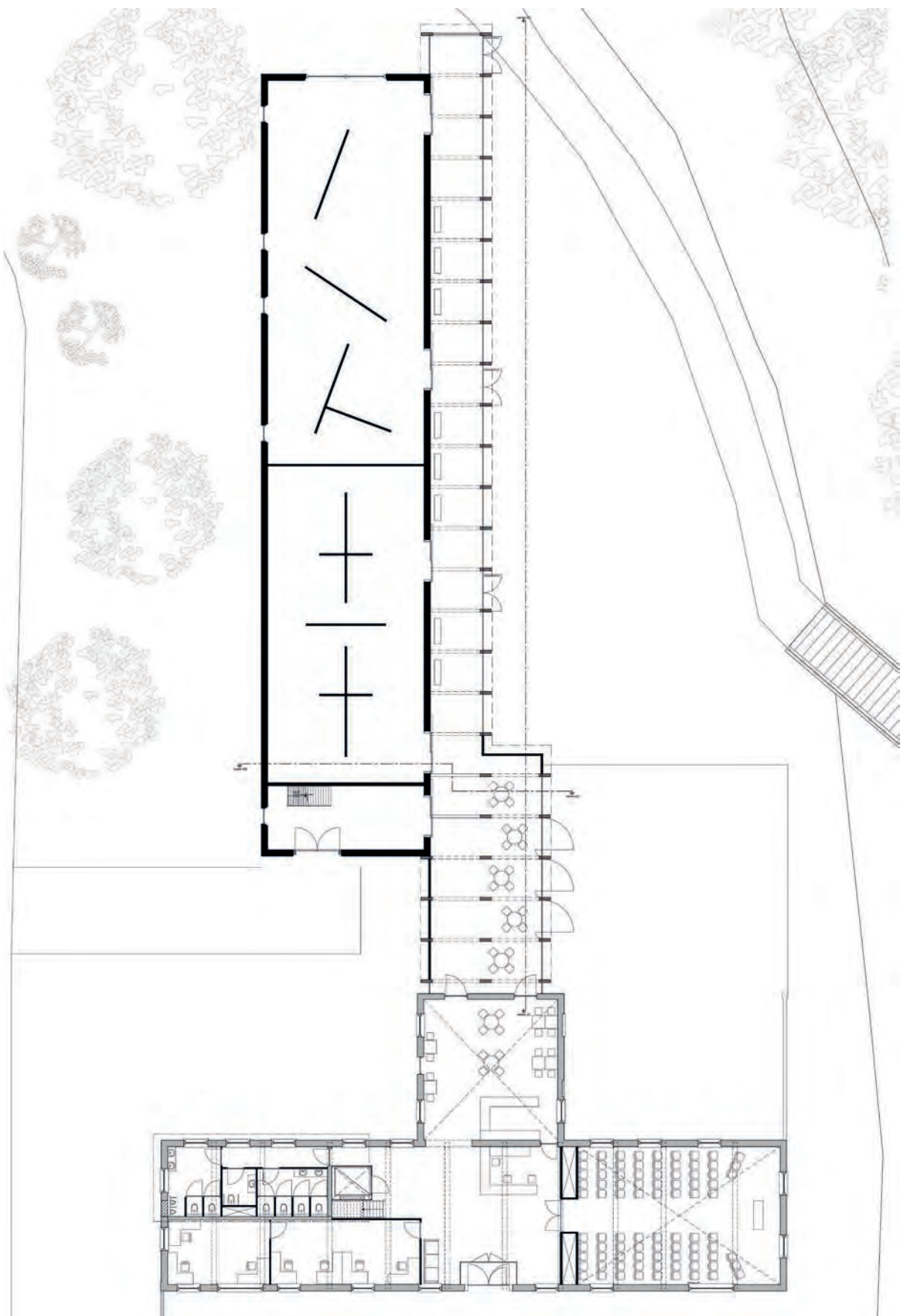
research

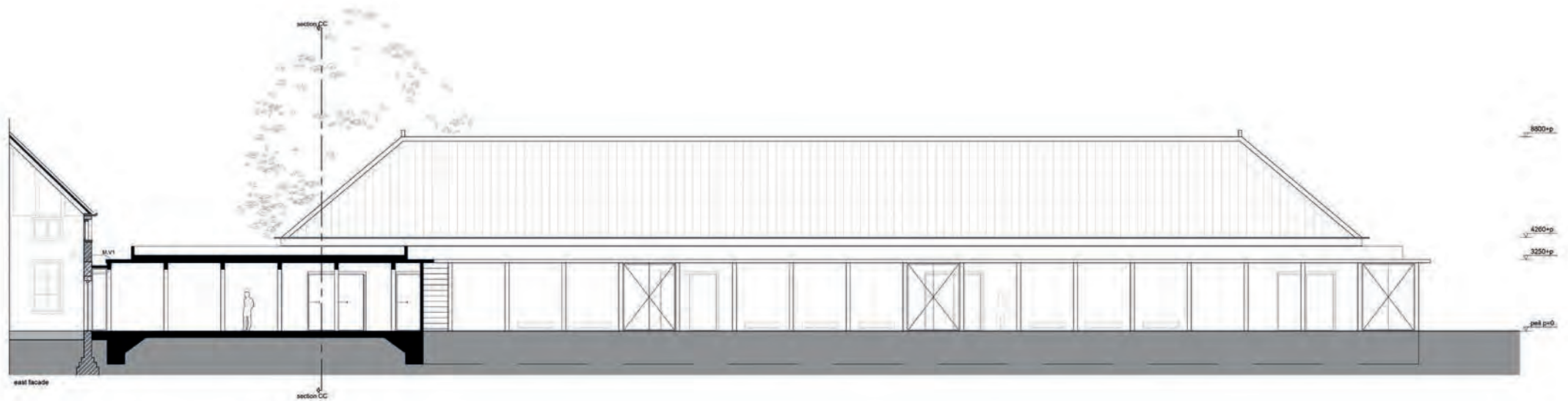
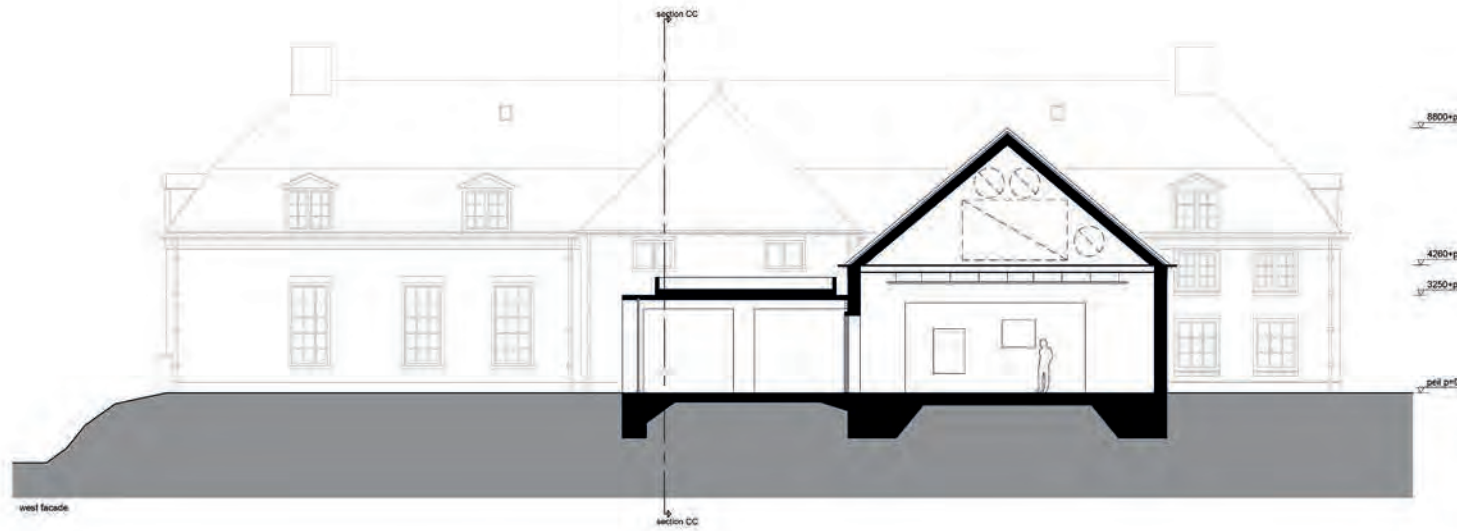
design

museum

conclusion







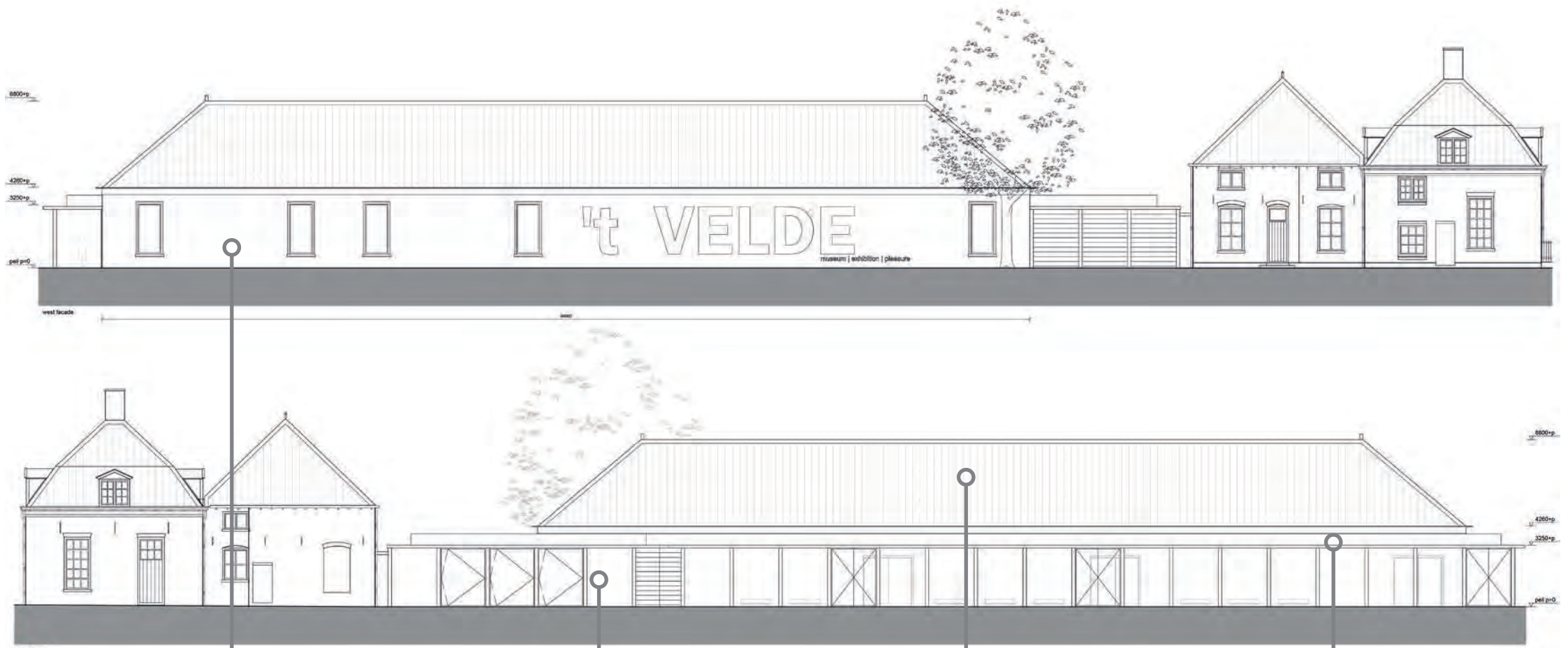
introduction

research

design

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conclusion



't Velde typology



sustainability



introduction

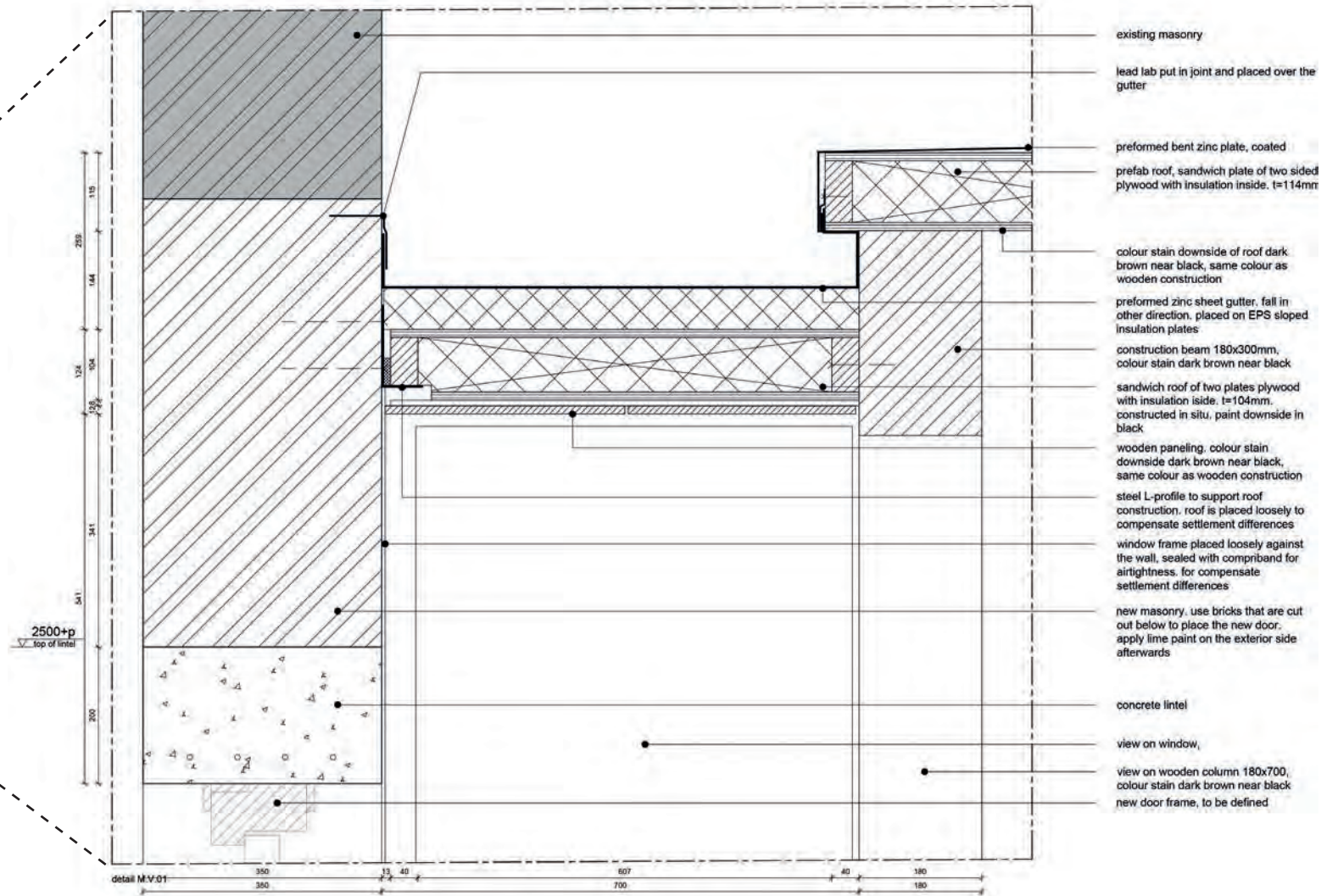
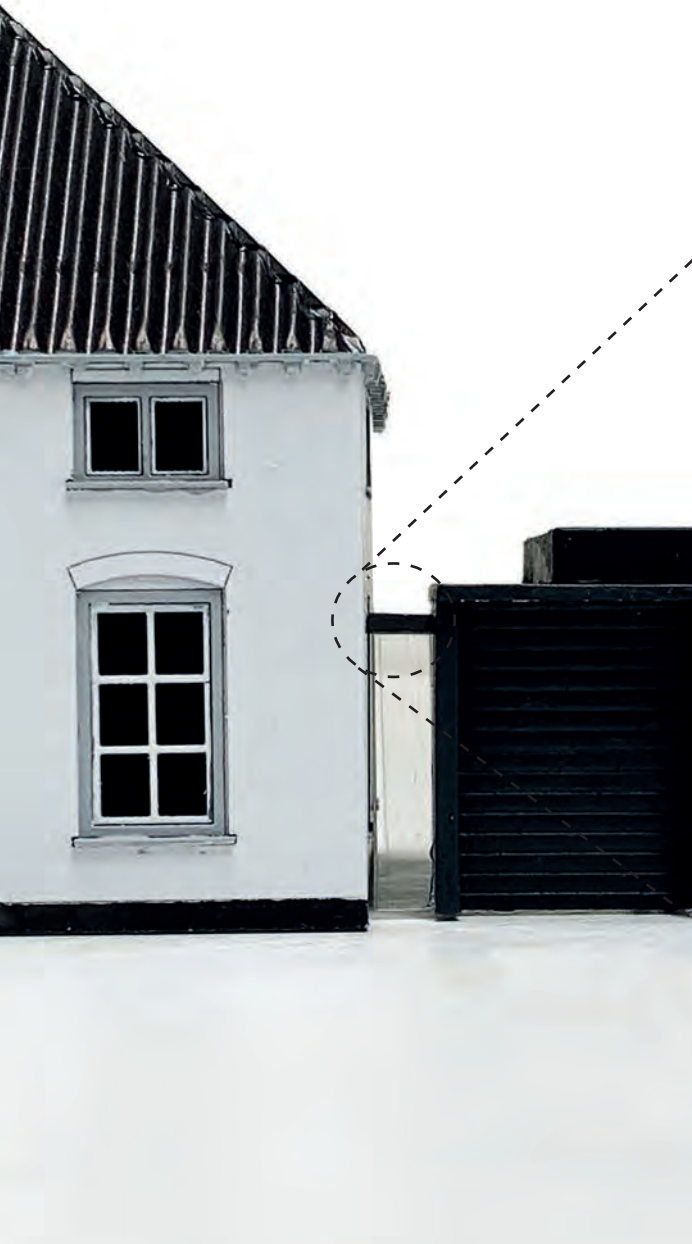
research

design

museum

conclusion







Museum House + art museum

introduction

research

design

museum

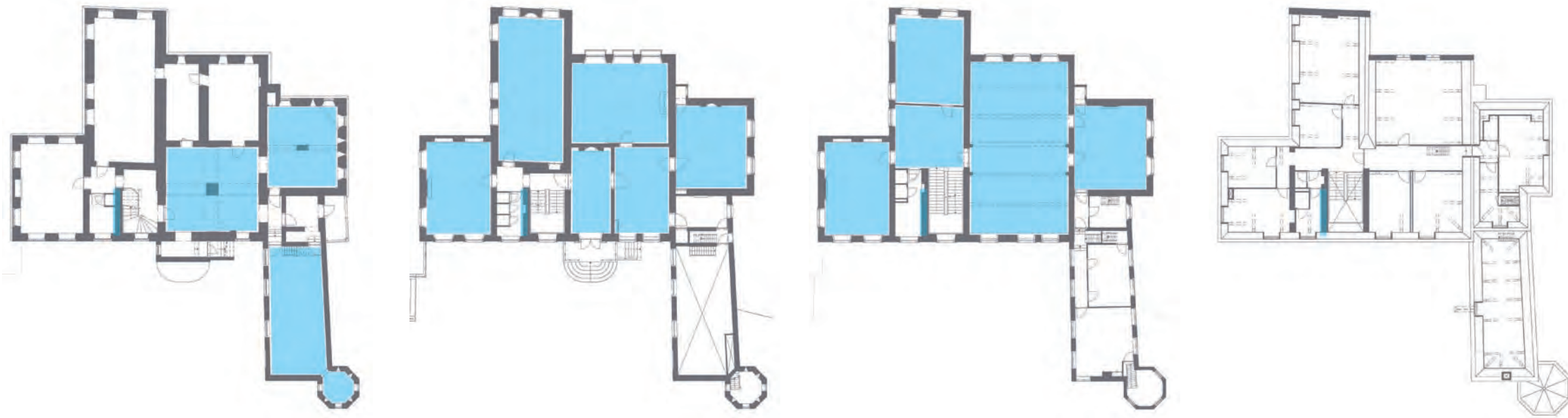
conclusion



Beautiful interior + hidden remnants

Museum house

Interior value assessment as a guideline



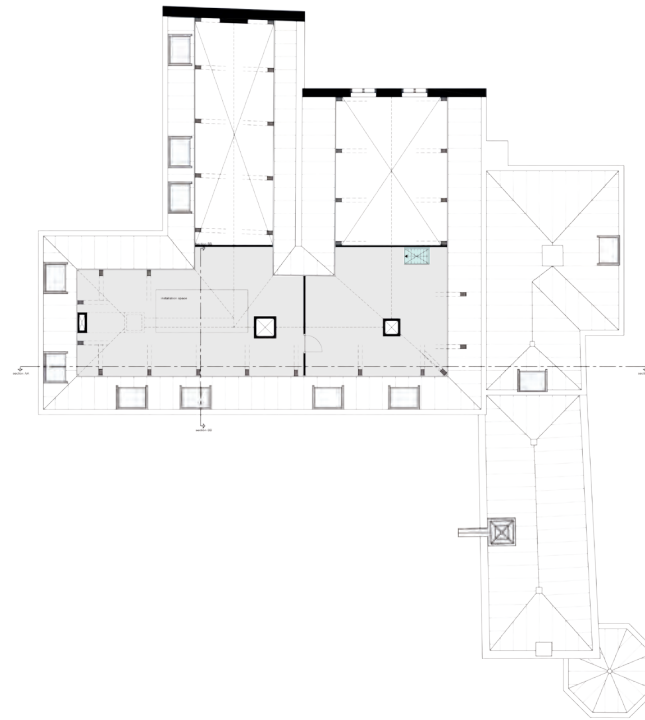
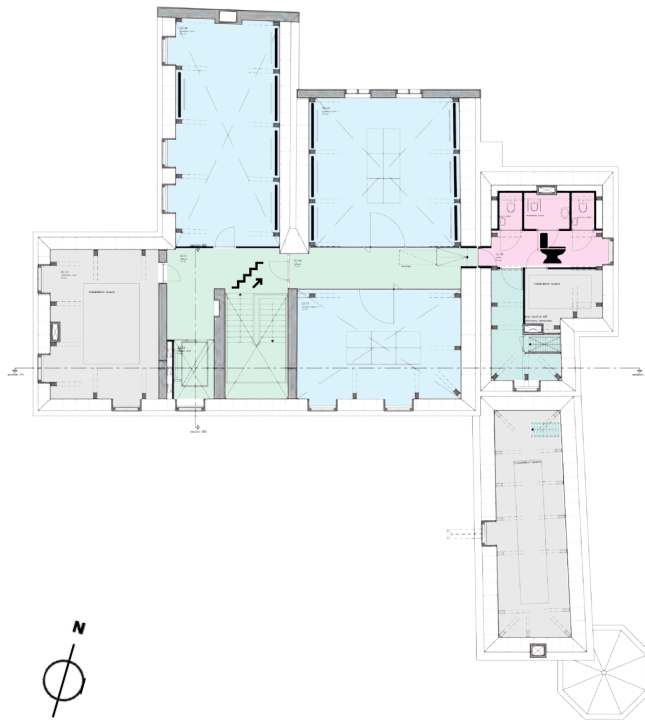
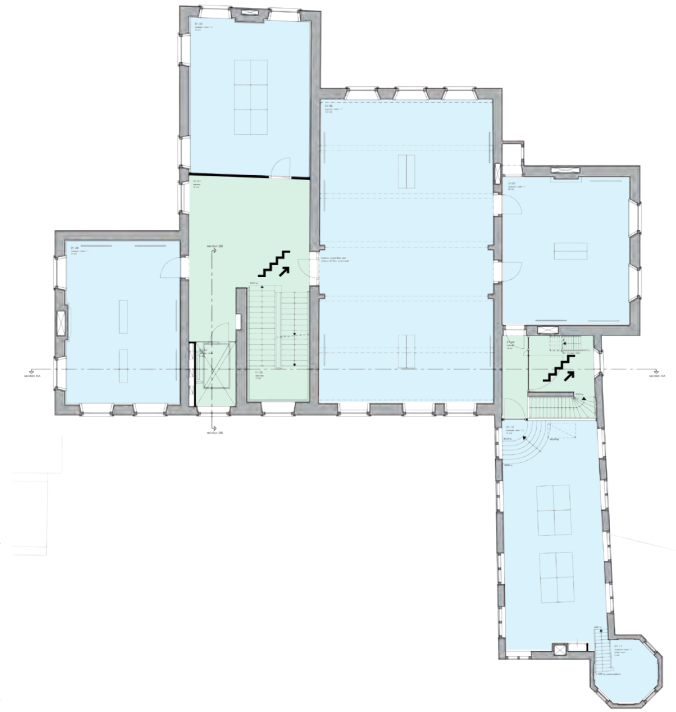
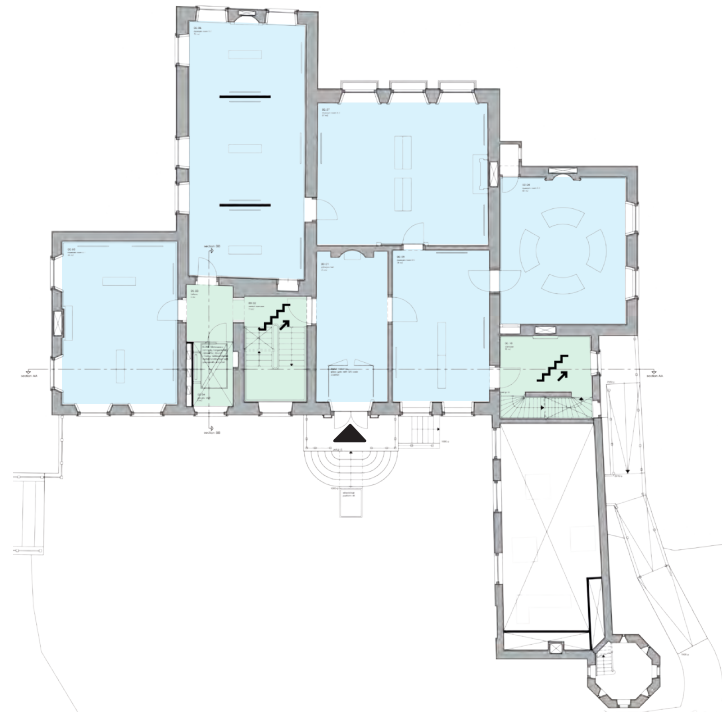
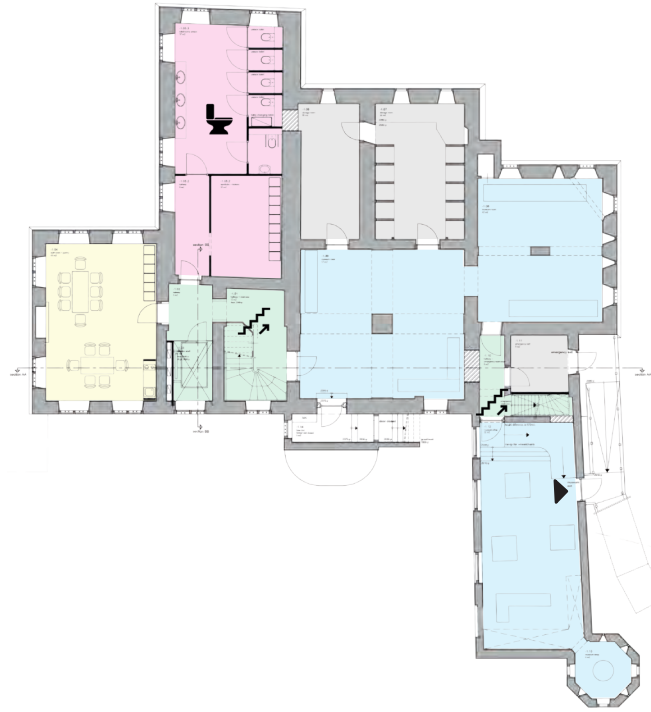
introduction





research

design

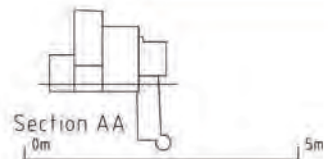
museum

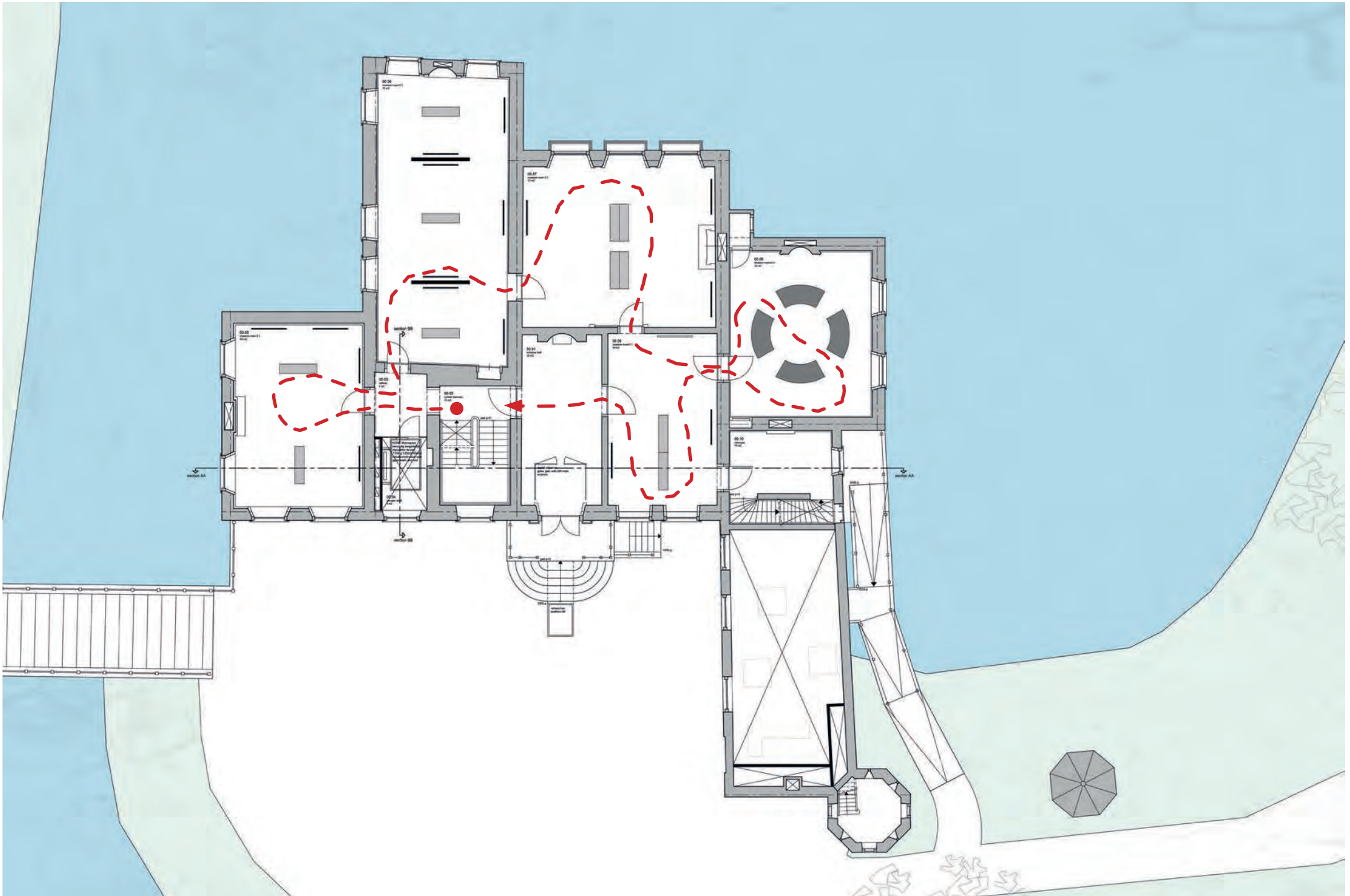
conclusion



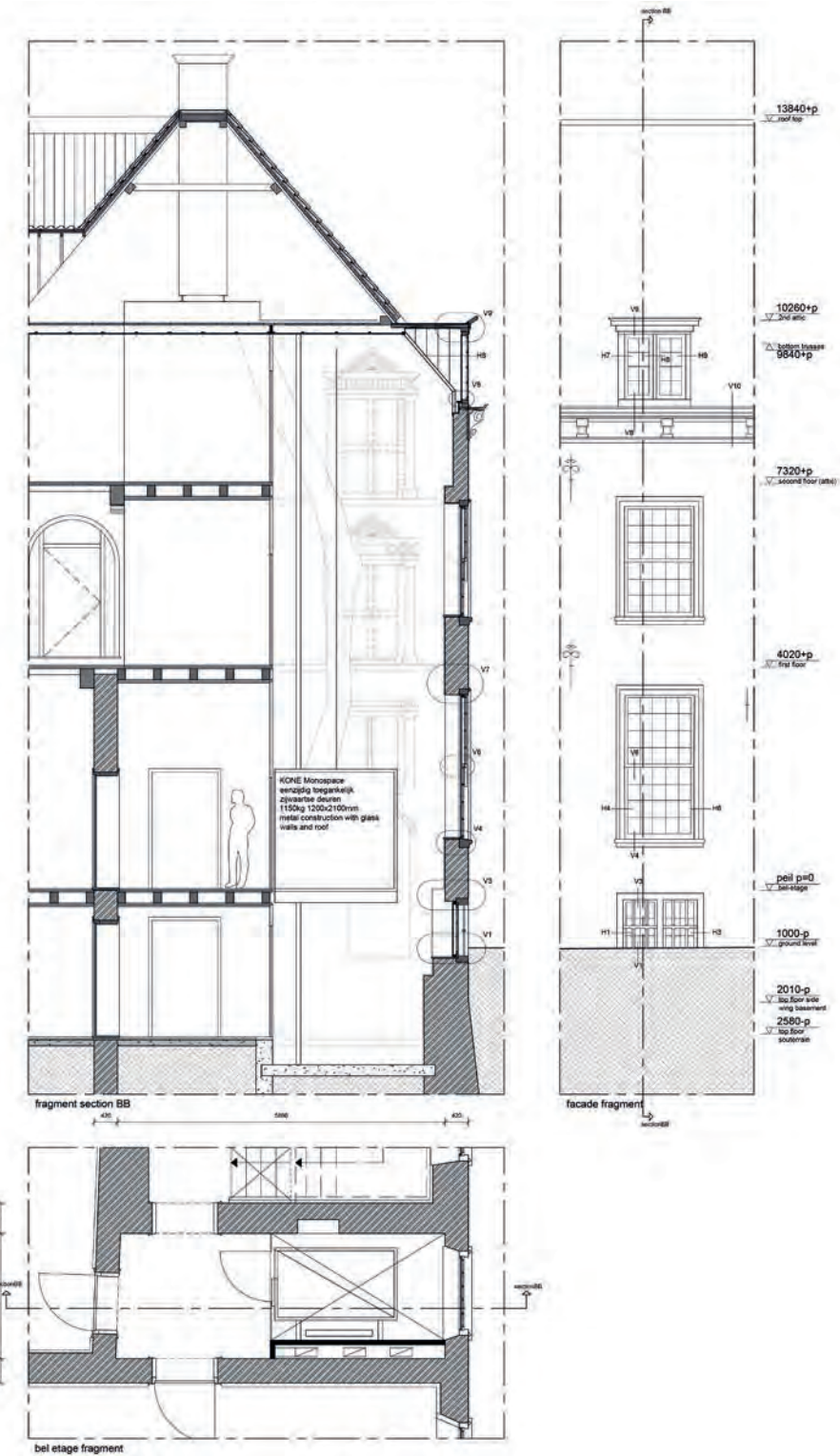
-  museum rooms
-  staircase / hall
-  toilets
-  staff
-  installation / storage





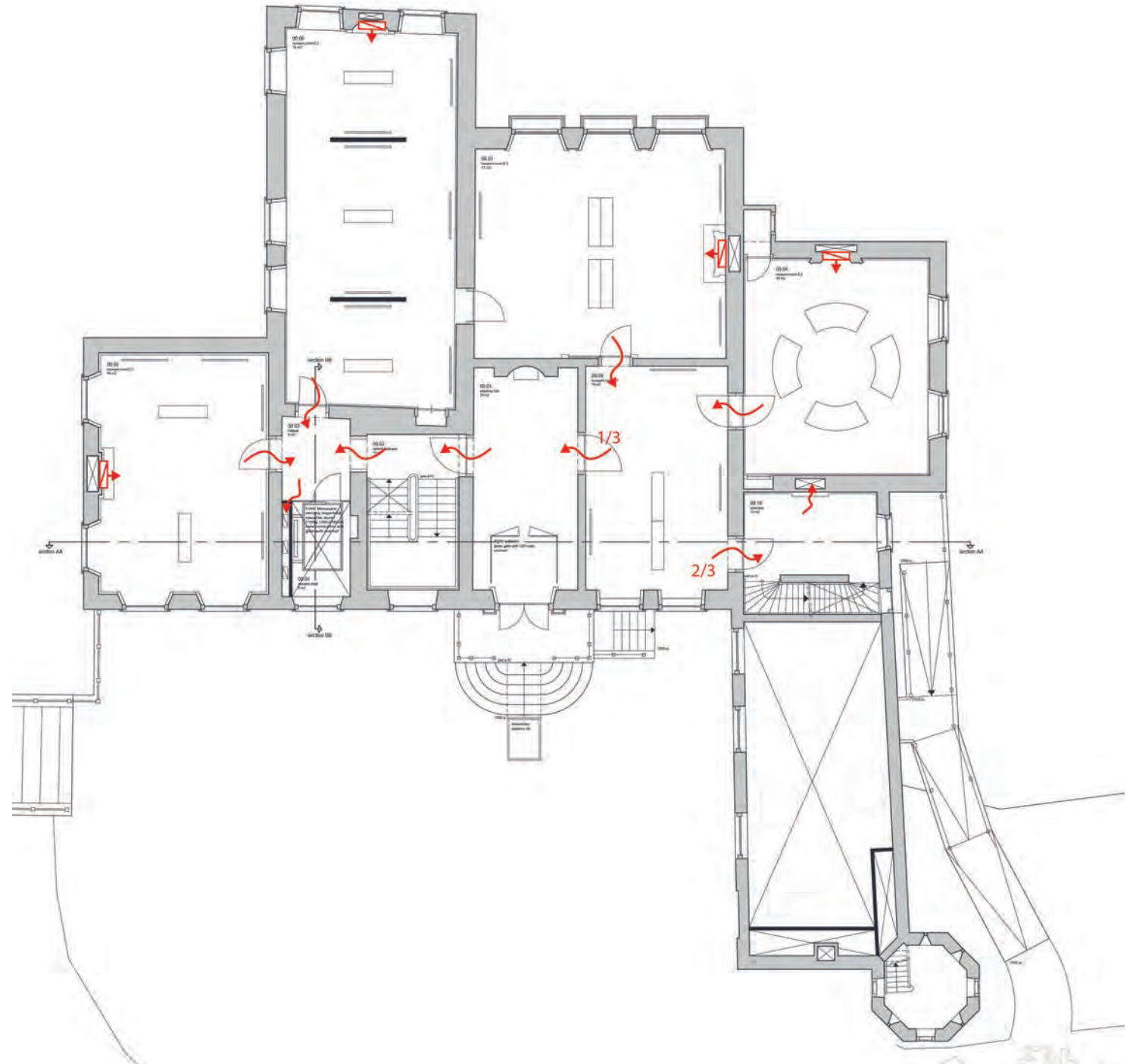


Museum design



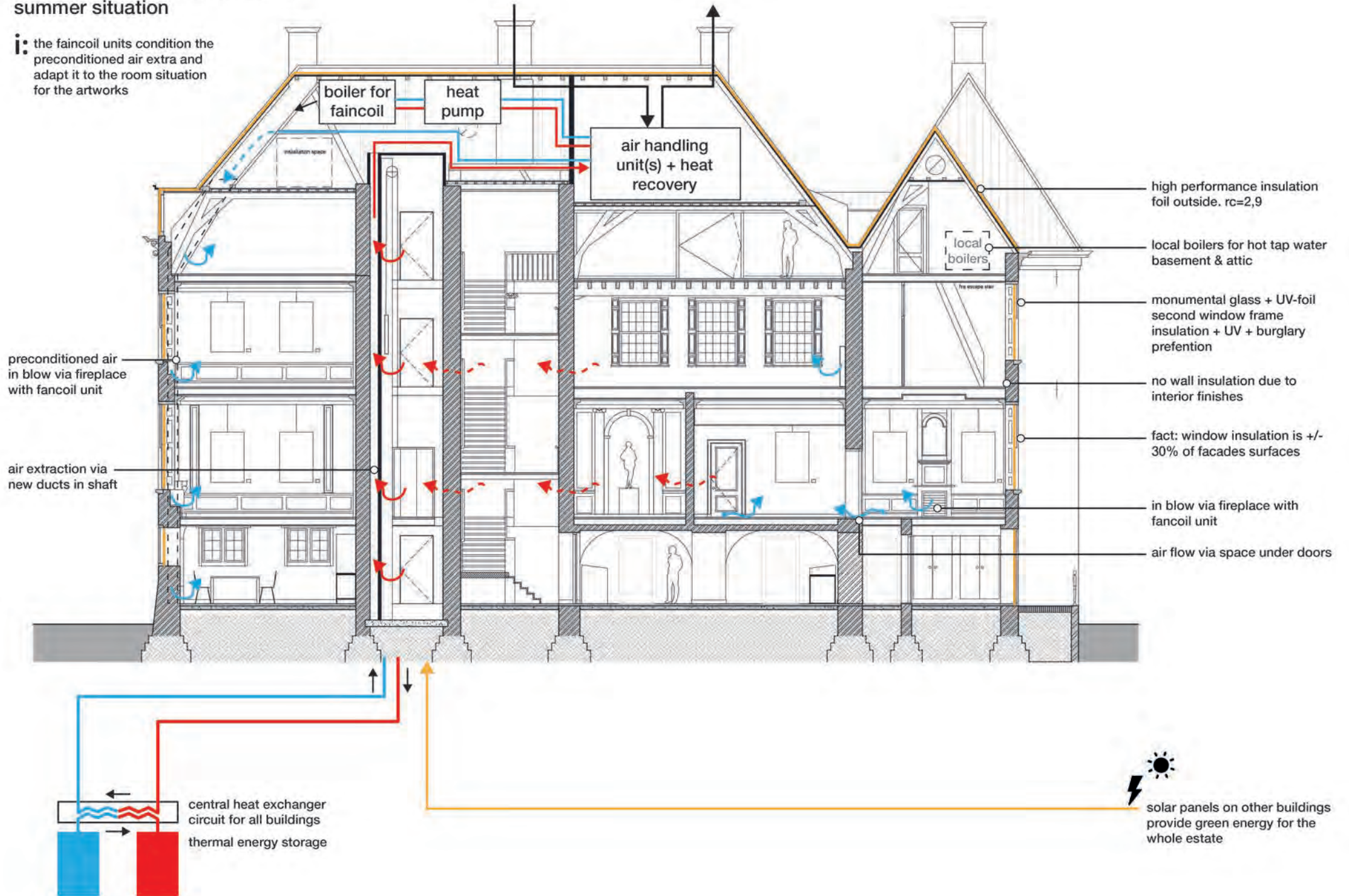
Climate museum house

- Attic for installations
- Rooms: fan coil units with fresh air inlet
- Vertical distribution via old fireplace ducts
- Exhaust air centralized



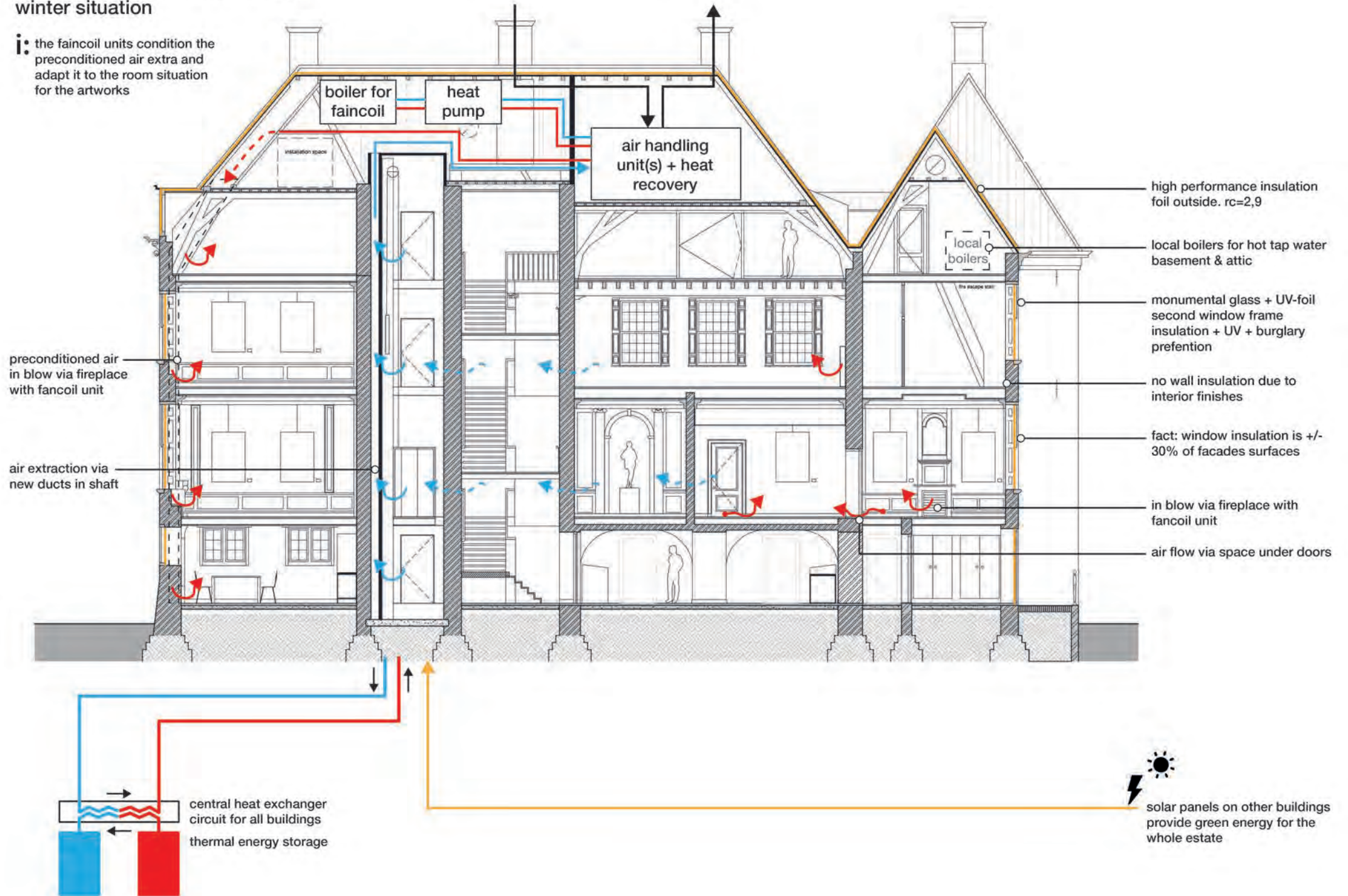
Climate concept / sustainability summer situation

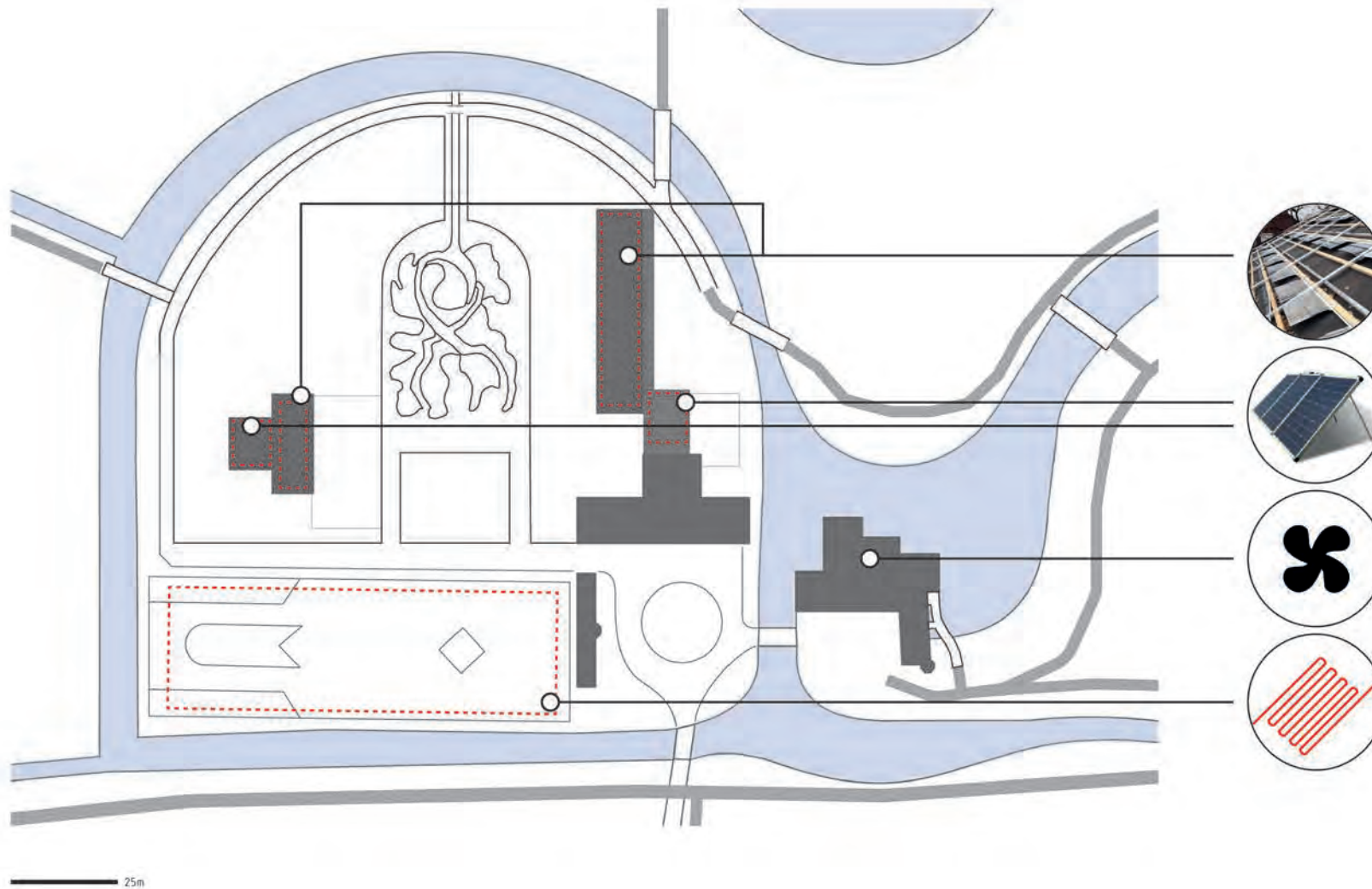
i: the fancoil units condition the preconditioned air extra and adapt it to the room situation for the artworks



Climate concept / sustainability winter situation

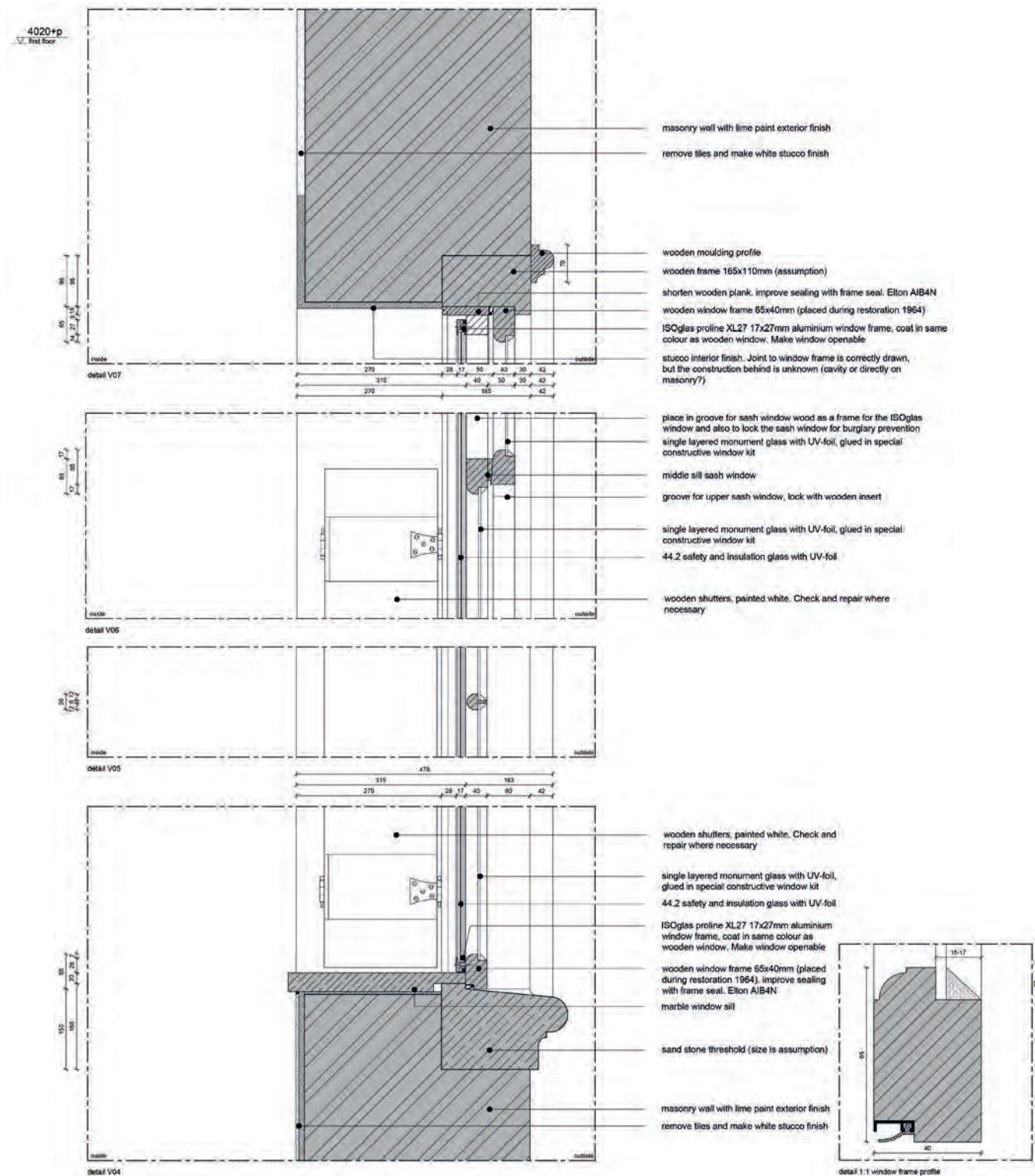
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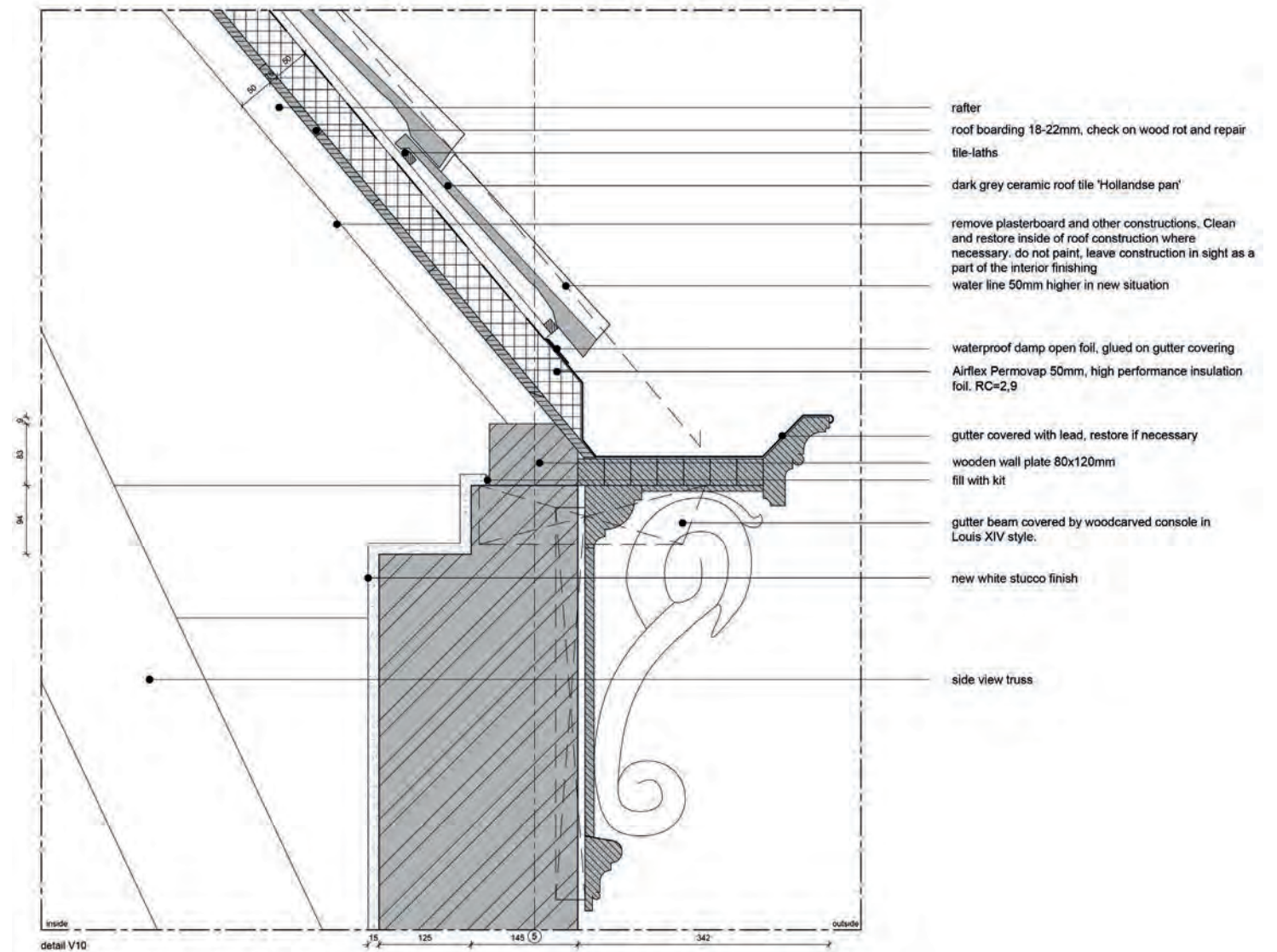
Insulation

- Replace current glass with monumental glass + UV foil
- Secondary window frame 44.2 glass
- Burglary prevention
- Restore & use shutters



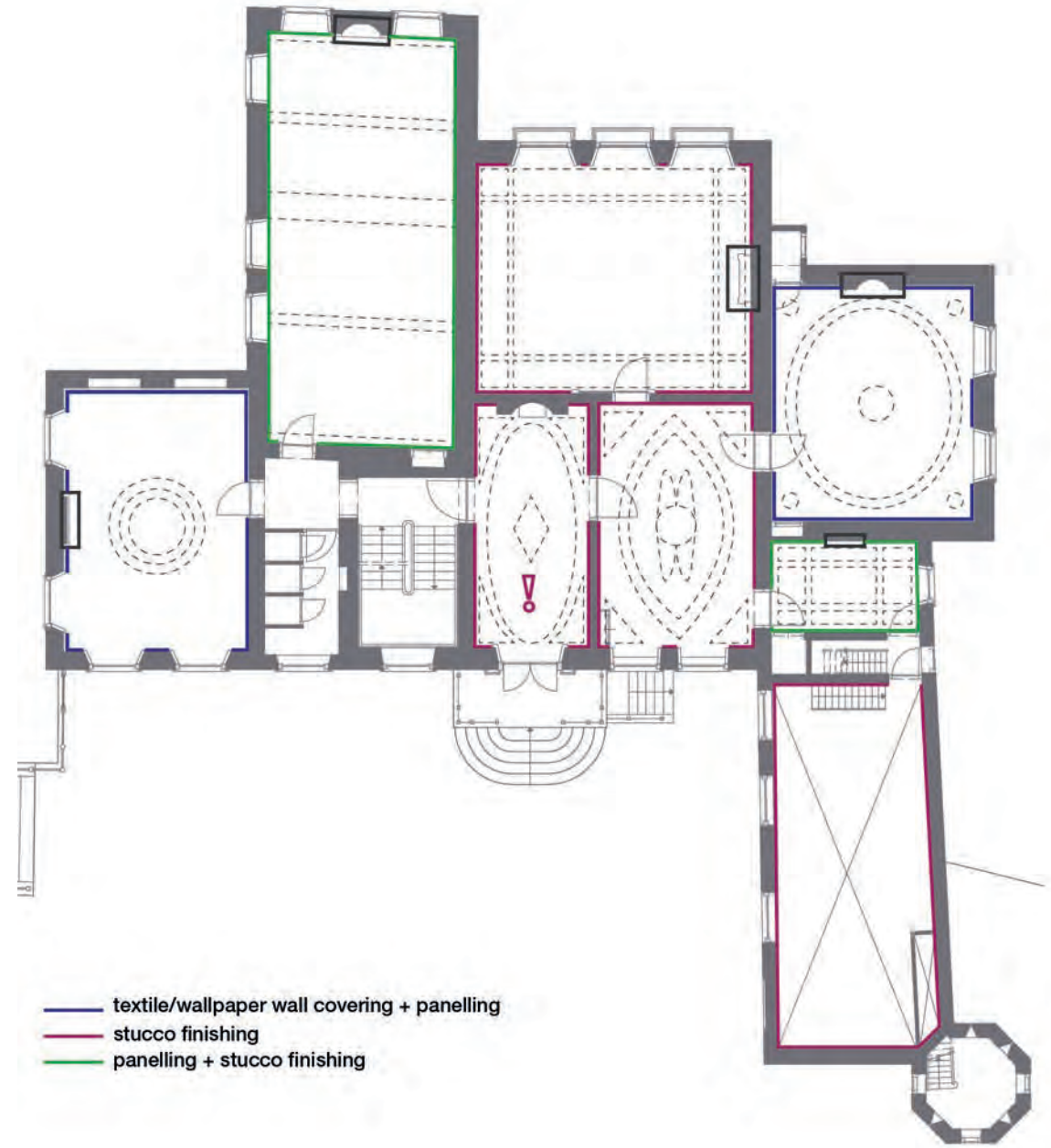
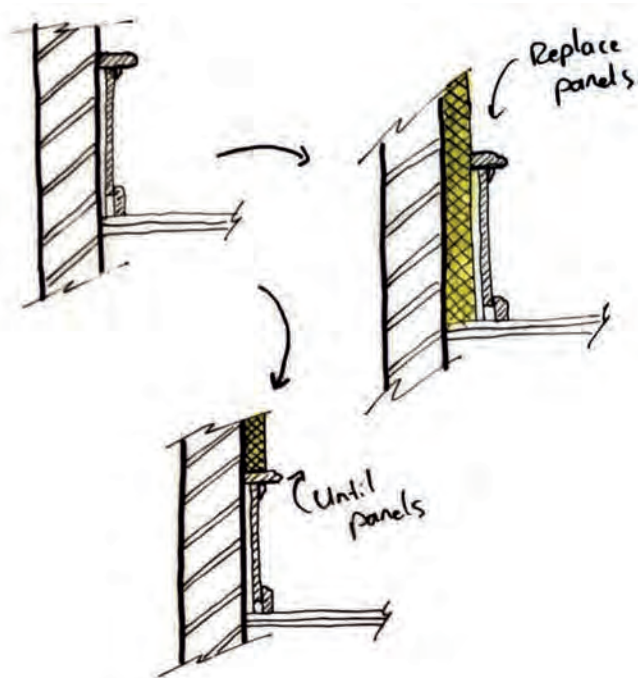
Insulation

- Airflex Permopap 50mm
- $rc=2,9$
- Insulation outside
- Wooden structure visible from inside



Why not wall insulation?

- High impact on room finish
- Disturbance of rhythm and symmetry ornaments
- Partial insulation causes tension



in into a sustainable reuse of buitenplaatsen

research

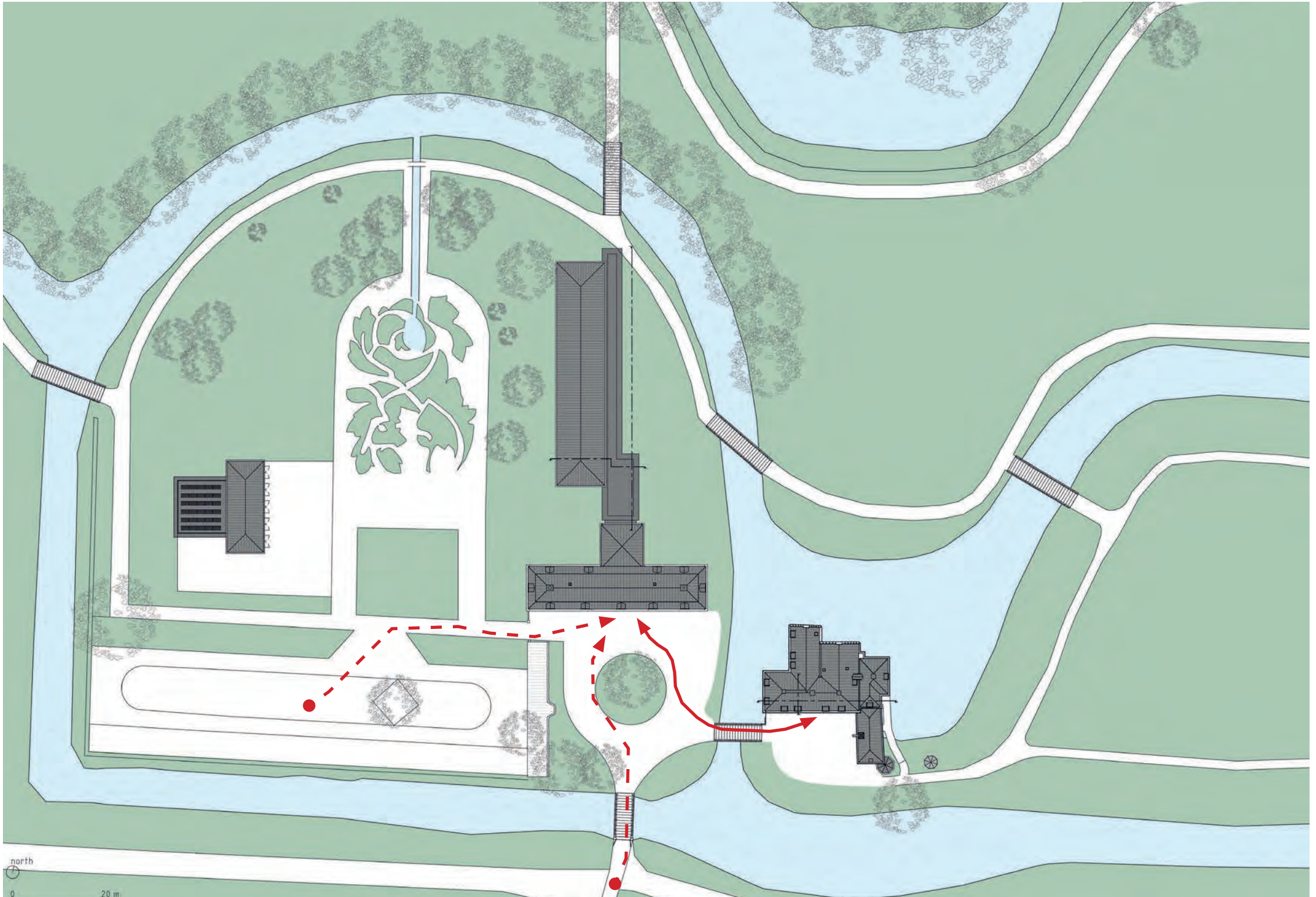
design

museum

conclusion

MUSEUM EXPERIENCE





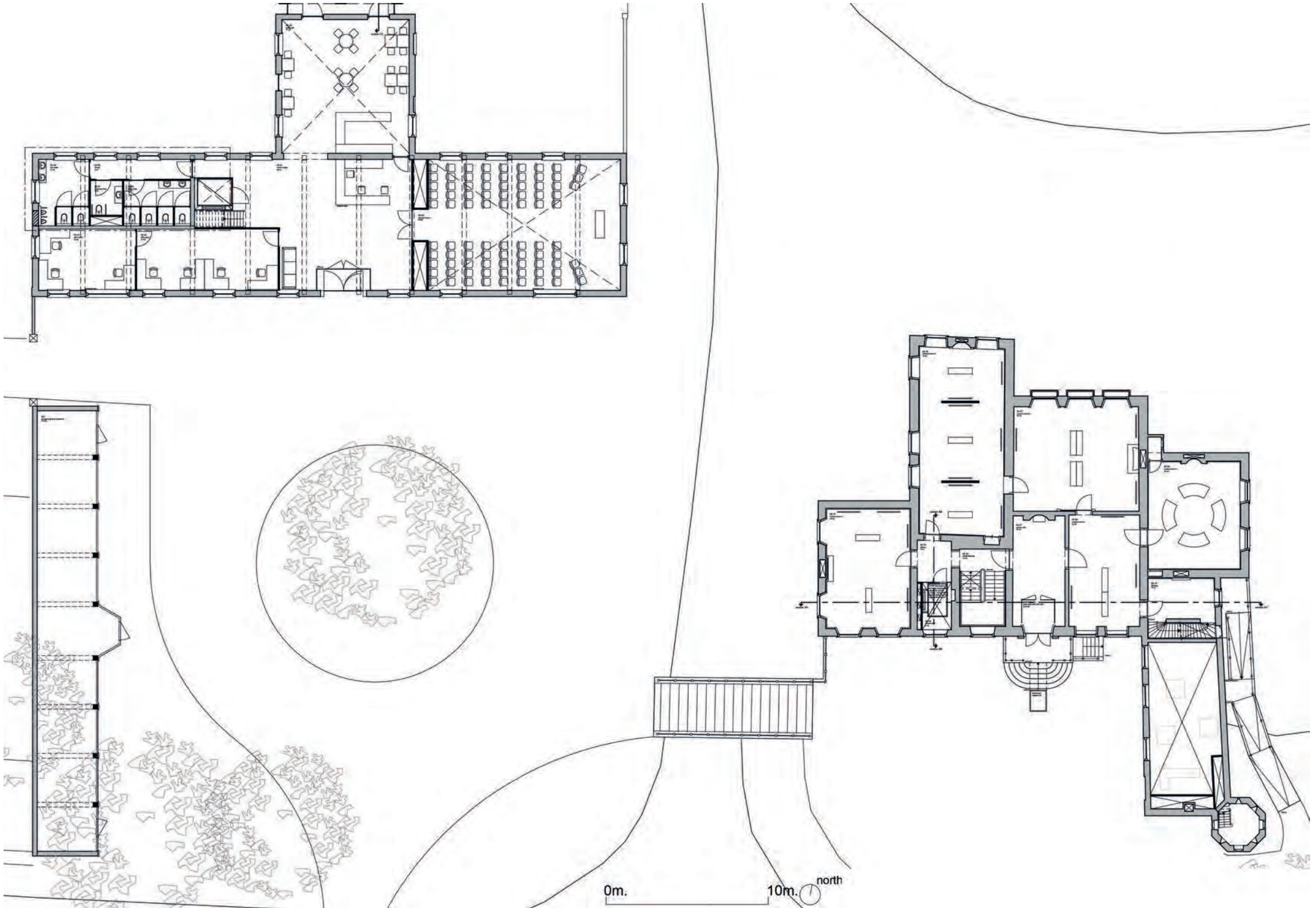
introduction

research

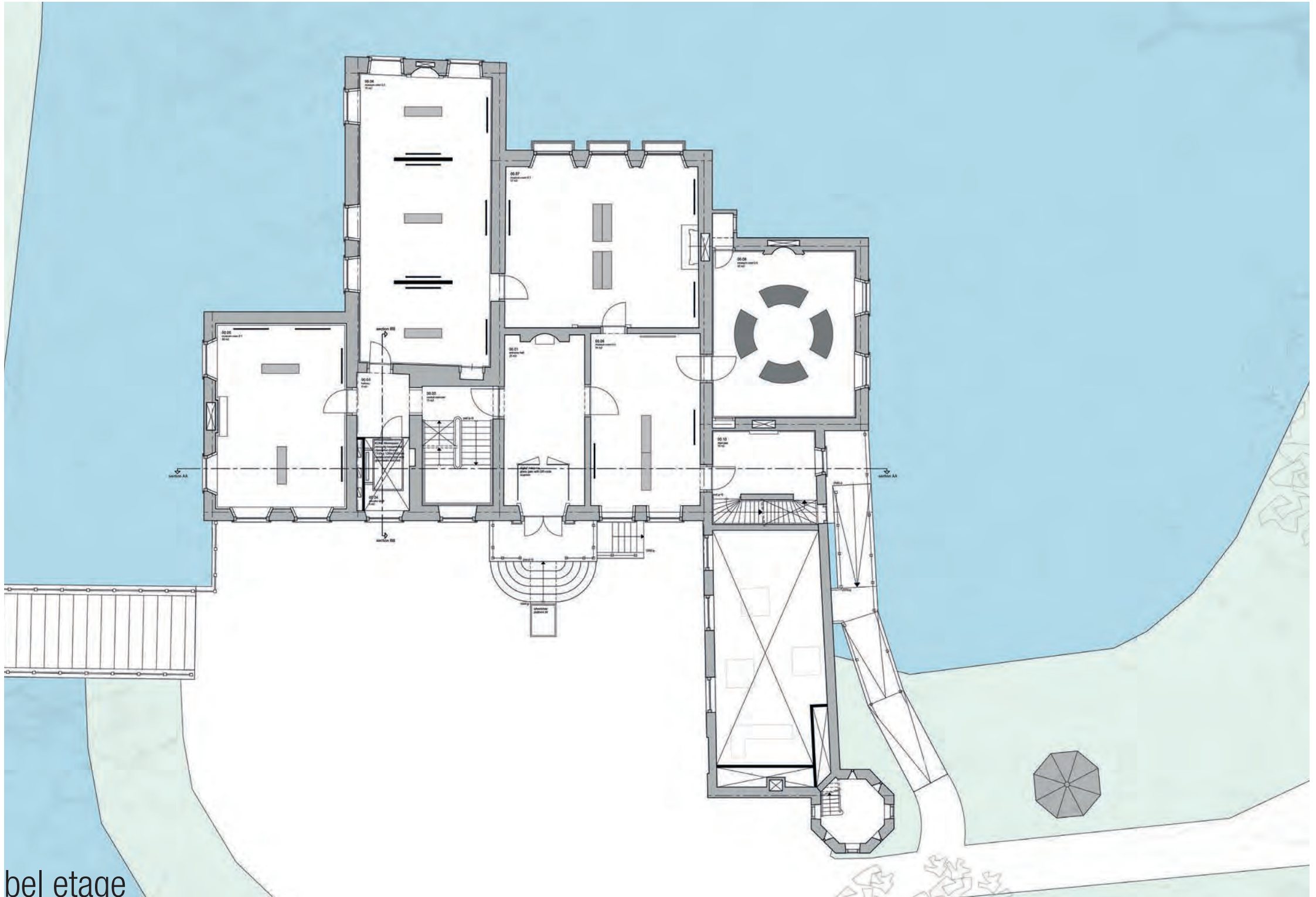
design

museum

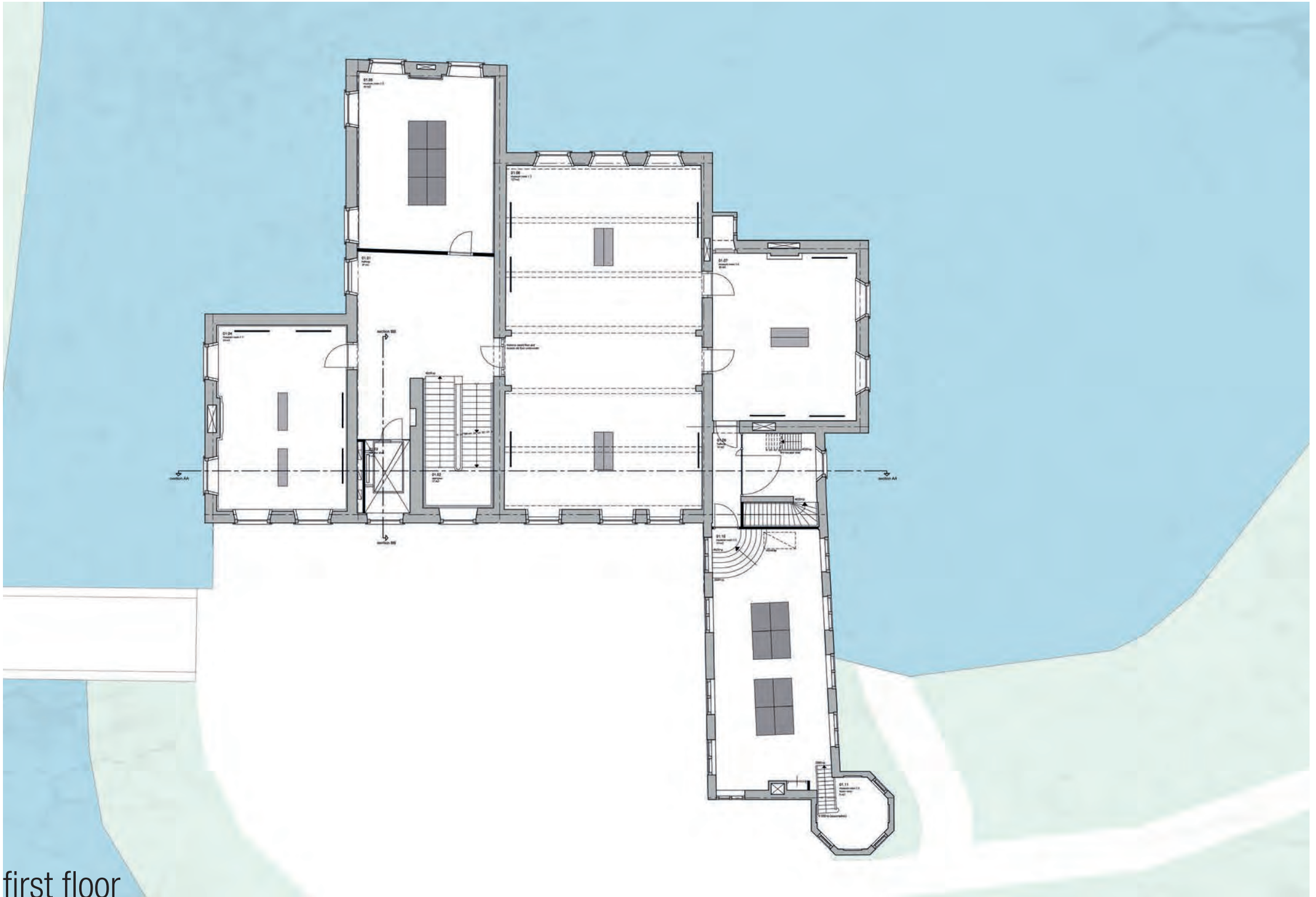
conclusion





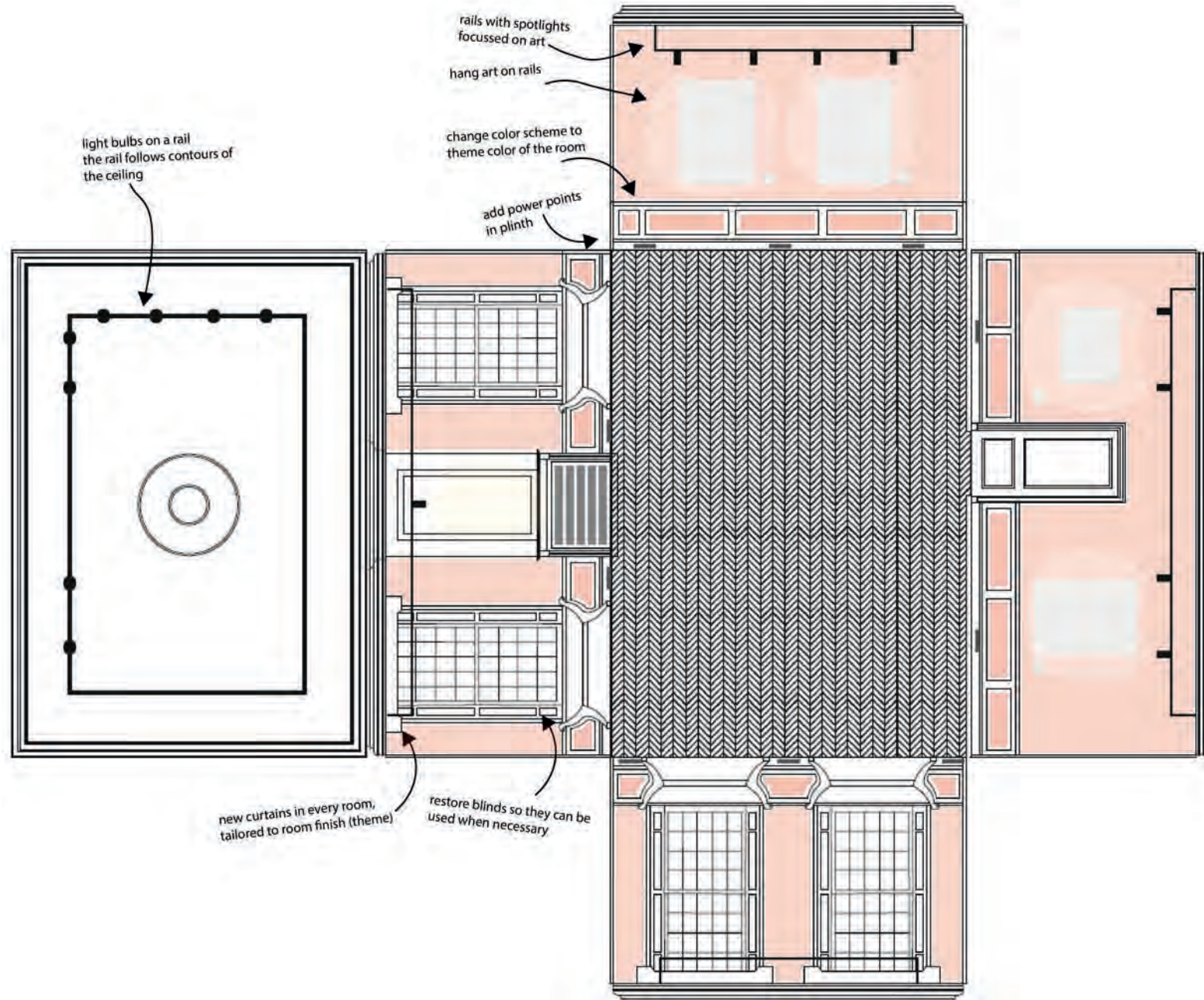


bel etage



first floor

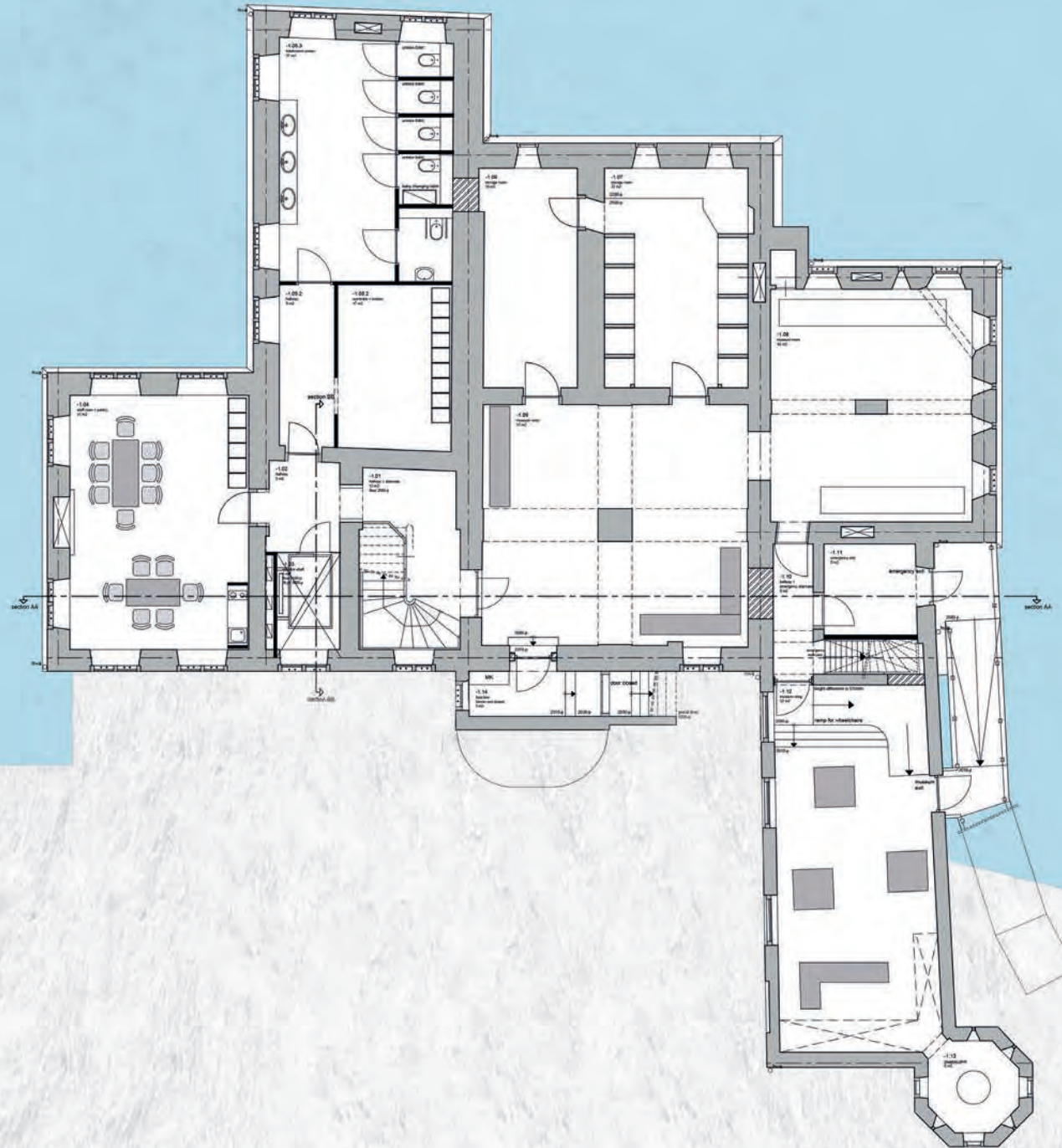
Flexible spaces for paintings



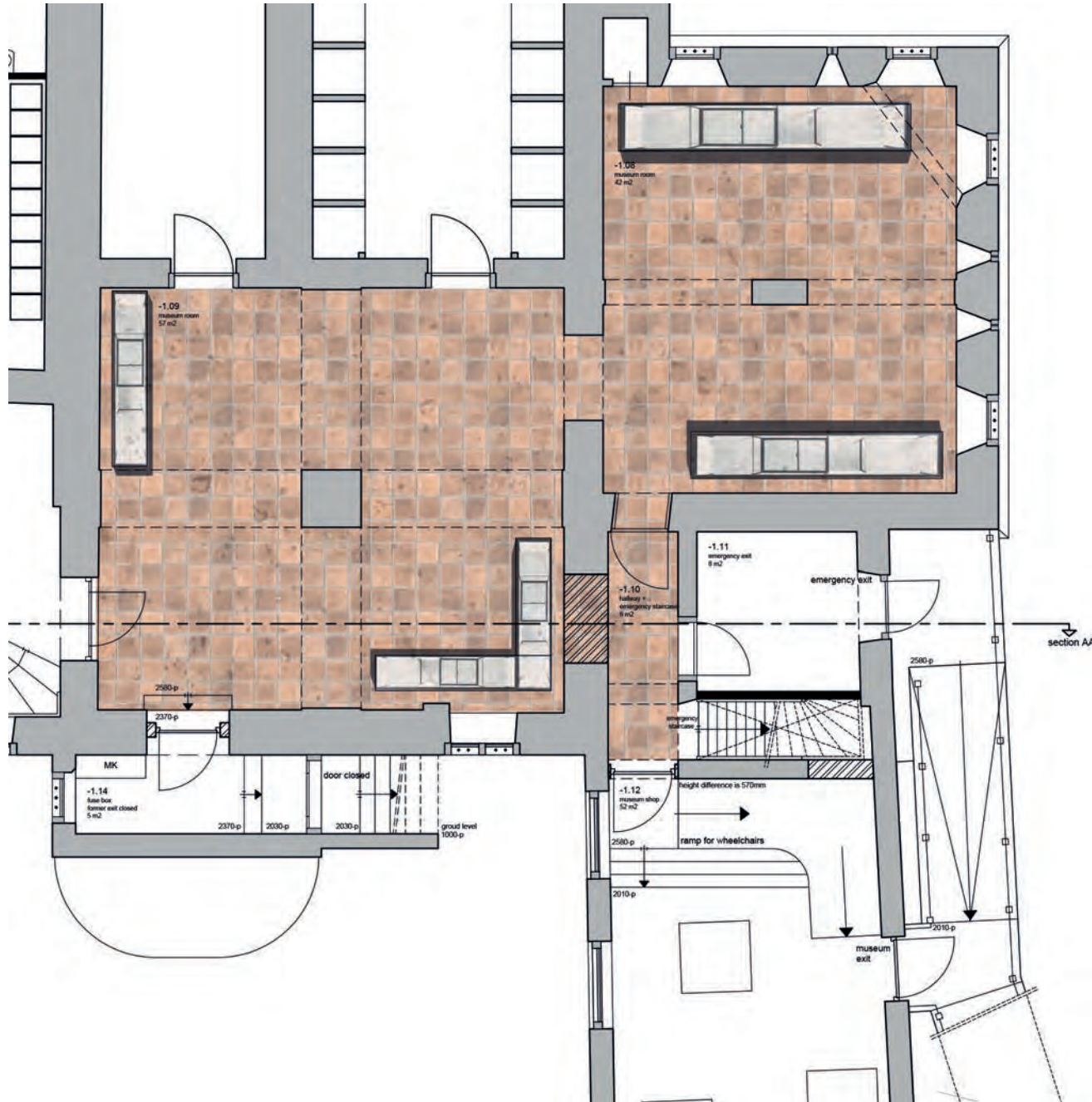
Hofje van Heeckeren Zutphen, Bierman Henket.



Mauritshuis Den Haag, Hans van Heeswijk.



basement



Hofje van Heeckeren Zutphen, Bierman Henket.



Kasteel de Haar, HWA architecten



Conclusion

RQ: 'how can design approaches help in a contemporary reuse and redesign of a Dutch estate where both building, and nature, contribute to a sustainable redesign and in particular for Huis 't Velde in Warnsveld?'

- An approach is not a fixed choice
 - No perfect attitude, use as guideline
 - One attitude doesn't always work as a startingpoint
 - Research and value assessment as a base for the design
 - Develop an attitude towards the existing building
-
- Sustainability is in economy, use and energy consumption
 - Estates have unique spatial opportunities
 - More integral approach



*Thank you for
listening*

