

P5 Architectural Design

Designing for Encounters

‘Designing for Care in an Inclusive Environment’
Quinta Hoeneveld
5085381

introduction

part I

Research related to loneliness

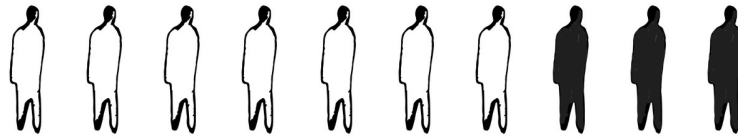
- Relevance
- Research questions and methods
- Results

part II

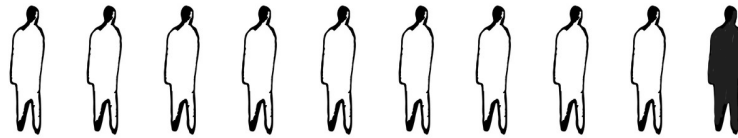
Architectural design:

- The form and integration in the existing urban fabric
- The program
- Technical aspects: sustainability, climate & construction

relevance

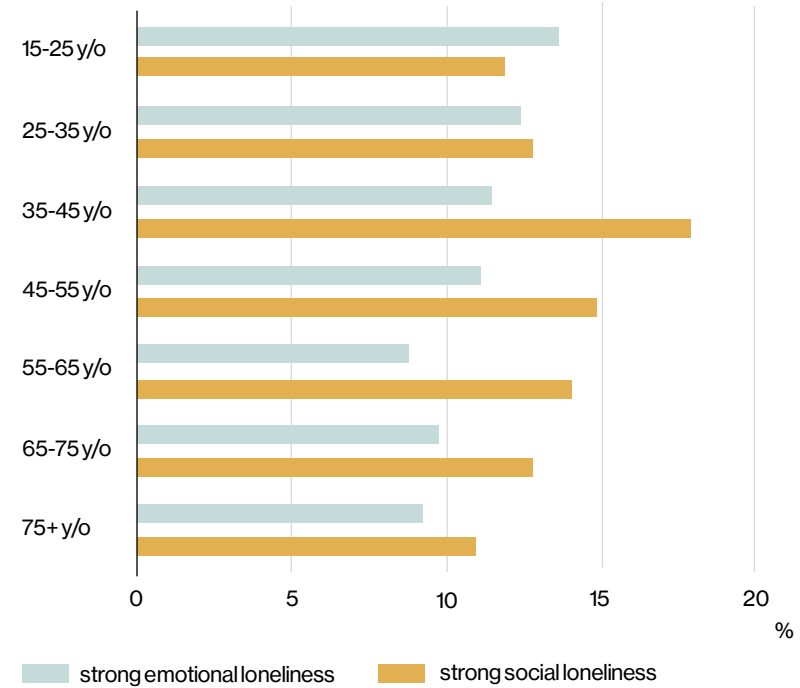


28,6% sometimes lonely CBS (2023) (15+ y./o)



10,8% severe loneliness CBS (2023) (15+ y./o)

relevance



relevance



This costs Dutch society 2 billion euros in additional care every year (2021)

■ ACHTERGROND

'Eenzaamheid zit ingebakken in het leven zelf'

Eenzaamheid Tien procent van de Nederlanders, oud én jong, ervaart gevoelens van sterke eenzaamheid. Houdt dat gevoel erg lang aan, dan kan het leiden tot piekeren, stress, slecht slapen en depressie. 'Men voelt zich nutteloos, omdat men niet van betekenis is voor een ander.'

Ingmar Vriesema

1 februari 2019 • Leestijd 7 minuten



■ NIEUWS

Eenzaamheid kost 2 miljard euro aan extra zorgkosten

Onderzoek Zeer eenzame mensen maken meer zorgkosten, ook als dit wordt gecorrigeerd naar ziekte, blijkt uit nieuw onderzoek.

Romy van der Poel

7 februari 2021 • Leestijd 1 minuut



Een op de tien Nederlanders voelt zich volkomen alleen van het RIVM (over overlevingsaanpak).
Foto: Roben van Lierhagen

■ INTERVIEW

'Stedelingen trekken zich steeds meer terug in privacybubbels'

Interview We zijn beland in een eenzaamheids crisis, die door de pandemie wordt versterkt, betoogt econoom Noreena Hertz. Schuldige: het neoliberalisme.

Rosan Hollak

16 december 2020 • Leestijd 5 minuten



■ ACHTERGROND

Nederland staat voor opgave van jewelste: steeds meer mensen hebben zorg nodig, maar het aantal mantelzorgers neemt af

Zorgen voor een ander De 'sandwichgeneratie' worden ze al genoemd: mensen die voor een naaste zorgen en in de knel komen met andere verplichtingen. Ze voelen dat ze tekortschieten. 'Mijn zussen worden goed verzorgd, maar het personeel daar zit ook klem. Iedereen zit klem.'

Juliet Boogaard en Ingmar Vriesema

20 november 2024 • Leestijd 5 minuten



Het aantal mensen dat mantelzorg nodig heeft stijgt snel terwijl dat het aantal mantelzorgers.
Foto: Roben Utrecht

■ NIEUWS

Minister Helder wil ouderenzorg anders organiseren: zelfredzaam en 'digitaal als het kan'

Plan ouderenzorg In de plannen van minister Conny Helder (Langdurige Zorg, VVD) moeten ouderen zelfredzamer worden, langer thuis blijven wonen en meer gebruik gaan maken van technologische innovatie.

Ten Tunali

4 juli 2022 • Leestijd 1 minuut



Heek in Nijmegen. In de plannen van minister Helder helpen medisch robots ouderen bij het innemen van de juiste pillen.
Foto: Erik van 't Wouda/NIP

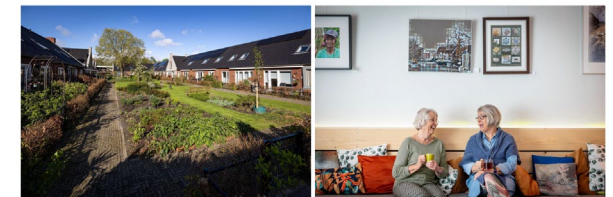
■ ACHTERGROND

Wonen in Nederland: eenheidsworst. Dat het anders kan, zie je hier

Toekomst van wonen Niet in een rijtjeshuis of appartement wonen, maar experimenteler? Dat kan, maar je moet wel een flinke dosis tijd, geduld en doorzettingsvermogen hebben.

Sjoerd Klumpenaar en Wouter van Noort

25 april 2024 • Leestijd 12 minuten



In Zwolle staat het eerste Knaarhof. Inmiddels zijn er negen van deze hofjes voor ouderen klaar.
Foto: Wouter de Wilde

- figure 1: ((Vriesema, 2019)
figure 2: (Van Der Poel, 2021)
figure 3: (Hollak, 2020)
figure 4:: (Boogaard & Vriesema, 2024)
figure 5: (Tunali, 2024)
figure 6: (Klumpenaar & Van Noort, 2024)

research question

Can **public and residential buildings** in inner-city neighbourhoods create opportunities for **social encounters across different spatial scales** (interior, transition zone, and neighbourhood) to contribute to the **prevention of loneliness**?

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research content

Can public and residential buildings in inner-city neighbourhoods create opportunities for **social encounters across different spatial scales** (interior, transition zone, and neighbourhood) to contribute to the prevention of loneliness?

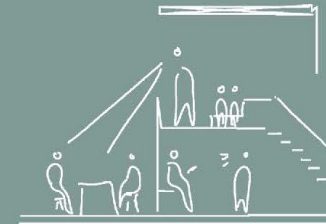
Increase social contact at
the **neighbourhood scale**



Increase social contact in
the **transition zone**

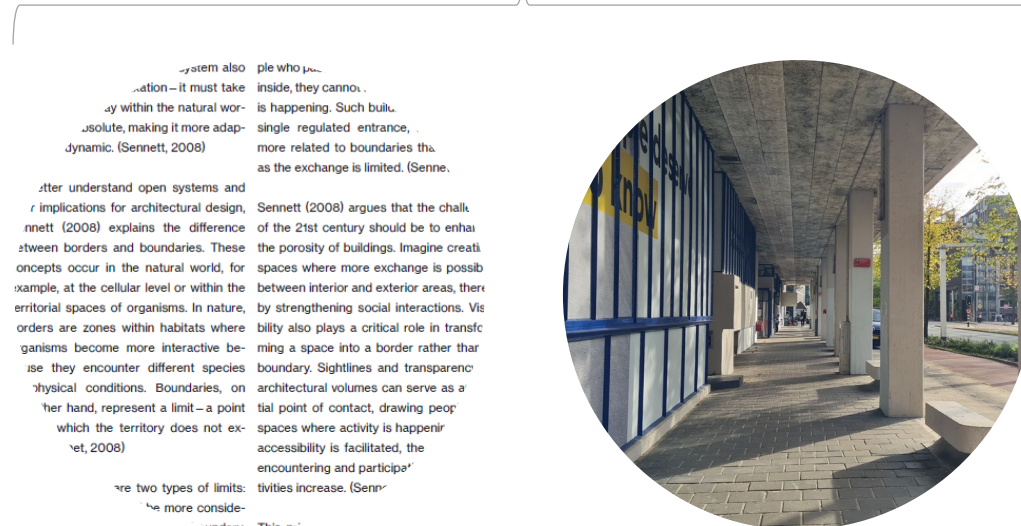


Increase social contact in
the **interior of a building**



research approach

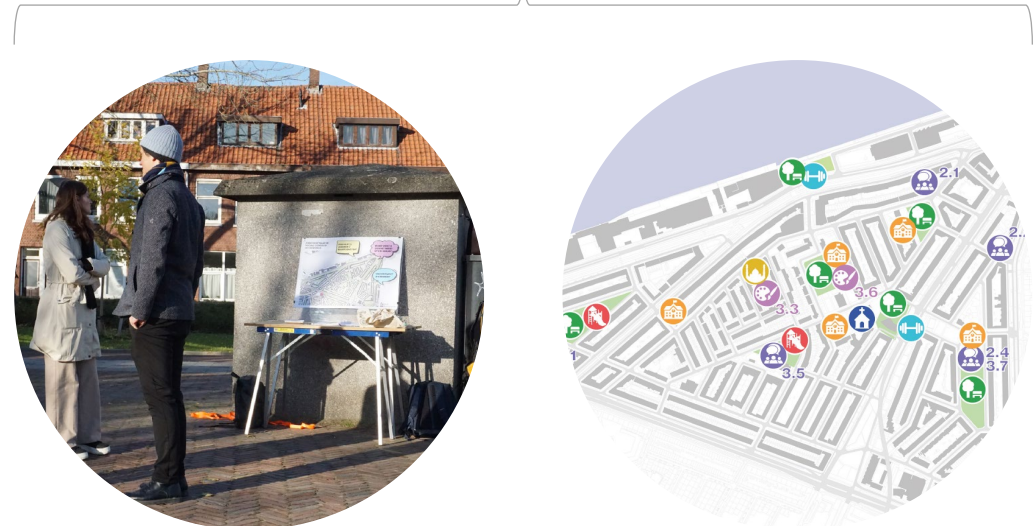
research topic



literature research

site visits

Tarwewijk, Rotterdam



conversations

mapping

research conclusions

“transition zones are the key areas where social interactions are most likely to occur



Privacy is essential, when people know they can retreat, they're more likely to engage in the first place



Social infrastructures in neighbourhoods offer a buffer against social isolation

figure 11 (left): (*Ontmoeting in buurten ontwerpen is een investering in aandacht*, 2021)
figure 12 (middle): (Doherty, n.d.)
figure 13 (right): (Hertzberger, n.d.)

fieldwork conclusions



“cooking and sharing meals together is the way we get to know people from other cultures”



“I only know my neighbours a bit, I don't feel at home here”

“I know a lot of people from church, I enjoy living in the Tarwewijk.”

More accesible (public/private)
Less accesible (private)

(young) children till 16 y/o

- Playgrounds
- Schools
- Parks
- House of Urban Arts (from 8 y/o)
- Minhaj (mosque)
- Victory Outreach (church)

(young) adults 16 till 27 y/o

- Parks
- Fitness equipment (predominantly used by men)
- House of Urban Arts (till 23 y/o)
- Minhaj (mosque)
- Victory Outreach (church)

adults 27 till 55 y/o

- Playgrounds
- Schools
- Parks
- Buurtbuik
- Take-A-Way
- Buurtcentrum Millinparkhuis
- Wijk- en Speeltuin vereniging (closed off community)

- House of Hope (for vulnerable people)
- Victory Outreach (church)
- Minhaj (mosque)

empty nesters 55 till 70 y/o

- Parks
- Buurtbuik
- Take-A-Way
- Buurtcentrum Millinparkhuis
- Wijk- en Speeltuin vereniging (closed off community)
- House of Hope (for vulnerable people)
- Victory Outreach (church)
- Minhaj (mosque)

elderly 70+

- Parks
- Buurtbuik
- Take-A-Way
- Buurtcentrum Millinparkhuis
- House of Hope (for vulnerable people)
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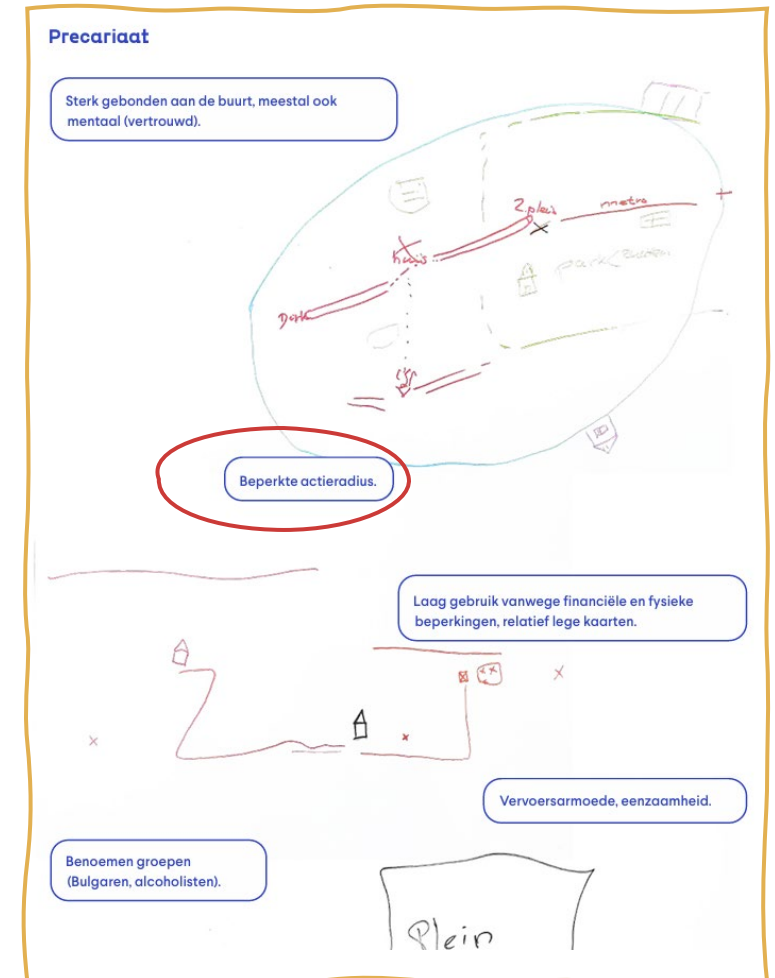
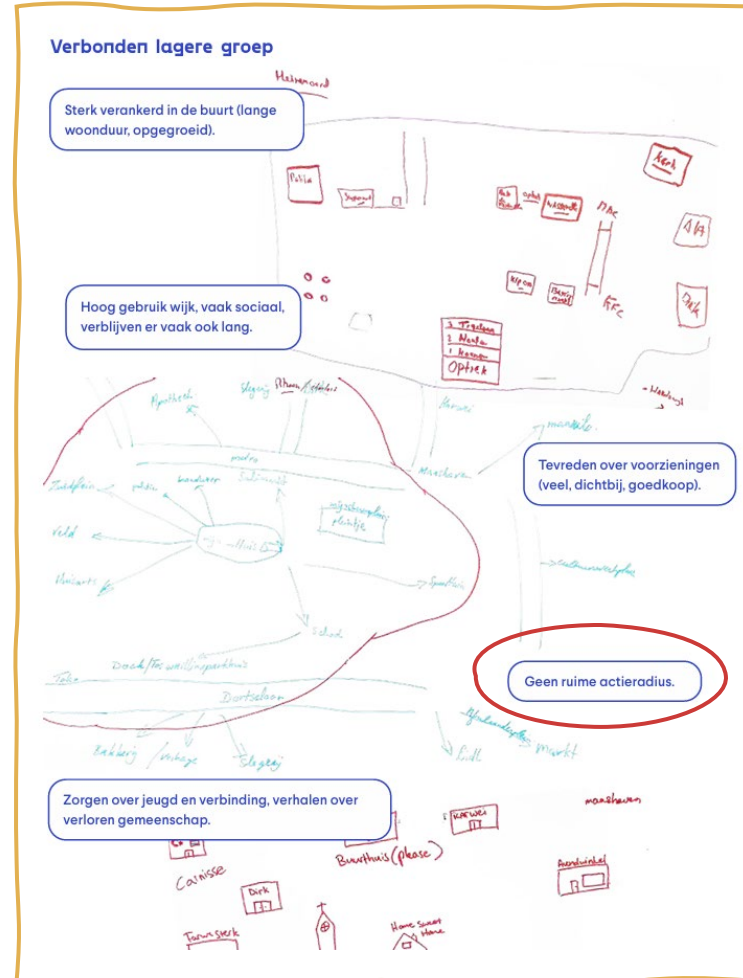
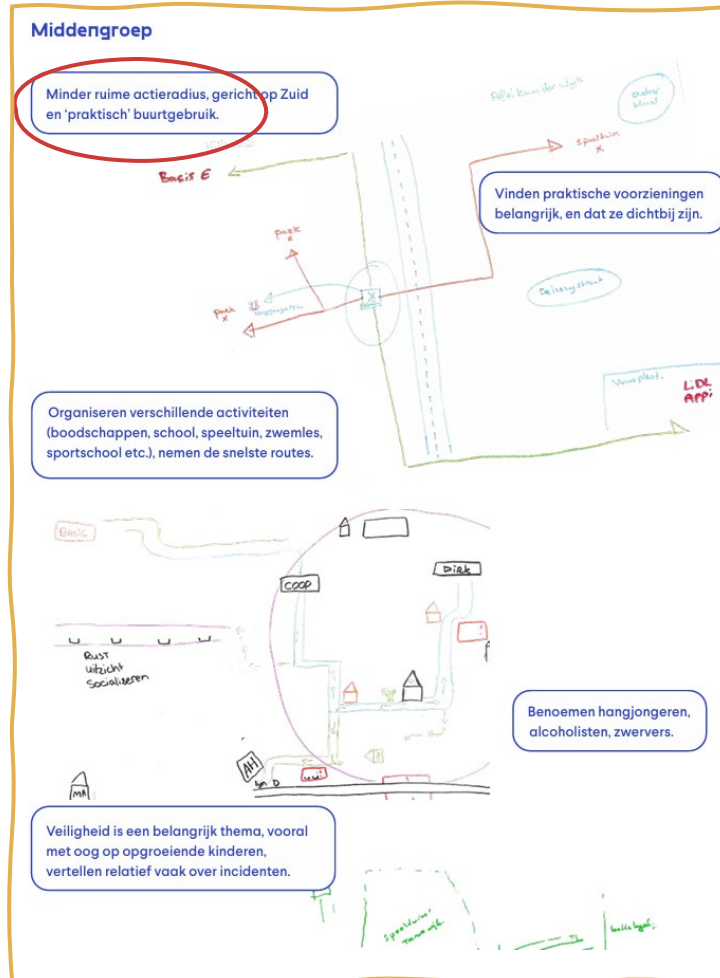
The overlap:

- Parks

The lack:

- functions for (young) adults

neighbourhood demographics



design brief

Affordability and accessibility play a key role

In case of social infrastructure

*According to Klinenberg (2019), **libraries** are essential to the vitality of a neighbourhood because they can buffer various personal issues, including **social isolation and loneliness**. Libraries are **open to everyone and free to use**, making them spaces where **culture can be shared**. This **inclusivity** explains why libraries serve so effectively as social infrastructure.*

In case of housing

To support affordable **residential mobility** within the neighbourhood, there is a need for **smaller dwellings**

Particularly for **starters and emerging groups**, as well as for **elderly** residents in need of more suitable and accessible homes.

design brief

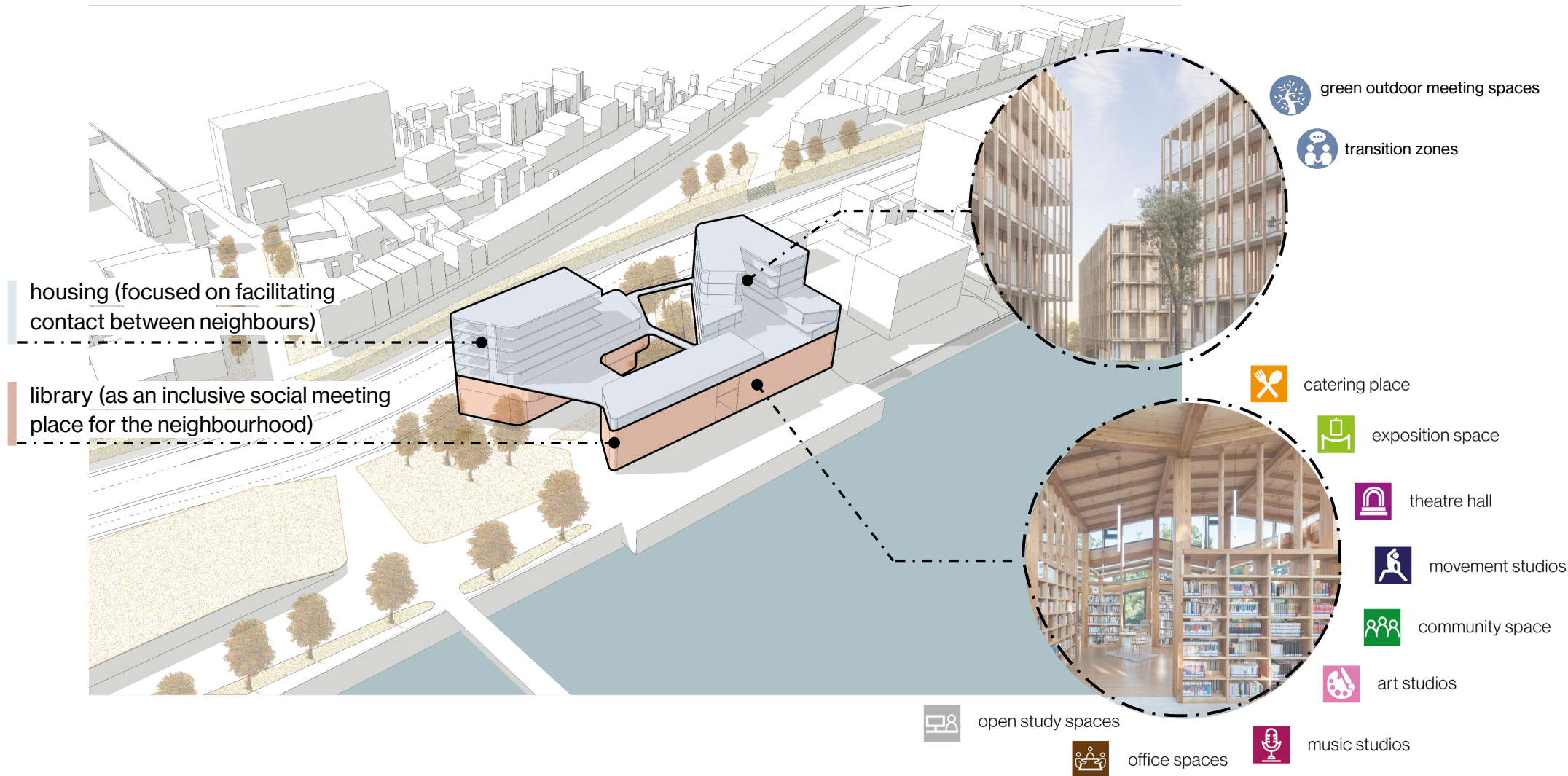


figure 14 (top): (Sun, 2023)
figure 15 (bottom): (Goula, 2023)

location



figure 16: (Maashaven Tarwewijk Katendrecht Kop Van Zuid Rotterdam-Zuid, n.d.)

location

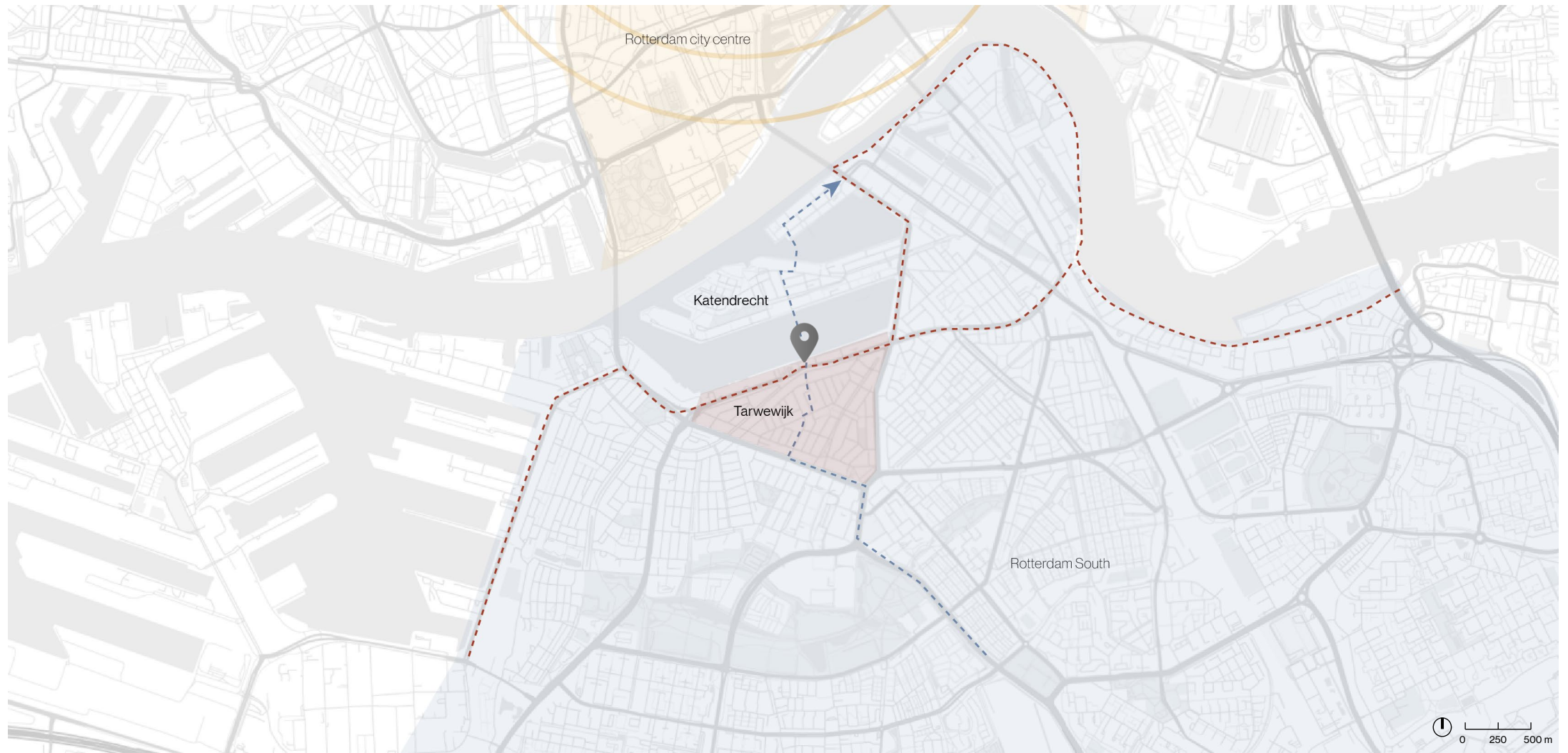


figure 17: (Hoekstra, 2023)

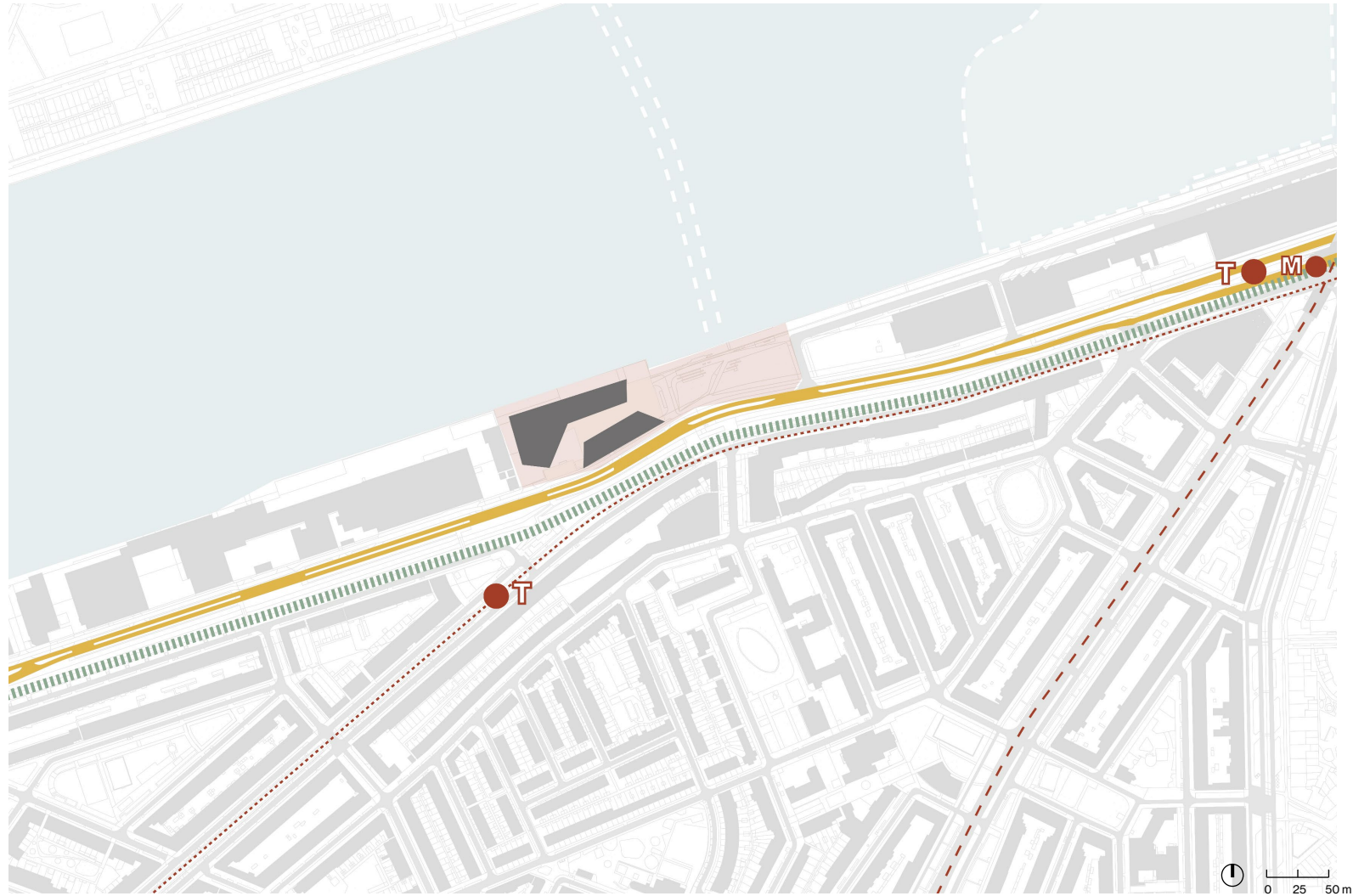
location



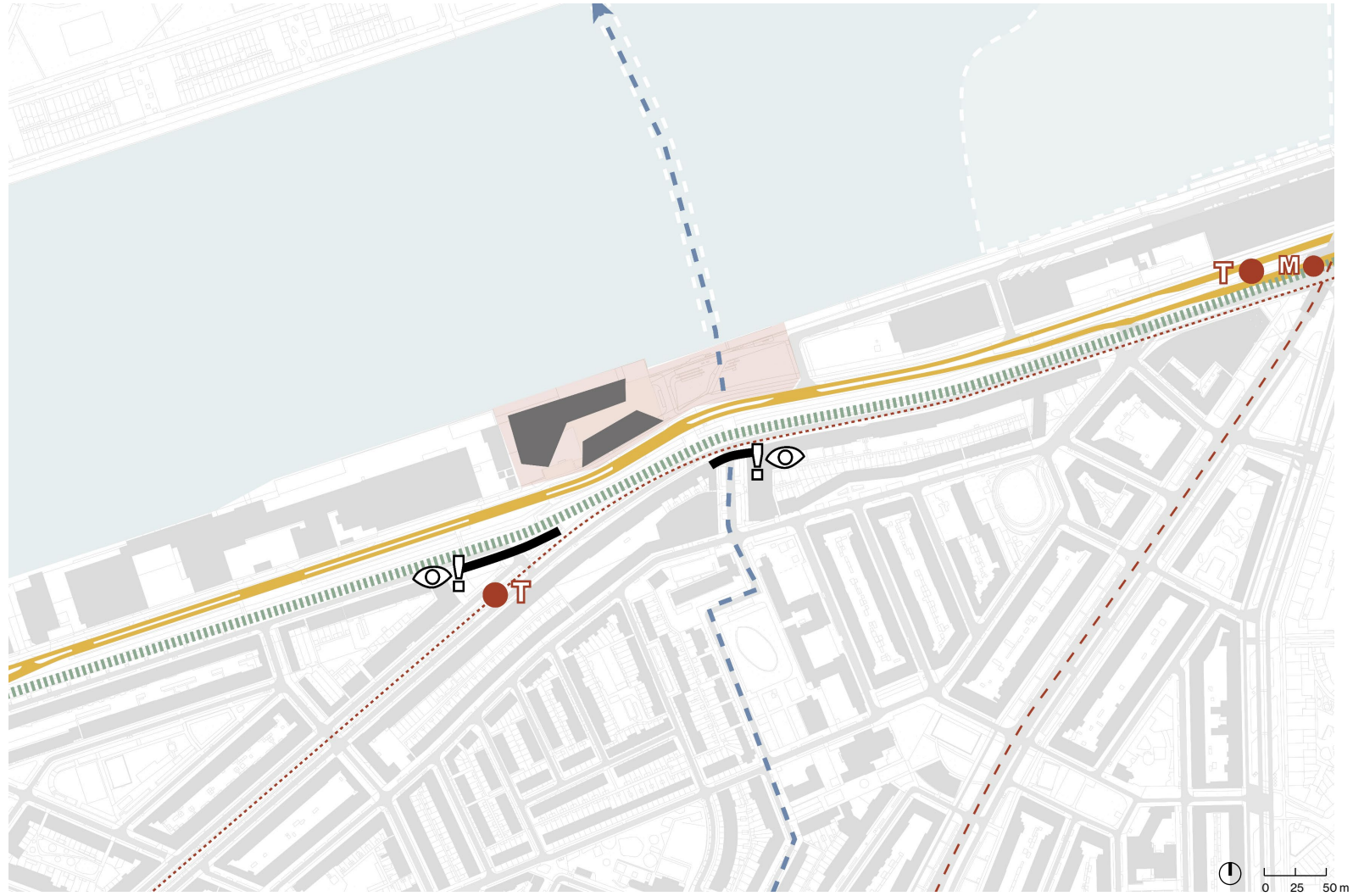
location



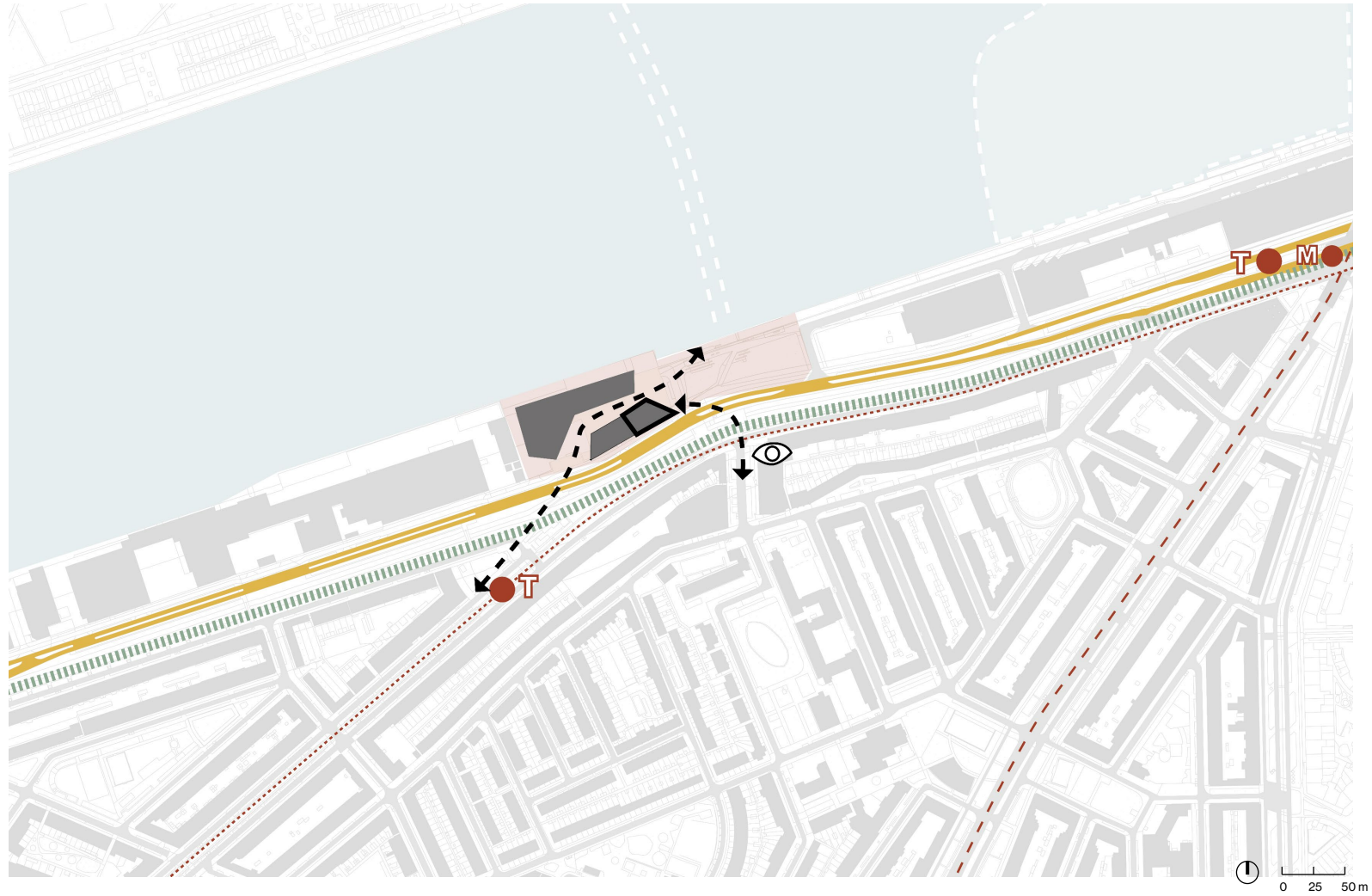
location



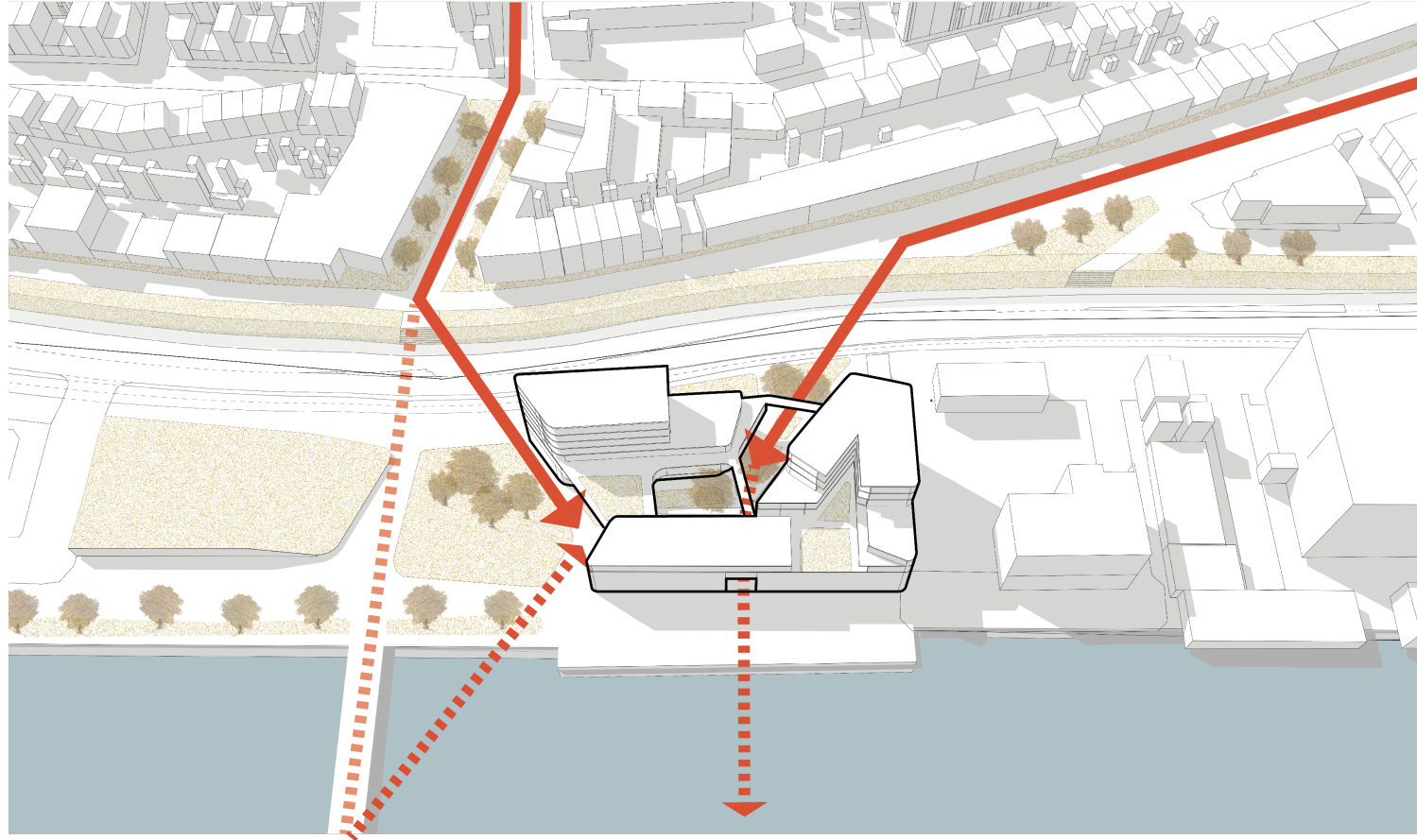
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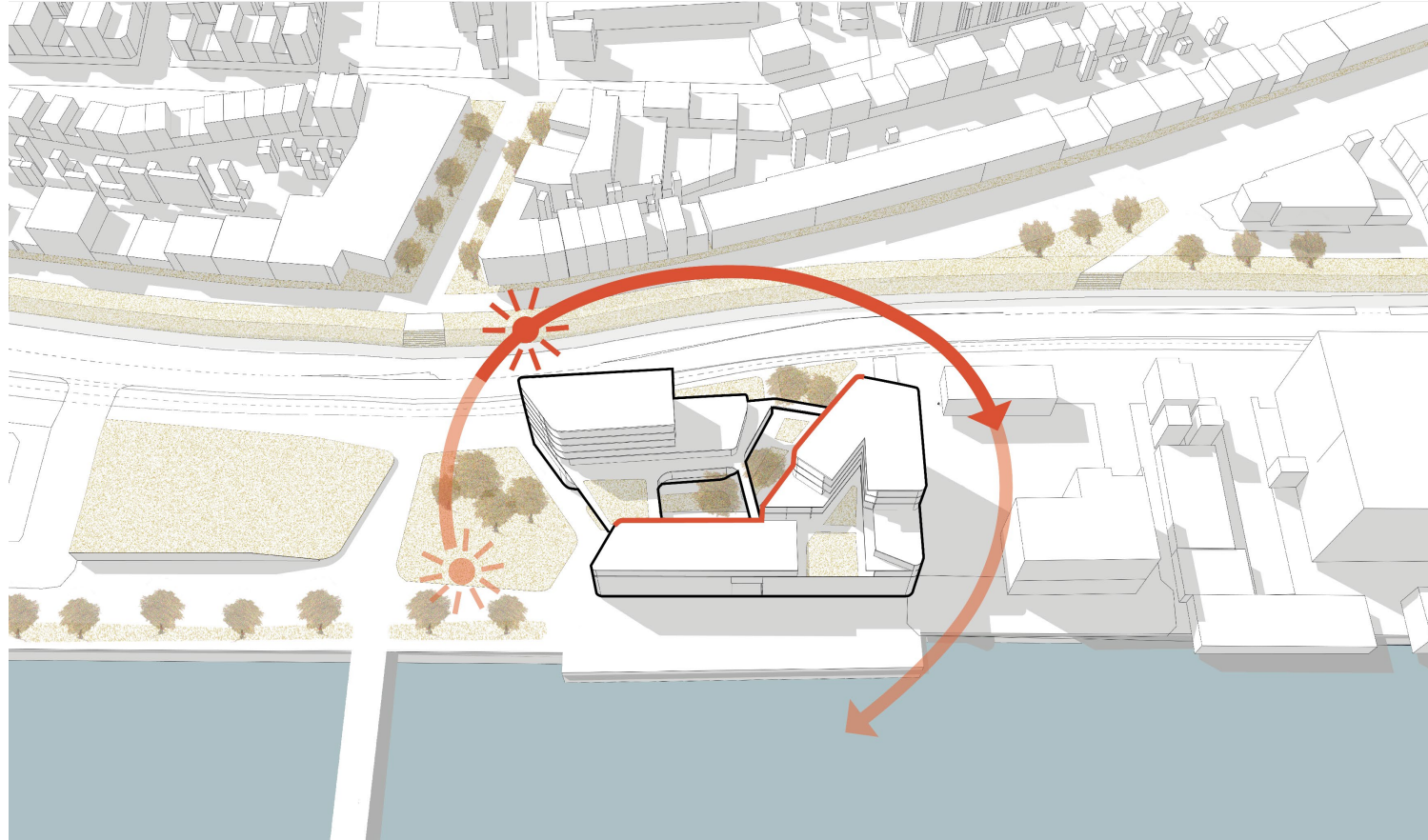
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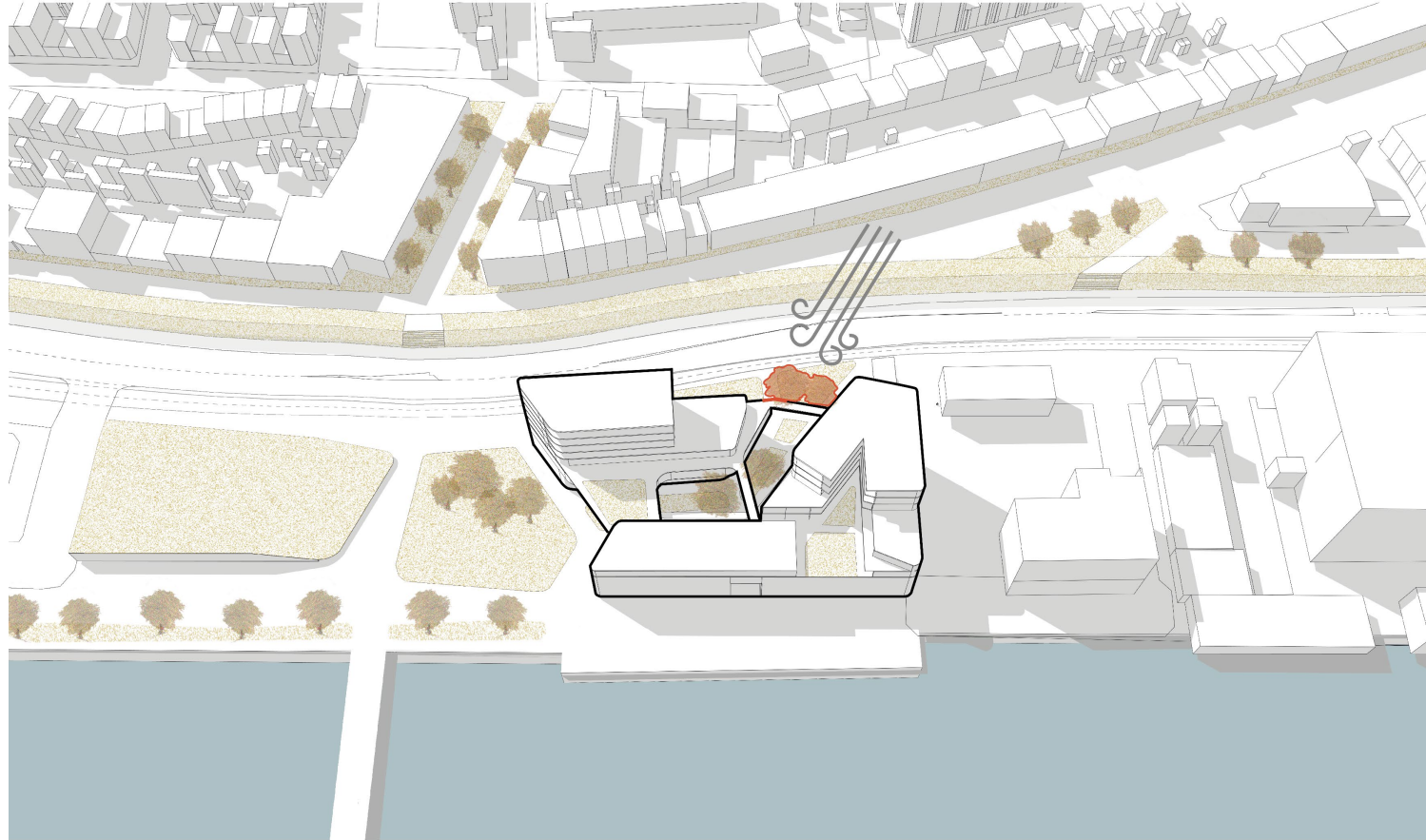
design form



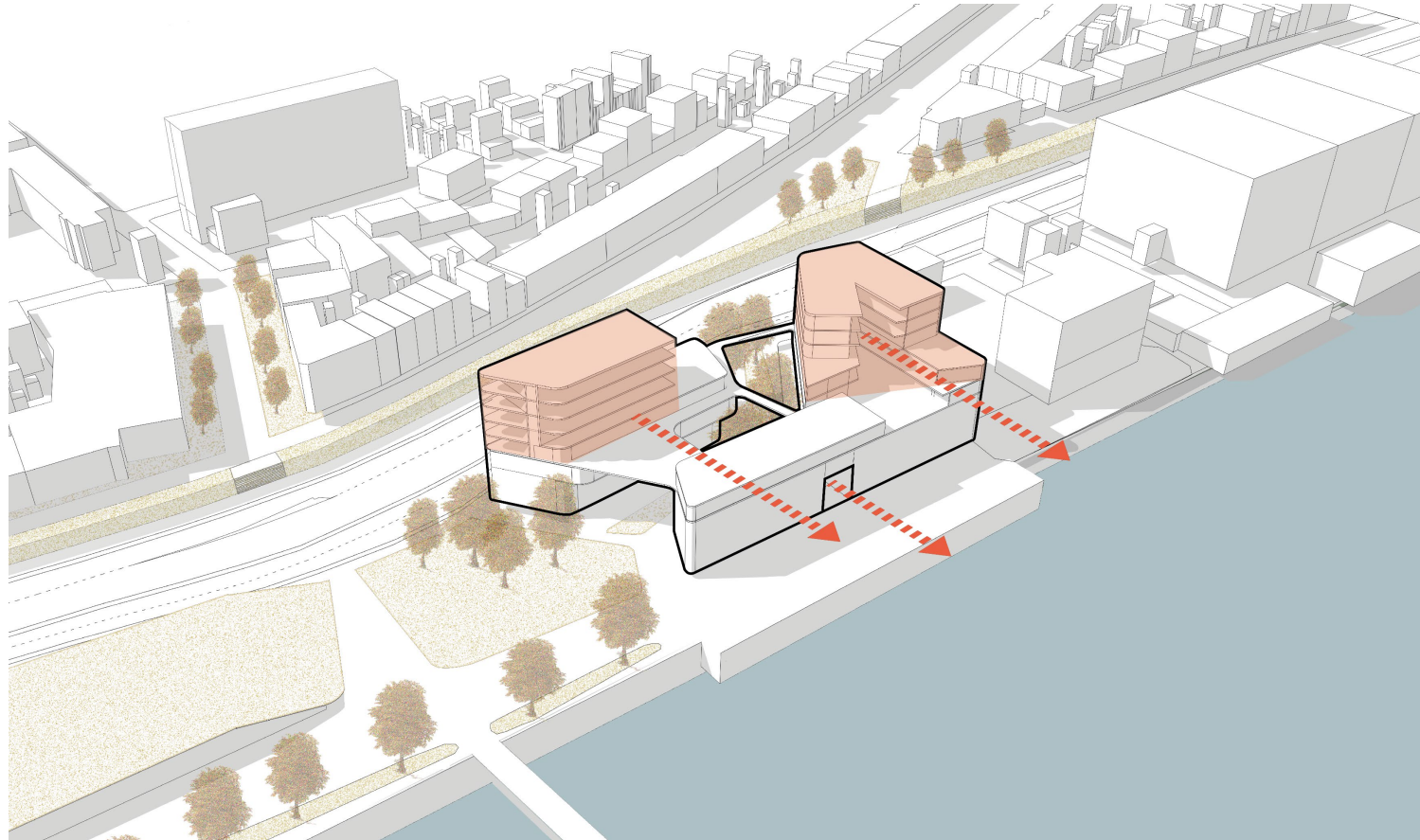
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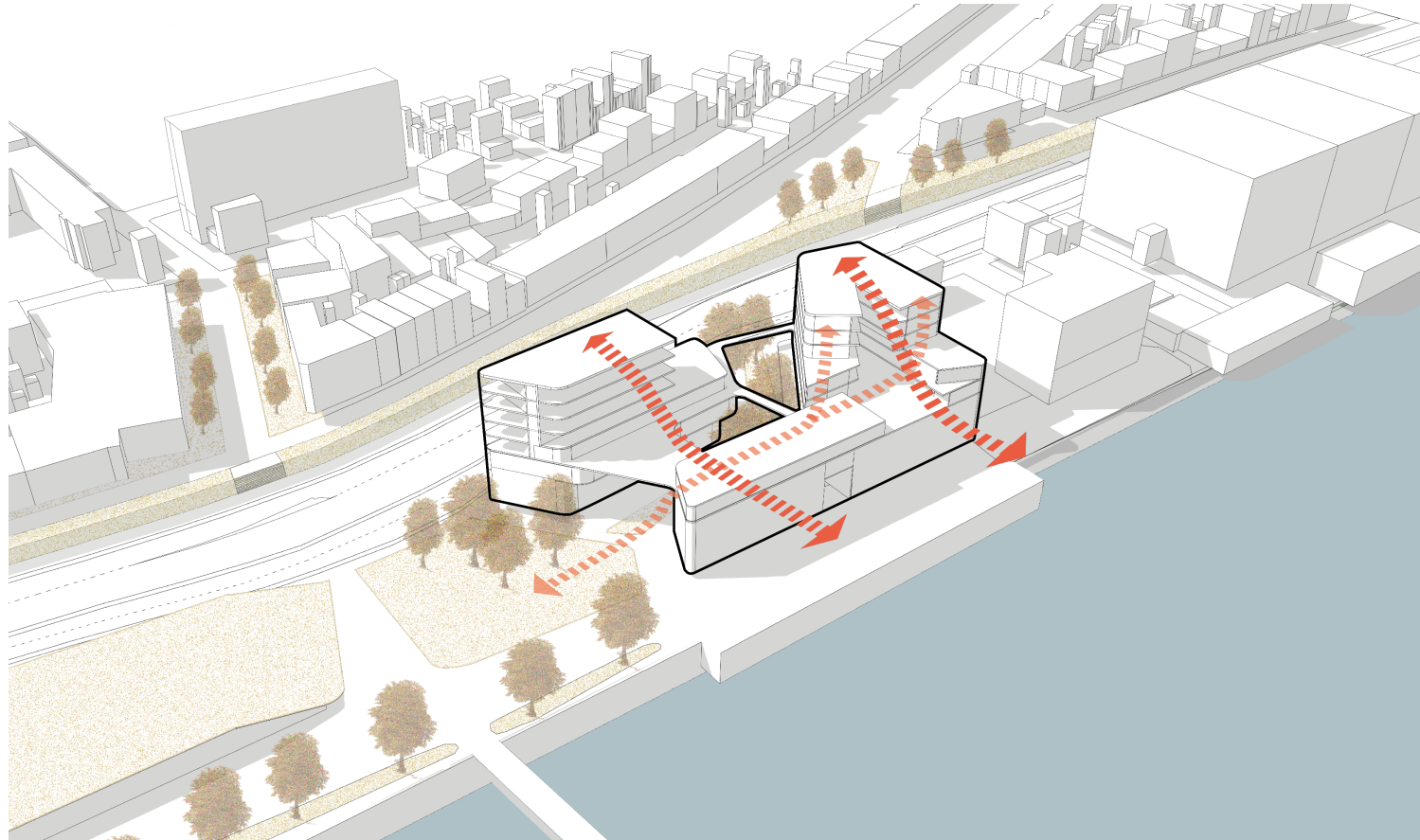
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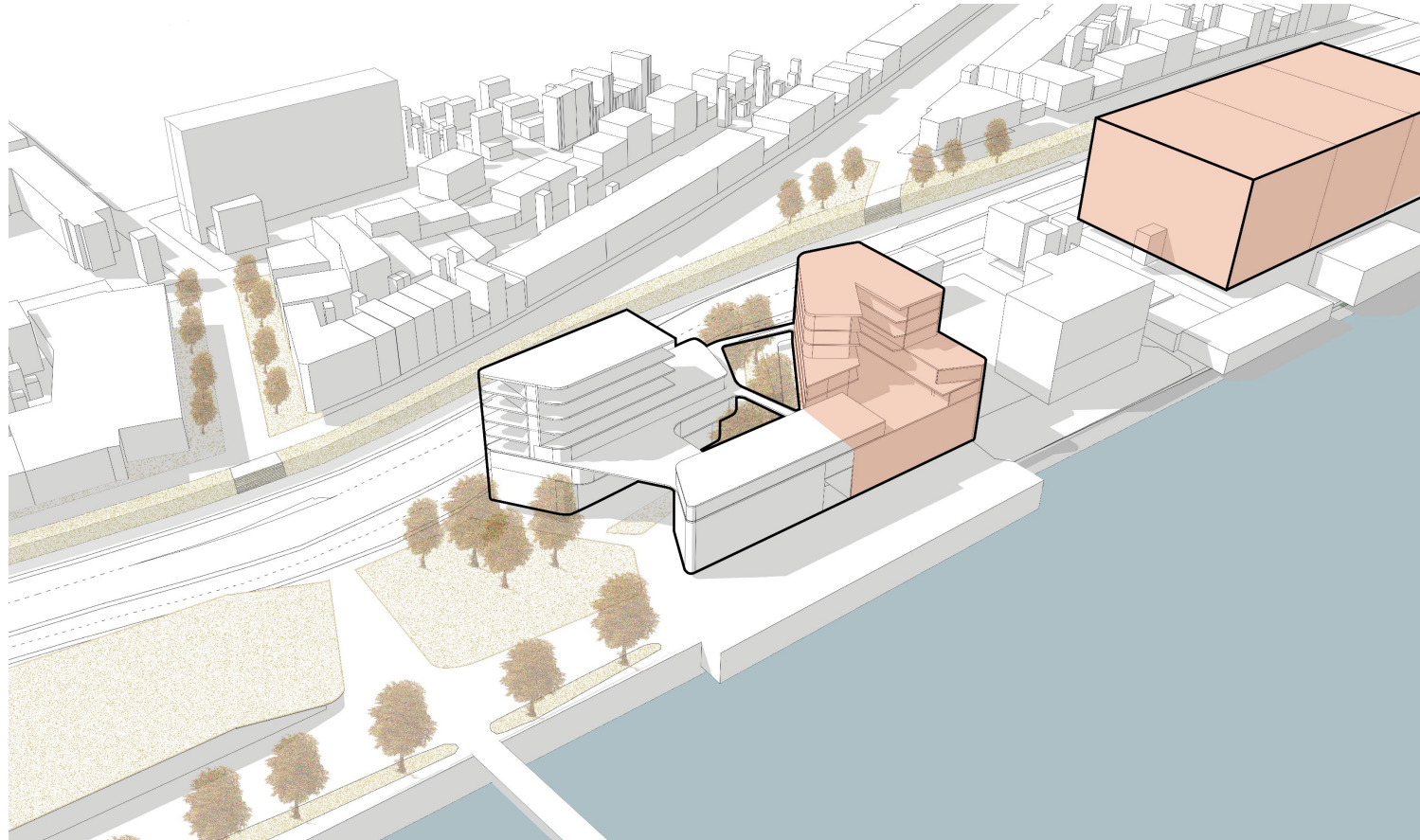
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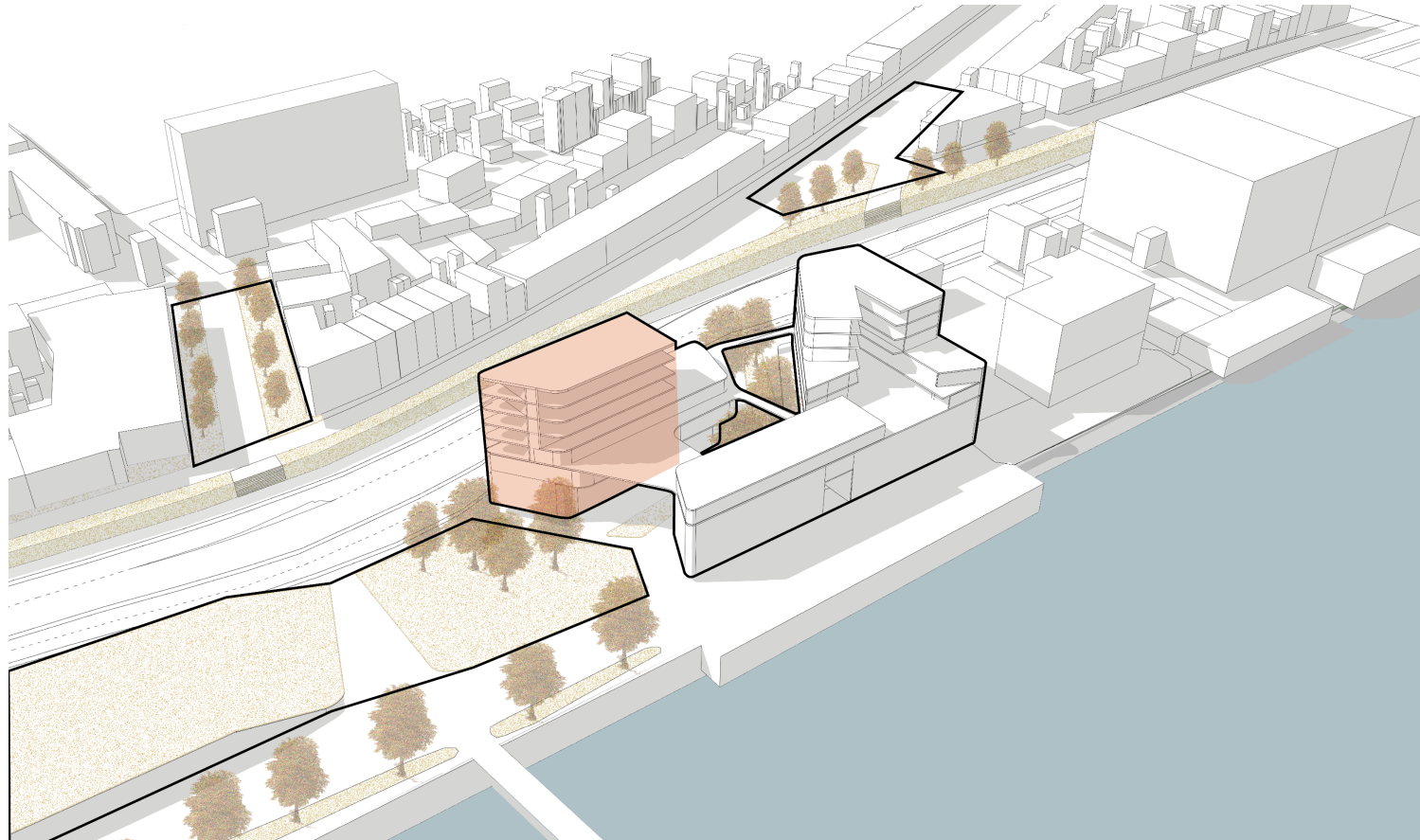
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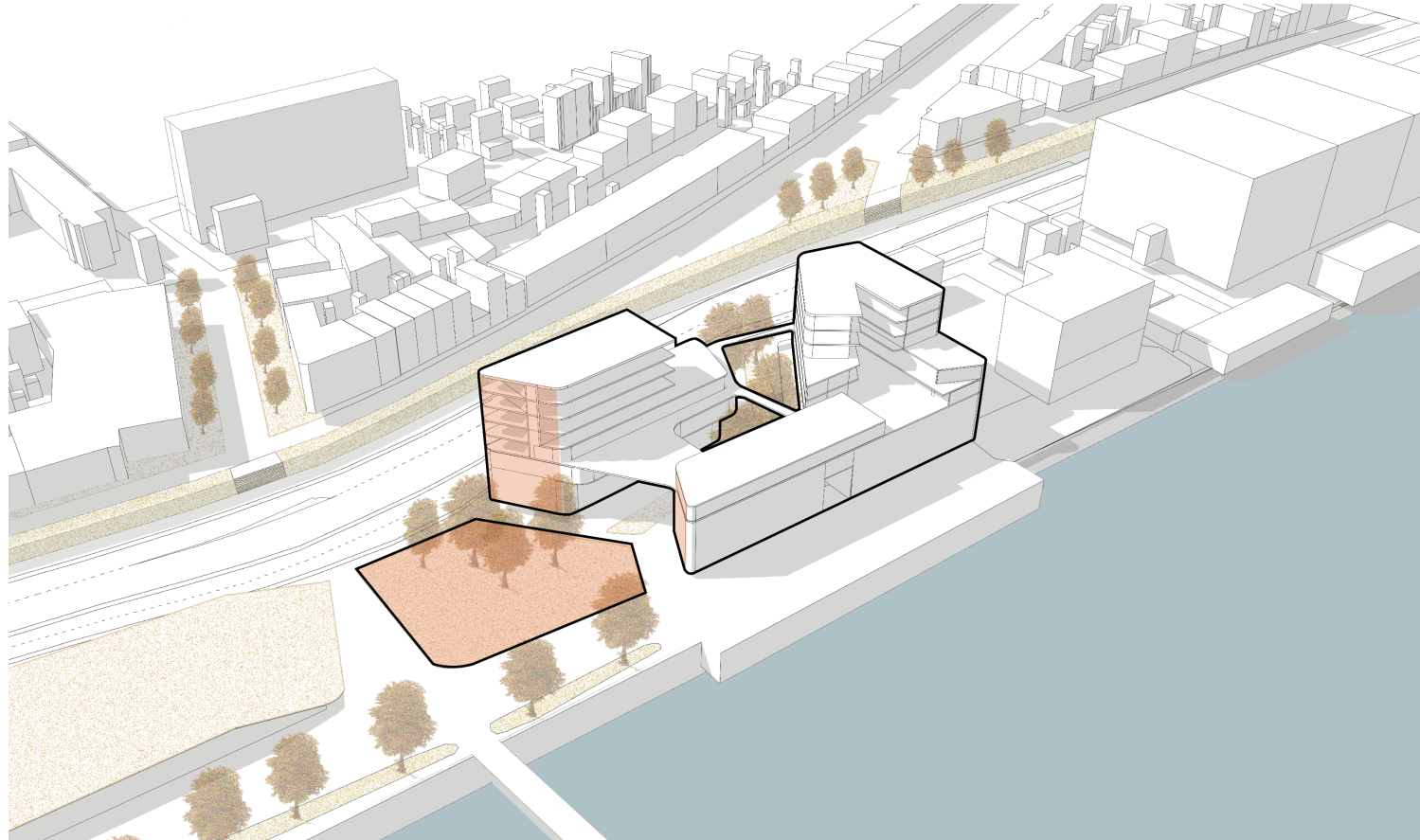
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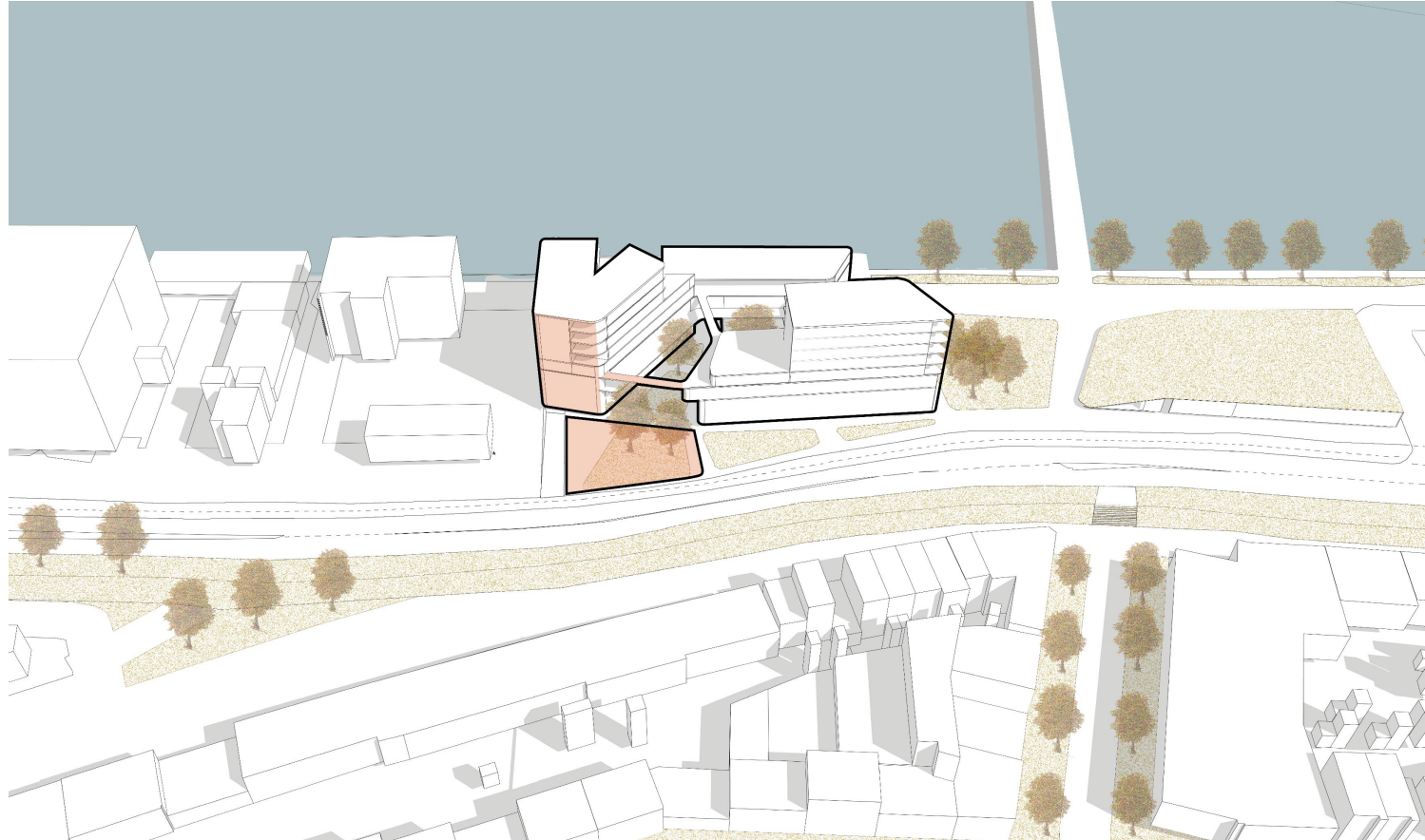
design form



design form



design form



future development Maashaven

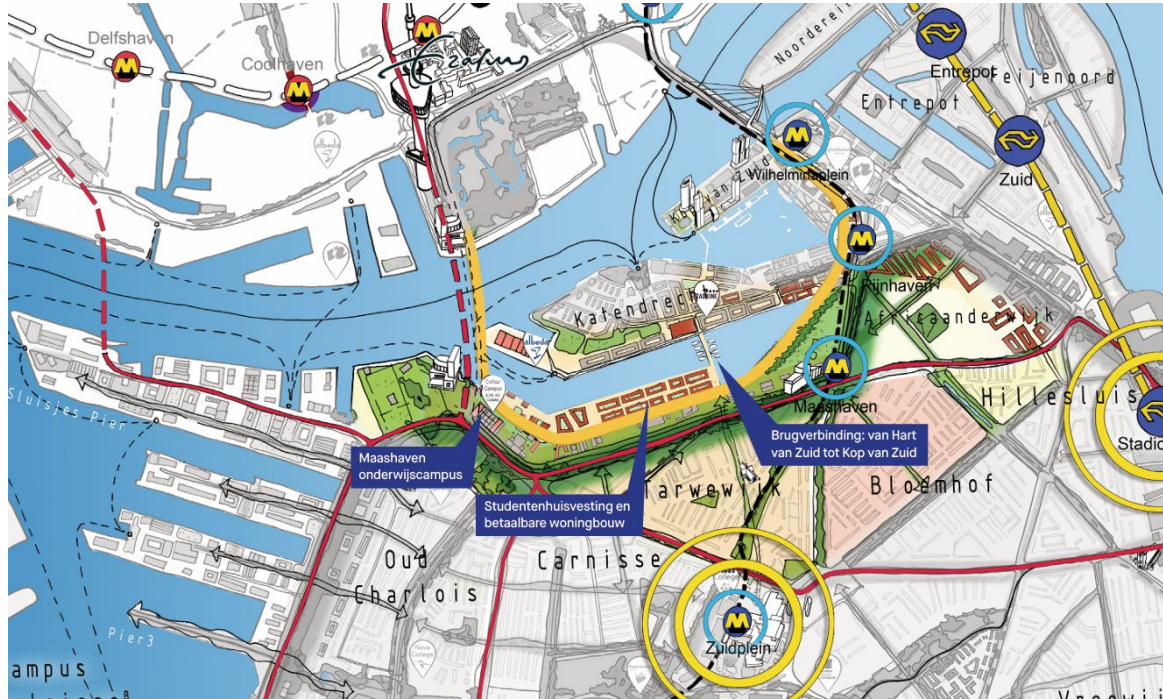


figure 19 (left): (Mecanoo, 2021)

figure 20 (right): (Gemeente Rotterdam, 2022)

future development Maashaven

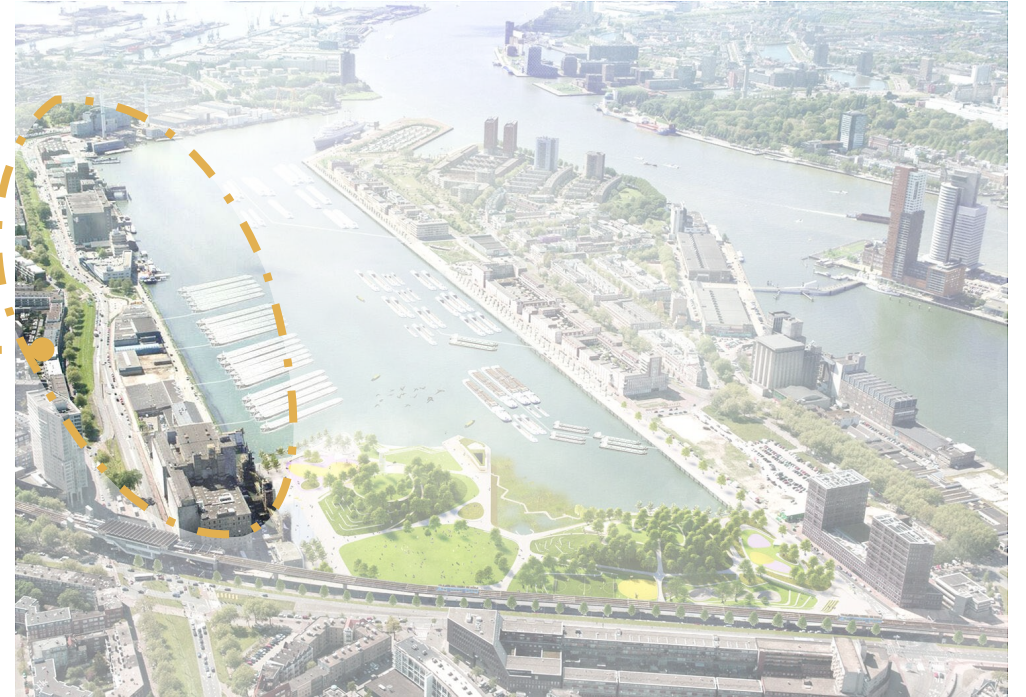
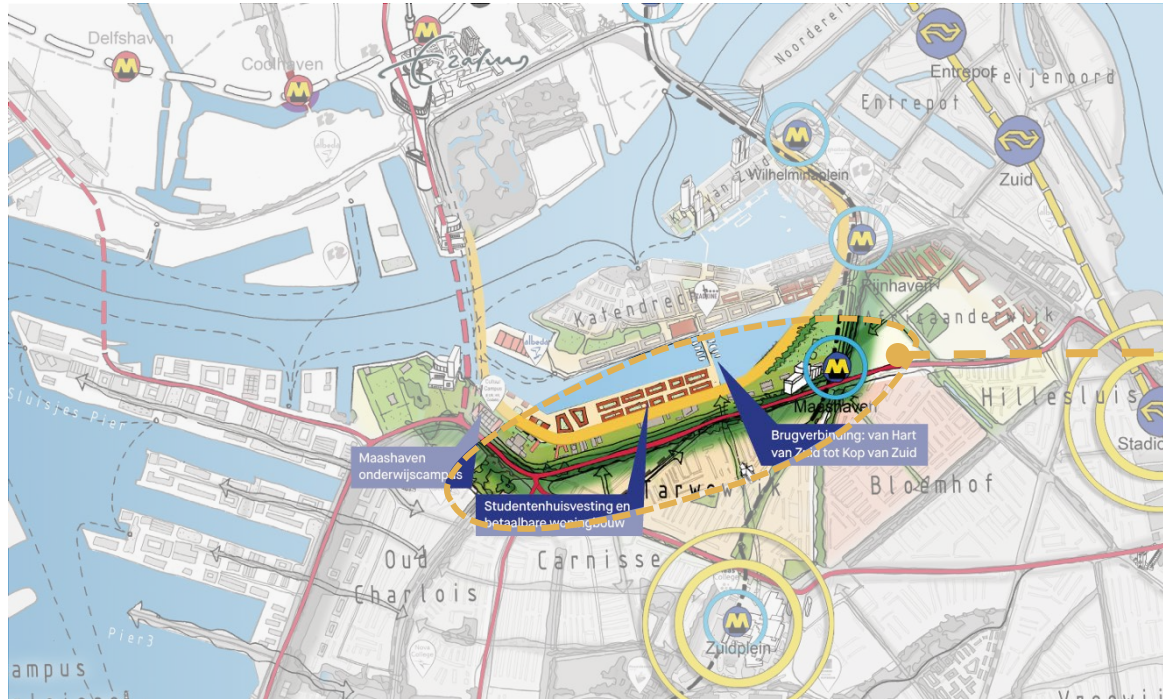


figure 19 (left): (Mecanoo, 2021)

figure 20 (right): (Gemeente Rotterdam, 2022)

future development Maashaven

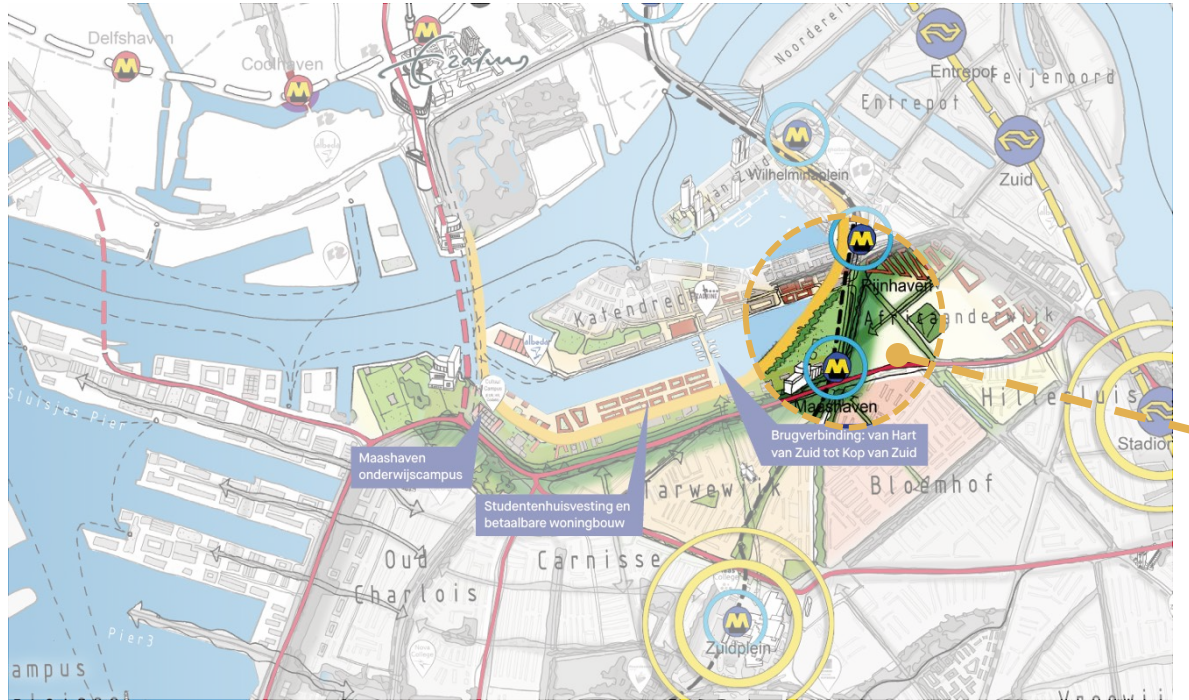
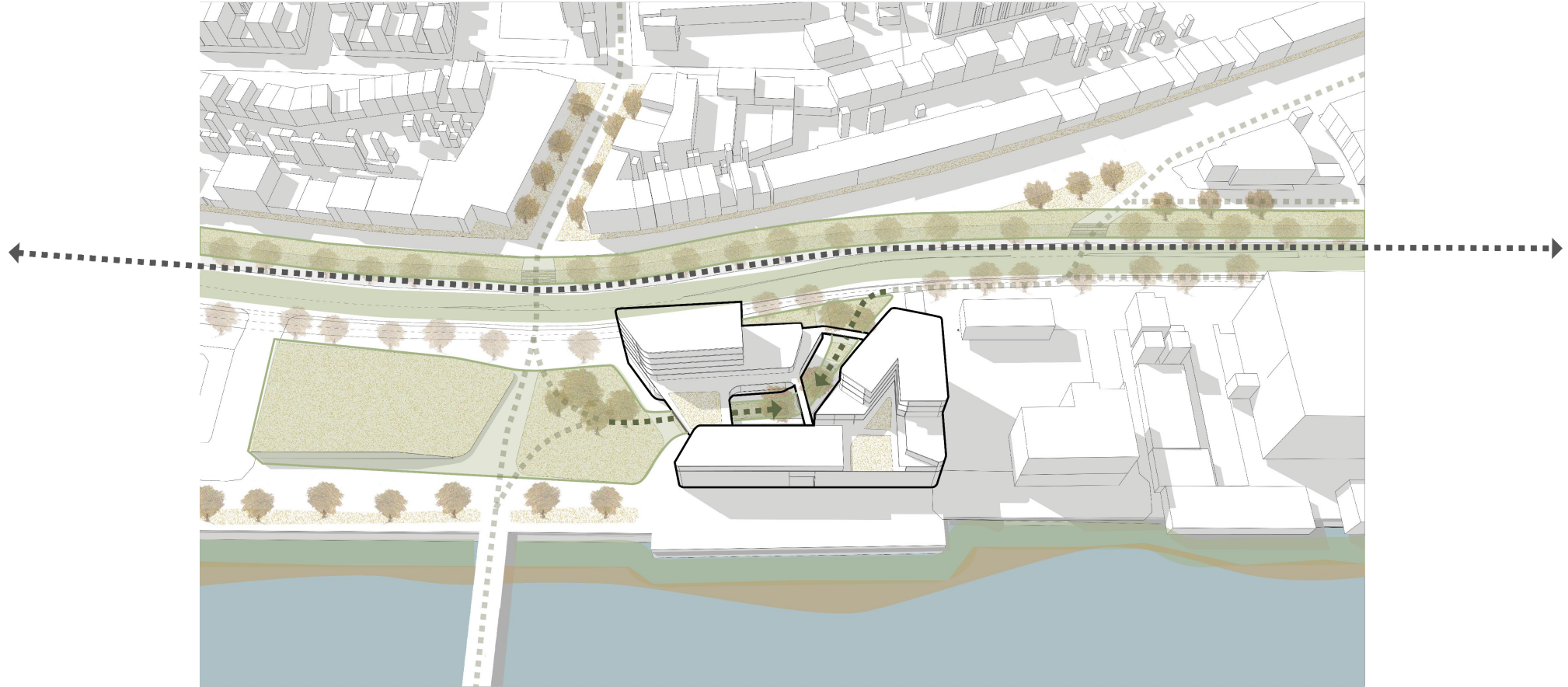


figure 19 (left): (Mecanoo, 2021)

figure 20 (right): (Gemeente Rotterdam, 2022)

design concept



design concept

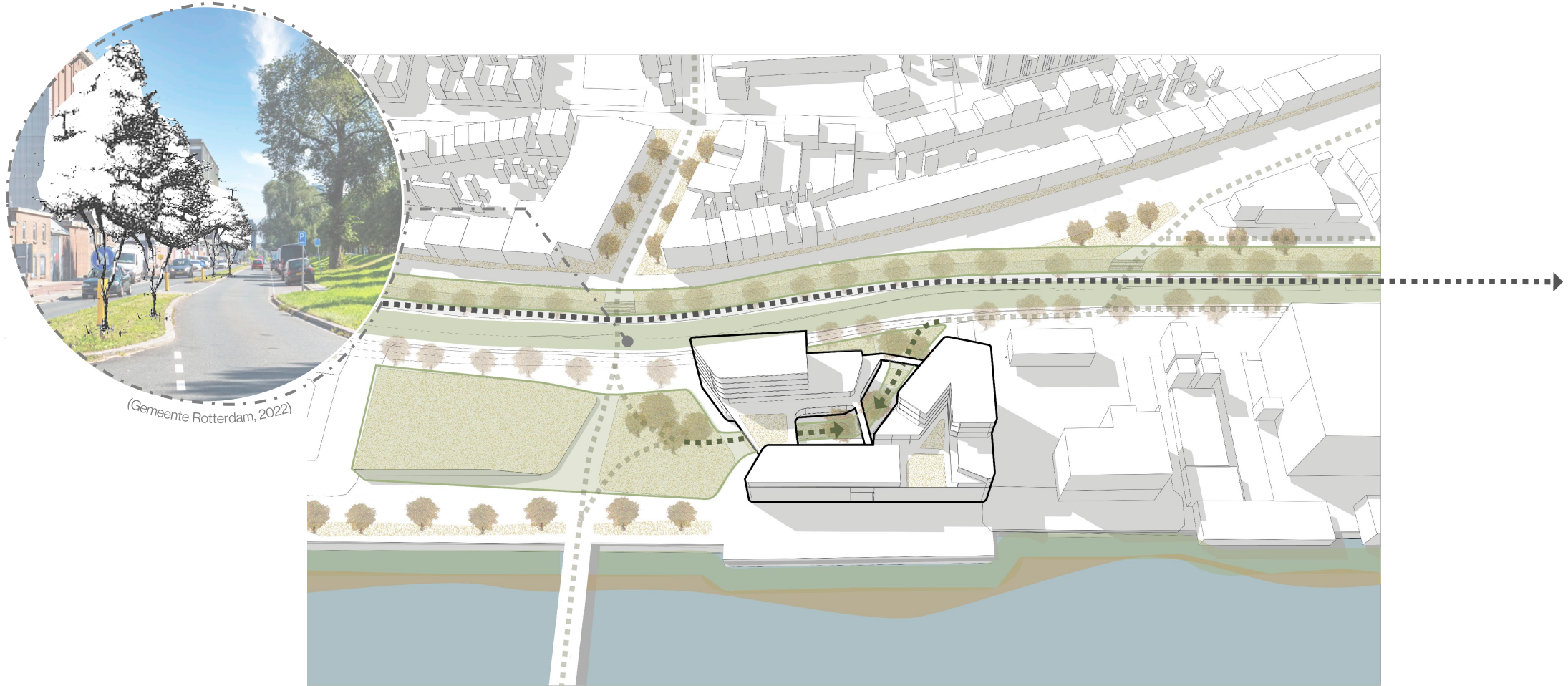


figure 21 (left): (Gemeente Rotterdam, 2022)

design concept

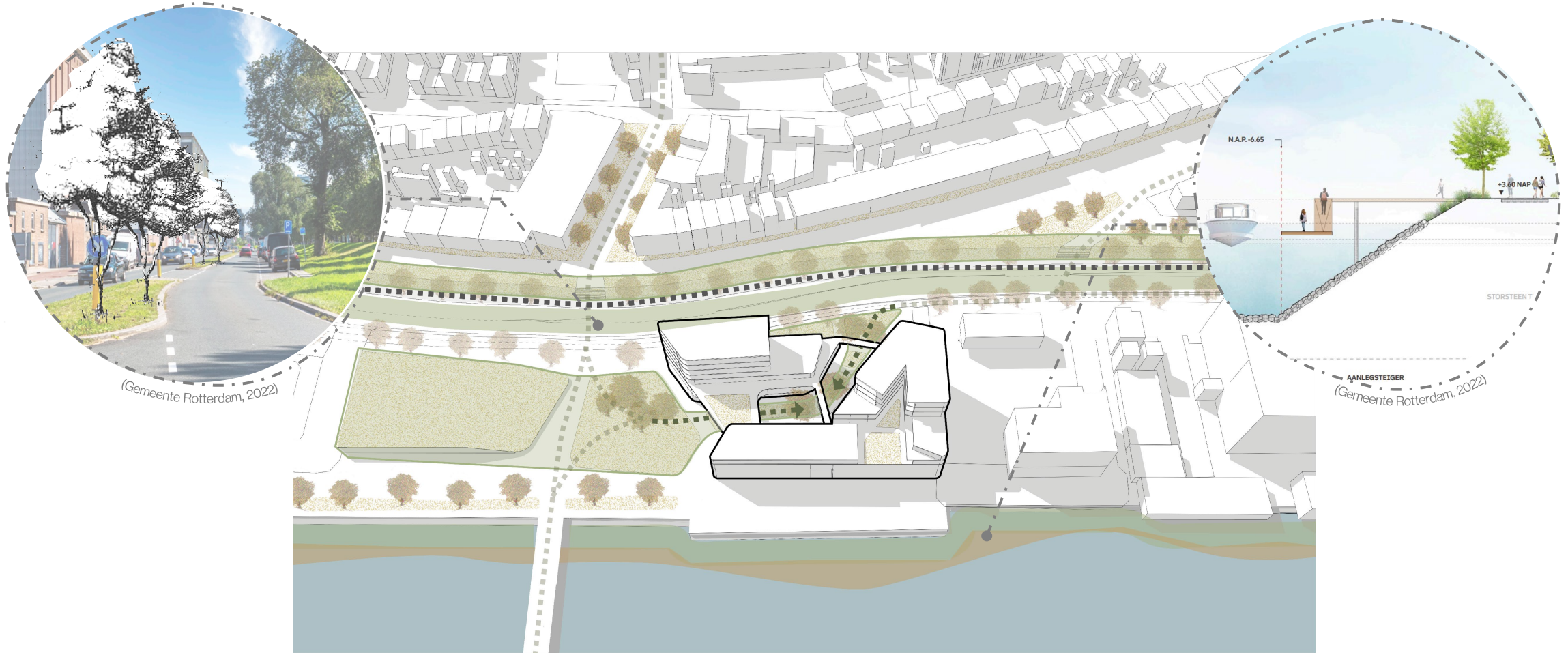
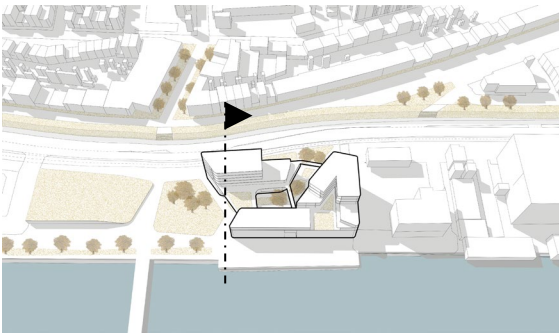


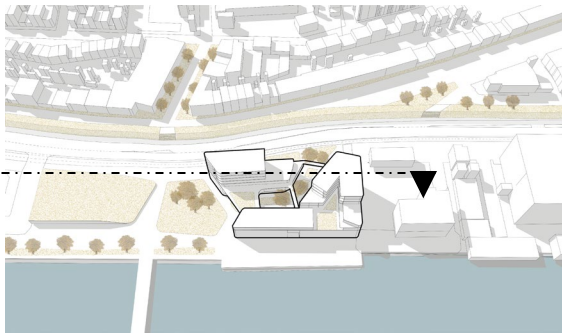
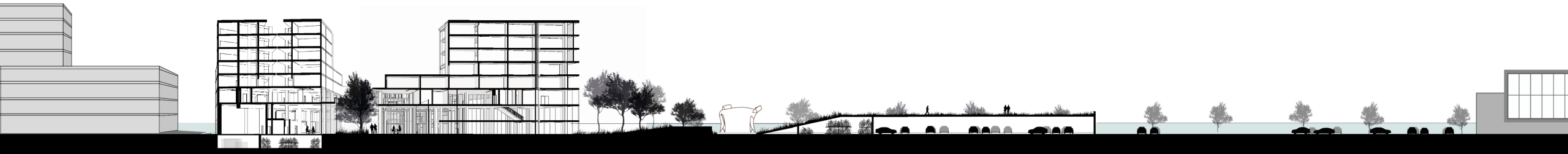
figure 21 (left): (Gemeente Rotterdam, 2022)

figure 22 (right): (Gemeente Rotterdam, 2022)

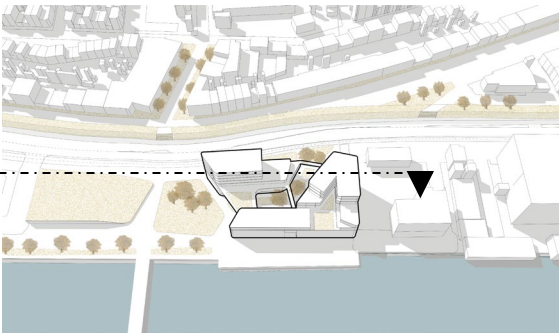
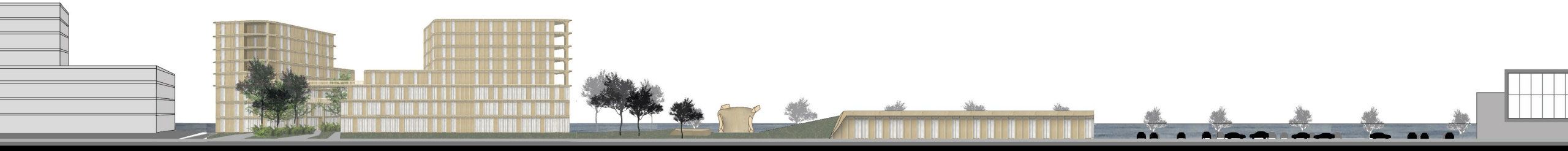
master plan



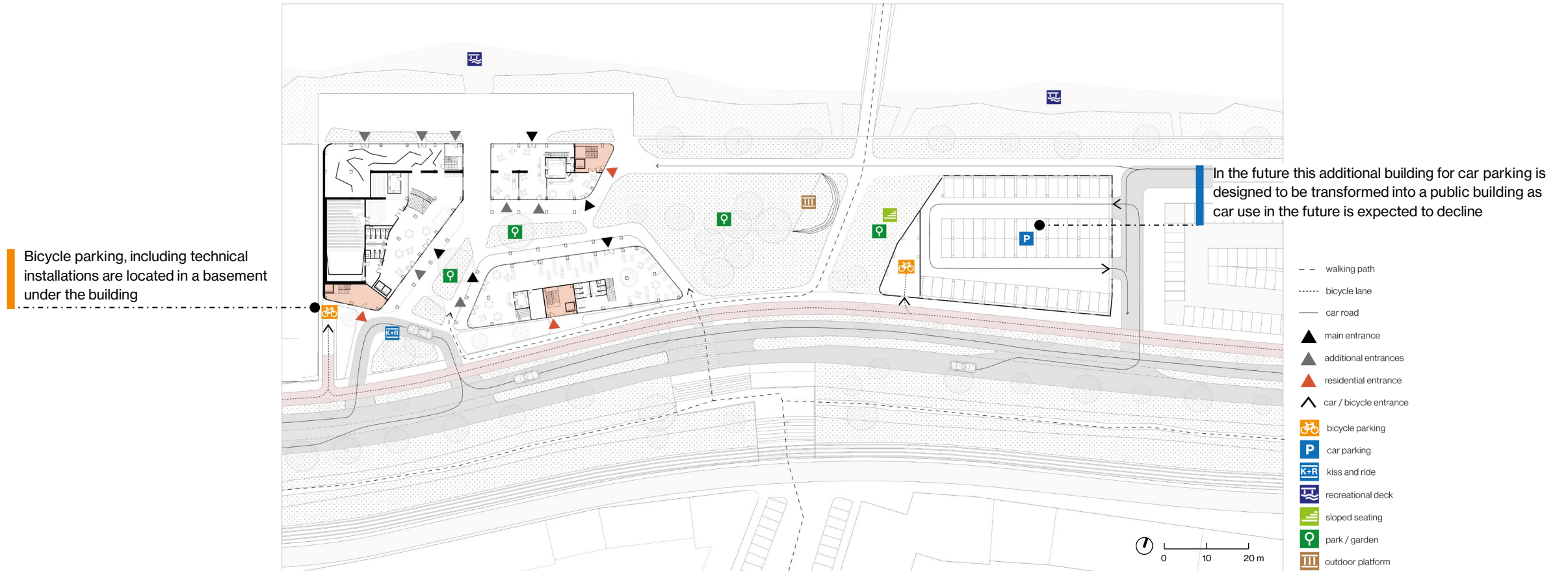
master plan



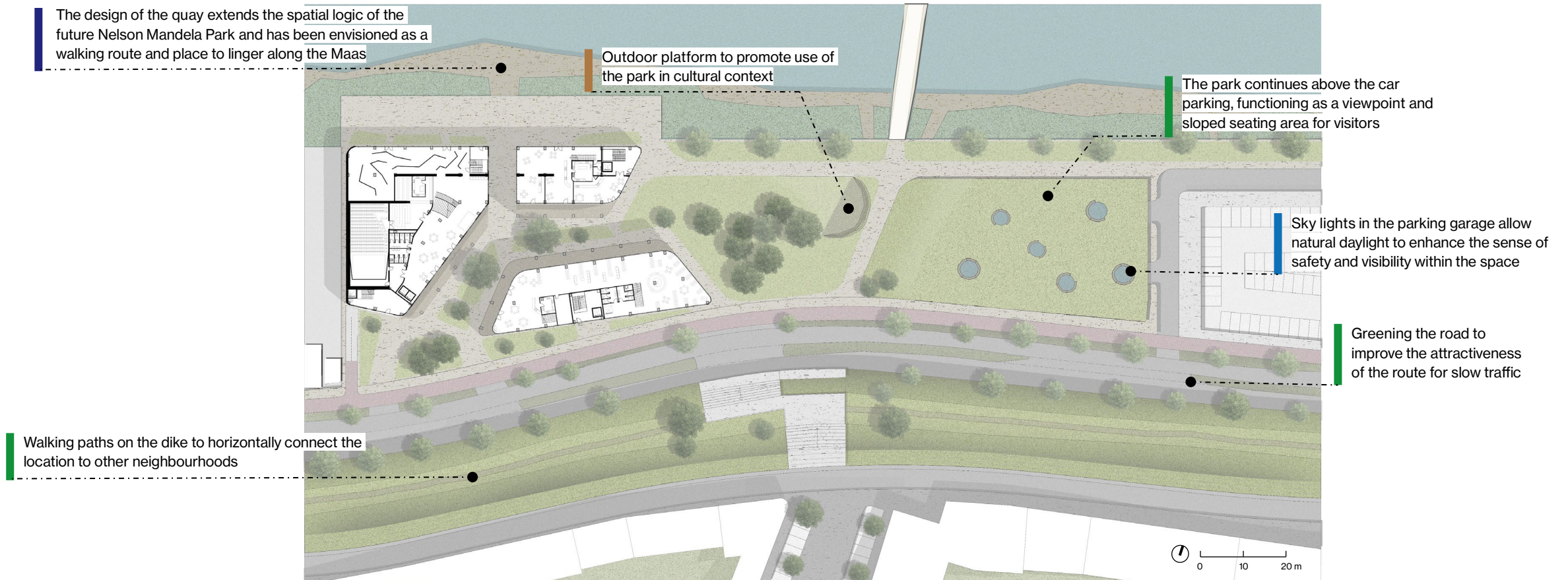
master plan



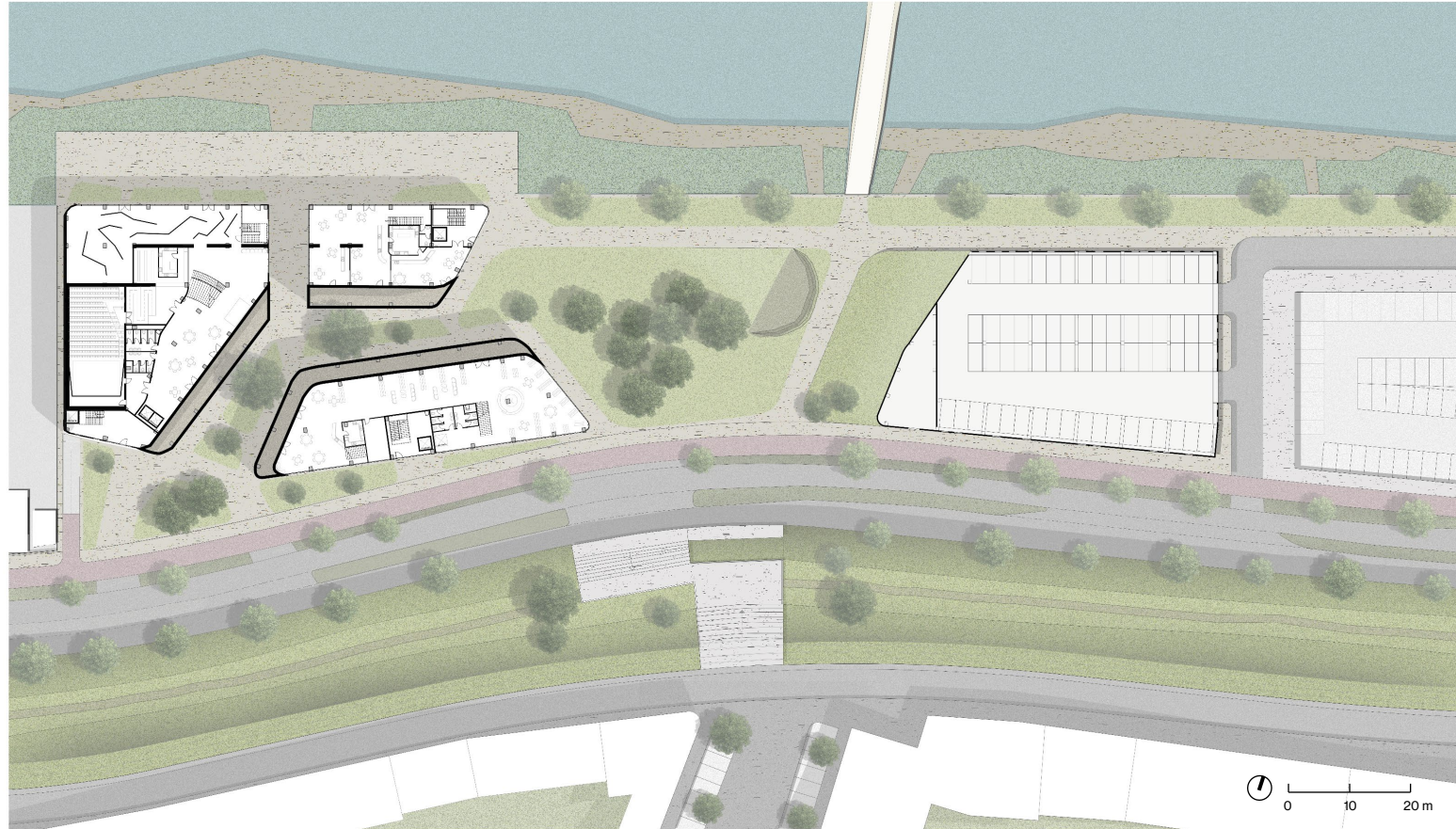
master plan



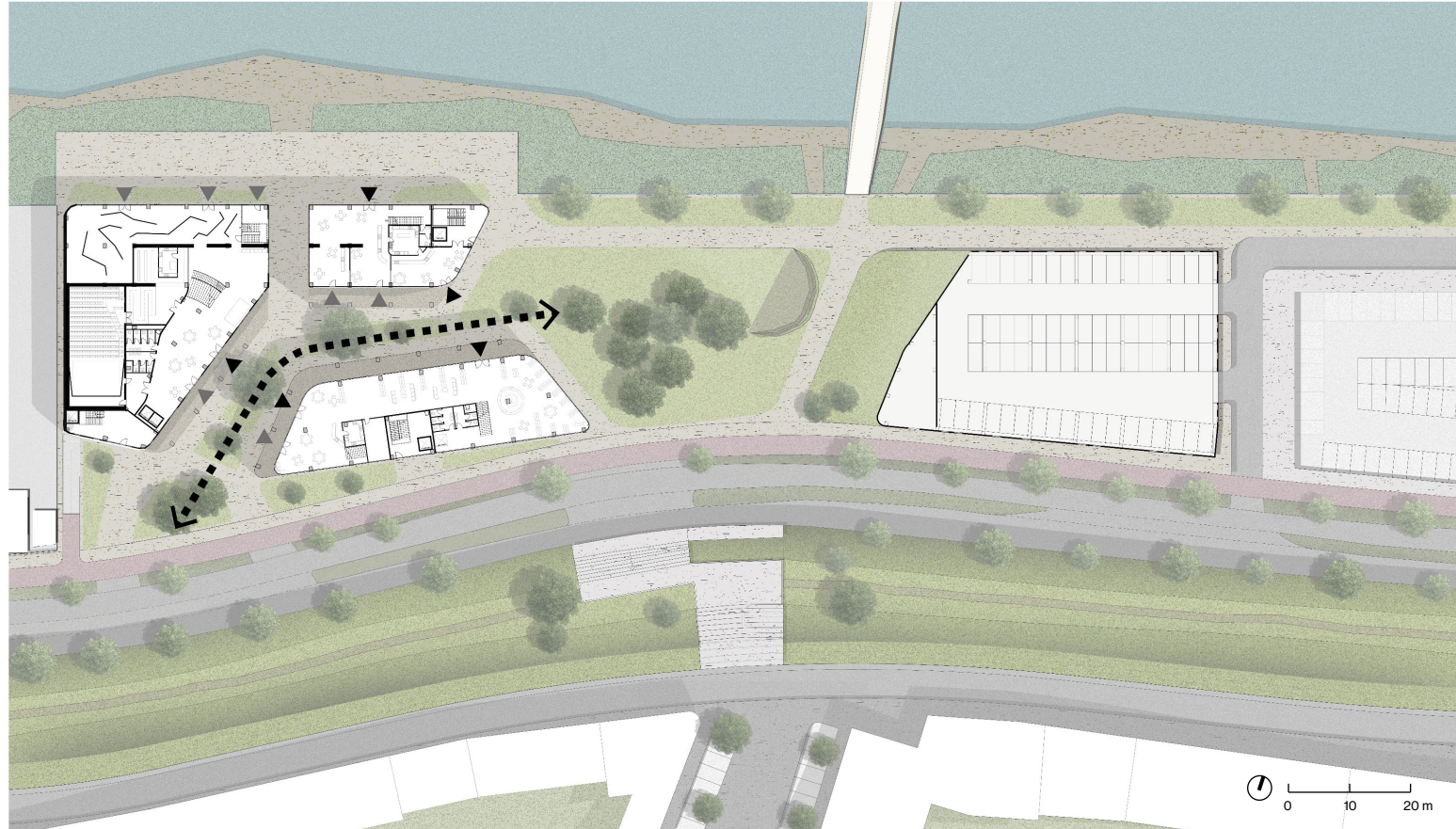
master plan



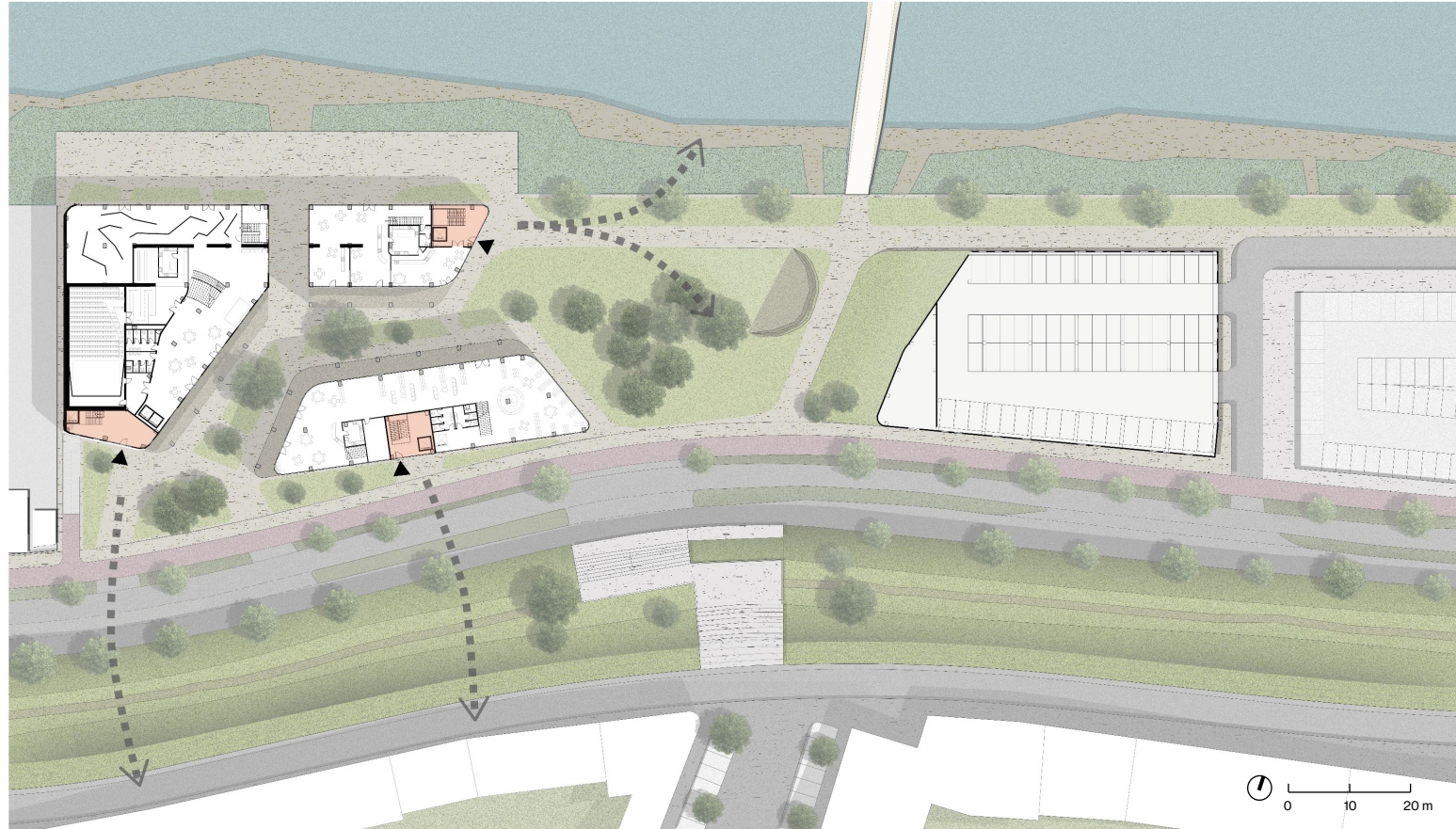
design concept



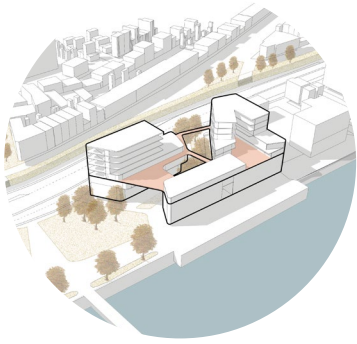
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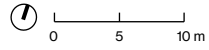
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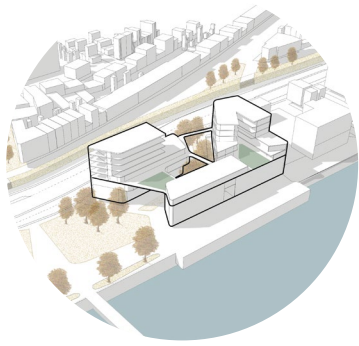
design concept



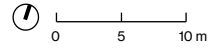
3rd floor (housing)



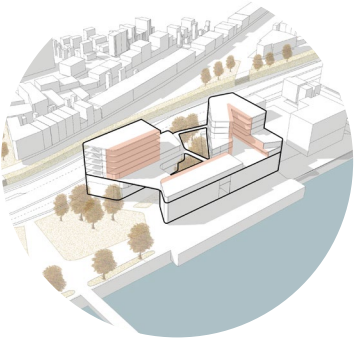
design concept



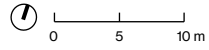
3rd floor (housing)



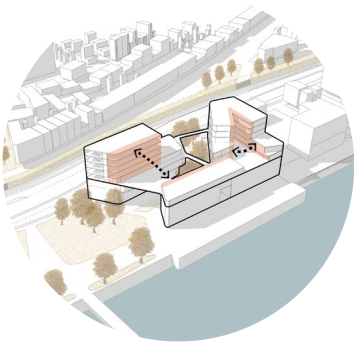
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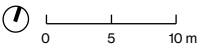
3rd floor (housing)



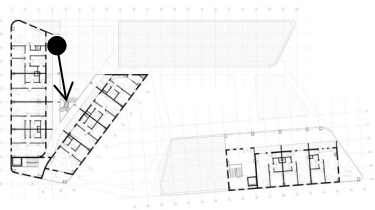
design concept



3rd floor (housing)



architectural impression



4th floor (housing)

industry Tarwewijk



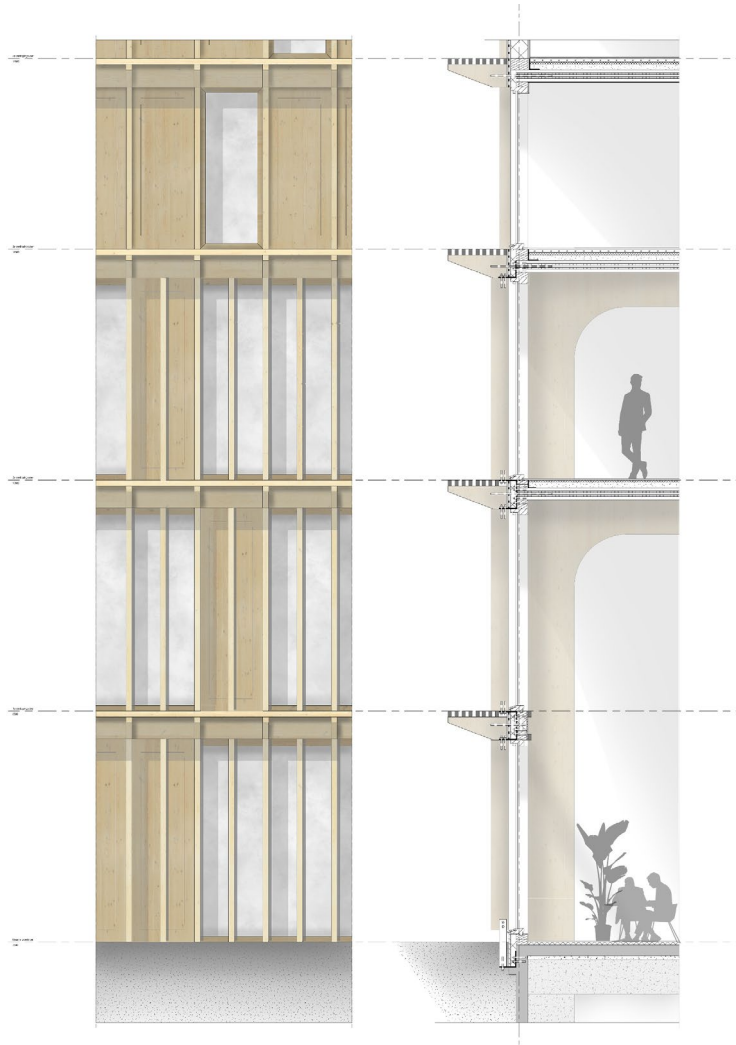
figure 23: (Eveleens, n.d.)

industry Tarwewijk



figure 24: (Huijzer,n.d.)

facade fragment



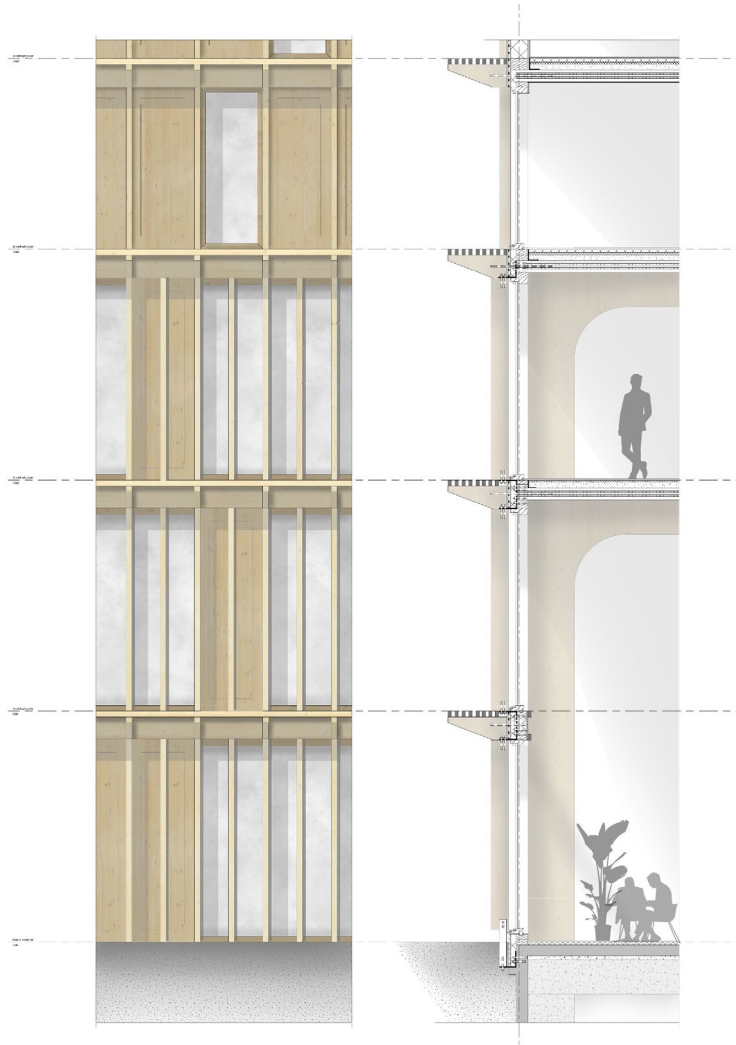
Matching existing fabric of the monumental industrial buildings (Maassilo & Meelfabriek)



Inspired by contemporary (Japanese) wooden architecture and its biophilic aspects

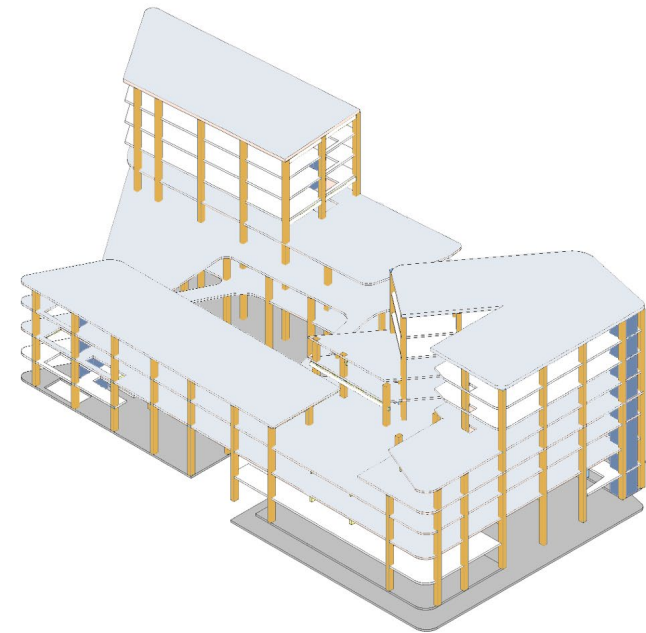
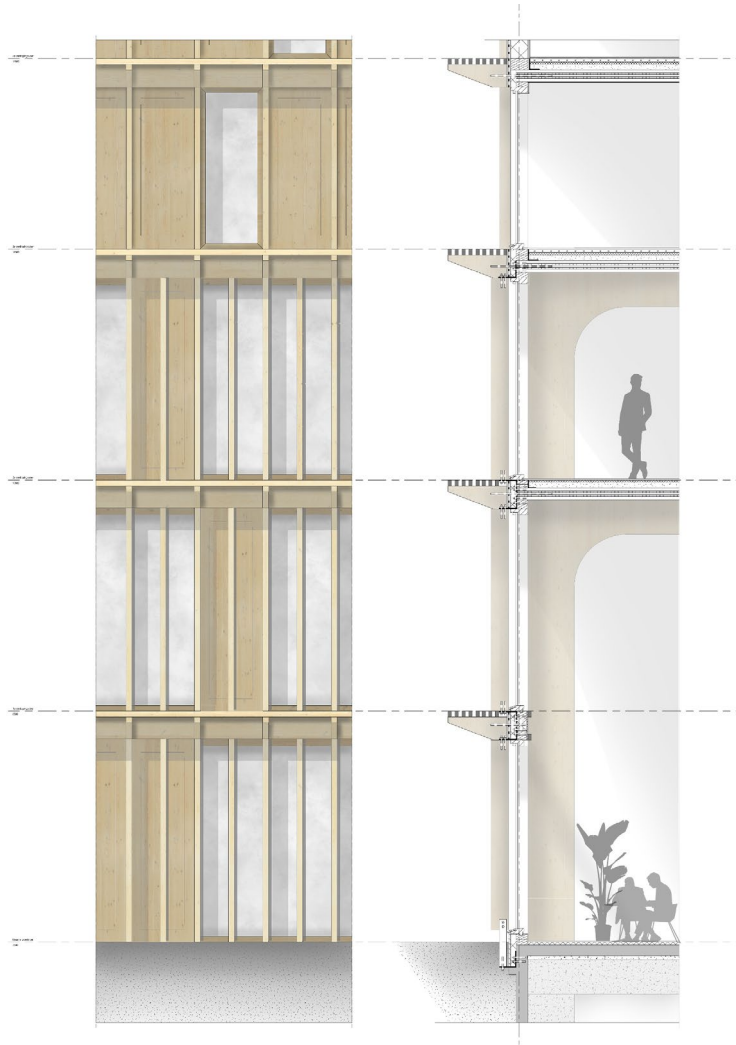
figure 26: (Huijzer, n.d.)
 figure 27: (Eveleens, n.d.)
 figure 28: (*Meneba*, n.d.)
 figure 29: (De La Tour, n.d.)
figure 30: (SATOHPHOTO, n.d.)
figure 31: (Kultscher, n.d.)

facade fragment



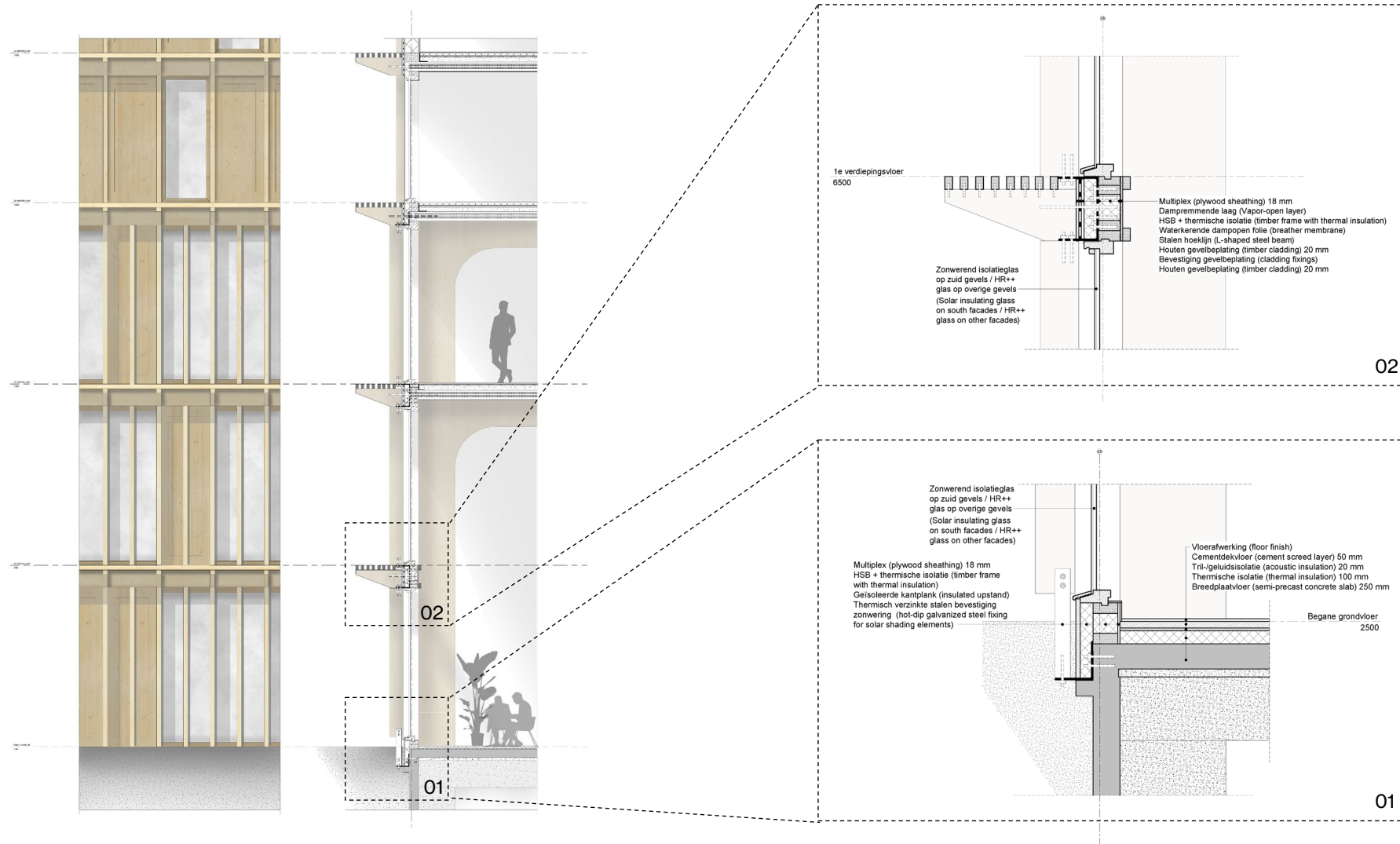
- Storing of CO2
- Renewable material
- Demountability and re-use of wooden elements
- Residual material is reusable or biodegradable
- Positive effect on indoor humidity and thermal comfort

facade fragment

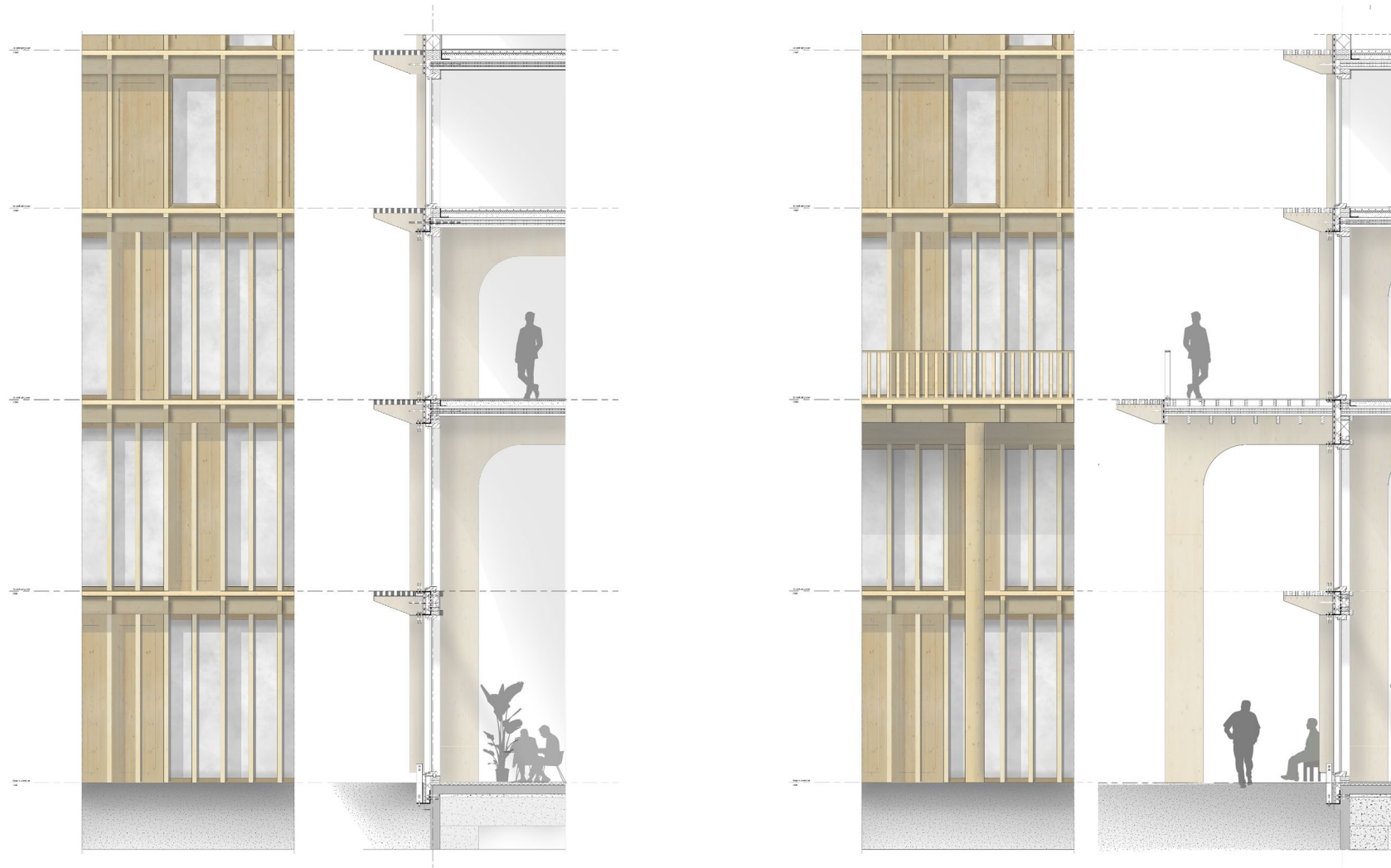


- structural timber columns
- structural CLT floors (horizontal diaphragm)
- timber CLT cores

facade fragment



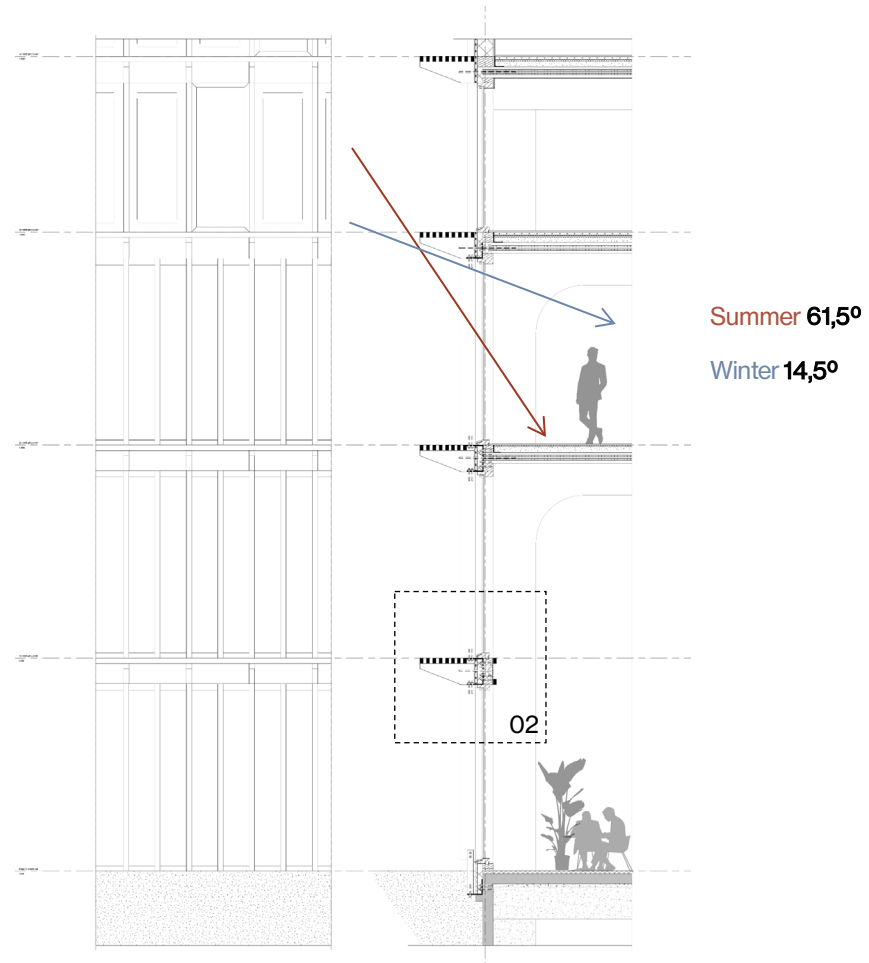
facade fragment



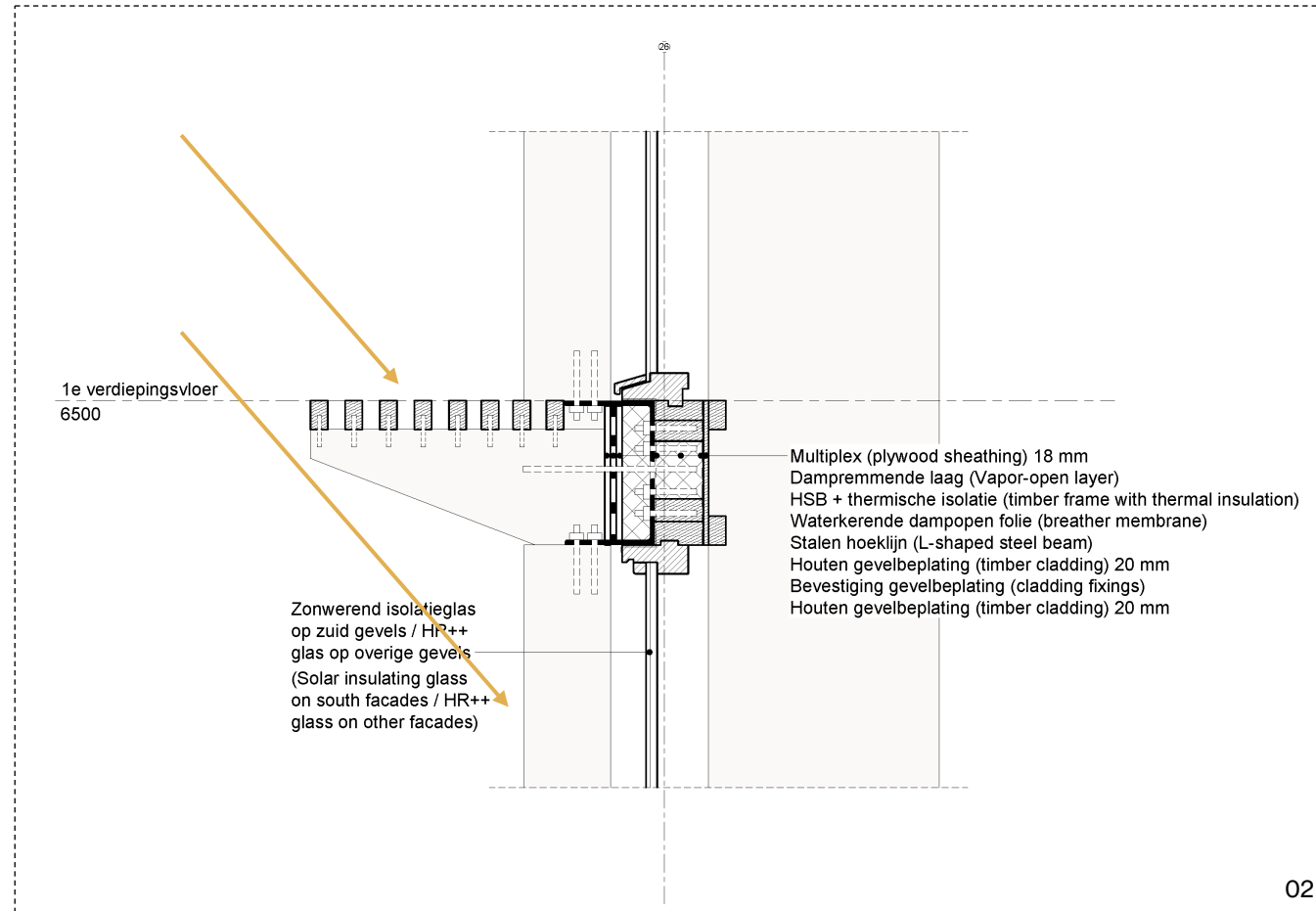
facade fragment



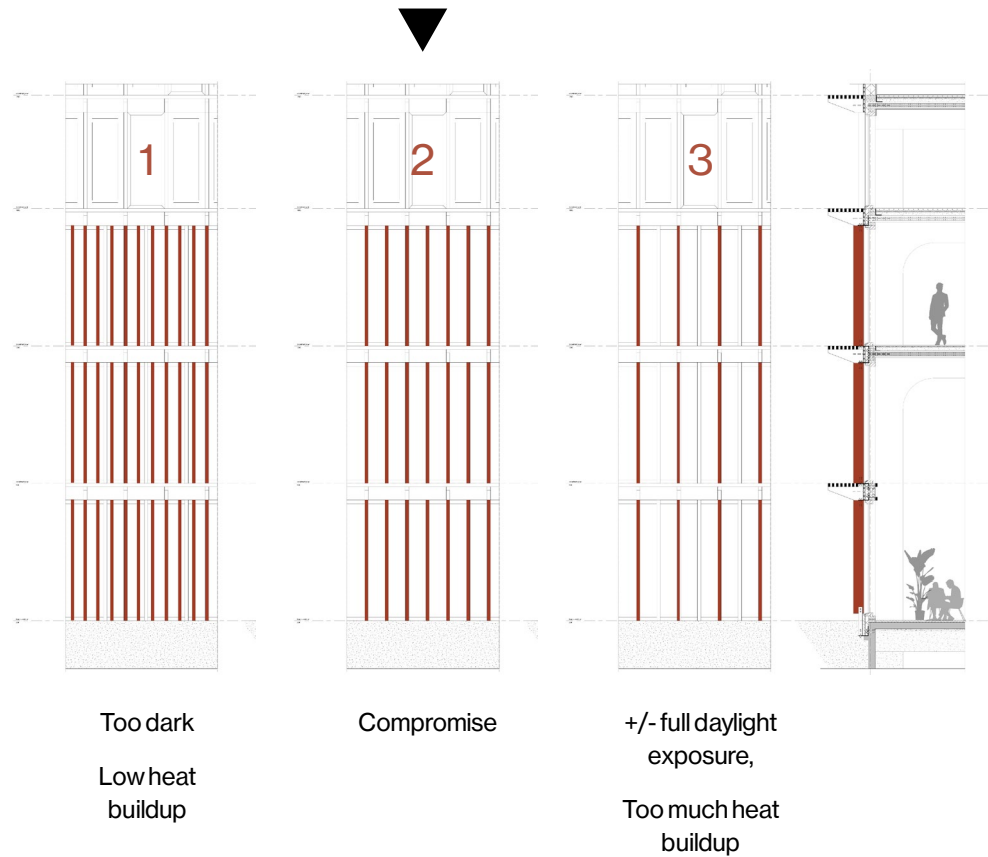
detailing



detailing



detailing



1

Summer 9.45 – 10.45 sun on south facade

Winter 8.00 – 16.00 sun on south facade

2

Summer 10.30 – 13.30 sun on south façade

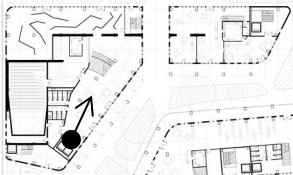
Winter 9.00 – 15.00 sun on south facade

Difference

Summer 1.5 h sun on south façade

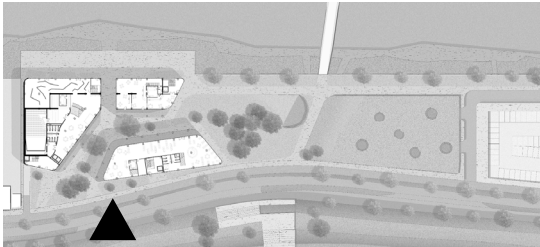
Winter 2 h sun on south facade

interior

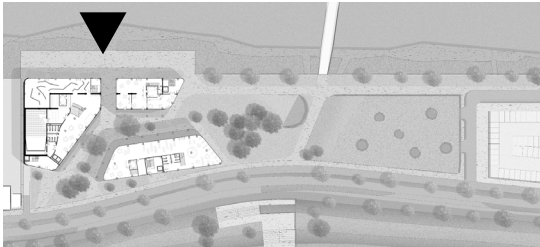


ground floor (library)

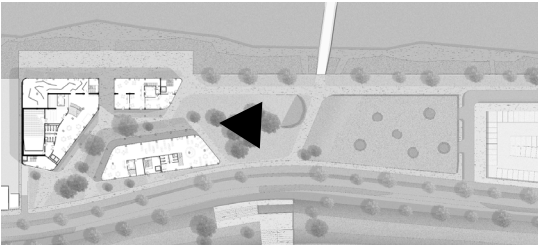
facades



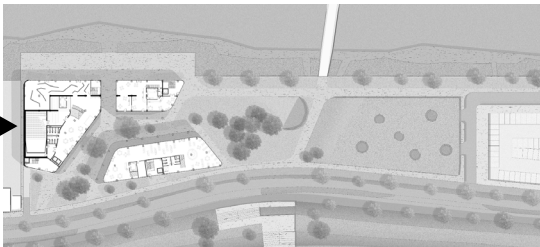
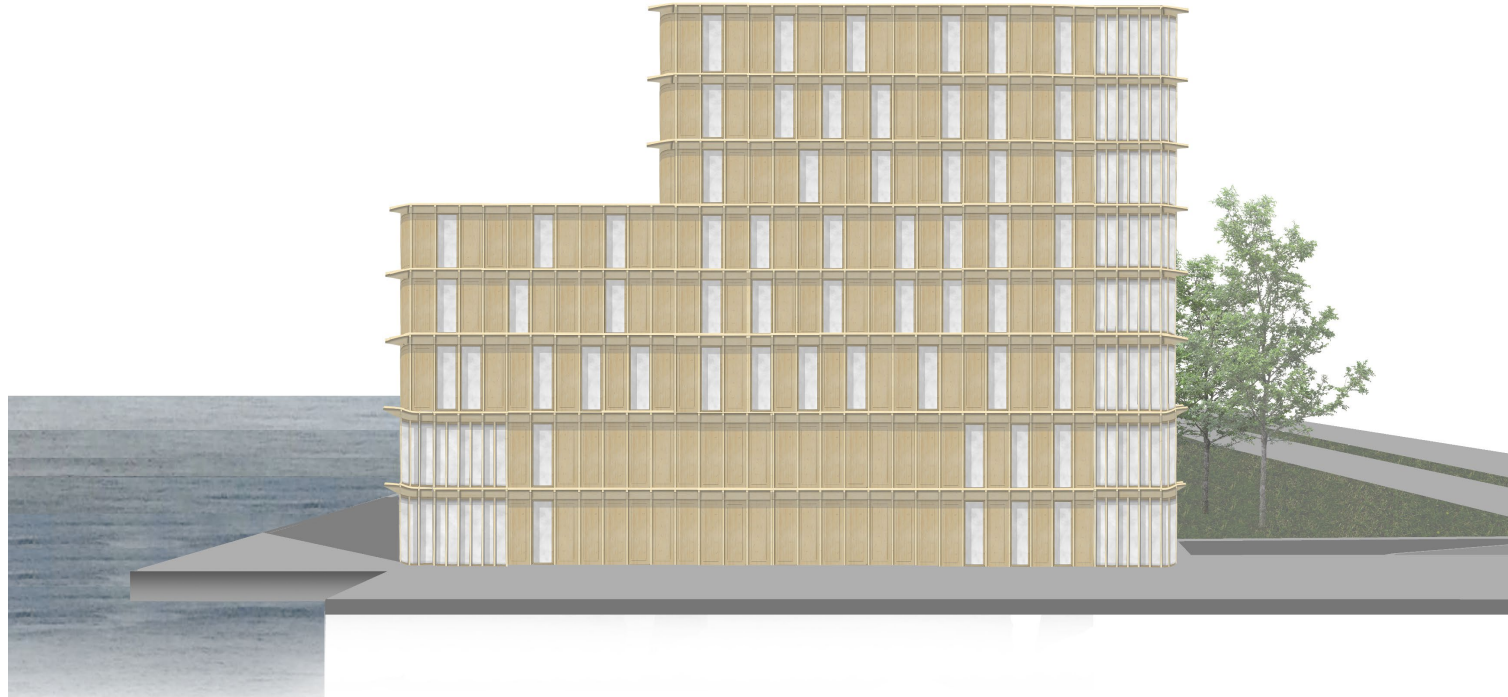
facades



facades



facades



program



parking

66x 

330x 



library



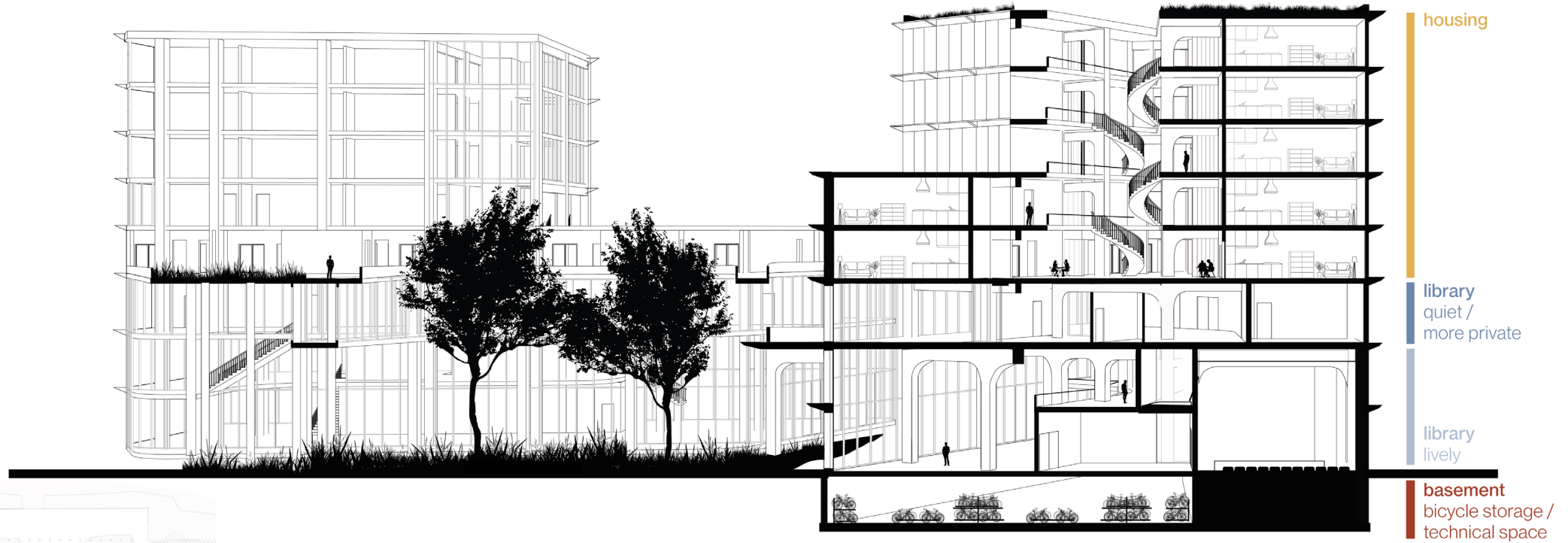
57 housing units



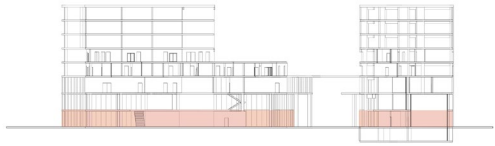
13x	45 m2
17x	55 m2
12x	65 m2

8x	75 m2
4x	95 m2
3x	120 m2

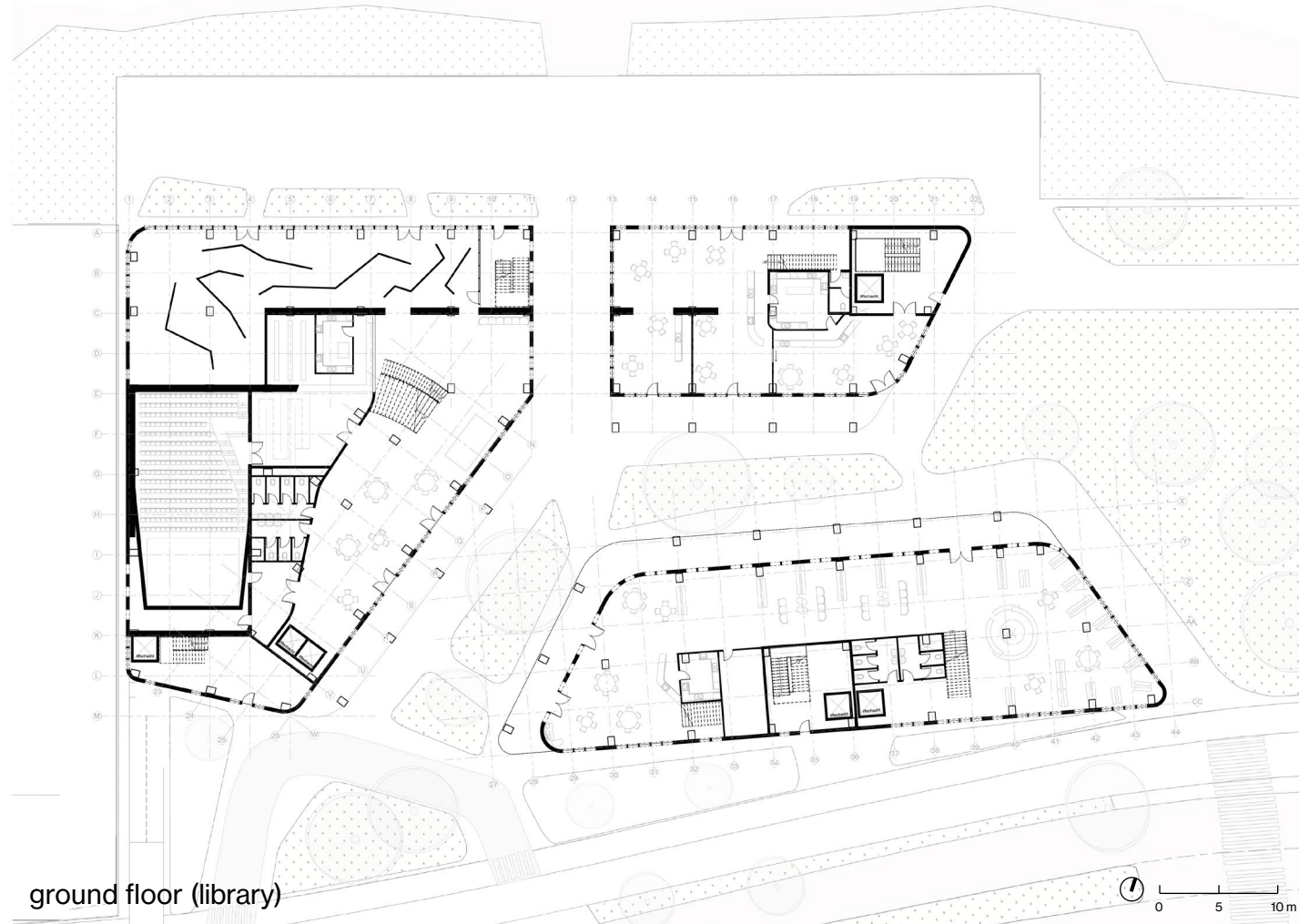
program

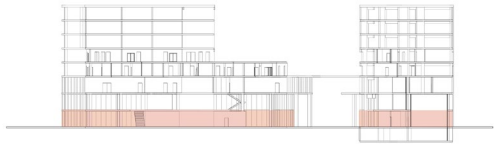


ground floor (library)

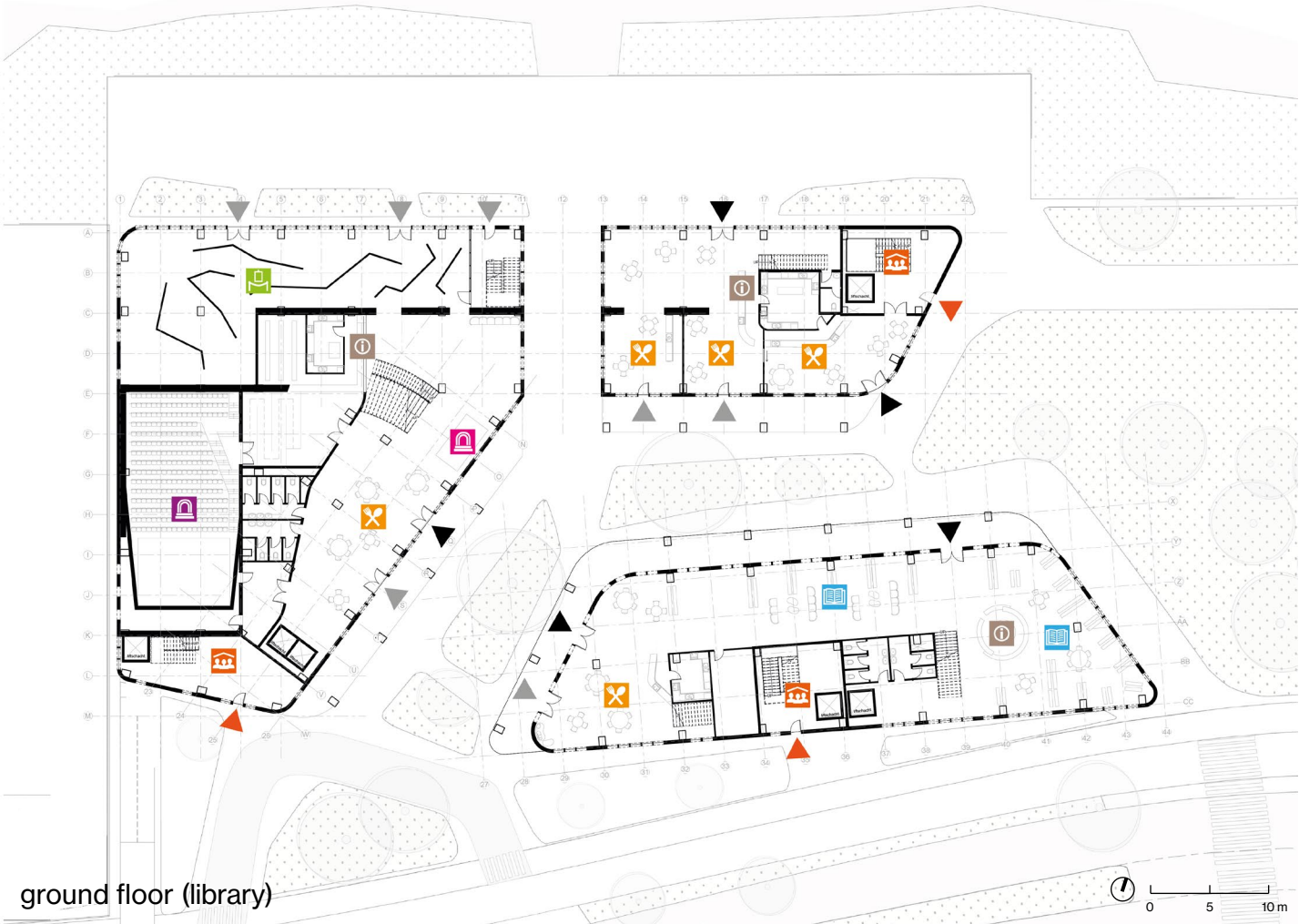


program





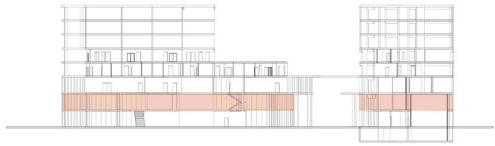
program



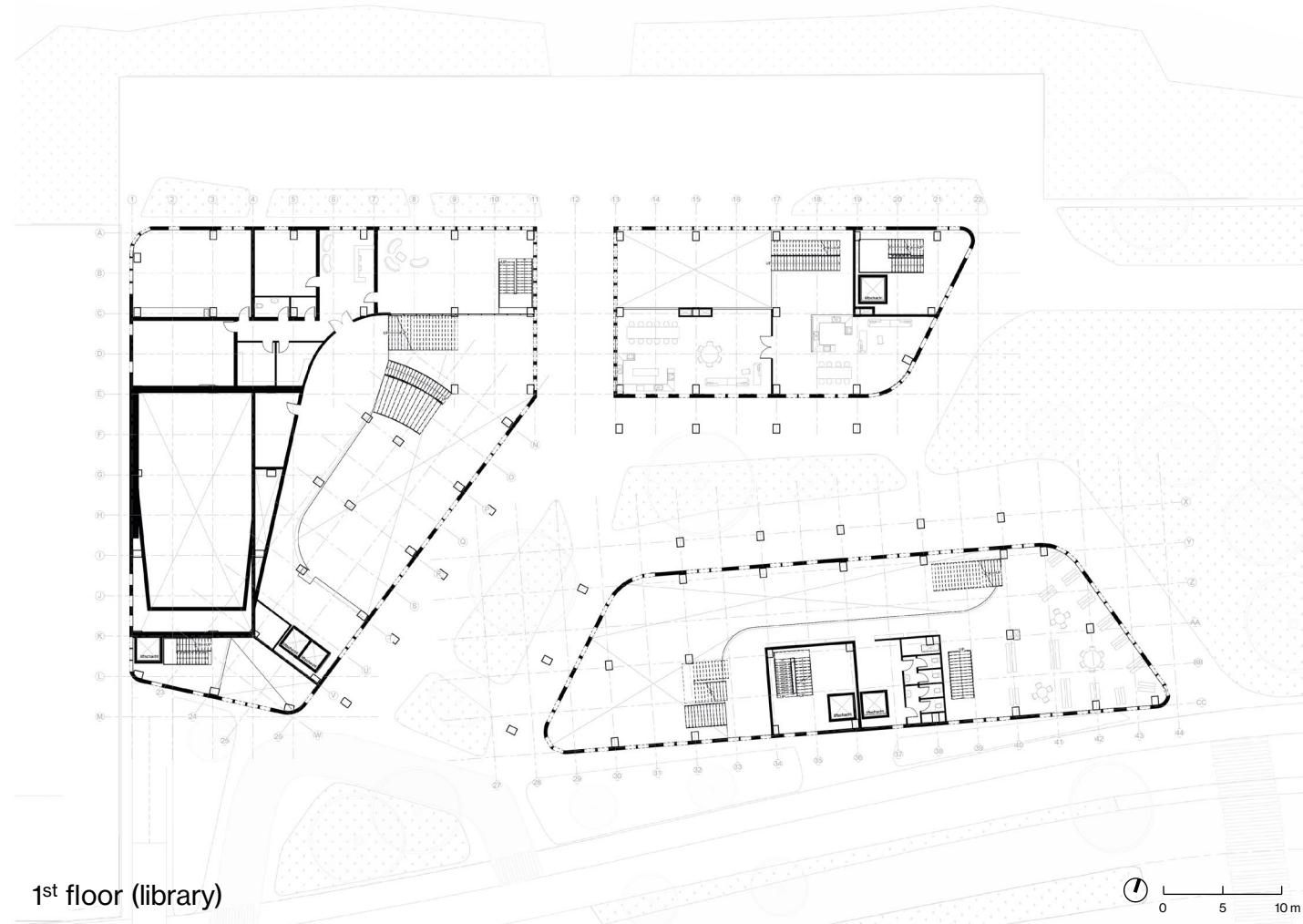
- general

 - main entrance
 - additional entrances
 - residential entrance
 - residential front door entrance
 - residential green roof
 - residential stairwell
- library functions

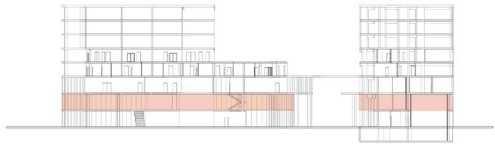
 - information point
 - catering place
 - exposition space
 - open stage
 - theatre hall
 - library reading spaces
 - movement studios
 - community space
 - art studios
 - music studios
 - open study spaces
 - office spaces



program



1st floor (library)



program



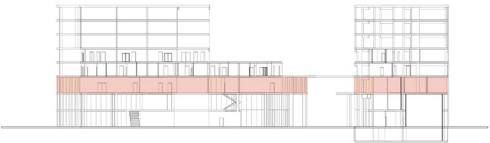
general

- ▲ main entrance
- ▲ additional entrances
- ▲ residential entrance
- ▲ residential front door entrance
- residential green roof
- residential stairwell

library functions

- information point
- catering place
- exposition space
- open stage
- theatre hall
- library reading spaces
- movement studios
- community space
- art studios
- music studios
- open study spaces
- office spaces

program



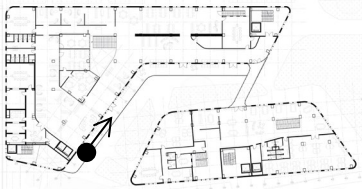


program

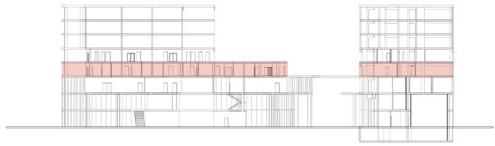
- general**
- main entrance
 - additional entrances
 - residential entrance
 - residential front door entrance
 - residential green roof
 - residential stairwell
- library functions**
- | | |
|------------------------|-------------------|
| information point | movement studios |
| catering place | community space |
| exposition space | art studios |
| open stage | music studios |
| theatre hall | open study spaces |
| library reading spaces | office spaces |



architectural impression



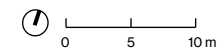
2nd floor (library)



program



3rd floor (housing)





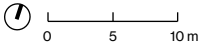
program

- general

 - main entrance
 - additional entrances
 - residential entrance
 - residential front door entrance
 - residential green roof
 - residential stairwell
- library functions

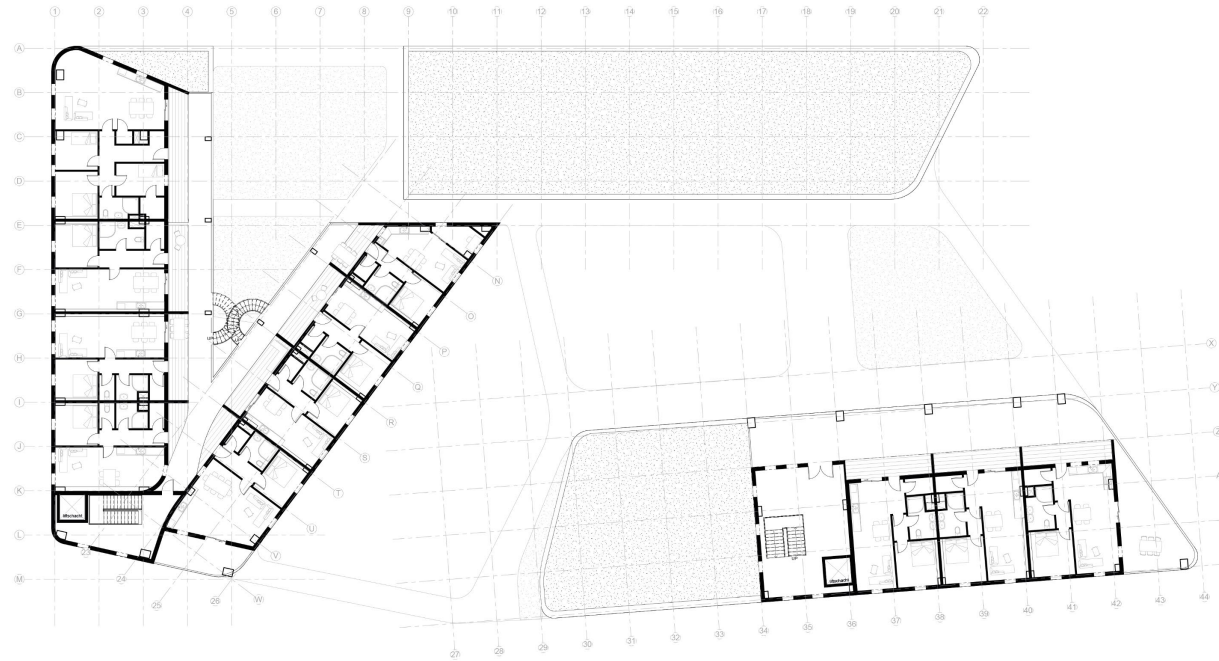
information point	movement studios
catering place	community space
exposition space	art studios
open stage	music studios
theatre hall	open study spaces
library reading spaces	office spaces

3rd floor (housing)

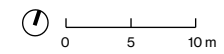




program



4th floor (housing)





program

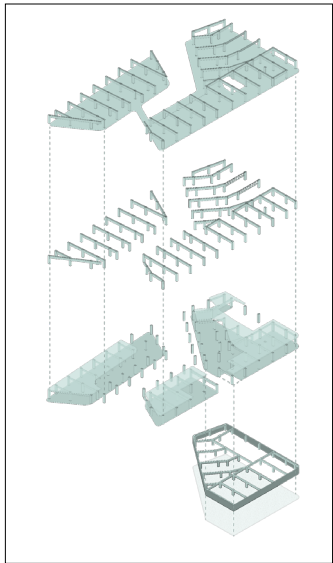
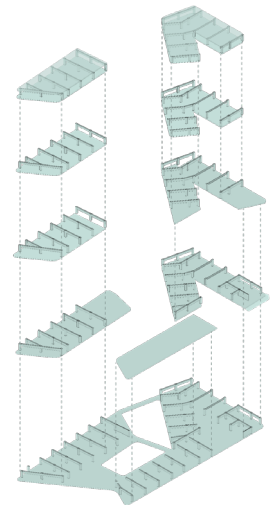
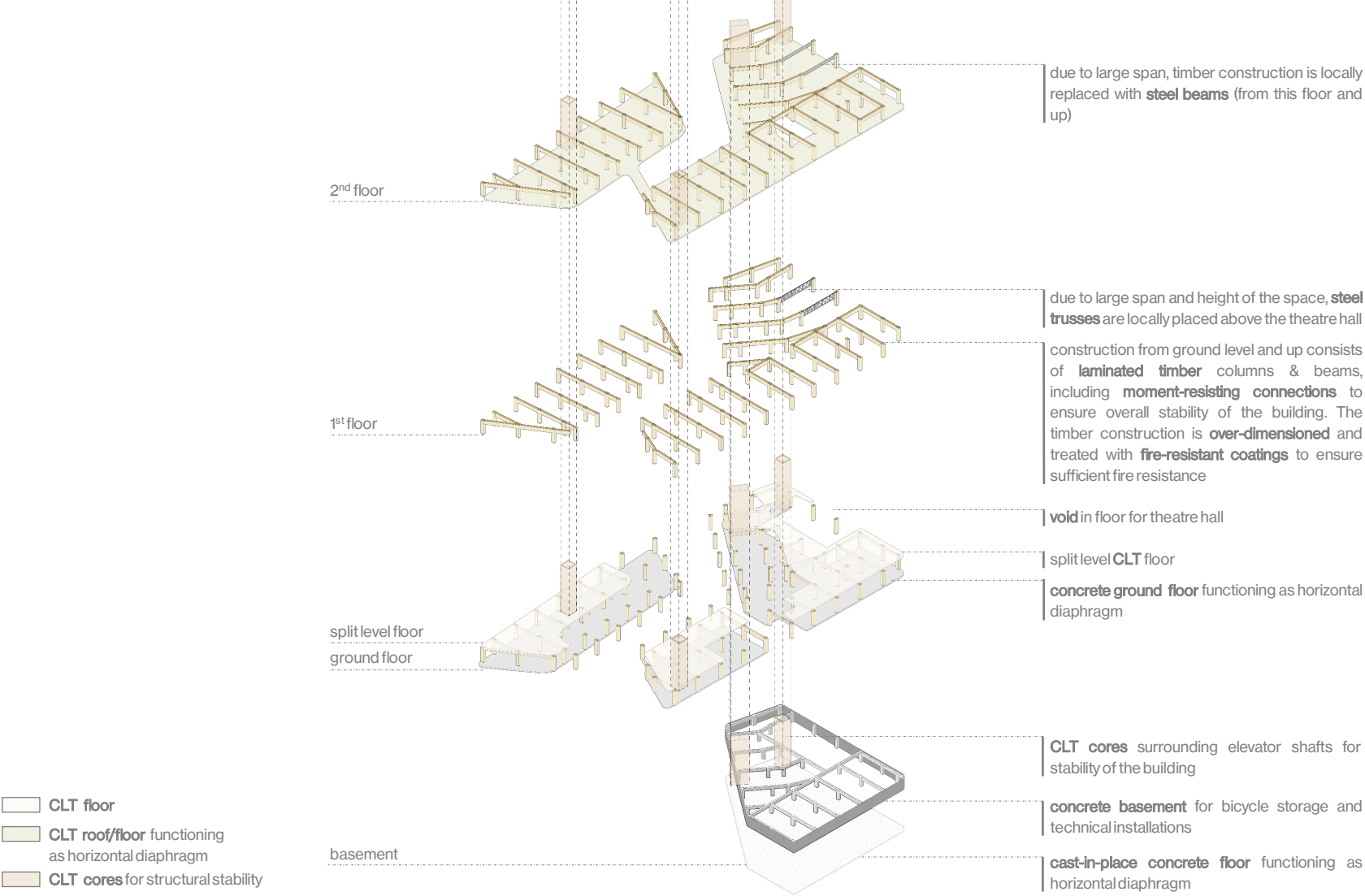
- general**
- ▲ main entrance
 - ▲ additional entrances
 - ▲ residential entrance
 - ▲ residential front door entrance
 - residential green roof
 - residential stairwell

- library functions**
- | | |
|--------------------------|---------------------|
| ○ information point | ■ movement studios |
| ■ catering place | ■ community space |
| ■ exposition space | ■ art studios |
| ■ open stage | ■ music studios |
| ■ theatre hall | ■ open study spaces |
| ■ library reading spaces | ■ office spaces |

4th floor (housing)

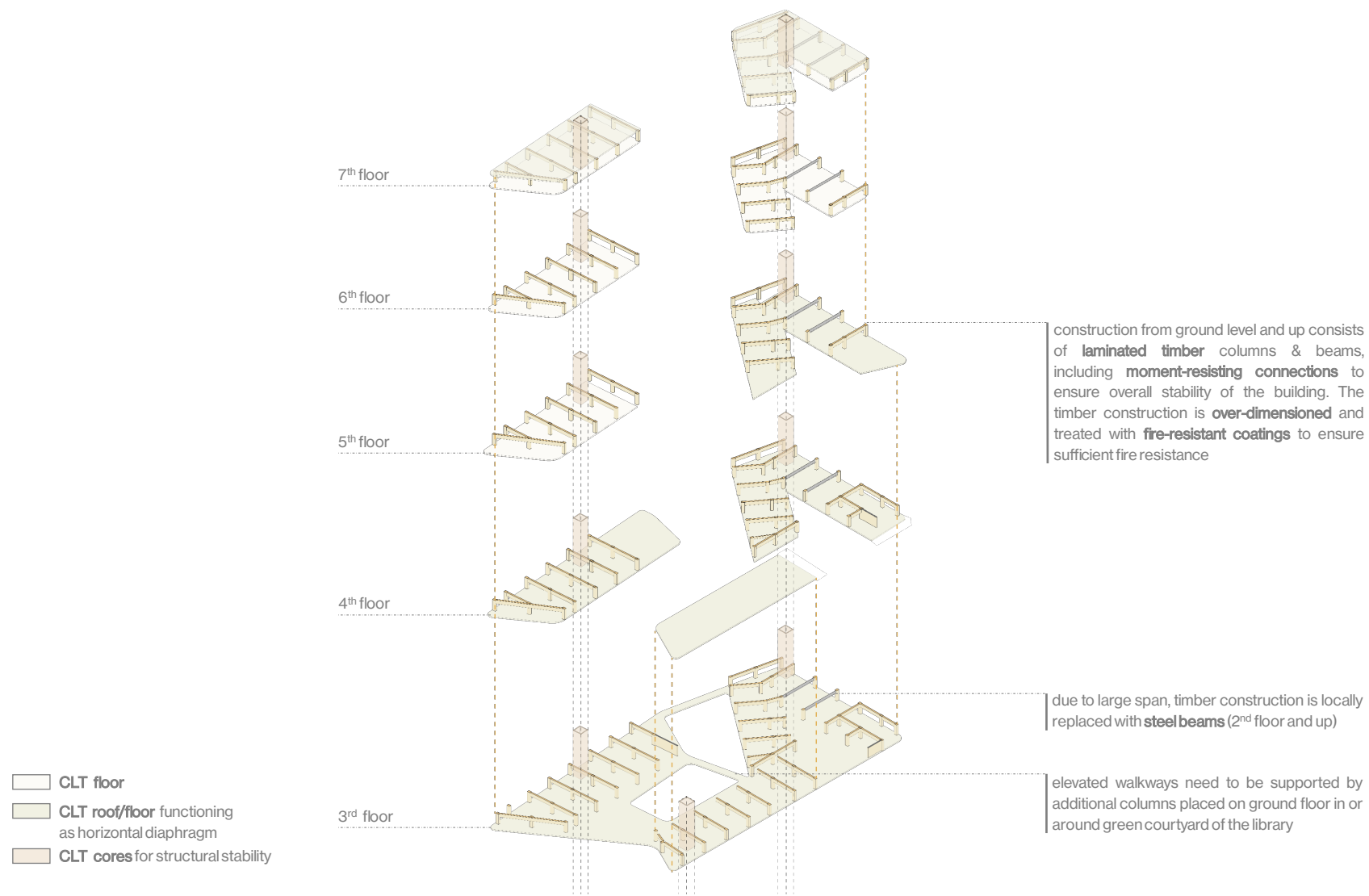


construction

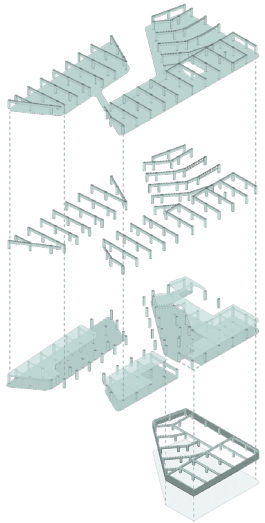
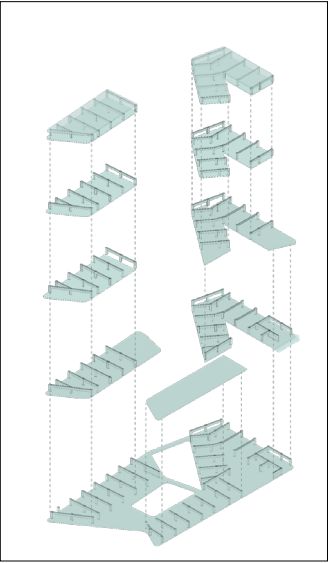


library

construction



housing



climate & circularity



circularity



ecology



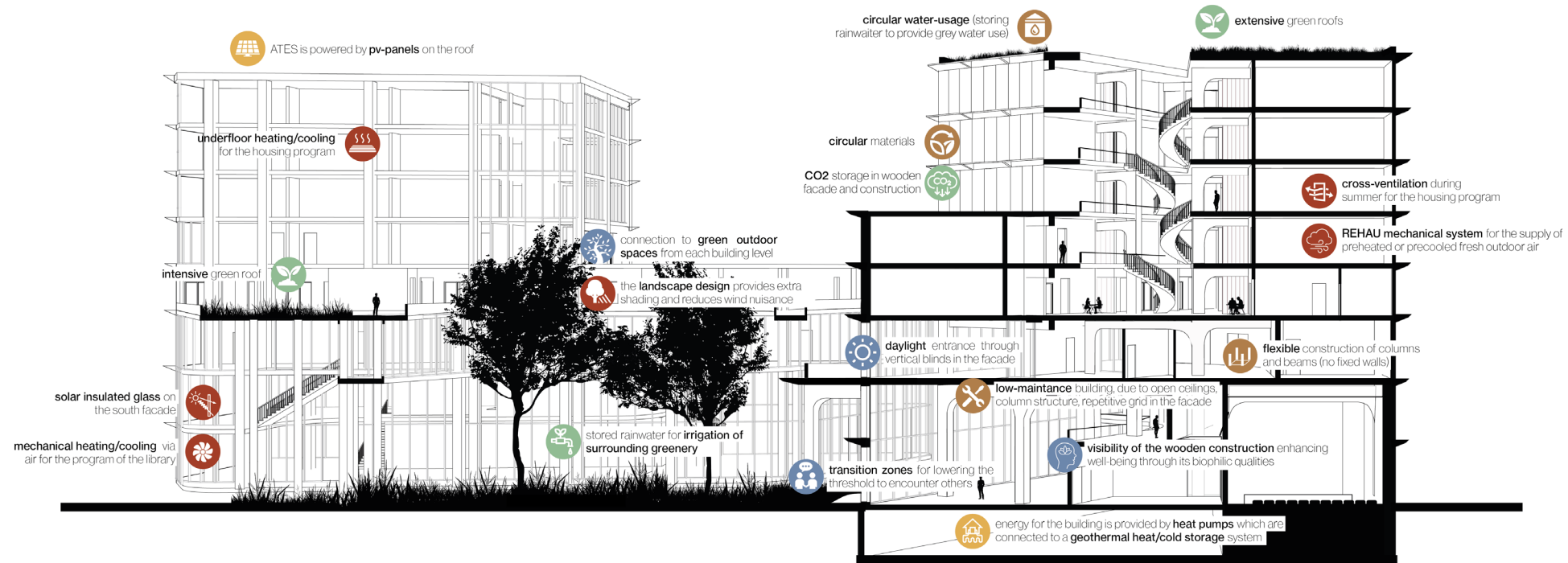
well-being



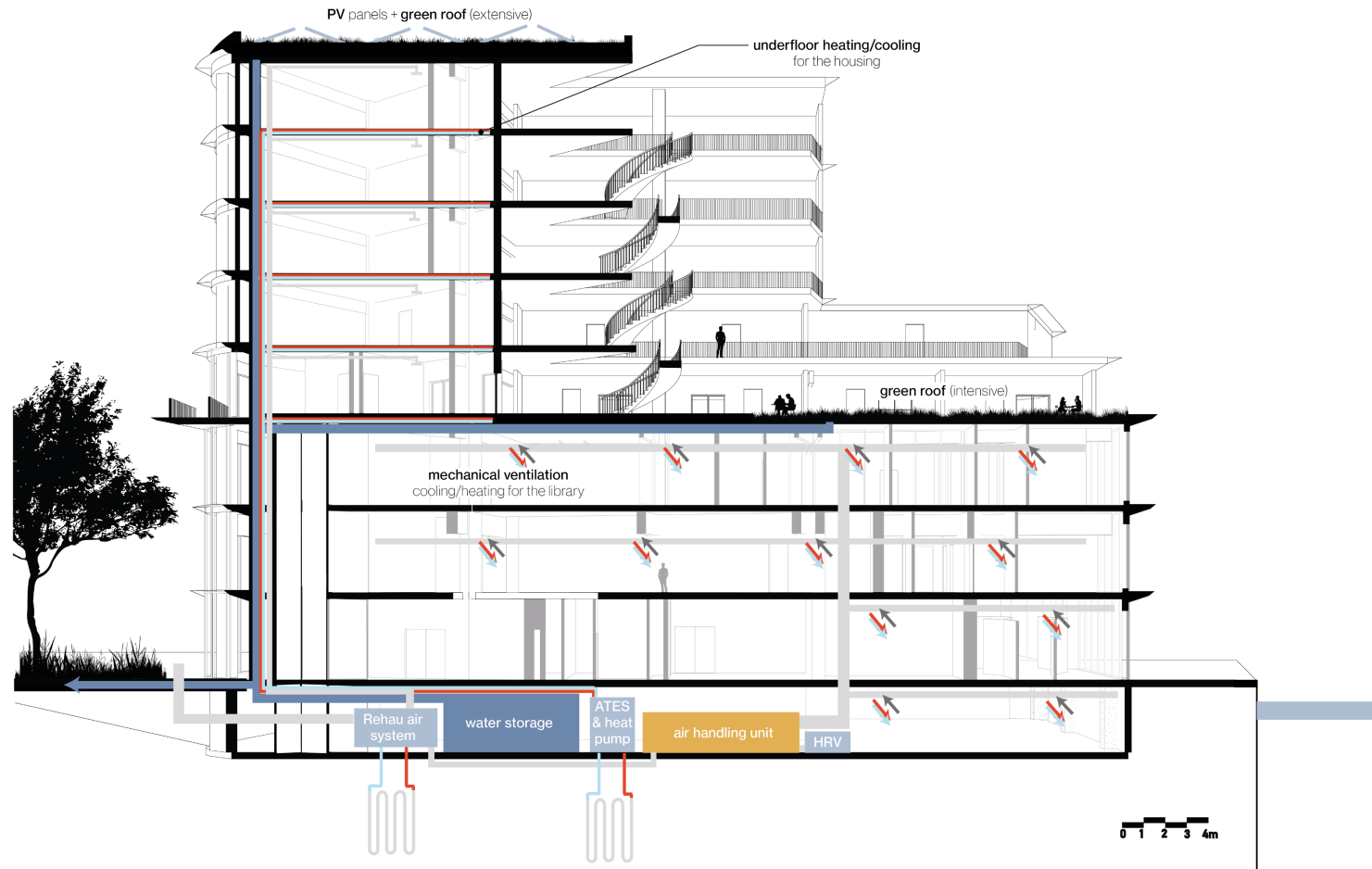
thermal comfort



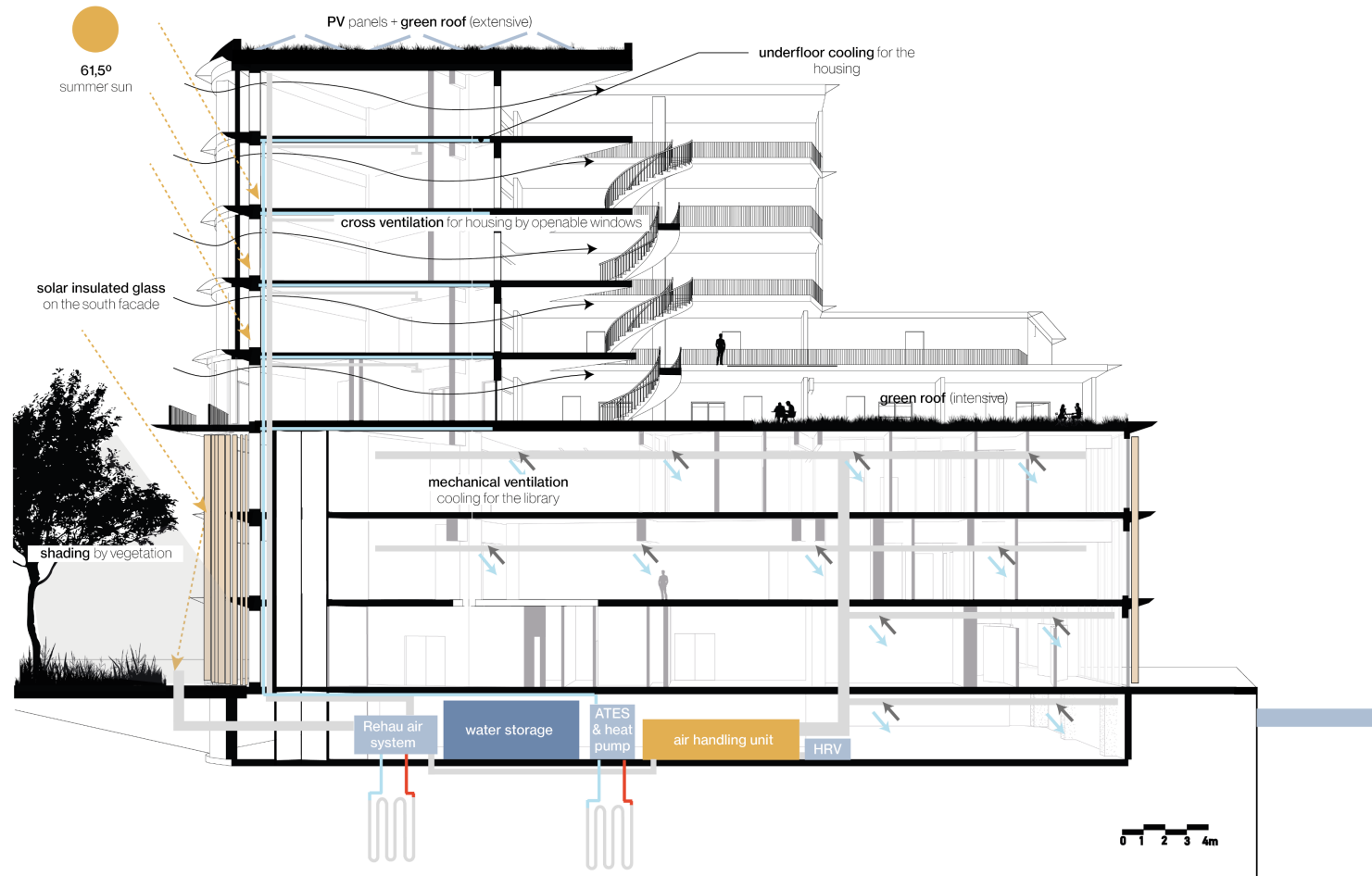
energy



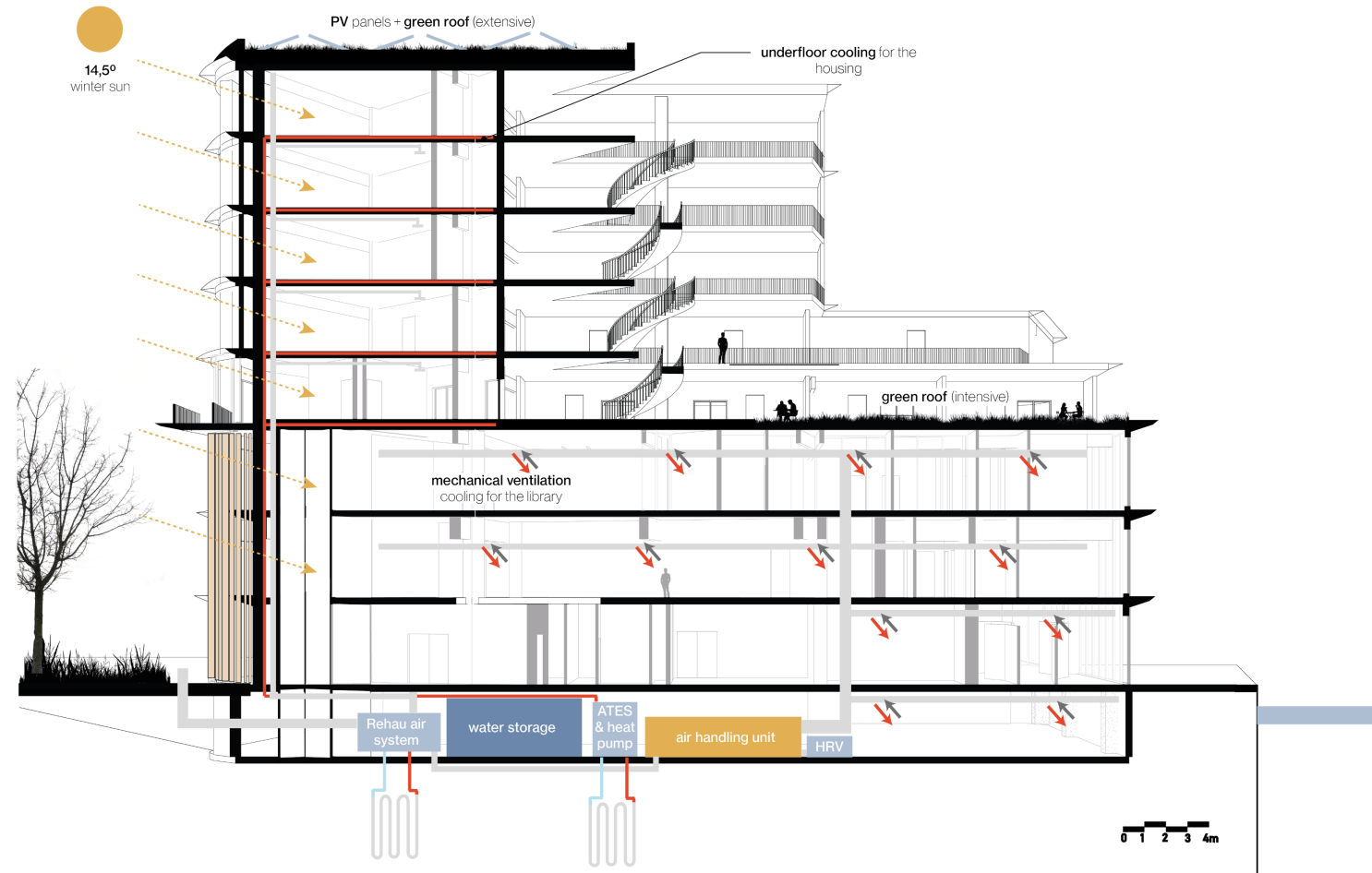
climate & circularity



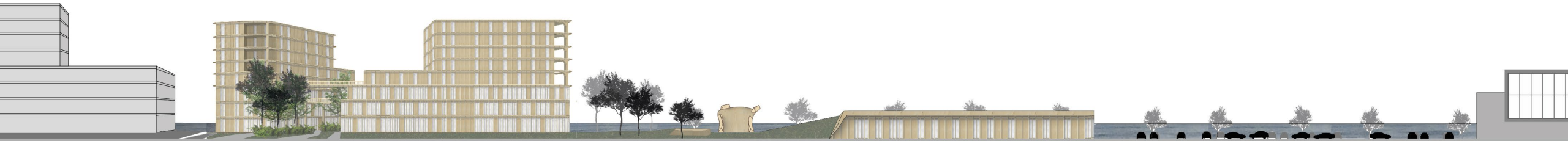
climate & circularity



climate & circularity



design overview



final thoughts



figure 32: (Heussen,n.d.)

thank you

sources

#3/4

Centraal Bureau voor de Statistiek. (2024, September 26). 1 op de 10 mensen sterk eenzaam in 2023. *Centraal Bureau Voor De Statistiek*. <https://www.cbs.nl/nl-nl/nieuws/2024/39/1-op-de-10-mensen-sterk-eeenzaam-in-2023>

#5

Van Der Poel, R. (2021, February 7). Eenzaamheid kost 2 miljard euro aan extra zorgkosten. *NRC*. <https://www.nrc.nl/nieuws/2021/02/07/eeenzaamheid-kost-2-miljard-euro-aan-extra-zorgkosten-a4030906>

#6

Boogaard, J., & Vriesema, I. (2024, November 29). Nederland staat voor opgave van jewelste: steeds meer mensen hebben zorg nodig, maar het aantal mantelzorgers neemt af. *NRC*. <https://www.nrc.nl/nieuws/2024/11/20/koken-wassen-schoonmaken-meer-mensen-hebben-zorg-nodig-maar-het-aantal-mantelzorgers-neemt-af-a4873844>

Hollak, R. (2020, December 19). 'Stedelingen trekken zich steeds meer terug in privacybubbels' *NRC*. <https://www.nrc.nl/nieuws/2020/12/16/dit-is-het-moment-om-een-ander-te-helpen-a4024062>

Clumpenaar, S., & Van Noort, W. (2024, April 26). Wonen in Nederland: eenheidsworst. Dat het anders kan, zie je hier. *NRC*. <https://www.nrc.nl/nieuws/2024/04/25/wonen-in-nederland-eeenheidsworst-dat-het-anders-kan-zie-je-hier-a4196842>

Tunali, T. (2024, October 22). Minister Helder wil ouderenzorg anders organiseren: zelfredzaam en 'digitaal als het kan' *NRC*. <https://www.nrc.nl/nieuws/2022/07/04/minister-helder-wil-ouderenzorg-anders-organiseren-zelfredzaam-en-digitaal-als-het-kan-a4135459>

Van Der Poel, R. (2021, February 7). Eenzaamheid kost 2 miljard euro aan extra zorgkosten. *NRC*. <https://www.nrc.nl/nieuws/2021/02/07/eeenzaamheid-kost-2-miljard-euro-aan-extra-zorgkosten-a4030906>

Vriesema, I. (2019, February 1). 'Eenzaamheid zit ingebakken in het leven zelf.' *NRC*. <https://www.nrc.nl/nieuws/2019/02/01/eeenzaamheid-a3652432#:~:text=Eenzaamheid%20Tien%20procent%20van%20de,betekenis%20is%20voor%20een%20ander.>

#11

Ontmoeting in buurten ontwerpen is een investering in aandacht [Photo]. (2021, 1 november). Blauwhoed. Retrieved June 19, 2025, from, <https://blauwhoed.nl/nieuws/ontmoeting-in-buurten-ontwerpen-is-een-investering-in-aandacht>

Doherty, B. (n.d.). *Domino Park by Two Trees Management* [Photo]. Rethinking The Future. Retrieved June 19, 2025, from, <https://www.re-thinkingthefuture.com/narratives/a5616-what-is-the-social-impact-of-architecture/>

Hertzberger, H. (n.d.). *L'appropriation des logements d'Herman Hertzberger : de l'espace conçu à l'espace vécu* [Photo]. OpenEdition Journals. Retrieved June 19, 2025, from, <https://doi.org/10.4000/craup.13734>

#13

Doff, W., Snel, E., Erasmus University of Rotterdam, & Municipality of Rotterdam. (2022). Gedeelde ruimte op Zuid [Shared space on South]. In *Kenniswerkplaats Leefbare Wijken* (No. 978-90-75289-62-6). Kenniswerkplaats Leefbare Wijken.

#15

Goula, A. (2023, May 7). *Social Housing 1737 / HARQUITECTES* [Photo]. ArchDaily. Retrieved June 19, 2025, from, https://www.archdaily.com/1000469/social-housing-1737-harquitectes/6453d8aed36e5766c291a464-social-housing-1737-harquitectes-photo?next_project=no

Sun, N. (2023, July 23). *Odong Public Library / Unsangdong Architects* [Photo]. ArchDaily. Retrieved June 19, 2025, from, <https://www.archdaily.com/1019149/odong-public-library-unsangdong-architects/669e623fc91af900016e26c6-odong-public-library-unsangdong-architects-photo>

#16

Maashaven Tarwewijk Katendrecht Kop van Zuid Rotterdam-Zuid [Photo]. (n.d.). Flying Holland. Retrieved June 19, 2025, from, <https://www.flyingholland.nl/-/portfolio/beeldbank/-/medias/d50e3e00-141c-49ea-bc97-094df0a6b12a-maashaven-tarwewijk-katendrecht-kop-van-zuid-rotterdam-zuid>

#17

Hoekstra, I. (2023). *Maashaven in 2023* [Photo]. Gemeente Rotterdam. Retrieved June 19, 2025, from, <https://www.rotterdam.nl/maashaven-nu-en-toen-oude-stadshaven-wordt-nieuw-park>

#32/33/34

Gemeente Rotterdam. (2022, January). *Masterplan Park Maashaven* [Illustration]. Retrieved June 19, 2025, from, <https://rotterdam.raadsinformatie.nl/document/11045282/2/21bb16195>

Mecanoo. (2021, July 12). *Manifesto Rotterdam Zuid: An integral vision for a sustainable and future-proof development for the South* [Illustration]. Mecanoo. Retrieved June 19, 2025, from, <https://www.mecanoo.nl/News/ID/539/Manifesto-Rotterdam-Zuid-An-integral-vision-for-a-sustainable-and-future-proof-development-for-the-South>

#36/37

Gemeente Rotterdam. (2022, January). *Masterplan Park Maashaven* [Photo]. Retrieved June 19, 2025, from, <https://rotterdam.raadsinformatie.nl/document/11045282/2/21bb16195>

Gemeente Rotterdam. (2022, January). *Masterplan Park Maashaven* [Illustration]. Retrieved June 19, 2025, from, <https://rotterdam.raadsinformatie.nl/document/11045282/2/21bb16195>

sources

#51

Eveleens, F. (n.d.). *Zicht op een deel van Meneba, Brielselaan 115, 3081 AB Rotterdam. Gelegen nabij de Rotterdamse Maashaven* [Photo]. Wikipedia. Retrieved June 19, 2025, from, https://nl.wikipedia.org/wiki/Meneba#/media/Bestand:Rotterdam_meneba_fabriek.jpg

#52

Huijzer, R. (n.d.). *Het gebouw in 2019* [Photo]. Rijnmond. Retrieved June 19, 2025, from, <https://www.rijnmond.nl/nieuws/182719/rotterdam-toen-en-nu-de-graansilo-aan-de-maashaven>

#53

De La Tour, D. B. (n.d.). *Tamedia Office Building / Shigeru Ban Architects* [Photo]. ArchDaily. Retrieved June 19, 2025, from, <https://www.archdaily.com/478633/tamedia-office-building-shigeru-ban-architects/530428fee8e44ee8ac0000c5-tamedia-office-building-shigeru-ban-architects-photo>

Huijzer, R. (n.d.). *Het gebouw in 2019* [Photo]. Rijnmond. Retrieved June 19, 2025, from, <https://www.rijnmond.nl/nieuws/182719/rotterdam-toen-en-nu-de-graansilo-aan-de-maashaven>

Maashaven [Photo]. (n.d.). Kustvaartforum. Retrieved June 19, 2025, from, <https://www.kustvaartforum.com/viewtopic.php?t=34&start=1520>

Meneba [Photo]. (n.d.). Zoom. Retrieved June 19, 2025, from, https://zoom.nl/foto/architectuur/598952/in_album-32904,meneba

SATOH PHOTO. (n.d.). *Kengo Kuma's pillar-free wooden classroom boosts eco-friendly design at Okayama University* [Photo]. Designboom. Retrieved June 19, 2025, from, <https://www.designboom.com/architecture/kengo-kuma-wooden-classroom-okayama-university-eco-friendly-design-potential-08-24-2023/>

Kultscher, M. (n.d.). *Rigot Collective Dwelling Centre / acau architecture* [Photo]. ArchDaily. Retrieved June 19, 2025, from, <https://www.archdaily.com/946026/rigot-collective-dwelling-centre-acau-architecture/5f3cb0afb3576559920001ab-rigot-collective-dwelling-centre-acau-architecture-photo>

#87

Heussen, D. (n.d.). *De stoep is een logische plek om elkaar te ontmoeten*. The City at Eye Level. <https://thecityatyelevel.com/stories/de-stoep-is-een-logische-plek-om-elkaar-te-ontmoeten/>