

master plan 2040

tu/e campus



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vision document for urban development



contents

0	Contents	6
0.1	Preface	8
0.2	Master Plan and Campus	10
1	Chapter 1 — Continuation of building on the TU/e Campus	12
1.1	Existing qualities	16
1.2	Six building rounds	26
1.3	Transformation TU/e Campus	36
1.4	Synthesis map of six building rounds	44
2	Chapter 2 — Master Plan 2040: principles and design	48
2.1	Plan drawing	50
2.2	Urban and architectural principles	52
2.3	Phasing	90
2.4	Student accommodation	92
2.5	Second focal point and the Leap over De Zaale	102
2.6	Assembly of enterprises and institutes	110
2.7	Flexible shell	120
2.8	Expansion existing assembly of enterprises and institutes	124
2.9	TU/e Campus and the city	126
3	Chapter 3 — Image credits, appendices and notes	132
3.1	TU/e Campus in figures, transformation campus	134
3.2	Development vision Fellenoord	136
3.3	Further study	138
3.4	Notes	140
3.5	Image credits	148
4	Colophon	150

preface

Brainport is growing! And Eindhoven University of Technology is proudly part of that revolution.

Student numbers are on the rise, but there is much more to growth:

our ambition is to build an ecosystem where education, research and valorisation thrive; where work and play come together. The importance of a well-equipped campus cannot be overestimated, nor can our ambitions to create a vital environment that inspires and stimulates each of us every day.

We are proud to be the world's number one in cooperating with innovative industry. And this is not by chance: collaboration is our basic attitude and openness is in our DNA.

These values are reflected within our campus and wherever possible it is our mission to strengthen them. The campus is therefore much more than a university campus, it is a place where innovation, working, living and recreation coincide.

This vision document, the 'Master Plan 2040 TU/e Campus', will serve as a handhold for the qualitative development of the campus.

It is a revaluation of the legacy of the campus and focuses on the long term. Most importantly, it strengthens and secures the unique green character of the campus: it truly is an inner-city campus with outer-city qualities, an open city park. The vision is not confined to the campus only: it strengthens its integration into Brainport City.

This 'Master Plan 2040' kicks off the future of the campus.

Together, we are drivers of change!



Dr. Nicole Ummelen
Vice President of the Executive Board

master plan and campus

Within the built environment a ‘Master Plan’ is a customary concept and instrument to envisage a spatial long-term view. It always operates in reality, within rapidly changing (socioeconomic) conditions and has to formulate an answer to them. It does so by recognizing existing qualities and laying down the spatial frameworks aspired to. Hence, the Master Plan is not a ‘building plan’; rather, it is a condition to compile numerous future ‘building plans’ coherently. This Master Plan forms the position paper par excellence against which all future building demands for the TU/e Campus will be weighed.

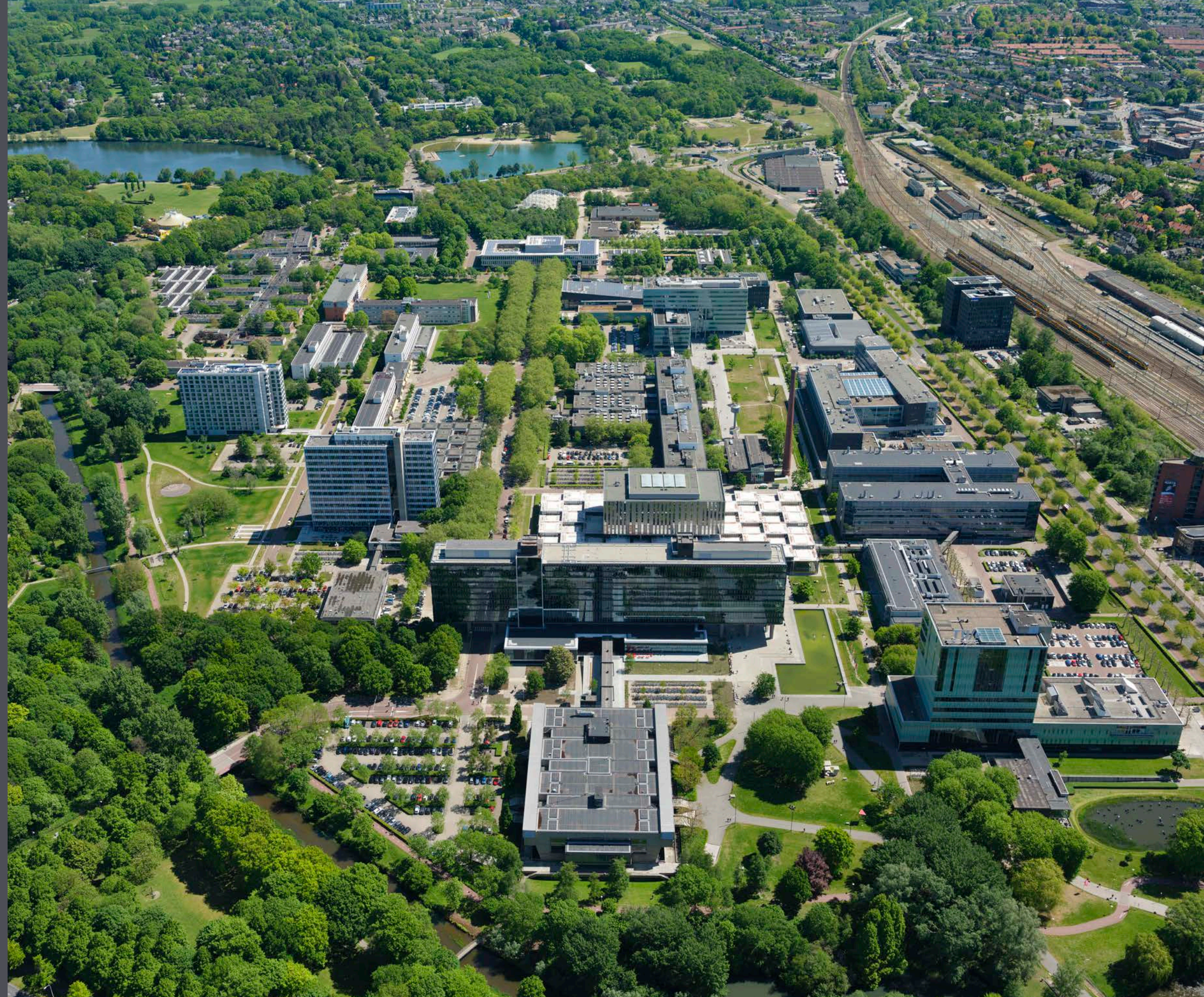
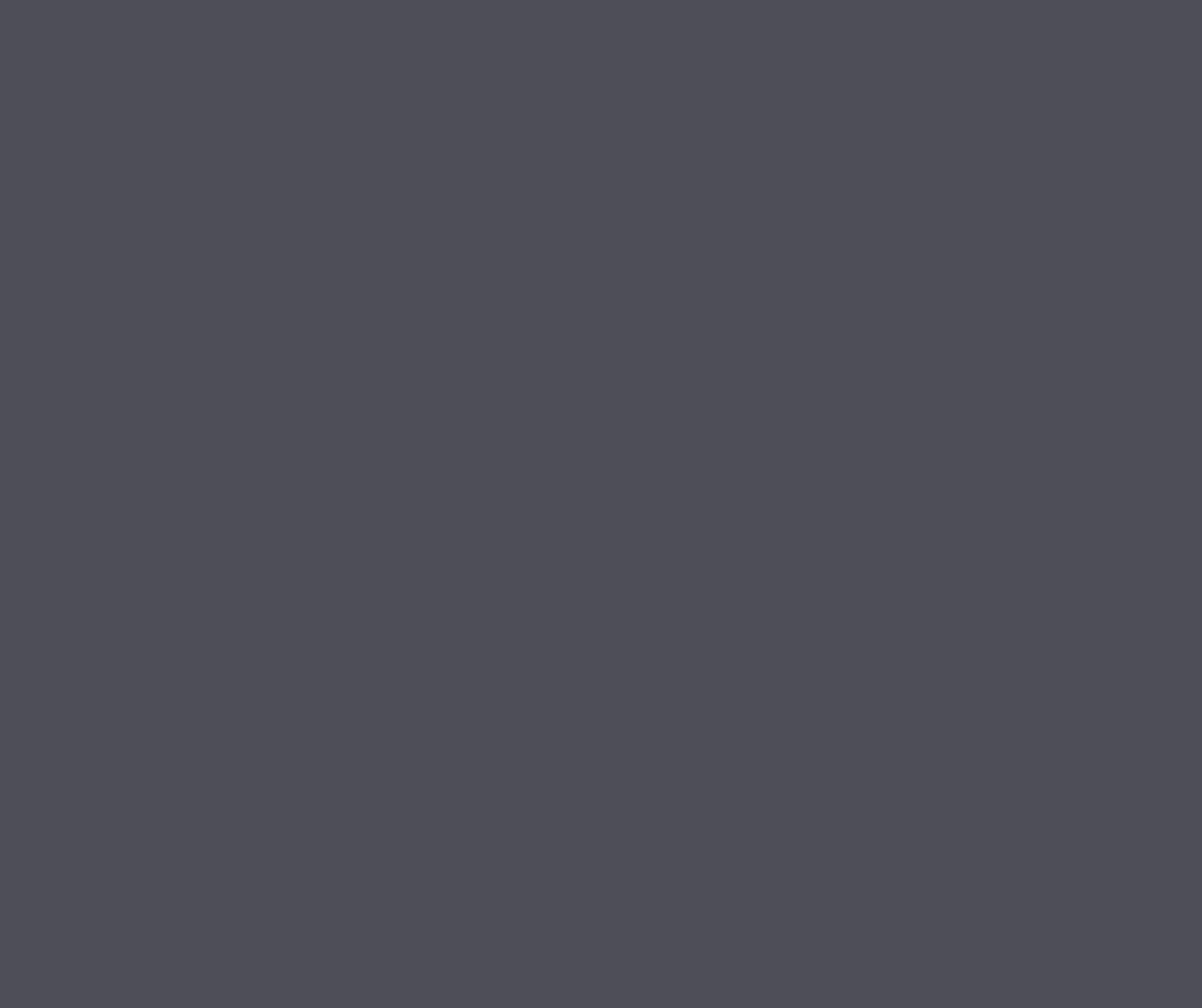
In the Campus development and the appurtenant day-to-day affairs four parties are involved in the main. In random order: Real Estate Management is responsible for the comprehensive real estate development and the management and park management of the TU/e Campus. The Quality Committee safeguards the integral spatial quality of developments on the TU/e Campus and tests spatial plans against the Master Plan and the accompanying Landscape Vision. It delivers an opinion to the Campus 2030 Steering Committee; the administrative body to which all matters relating to the development of the campus are submitted.

Bauhütte, a designing research group within the Department of Architecture, Building and Planning, conducts spatial studies and gives advice. The Master Plan forms the spatial framework and living quality document guiding the activities of these groups.



Campus development: involved parties

chapter 1 **continuation of building on the tu/e campus**



1.1 existing qualities

The Master Plan 2040 is an explicit recalibration of the Master Plan TU/e Science Park from 2012, which accompanied the transformation from a university campus to a Science Park until 2020.¹ Two explicit choices from this previous Master Plan are: a) the TU/e Science Park will be an urban park, b) the TU/e Science Park will present itself architecturally as one evolutionary whole. These choices are an emphatic reference to and revaluation of the original modernistic campus from the 1950s. Campus architect Samuel van Embden expressed it as follows:

“We have decided on an *open* layout: the site will in principle be accessible to citizens as well; the idea of a closed campus has been rejected intentionally.”² The Master Plan 2040 reevaluates the open layout of the original campus and translates this principle to a TU/e Campus of a decidedly public nature. Its inner-city location with its outer-city nature makes the TU/e Campus unique. The goal of the Master Plan 2040 is to identify, and continue building on, the intrinsic qualities of the TU/e Campus.





In 1953 the north-eastern section of the Dommel valley was designated as the location for the Technische Hogeschool Eindhoven after a successful lobby by the Eindhoven business community and the cherished national political desire to increase the number of engineers in the southern part of the Netherlands.

Despite its very central location in Eindhoven the Dommel valley had remained virtually undeveloped there until the 1950s. In the urban structure of Eindhoven this can be explained simply because buildings were historically located on firm sandy soil, so-called ‘sand ridges’, with wet brook valleys forming natural intermediate buffers and barriers. The wish to establish a Hogeschool made use of this unique morphological condition: accordingly, an outer-city campus was embedded in an inner-city environment. Which checks out etymologically, for campus means ‘the (open) field’ or ‘open space’ and, somewhat counter-intuitively, this is precisely what was found in the center of Eindhoven.³

In the Dutch context this position is quite unique, as similar campuses are all located on the outskirts of urban areas - the ‘periphery’. Hence the appreciation of this unique circumstance forms the point of departure of this Master Plan. The original ‘wild’ brook valley is regarded in

the Master Plan 2040 as an urban park, and thus the TU/e Campus forms part of a greater urban structure, the Dommel valley, which merges northwards into the recreation area of De Karpen.

What makes the TU/e Campus special in yet another respect from a cultural-historical and an urban and architectural perspective is that the same architectural firm has been involved with the campus for more than thirty years (from ca. 1954-1989) under the supervision of architect Samuel van Embden (1904- 2000); a man with a prominent name who earned his spurs during the Reconstruction period. As a result of this long-lasting involvement it was possible to accomplish a consistently implemented vision of the architectural, functional, urban and social design of the campus. In 1958 Van Embden writes the following explanatory note to his urban plan:

“As explained in the Program of February 1957, we decided on a spatial concentration rather than a decentralized layout, because: a. it will help to form a coherent hogeschool community and will contribute to strengthening the awareness of unity among the members of this community; b. it is in accordance with the existing profound cohesion among the different fields

of technological science; c. it can lead to savings in both the construction and the installations as well as in the site use; d. it supports a centralized and hence economical management organization. From an urban design point of view this is expressed in a serried formation of the various constitutive elements, which should actually be regarded not as separate buildings, but as components of one coherent complex.”⁴

The accomplishment of a centralization of the building demand, the fostering of contact between different scientific disciplines, an economical site use, a profound rationalization and standardization and the accomplishment of unity were the main goals. Cohesion on the TU/e Campus is more than just stylistic affinity, then, it pervades the building level and the landscaping of the external space, thus forming the DNA of the campus.

The urban designer Van Embden set great store by safeguarding the Dommel valley as much as possible, striving to turn this into an attractive recreational area. Contact with the city was provided in the southwest of the site, while surrounding contact points were used very sparingly, so that the site could develop as a park landscape. Van Embden in 1958 astutely envisions

“reserving the east side of the site for the construction of research institutes and such which do not belong to the Technische Hogeschool, but which do maintain relationships with it.”⁵ With this approach Van Embden prevents the university site from becoming a monofunctional enclave, granting access to activities and other third parties, as was also emphasized explicitly in the previous Master Plan TU/e Science Park from 2012. The university strategy for 2030 seeks to achieve this, so this idea is highly relevant again.⁶

Although this section is not devoted to historiography but to the existing qualities of the campus, the purpose of referring to original conceptions is that they imply highly relevant and valuable principles; particularly the open campus idea, a built-in urban and architectural repertoire of means to realize a highly concentrated and coherent complex, leaving exceptional scope for the landscape thanks to this strong concentration. All intended to constitute a coherent whole.

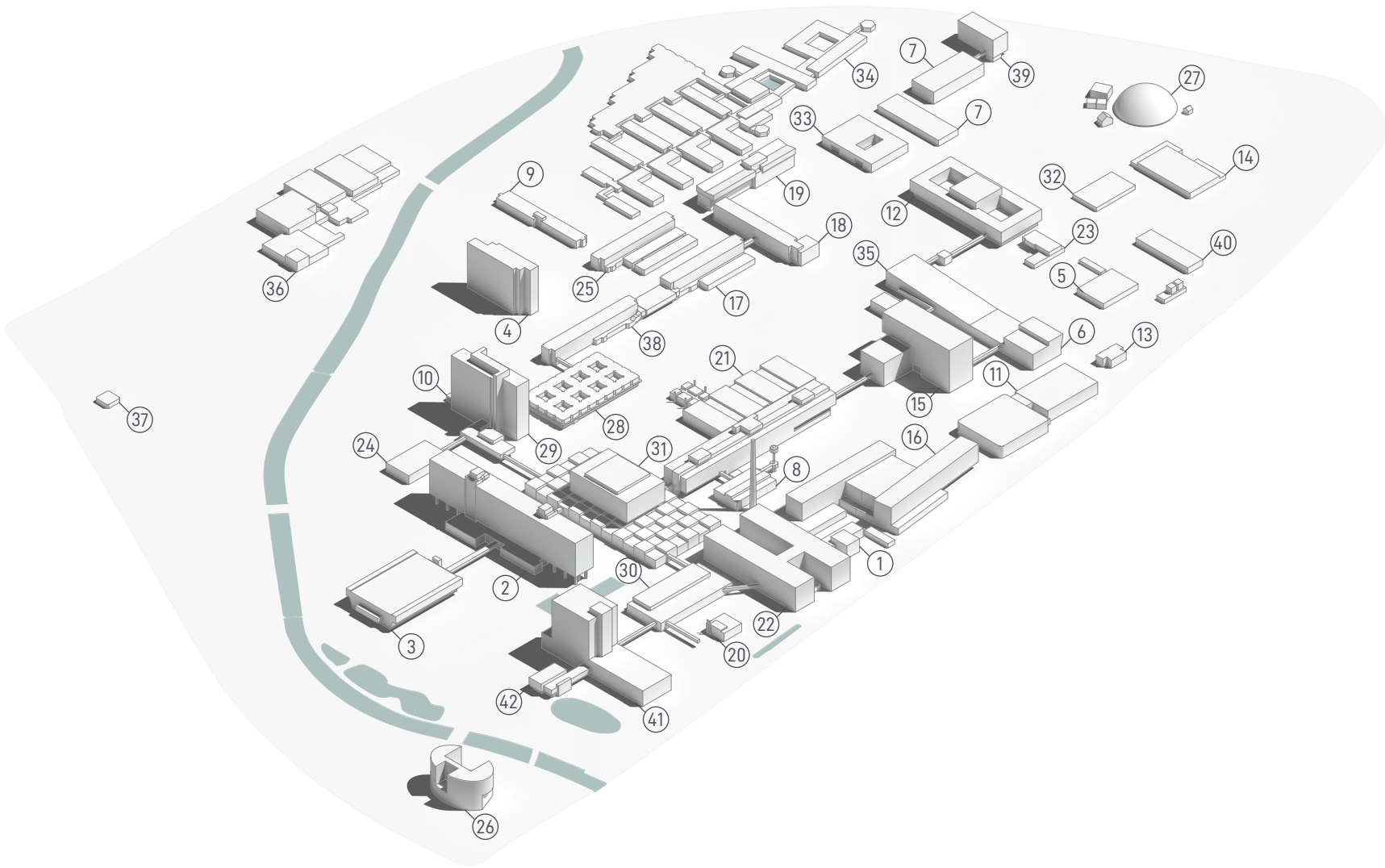
The Master Plan 2040 progresses from this legacy.





Building names (alphabetical) – see figure 1.5

1	Athene	22	Helix
2	Atlas	23	Meulenstein House of Robotics
3	Auditorium	24	Impuls
4	Aurora	25	IPO
5	BBC	26	Kennispoort
6	Cascade	27	Koepel
7	Catalyst (+ parkeergarage)	28	Laplace
8	Ceres	29	Luna
9	Connector	30	Matrix
10	Corona	31	MetaForum
11	Cyclotron	32	Momentum
12	Differ	33	Multimediapaviljoen
13	Echo	34	Paviljoen
14	Fenix	35	Spectrum
15	Flux	36	Studentensportcentrum
16	Fontys Nexus	37	Tennispaviljoen
17	Fontys S1	38	Traverse
18	Fontys S2	39	Twinning Center
19	Fontys S3	40	Ventur
20	Gaslab	41	Vertigo
21	Gemini	42	Zwarte Doos



Building names (alphabetical) – see figure 1.6

1	Athene	22	Helix
2	Atlas	23	Meulenstein House of Robotics
3	Auditorium	24	Impuls
4	Aurora	25	IPO
5	BBC	26	Kennispoort
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1.2 six building rounds

Since its establishment in 1956, Eindhoven University of Technology has had various appearances. Starting with the name, from Polytechnic School to Technische Universiteit in 1986. This metamorphosis entails more than just a name change; thus, the site is no longer exclusively a university site, but a fully-fledged campus.

The campus has been developed into a mixed environment where university, living, activities and recreation form a varied and supplementary combination; from monoculture to polyculture. In the TU/e Strategy 2030 this is described as follows:

“A balance between working, living and recreation through on-campus housing facilities, meeting places, shops and cafés. [...] We aim for the campus to further develop into an inspiring and well-equipped place of education, research, living, working and recreation for our 15,000 on-campus students and 3,500 staff members.”⁸ The evolution of the campus is described in six paradigmatic steps in this chapter, the so-called building rounds.⁹ The Master Plan 2040 heralds the sixth building round and provides an outlook.

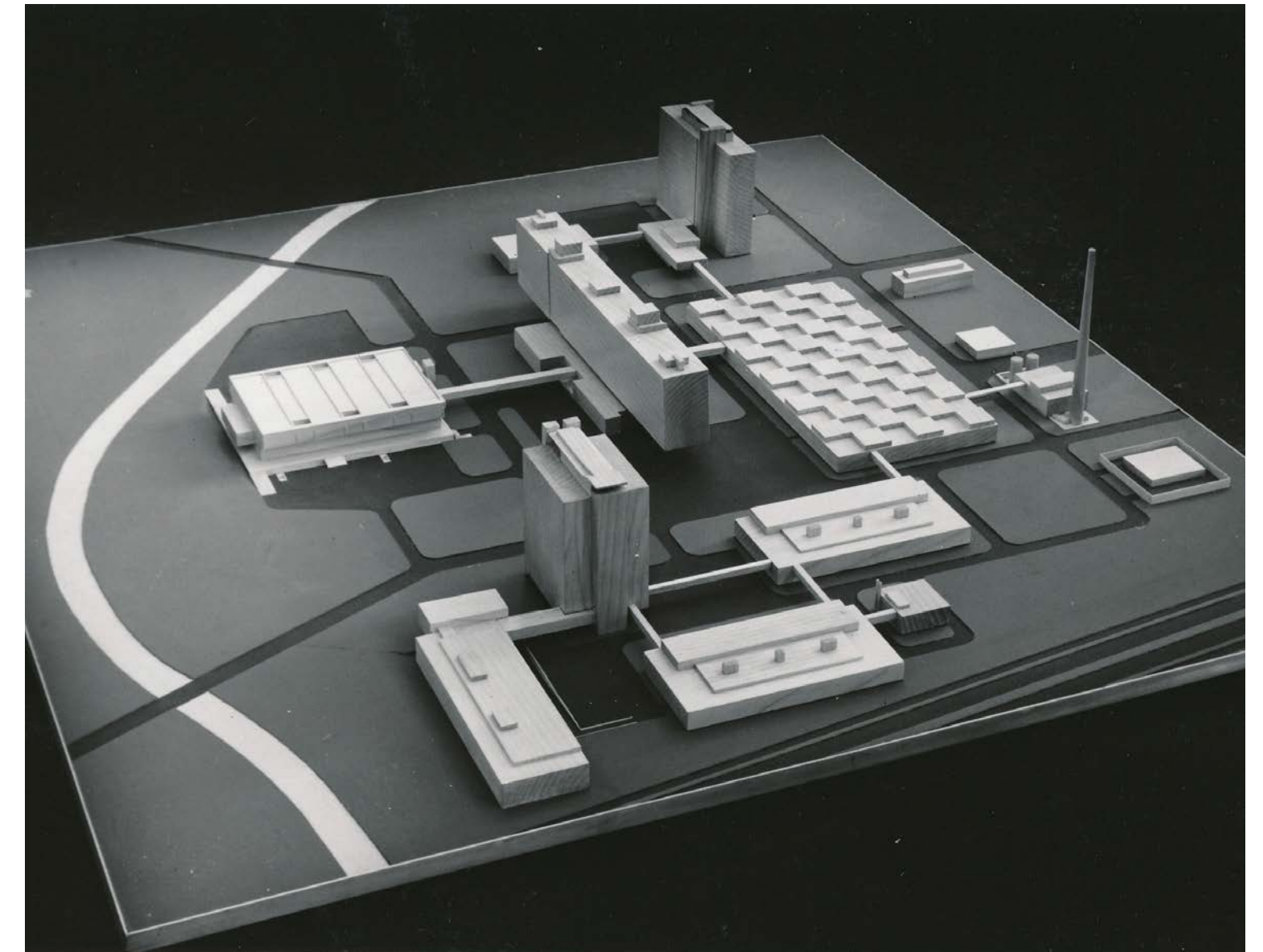
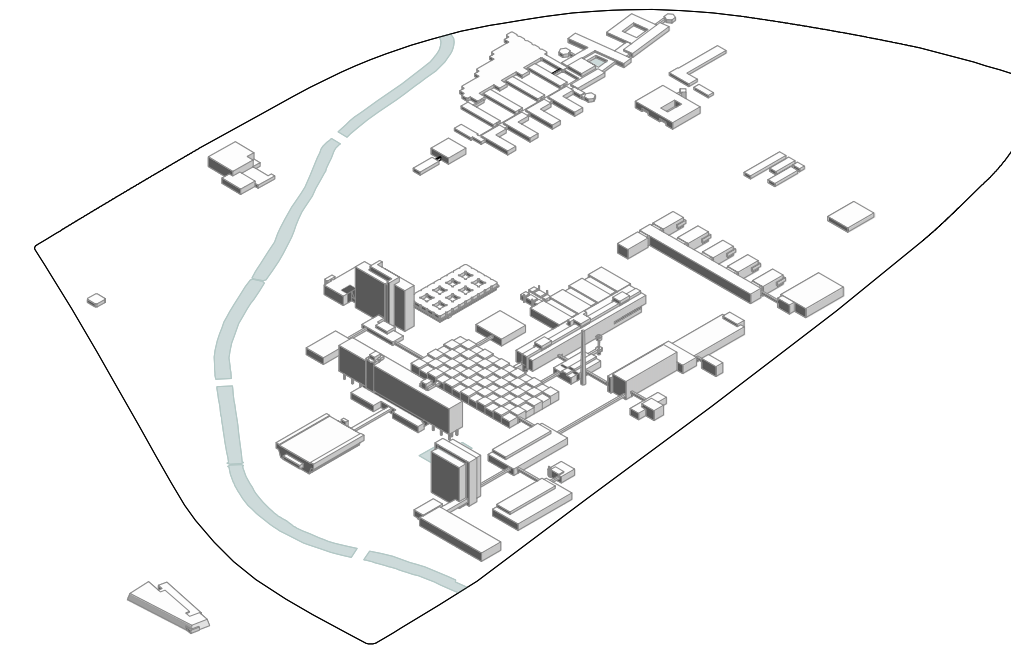
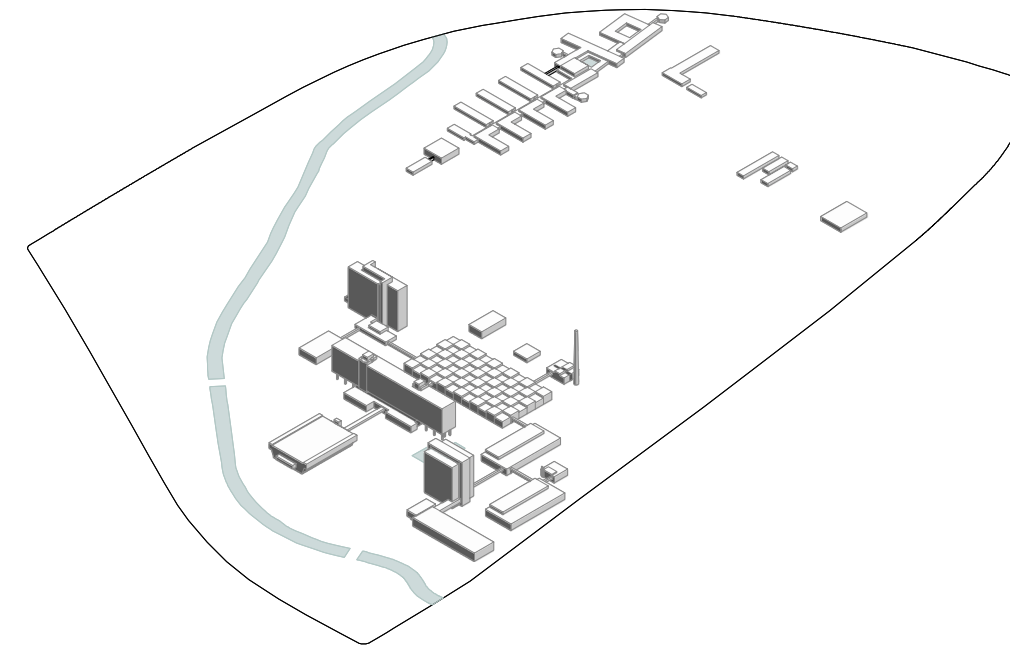


Fig. 1.7 — Scale model of the first building round of Technische Hogeschool Eindhoven (photo dating from 1961)

The buildings from the first building round display a strong urban and architectural coherence, as they have been designed in conjunction with each other and the site. Samuel van Embden notes in this regard: *“From an urban design point of view this is expressed in a serried formation of the various constitutive elements, which should actually be regarded not as separate buildings, but as components of one coherent complex.”*¹⁰ This building round is characterized by a modernistic vocabulary. Van Embden takes control over the design. An important feature of this approach is the flexibility integrated into the whole: generic floor plans on the basis of a modular dimension (1.24m). These generic maps are of a distinctly *“factory-like” nature*, Van Embden: *“It is the intention that the housing of the T.H. will soon freely and even emphatically display its industrial origin and will provide teachers and students with an environment that is akin to a, possibly slightly idealized, factory complex.”*¹¹ The high-rise volumes are executed according to one and the same principle, materialized with a concrete skeleton and curtain wall. Thanks to this built-in flexibility the Polytechnic School (university since 1986) was capable at an early stage of rearranging departments.

In contrast to the first building round the buildings from the second building round were designed for specific users. This means specifically that buildings from the second building round belong to the same architectural family as the first round, but that the architectural expression is grafted more upon the *human dimension* than upon genericity. In this building round the generic curtain wall becomes less prominent and the *“humanization”*, which is known by slats and balustrades in the façade, becomes all the more prominent.¹² Thus, the architectural idiom during this building round becomes less prismatic and more plastic. The building types introduced in the first building round, such as the high-rise slabs and low-rise halls, both with a generic floor plan, are supplemented in the second building round with a new building type: the medium-rise building / oblong building (such as today’s Gemini). Spatially more complex sections become more customary also. Hence the second building round is characterized especially by the recalibration of the existing architectural idiom, but also by allowing other architects; this building round sees the completion in 1967 of the Sporthal by Gerrit Rietveld, Van Dillen & Van Tricht and in 1969 of the Bunker by Hugh Maaskant.



The third building round mainly comprised three oblong buildings in east-westerly direction, the so-called “*Driegebouwencomplex*”, and the ambition thereby to create a new focal point on the campus. In this building round Samuel van Embden’s firm was again involved. This new focal point was envisaged near the former Rekencentrum (now Laplace) on the north side of De Zaale; an urbanistic follow-up to the first focal point between the Auditorium and the former Hoofdgebouw (now Atlas). The ambition formulated in the second building round was to escort this focal point with a ‘bridge building’ intended to be twice as long as the Hoofdgebouw.¹³ However, the conditions under which the work in the third building round had to be carried out were so lean, that no bridge building ever came into being and the new focal point aspired to never stood out clearly. In its current condition the Driegebouwencomplex forms a detrimental barrier to the Dommel valley and it can be concluded that the conception of the second focal point was too grandiose. Furthermore, only a limited number of stylistic features of the preceding rounds can be found in the architecture of the third building round.

The fourth building round was introduced by the decision of the central government to transfer the ownership of the campus, which had until then been in the possession of the government, to the university in 1995. As from 1994 preparations were made for a Master Plan, which was completed in 1996.¹⁴ This Master Plan delineated a strategy to accommodate the expected lower need for space of the university which resulted among other things from changes in technological research. The Master Plan formed a break with the campus model from the preceding building rounds, notably in three respects: a) as regards urban design it aimed for a densification and urbanization of the south side of the campus, at the Prof. dr. Dorgelolaan, b) on the scale of the public space an effort was made to realize a “*Centrale Loper*” for the compact campus, c) the architectural strategy from this Master Plan may be summarized as “*more differentiation and less OD205*”.¹⁵ This then led to more solitary buildings in a greatly varying formal idiom, designed by different architects. The Kamer van Koophandel (2001) is the first new building in the Dommel valley again, which thus manifests itself as the most explicit exponent of this building round.

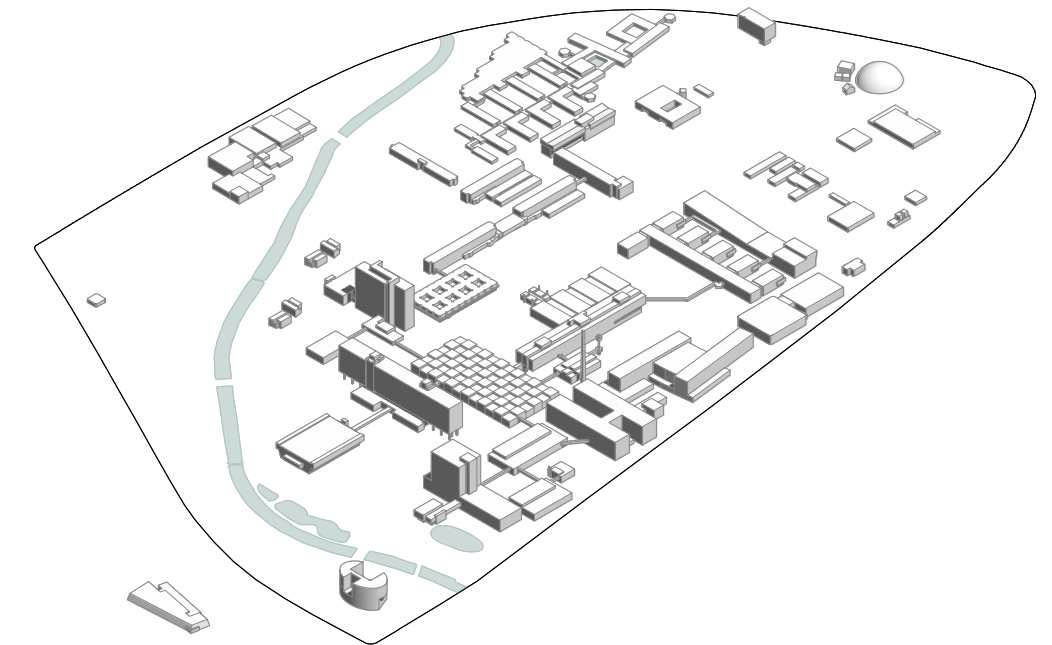
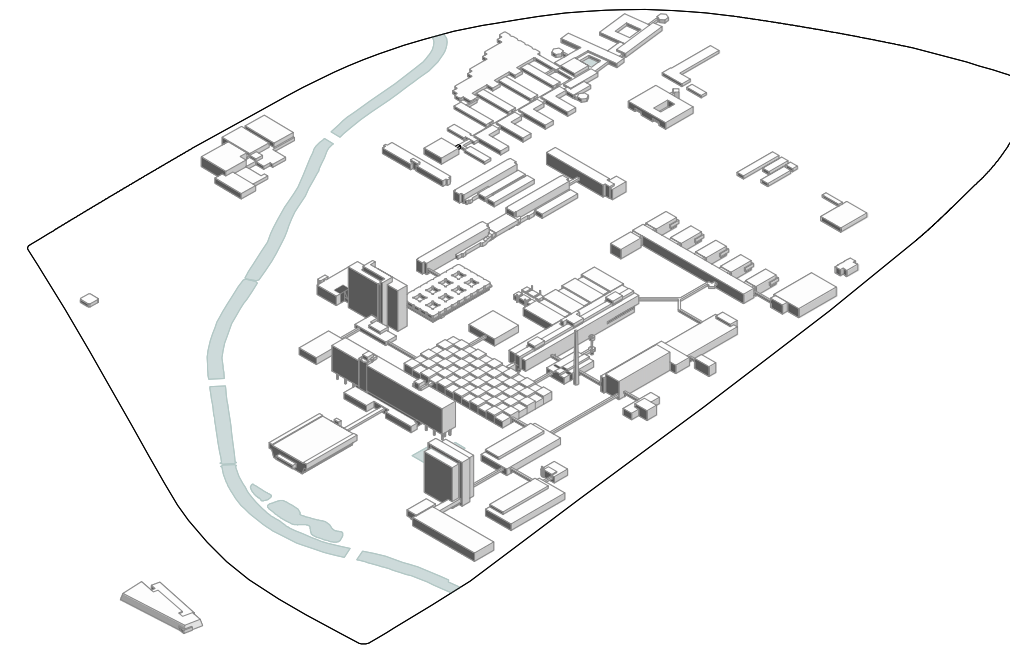




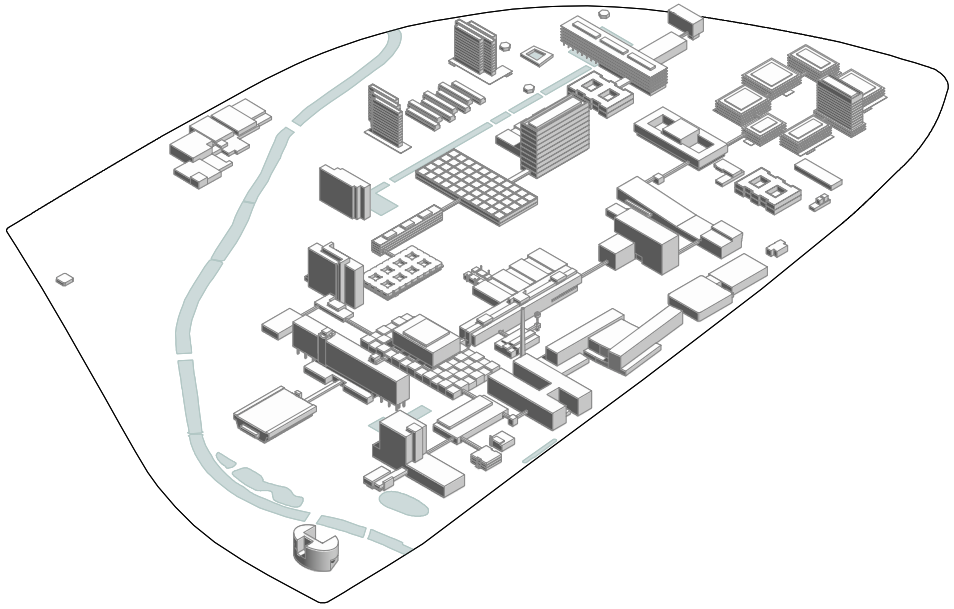
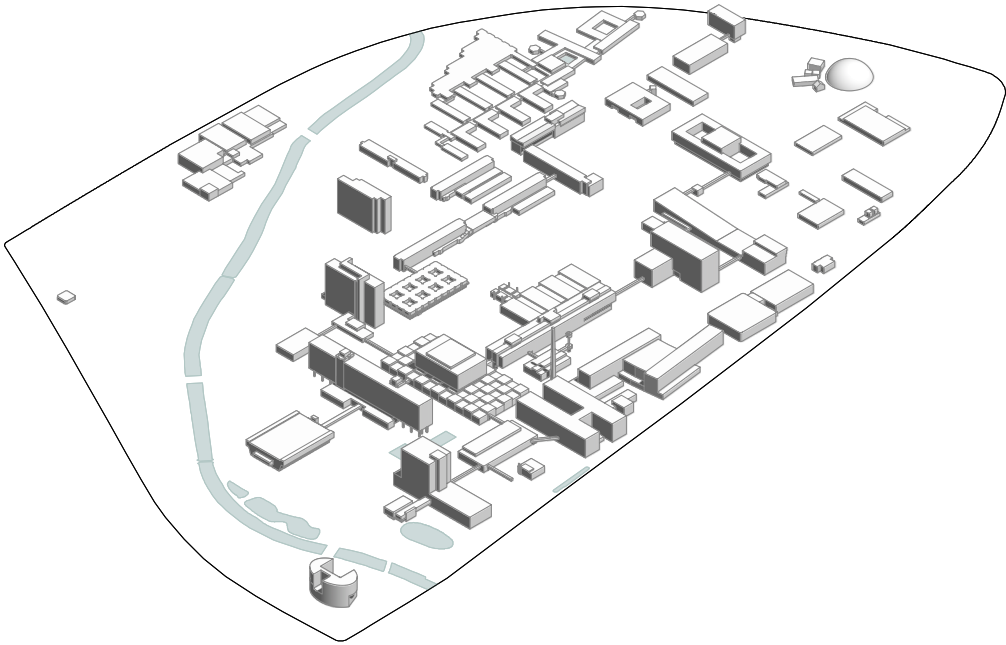
Fig. 1.12 — The TU/e Campus at the beginning of the fifth building round (2010)



Fig. 1.13 — The TU/e Campus towards the end of the fifth building round (2019)

The Housing Plan Campus 2020 (2006) envisioned a profound transformation of the existing university complex.¹⁶ In that context the ambition formulated in the fourth building round of the compact campus, the accommodation of the lower space requirements of the university, was realized in stages. In concrete terms the realization of the compact campus involves four large building projects in which ‘De Groene Loper’ – the reorganization of the open space around these four building projects – forms the frame. Three of these four projects are explicitly transformation projects; project 1: MetaForum building (transformation former W-hal), project 3: Atlas building (transformation former Hoofdgebouw), project 4: transformation Gemini (not completed yet). Project 2, Flux building, was not a transformation project, but a new building for the Departments of Electrical Engineering and Applied Physics. Apart from the compact campus, the fifth building round saw student accommodation being realized (Luna and Aurora buildings). The realization of De Groene Loper commenced during the fifth building round serves as a guide for the (re)development of the whole site. Greening of the ground level (more green, less brick) and the careful connection of the buildings to the ground level are continued in the sixth building round.

The main choices of the Master Plan TU/e Science Park from 2012 were for the TU/e Science Park: a) to become an urban park and b) to present itself architecturally as one evolutionary whole. The Master Plan 2040 explicitly builds on these choices. At the beginning of the sixth building round the final project of the compact campus, the Gemini complex, will be completed and strictly speaking it completes the transformation of the compact campus. This implies the essence of the sixth building round: the sights are set specifically outside the compact campus. The Master Plan 2040 heralds the sixth building round with the *Leap over De Zaale*. This redeems an ambition from the second building round: the formation of a second focal point on the TU/e Campus as the further expansion of the site. The implication is that the ‘edges’ of the site will come within sight more clearly during the sixth building round. The Hondsheuvels in the north, De Karpen in the east – both bound by the Ring. The railway and city in the south; in this context the developments around ‘Eindhoven International Node XL’ will create new conditions.¹⁷ Cross-boundary connections such as a third station exit near the Dommel or a cycle bridge across the Ring will be the new standard.



1.3 transformation tu/e campus

The transition from university site to Science Park was initiated during the fourth building round, and the sixth building round progresses from this. In the diagram opposite, the overall view of the transformation for 2040 is shown: what is preserved, what is transformed, and what will be demolished and reused? Within the compact campus hardly any new buildings are envisaged, in contrast to the east flank of the site. Still, there are transformation projects planned within the compact campus: Vertigo, the Auditorium and the final big project from the fifth building round (Gemini) are imminent.¹⁸ The transformation of

Gemini is anticipated for the time frame from 2021 to 2026 and the final transformation on the compact campus of Vertigo will take place between 2034-2035. Expectations are that by 2035 the TU/e Campus will reach a critical limit, when the capacity of the site for high-quality integration of building demands – according to the principles from the first and second building rounds – will approach its limit. That is why this Master Plan also gives an outlook to the broader context (see chapter 2.9: TU/e Campus and the city).

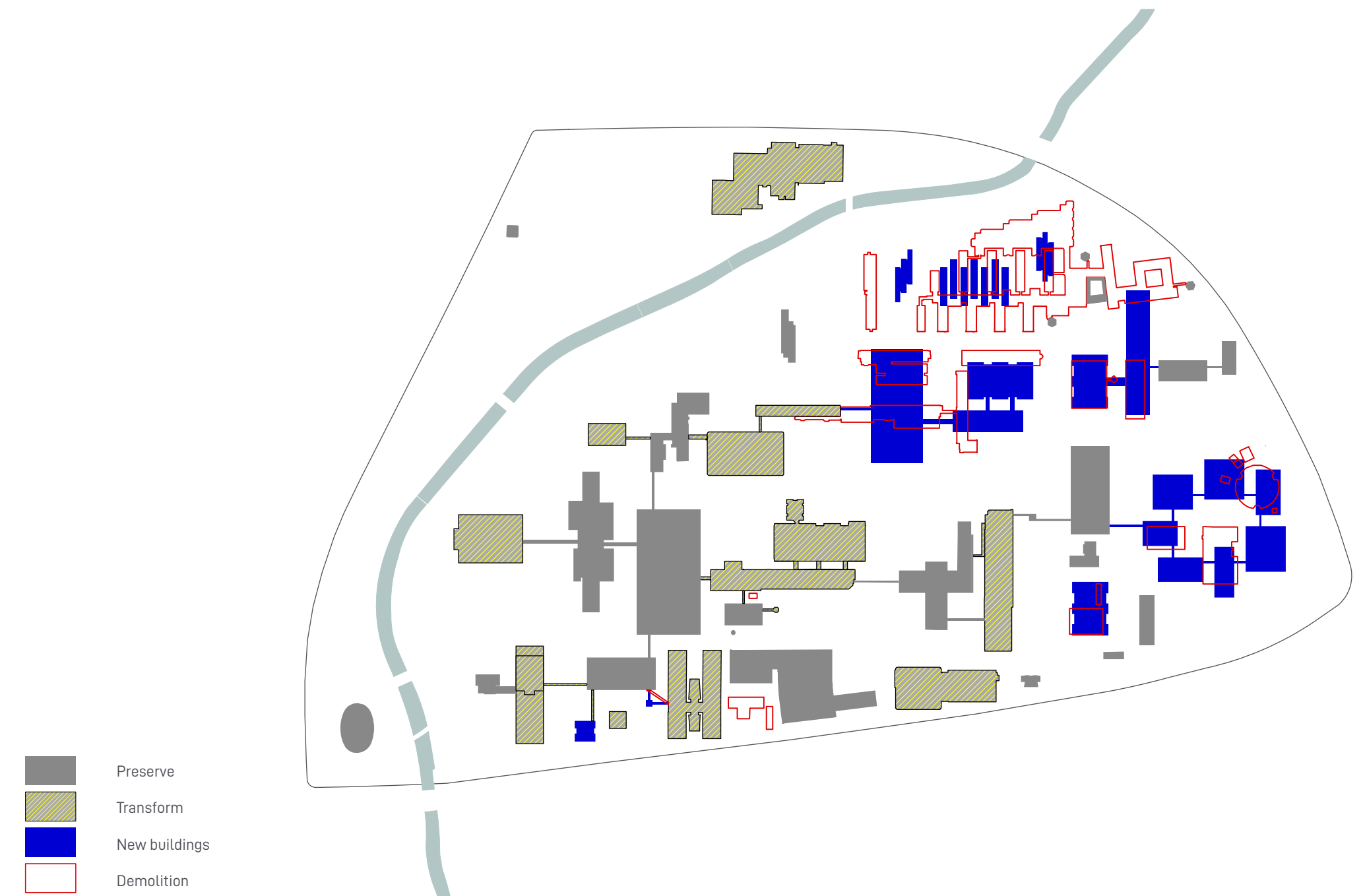


Fig. 1.16 — Development plan TU/e Campus (including limited selection of annexes, excluding smaller water structures)¹⁹

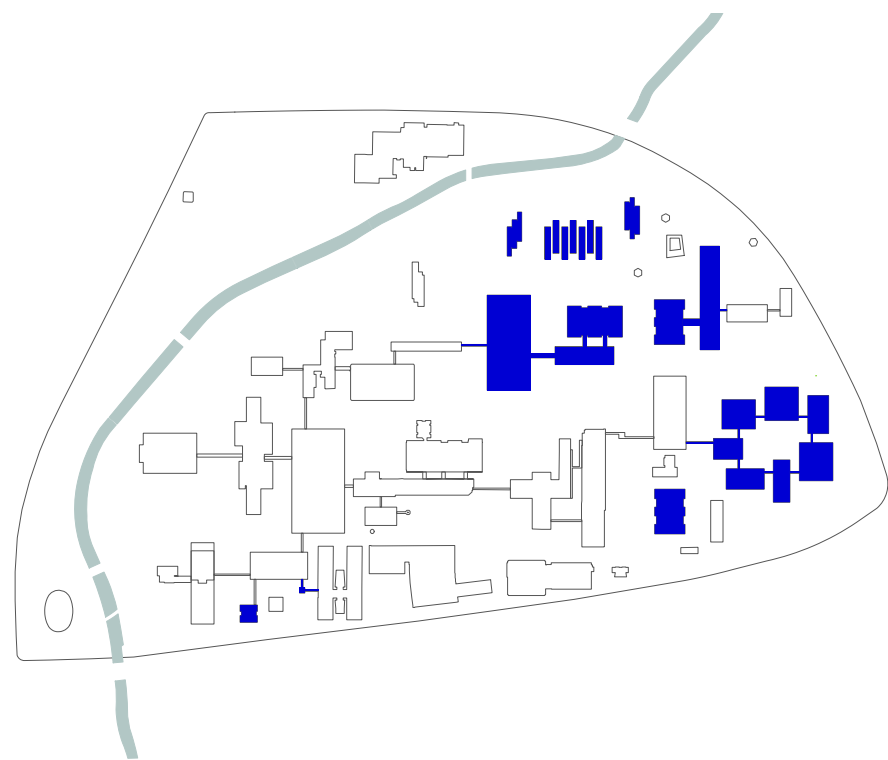




Fig. 1.19 — Buildings map Master Plan 2040 (excluding annexes, including water structures)

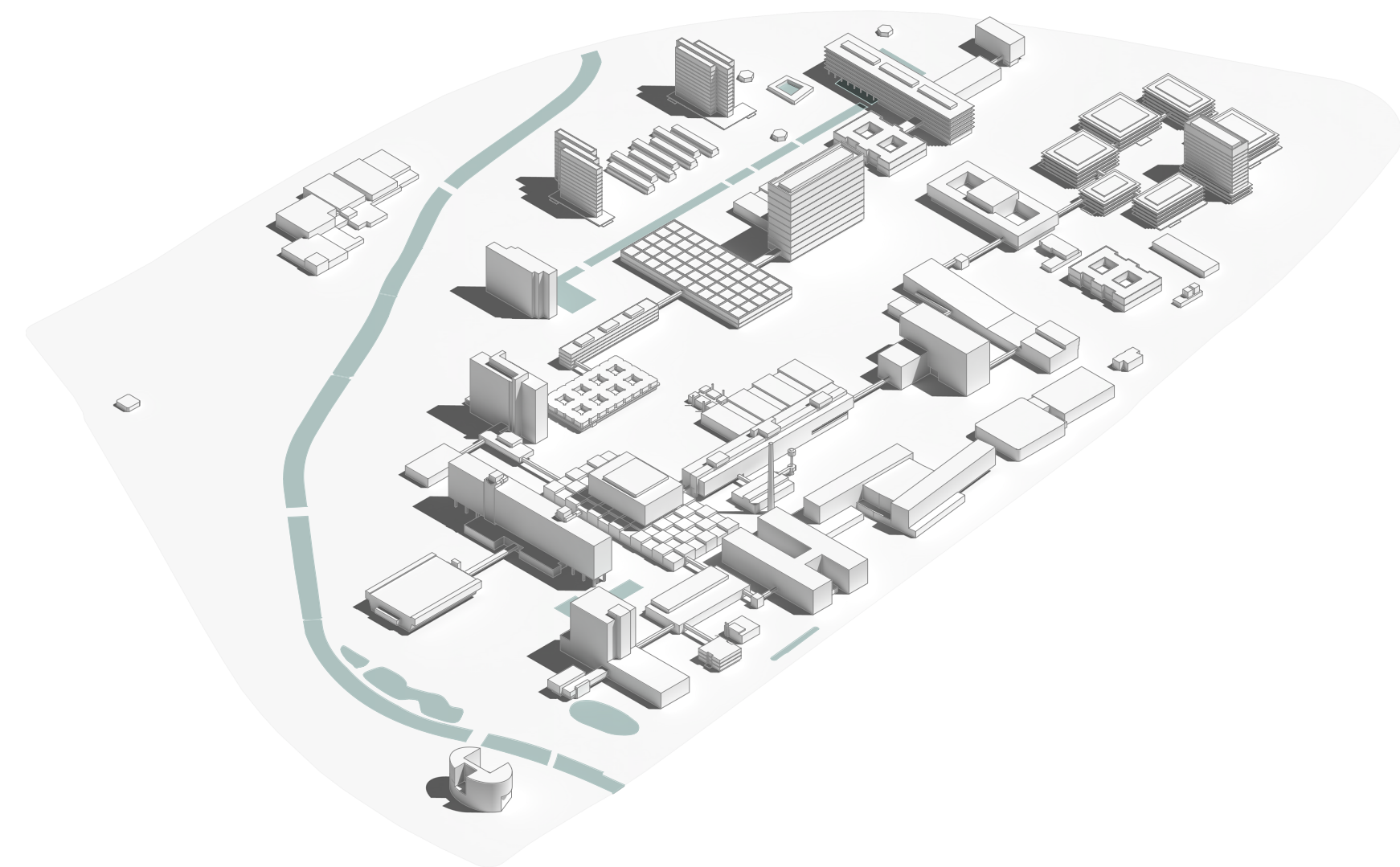
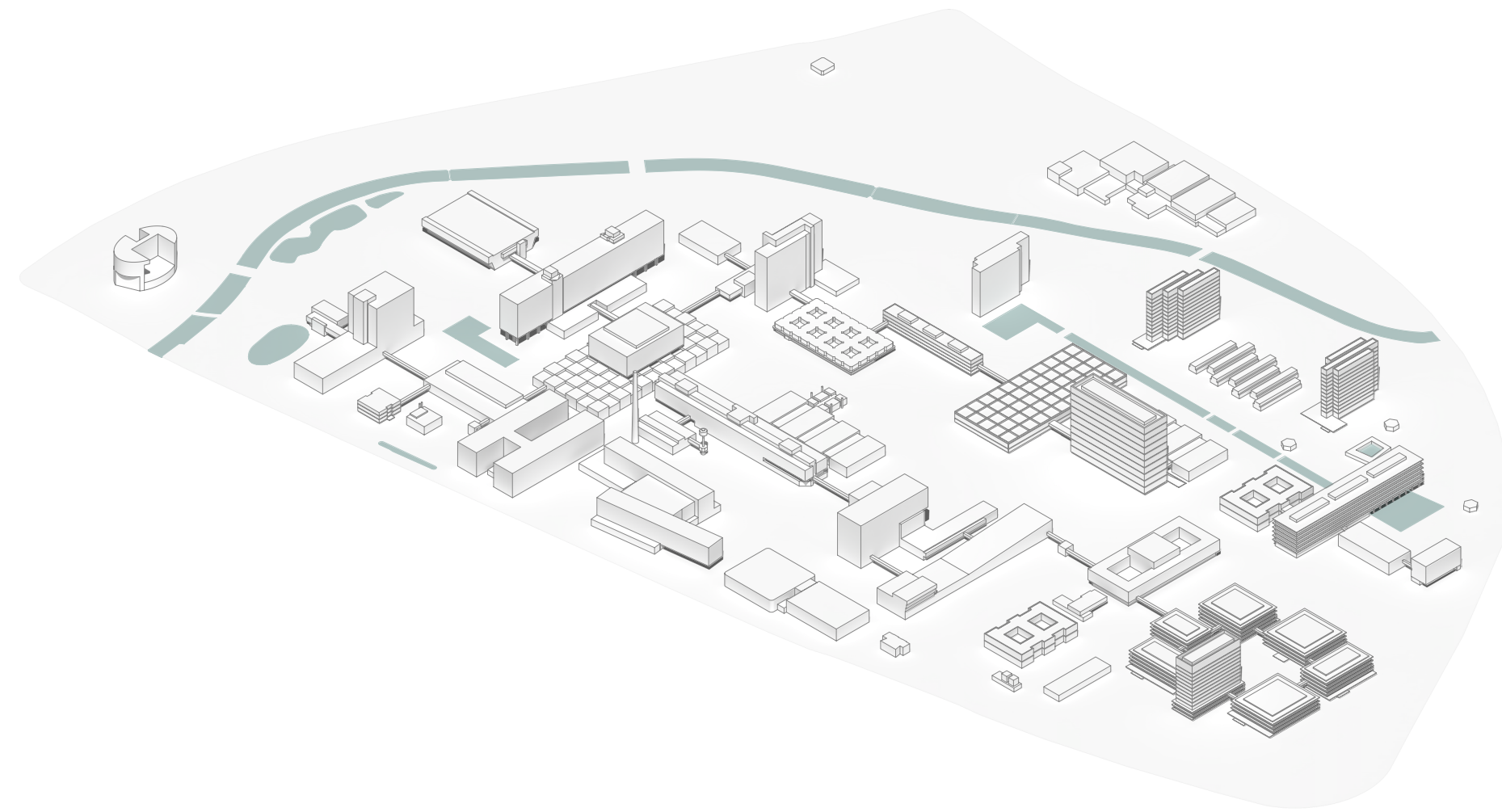
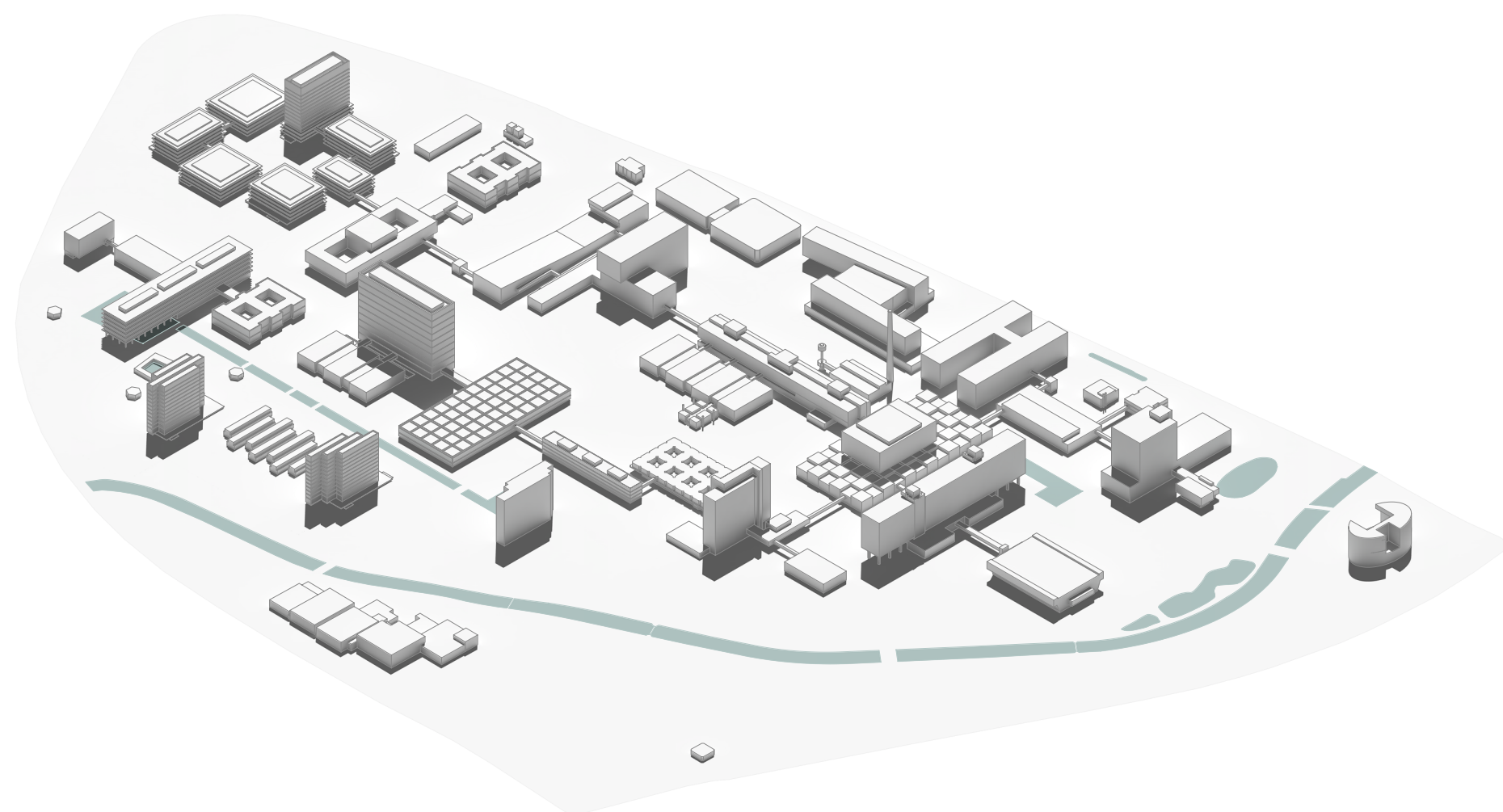


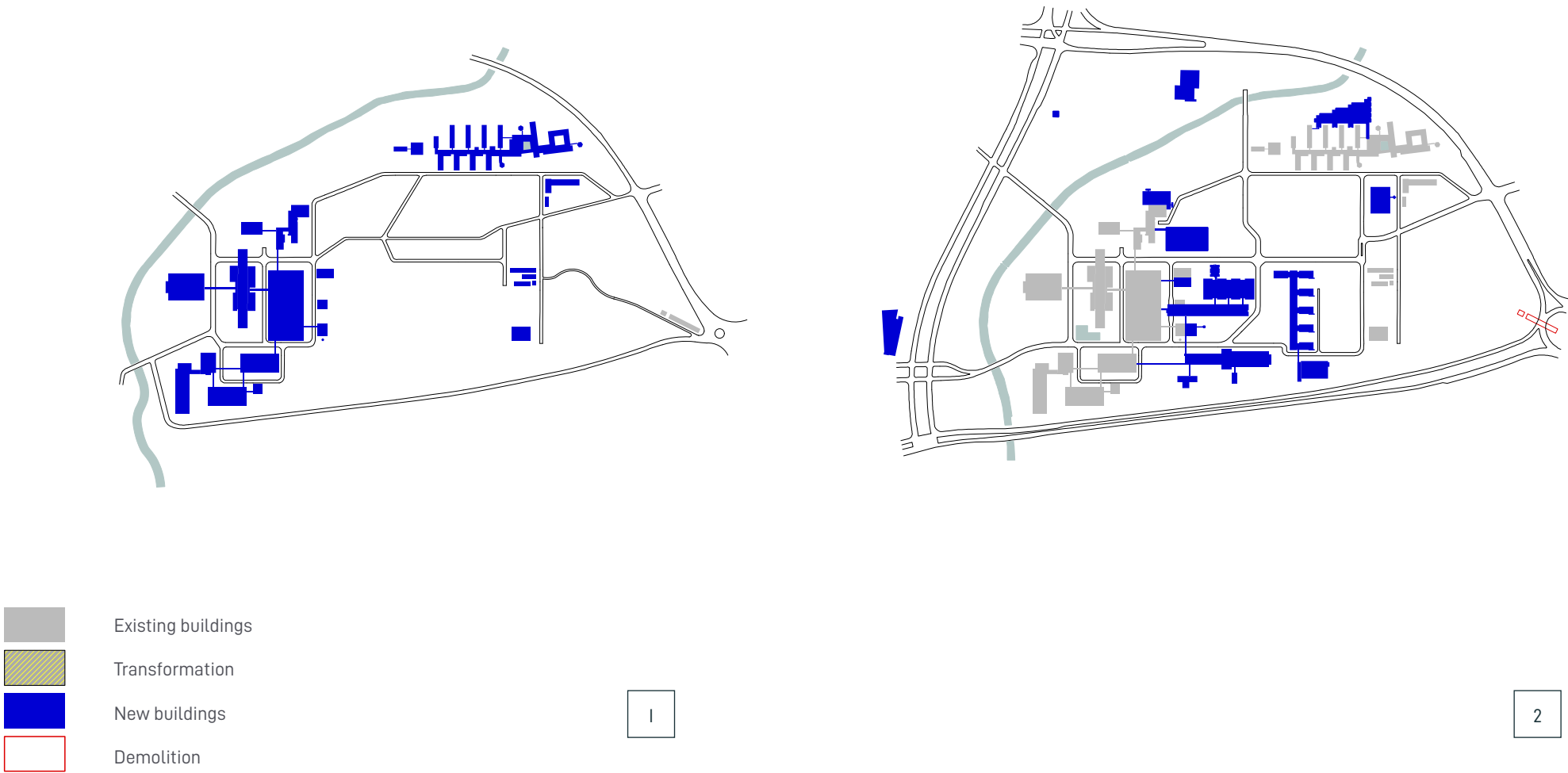
Fig. 1.20 — Isometry Master Plan 2040, towards northeast (sun position 21 June)

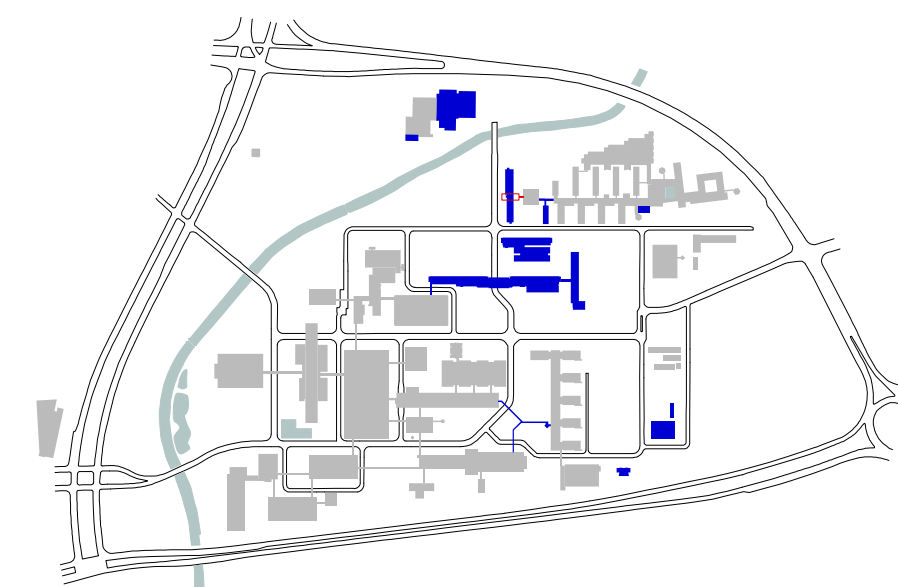


1.4 synthesis six building rounds

A striking point in the evolution of the TU/e Campus is that the first three building rounds were devoted to ‘new buildings’. It is unavoidable that regular maintenance was carried out on the buildings within this time frame, but they were not radically transformed, nor did any demolition take place.²⁰ The fourth building round can then be regarded as a paradigm shift: new buildings are erected, while demolition and transformation is taking place. This modus operandi will be continued in the sixth building round. The construction of new buildings is not a goal in itself,

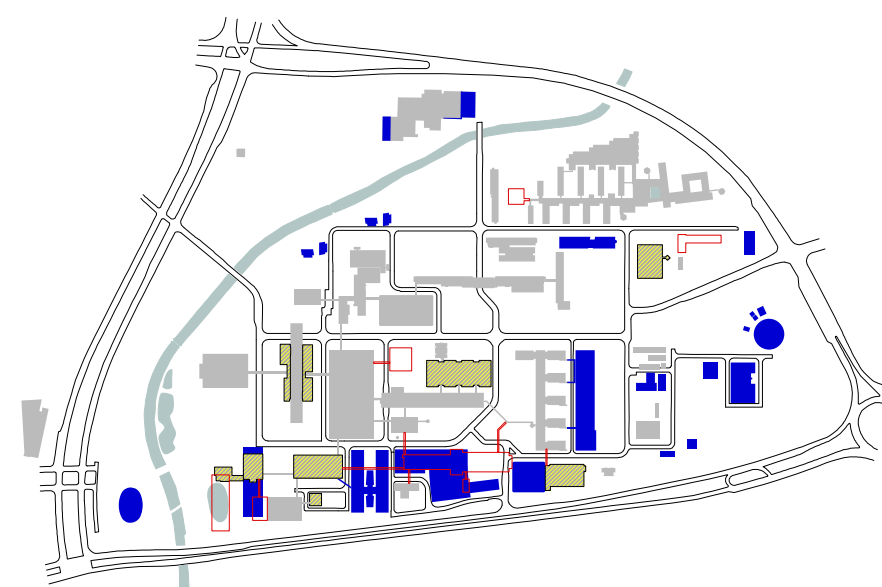
but it is a targeted means to find a spatial translation for the ambitions for the campus; to realize both the growth potential and the ambition of an urban park simultaneously. What is also conspicuous is that the preceding five building rounds are always highly concentrated, the first building round mainly in the southwest of the site, the second building round in the middle section of the site, the fifth building round chiefly a transformation of these two building rounds.²¹ The sixth building round extends explicitly across the whole site.



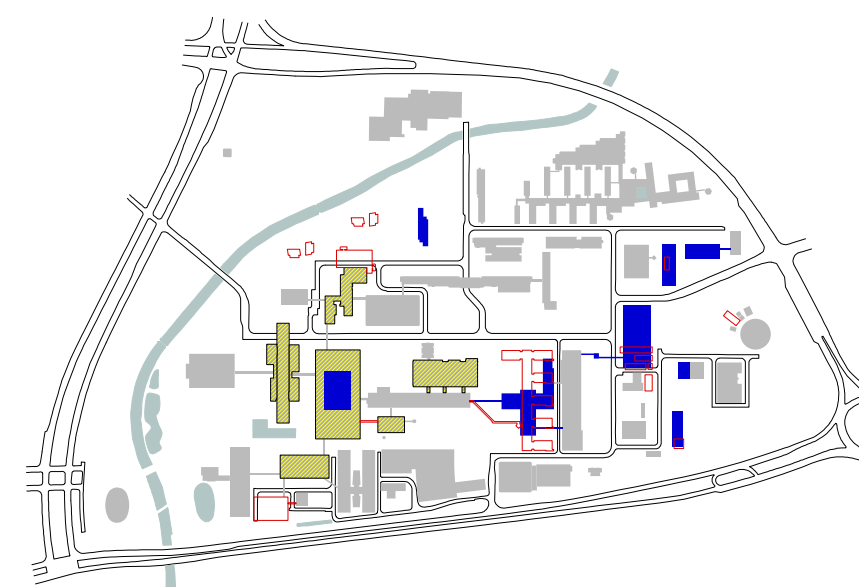


- Existing buildings
- Transformation
- New buildings
- Demolition

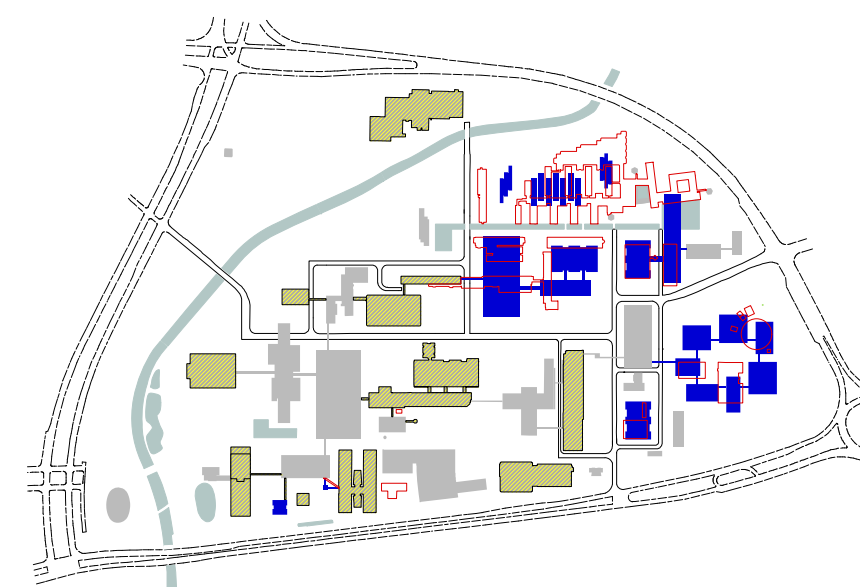
3



4



5



6

- Existing buildings
- Transformation
- New buildings
- Demolition

chapter 2

master plan 2040: principles and design

2.1 plan drawing

The Master Plan 2040 reevaluates the original “open campus” by pursuing open urban planning.²² In accordance with modernistic principles, this spatial concept is applied on the site in a configuration in keeping with ‘De Stijl’; a three-dimensional dynamic composition of volumes positioned in a green landscape - urban park. Mind you, these modernistic principles need to be modified; as Van Embden described: “Whereas the first building round was thrown up, as it were, these buildings [referring to the second building round] were erected in quieter times.”²³

In this regard, special attention to the intermediate size is the system adhered to, without losing the strength of the first building round in the process. The new building volumes do not contrast with existing ones, presenting themselves as one evolutionary whole. The plan drawing shows that the landscape is structured by three strong, open supports, extending along an east-west direction: ‘De Groene Loper’ (former axis ‘De Wielen’), ‘De Zaale’ and ‘De Blauwe Loper’ (former axis ‘De Lismortel’) – always interlinked by square external spaces.

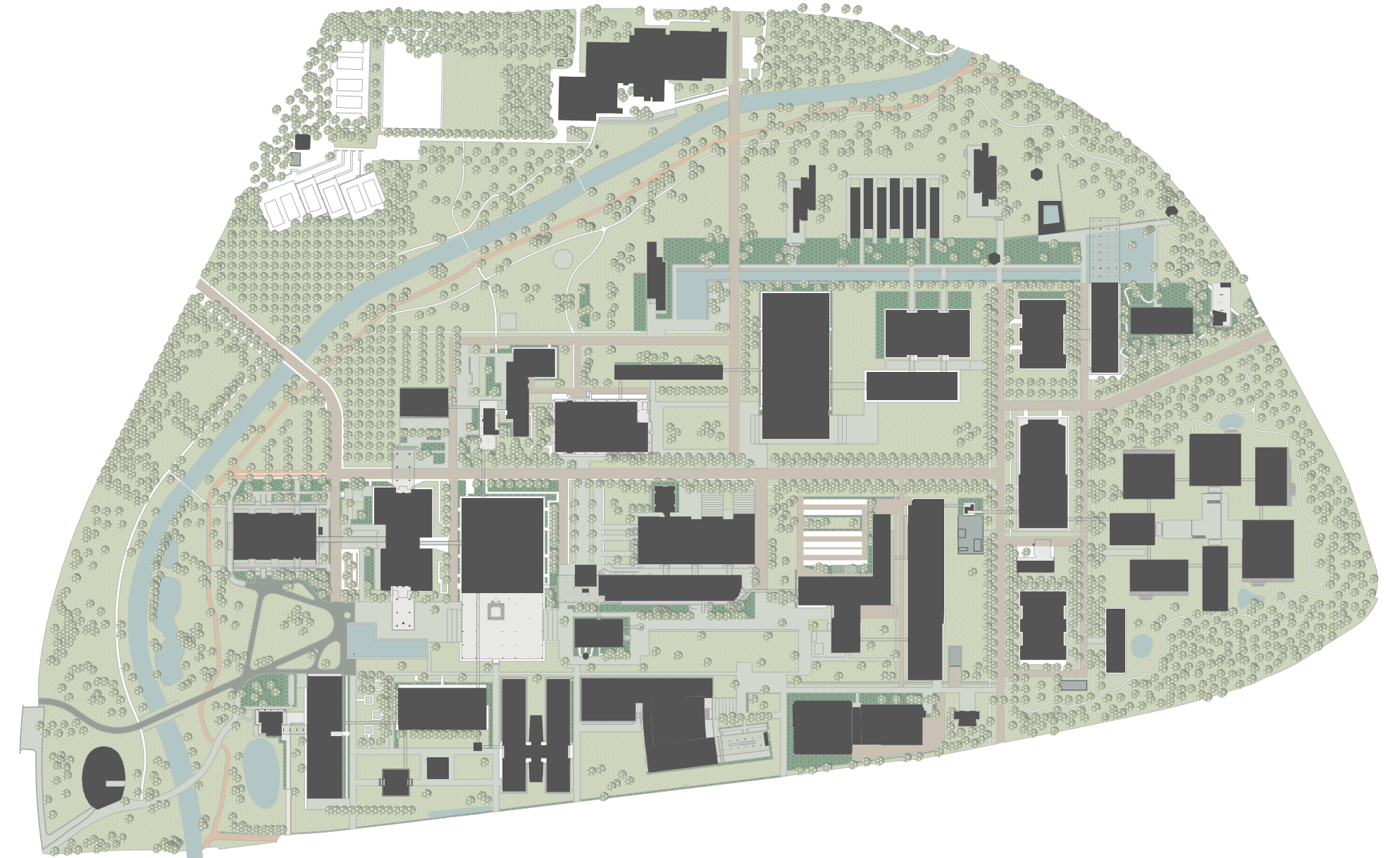


Fig. 2.1 — Plan drawing Master Plan 2040 TU/e Campus

2.2 urban and architectural principles

The “modernistic principles” just referred to which define the layout of the TU/e Campus, are set out in this section without explicitly contrasting urban design ‘versus’ architecture, because they merge almost imperceptibly on the campus. In general terms a distinction has been made in the order of scale of the principles, where the fabric of roads has the strongest arranging impact, and the collective inner areas and walkways can only be the resultant of many preceding steps. The following themes are dealt with:

- (1) fabric of roads, (2) composition of high-rise slabs, (3) assemblies of high-rise buildings, (4) building types, (5) spatial composition, (6) diagonally linked areas, (7) omnidirectionality, (8) embedding of buildings in the landscape, (9) transition to the Dommel valley, (10) collective inner areas and walkways, (11) uniform elevation and expressively applied dimensional system, (12) tectonic articulation of the connection to the ground level, (13) distinctive nature of walkway level and use of primary colors.

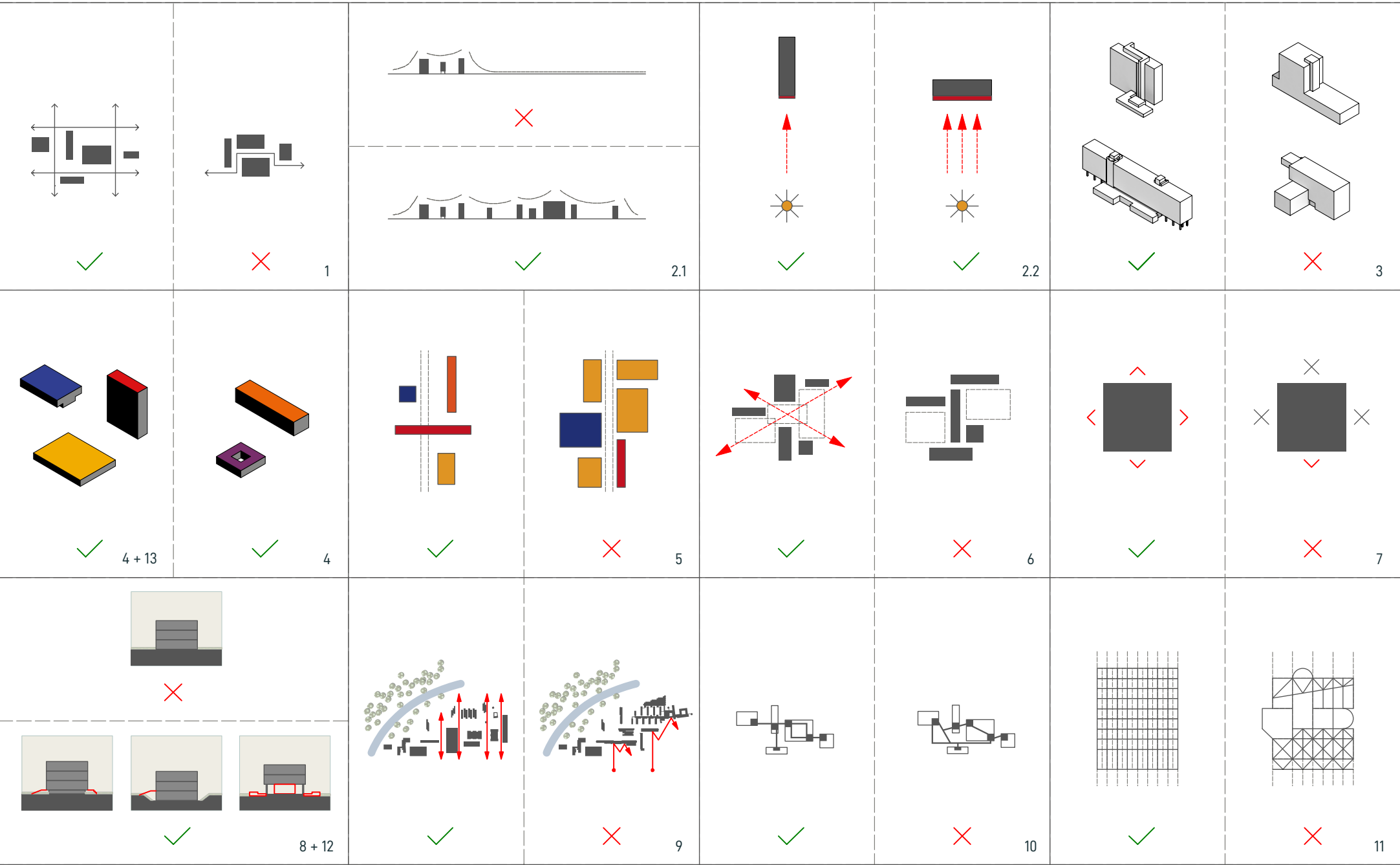
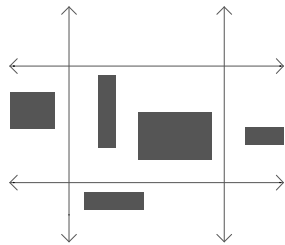


Fig. 2.2 — Diagrams of urban and architectural design principles

2.2.1 fabric of roads



✓ Orthogonal fabric (as main structure) maintained

The orthogonal fabric of roads (‘grid’) forms the foundation of the urban, architectural and functional organization of the TU/e Campus. It is accessible via the remaining original main entrances: a) from the John F. Kennedylaan and b) the Insulindelaan. These entrances have been staged in the landscape and cut through the green edge bayonet-like, forming a gradual transition from the city to the fabric of roads on the TU/e Campus (see also the section on the composition of high-rise slabs for this staging). These entrances are connected by the main axis ‘De Zaale’,



✗ Orthogonal fabric blocked/shifted

which in the Master Plan 2040 will continue to form the robust spatial and logistic backbone of the TU/e Campus. At the same time De Zaale grants more space to pedestrians and cyclists. Compared to the original conception the fabric of roads is no longer deployed exclusively for car traffic, which also implies that some roads will blend in with the landscape more (dotted line). The transformation of De Wielen (in east-west direction) to De Groene Loper is an example in kind, as is the landscape-like transformation of the original main entrance towards De Wielen and the

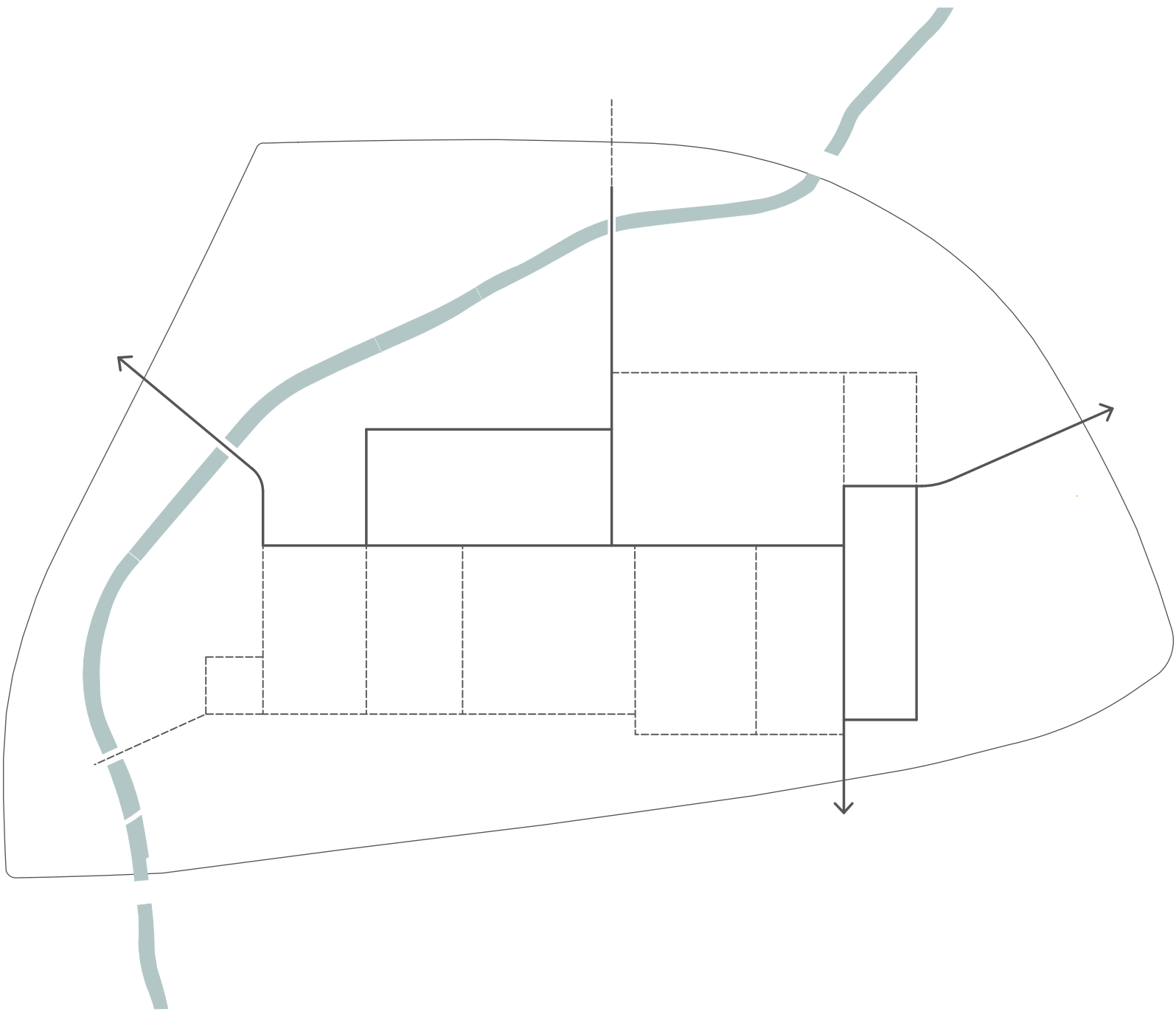


Fig. 2.3 — Fabric of roads with main entrances to the TU/e Campus

Nomenclature

1.	De Lampendriessen	6.	Den Dolech	X1.	‘Limbopad’
2.	De Lismortel	7.	Het Eeuwsel	X2.	De Groene Loper
3.	De Rondom	8.	Het Veken		(former main entrance)
4.	De Wielen	9.	Horsten	X3.	(Still) unnamed /
5.	De Zaale	10.	De Groene Loper		(new main entrance)

connection to the organic ‘Limbopad’ (X1). The diagonal attachment of the original main entrance (X2) to the fabric of roads is still intact and leads into De Groene Loper. Although the original clarity of this fabric of roads seems somewhat blurred, the Master Plan 2040 recognizes this whole as a chief arranging element. De Zaale, linked to ‘roads’ fanning out towards the north and south, remains the undisputed main axis. This fabric of roads is enclosed by three main roads, two of which

are radial roads to the city center; 1. John F. Kennedylaan and 2. Prof. dr. Dorgelolaan. The 3rd main road forms part of the Ring; the segment of Onze Lieve Vrouwestraat and Insulindelaan. The Master Plan 2040 proposes one extra main entrance at the Prof. dr. Dorgelolaan (X3), which will replace the present entrance near Fontys Nexus. Finally: maintaining the service roads at the Ring near the connection of the Onze Lieve Vrouwestraat and Insulindelaan is really essential.

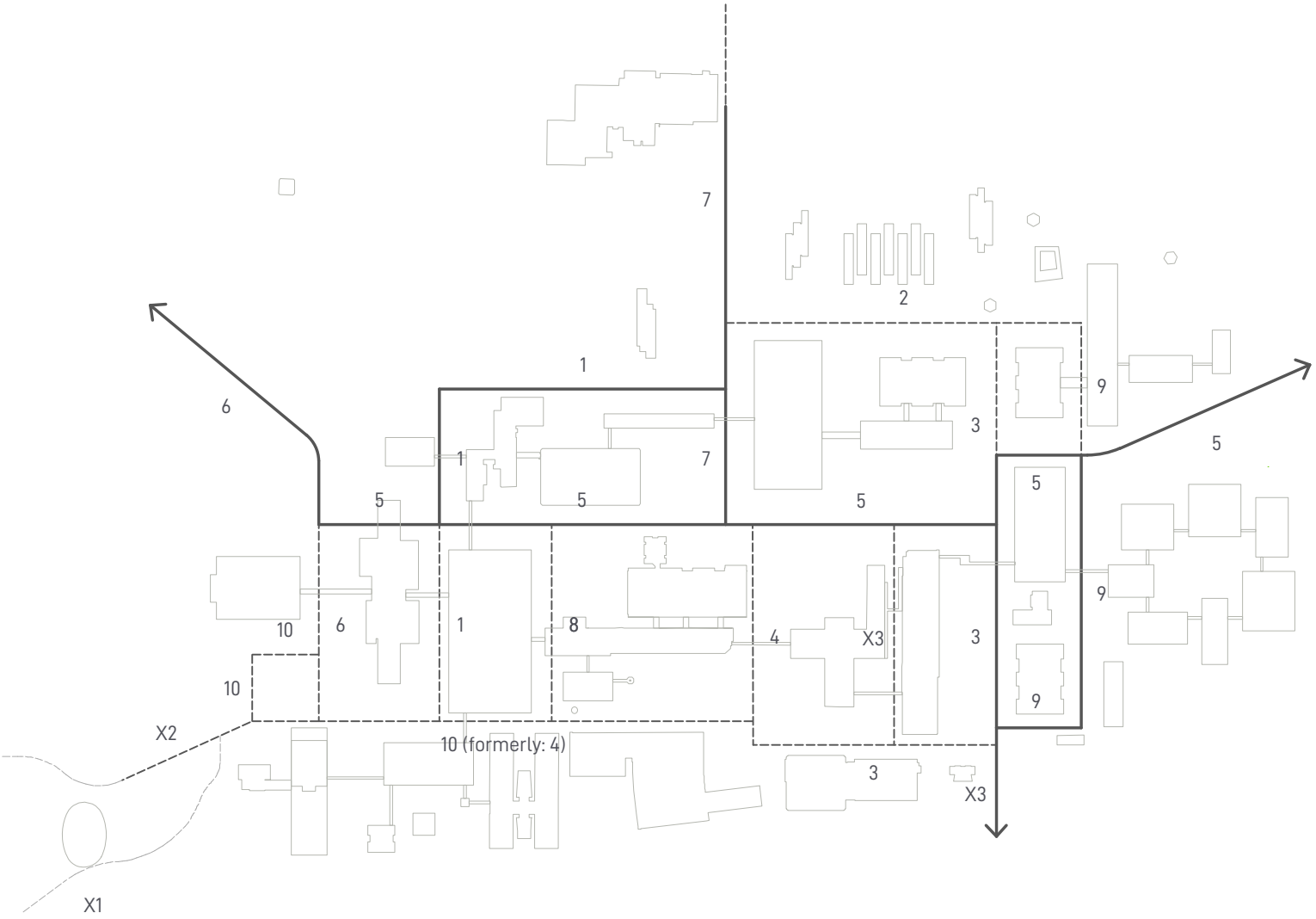
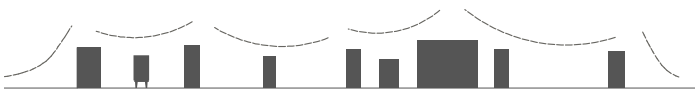


Fig. 2.4 — Nomenclature of fabric of roads with main entrances to the TU/e Campus (including building contours and walkways)

2.2.2 composition of high-rise slabs



✓ Spreading high-rise mass across the site

A high-rise slab is a building type which in addition to its great height is characterized by slender proportions. What is and continues to be characteristic on the TU/e Campus is the assembly of high-rise buildings in the southwest of the site, the most original element of the first building round: now Vertigo – Atlas – Luna. This assembly of high-rise buildings is stretched diagonally and runs parallel to the course of the river Dommel. In the Master Plan 2040 this building type is continued towards the east of the site, by erecting a number of new high-rise slabs in the central



✗ Maintaining a single center of gravity of the site

and eastern part of the site. In this way the TU/e Campus is ‘stretched’ as it were, and the high-rise slabs function as local landmarks. The overall composition of high-rise slabs assumes a kind of ‘cochlear shape’, making an involuted movement on the site. The high-rise slab with its east-west orientation forms the termination of this movement. Thus, it constitutes a new physical center of gravity in this overall composition, intended to shift the focal point of the campus more towards the middle.

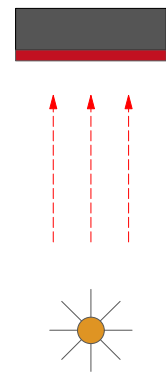


Fig. 2.5 — Stretching the site eastwards with high-rise slabs



✓ North-south orientation of high-rise slabs

The former Hoofdgebouw, now Atlas, easily forms the slenderest and most prismatic volume of the high-rise slabs on the TU/e Campus. Even during the first building round a more plastic formal idiom was introduced with E-hoog, now Luna, through its bayonet-like staggering. The general trend of the second building round was to abandon abstraction more and more in favor of “humanization”. Plasticity was used as a means of design to accomplish this, to make the intermediate scale visible. In any case the Master Plan aims at a volumetric distinction of high-



✓ East-west orientation of high-rise slab only with brise-soleil

rise volumes. Luna and Aurora are precedents that will be continued in the new high-rise volumes of the student accommodation (through a ‘three-slab principle’). Furthermore, the southern façade of the east-west-oriented high-rise slab in particular will be given a distinctly plastic look by analogy with the second building round: the austere curtain wall will become a brise-soleil. This slab is also the only one allowed to come close to the absolute height limit on the TU/e Campus (chimney stack, 69m).

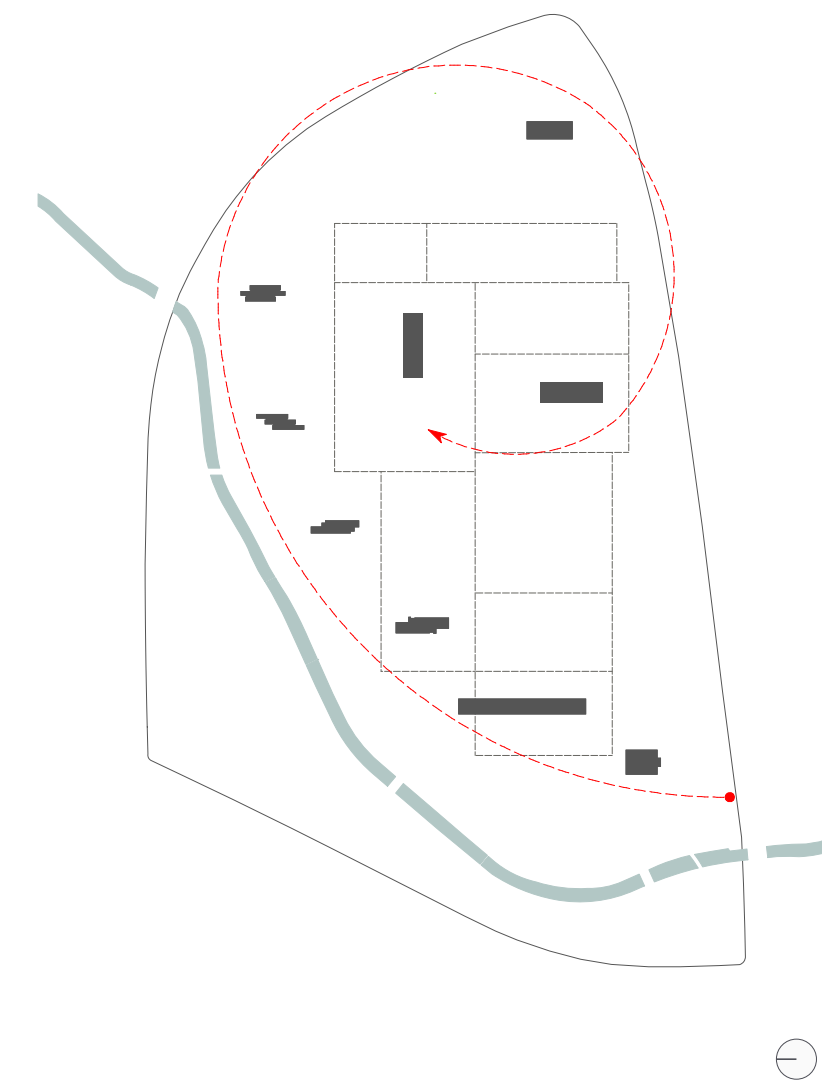
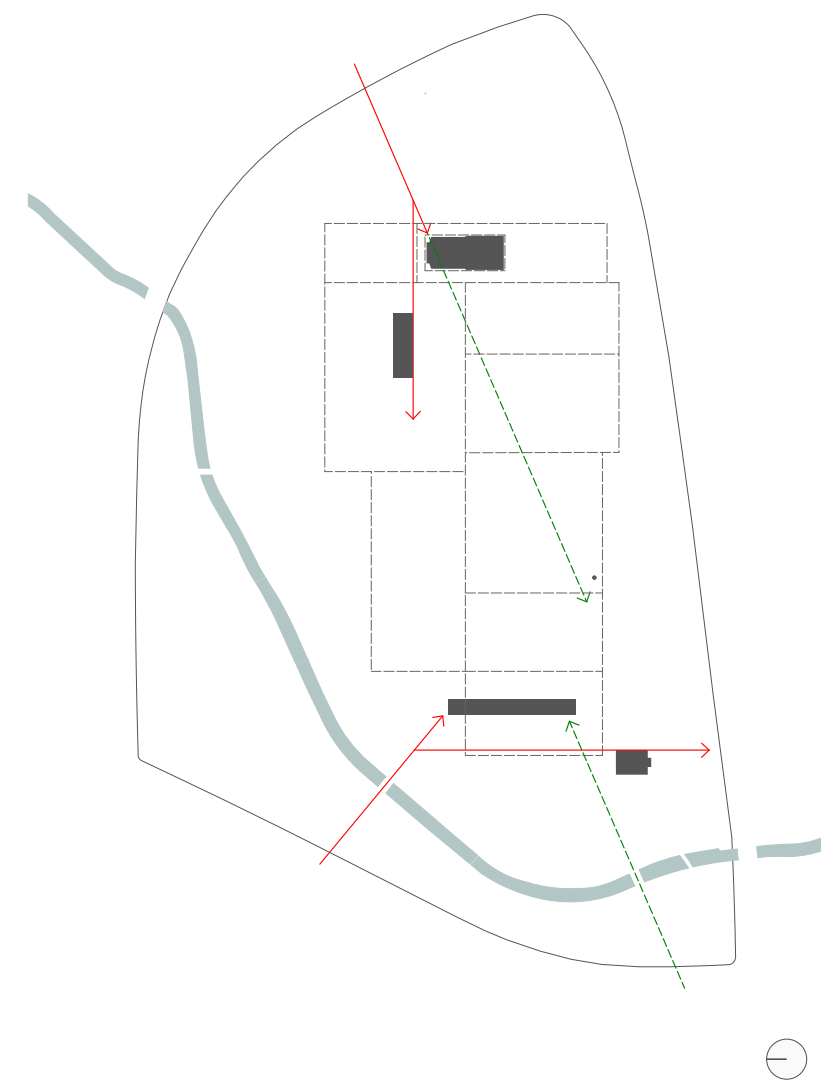
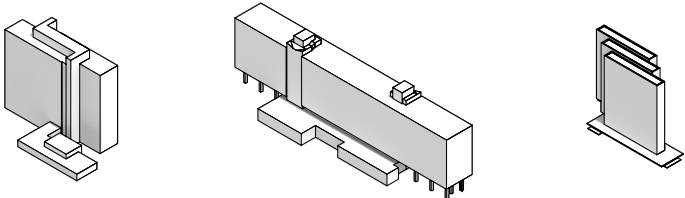


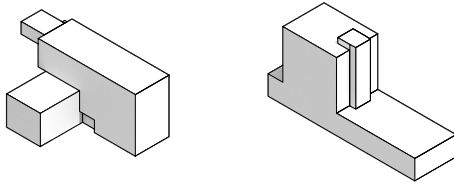
Fig. 2.6 — The staging of high-rise slabs in relation to the original main entrances (left) and the new total composition assumes a ‘cochlear shape’, as it were (right)

2.2.3 high-rise ensembles



✓ Combine high-rise slab with low-rise volume/raised platform

In order to ensure that the high-rise slabs are spatially anchored and functionally understandable, they are combined with one or several low-rise structures. Thus, an intermediate scale is added in the assembly, a built structure that mediates between the high-rise slab and the ground level. This does not have to be a low-rise hall by definition - what is important is the proportion of this ‘mediator’ in relation to the high-rise slab. As a result, the omnidirectional high-rise slabs attain a direction at ground level and the entrance makes sense.



✗ Merge and/or not combine high-rise slabs

So while an elevated platform at the foot of the student accommodation does not constitute a separate type of building, spatially it adds a clear orientation to the high-rise slab. The elevated platform also fulfils a social role as a terrace. At any rate it is essential that the high-rise slab and the low-rise volume continue to be readable as separate types and do not merge. Although some buildings from the fourth and fifth building rounds do display these features, the Master Plan 2040 explicitly prescribes this spatial separation.

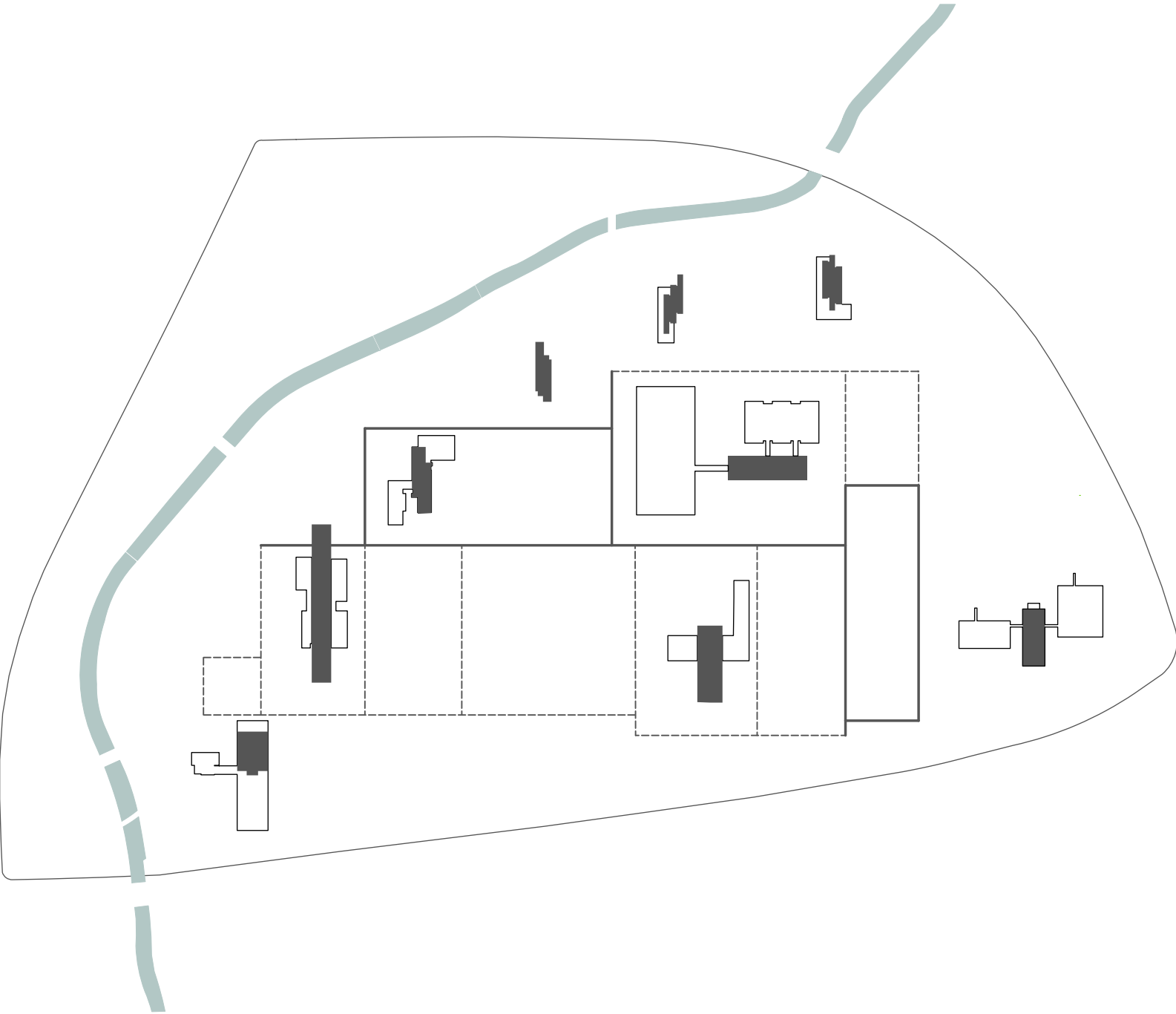
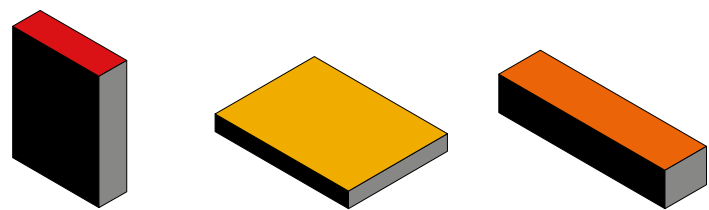


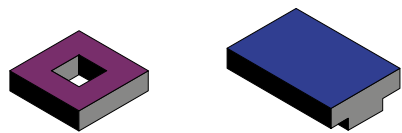
Fig. 2.7 — ‘Anchoring’ of the high-rise slabs to the ground level: the formation of high-rise ensembles

2.2.4 building types



✓ High-rise slab, low-rise hall, oblong building

There is a strong coherence between the buildings from the first and second building rounds. The first building round produced the high-rise slabs and low-rise halls. ‘Special’ buildings, like the Auditorium, deviate from the repertoire in volume and/or materiality, yet they are embedded exactly like the other building types in terms of urban design. The second building round produced the oblong building, like a mediator between the high-rise slab and the low-rise hall, giving an architectural shape to the intermediate scale. A building type from the first and



✓ Patio building (patio also allowed inside building volume), distinctive

second building rounds that has disappeared in the Master Plan is the comb-shaped building, because it occupies too much space (the former N-laag and the Paviljoen). Typologically, these very large buildings expressed the intermediate scale through the small-scale character of the wings. It is mostly buildings from the third and fourth building rounds that deviate from the basic types and they consequently lack a proper urban and architectural integration. This is why the Master Plan 2040 only builds on the original repertoire referred to above.



Fig. 2.8 — Repertoire of allowed building types on the TU/e Campus in the Master Plan 2040 (including building contours)

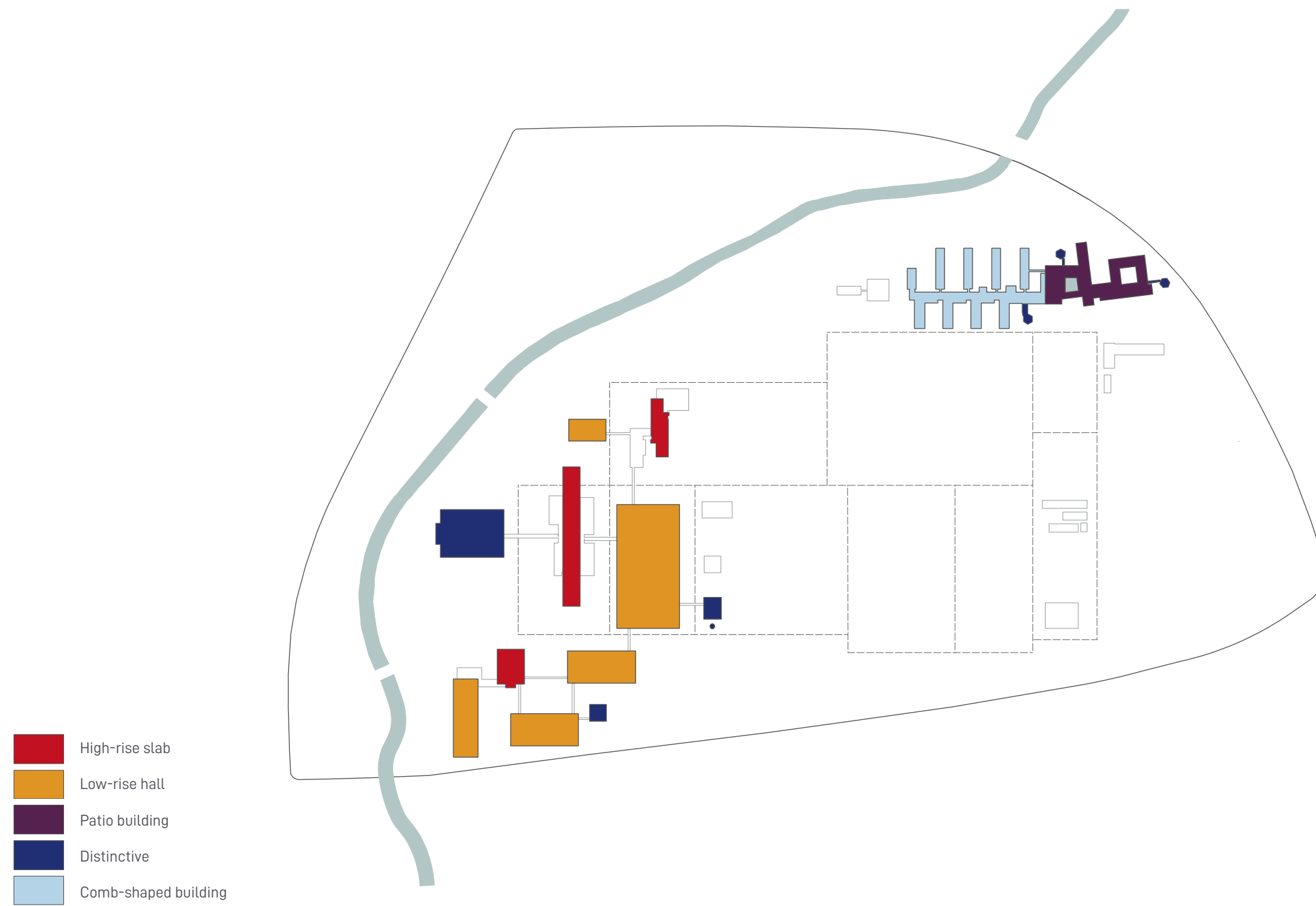
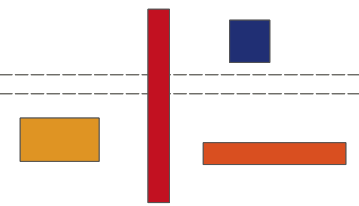


Fig. 2.9 — For reference: the building types (main volumes) applied in the first building round (including a limited selection of annexes)



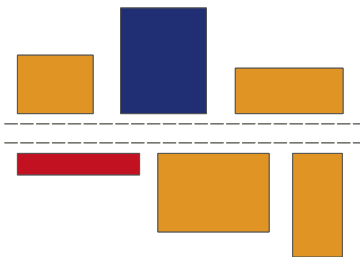
Fig. 2.10 — The building types (main volumes) applied in the first and second building rounds; the 'comb-shaped building' will disappear later as it occupies too much space

2.2.5 spatial composition



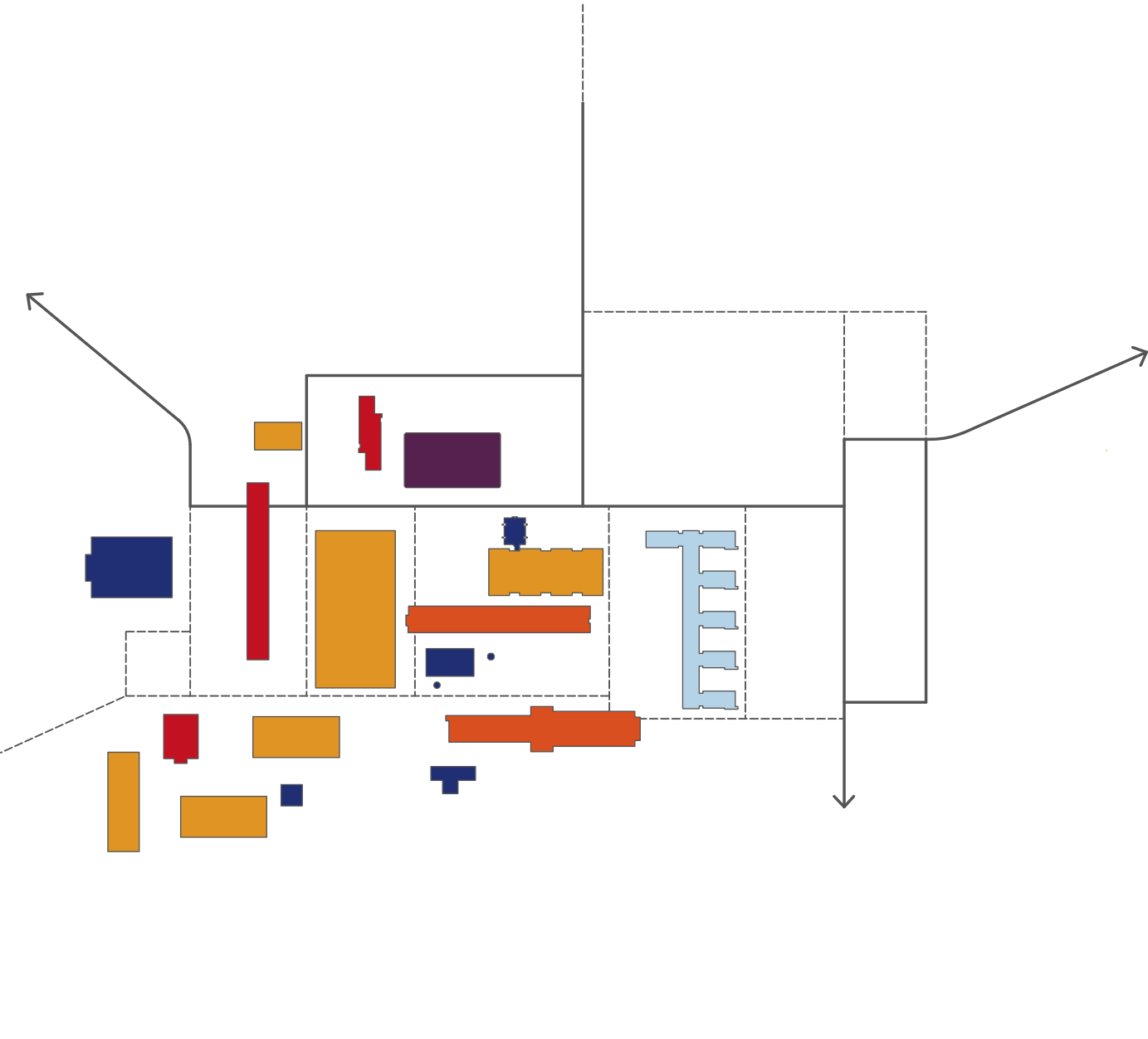
✓ Place volumes freely and orthogonally in the space

The plan drawing of the campus shows at a glance that the buildings do not form traditional streets, squares and building blocks. They are placed in the landscape freely and orthogonally, in a staggered arrangement. The building volumes of the first two building rounds are often placed in such a way that the long central line of the building contour is always at a right angle to the next building contour, like the wings of a mill.²⁴ This brings about an asymmetrical balance, and it extends into the whole volume, so not merely in the flat plane.



✗ Build up street line

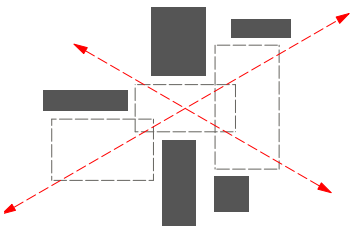
The spatial composition of buildings constitutes an order of its own, as a counterweight to the fabric of roads. Different distances to and directions towards this fabric are conceivable, sometimes at right angles, sometimes aligned, as long as it supports the overall composition. There are some single particulars: Atlas stands on columns across De Zaale, the high-rise slab of Vertigo does not mark the inside of a corner of the fabric, but leans against it on the outside (see also section 2.2.2).



- High-rise slab
- Low-rise hall
- Oblong building
- Patio building
- Distinctive
- Comb-shaped building

Fig. 2.11 — Dynamic and spatial composition of the building types applied in the first two building rounds ('representative section', excluding walkways and Paviljoen e.g.)

2.2.6 (diagonally) linked spaces

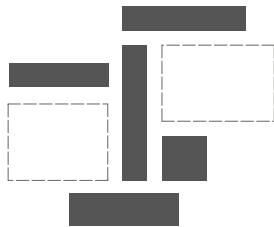


✓ (Diagonally) linked intermediate spaces

Through the combination of different building types (high-rise slab, low-rise hall, oblong) and the orthogonal - yet always staggered position of these ‘building blocks’- the landscape is differentiated in a number of overlapping ‘chambers’.

Note that these are not traditional squares enclosed by walls, because the dynamic composition of volumes invariably makes all kinds of diagonal views possible.

This lends it another kind of spatiality than the ‘classical urban space’ described above, for a great degree of



✗ Closed spaces/traditional square(s)

transparency is achieved. The importance of these linked intermediate spaces can hardly be exaggerated, for the careful positioning of the buildings in the landscape creates sequences of intermediate spaces varying in size, function and atmosphere. Despite the extensive scale of the campus and its high building density, this spatial layout generates overview and gives the campus a human scale. The public external space, and the role of the buildings in it, become comprehensible as a result.

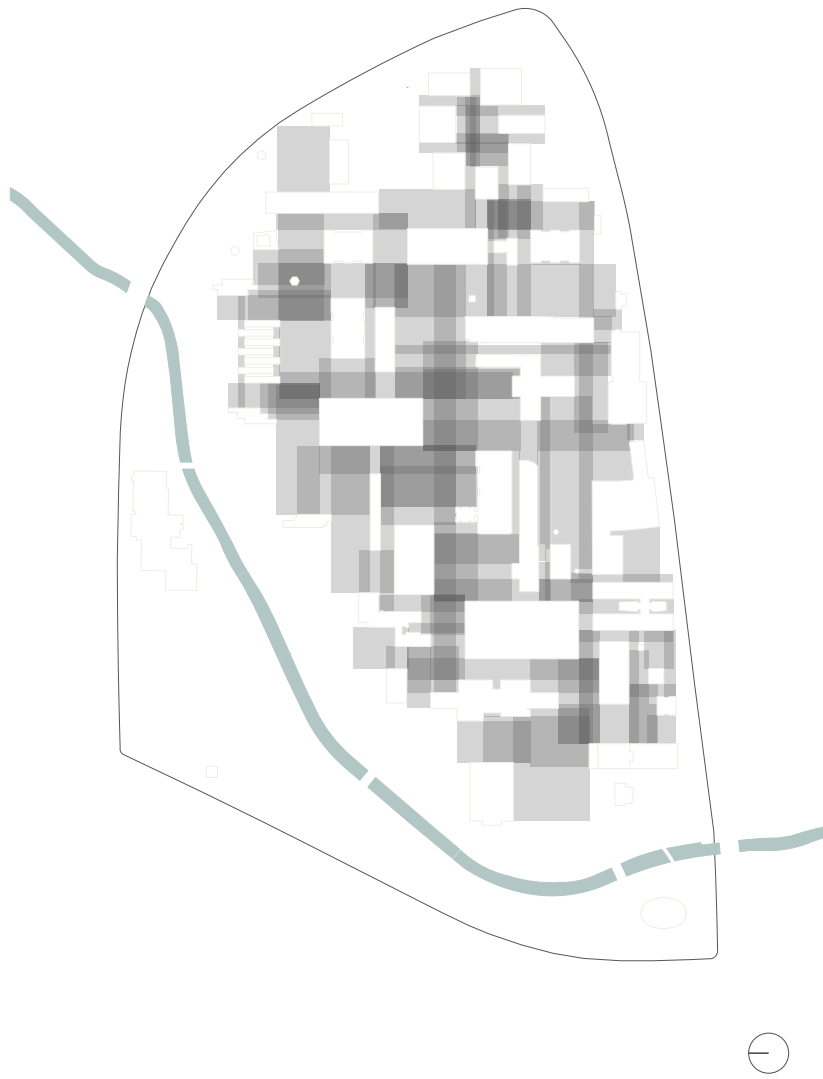
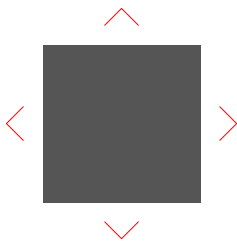


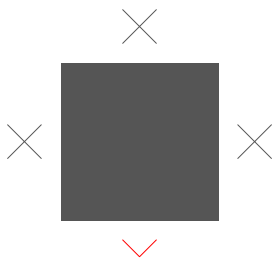
Fig. 2.12 — The dynamic and spatial composition of the building types allowed forms (diagonally) linked intermediate spaces, visible on a higher scale too

2.2.7 omnidirectionality



✓ Omnidirectional in relation to the external space

In the total plan composition, in conjunction with the external space, omnidirectionality forms the point of departure. This implies that there is no hierarchy in the orientation of a building volume: buildings have no fronts, sides or rears. The only hierarchy that may exist is in the plastic depth of the exterior wall: a façade may be flat, like a curtain wall, or of a more plastic appearance – think of the second building round and/or the brise-soleil. The modernistic basic idea – omnidirectional buildings in a public, green landscape – continues to be the guiding



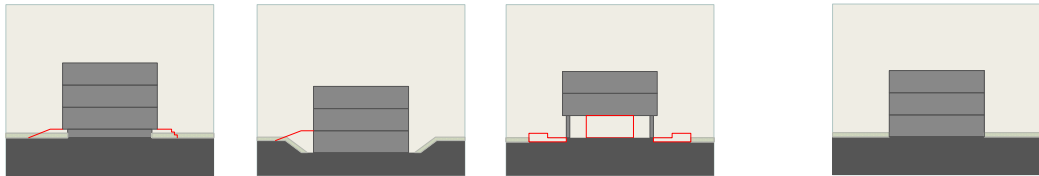
✗ Not omnidirectional in relation to the external space

principle on which the campus is founded. The requisite of omnidirectionality also ensures that the various external spaces do not look like residual spaces and that they are not located at the back of a building. It is a consistent requirement in the Master Plan 2040 that new building demands are applied with an omnidirectional view. Any logistical movements must be carefully integrated into the landscape, so that rears are explicitly avoided. One of the design modifications that is used for this in the Master Plan is the access road for deliveries constructed at a lower level.



Fig. 2.13 — Omnidirectionality gives each intermediate space its own 'appearance', the creation of rears is explicitly avoided (some buildings are highlighted here)

2.2.8 embedding of buildings in the landscape



✓ Buildings tectonically articulated + embedded in the landscape

✗ 'Smack' at ground level

Van Embden specified the first building round as one in which the buildings were “thrown up as it were”.²⁵ This checks out in respect of the connection to the ground level, because the buildings were then still of a ‘factory-like’ nature, and were thus relatively autonomous relative to the ground level. This is different during and after the fifth building round, and it can be said that the buildings from the first building round were connected carefully to the ground level through the targeted positioning of staircases between the buildings and the ground level, which

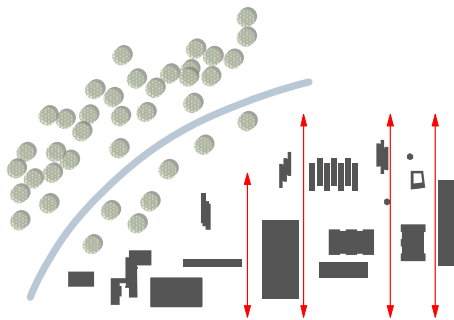
clarify the orientation and the position of the entrance. Nevertheless, Van Embden’s statement may be qualified in a positive sense, for architecturally the buildings have been designed in conjunction with the ground level; a building is never put ‘smack’ at ground level. Three strategies were applied for this (see also 2.2.12): a) an elevated ground floor through a plinth course above ground level, b) a building recessed below ground level, c) the building volume on pilotis (columns). In the Master Plan all three forms are articulated through landscaping.



Fig. 2.14 — Ramps, among other things, connect the raised plinth course to the ground level and integrate it in the landscape

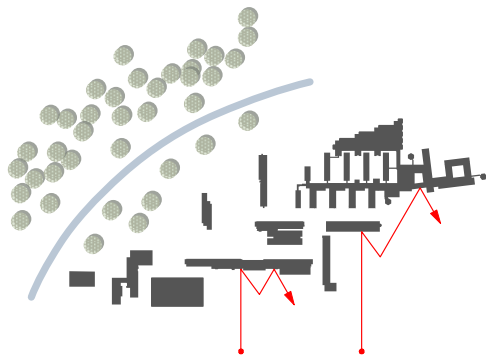


2.2.9 transition to the dommel valley



✓ Transparency towards the Dommel valley

The quality and the public importance of the Dommel valley play a role for the whole city. That is why it is of great value to leave space for the river Dommel, and to appreciate and enhance its intrinsic qualities. In the present layout of the campus the Paviljoen-NP in particular is located very close to the Dommel, pinching off the Dommel valley as it were, so this place deserves special attention.²⁶ Demolition of the Paviljoen will create a more distinct profile for the oak-wood to the northeast, so that the strip of trees at the edge of the campus will form one contiguous whole. The position of



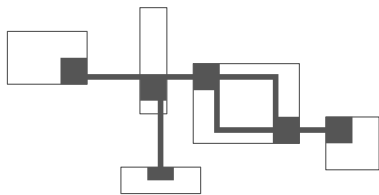
✗ Barrier blocking the view towards the Dommel valley

the buildings between the green edge and the more central park landscape of the campus is of the essence here, as they have been located in such a way as to create visual and spatial connections between the two areas. There is an important role especially for the high- and low-rise structures at the edge of the Dommel valley because of their directional formal properties. In this context the high-rise slabs at the Dommel valley in the Master Plan seem to constitute a self-evident boundary.



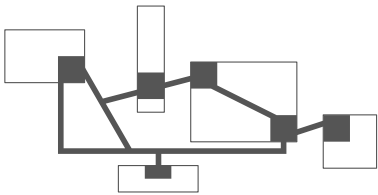
Fig. 2.17 — The transition from the Dommel valley to the campus is a very important theme, now deserving special attention near the existing Paviljoen-NP

2.2.10 collective inner areas and walkways



✓ Connect buildings physically with a walkway

Apart from the public external space the campus has a second ground level: a grid of collective inner areas and walkways. This second ground level forms the first floor of the buildings, so the reference height of the first floor is the same. This first floor provides for all kinds of collective facilities such as cafés, canteens, receptions, information points, and there is always a direct connection to the main entrance. The second ground level does not compete with the public external space, but functions as a ‘winter garden’. Thus, this level provides dry, warm and quick



✗ Non-orthogonal walkways, redundant/very long walkways²⁷

connections across the whole campus and it is possible to move between the buildings in all weather conditions. When it is fine outside, you can choose between the ‘real’ or the ‘artificial’ ground level, both of which are accessible to the public. In this way the university, enterprises, institutes, etc. are linked physically. This interwovenness encourages meetings and interaction between unknown disciplines. Thereby this fabric forms the spatial and social DNA of the campus and the Master Plan follows on from this.

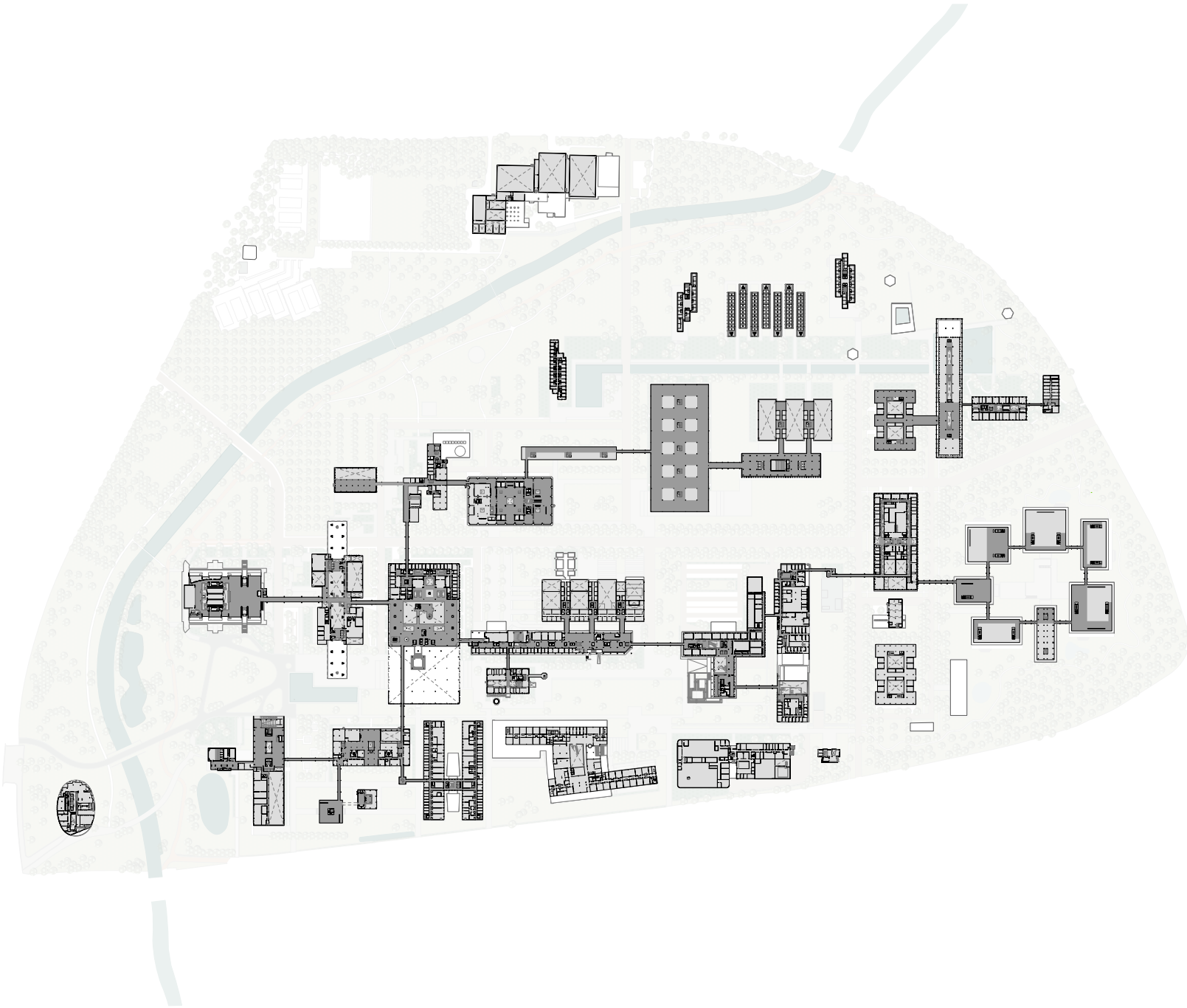
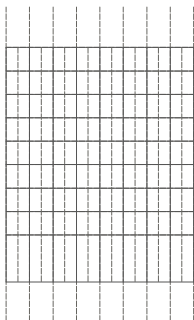


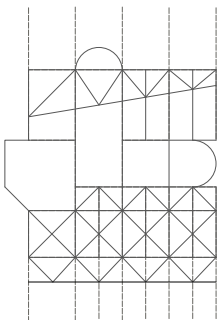
Fig. 2.18 — The spatial and social DNA of the TU/e Campus: a fabric of collective inner areas and walkways²⁸

2.2.11 uniform elevation and expressively applied dimensions



✓ Uniform elevation, expressively applied dimensions

The consistent and expressive application of a dimensional system is an important means to secure unity in architecture across various building rounds: the ‘basic module’ for the façades can be traced to 1.24m and in the smallest multiple to 0.31m. Consequently, new building requirements need to formulate a response to this. In this context it should be underlined that it is not a matter of simply copying existing façades, but an evolutionary continuation of the original principles. While the Master Plan stylistically still refers to the curtain wall in Van

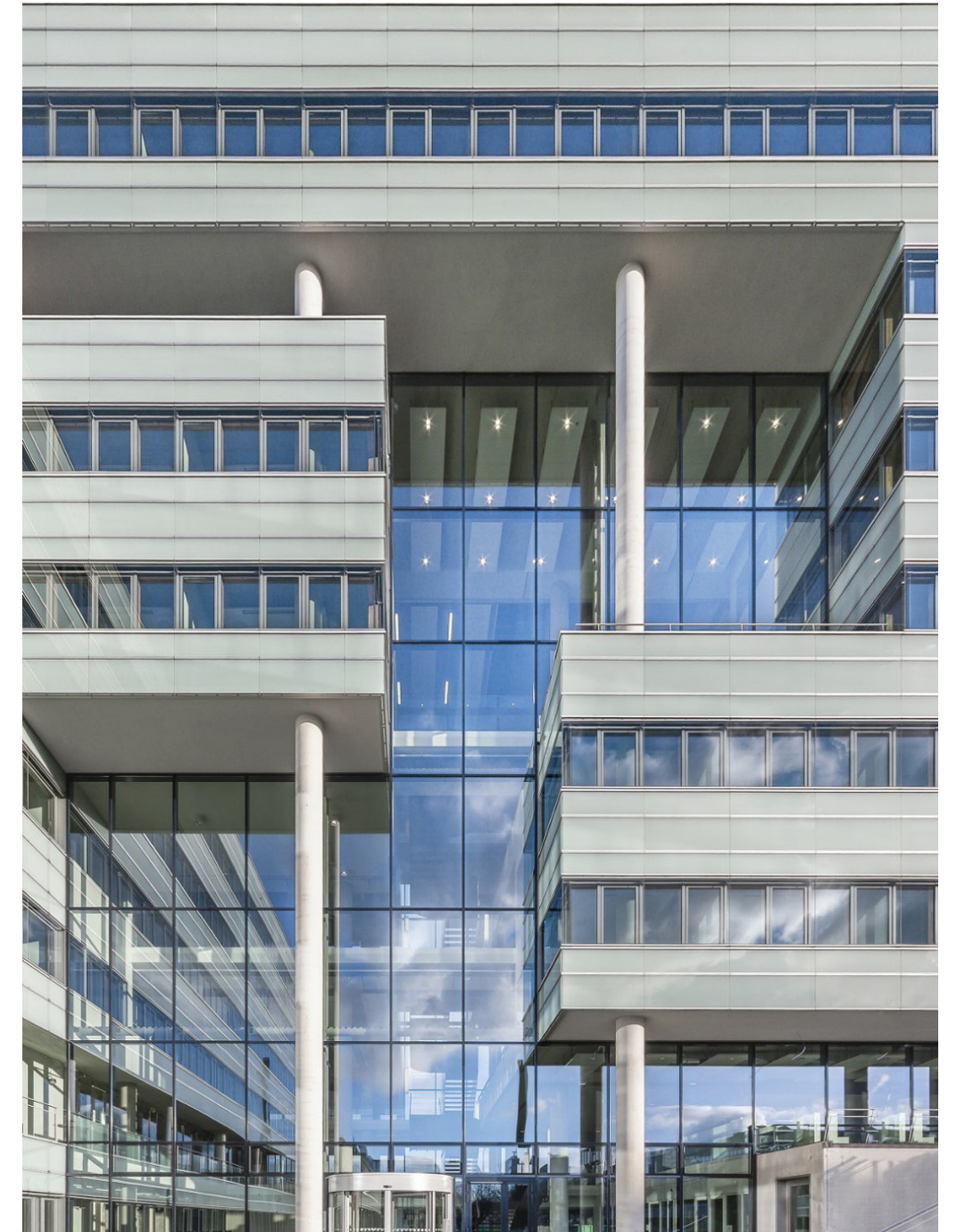


✗ Irregular elevation, overly expressive (bearing) structure

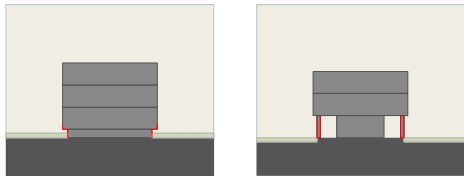
Embden’s idealized factory complex’, this is translated into present-day standards and a high degree of sustainability is proposed. In addition to the application of a uniform elevation and an expressively applied dimensional system, an architectural appraisal of the perspicuity of the floors, the termination of the roof edge and so on should contribute to this guiding principle. The originally conceived curtain wall will live on in a renewed, somewhat more plastic form.



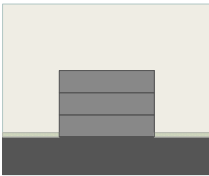
Fig. 2.19 — A reinterpretation of the façade from the first building round (Atlas building)



2.2.12 tektonic articulation of the connection to the ground level



✓ Raised relative to the ground level (raised plinth/pilotis)



✗ 'Smack' at ground level

In section 2.2.8 the “embedding of buildings in the landscape” was set out. More specifically, the physical connection of buildings to the surrounding landscape. The relatively autonomous ‘factory-like’ buildings from the first building round are connected more strongly to the ground level in the current situation. Less so in a functional manner as in the first building round – ramps to supply the halls and for moving technical equipment – but especially intended for people. Broad stairways designed in a grand movement: not just steps, but also a resting area.

This ‘embedding’ is the result of the architectural and tectonic articulation vis-à-vis the ground level. While section 2.2.8 considers the physical connection of the entire building volume in relation to the landscape, 2.2.12 explicitly deals with the moment when the building touches the ground level, and the architectural repertoire fleshing this out – the raised plinth and the pilotis, rather than totally recessing the building volume. At eye level this gives the volume a decidedly plastic appearance.



Fig. 2.22 — Laplace building (left) is entirely raised relative to the ground level, Atlas building (right) is on pilotis (with spiral stair to ground level)

2.2.13 specification of walkway level and use of primary colors



✓ Use of supporting primary colors (conform 'De Stijl')²⁹

In this Master Plan the TU/e Campus has been compared to a configuration in keeping with ‘De Stijl’. Which is not strange, considering that the compositional principles of a modernistic idiom as they were carried through in the first two building rounds were strongly derived from the artistic movement of ‘De Stijl’. The primary colors inseparably connected to ‘De Stijl’ – red, yellow, blue – have thus been applied widely on the campus to articulate building elements: sliding doors, balustrades, slats, stairs etc. Accordingly, the connection of each building to the fabric



✗ Use of (supporting) non-primary colors³⁰

of collective areas and walkways invites an architectural articulation of the interior and the exterior at this level. Moreover, the accentuations in primary colors in the elevation are an important means of enhancing the architectural unity on the campus. It is the walkway system in particular which occupies a special position by generating unity between the buildings. The ‘Color Scheme TU/e Science Park’ from 2015 (book including color fan) deals extensively with the significance of colors on the campus, the palette allowed and the spread of colors.



Fig. 2.23 — The power of the use of primary colors (at once a reference to the walkway level)

2.3 phasing

In this Master Plan a strictly hypothetical phasing proposal is made.³¹ The use and the need, the time frame of the available site, the logic of the sequence have all been considered.* The time frame and/or the scope of a phase can be expanded and/or recalibrated at any time. It is certain, though, that the student accommodation can be commenced soonest.

A	2020 – 2023	student accommodation
B	2023 – 2026	flexible shell
C	2025 – 2030	second focal point
C	2025 – 2030	ensemble of enterprises & institutes
D	2030 – 2035	expansion ensemble of enterprises
T	2020 – 2040	transformations
X	2020 – 20??	to be started separately

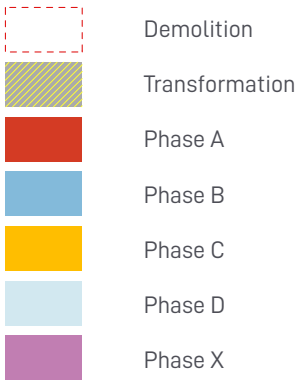


Fig. 2.24 — The Master Plan 2040 can be realized in five subphases, of which A to D are sequential, phase X is independent (* within area indicated, excluding the phasing of walkways)

2.4 student accommodation

The TU/e Strategy 2030 envisaged a “TU/e Campus 2030: well-equipped and sustainable, with 1400 students living on campus.”³² In this ambition the Master Plan 2040 anticipates a doubling of the existing student accommodation to be realized before 2030. Which is more than a quantitative doubling, for living on the TU/e Campus implies living along the greenest artery of Eindhoven, the Dommel valley. A prominent valley, along which the adjacent Karpendonkse Plas and, farther away, the Genneper Parken are located also. With the new construction of the Aurora residential tower (2016) and

the transformation of residential tower Luna (2017) a new student environment was created directly opposite the Student Sports Center during the fifth building round. This development will be expanded in the Master Plan 2040 with two extra high-rise slabs and one student village. Right in the middle of this new focal point runs the north-south oriented main axis ‘Het Eeuwsel’ which directly connects the new slab of student accommodation with the Sports Center and the sports fields across the Ring (the Hondsheuvels).

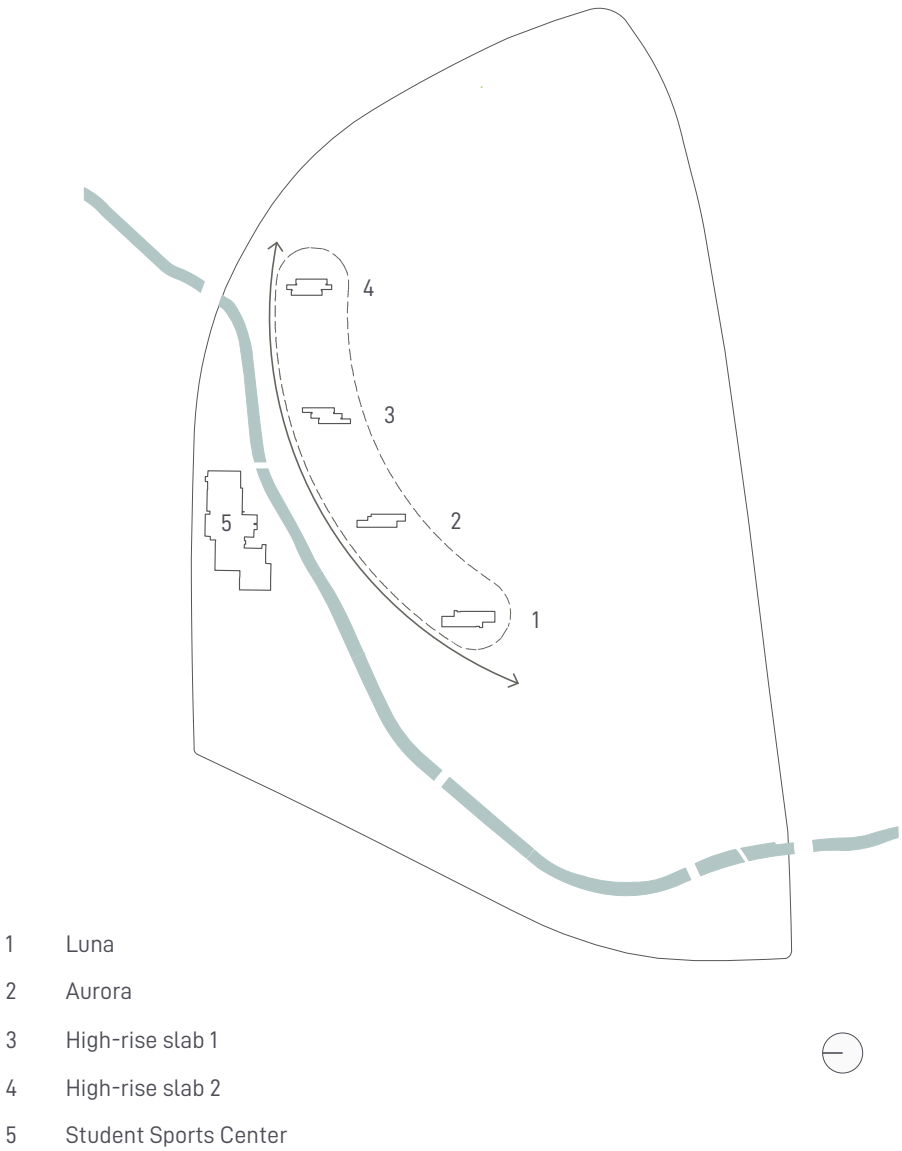


Fig. 2.25 — The formation of a fourth focal point opposite the Student Sports Center (left) and residential building Aurora (2016) with residential building Luna in the background (2017)

The student accommodation specifically consists of two different types of buildings: a) one high-rise slab and b) one low-rise environment designed as a student village. Two student high-rise slabs and one student village are added to the TU/e Campus. In urban design terms these two types have been integrated in such a way that the transparency and accessibility towards the Dommel valley are guaranteed. This implies that all the buildings have been embedded in a north-south orientation, maintaining a distance between each other and the Dommel which is not detrimental to the landscape. For the sake of comparison: the high-rise buildings from the first building round are in a more compact reciprocal position than the new high-rise slabs envisioned. The nominal distance between Vertigo and Atlas is 47m in contrast to a distance of 111m between high-rise slabs Luna and Aurora. With this increasing intermediate measure the Master Plan marks the transition between the originally more serried and urban composition of high-rise slabs in the southwest of the site, to a more airy composition of eastward high-rise slabs.

The new high-rise slabs will each manifest themselves as three slender volumes, shifted vis-à-vis each other. This building form is inspired by the Dreischeibenhaus in Düsseldorf.



This building shape enhances the plasticity of the high-rise slabs, unlike the more abstract, prismatic volumes from the first building round like Vertigo and Atlas. Still, during that first round this trend was initiated with the former Department of Electrical Engineering (E-hoog), now residential building Luna; in a way, the bayonet-shaped staggering in the plan introduces the building volume of Aurora. The two new high-rise slabs for the student accommodation build on this theme: the abstract, prismatic volumes of Vertigo and Atlas are succeeded by the bayonet-shaped staggering of Luna and Aurora and evolve in two new high-rise slabs according to a ‘Dreischeiben principle’.

This volumetric approach makes it possible to provide a common area on the sides of the outermost slabs, one overlooking the city, the other the green Dommel valley. The presence of these common areas is crucial; it not only provides for communality in the plinth of the building (‘lobby formation’), but it is added to by small-scale common areas per floor. This fosters social cohesion and security at building level; the proposed building type is eminently suited for this. At building level the high-rise slabs are connected to the ground level by a raised platform. This serves both the tectonic articulation of the building and the spatial connection to the ground level.

The raised platform is stretched in particular on the west side of the high-rise, so that it may be used among other thing as a terrace to enjoy the evening sun. Thanks to this gradual transition between the building and the ground level, and the special articulation of the forecourt, the building acquires a clear orientation on the site and a clearly understandable transition between public and private space is created.

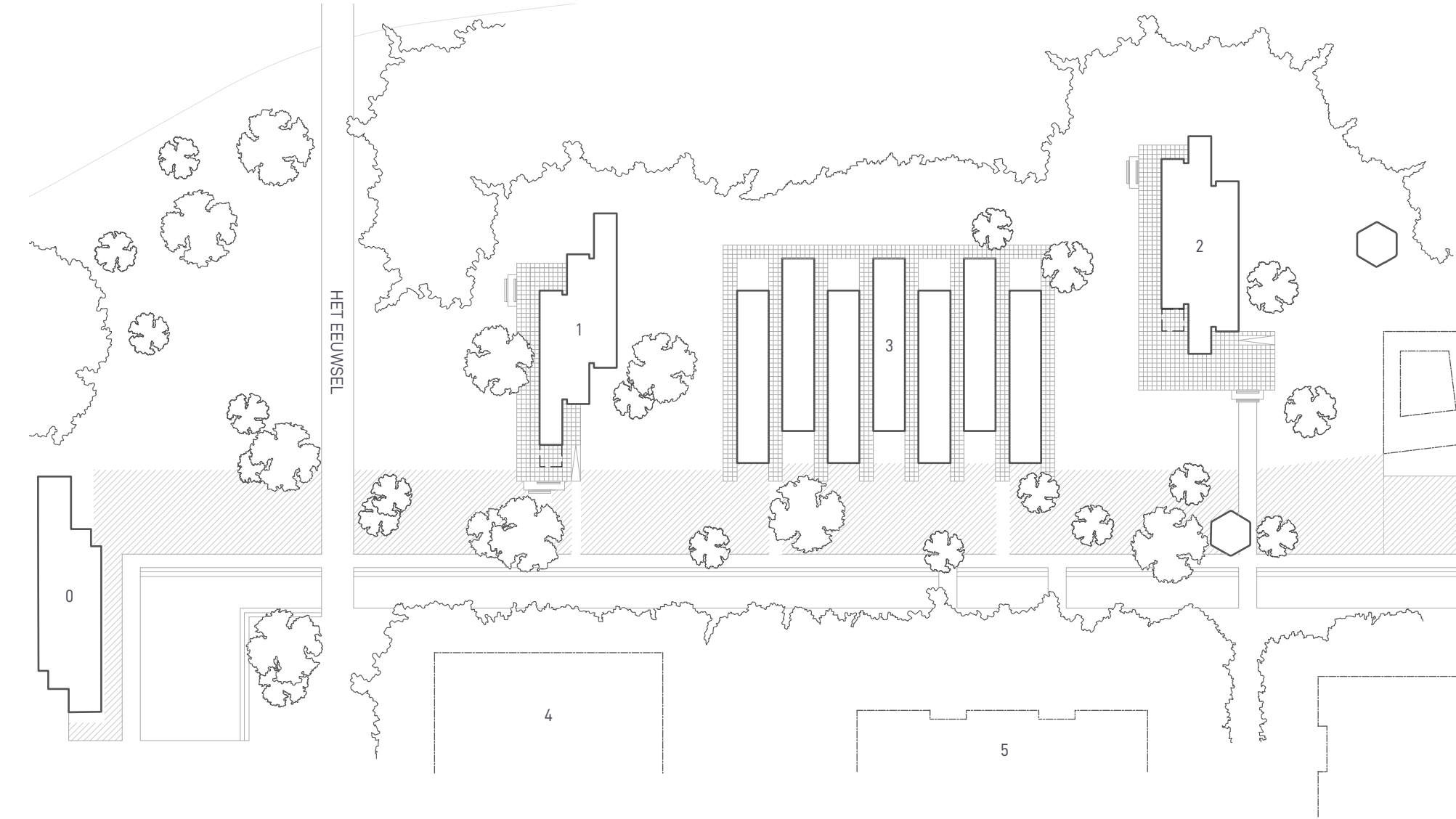
The student village consists of one field of interlinked duplex apartments wedged between the two high-rise slabs. The field is equipped with several small-scale collective external areas directly adjacent to ‘De Blauwe Loper’ and to the Dommel valley, all part of a green, garden-like environment. The dwellings have small floor plans, consist of two floors, each fitted with its own kitchen, sanitary facilities and featuring a roof terrace. The dwellings are made individually accessible via the small streets of the ‘village’. The design of the student village is based on the huge success of the Olympiadorf in Munich.

Depending on the desired efficiency of the floor plans the doubling of the current housing supply aspired to can be realized with the high-rise slabs envisioned. In this regard the student village forms a buffer that is not merely quantitative, but is intended in particular to engender a vital student environment in high-quality surroundings. Thus, the student village does not only concentrate student accommodation in the high-rise slabs, but a student environment is created between the high-rise buildings and connected to the ground level. This means specifically that the distance between ground level and dwelling is shorter, so that the occupants will feel involved with the ground level sooner. Using the existing building volume of Luna

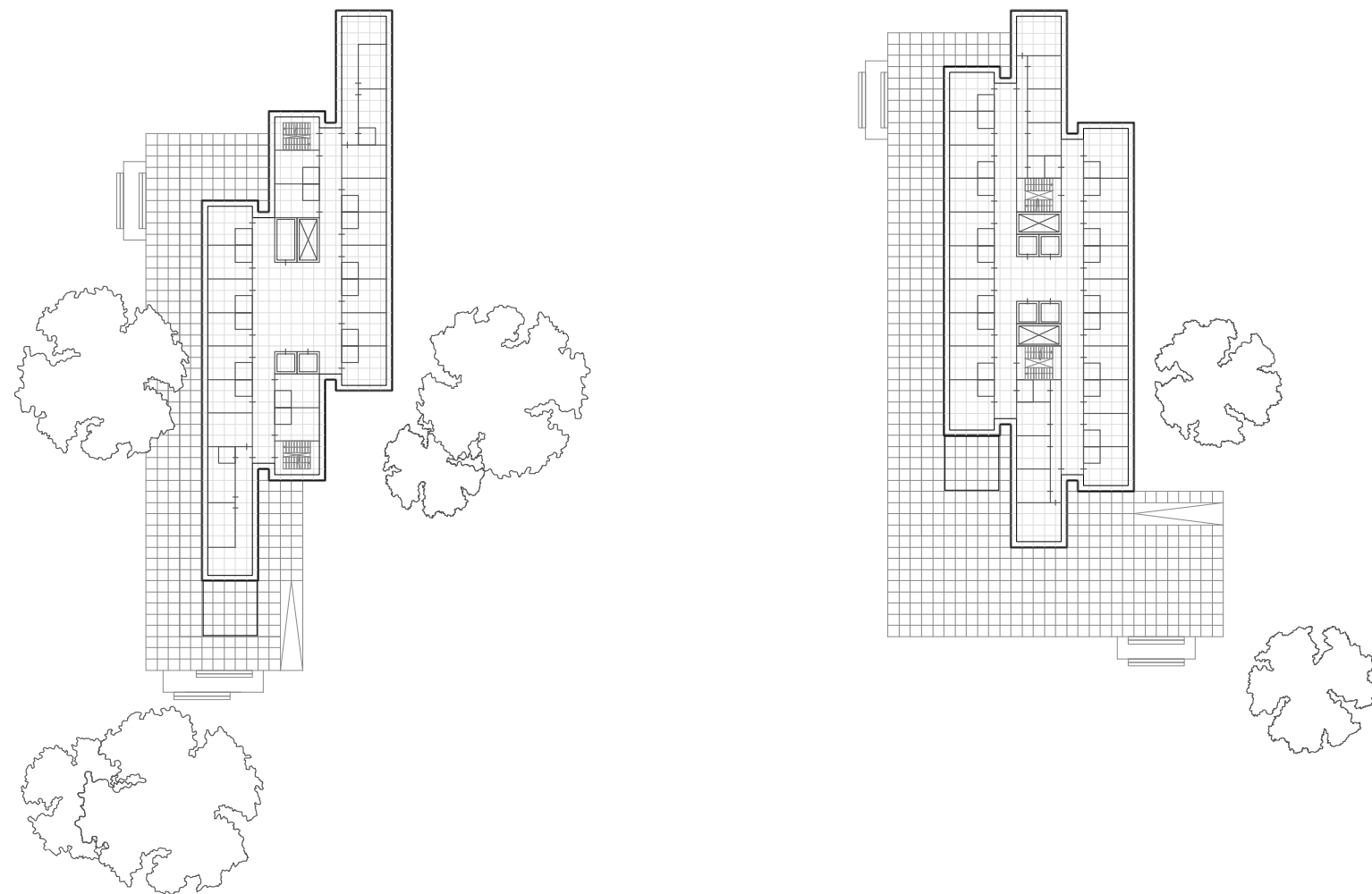
and Aurora (o) as inspiration, the development towards the two new high-rise slabs is made according to the ‘Dreischeiben principle’. The first high-rise (1) clearly follows the direction of the Dommel, whilst the second high-rise (2) develops a bit more like a curve due to the asymmetric staggering of the blocks towards the TU/e Campus. The height of the assembly increases, from 45m (Aurora) to respectively 50m for the new high-rise buildings 1 and 2. The consistent requirement is for the student accommodation (1-2-3) to present itself as an urban and architectural whole, as an assembly, subtly marking the transition between the park landscape of the campus and the ‘wilder’ northern oak-wood and the Dommel valley.

*Caption fig. 2.27: a schematic representation of the envisioned building sequence of the student accommodation assembly, starting with high-rise slab 1 near Het Eeuwseel. High-rise slab 1 stretches the fourth focal point, with an ever more prominent student environment arising on the TU/e Campus, directly opposite the Student Sports Center. Subsequently the last high-rise building at the Dommel valley is realized with high-rise slab 2. The

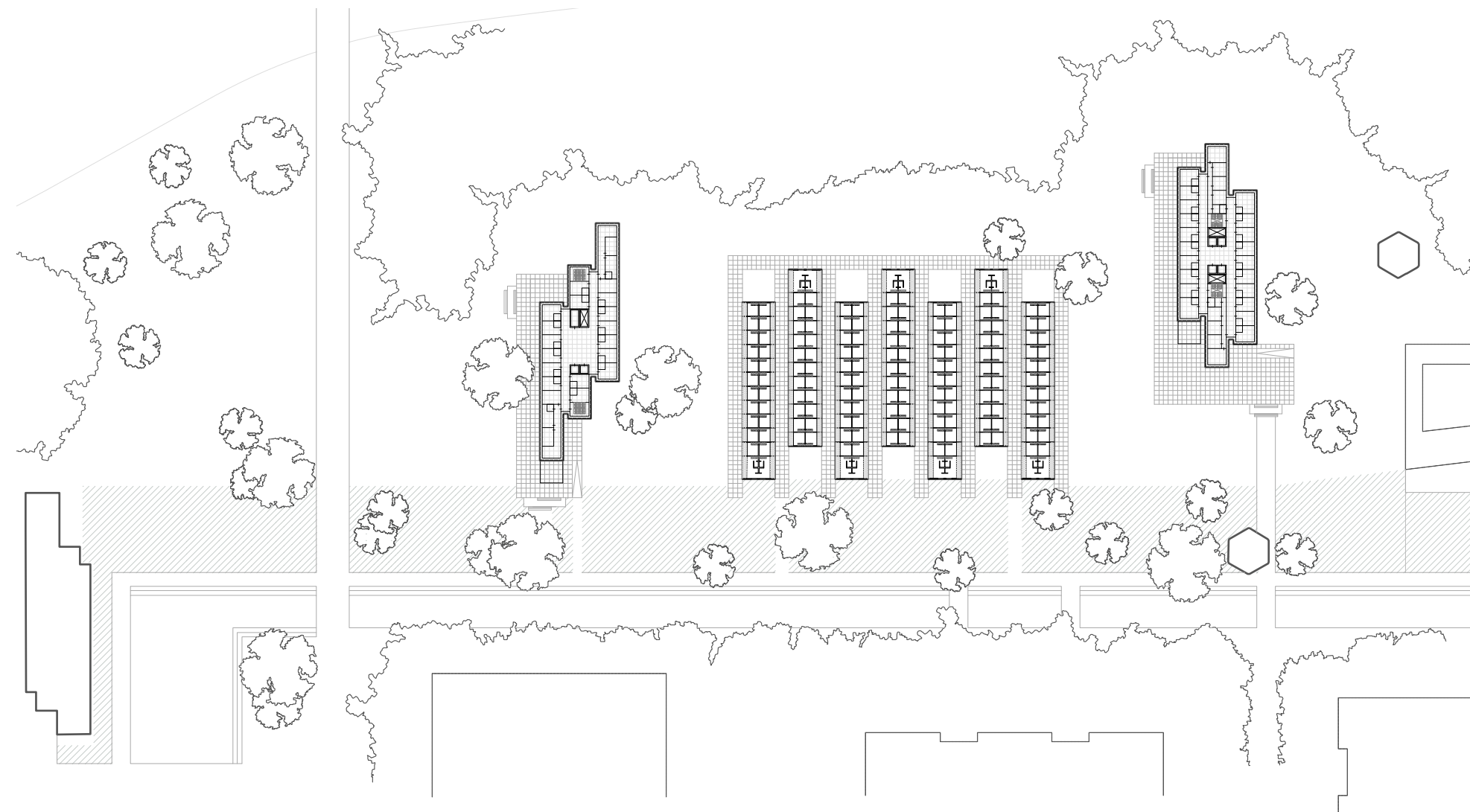
final step of the assembly is the insertion of the student village (3) between the two high-rise slabs. These three steps can be carried out in phases as well as simultaneously. Furthermore: both nearby multifunctional buildings (4 and 5) play a key role for the TU/e Campus through the formation of a second focal point (see sections 2.5/2.7).

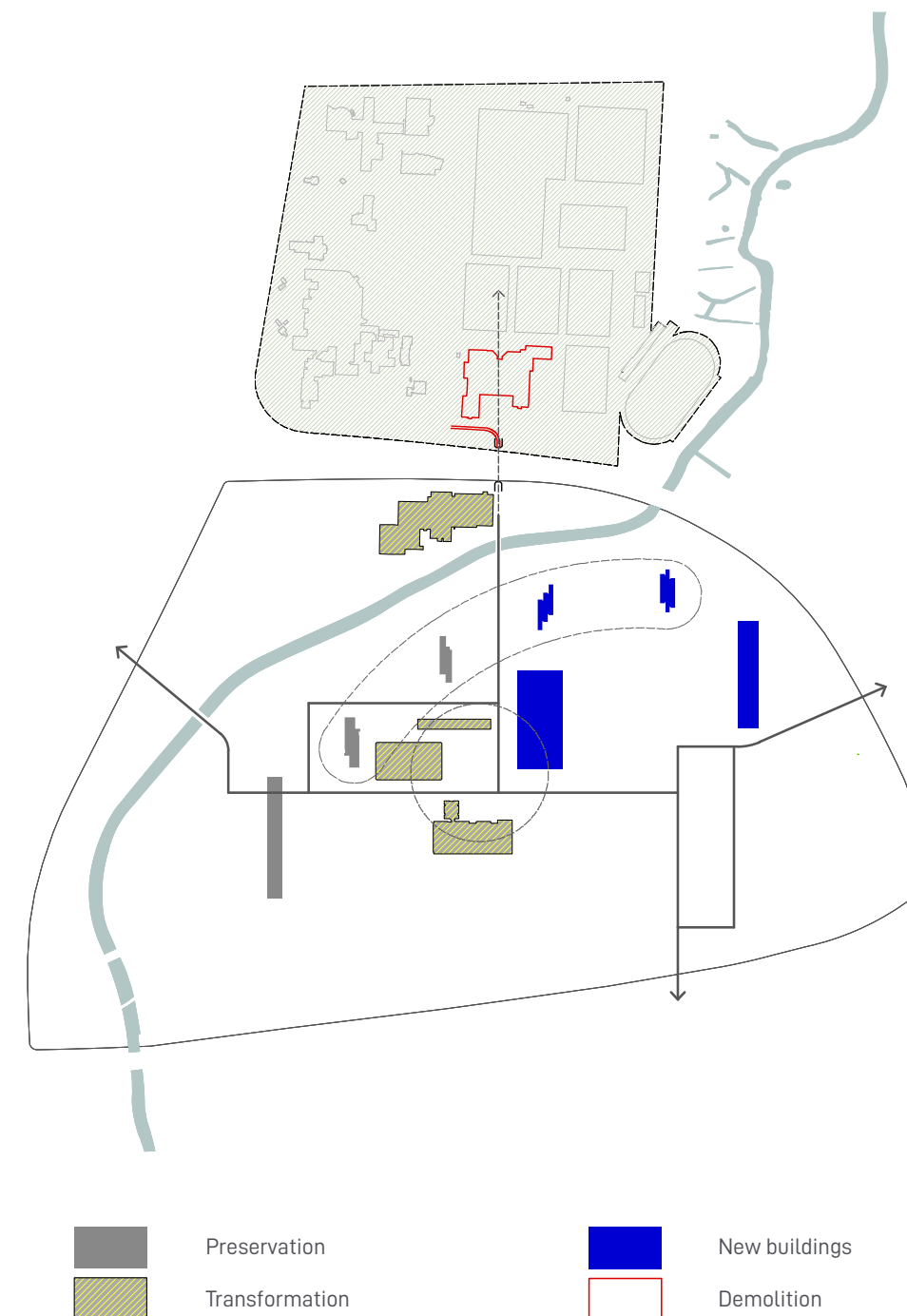
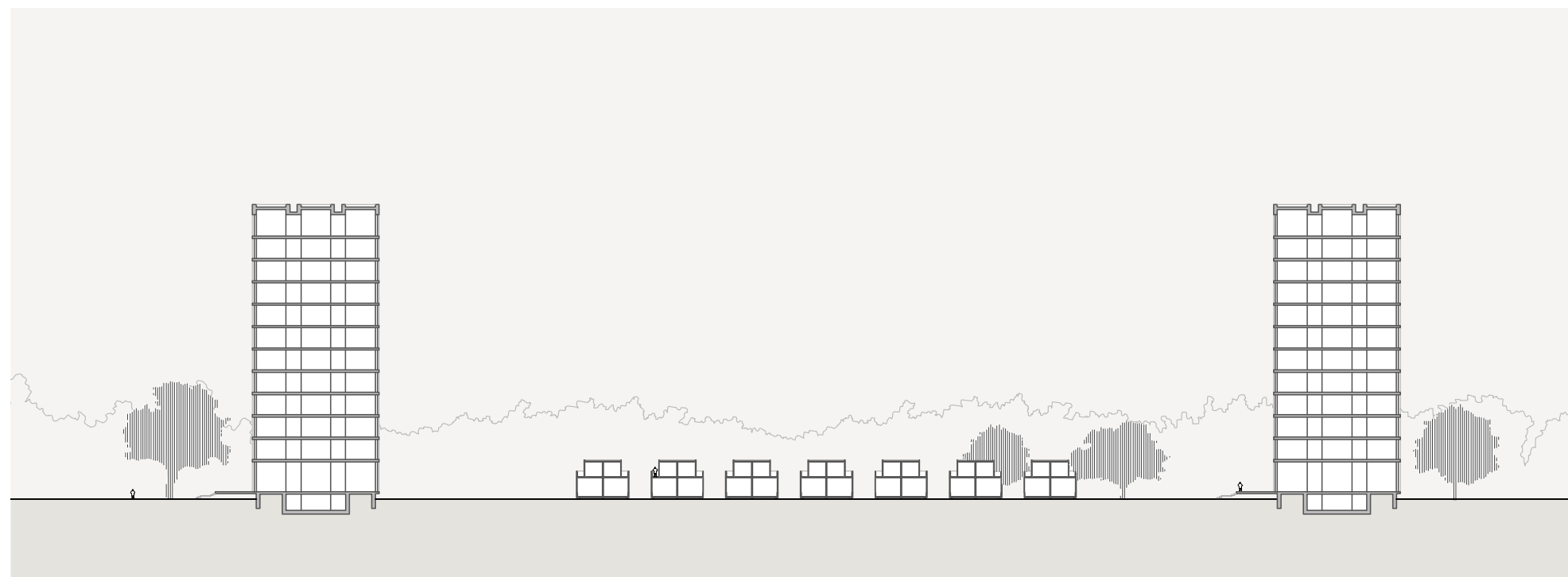


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Since the first building round the expansion of the TU/e Campus has been proposed in an eastward direction. This makes sense, as the original assembly is presented in a compact manner in the southwest of the site, with space for future expansion towards the east. Nevertheless the sketches of a physical connection to the Hondsheuveld, north of the campus, date back to the end of the first building round. In 1963 Van Embden sketches the profile of the current cycle-cum-pedestrian tunnel under the Ring, which until today forms the only access to the Hondsheuveld.³³ The north-south oriented axis ‘Het Eeuwseel’ merges precisely with this cycle-cum-pedestrian tunnel and links up exactly with the second focal point of the TU/e Campus, near the current Laplace square.

The strengthening of the relation with the Hondsheuveld is valuable in terms of urban design as well as for the program; TU/e uses over 40,000m² of sports fields, and is the owner of the leasehold Fontys TF. The Fontys TF building at the Ds. Theodor Fliednerstraat in particular forms a huge urban blockade: the building in no way incorporates the axis or opens up to it. In the current situation ‘Het Eeuwseel’ curves away near the building, so that the building emphatically keeps to itself.

2.5 second focal point and the leap over de zaale

Even before the transfer of ownership of the university in 1995 a strategy was worked out to accommodate the lower demand for space of the university; the ‘compact campus’ was born. Over 25 years later, the moment when the Strategy 2030 and this Master Plan were written, the realization of the compact campus is an accomplished fact. Circumstances are radically different: “Accommodate growth: the campus strategy for 2030 needs to work with the fact that the number of students and staff will grow in the coming years. Space will be in high demand but in short

supply.”³⁴ Brainport is growing, Eindhoven is growing and so is the university. The ambition is to offer a well-equipped campus to 15,000 students and 3,500 staff members in 2030. That is why the Master Plan 2040 adjusts the concept of the compact campus by taking the ‘leap over de zaale’. No longer will the university withdraw within the contours of the compact campus, it will also reorient itself beyond. This makes it possible to realize a new focal point on the site, a desire that has been entertained for a long time.

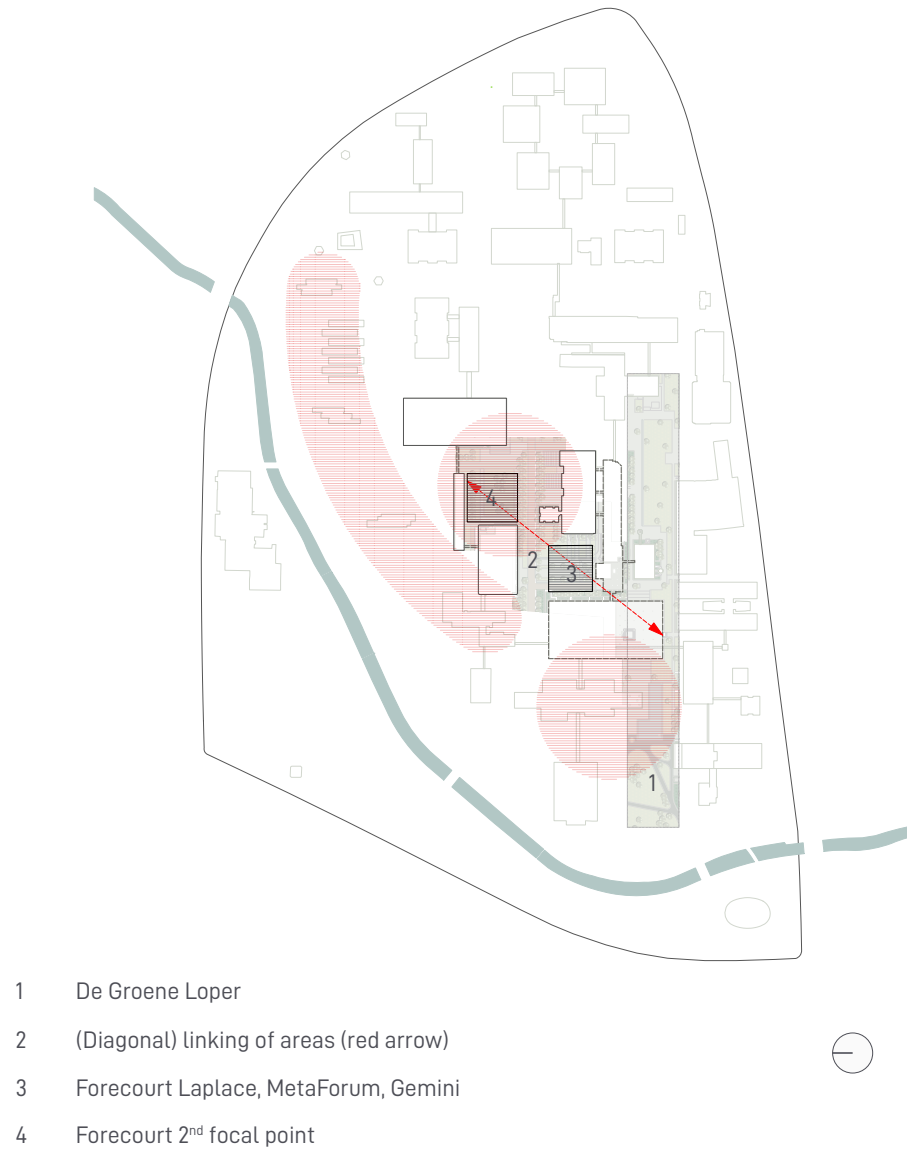
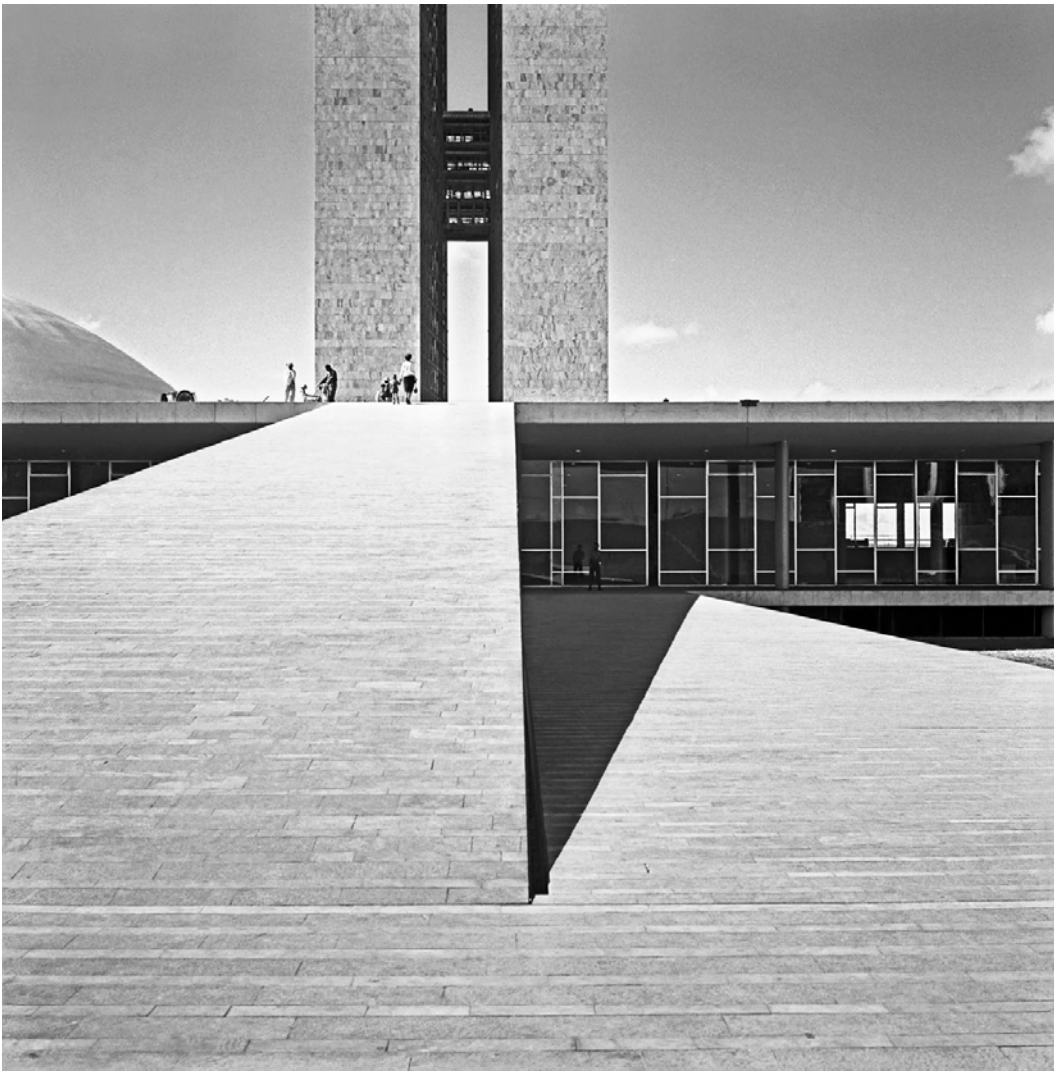


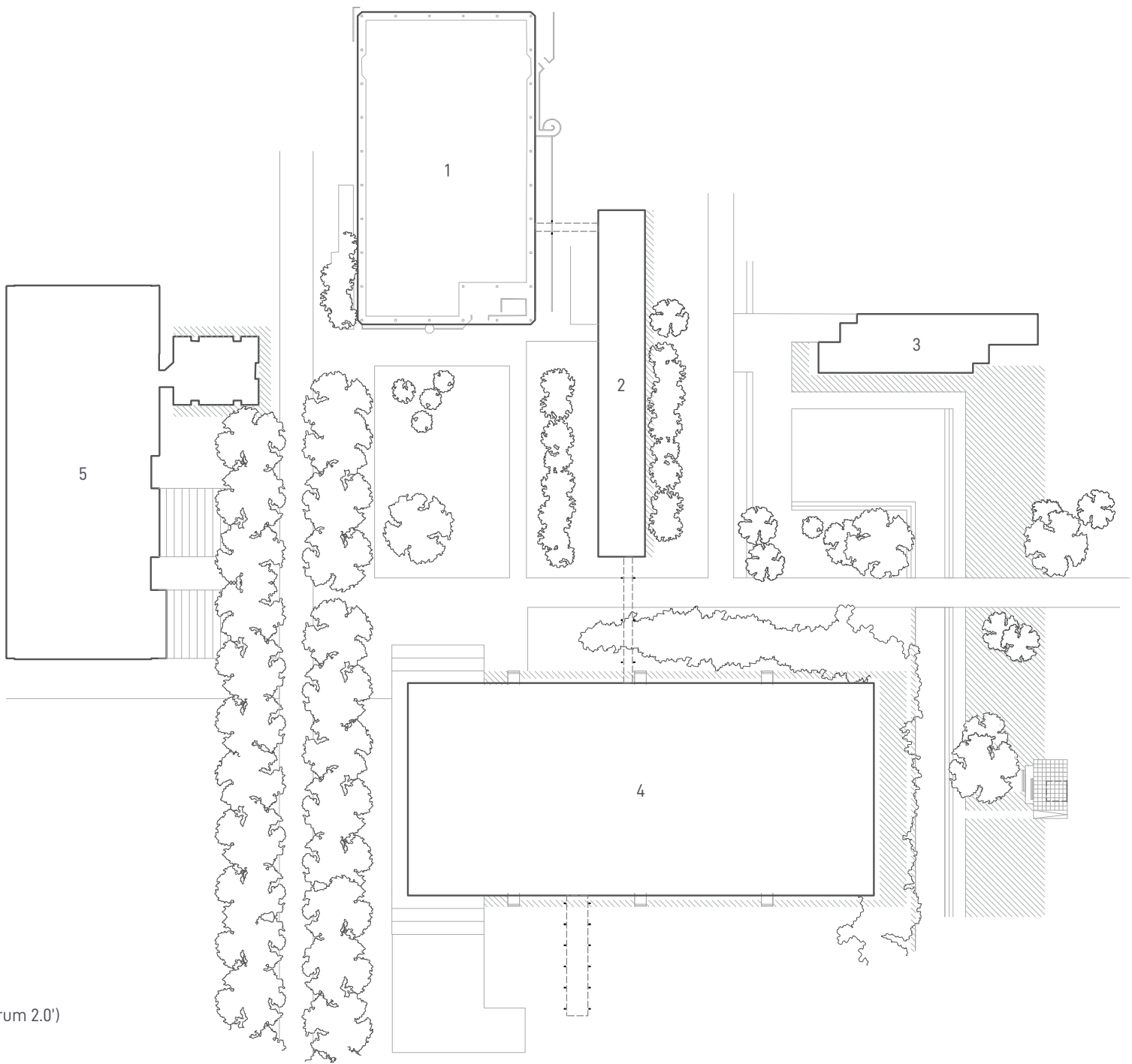
Fig. 2.32 — Forecourt Laplace, MetaForum, Gemini must look representative, as it links the three focal points; (right) preliminary impression Team V (2019)

Nowhere else on the campus than in the low-rise volume in the second focal point will the omnidirectionality of a building need to be reflected more strongly. In size and scale this volume is virtually identical to the original W-hal (now MetaForum) and it stands to reason that the embedding of the building in relation to the ground level must be robust. The building should ‘face’ west (current Laplace square), north (De Blauwe Loper), east (new high-rise volume, green forecourt to De Zaale) and south (De Zaale). No set program has yet been made for this building, which is precisely its intrinsic strength: the least possible specific space is earmarked in the building volume. It will form an extension of the compact campus with an expected multifunctional program - study places, (small) teaching rooms, etc. laid out in a generic floor plan. The credo for the architectural execution of the low-rise volume is a tectonically articulated volume in relation to the ground level with a large free span. One may think of references such as Oscar Niemeyer’s ‘Congresso Nacional’ or Mies van der Rohe’s ‘S.R. Crown Hall’. Both buildings are quite comparable in scale to the campus. A recent reference (with a more specific floor plan) is the Grotiusgebouw by Benthem and Crouwel in Nijmegen.



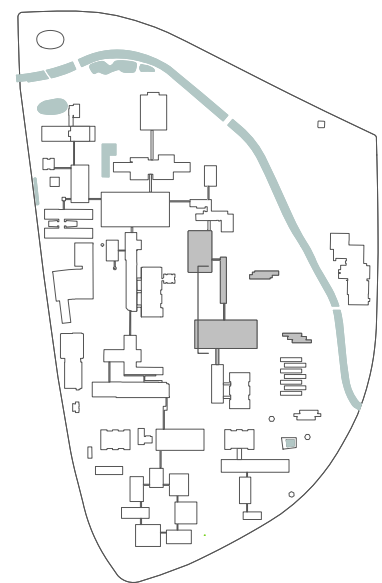
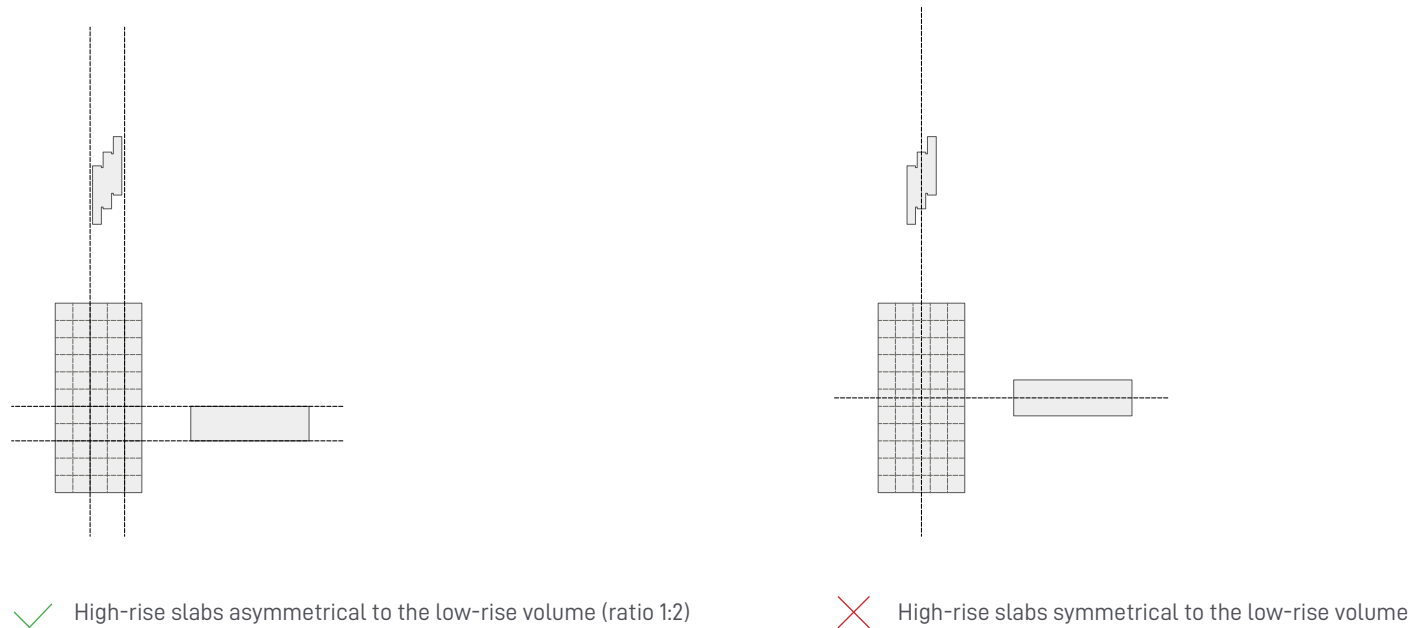
*Caption fig. 2. 33: Oscar Niemeyer, 'Congresso Nacional' (1956-1960, Brasília, Brazil). The compositional effect of a low-rise volume (plate volume) and a high-rise slab, in an asymmetrical position to each other, is in line with the second focal point in connection with the east-west oriented high-rise slab at De Zaale. The plate volume of the second focal point is articulated tectonically in relation to the ground level, similar to this reference from Niemeyer.

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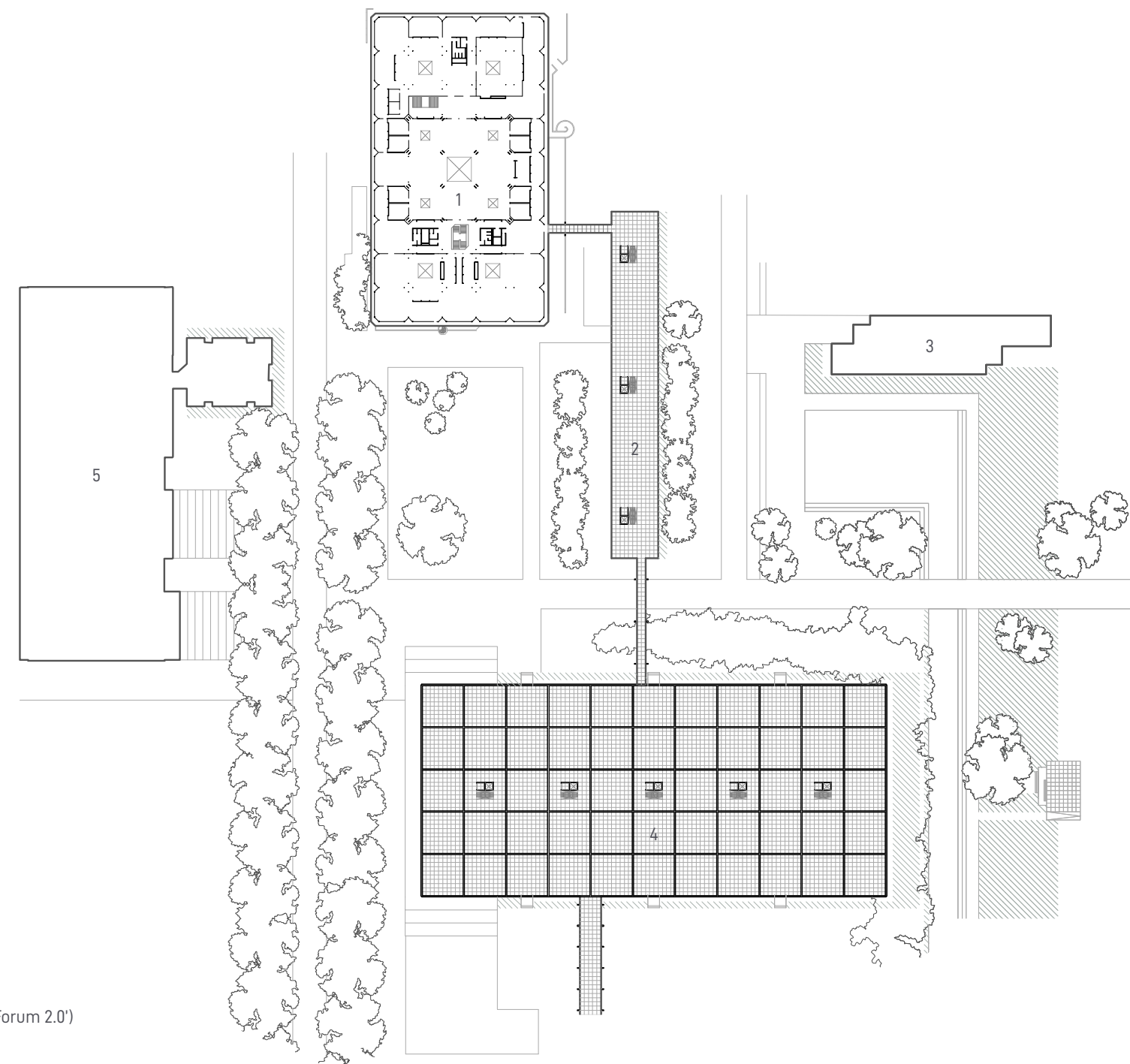


- 1 Laplace
- 2 Traverse
- 3 Aurora
- 4 Low-rise hall ('MetaForum 2.0')
- 5 Gemini-Noord

Fig. 2.34 — 'MetaForum 2.0' forms the second focal point and orients four different 'areas' of a distinct character (Laplace square, De Blauwe Loper, (green forecourt) De Zaale)



- 1 Laplace
- 2 Traverse
- 3 Aurora
- 4 Low-rise hall ('MetaForum 2.0')
- 5 Gemini-Noord



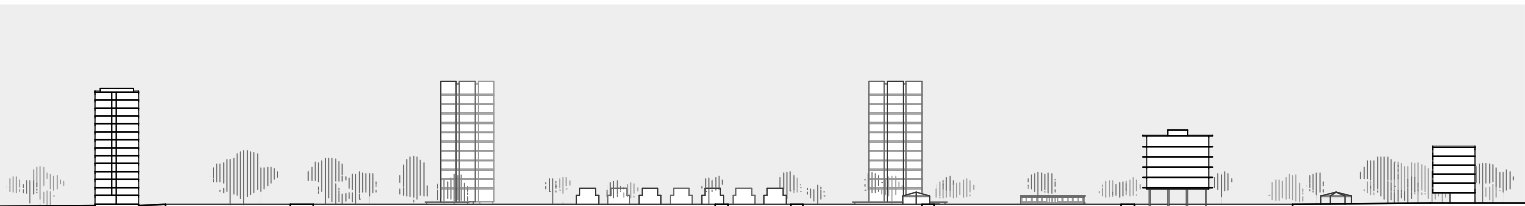
intermezzo: profiles tu/e campus



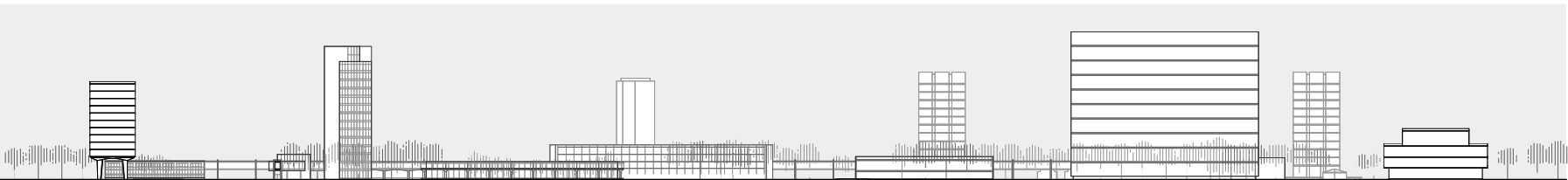
The high-rise slabs are the most prominent in the silhouette of the TU/e Campus. In the profiles opposite it quickly becomes clear that (according to principle 2.2.2) the site is stretched eastward. Across its entire width the site acquires more ‘weight’ so that the silhouette is stretched more evenly than in the existing situation. The site is stretched in both an east-west and a north-south direction. The originally serried composition fans out across the site in a ‘cochlear shape’ (see figure 2.6) so that a dynamic composition of volumes is visible in each profile. As was

established before, De Zaale remains the undisputed center in the fabric of roads. The arranging effect of De Zaale is visible at once in the profiles. Therefore this backbone of the site is not ‘intersected’ by a building mass. De Zaale remains intact on this scale. The profile of De Zaale will change slightly, though, because it is going to function as a ‘Rode Loper’, and more space is reserved for pedestrians and cyclists. The Landscape Vision TU/e Campus presents a more specified elaboration.

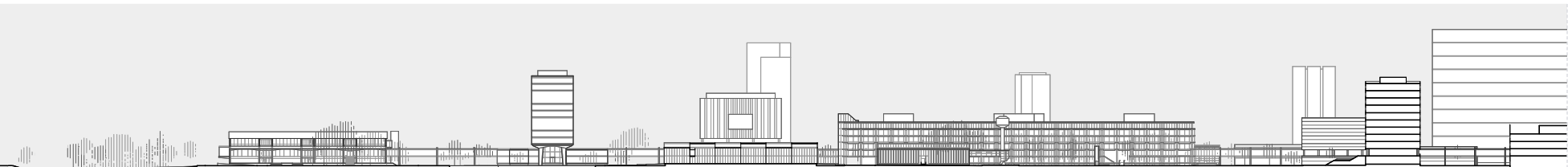
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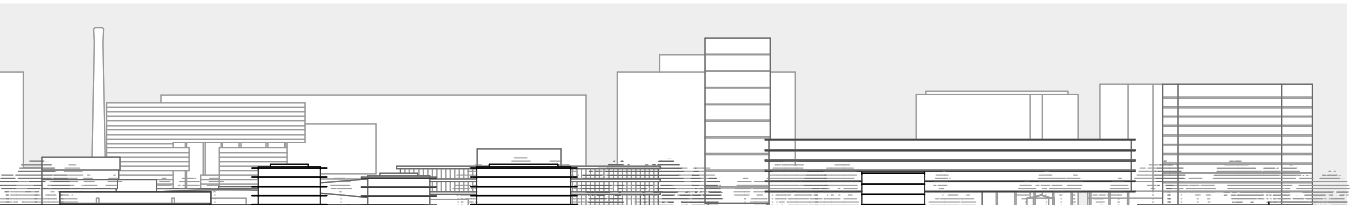


Fig. 2.37 — Main profiles of the TU/e Campus (Master Plan situation)

2.6 assembly of enterprises and institutes

“Higher education institutes nowadays not only provide education and conduct research, but also enable innovation and facilitate new business creation.”³⁵ In the Master Plan this ambition from the Strategy 2030 is translated specifically into an assembly of enterprises and institutes. This assembly is a follow-up to the successful concept of multi-tenanted business premises such as the Twinning Center and Catalyst. In multi-tenanted business premises it is possible to rent space from a desk to a whole floor, including shared facilities like meeting rooms, light

laboratories and workplaces. The compactness of the assembly (some 160m x 160m) in the Master Plan engenders a lively environment of high-tech starters, research-driven enterprises and R&D institutes. Hence the assembly of enterprises and institutes occupies a special position on the TU/e Campus; the assembly is embedded in a wooded environment and is at once accessible directly from the Ring of Eindhoven. Right next to the assembly a number of scientific and technology institutes are located, such as the Dutch Institute for Fundamental Energy Research.

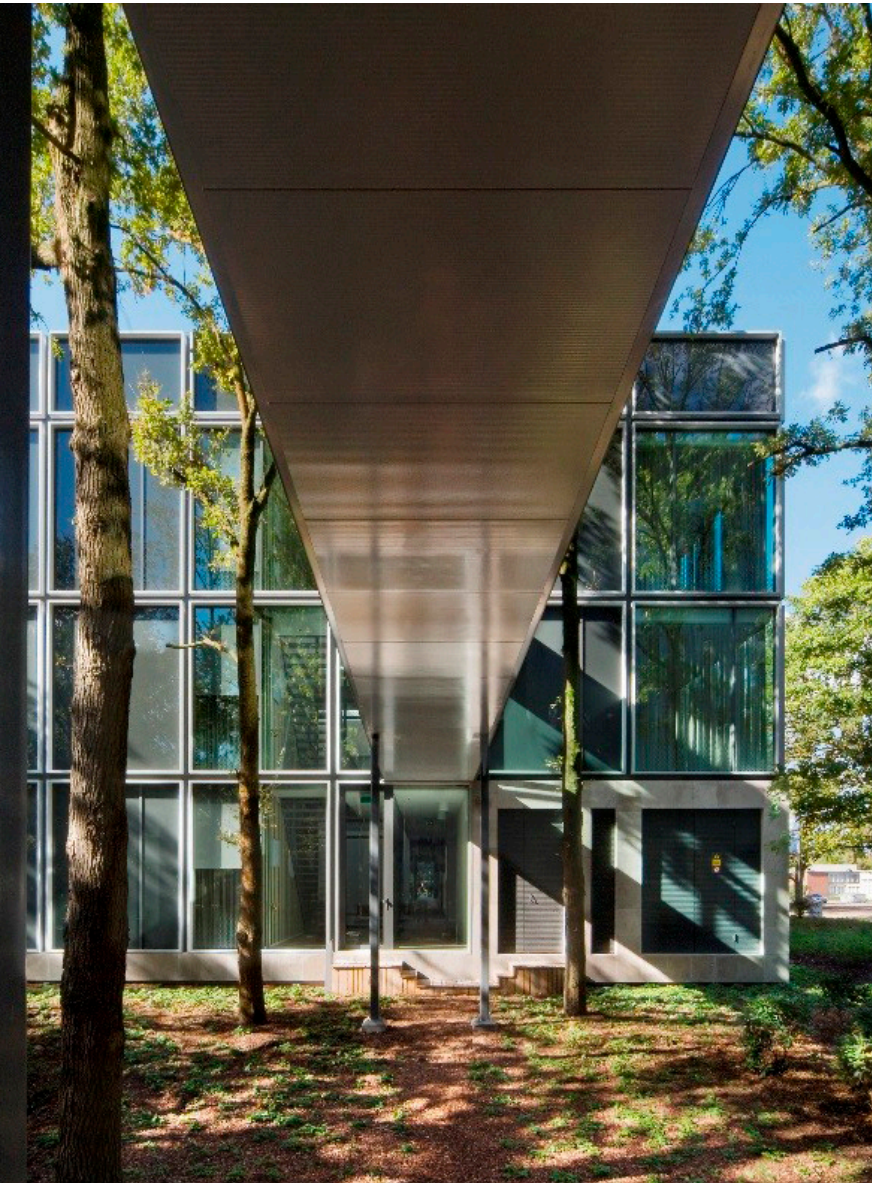
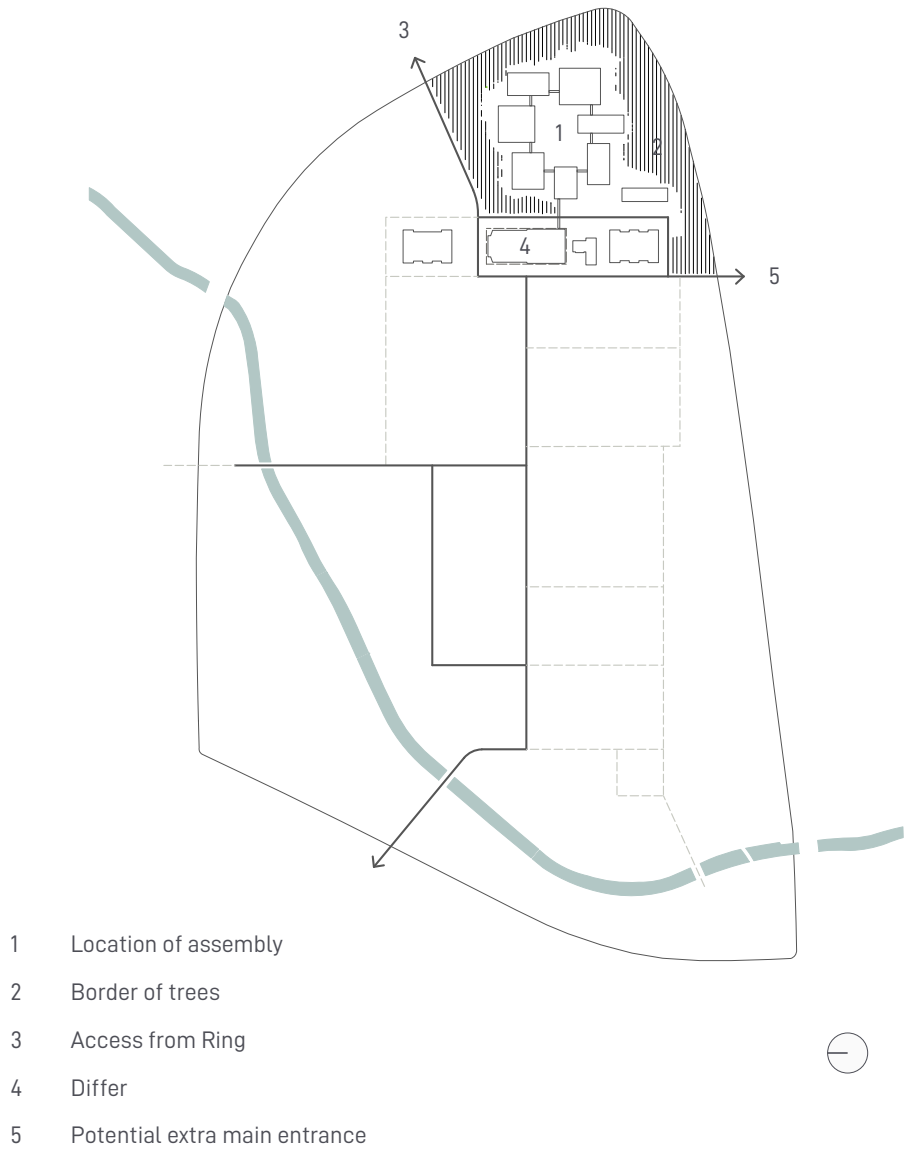


Fig. 2.38 — The assembly of enterprises and institutes fringed by a wooded border (2) (left) and multi-tenanted business premises Catalyst for starters (2012) in a wooded environment (right)

The assembly of enterprises and institutes is embedded in a densely wooded zone on the east side of the TU/e Campus, close to recreational area De Karpen. This place calls for an urban and architectural principle that respects the border of trees while at once providing an inspiring working area in the middle of a wooded environment. The spatial elaboration consists of a series of interlinked ‘pavilions’ of an omnidirectional plastic nature. This implies that the pavilions have a generous concrete plinth, allowing space for a circular and covered passageway, which widens into broad terraces at the forested edge. Accordingly, a gradual transition is created between building and forested edge, and between forest and park landscape. All buildings are interconnected by walkways on the first floor. By way of orientation the assembly is characterized by one feature: one centrally located high-rise marking the center of gravity of the assembly.

The principle of the spatial organization of the assembly is that it is laid out on a square grid with a main modular dimension of 6.2mx6.2m. The individual buildings are positioned in such a way in it that they span a central area for relaxation and small events – without affecting a dynamic composition of volumes.



*Caption fig. 2.39: Egon Eiermann and Sep Ruf, 'Deutscher Pavillon Weltausstellung' (Brussels, Belgium), scale model (1956-1958). Compact pavilions in a wooded environment form the reference picture for the assembly of enterprises and institutes. Together the pavilions span a central area, so that a new focal point is formed. Within this assembly there is room for one accent, which in this picture is formed by a sculpturally designed pylon (50m). On the TU/e Campus this accent is formed by a high-rise slab.

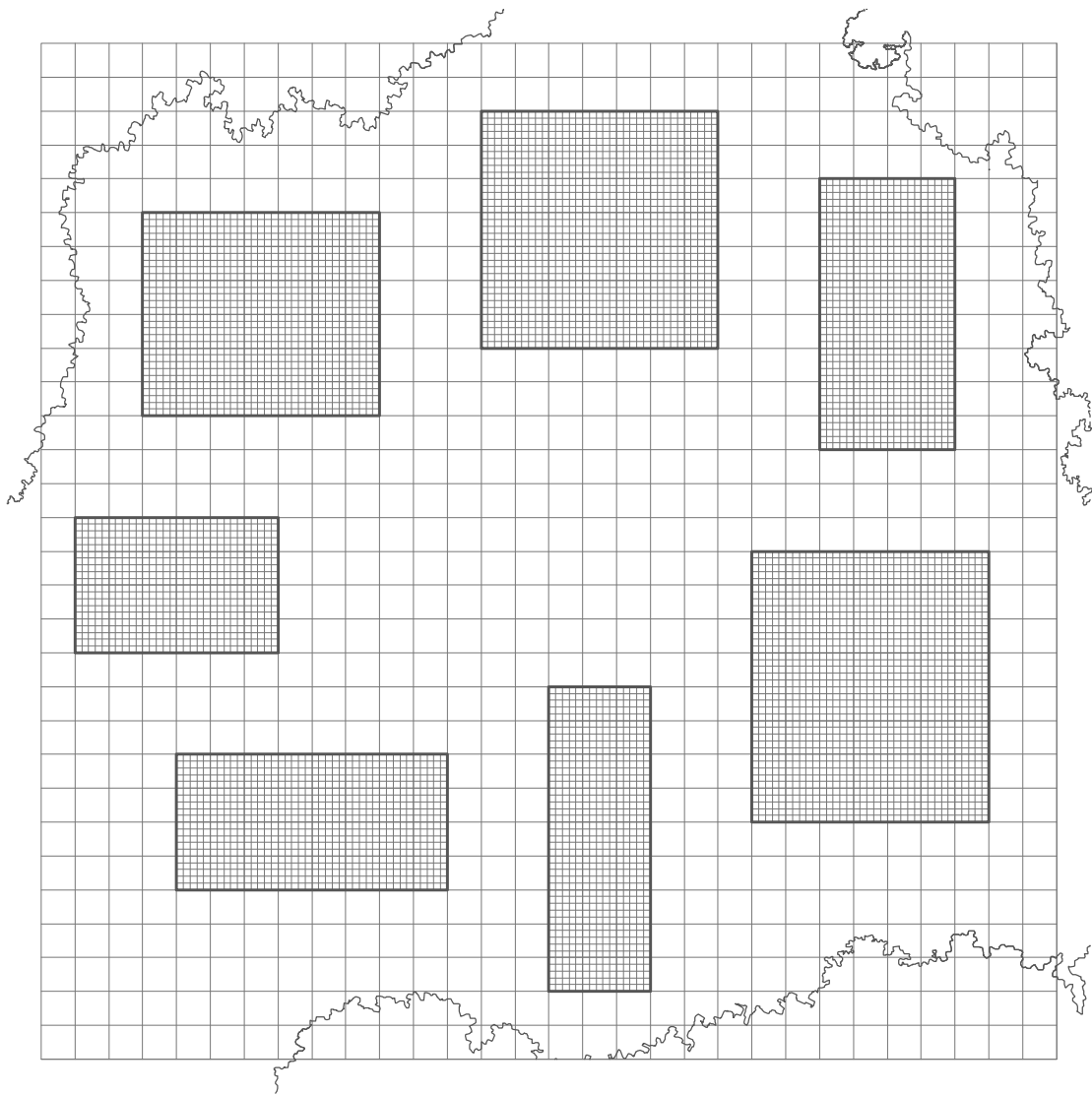
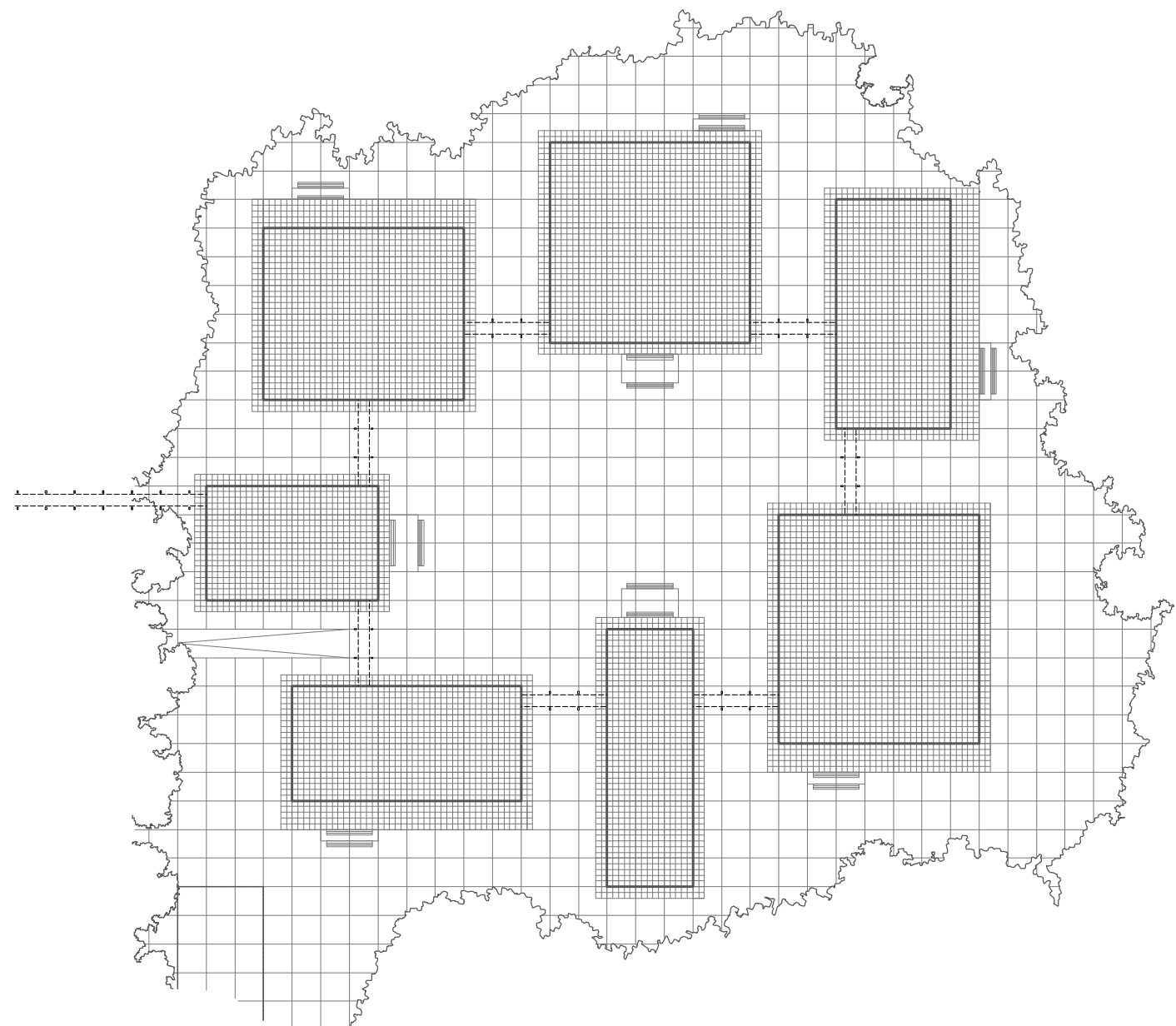
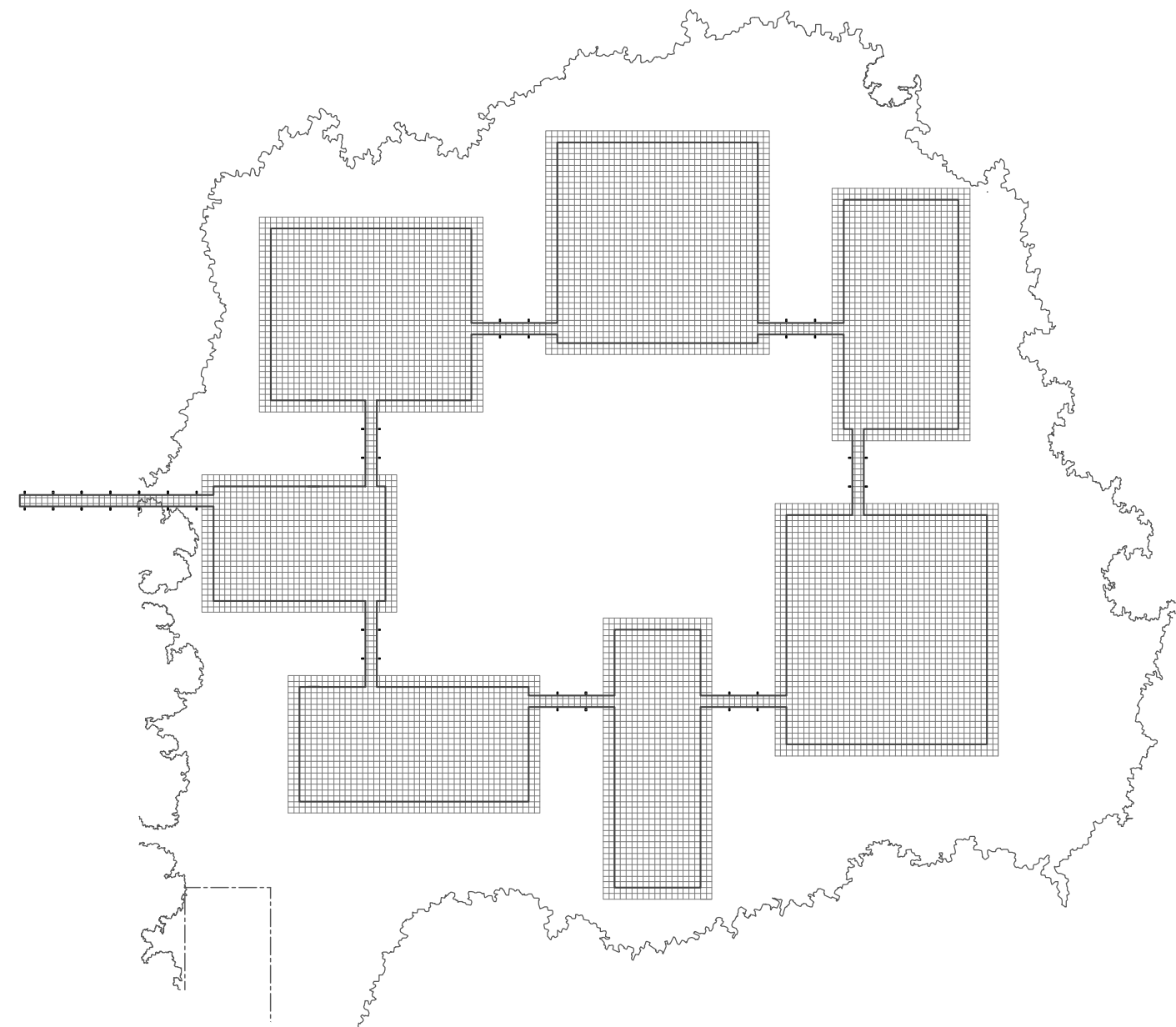


Fig. 2.40 — The ground area of the assembly is a grid with a main dimension of 6.2mx6.2m embedded in such a way that it fits within the contour of the border of trees as precisely as possible.

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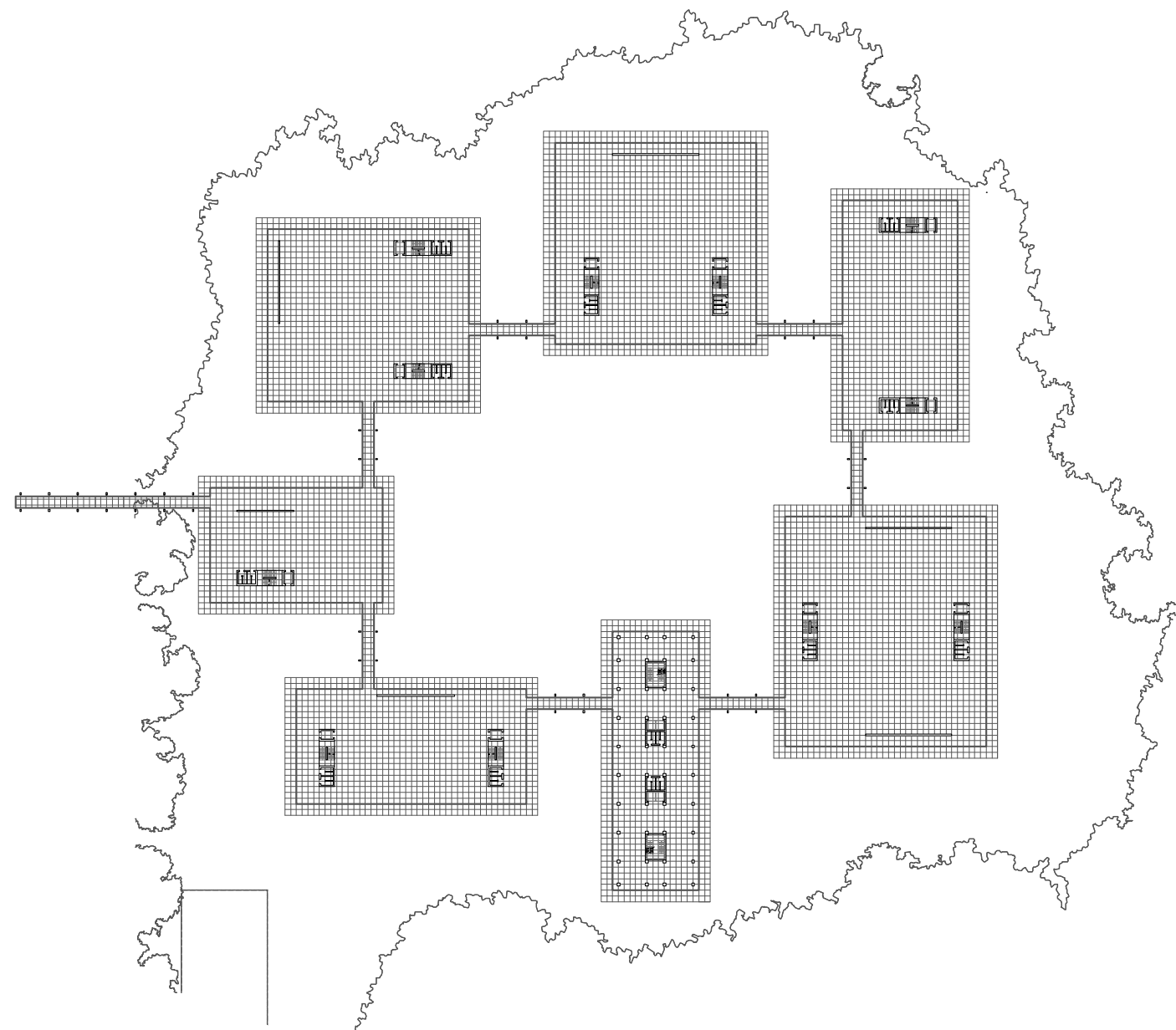
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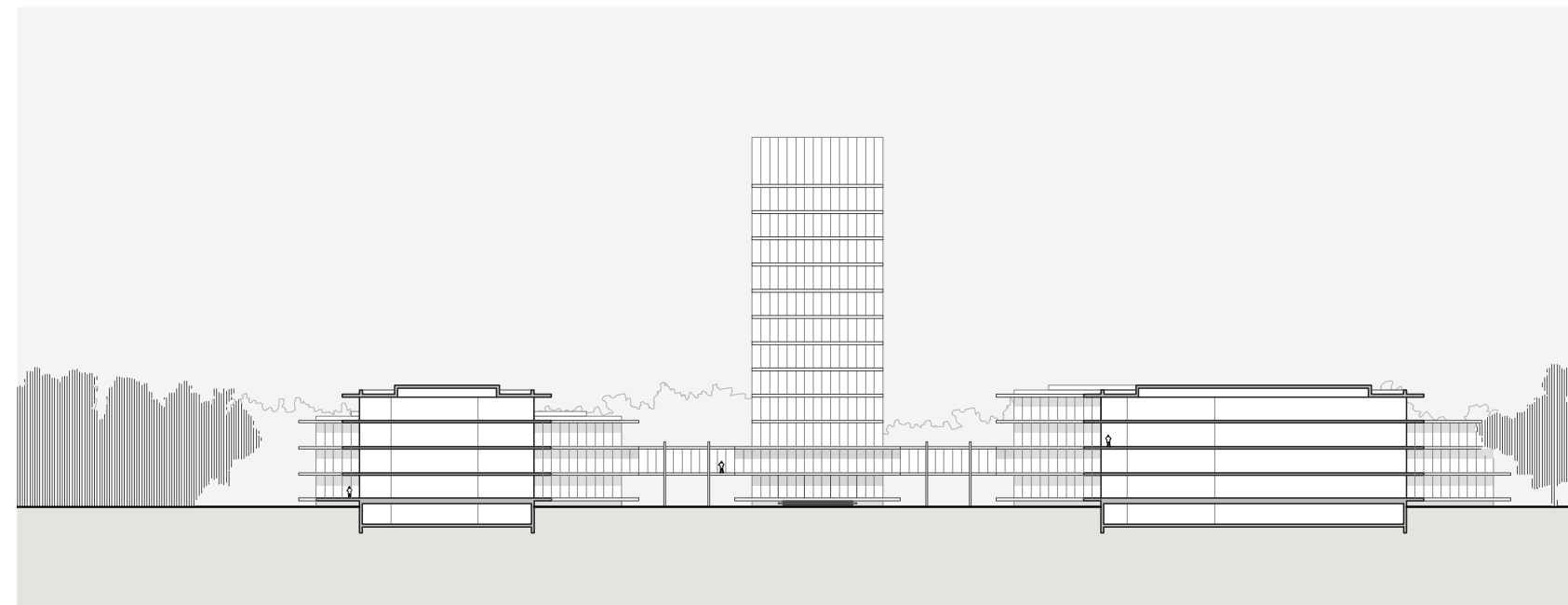
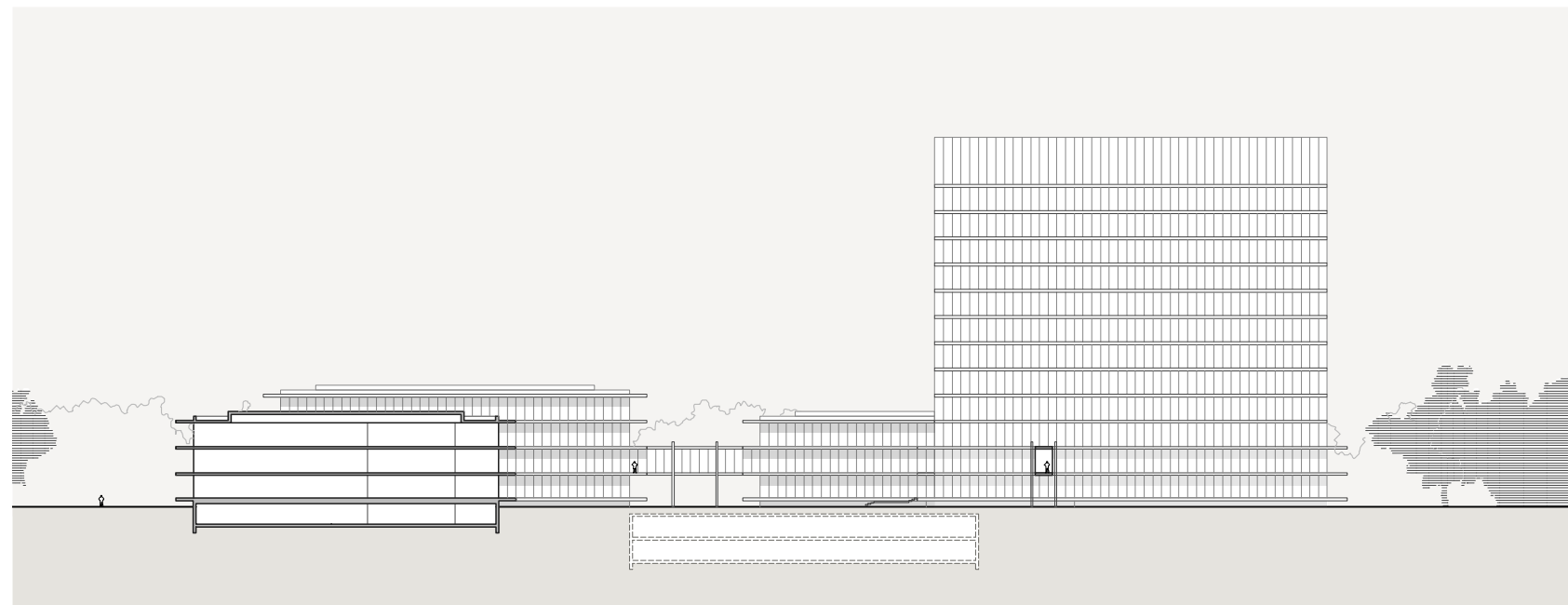
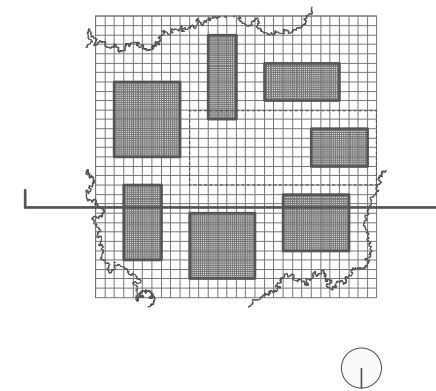
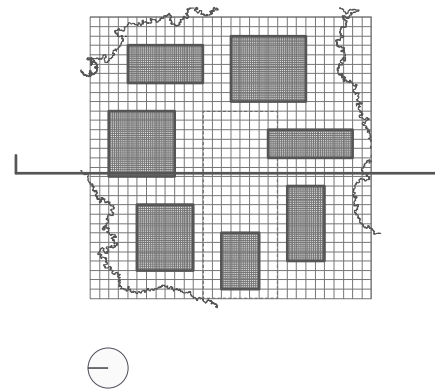


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2.7 flexible shell

In the Master Plan the expected growth of the university is accommodated mainly in the ‘flexible shell’. Specifically: one high-rise slab (1) and one low-rise hall (3), physically connected to the second focal point (2).³⁶ This high-rise slab is an exceptional building volume on the campus, whose purpose has been envisaged as a ‘breeding ground’ like the original Hoofdgebouw. After all, for the building of the Hoofdgebouw it was not possible either to anticipate future branches of science, which is why Van Embden envisaged a ‘breeding place’ within a generic building shell, a ‘nursery’

for new forms of research and new departments. This ‘flexible shell’ is precisely that: a new building assembly on the campus which accommodates the growth of the university– whatever the nature of that growth may be. In 1958 Van Embden, an acute thinker, wrote: “The plans have been set up in such a way that further expansion will remain possible at every stage - that is, as long as the size of the site does not set a limit on this.”³⁷ This ‘site issue’ is explained in detail in section 2.9.

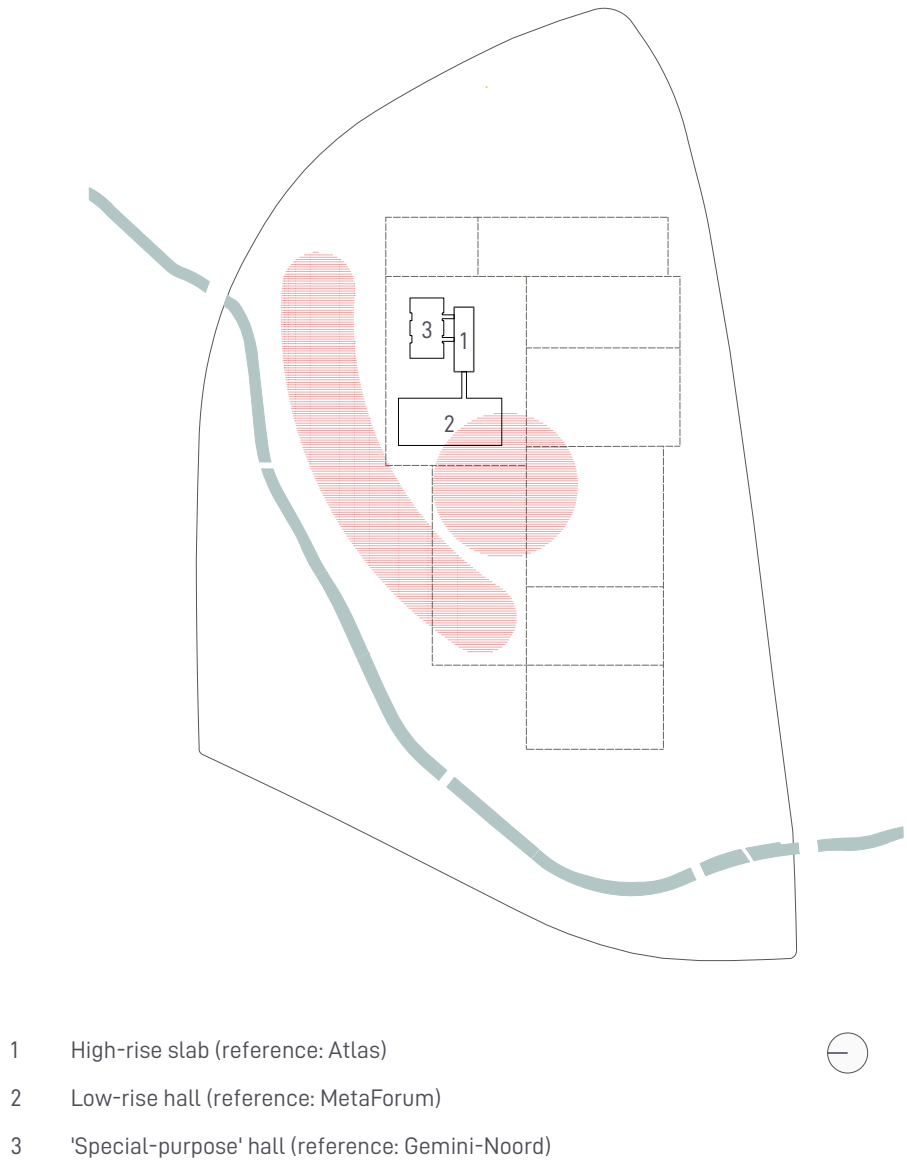
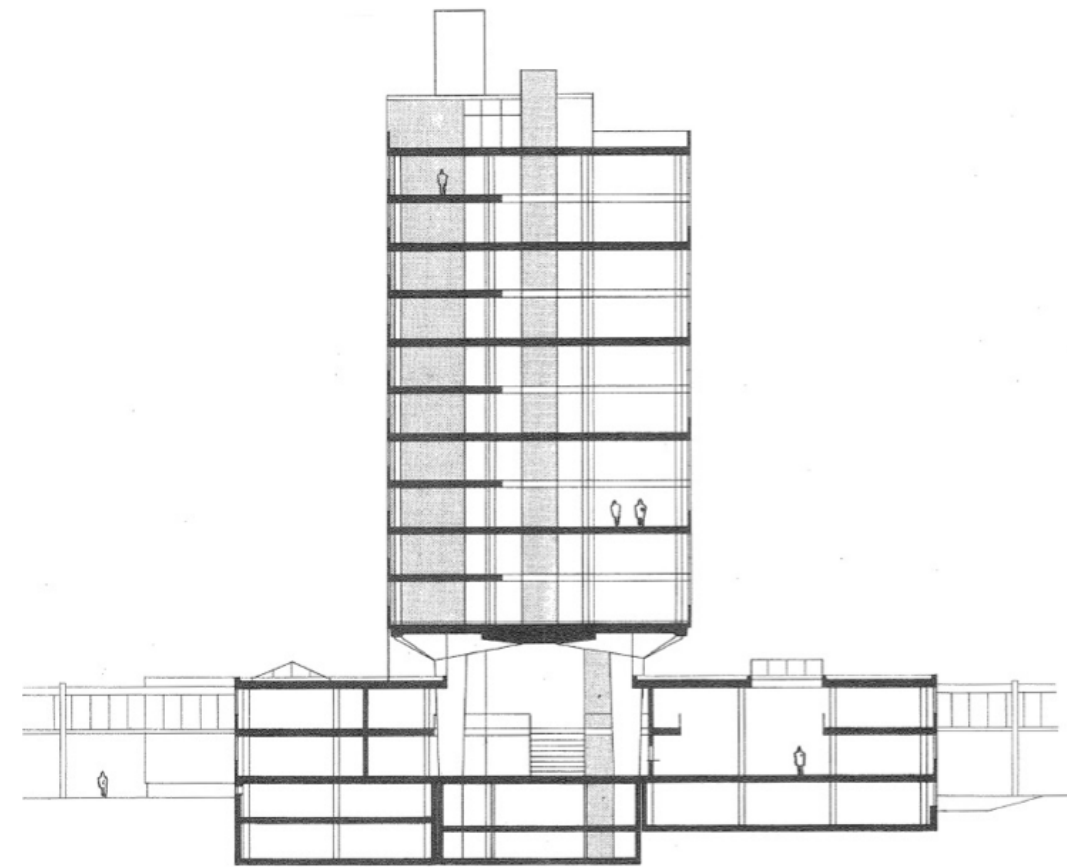
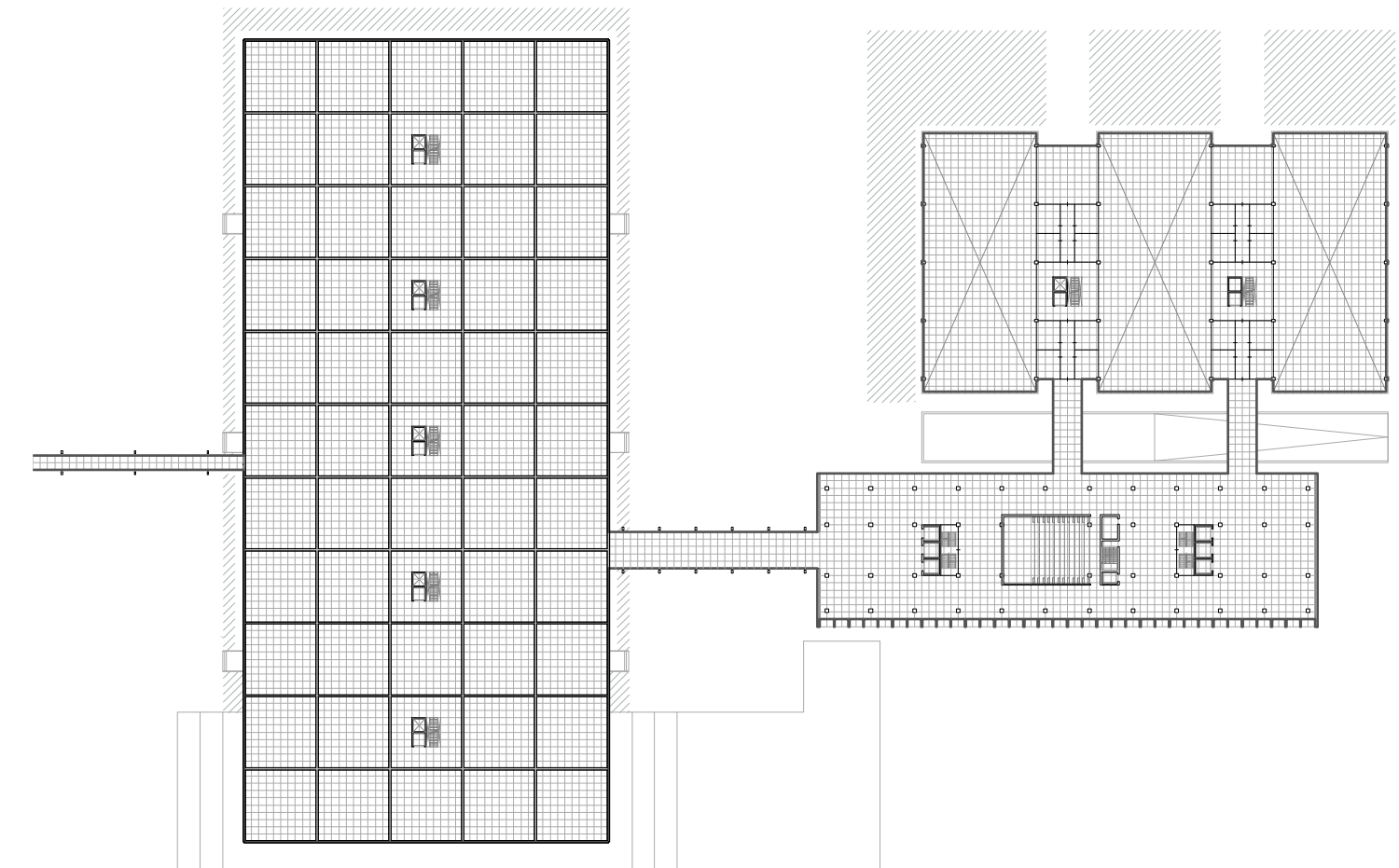


Fig. 2.47 — A 'breeding ground' for new forms of education and research between the second and fourth focal point (1) on the analogy of the former Hoofdgebouw (Atlas)

The ‘flexible shell’ in the Master Plan is formed by one high-rise slab and physically connected low-rise halls. The proposed building structure has the spatial characteristics of Atlas, the former Hoofdgebouw. The original section of the Hoofdgebouw alternates between 5 ‘double-height’ floors and 10 ‘single-height’ floors, so that different activities can unfold in the same spatial section. In the transformation to the Atlas building this principle was adhered to. In the high-rise slab of the ‘flexible shell’ the situation is not different; this block is formed by 10 ‘double-height’ floors, into which potentially 20 ‘single-height’ floors can be fitted – in proportion to the required demand at the moment of construction. It is conceivable that ‘double-height’ floors are joined spatially for specific forms of education and/or research. Uncertainty in the program does not constitute an impediment; the high-rise slab and low-rise hall are ‘intelligent ruins’ which can incorporate divergent programs. Powerful generic frameworks that can accommodate change. Where the high-rise differs from Atlas is that the tectonic articulation relative to the ground level is more subtle (not on pilotis) and that the south façade must be fitted with a brise-soleil.



*Caption fig. 2.48: the text opposite refers to this section of the former Hoofdgebouw. In this section the ‘double-height’ floor can contain two ‘single-height’ floors. A wide variety of configurations of this basic principle is possible for the benefit of a spatially differentiated section. Further: one of the most original applications of the brise-soleil is the ‘Palácio Gustavo Capanema’ by Oscar Niemeyer et al. (1936-1943, Rio de Janeiro, Brazil); a high-rise slab which is proportionally similar to the high-rise slab from the ‘flexible shell’.



2.8 expansion existing assembly of enterprises and institutes

The construction of the Twinning Center in 1999 gave business activities a definitive place on the TU/e Campus.³⁸ Relative to the 'compact campus' it is located eccentrically eastwards on the campus, right at the Ring. In the year 2019 the demand for space for activities is on the increase, as reflected in the ambition for 2030: "we will further our collaboration with industry and society, and we will extend our support for the development of new businesses."³⁹ The assembly of enterprises and institutes sketched earlier (see 2.6) is a concrete elaboration. Still, this is not the only place on the TU/e Campus where space for business

activities has been anticipated, for the area around the Twinning Center and Catalyst also holds potential for development. The difference with the assembly of enterprises and institutes located more to the south is that this assembly is more linear. The existing Catalyst-Twinning assembly gets a new programmatic and spatial boost from this expansion. Along with this growth scenario a distinct upgrading of the scenery takes place at once; the assembly acquires a new front thanks to its location along De Blauwe Loper.

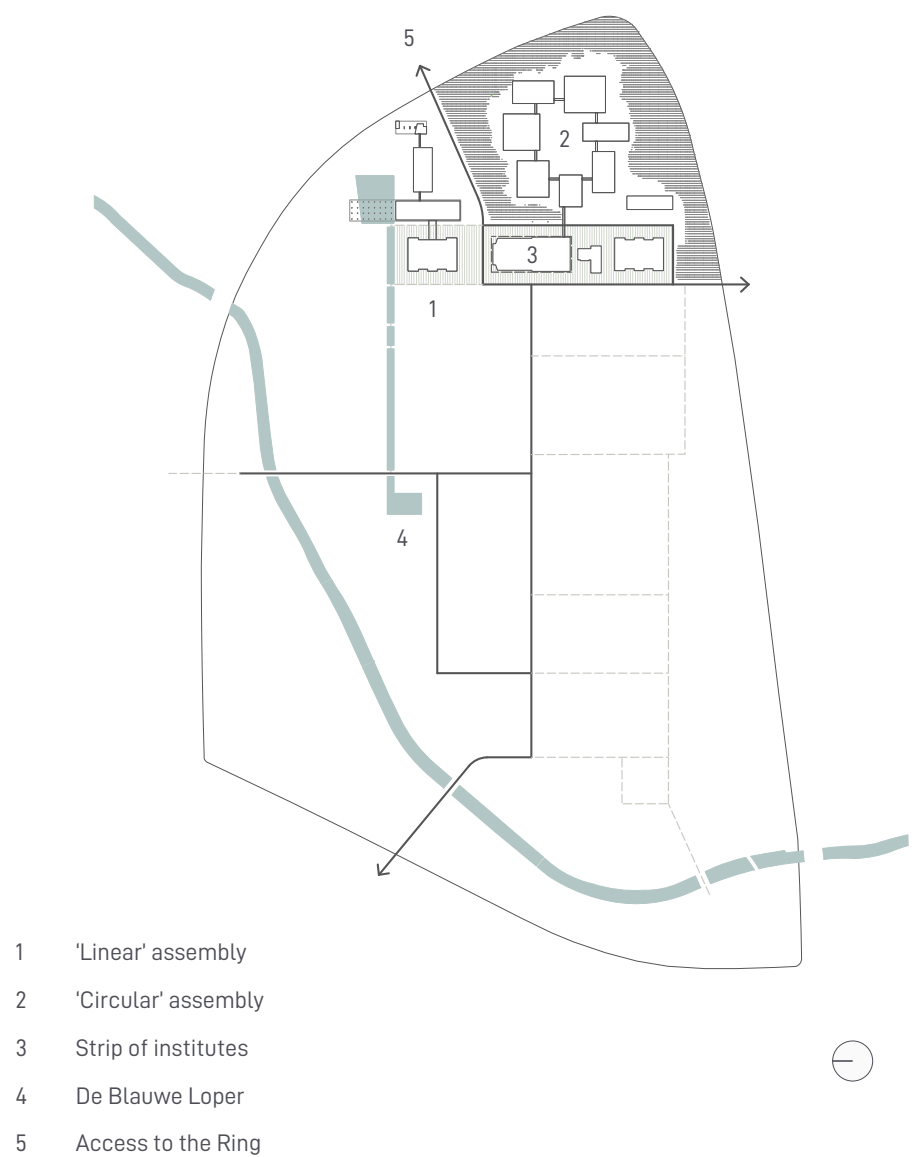


Fig. 2.50 — The two business assemblies (1+2) linked by the strip of institutes (3) (left) , both enclosed by a wooded/garden environment (cf. area around Catalyst) (right)

2.9 tu/e campus and the city

As was noted earlier, “the ‘edges’ of the site will come into view more clearly during the sixth building round . The Hondsheuvels in the north, De Karpen in the east – both bound by the Ring. The railway and the city to the south; developments around ‘Eindhoven International Node XL’ will create new conditions in this context. Cross-boundary connections like a third station exit at the Dommel or a cycle bridge across the Ring are the new standard.”⁴⁰ Whereas earlier plans for the TU/e Campus focused strongly

on its own site, this will not suffice any longer. In this Master Plan the standard will be to link the campus with the surrounding city. For Brainport is thriving, the appeal of the region, the city and the university is increasing. This draws ever greater numbers of people to the TU/e Campus, and a robust interweaving of the city and the TU/e Campus is indispensable in that context. Nine ‘cross-boundary projects’ are set out in this section to interweave and integrate the TU/e Campus (as an urban park) with the city.

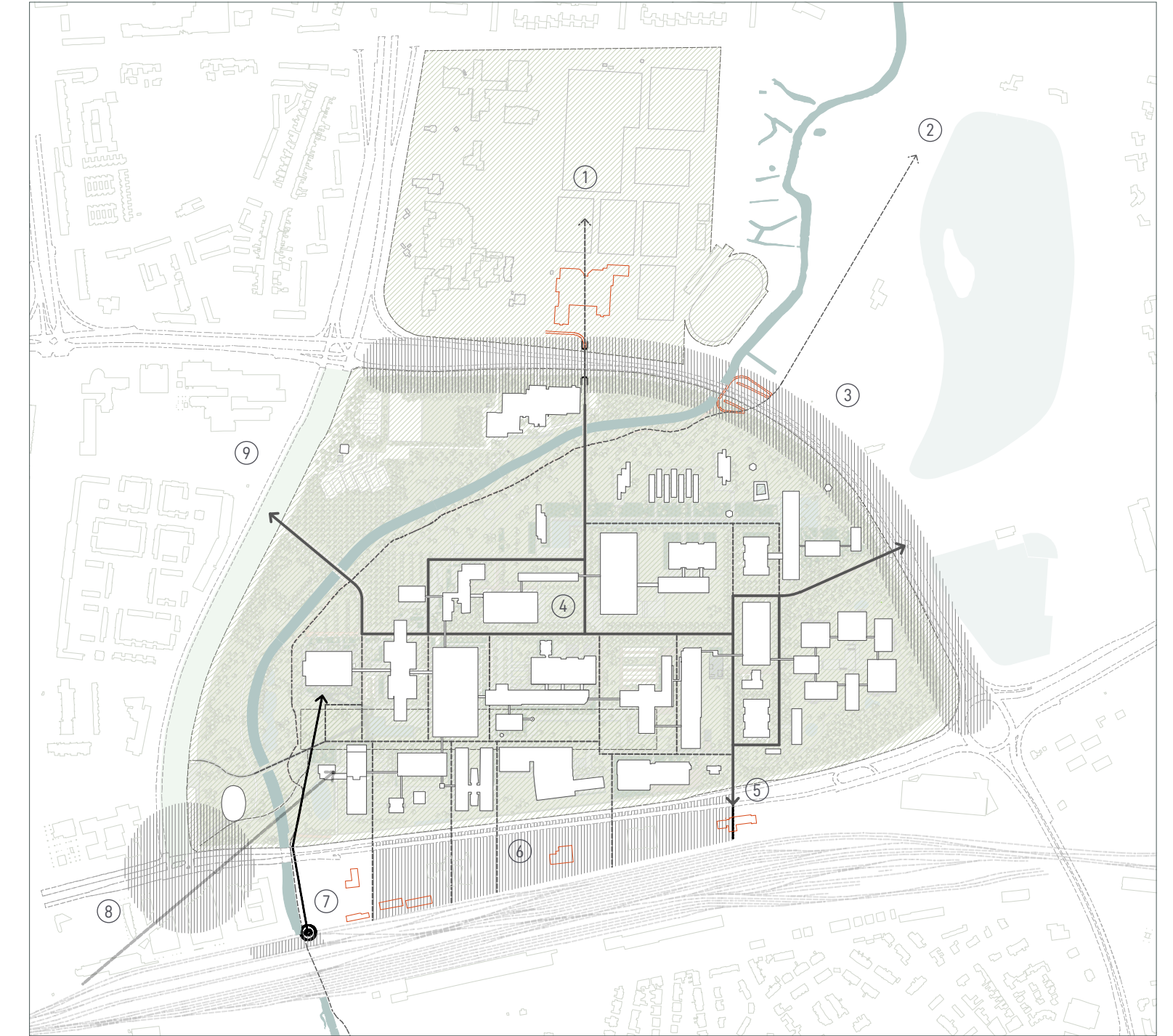


Fig. 2.51 — Nine 'cross-boundary projects' to benefit a proper interweaving of city and campus

Nine projects (clockwise):

(1) **Strengthening the connection to the Hondsheuvels.** A reorientation of the meaning of the site in relation to the TU/e Campus is essential. The envisaged second focal point on the campus and the additional fourth focal point (the student accommodation) are an exact continuation of the existing connection to the Hondsheuvels (Het Eeuwse) – and the Ring underpass. These two focal points form the logical reason for a reconsideration of an open presentation and programming of the Hondsheuvels. In this context it is crucial how to deal with the existing Fontys TF building, which now forms a blockade for an open presentation of and access to the site.

(2) **Extend the Slowlane across the campus,** along the Dommel and as a cycle bridge across the Ring to De Karpen. The Slowlane provides a scenographic route along the TU/e Campus and continues the integration of the TU/e Campus in the network of the ‘Brainport Avenue’. A gradual ascent from a cycle bridge from the Sumatrалаan towards the Dutmalapad forms a transparent access without thresholds to the TU/e Campus and vice versa. Of course the access for cyclists from the Hondsheuvels will be preserved.

(3) The two preceding projects are attempts to **eliminate the barrier effect of the Ring** and to make the TU/e Campus more accessible in the north and the east. It will be ‘part’ of this project to improve the passability of the Ring (at certain points) from the intersection John F. Kennedylaan/Onze Lieve Vrouwestraat up to and including the Berenkuil – the busiest section of the Ring. The most consistent and radical solution to get rid of the barrier effect of the Ring is (partial) roofing. Although this project is among the most ambitious – and the least urgent in proportion to the projects within the campus transformation on the Master Plan 2040 – it is explicitly embedded as a prospect for the future. Reinstatement of the brook valley without any barriers is the main goal within this context.

(4) and (6) In order to enhance and safeguard the landscape qualities of the TU/e Campus as much as possible, **alternative solutions to parking at ground level will be sought in phases.** Moreover, in the long term new mobility solutions are expected which will reduce the parking demand. That is a gradual process which is not limited to the TU/e Campus alone. After all, the matter

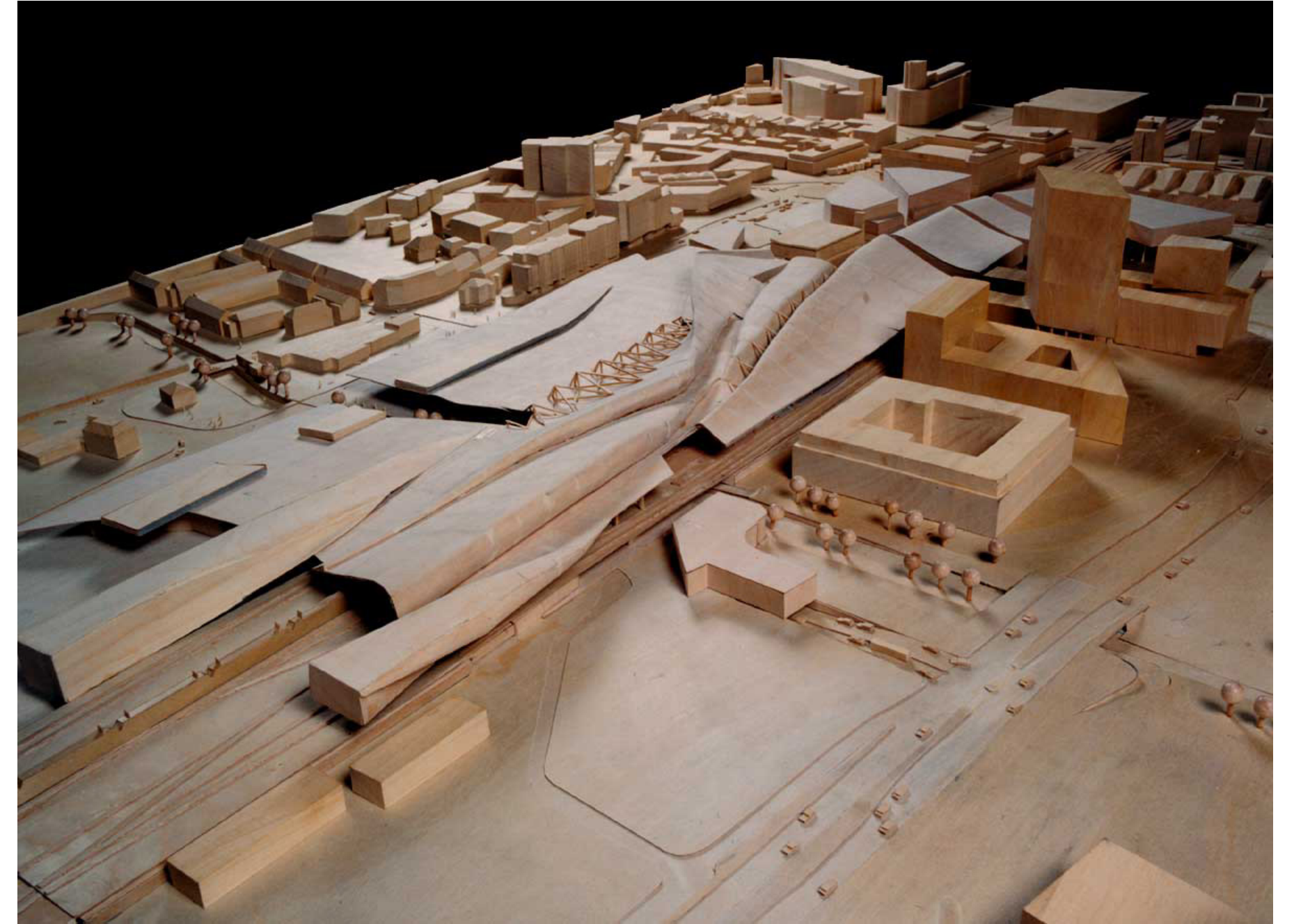
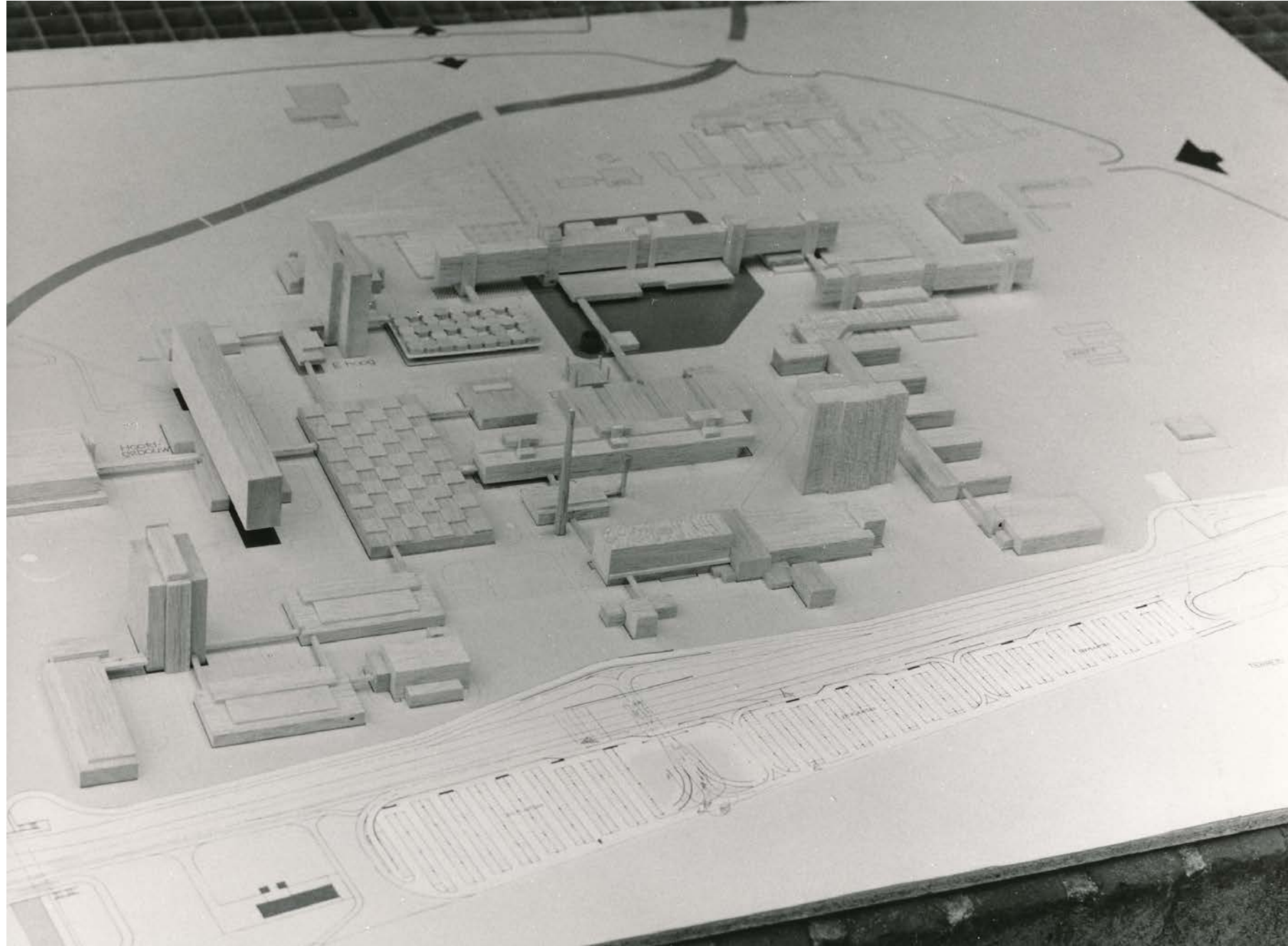
of a transformation of the TU/e Campus to an urban park cannot be separated from imminent developments around ‘Eindhoven International Node XL’ and the wanted connection with the railway zone. An indication that the issue of the urban park is connected with the (buffer) potential of the railway zone is the fact that Van Embden in the early 1970s devised an integral solution to the parking issue in the railway zone (see next page).⁴¹ Simultaneous with the publication of the Master Plan and in conjunction with the Landscape Vision that is being developed, a study is conducted into possible alternative solutions to parking at ground level. New mobility concepts will be incorporated into this. Of course, good accessibility to the campus for all its users remains the starting point as well as a vital part of the concept of the open campus.

(5) Proper **crossing options for the Prof. dr. Dorgelolaan** are required if the railway zone is to be involved in the TU/e Campus and vice versa. The profile of the Prof. dr. Dorgelolaan must be adjusted for this, preferably in relation to the fabric of roads on the TU/e Campus. (And the role of the Prof. dr. Dorgelolaan as an extension of ‘Fellenoord as a city boulevard’ in ‘Node XL’.)

(7) **Contact with the N.S. platform near the Dommel in the form of a third station exit** has been an ambition from the earliest building rounds, which has become relevant once more in the planning of ‘Eindhoven International Node XL’. The Master Plan 2040 understands the importance of a third station exit for the TU/e Campus – provided future passenger flows are guided onto the TU/e Campus in a properly managed way. In the event of a third station exit it is an emphatic wish that the flows should not enter the campus directly via the Prof. dr. Dorgelolaan, merely that they should be guided scenographically, parallel to the Dommel, into the landscaped forecourt between Auditorium and Atlas.

(8) **A spatial view of ‘the nose of the TU/e Campus’,** the most complicated spatial node of the area relative to developments around ‘Eindhoven International Node XL’/‘Development Vision Fellenoord’.

(9) Given the low traffic intensity of the John F. Kennedylaan, it should be **downgraded as a traffic artery, thus granting more space to the Dommel valley.** The character and the profile of the John F. Kennedylaan – a ‘parkway’ – are eminently suited for this.



chapter 3

image credits, appendices and notes

3.1 tu/e campus in figures, transformation campus

In the map opposite, the total transformation of the campus in conformity with Master Plan 2040 is visualized. Note that this concerns the area enclosed by the John F. Kennedylaan, Onze Lieve Vrouwestraat-Insulindelaan and the Prof. dr. Dorgelolaan, which constitutes the core area of the campus. The total transformation may be divided into four categories: (1) buildings to be preserved (existing buildings where no changes will be made), (2) transformation (renovation, redesignation, etc.), (3) new buildings, (4) demolition of existing buildings. At the time of writing, this

area accommodates 447,750 m² Gross Floor Area (GFA). In conformity with the Master Plan (1) 218,080 m² GFA will not be changed essentially (only regular maintenance), (2) in accordance with Real Estate Strategy 2030 + Master Plan, 167,350 m² GFA will be transformed (note: the whole building area has been included, e.g. Auditorium: 16,760 m² GFA), (3) 180,860 m² (including walkways) of new buildings may be added in conformity with Master Plan 2040 and (4) in order to realize new buildings, 62,330 m² GFA will be demolished.⁴²

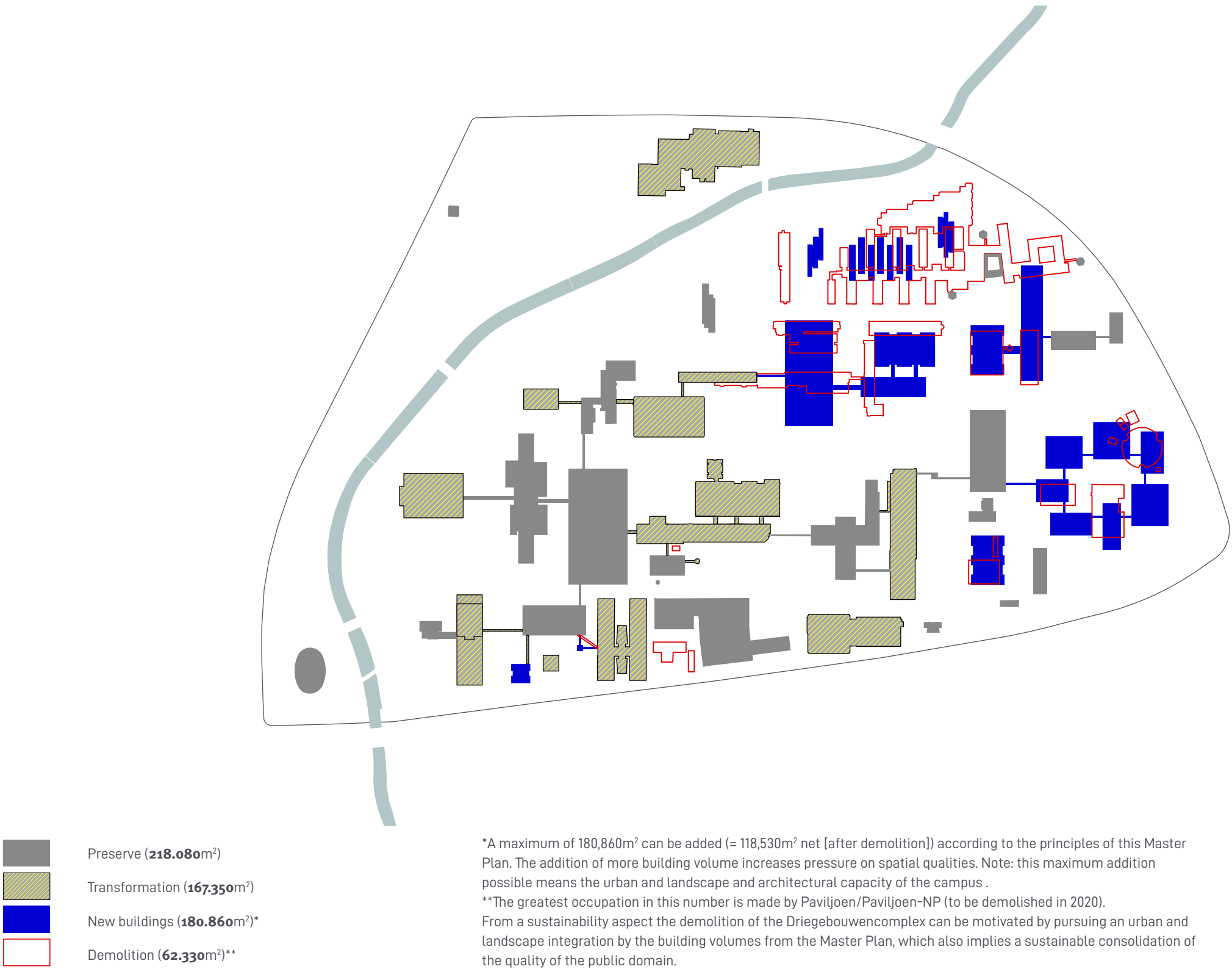


Fig. 3.1 — Transformation plan TU/e Campus cf. Master Plan – excluding significant annexes (but included in the figures) and smaller water structures 135

3.2 development vision fellenoord

It has been mentioned that developments around 'Eindhoven International Node XL' will create new conditions and that "cross-boundary connections such as a third station exit [...]" will be "the new standard". The present status of ideas has been added to this Master Plan in an impression (version July 2019). 'Eindhoven International Node XL' will be concretized on the north side of the railway line (Fellenoord area) by KCAP Architects&Planners in a supervisory role. For this purpose KCAP Architects&Planners has drafted a 'Development

vision and development framework Fellenoord' so as to describe "the integral vision for the area to the north of the station until 2040"⁴³ The time frame of this vision links up with the time frame of the Master Plan 2040. This implies that the images attached are subject to change, but they do show a) an increase in building density of Fellenoord (the "urbanization assignment for the Netherlands") whereby 1) Fellenoord will become a city boulevard, 2) and a movement towards a multimodal node will be made.⁴⁴ The importance of the Dommel valley is noted specifically.



Fig. 3.2 — Draft vision: impression of 'Development vision Fellenoord' (status July 2019) by KCAP Architects&Planners

3.3 further study

The Master Plan 2040 heralds the sixth building round. The publication of the Master Plan will soon be followed by the accompanying Landscape and Real Estate Vision for the TU/e Campus. The dynamics are huge and a growth scenario is to be expected for the city and the campus alike. The aspired tighter link with the city will become more and more important, as has been explained in detail in section 2.9. These conditions imply that the complexity of the process will increase and so will the need for additional studies and external consultations. Within the context of ‘Eindhoven International Node XL’ and the ‘Development

vision Fellenoord’ many (mobility) studies are being conducted at national, regional and local levels (e.g. MIRT). The exact nature and profile of the Prof. dr. Dorgelolaan, the introduction of one or more ‘mobility hubs’, the parking demand of the TU/e Campus and the possible exchange of parking concepts; while the ambitions in the Master Plan are clear, the above spatial changes require further study and consultations. This process is ongoing at the time of publication of the Master Plan and will become more concrete in the coming years.⁴⁵



Fig. 3.3 — Further study including(national) mobility vision for the surrounding roads, the vision of the parking concepts (of the TU/e Campus) in connection with 'International Node XL', etc.

3.4 notes

Chapter 1

Note 1, p. 16	Christian Rapp <i>et al.</i> , <i>Masterplan TU/e Science Park</i> (Eindhoven: Eindhoven University of Technology, 2012).
Note 2, p. 16	Samuel van Embden, ‘Deel II: Het stedenbouwkundig plan en de algemene opzet der gebouwen; toelichting op de gebouwen, waarvoor de plannen in principe zijn uitgewerkt.’, in: <i>Herzien programma van eisen met schetsplan en globale begroting</i> (Eindhoven: Technische Hogeschool Eindhoven, 1958), 75-96.
Note 3, p. 19	campus, ī <i>m</i> 1. the open field; From: Harm Pinkster (ed.), <i>Woordenboek Latijn/Nederlands</i> (Amsterdam: Amsterdam University Press, 2018).
Note 4, p. 20	Van Embden, <i>Deel II: Het stedenbouwkundig plan en de algemene opzet der gebouwen</i> , op. cit. (note 2), 75.
Note 5, p. 20	Ibid., 76.
Note 6, p. 20	In the university strategy for 2030 it is strongly encouraged to abandon the university site as a monofunctional enclave and to allow activities and third parties (commenced in the fourth building round). See: <i>TU/e Strategy 2030: Drivers of Change</i> (Eindhoven: Eindhoven University of Technology, 2018).
Note 7, p. 22	In the maps of this Master Plan not all annexes (read: small technical buildings) have been shown for the sake of legibility. A very limited selection of annexes <i>has</i> been shown because the annexes concerned form part of a building assembly and/or because they have a strongly (negative) visually prominent function despite the supporting nature.

Note 8, p. 26	<i>TU/e Strategy 2030</i> , op. cit. (note 6), 68. Please note: in this quote 15.000 and 3.500 are stated wrongly, here they are taken over in conformity with the British spelling as 15,000 and 3,500.	Note 15, p. 30	The publication referred to hereafter introduces the ‘Centrale Loper’ definitively as the spatial backbone for the campus: Stuurgroep Huisvesting TUE, <i>Vernieuwde TUE rondom ‘Centrale Loper’: Discussienota II, huisvesting in perspectief</i> (Eindhoven: Eindhoven University of Technology, 1996). For a further description of the fourth building round, see: Meurs, <i>Cultuurhistorische verkenning campus</i> , op. cit. (note 9), 72-73.
Note 9, p. 26	The concept of ‘building round’ and the identification of the first four building rounds have been derived from: Paul Meurs, Johanna van Doorn and Chawwah Six, <i>Eindhoven University of Technology: cultuurhistorische verkenning campus</i> (Schiedam: Urban Fabric BV en Steenhuis stedenbouw/landschap, 2009). The Master Plan 2040 updates the status with a fifth and sixth building round.	Note 16, p. 34	Rapp <i>et al.</i> , <i>Masterplan TU/e Science Park</i> , op. cit. (note 1), 18-19.
Note 10, p. 28	Van Embden, <i>Deel II: Het stedenbouwkundig plan en de algemene opzet der gebouwen</i> , op. cit. (note 2), 75.	Note 17, p. 34	‘Eindhoven International Node XL’ (sometimes abbreviated to ‘NodeXL’) is a working title for a renewed spatial vision of the railway zone of Eindhoven from 2019. The northern section is elaborated further in the ‘Development vision and development framework Fellenoord’ by KCAP Architects&Planners (see note 43).
Note 11, p. 28	Samuel van Embden, ‘Aantekeningen van de architect, ir. S.J. van Embden, bij de bouwplannen voor de Technische Hogeschool te Eindhoven’, <i>Bouwkundig Weekblad 75/20</i> (1957), 258-265.	Note 18, p. 36	A recalibration of the ‘Real estate strategy 2030’ will be published soon after the publication of this Master Plan. The ‘transformation projects’ presented here are derived mainly from the existing ‘Real estate strategy 2030’ from 2018.
Note 12, p. 28	Meurs, <i>Cultuurhistorische verkenning campus</i> , op. cit. (note 9), 66-67. In a reflection upon the third building round the contrast or, as the case may be, the transition between ‘factory-like’ and ‘humanization’ was made analogous to the first and second building rounds. (With reference to the non-realized ‘bridge building’).	Note 19, p. 37	See note 7.
Note 13, p. 30	Ibid., 66.	Note 20, p. 44	Demolition could not be reconstructed – for the fourth building round except for several hardly significant annexes.* A selection of transformed buildings has been charted as far as possible. Only during or after the fourth building round are there large-scale demolition activities taking place. The largest such activities per building round: Warmte en Stroming (fourth building round), N-laag (fifth building round) and the Paviljoen (including Paviljoen-NP) (sixth building round). This ‘paradigm shift’ during the fourth building round can be explained by a) the transfer of central government ownership in 1995 and b) the age of the buildings from the first building round exceeded 30 years meanwhile. In the Master Plan the partial demolition of the Driegebouwencomplex is the largest demolition work apart from the demolition of the Paviljoen. *(Not counting very early demolition incl. Brugstraat/Balistraat ; demolition Deltapaviljoen, at the end of 1993 (see note 38) announces the fourth building round).
Note 14, p. 30	The word ‘Masterplan’ appears in the fourth building round in the following publication: Stuurgroep Masterplan Huisvesting TUE, <i>Masterplan TU Eindhoven: planvorming en concrete projecten</i> (Eindhoven: Eindhoven University of Technology, 1999). This Master Plan is a late and updated translation of the <i>discussion paper II</i> : ‘Huisvesting in perspectief’ from 1996. The precursor of this document was the <i>discussion paper</i> ‘Huisvestingsplan in hoofdlijnen’ from 1994. In the ‘final’ document from 1996 the ‘Vernieuwde TUE rondom “Centrale Loper”’ was proposed.		

Note 21, p. 44

Van Embden has divided the site into three ‘phases’/‘parts’: phase 1 (west side), phase 2 (center) and phase 3 (east side). The elaboration of this division, due to economic/procedural/spatial motives, was that the first two building rounds were highly concentrated. Once Van Embden was no longer involved in the campus, the buildings were spread across the site much more (mainly during the fourth building round).

Chapter 2

Note 22, p. 50

This revaluation emanates explicitly from Van Embden’s ‘open campus’ idea. See: Van Embden, *Deel II: Het stedenbouwkundig plan en de algemene opzet der gebouwen*, op. cit. (note 2), 75.

Note 23, p. 50

Meurs, *Cultuurhistorische verkenning campus*, op. cit. (note 9), 67. See: NAI [ODEEd2635], ‘Voorstudies Bruggebouw’, July 1970.

Note 24, p. 68

There are several exceptions to this compositional principle on the campus: thus, Atlas and MetaForum are parallel to each other. It is obvious that parallelism can only be used very seldom within a dynamic composition.

Note 25, p. 74

See note 23.

Note 26, p. 78

The building complex which is called the ‘Paviljoen’ in the existing situation is a comb-shaped building structure; wings condensed around a central reception building with a pond. This complex stems from the first building round and was expanded in the second building round with the ‘Paviljoen-NP’. This low-rise hall consists of a spatial timber-framed construction and has an interesting, powerful spatial effect. However, with today’s knowledge the Paviljoen-NP lies at an unacceptable distance to the Dommel valley. Consequently, on the north side of the Paviljoen-NP a situation has arisen that is poorly organized and whose quality is inadequate. The Paviljoen-NP ‘pinches off’ the Dommel valley there, as it were. The spatial completion of and access to the campus on that spot merit due attention.

Note 27, p. 80

The standard for a ‘long walkway’ is the length of the walkway between Auditorium and Atlas: in length and scale this is the most representative one. Longer walkways in the area covered by the plan should be explicitly avoided.

Note 28, p. 81

In this map only collective areas/areas accessible to the general public have been charted which are connected by means of walkways. Of solitary volumes only the building map at the level of the first floor has been charted.

Note 29, p. 88

Use of primary colors in the art-historical sense of the word (cf. ‘De Stijl’).

Note 30, p. 88

See note 29. So this does not concern the present-day understanding of the concept of ‘primary colors’ or as the case may be magenta and cyan.

Note 31, p. 90

By way of clarification: the years proposed are strictly hypothetical and can be recalibrated according to new insights and/or the phasing can be determined differently.

Note 32, p. 92

TU/e Strategy 2030, op. cit. (note 6), 71.

Note 33, p. 101

The cycle and pedestrian tunnel under the Ring has remained unused for more than four decades; an indication of the neglected relation with the Hondsheuvels to the north. Only in 2006 was the tunnel renovated and only since then has it become part of the cycle network on and to the campus.

Note 34, p. 102

TU/e Strategy 2030, op. cit. (note 6), 69.

Note 35, p. 110

Ibid., 17.

Note 36, p. 120

A sequence is imaginable in which the construction of the high-rise slab in the ‘flexible shell’ is begun first.

Note 37, p. 120	Van Embden, <i>Deel II: Het stedenbouwkundig plan en de algemene opzet der gebouwen</i> , op. cit. (note 2), 75.
Note 38, p. 124	<p>Inter alia in the former Deltapaviljoen there was already room for activities:</p> <p>“In 1985 the TUE was the first university to present this setup for young starters with innovative enterprises. Other universities followed suit.” From: ‘Deltapaviljoen gesloopt’, Cursor 36/4 (1993), 1.</p> <p>With the construction of the Twinning Center, ‘activities’ acquired a permanent place on the campus.</p>
Note 39, p. 124	<i>TU/e Strategy 2030</i> , op. cit. (note 6), 4.
Note 40, p. 126	See note 17.
Note 41, p. 129	<p>This reference is explicitly not intended to be understood literally. It is not the ambition of the Master Plan to realize Van Embden’s ‘drive-in’ parking area from the 1970s in the railway zone again. It is merely illustrative to consider the parking demand in conjunction with the railway zone.</p> <p>Chapter 3</p>
Note 42, p. 134	See note 18.
Note 43, p. 136	KCAP Architects&Planners, <i>Ontwikkelvisie en ontwikkelkader Fellenoord</i> (Eindhoven: Gemeente Eindhoven, 2019), 6.
Note 44, p. 136	Ibid., 18.
Note 45, p. 138	At the time of publication, structural consultations are already ongoing between the Municipality of Eindhoven, KCAP Architects&Planners and TU/e.

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Commissioned by

Executive Board/Real Estate Management
Eindhoven, Eindhoven University of Technology

The Master Plan 2040 is a recalibration of the Master Plan TU/e Science Park from 2012, which accompanied the transformation from a university campus to a Science Park until 2020. Two explicit choices from this previous Master Plan are: a) the TU/e Science Park will be an urban park, b) the TU/e Science Park will present itself architecturally as one evolutionary whole. These choices are an emphatic reference to and revaluation of the original modernistic campus from the 1950s. Campus architect Samuel van Embden expressed it as follows: “We have decided on an *open* layout: the site will in principle be accessible to

citizens as well; the idea of a closed campus has been rejected intentionally.” The Master Plan 2040 reevaluates the open layout of the original campus and translates this principle to a TU/e Campus of a decidedly public nature. Its inner-city location with its outer-city nature makes the TU/e Campus unique. The goal of the Master Plan 2040 is to identify, and continue building on, the intrinsic qualities of the TU/e Campus. Hereto, this Master Plan offers an extensive urban and architectural design instrumentarium (in coherence with a plan drawing) to embed future building demands on the campus in a qualitative and durable way.