

"Today, city and countryside meet on an interface that evolved into the most typical contemporary condition of urban sprawl. This interface is no longer an edge, but a vast territory that accommodates an increasing amount of people in industrialised countries.

The archaic city, over centuries defined through the contrast with the countryside, has ceased to exist and has become an irrelevant concept.

It is the "urban field" that comes forward as new paradigm, replacing the archaic concept, but unlike the old city, lacking clarity and legibility. An infinite carpet of seemingly 'sub-urban' development has rolled out over old green landscapes to form an ambiguous field that gradually eroded the gravity of old city centres. A voracious wave of urbanisation that simply took the land where it needed. Its path mostly driven by an urban rational of mobility and efficiency. Ecological interests were barely considered.

Post-modern urban landscapes are the starting point for urban design today. Its apparent randomness and chaos often evoke feelings of nostalgia to the old city in which city and nature simply framed each other in a legible way. However, nature does continue to exist, but only in a very dispersed way where scattered patches of green struggle to maintain sustainable ecological networks.

The question that rises is about the eventual destination of this careless process. How should cities grow, and how can they shrink?

The urban and the non-urban, let us call it the grey versus the green, have always been the two protagonists in the theories on architecture and cities, and continue to do so.

Today's hot topics of global warming and endangered species appear to highlight the role of the green, and focus the debate on a sustainable symbiosis between both worlds.

In Tartu, the waves of urbanisation seemed to have followed the path of minimum resistance. The floodplains of the river Emajõgi were carefully avoided and give us today a split city in which nature deeply penetrates into the core of the old centre.

The river is one of Tartu's greatest trump cards and works as ecological armature that can sustain the presence of ecological habitats in the city. But at the same time, it is a very fragile coexistence of two worlds, since the 'green' areas, including our site, do appear as an ambiguous terrain vague, under constant threat of a city that is eager to consolidate and expand.

There is great poetry in the close proximity of urban development and such sensitive ecological habitats, what makes this project into a true attempt to freeze the interface in a sustainable constellation of nature and city. It is a balance that can only be secured and improved through the manifestation of clarity, formality and legibility.

The general strategy covers a series of interventions that aim to consolidate the existing developments, define and strengthen the natural reserve, and finally connect both lobes of Tartu on a macro-scale.

Crucial for the success of this project is that these urban strategies for connectivity and integration are simultaneously considered on the level of urban AND natural networks.

Further to these strategies is the insight that any development that takes place

around the ecozone will irreversibly impact on the delicate ecological balances this area relies on.

From this understanding, emphasis lies on the regional integration of this green area:

species can continue to migrate to and from this area, and the new development does not obstruct the general 'water management' of the site.

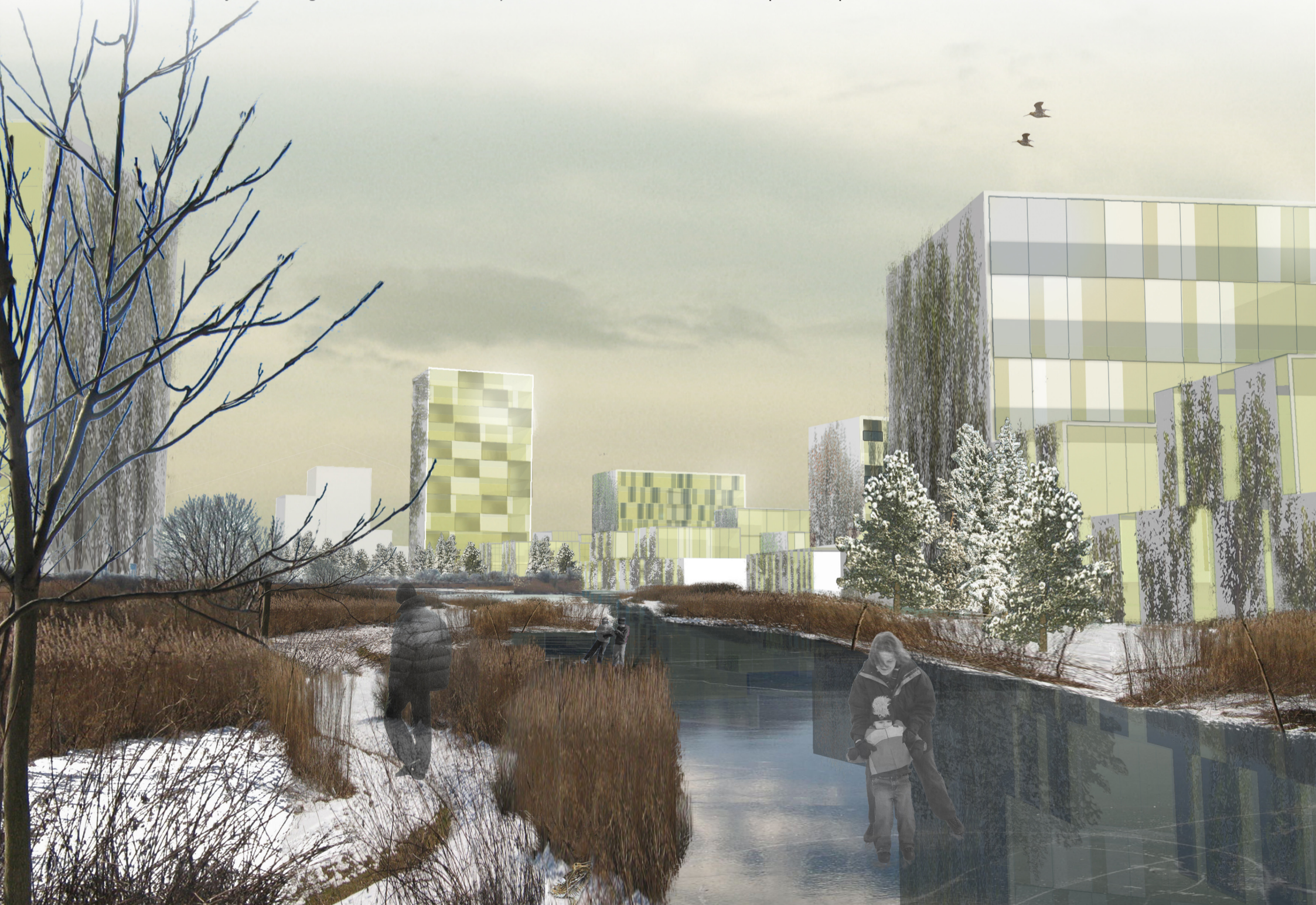
Optimal functioning of this 'altered' ecosystem is achieved through an absorption of urban activities into rather contained structures. Aim is to relief nature as much as possible from noise, pollution and high intensities of car traffic and pedestrian circulation.

The physical manifestation of this principle happens through a concept of 'urban pockets', which is discussed further in greater detail."

(Introduction European 9 competition entry - Full text at the back of this document)

And this is where we start from...

After a careful re-consideration of the brief, programme and context, we have decided to continue to work along the same lines of thought, re-using the ideas, concepts and spatial solutions for the site.



September 2009

Two years ago, we developed a scheme which aimed for a sustainable symbiosis between the natural ecology of the site and an incremental development of housing...This ambition still stands.

The ecological survey that has been conducted since the stage of the competition has put further emphasis on the value and significance of the ecological area, and clearly set out the boundaries of the 'no-built' zone.

We have decided to revise the original design proposition with clear respect to the underlying concepts and principles.

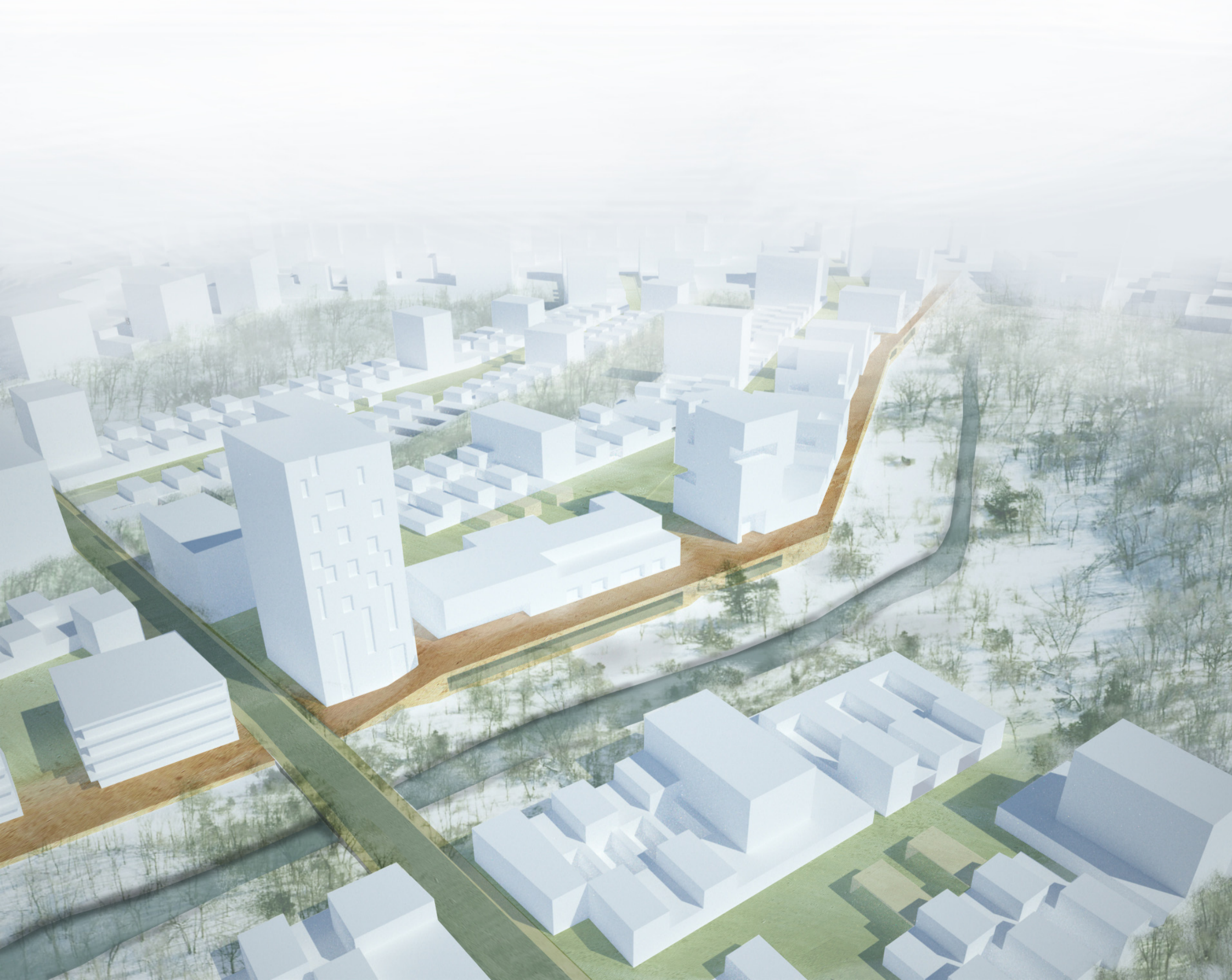
The changes to the original scheme are a genuine response to the new outline of the 'eco- zone', and take on board the new programme requirements (landuse, densities, parking provision,...)

We strongly advocate the decrease in density with nearly 30%, which we consider as a more appropriate amount of development in this context. More development would put too much pressure on the natural ecology on and around the site and would jeopardise the functioning of the area as an environmental habitat for endangered fauna and flora.

Furthermore, we consider the proximity of such conditions as a precious and unique asset that will bring quality and identity into the new neighbourhoods.

The work that follows will run through the various themes, and will explain in greater detail how and why we have amended the scheme.

The general design principles however are still valid. For the overall explanation, we refer to the original competition text which is included at the back of this document.



INFRASTRUCTURE

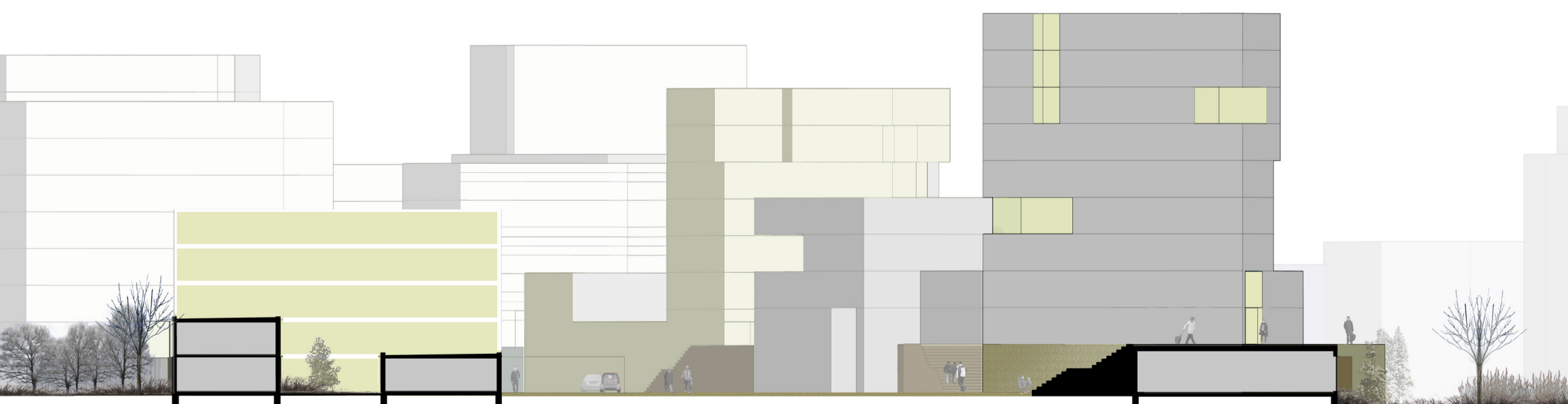
The most obvious changes are the re-organisation of development on site following the new information about the eco-zone. We have redistributed built volume that (with the old proposal) would sit inside the no-built area, to places outside.

In doing so, the first two 'fingers' (in the north-west of the site) are extended towards Kalda Road and hence become part of the general street-layout. The site is no longer an 'island' in terms of accessibility but is broken down to a scale which is more appropriate for this location in the city.

Both new roads are still classified as 'local', and potentially 'shared-surface' for cars and pedestrians that, in the first place, operate to service the local development.

However, between the two of them, the southern finger has a slightly more strategic importance. It is not only functioning as a local bypass for motorised

traffic (centrally through the site), but also works as a primary armature for pedestrians and cyclists coming from the green axis in the Annelinn Estate, and leads towards the river-park of the Emajõgi. With its significant position in the public realm network, the south side of this finger has been transformed into a public 'platform', a south-east facing boardwalk along the 'green lung' of the site. The platform is a linear structure that accomodates car-parking at level 32.5 and lifts pedestrians and cyclists to the level above, overlooking the trees and shrubbery in the marshlands. As much as this platform is a primary 'soft' route across the site, it also is an armature for development of a different typologies, and holds a battery of 'object' buildings along the line, that allow for a great permeability between the platform and the inside of the finger. These buildings will have access from both levels, and will concentrate small scale retail and public facilities towards the south, further benefitting from (and enhancing) the footfall along the platform route.

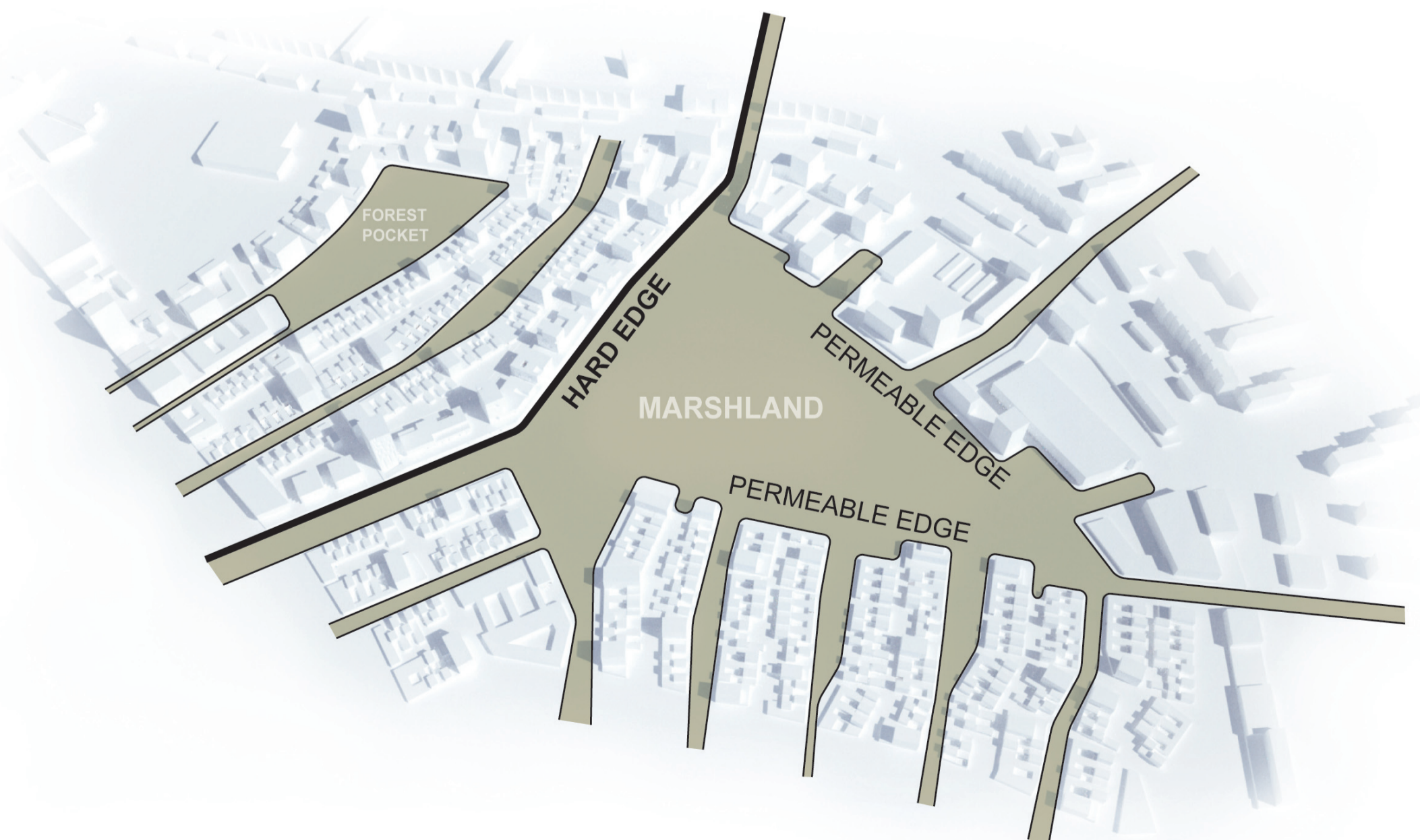


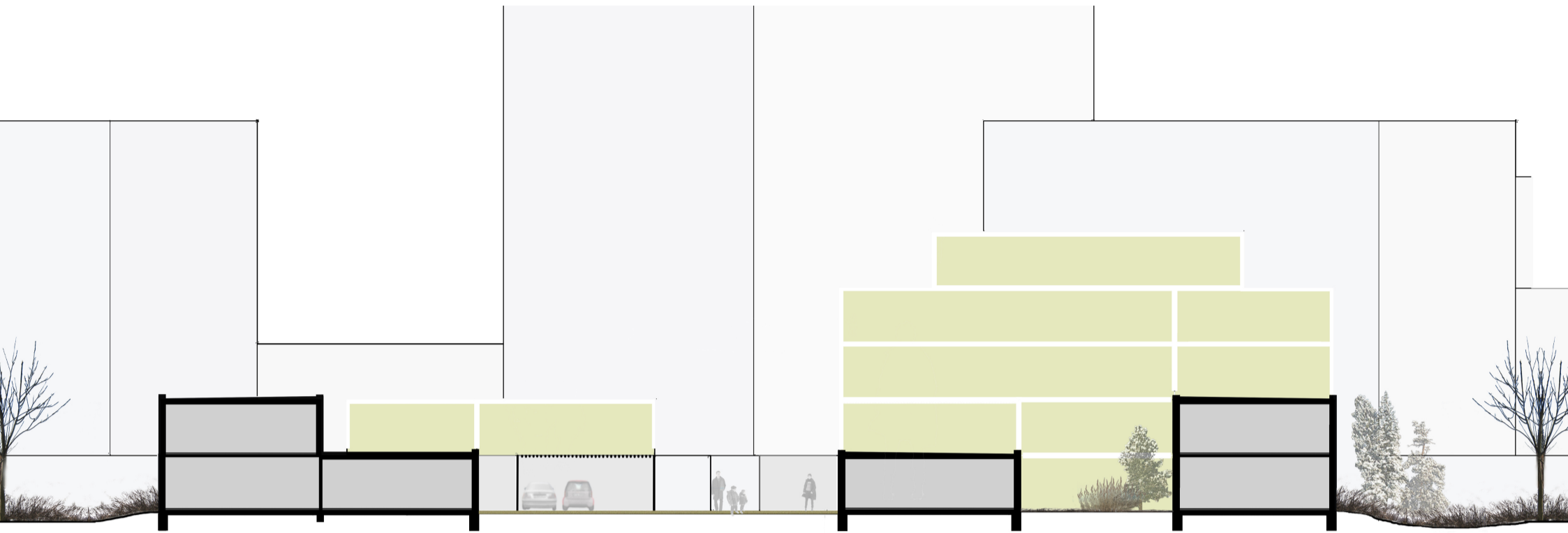
section through 'platform' finger

POCKETS IN NATURE

The platform provides a strong and legible 'edge' to the north side of the eco-zone. The other edges are designed to be more open, and function as a permeable filter between the different green zones in the area. The 'green spaces' in the open space network differ across the site: in the north, it opens up a dense forest-like pocket. The central green area is a generally more 'open' marshland with boardwalks and pathways criss-crossing between both sides.

The strips in the south were originally designed as an infiltration of the 'strip-landscape' immediately south from the site. These strips have now been replaced by short pocket-fingers as on the diagrams below, following the general design concept for the site. As such, they generate a permeable 'zipper'-edge that dialogues with the string of 'commercial pockets' along Kalda Road.





section across finger



PARKING

As stated before (see text competition stage), we are in favour of proposing a more flexible approach for car-parking on site. We believe that, with a gradual development and densification of the south of Tartu, a solid public transport system might offer a valuable alternative way of travelling, and might over time replace a certain amount of car journeys. With new projects mushrooming all around the periphery, Tartu is, in the long term, facing a substantial increase in commutes between the city centre and its fringes. Although the implementation of an efficient and frequent bus-system does not appear to be economically viable today, it will become more important, and feasible, as the city grows and bus routes can serve an increasing amount of Tartu's population. We understand that this will be the case when our site, designed to accommodate nearly another 1000 households will add up to a critical 'mass' together with the population of the Annelinn District, to implement an increasingly regular/frequent bus-system along Kalda road.

For these reasons, we have chosen to provide a variety of 'parking possibilities' (depending on the location on site), that allow for flexibility to shrink or expand the parking provision and anticipate on the demand (in case of a decrease in car-use following an increase in public transport provision and/or endorsed by policy).

1 The 'platform', has a capacity to absorb a substantial amount of parking spaces in a single linear structure. This structure serves the mix of residential and commercial buildings along the line.

2 All 'fingers' have a mix of courtyard-family housing and small apartment buildings. Each one of these apartment buildings sits on a one-level 'box' that provides parking spaces for the residents of the flats AND has an extra amount of places for the neighbouring family houses.

3 The individual family-houses are to be designed with a carport at the front which can, over time, be converted into an extra room, office space, workshop,... (see typologies)

4 The innerspace of the fingers sporadically allows for extra 'pergola' structures that can provide additional parking spaces.



LOW RESIDENTIAL

	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
Residential units	65	42	18	0	35	38	40	40	11
Required parking spaces total	98	63	27	0	53	57	60	60	17
Spaces inside units	76	54	24	0	42	44	48	54	12
Spaces outside	22	9	3	0	11	13	12	6	5

TALL STRUCTURES

	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
Residential units	73	301	18	0	55	22	27	17	9
Required parking spaces total	109	452	28	0	83	33	41	26	14
Parking Spaces inside units	138	397	32	0	78	40	51	30	19
Spaces outside	-29	55	-4	0	5	-7	-10	-4	-5
Parking Spcaes in pergolas or streets	-8	64	-1	0	15	6	2	2	0



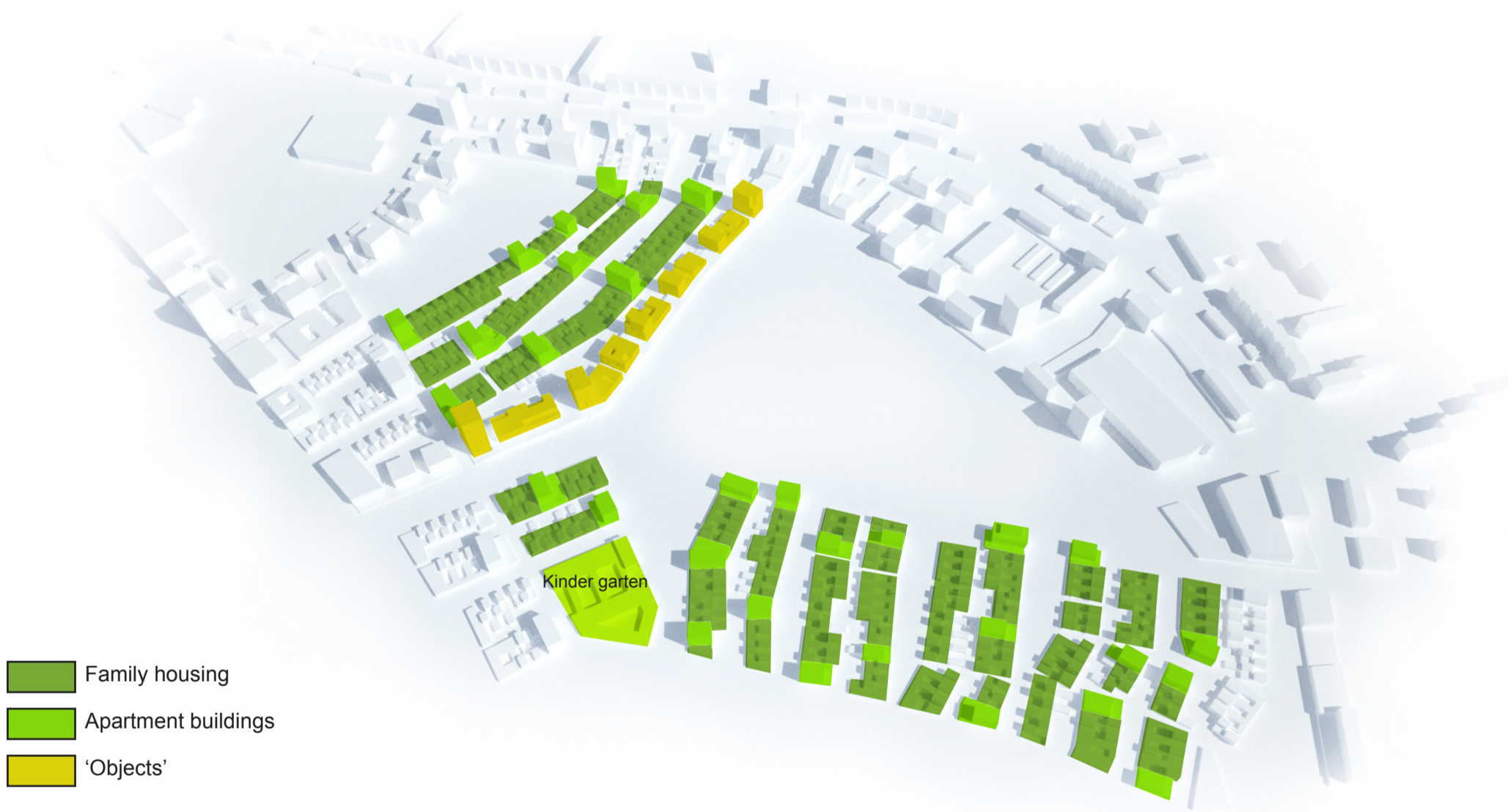
TYOLOGY - SCALE

The design accommodates a mix of typologies. The diagrams as presented are by no means meant to show a fixed architectural typology or style, but rather work as a 'simulation': this proposal reflects an 'envelope' in which Architecture can / should flourish. We expect that this scheme will develop incrementally over time, by different hands and different minds and will lead to the richness of a true urban environment. Hence, we believe that the scale of individual interventions should vary, but needs to be limited to prevent the development of monotonuous megastructures.

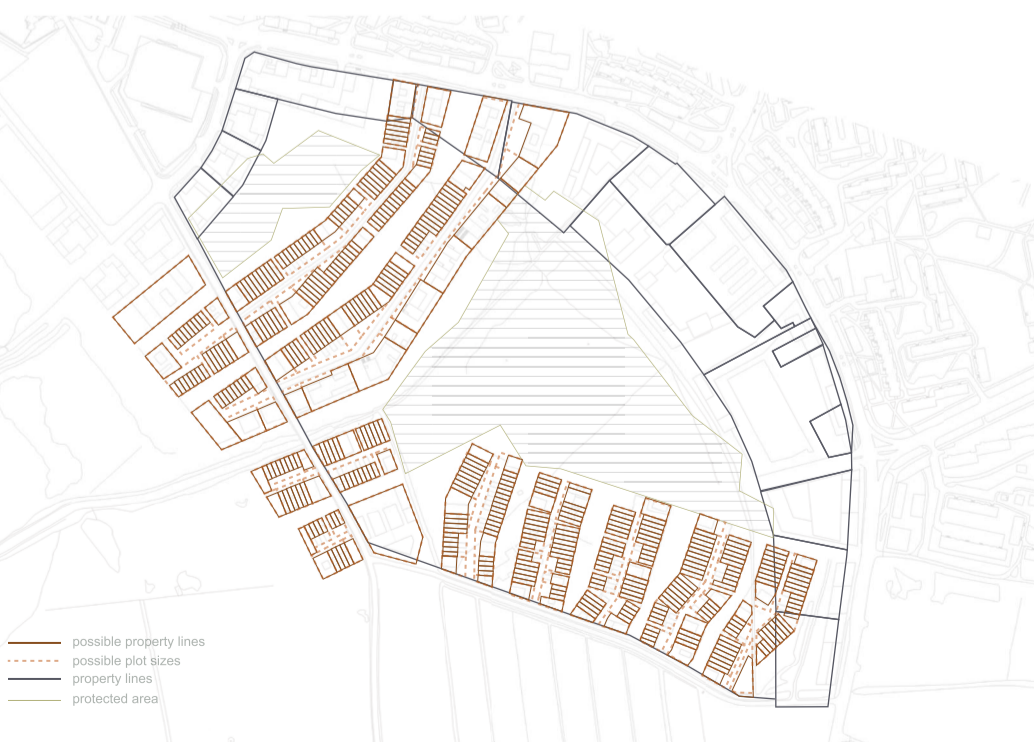
The diagrams at the bottom reflect the potential plot boundaries of an outline planning scheme, and clearly indicated the variety of scales throughout the project.

As the scheme immediately below shows, we can roughly classify the proposed typologies into three categories:

- 1: family housing (one-two levels)
- 2: apartment buildings (+three storeys)
- 3: Objects (on the platform). The objects are free-standing standing apartment buildings that can potentially incorporate a certain amount of commercial area, and/or retail facilities at ground level.



- Family housing
- Apartment buildings
- 'Objects'



- possible property lines
- possible plot sizes
- property lines
- protected area

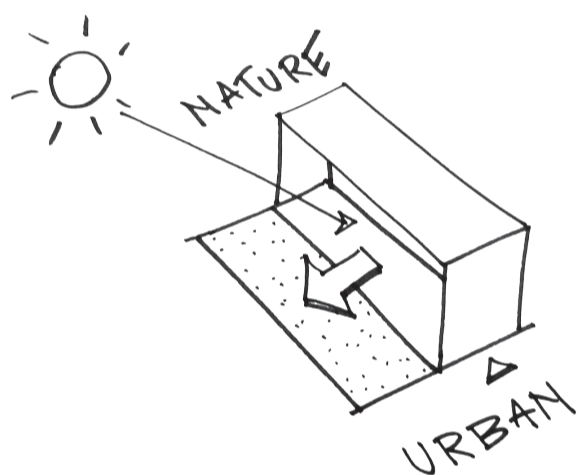


- compulsory building frontage
- possible foot prints
- line of maximum deviation

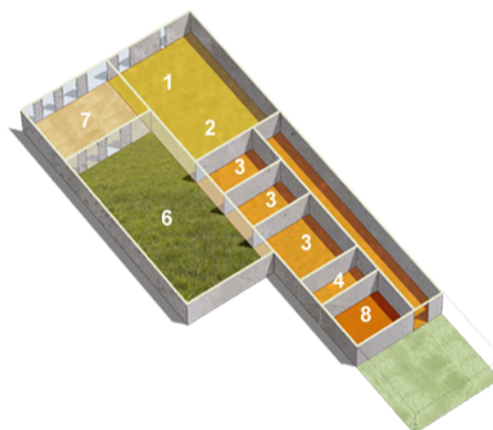
TYOLOGY - DIVERSITY

The typologies used in this proposal (examples below) are merely a simulation of what they can be. We intend to set up a comprehensive set of design guidelines that guarantee diversity whilst securing the overall urban coherence of this neighbourhood. In the midst of a very delicate natural environment, we strongly advocate that such guidelines incorporate a profound set of rules that address the various strands of sustainability. Orientation would of course be one of the crucial rules in the design of these units, but needs to be complemented with rules about environmentally friendly material-use, drainage systems (SUD's), etc...

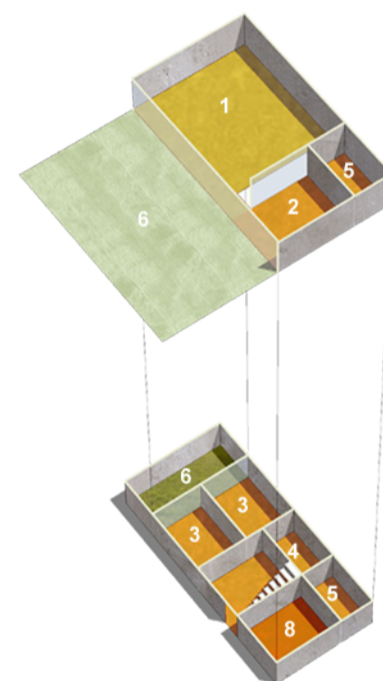
The example of 'Borneo Sporenburg' (West 8, Amsterdam) is a useful reference to illustrate the rich diversity of individual units within a rigid building envelope.



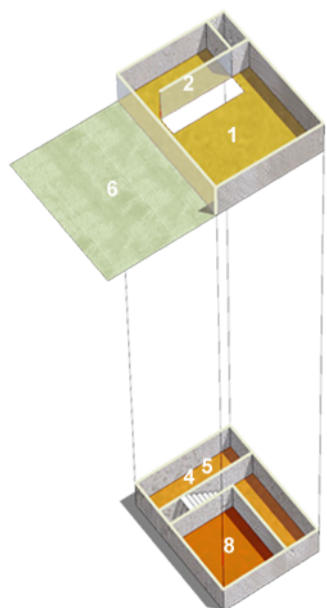
- 1 living space
- 2 kitchen
- 3 bedroom
- 4 bathroom
- 5 utility room
- 6 patio / garden / terrace
- 7 wintergarden / conservatory
- 8 carport / studiospace/ officespace



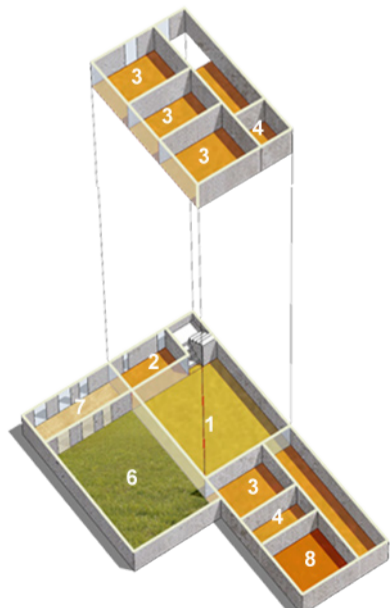
3(+)-bedroom patio typology



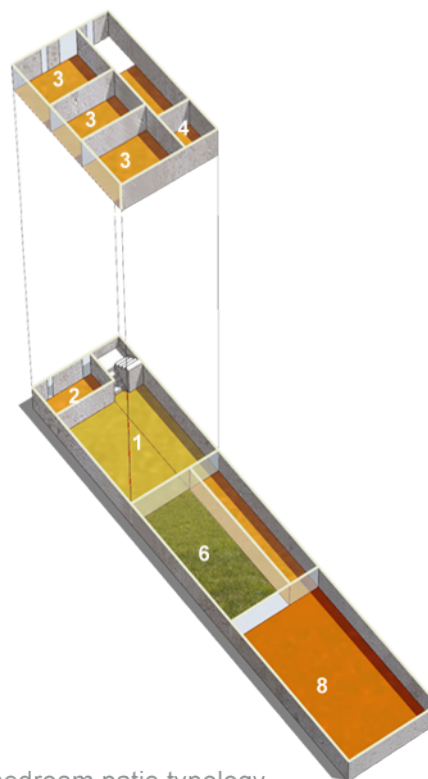
2(+)-bedroom duplex typology



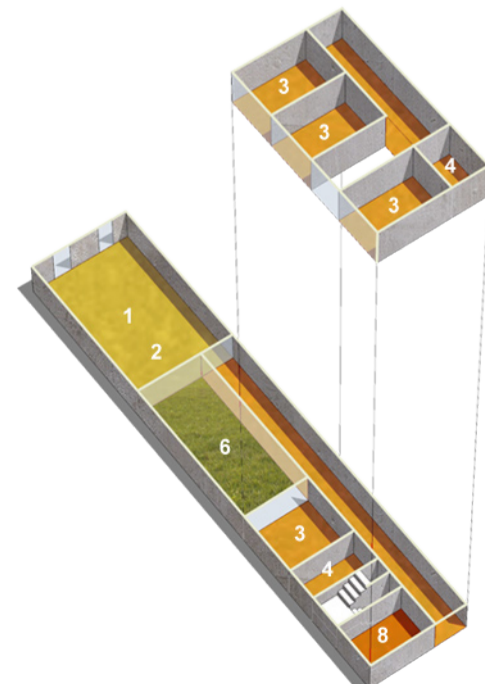
studio flat



4(+)-bedroom patio typology



3(+)-bedroom patio typology



4(+)-bedroom patio typology

SOCIAL INFRASTRUCTURE

This new residential district requires a series of complementary public and social facilities to support the new communities.

We have located the Kinder Garten right in the heart of the site, within walking distance from the new households. This complex functions as a hinge point in the scheme, and can benefit from the proximity of the contained 'green lung' and the wider nature reserve on the river-side.

A similar logic could be followed for the school. The existing sports complex along the canal, the rowing-club, etc... have the potential to develop as a very powerful recreational spine that borders the canal. This spine can be reinforced by adding further civic and social facilities. We suggest that the school, as required by the brief, would sit perfectly well alongside this route,

and could make use of the facilities and sports infrastructures around it. Furthermore, the school would then also be very strategically located near Luha Road and the proposed pedestrian bridge.

Yet, as this is a suggestion **outside** our site-boundary, we have to consider the alternative location as indicated on the diagram below. In this scenario, the school could overlap two fingers and use the green space in between for private, recreational purposes.

Apart from the larger facilities, there will be a certain amount of small scale amenities (public, civic, social, retail, health,...) which are ideally located along the public routes and roads. (yellow in the diagram below)



GROWTH

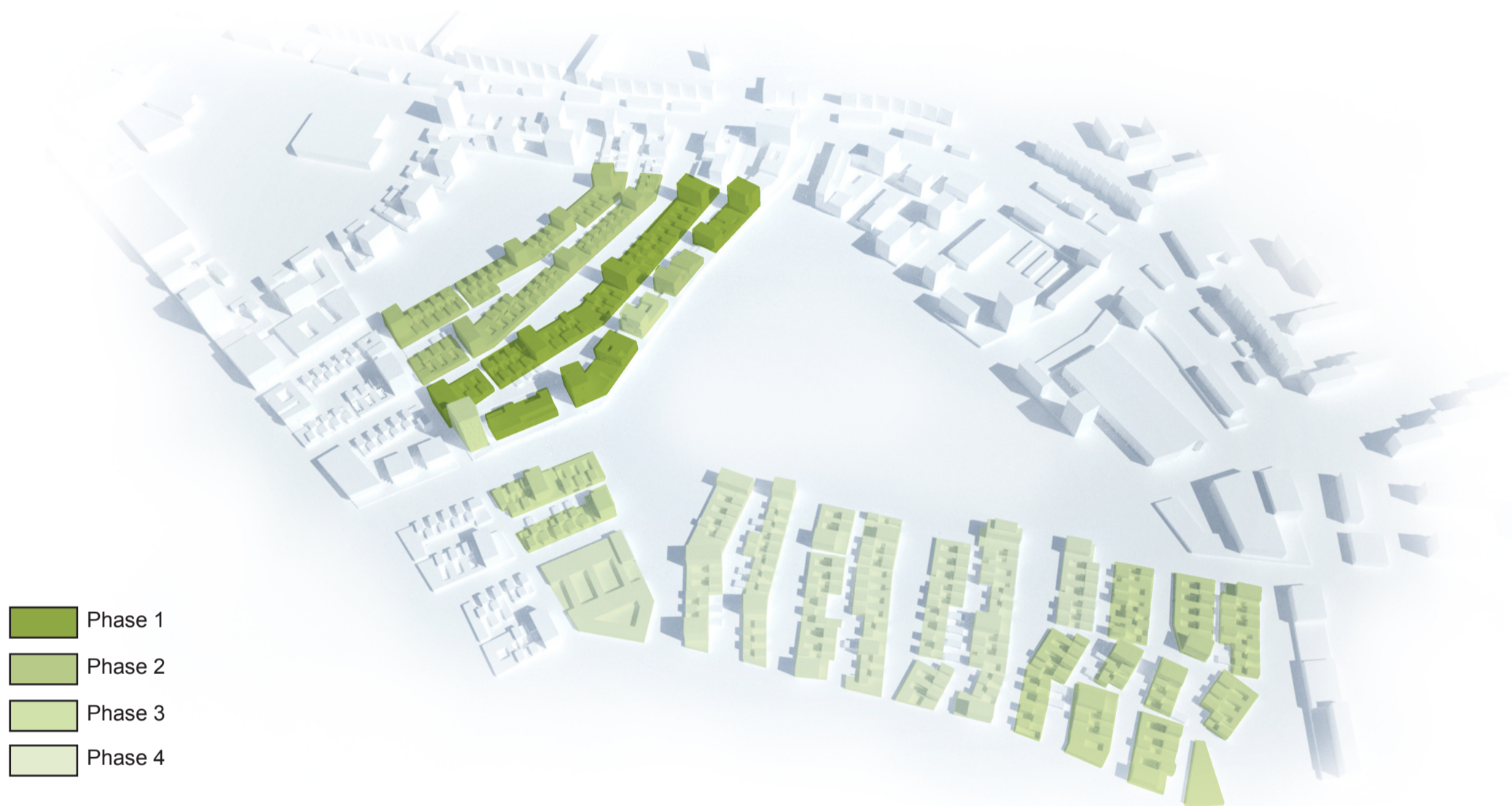
It is hard to predict how and how fast this site will eventually develop. The phasing of construction is largely subject to the reality of the market. For these reasons, the diagram below is merely reflecting ONE scenario (four phases) of how the built volume could grow over time but, nevertheless, tries to capture a couple of principles that are fundamental for a logical 'evolution'.

As in the previous scheme, one of the first steps will inevitable be the re-adjustment of Ihaste Road, being a primary lifeline for our site. This road will need to be equipped with utilities to support the full development on site.

The first 'building-projects' are likely to happen in the 'platform-finger'. The construction of the decking can happen together with the first 'object' build-

ings, and can be further complemented with family housing on the northern side. This finger will provide a new link right across the land that will integrate the site better into its context (Annelinn District)

Further phases can basically go finger-by-finger, piece-by-piece, incrementally adding up to 'complete' the scheme. Depending on the market, the development of the 'object' (apartment) buildings can more or less happen at its own pace, and gradually consolidate the edge of the platform.



DENSITY - FLOOR AREA

The project as presented needs to be considered as an exploration, a testing of the **maximum** capacity for this site.

We have worked on the assumption that the maximum of 80.000 sqm comprises residential (70-80%) and commercial (20-30%), but does **not** include the 6000-8000 sqm for kindergarten and 14.000 sqm for school or other public function(s).

This would bring the **total** to roughly **100.000 sqm**.

However, as the total number below shows, the diagram that we tested is 23% above the target.

There are two primary reasons for this:

The first reason for this is that the "prototype" for the family-unit (see chapter 'typology - density') which has been used extensively across the site does include space for a carport/garage at the front (which could, as stated before, on the long term be converted for other functions). This 'space' has been included into the overall calculations (below) for residential use, and hence considers 'residential area' in a broader sense. If we were to calculate residential use in the strict meaning of 'habitable, living space', it would significantly reduce the overall amount of area.

Secondly, we did assume that, considering the location of this site in the wider city, a significant amount of dwellings would exist of 'single family houses'. As the brief asked for 70-80% of residential area (56.000 - 64.000sqm), but at the same time asks for **950 living units** this would mean an average of **59-67 sqm/unit (gross area)**. We believe such number reflects a rather more urban mix of predominantly 1 and 2 bedroom apartments, and might not have the amount of single-family houses we assumed from the start. Yet, the scheme as modelled does show a significant amount of larger family units.

For these reasons, the area calculation below is a rather tentative and abstract exercise based on 'prototypes' and interpretations of mixes and unit sizes.

Obviously, all this is highly subject to speculation. It is clear that further research on the various parameters will converge into a more accurate mix and density.

We want to emphasize that this study is in the first place an exploration of design principles and qualities.

It can only be a 'capacity study' in a very broad, abstract manner, and requires further discussion and research.

LOW RESIDENTIAL STRUCTURES

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
Foot print (without garden)	in m ²	5463	4235	1658	0	2996	3556	3654	3825	1017
Floor area	in m ²	7979	5758	2407	0	4348	5091	5310	5475	1497
Number of residential units		65	42	18	0	35	38	40	40	11

SOCIAL INFRASTRUCTURE

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
Footprint	in m ²	406	310	103	3200	224	290	175	276	642
Floor Area	in m ²	490	310	206	3484	224	290	178	276	642

TALL STRUCTURES

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
Footprint	in m ²	3445	13337	940		2053	1248	1376	995	613
Parking area on ground floor	in m ²	3445	9935	790		1953	998	1276	745	463
Retail on ground floor	in m ²	0	3402	150		100	250	100	250	150
Floor area above ground level	in m ²	7811	59119	1677		4702	1742	2266	1512	952
Estimated amount of office space	in m ²	2000	35000	200		300		100	150	200
Estimated amount of residential space	in m ²	5811	24119	1477		4402	1742	2166	1362	752
Floor Area without parking	in m ²	7811	62521	1827		4802	1992	2366	1762	1102
Number of residential units		73	301	18	0	55	22	27	17	9

OVERALL

Total floor area	in m ²	123746	100%
Total residential spaces	in m ²	79696	64%
Total office, retail+ social infrastructure	in m ²	48452	39%
Number of residential units		812	

DENSITIES

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
Total foot print	in m ²	9314	17882	2701	3200	5273	5094	5205	5096	2272
Total floor area	in m ²	16280	68589	4440	3484	9373,5	7373	7854	7513	3241
Total area of landscapers	in m ²	22057	34869	3970	3243	9394	9040	9412	10445	4100
Floor Area Ratio		0,74	1,97	1,12	1,07	1,00	0,82	0,83	0,72	0,79

Building foot print 9314 m²
Total floor area 16280 m²
FAR 0,74

1

Building foot print 17882 m²
Total floor area 68589 m²
FAR 1,97

2

Building foot print 2701 m²
Total floor area 4440 m²
FAR 1,12

3

Building foot print 3200 m²
Total floor area 3484 m²
FAR 1,07

4

Building foot print 5273 m²
Total floor area 9373 m²
FAR 1,00

5

Building foot print 5094 m²
Total floor area 7373 m²
FAR 0,82

6

Building foot print 5205 m²
Total floor area 7854 m²
FAR 0,83

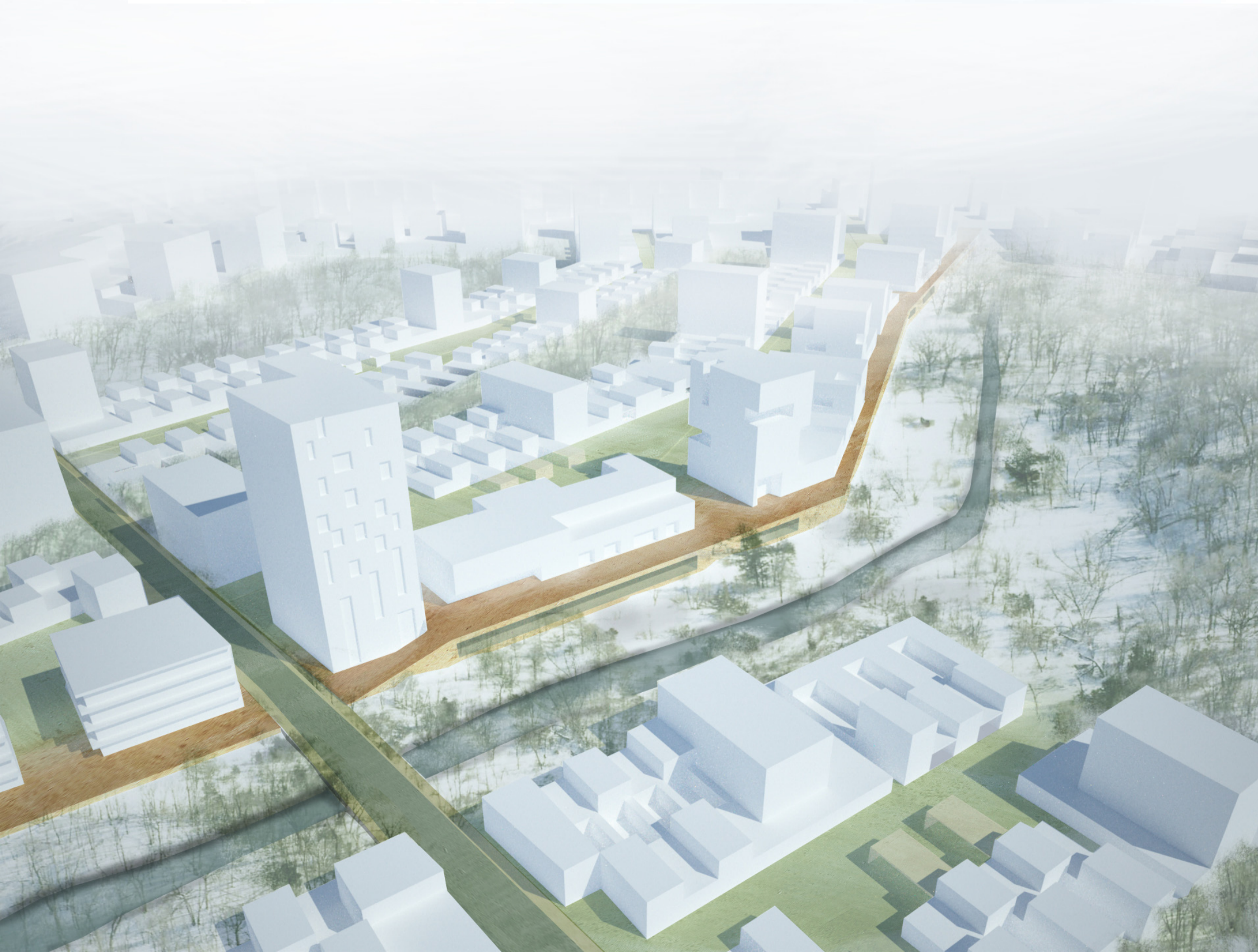
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Building foot print 5096 m²
Total floor area 7513 m²
FAR 0,72

8

Building foot print 2272 m²
Total floor area 4100 m²
FAR 0,79

9





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There is great poetry in the close proximity of urban development and such sensitive ecological habitats, what makes this project into a true attempt to freeze the interface in a sustainable constellation of nature and city. It is a balance that can only be secured and improved through the manifestation of clarity, formality and legibility.

The general strategy covers a series of interventions that aim to consolidate the existing developments, define and strengthen the natural reserve, and finally connect both lobes of Tartu on a macro-scale. Crucial for the success of this project is that these urban strategies for connectivity and integration are simultaneously considered on the level of urban AND natural networks.

Further to these strategies is the insight that any development that takes place around the ecozone will irreversibly impact on the delicate ecological balances this area relies on. From this understanding, emphasis lies on the regional integration of this green area: species can continue to migrate to and from this area, and the new development does not obstruct the general 'watermanagement' of the site. Optimal functioning of this 'altered' ecosystem is achieved through an absorption of urban activities into rather contained structures. Aim is to relief nature as much as possible from noise, pollution and high intensities of car traffic and pedestrian circulation.

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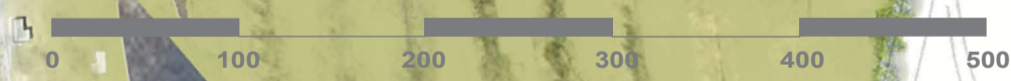
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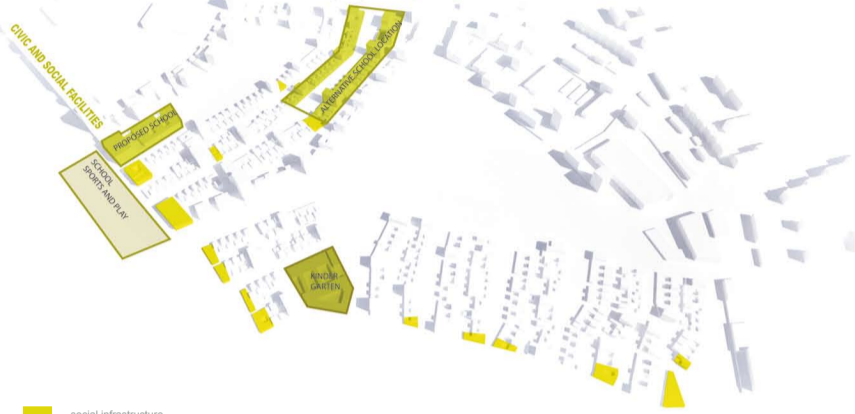
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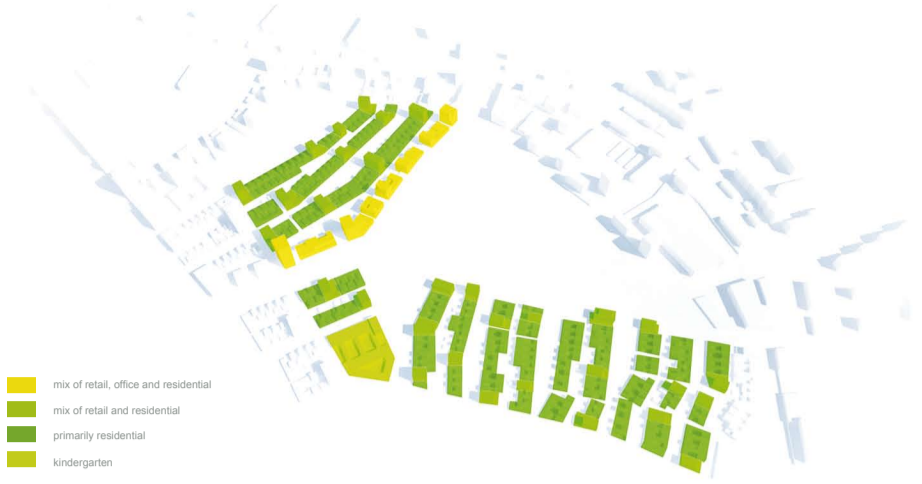
- parking spaces under towers
- pergolas for parking spaces
- public platform with parking spaces underneath

We believe that, with a gradual development and densification of the south of Tartu, a solid public transport system might offer a valuable alternative to cars. For these reasons, we have chosen to provide a variety of 'parking possibilities' (depending on the location on site), that allow for flexibility to shrink or expand the provision and anticipate on the demand (in case of a decrease in car-use following an increase in public transport provision and/or endorsed by policy).



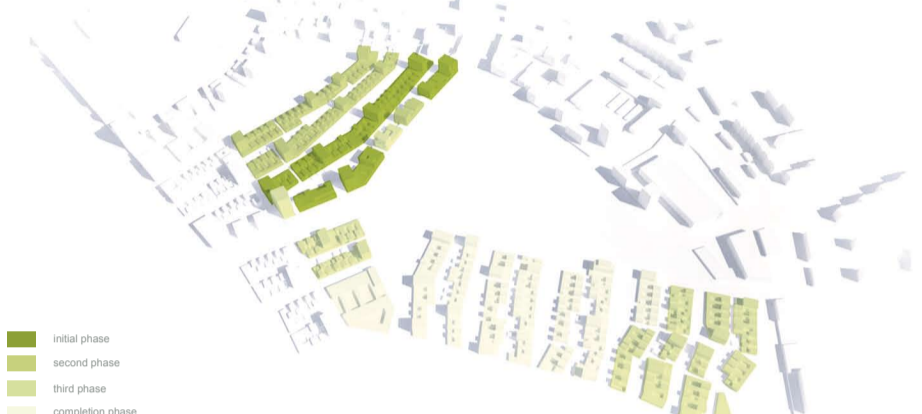
- social infrastructure

This new residential district requires a series of complementary public and social facilities to support the new communities. The Kinder Garten is located right in the heart of the site, within walking distance from the new households. We suggest that the school would sit alongside and reinforce the existing recreational spine of the sports complex and the rowing club. The school would then be very strategically located near Luha Road and the proposed pedestrian bridge. Yet, as this is a suggestion outside our site-boundary, we can consider the alternative location as indicated on the diagram. Apart from the larger facilities, there will be a certain amount of small scale amenities (public, civic, social, retail, health,...) which are ideally located along the public routes and roads. (yellow in the diagram below)



- mix of retail, office and residential
- mix of retail and residential
- primarily residential
- kindergarten

The design accommodates a mix of typologies. The diagrams as presented are by no means meant to show a fixed architectural typology or style, but rather work as a 'simulation'; this proposal reflects an 'envelope' in which Architecture can / should flourish. We expect that this scheme will develop incrementally over time, by different hands and different minds and will lead to the richness of a true urban environment.

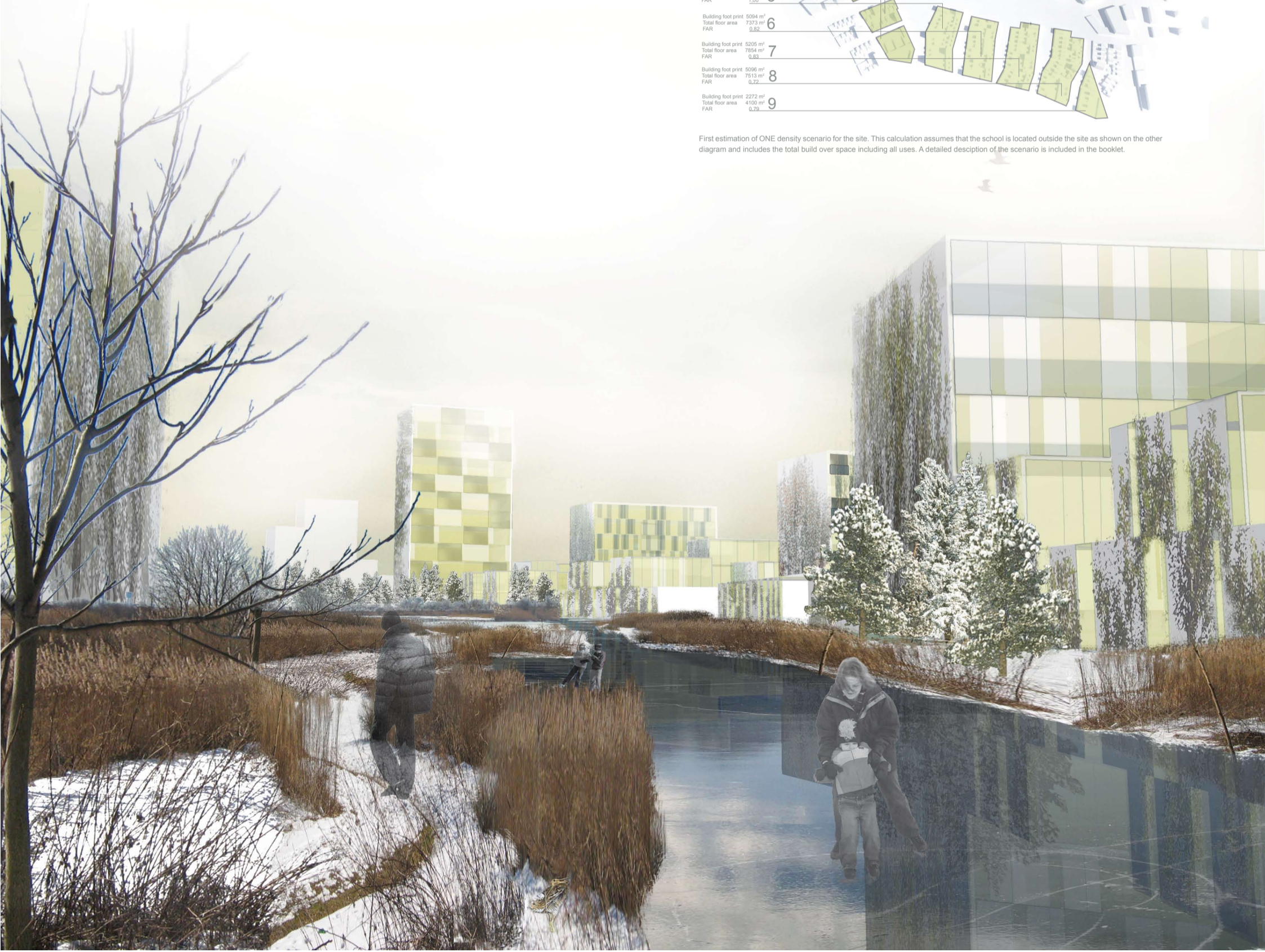


- initial phase
- second phase
- third phase
- completion phase

The phasing of construction is largely subject to the reality of the market. For these reasons, the diagram is reflecting ONE scenario (four phases) of how the built volume could grow over time but, nevertheless, tries to capture a couple of principles that are fundamental for a logical 'evolution'. The first 'building-projects' are likely to happen in the 'platform-finger' and will provide a new link which will integrate the site better into its context. Further phases can basically go finger-by-finger, piece-by-piece, incrementally adding up to 'complete' the scheme.

Building foot print: 9314 m ² Total floor area: 16280 m ² FAR: 0,24	1
Building foot print: 17882 m ² Total floor area: 68686 m ² FAR: 1,97	2
Building foot print: 2701 m ² Total floor area: 4440 m ² FAR: 0,32	3
Building foot print: 3200 m ² Total floor area: 3484 m ² FAR: 1,07	4
Building foot print: 5273 m ² Total floor area: 9373 m ² FAR: 1,00	5
Building foot print: 5094 m ² Total floor area: 7373 m ² FAR: 0,82	6
Building foot print: 5205 m ² Total floor area: 7854 m ² FAR: 0,83	7
Building foot print: 5096 m ² Total floor area: 7913 m ² FAR: 0,72	8
Building foot print: 2272 m ² Total floor area: 4100 m ² FAR: 0,79	9

First estimation of ONE density scenario for the site. This calculation assumes that the school is located outside the site as shown on the other diagram and includes the total build over space including all uses. A detailed description of the scenario is included in the booklet.



direct transition and access from each groundscaper to the marshland via wooden boardwalks and paths
 the spine of the groundscrapers provides access to all dwellings: a quiet home zone shared by slow local traffic, pedestrians and a variety of community activities.



Ihaste Road runs as a boulevard through the different groundscrapers, providing access for all local vehicular traffic. Large scale urban through-traffic is moved to Kalda Road.

Individual units provide parking spaces for up to two cars

backsides and roofs, are covered with a layer of indigene species of plants to compensate for the loss of natural habitats, contribute to the management of rainwater and offer an extra layer of thermal insulation.

pergolas help to organise additional parking and can be removed / added at any moment when the parking requirements alter.

'finger tips' at the end of the groundscrapers can accommodate all sorts of community facilities for the close neighbourhood. Additionally, they have the excellent location for small scale art-galleries, bars and restaurants adjacent to pedestrian pathways through the nature reserve.

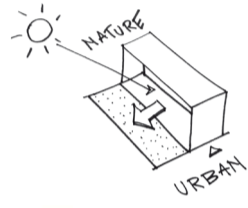
towers sitting on a podium of carparking
 existing waterbodies and marshland cut through the fingers, introducing natural habitats into the core of the groundscrapers.
 An explicit orientation to the south-west allows them to be designed as passive houses. Furthermore, this monodirectional orientation will help to control the privacy of each individual unit.



wintergardens and conservatories with views to the adjacent nature.

pedestrian connections between the ground-scrapers and connecting to the path system in the eco-zone.

the entry point of the groundscrapers can accommodate all sorts of community facilities for the close neighbourhood.



- 1 living space
- 2 kitchen
- 3 bedroom
- 4 bathroom
- 5 utility room
- 6 patio / garden / terrace
- 7 wintergarden / conservatory
- 8 carport / studiospace / officespace
- medical practice / bedroom

The typologies used in this proposal (examples below) are merely a simulation of what they can be. We intend to set up a comprehensive set of design guidelines that guarantee diversity whilst securing the overall urban coherence of this neighbourhood. In the midst of a very delicate natural environment, we strongly advocate that such guidelines incorporate a profound set of rules that address the various strands of sustainability. Orientation would of course be one of the crucial rules in the design of these units, but needs to be complemented with rules about environmentally friendly material-use, drainage systems (SUD's), etc...



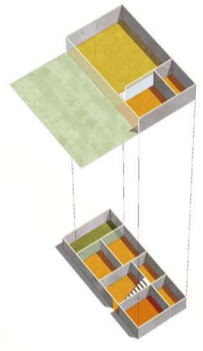
car parking spaces inside individual units



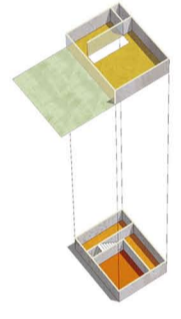
diversity in architecture within a rigid building envelope



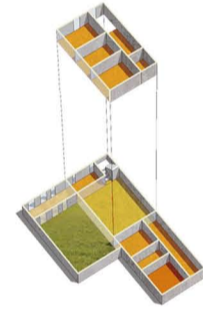
3(+) bedroom patio typology



2(+) bedroom duplex typology



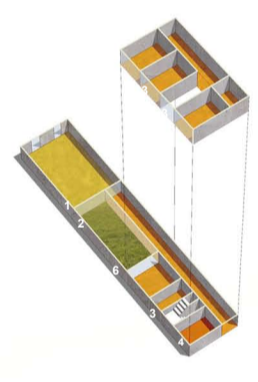
studio flat



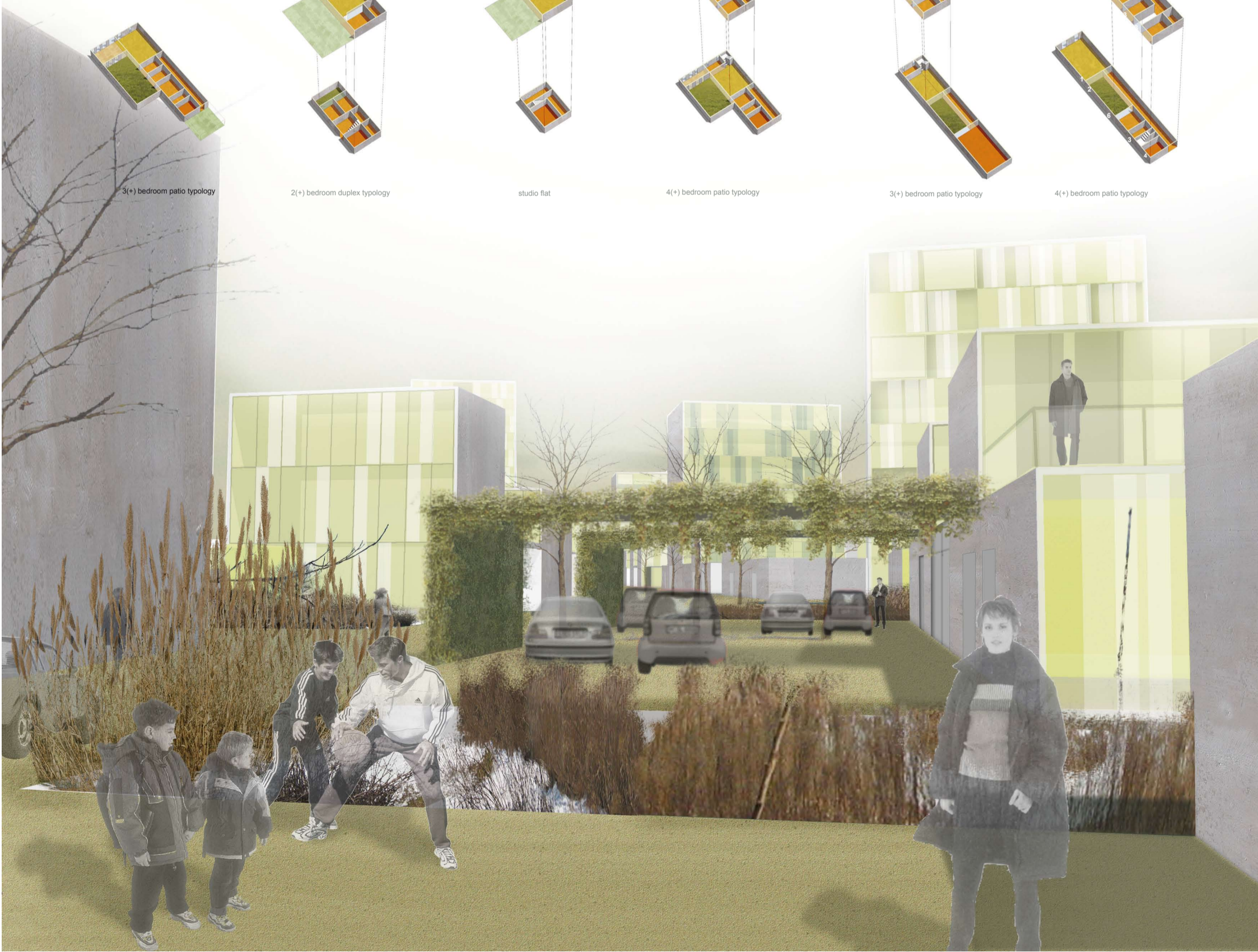
4(+) bedroom patio typology



3(+) bedroom patio typology



4(+) bedroom patio typology





The diagram shows a first estimation of a possible scenario for the future layout of property lines on the site. As the scheme will develop incrementally over time this layout could and needs to be adapted to the requirements of the market. The dashed lines indicated a first suggestion for maximum plot sizes to guarantee that a minimum of diversity of typologies and architecture will emerge.

In coordination with the city council a number of regulations will need to be developed to help to achieve the core principles of the scheme. First suggestions for these could include a compulsory building frontage to make sure a linear continuous edge between urban and nature will emerge, and lines of maximum deviation to allow a great flexibility inside the structures. These indicated building envelopes would obviously need to be completed with additional building regulations that guarantee the character of the spaces inside the structures



nature and residential proximity



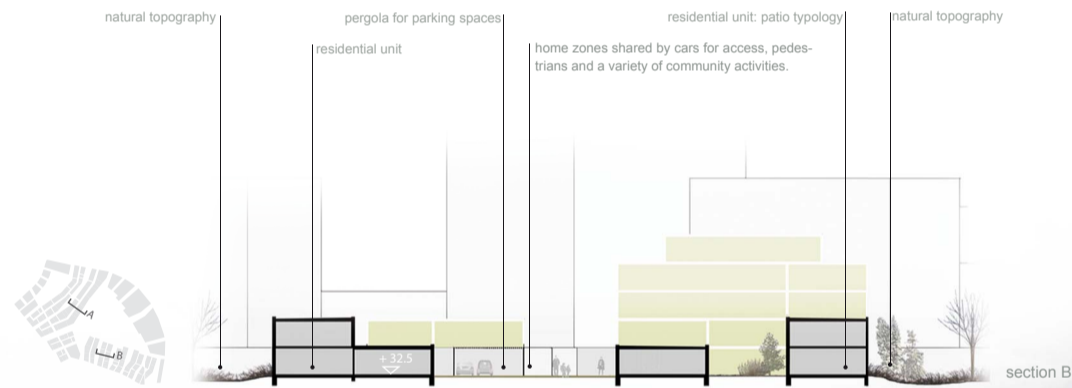
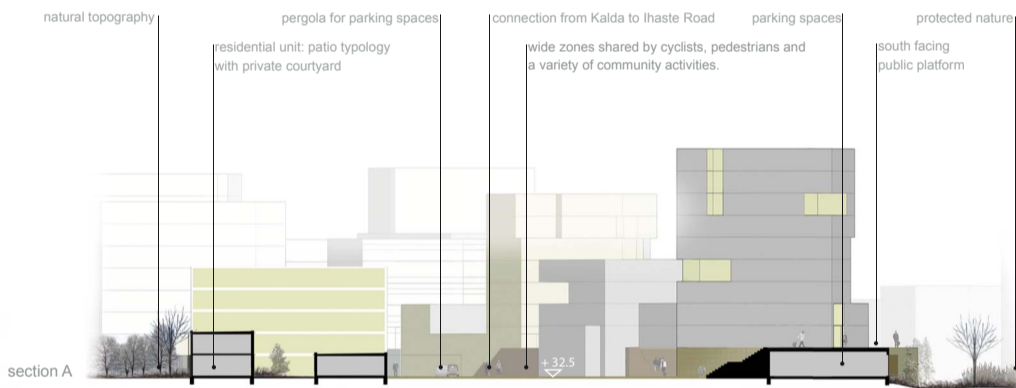
mix of different residential typologies



home zones as community spaces



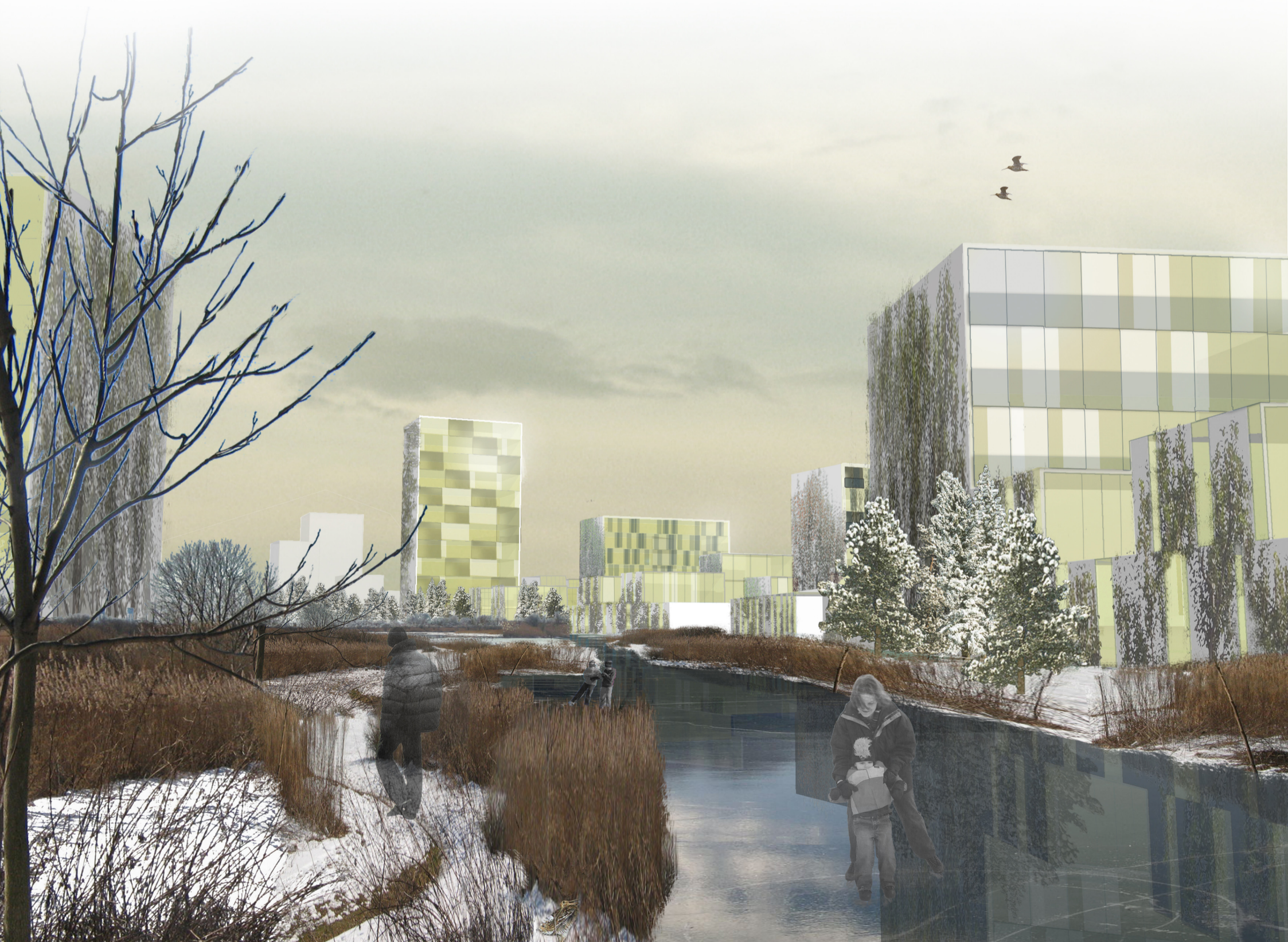
residential towers on car parking structures



APPENDIX: BOOKLET COMPETITION ENTRY

EUROPAN 9

2007



Today, city and countryside meet on an interface that evolved into the most typical contemporary condition of urban sprawl. This interface is no longer an edge, but a vast territory that accommodates an increasing amount of people in industrialised countries.

The archaic city, over centuries defined through the contrast with the countryside, has ceased to exist and has become an irrelevant concept.

It is the "urban field" that comes forward as new paradigm, replacing the archaic concept, but unlike the old city, lacking clarity and legibility. An infinite carpet of seemingly 'sub-urban' development has rolled out over old green landscapes to form an ambiguous field that gradually eroded the gravity of old city centres. A voracious wave of urbanisation that simply took the land where it needed. Its path mostly driven by an urban rational of mobility and efficiency. Ecological interests were barely considered.

Post-modern urban landscapes are the starting point for urban design today. Its apparent randomness and chaos often evoke feelings of nostalgia to the old city in which city and nature simply framed each other in a legible way. However, nature does continue to exist, but only in a very dispersed way where scattered patches of green struggle to maintain sustainable ecological networks.

The question that rises is about the eventual destination of this careless process. How should cities grow, and how can they shrink?

The urban and the non-urban, let us call it the grey versus the green, have always been the two protagonists in the theories on architecture and cities, and continue to do so.

Today's hot topics of global warming and endangered species appear to highlight the role of the green, and focus the debate on a sustainable symbiosis between both worlds.

In Tartu, the waves of urbanisation seemed to have followed the path of minimum resistance. The floodplains of the river Emajõgi were carefully avoided and give us today a split city in which nature deeply penetrates into the core of the old centre.

The river is one of Tartu's greatest trump cards and works as ecological armature that can sustain the presence of ecological habitats in the city. But at the same time, it is a very fragile coexistence of two worlds, since the 'green' areas, including our site, do appear as an ambiguous terrain vague, under constant threat of a city that is eager to consolidate and expand.

There is great poetry in the close proximity of urban development and such sensitive ecological habitats, what makes this project into a true attempt to freeze the interface in a sustainable constellation of nature and city.

It is a balance that can only be secured and improved through the manifestation of clarity, formality and legibility.

The general strategy covers a series of interventions that aim to consolidate the existing developments, define and strengthen the natural reserve, and finally connect both lobes of Tartu on a macro-scale.

Crucial for the success of this project is that these urban strategies for connectivity and integration are simultaneously considered on the level of urban AND natural networks.

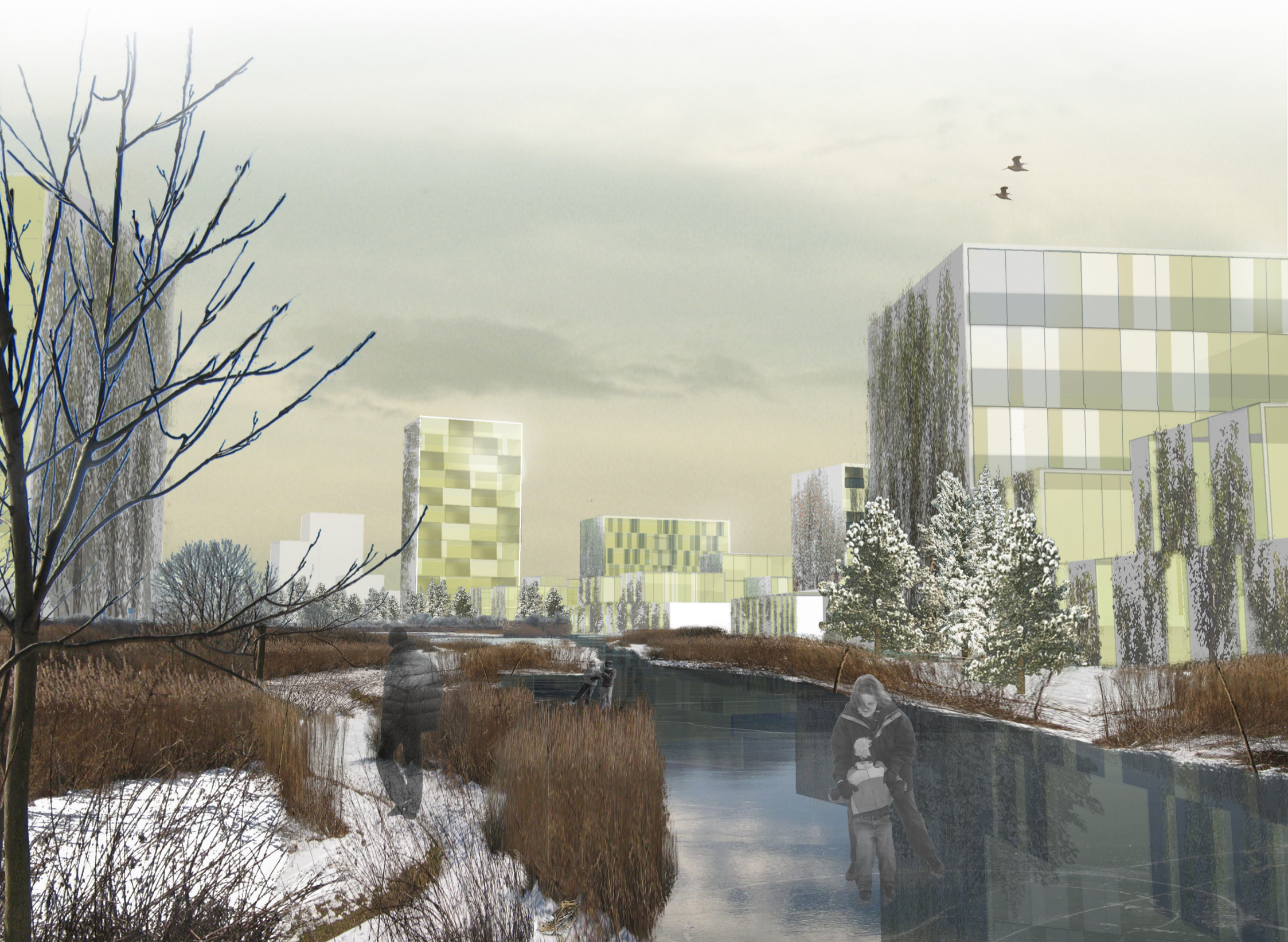
Further to these strategies is the insight that any development that takes place around the ecozone will irreversibly impact on the delicate ecological balances this area relies on.

From this understanding, emphasis lies on the regional integration of this green area:

species can continue to migrate to and from this area, and the new development does not obstruct the general 'water management' of the site.

Optimal functioning of this 'altered' ecosystem is achieved through an absorption of urban activities into rather contained structures. Aim is to relief nature as much as possible from noise, pollution and high intensities of car traffic and pedestrian circulation.

The physical manifestation of this principle happens through a concept of 'urban pockets', which is discussed further in greater detail.





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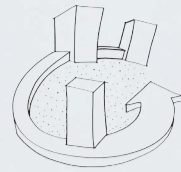
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POCKETS



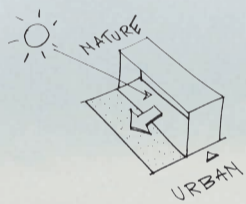
Our primary aspiration is to offer a greater diversity in open spaces, with a variety in scales, functions, and varying from public, to semi-public, to private. We use a principle of "urban pockets" to orchestrate new spaces. Taller buildings sit on a 'podium' of lower structures. Together they form an ensemble of built form that wraps around a central open space which's use and scale is informed by the functions around it. Through the articulation of the openings to these pocket spaces, the private or public character can be controlled..

In the middle of a natural setting, these internalised urban pockets evoke a curious illusion of urbanity where one is confronted with somewhat familiar urban scenes. But as nature 'peeks' through, it might trigger the subtle poetic sensation of a condition where one lives on the interface of two worlds: city and nature.



- existing residential tower
- carparking in pockets space and under the residential units
- potential retail frontage
- private gardens in the linear green spaces between adjacent pockets

TYOLOGIES



- 1 living space
- 2 kitchen
- 3 bedroom
- 4 bathroom
- 5 utility room
- 6 patio / garden / terrace
- 7 wintergarden / conservatory
- 8 carport / studiospace / officespace
- medical practice / bedroom

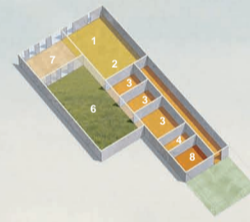
Pockets and groundscapers are assembled with 1-2 storey typologies and taller apartment buildings. An explicit orientation to the south-west allows them to be designed as passive houses. Furthermore, this monodirectional orientation will help to control the privacy of each individual unit.

Living rooms are all located on the fully glazed sides of the dwellings, where circulation and utilities sit at the back. Backsides and roofs, are covered with a layer of indigene species of plants to compensate for the loss of natural habitats, contribute to the management of rainwater and offer an extra layer of thermal insulation.

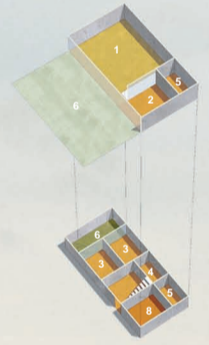
Typologies are 5.4 meters in width, and vary in depth between 7 to 26 meters to allow for the widest mix in sizes. The random mix of different typologies will generate an informal, amorphous character to the internal 'pocket'-space, which will have tight mews-like conditions alternating with generous square-like spaces.

Most of the typologies have a larger space at the front that is not designated to any particular function. It is intended that this space can potentially accommodate a carport for up to 2 cars, a studio space, a medical practice, an office, or even a simple bedroom.

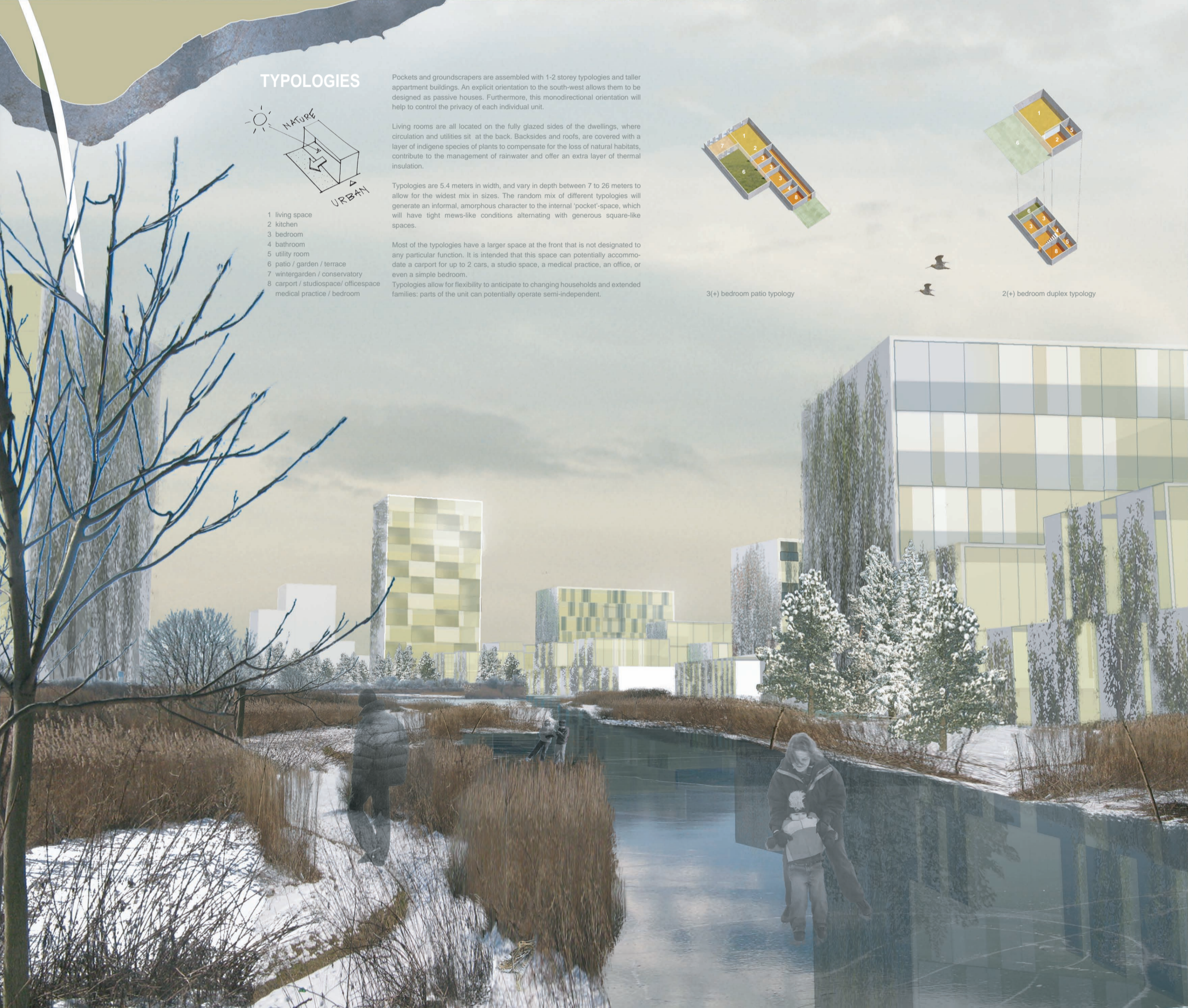
Typologies allow for flexibility to anticipate to changing households and extended families: parts of the unit can potentially operate semi-independent.



3(+)-bedroom patio typology



2(+)-bedroom duplex typology



GROUNDSCRAPERS

The development between the eco-zone and the natural reserve is configured to allow for maximum permeability with a minimum of urban/human impacts. The pocket-principle is now shaped into more linear groundscrapers that align with the prevailing natural and pedestrian connections. 'Urban' activities are fully absorbed to the inner core of the groundscrapers: a semi-public space at neighbourhood level that provides 'frontdoor-activities' and access to the dwellings and community facilities.

The groundscrapers are composed of a series of possible typological configurations. These typologies all respond to the general design principles as discussed earlier.

Nevertheless, we believe that the masterplan would greatly benefit from a wider variety of interpretations and architectural responses. The scheme is constructed to be easily decomposed in smaller fragments and units that can be designed by different architects. We see it as a flexibility and added value that would beautifully enrich the quality of the proposed environments.



towers sitting on a podium of carparking

pedestrian connections between the ground-scrappers and connecting to the path system in the eco-zone.

wintergardens and conservatories with views to the adjacent nature.

existing waterbodies and marshland cut through the fingers, introducing natural habitats into the core of the groundscrapers.

the spine of the groundscrapers provides access to all dwellings: a quiet home zone shared by slow local traffic, pedestrians and a variety of community activities.

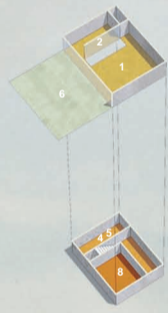
Ihaste Road runs as a boulevard through the different groundscrapers, providing access for all local vehicular traffic. Large scale urban through-traffic is moved to Kalda Road.

An explicit orientation to the south-west allows them to be designed as passive houses. Furthermore, this monodirectional orientation will help to control the privacy of each individual unit.

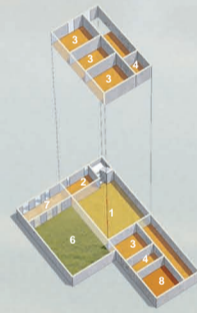
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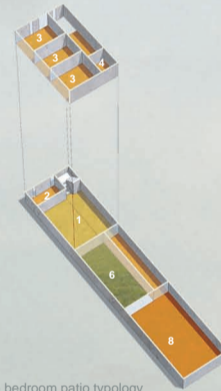
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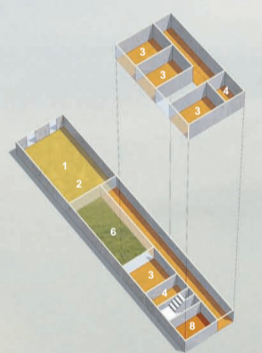
studio flat



4(+) bedroom patio typology



3(+) bedroom patio typology



4(+) bedroom patio typology



BG 044 POCKETS OF ILLUSION european 9 TARTU

The neighbouring Annelinn Estate is remarkably structured in a rigid radio-concentric grid with a focal area that is currently 'empty'. All radial routes end at Kalda Road, a rather unattractive thoroughfare that accommodates a discontinuous chain of big-box retail and vast planes of parking-tarmac. Immediately beyond: the ecologically sensitive area.

One of the biggest challenges is to connect Annelinn to the Karlova District on the other side of the river. The journey between both sides will become a rather 'episodic' experience, generated by an intense sequence of infrastructural and natural 'barriers': From the Annelinn Estate, crossing Kalda Road, filtering through the commercial strip of Kalda Development, through and around the eco-zone and the new development on site, through the ecological marshlands, over the river, and finally arriving at Karlova.

Car traffic in this direction will be pushed to the Soprase Bridge in the north and the planned Ropka Bridge in the south. Economical and Ecological feasibility considerations exclude the addition of another traffic link through the middle.

This makes that Kalda Road will retain its function as a major urban bypass, and even increase its importance with the further development of the adjacent sites, and the completion of the Ropka Bridge. Further consideration has been given to turn Kalda Road from a rather hostile highway-environment into a more urban street with clear frontage and activity on both sides.

The survival of the ecological zone is strongly dependent on its connection with the riverlands. Therefore, Ihaste Road will be designed to operate as a local access road for the new development, and general through-traffic will be excluded as much as possible.

Pedestrian and Cycle routes through the Annelinn area are improved. Through additional landscaping and planting, these routes will be strengthened to simultaneously fulfil a role as 'ecological highways'. These 'light', informal routes filter through the Kalda Road development to cross the ecozone on existing and new pathways at grade and finally connect to the nature reserve along the river.

Luha Road to the north of the site will be one of the more important pedestrian routes between Annelinn and Karvola. From Luha Road, a new link will extend along the Anne Canal and the recreational zone, to finally connect to Rebase Street on the other side via a new pedestrian bridge.

The strategic connections as above generate the skeleton for the masterplan, which primary purpose is to integrate the new development in its context and introduce a sustainable urban and ecological cohesion.



Urban pockets

The generated skeleton of strategic routes will now form the structure to organise the development on site.

The existing development in the Annelinn Estate has basically followed the principles of the Modern Movement. Unfortunately, the area is condemned as a monolith and uniform district, and fails to sustain a qualitative environment for communities. The Modern dream of "light, flesh air and greenery for all" (Le Corbusier, La Ville Radieuse, 1935) again eroded to become a monotonous set of vast open spaces: nice green parkland is basically a no-man's land and fails any comparison with the rich complexity of traditional urban quarters. It is a well known criticism on Modernism that has been demonstrated all over the world and unfortunately, the Annelinn is not so different.

Sadly, the three new buildings along Luha Road don't really seem to offer much more. With their feet on a wide stretch of parking-tarmac, they are nothing but the same old story in a new fancy dress.

Our primary aspiration is to offer a greater diversity in open spaces, with a variety in scales, functions, and varying from public, to semi-public, to private.

We use a principle of "urban pockets" to orchestrate new spaces. Taller buildings sit on a 'podium' of lower structures. Together they form an ensemble of built form that wraps around a central open space which's use and scale is informed/determined by the functions around it. Through the articulation of the openings to these pocket spaces, the private or public character can be enhanced appropriately.

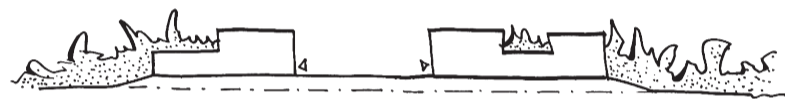
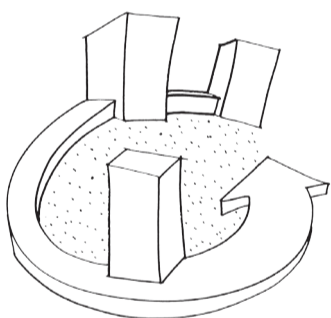
Such principle along Kalda Road could imply a layout in which a series of these pockets cluster commercial and residential buildings into comprehensible set of micro-environments.

The lower podium provides an appropriate street frontage to Kalda Road and can accommodate both retail functions and internal parking structures. The pocket spaces itself can be managed as private car parkings for the functions around it, or a nicely designed outdoor space to support the surrounding uses (with the flexibility to transform from one into another).

We embedded the three existing buildings on Luha Road in a 'podium' of low-rise residential typologies. Together, they now introduce a central 'community' space on the transition of the (public) street and the (private) house. These sort of spaces could lend themselves to uses like a more conventional courtyard in a building block. At the street, the lower buildings reduce the street section to a more appropriate scale, and the units can potentially accommodate retail uses at ground floor. The linear green space between the adjacent pockets can be taken up by private gardens for the lower residential dwellings.

The development between the ecozone and the natural reserve is configured to allow for maximum permeability with a minimum of urban/human impacts. The pocket-principle is now shaped into more linear groundscrapers that align with the prevailing natural and pedestrian connections. 'Urban' activities are fully absorbed to the inner core of the groundscrapers: a semi-public space at neighbourhood level that provides 'frontdoor-activities' and access to the dwellings and community facilities.

In the middle of a natural setting, these internalised urban pockets evoke a curious illusion of urbanity where one is confronted with somewhat familiar urban scenes. Granny sits in a chair at her doorstep and greets the neighbours that arrive back from work. Kids are kicking the ball around whilst the dog desperately tries to catch it... it is almost sunset and the scents of hot meals fill the streets... But as nature 'peeks' through, it might trigger the subtle poetic sensation of a condition where one lives on the interface of two worlds: nature and city.



Ecology and Water management

The existing eco-zone is designed as a green lung in the middle of urban development. Natural connections tie the area into a wider ecological framework and make it possible to sustain the ecological balances of the area.

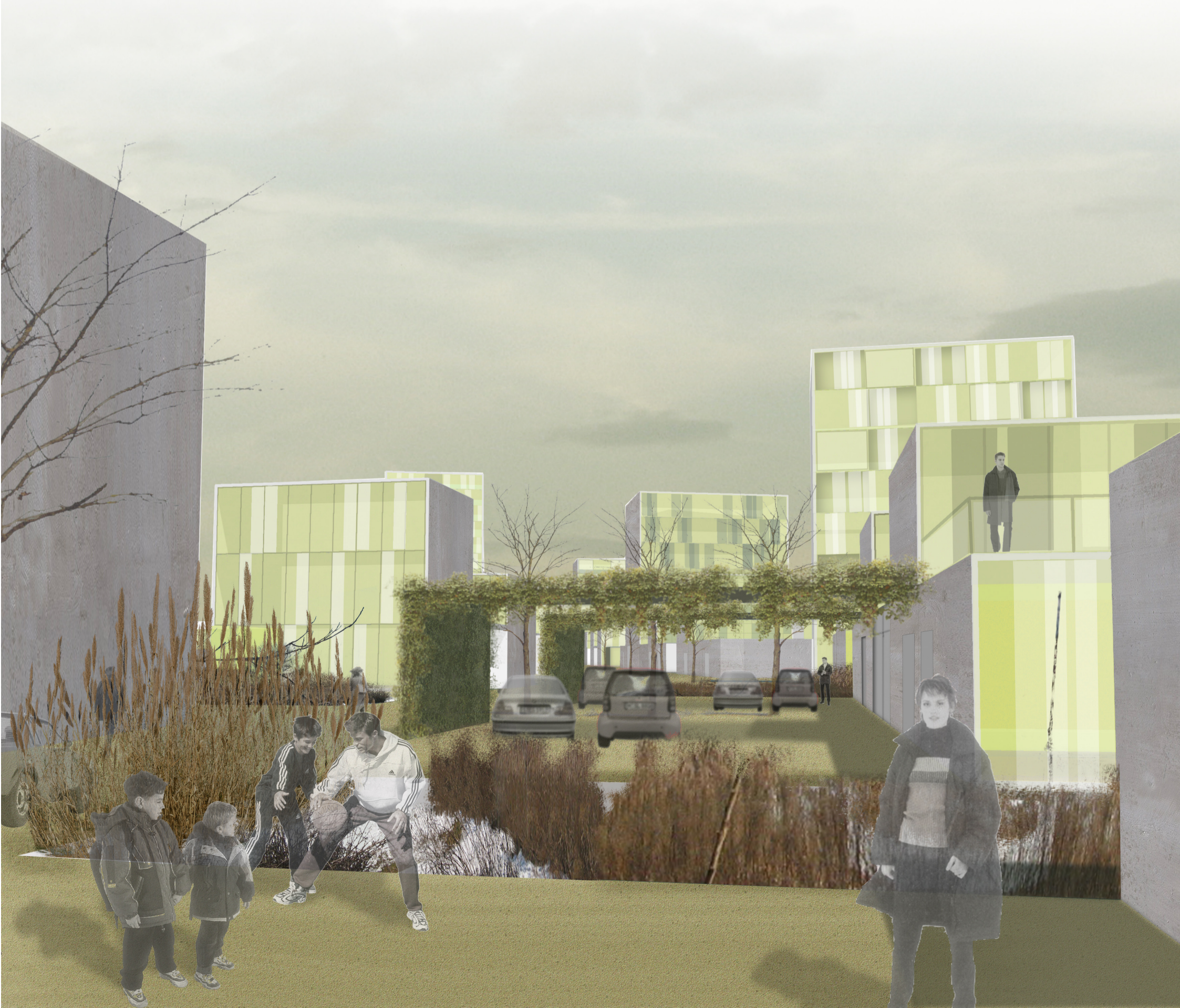
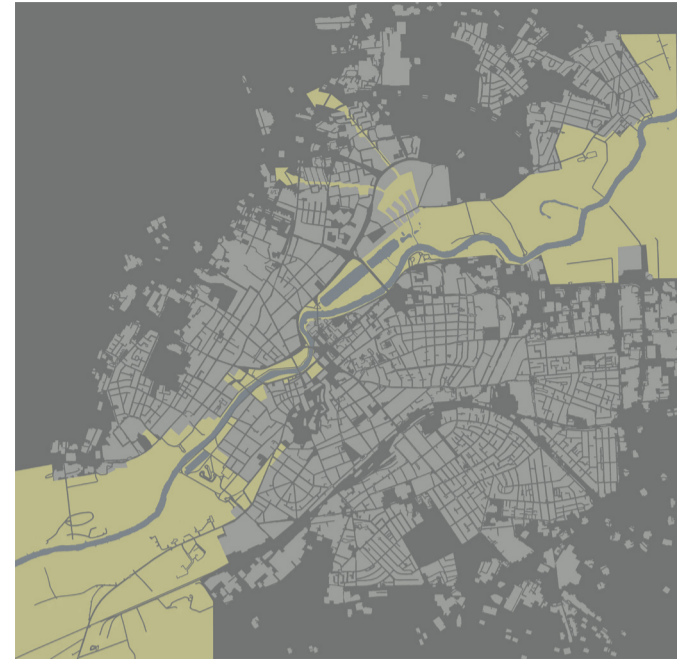
Both the topography and vegetation on site are preserved where possible.

Located within the floodplain of the River Emajõgi, the water management of the site was considered as a primary issue.

The development on the southern part of the site is slightly raised with landfill from new ponds, to come to the level of the existing Ihaste road. These ponds will fulfil a retention function in extremely wet seasons, and are integrated into the general storm water drainage of the site.

The roofs are covered with a layer of indigene species of plants to compensate for the loss of natural habitats, contribute to the management of rainwater (absorption and evaporation) and offer an extra layer of thermal insulation. The backsides of the dwellings, where mostly utilities and circulation are located, are covered with creepers and mosses.

The internal areas of the pockets have a surface treatment of stabilised dolomite to enhance the infiltration of rainwater.



Typologies

In general, all pockets and groundscrapers are assembled with 1-2 storey typologies and taller apartment buildings. In both cases, the units have an explicit orientation to the south-west which allows them to be designed as zero-energy houses. With an absolute minimum of glazing to other directions, energy losses are reduced.

Furthermore, this mono-directional orientation will help to control the privacy of each individual unit.

Living rooms are all located on the fully glazed sides of the dwellings, where circulation and utilities sit in at the back.

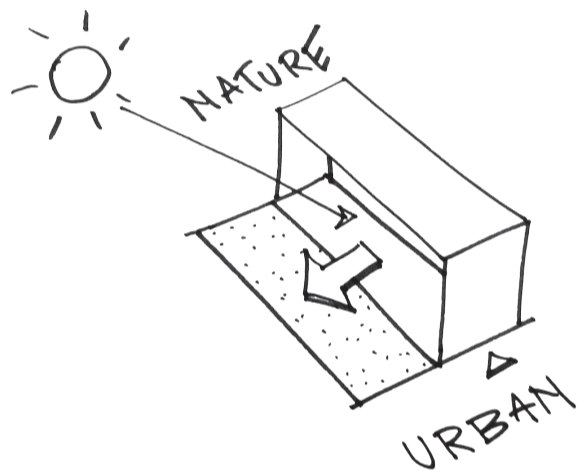
This orientation of individual typologies will generate two very distinct faces for the new development. As viewed from the south west, the buildings will give a strong urban impression and reinforce the actual edge between the 'riverlands' and the 'city'. From the other direction, one will perceive the green backsides of taller buildings and low-rise typologies that apparently 'blend' away into the surrounding vegetation.

The typologies are 5.4 meters in width, and vary in depth between 7 to 26 meters to allow for the widest mix in sizes. The random mix of different typologies will generate an informal, amorphous character to the internal 'pocket'-space, which will have tight mews-like conditions alternating with generous square-like spaces.

Most of the typologies have a larger space at the front that is not designated to any particular function. It is intended that this space can potentially accommodate a carport for up to 2 cars, a studio space, a medical practice, an office, or even a simple bedroom.

Some of the units have distinct different 'sectors' in house that flexibility for parts of the unit to operate semi-independent. It is a flexibility that is increasingly important where the families and households change constantly.

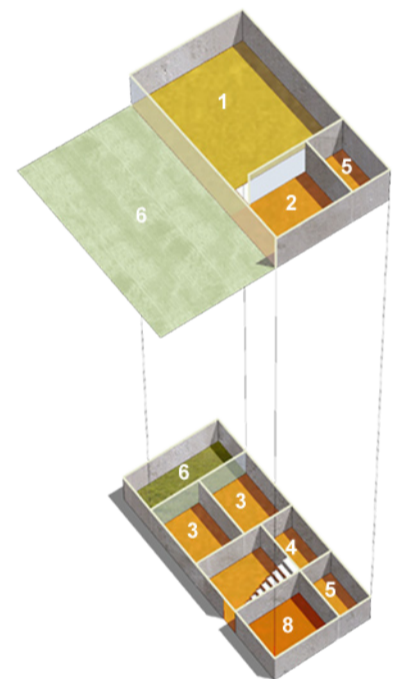
The illustrations below illustrate a series of possible typological configurations that respond to the general design principles discussed. Nevertheless, we believe that the master plan would greatly benefit from a wider variety of interpretations and architectural responses. The scheme is constructed to be easily decomposed in smaller fragments and units that can be done by different architects. We see it as a flexibility and added value that would beautifully enrich the quality of the proposed environments.



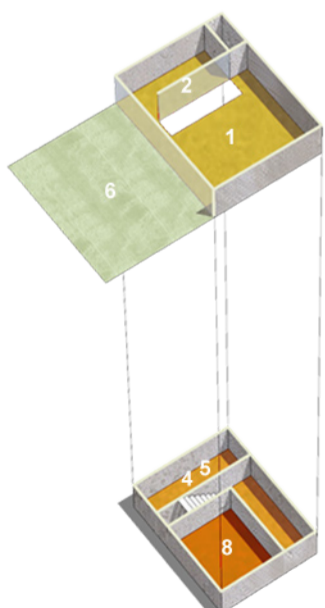
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- 8 carport / studiospace/ officespace
medical practice / bedroom



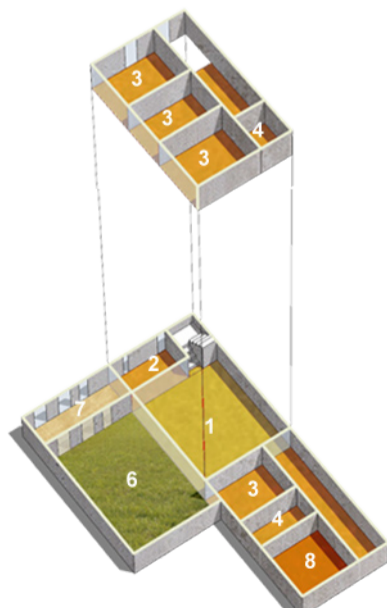
3(+) bedroom patio typology



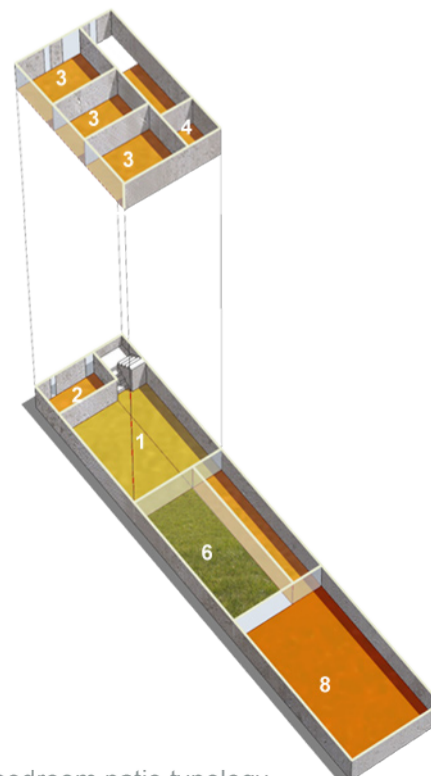
2(+) bedroom duplex typology



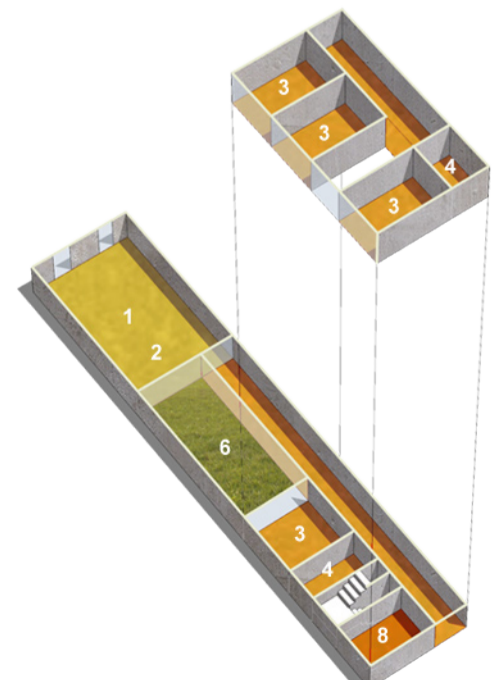
studio flat



4(+) bedroom patio typology



3(+) bedroom patio typology



4(+) bedroom patio typology

Traffic and Parking

The uncertain future of car-use implies a flexible approach in the design of car-parking. Economy and policy will both determine for how long cars will thrive as our primary means of mobility and freedom. A long term vision with flexibility is needed to respond to Tartu's prospective growth.

We believe that Tartu might greatly benefit from strong investment in public transport that can gradually offer a valuable alternative to cars. It might even be possible that, with further development and consolidation of the city, the implementation of a tram system can become economically viable. In such case, Kalda Road will be one of the important routes to incorporate a tram line to serve Annelinn and the new developments, and improve the infrastructural cohesion of the city.

With this understanding, also the design of rigorous car parking systems comes up for discussion. Therefore, the plan offers a series of parking solutions with the flexibility to change to other functions when parking requirements alter.

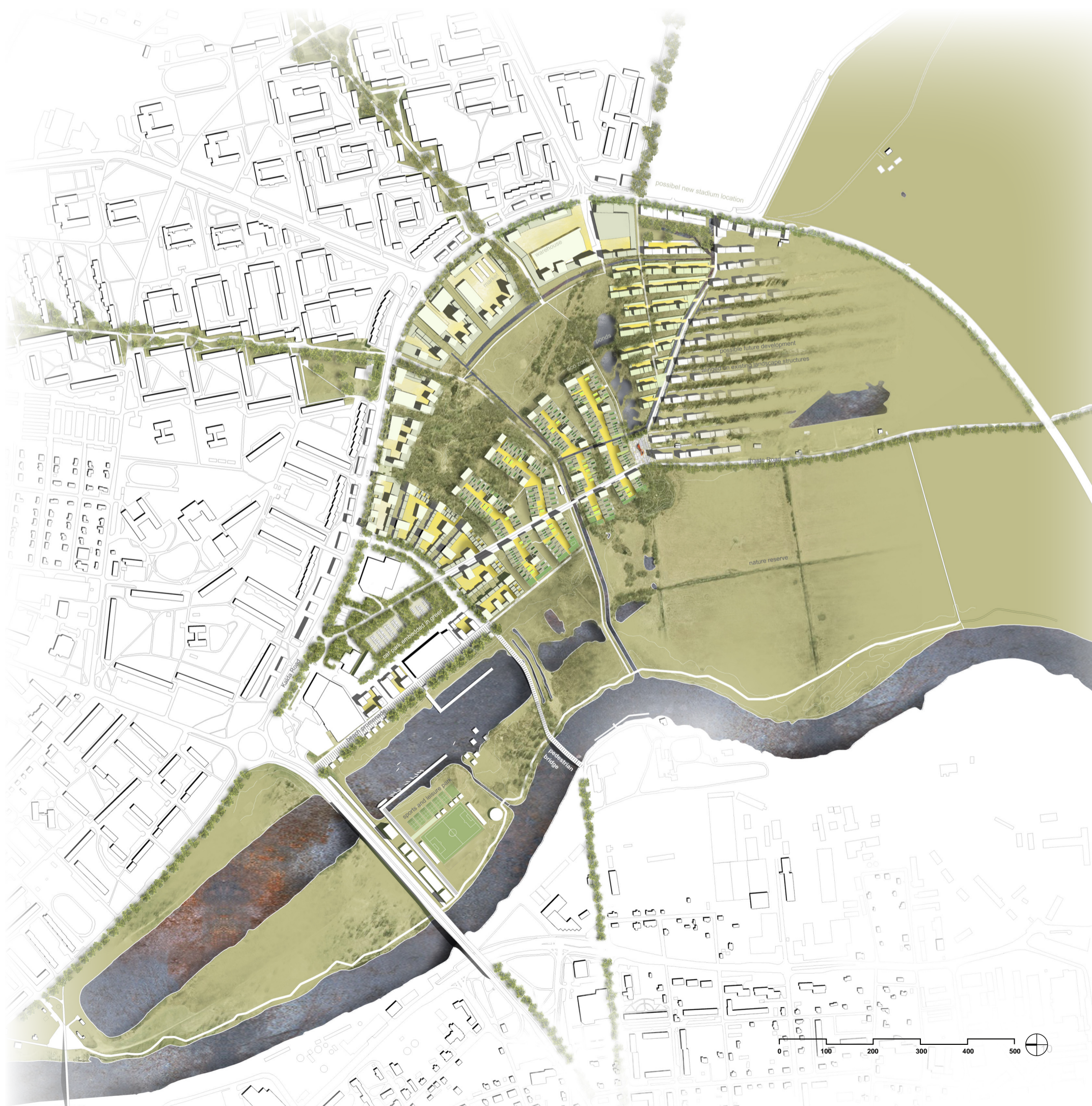
The option of full basements was excluded immediately as the high level of the water table would generate excessive costs.

-Most of the typologies include a flexible space at the front of the unit that could potentially be taken up by a carport or garage for 2 cars.

-Pergola structures in the pockets and groundscapers help to organise additional car parking and can be added/removed when needed.

-The commercial strip of pockets along Kalda Road can allow parking in the middle of the pockets, or could even be absorbed over multiple storeys of the podium itself. A similar approach could work for the residential pockets along Luha Road that can accommodate car parking under the actual residential units.

-The existing, large scale parking areas are replaced by more permeable surfaces with dolomite and gravels to enhance the general water infiltration in the area. It is suggested to reduce the current excess in car parking through planting of dense indigenous vegetation. This planting strategy will co-organise the open space, and has the flexibility to address to changing parking scenarios.



BG 044 POCKETS OF ILLUSION european 9 TARTU

Implementation

The phasing of construction is obviously strongly informed by the reality of the market and the economy. One can expect that the commercial development on Kalda Road develops in parallel with the development on site. In any case, a logical phase would comprise the full construction of a pocket at once, that can be considered a coherent piece of development. The building of the pockets can happen independently from each other.

One of the first phases will include to adjust Ihaste Road. As a major lifeline in this master plan, it will need the road capacity and utilities to support a substantial development.

The further densification along Luha Road will happen at the earlier stages of the process to provide a coherent street façade, and strengthen the connection towards the recreational area around the Canal. The early developments can compensate for the costs of the pedestrian bridge, which, soon after its completion, will trigger new activities and development pressure on both sides of the river.

After a minimum of initial infrastructural works, pretty much any sequence of development is possible.

The scheme is constructed in a way that it can be subdivided in different smaller projects.

Through the phases of construction, a variety of architects and developers can feed into the environment and will enhance the eventual quality and diversity of the project.



	1. ground- scraper	2. ground- scraper	3. ground- scraper	4. ground- scraper	South Pockets	North Pockets	East Pockets	
Built Area	5484	7293	7483	7870	16708	5787	5109	
pocket space	2538	3215	3357	4603	9047	5800	500	
private courtyards	1404	1460	1537	1709	450			
Total Built area	9426	11968	12377	14182	25755	12037	5609	91354 m ²
Total site area								248397 m ²
Total Ecological area								157043 m ²

