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SUN&RIVER

INTERNATIONAL
ARCHITECTURAL
DESIGN
COMPETITION
FOR THE
MINISTRIES
QUARTER

EXPLANATORY NOTE

CONTENT

URBAN DESIGN CONCEPT

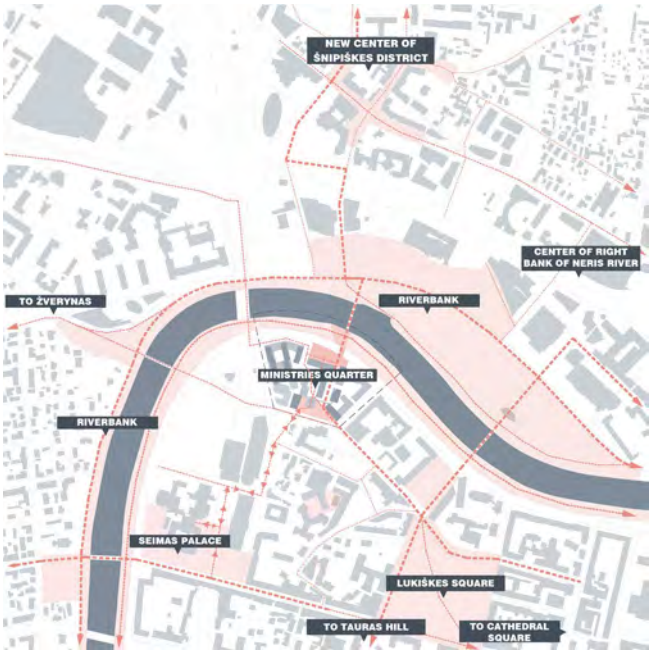
The existing context is an integral part of urban approach. The aim of the urban concept is to create a public space that is **open**, **transparent**, **easy to access** and has **human scale** proportions.

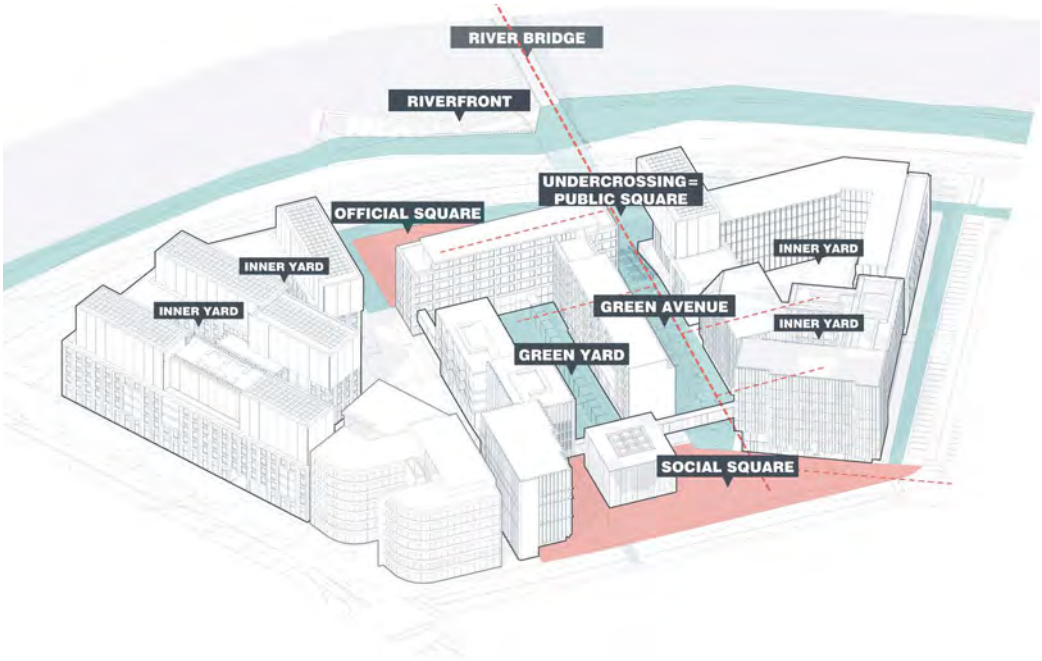
Two main public spaces are designed. In the southern side - an urban place that organises urban flows, on the northern - a space that is developed as a connection. In addition, the North side square is improved with a physical **underpass connection with Neris river**. The resulting site areas are organised in North-South meridian directions. This guarantees good building insulation orientation and correlates well to the Neris river.

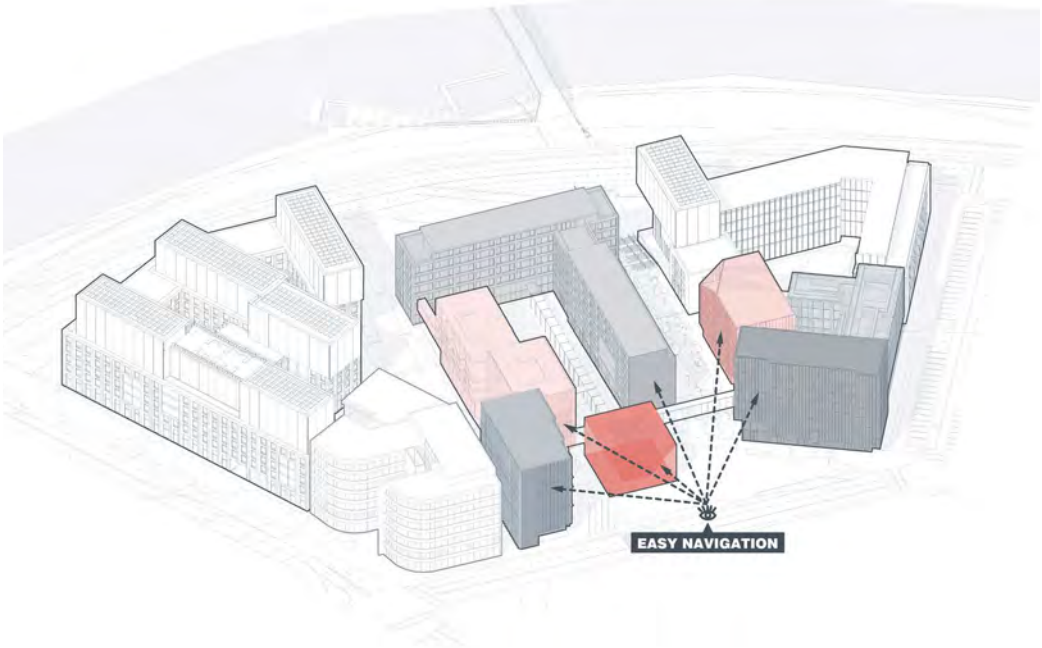
The inner connections work as **green corridors** - visual perspectives that allow visibility of the riverfront. The plot is designed using the **external river** water management concept. Rainwater collection system is established in external site elements. This unveils the topography of the site, adds water, reflections, sound and downstream feeling to the in-between spaces.

Local areas are designed with various historical or functional character:

- The former historical Lukiškės street is marked with a new development.
- A new landmark is placed in the centre of a square. The building's main hall and conference hall reflect open representative spaces.
- Mečetės street is proposed to create street perimeter.
- A.Goštauto st. and Geležinio Vilko st. proposal addresses the existing buildings and integrates their footprint/structures in the new urban plan. Various valuable natural elements and the contour of the former Lukiškės tatar cemetery is preserved.





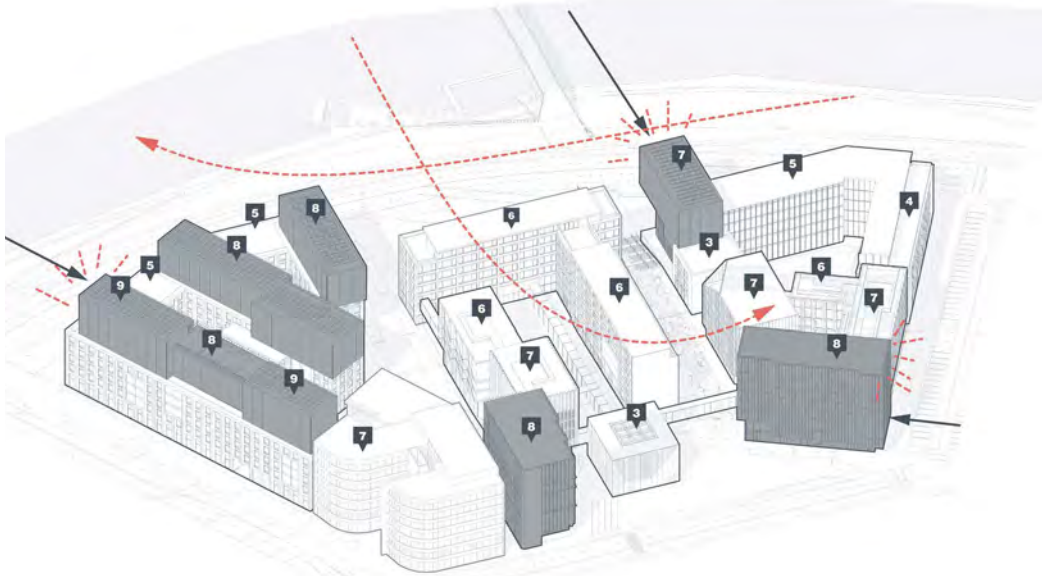


ARCHITECTURAL CONCEPT

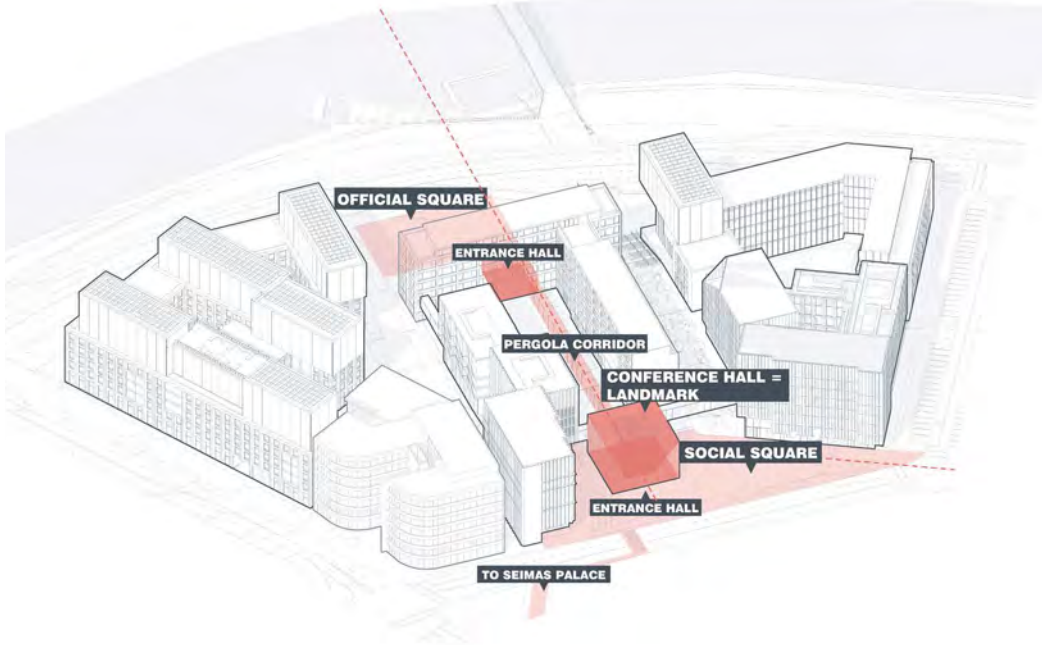
The city of ministries is a **mixture** of various architectural aesthetics. Ensembles of buildings form a clear urban structure with “common” spaces. In response to the **“New city” urban DNA**, the urban block perimeter is developed together with local spaces and local accents. The main **architectural highlight** is the **conference and assembly hall**. Transparent and open architecture structure exposes the sculptural form of the conference hall. The form reflects the expression of **democratic** governmental **values**: welcoming, brave, transparency, a stride for innovation.

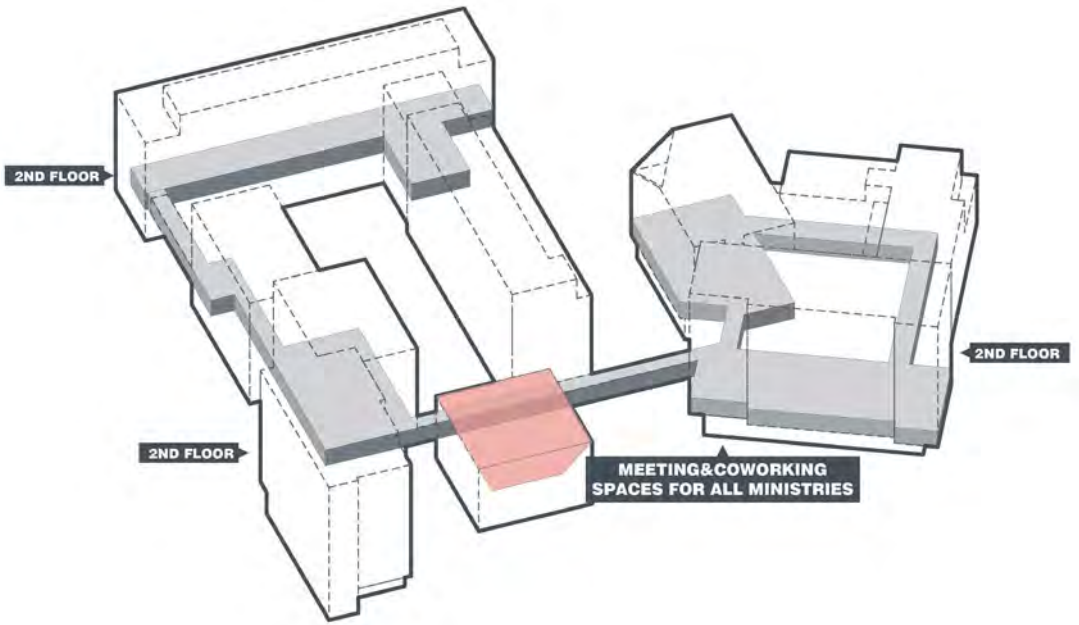
ARCHITECTURAL CONCEPT

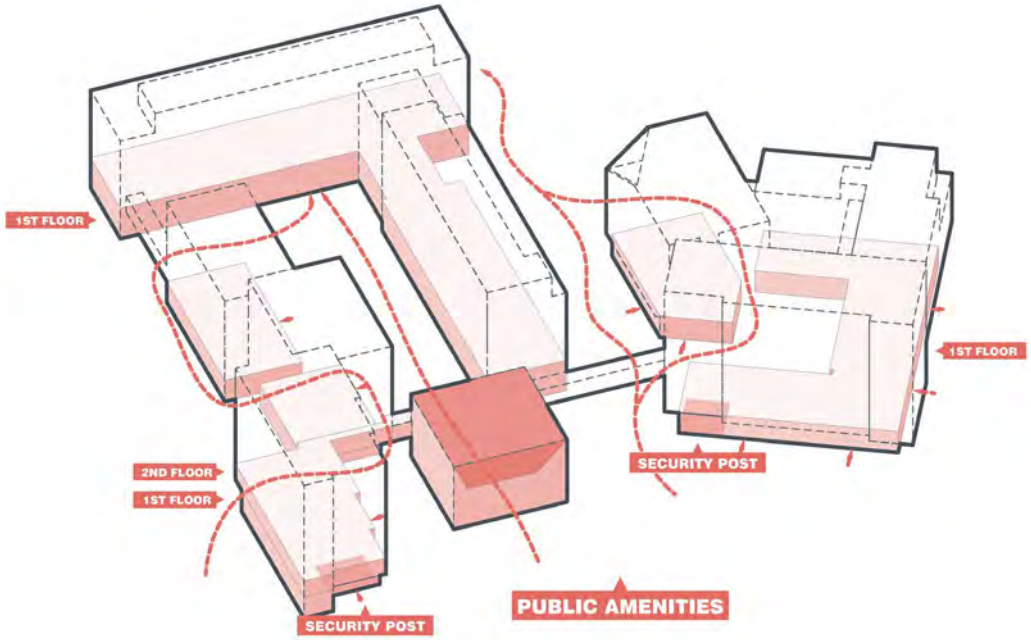
In order to guarantee equal conditions for the buildings and good working environment the design focuses on structures that are **open**, **well connected**, **have good insulation** and **flexible mobility** within. The main objective is to maximise the integrity of existing buildings for new uses but at the same time exploit in order to create new public spaces. The urban envelope consists of **background** elements combined with **accents**. Monotonous envelopes are avoided. Landmarks are designed in important places with important function (main hall, public spaces, building accents as seen from A.Gostauto st. and Gelezinio Vilko st.). The street perimeter of Lukiskiu str. is broken and opened on purpose. Here a clear accessible **public space** - a square develops. It opens up and overlooks buildings that are deeper in the urban block. The building envelopes are organised along the North - South axis. This clear organisation principle allows **easy navigation**, human scale and provides an easy way to create recognisable addresses. Such an urban block system gives unity for the blocks. New spaces are attractive, vibrant and diverse. To further strengthen the architectural concept a new connection emerges - **underpass under A.Gostauto Street**, public spaces in front of it, **pedestrian and bicycle bridge** over the Neris. Pedestrians and cyclists are given priority in the project area, for this reason the inside of the block is car-free. All the motorised functions such as parking is planned underground.



FLOORS







FUNCTIONAL PLANNING OF THE BUILDINGS

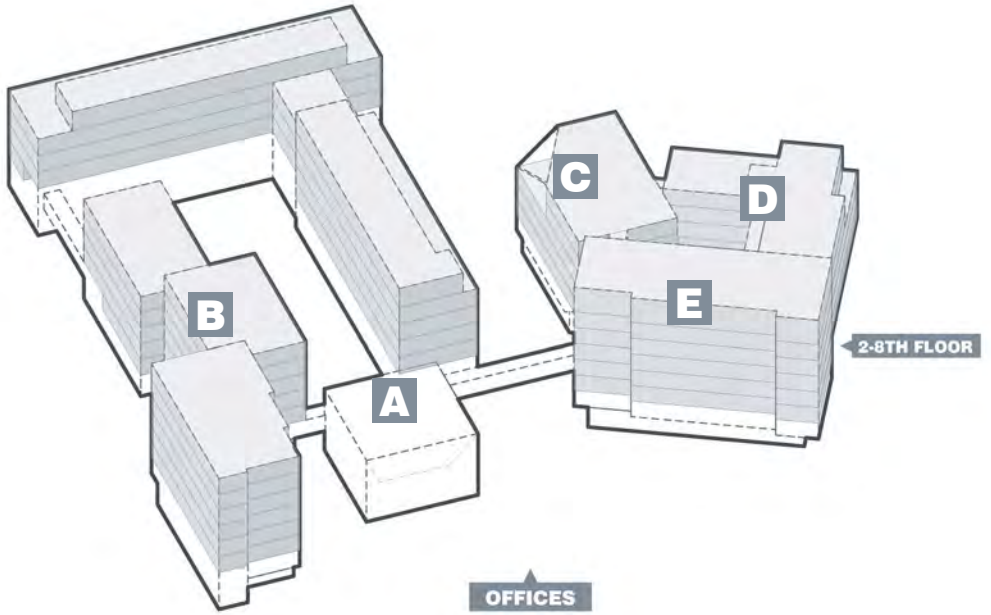
The priority of the proposal is to deliver clear building composition and functional configuration. Building volumes have a different identity that corresponds with function. The **main entrance volume is highlighted** (A). It is a clear glazed volume that exposes the main conference hall (2nd floor) and has a representative meeting hall with info centre, library and meeting rooms. In the basement all auxiliary functions: cloakroom and restroom. The basement level is vertically connected to the main hall and has natural lighting. Easy accessibility is achieved with two main staircases and elevators. The volume of the main conference hall is similar to an inverted pyramid. Thanks to adjustable horizontal wall louvres and modular wall partition the form is very functional, changing, adapting to the environment conditions. This **landmark** fosters an image of transparency, openness and democracy, inviting collaboration - communication within. At the same time it is a bold, modern and innovative solution, a reflection of institutional values.

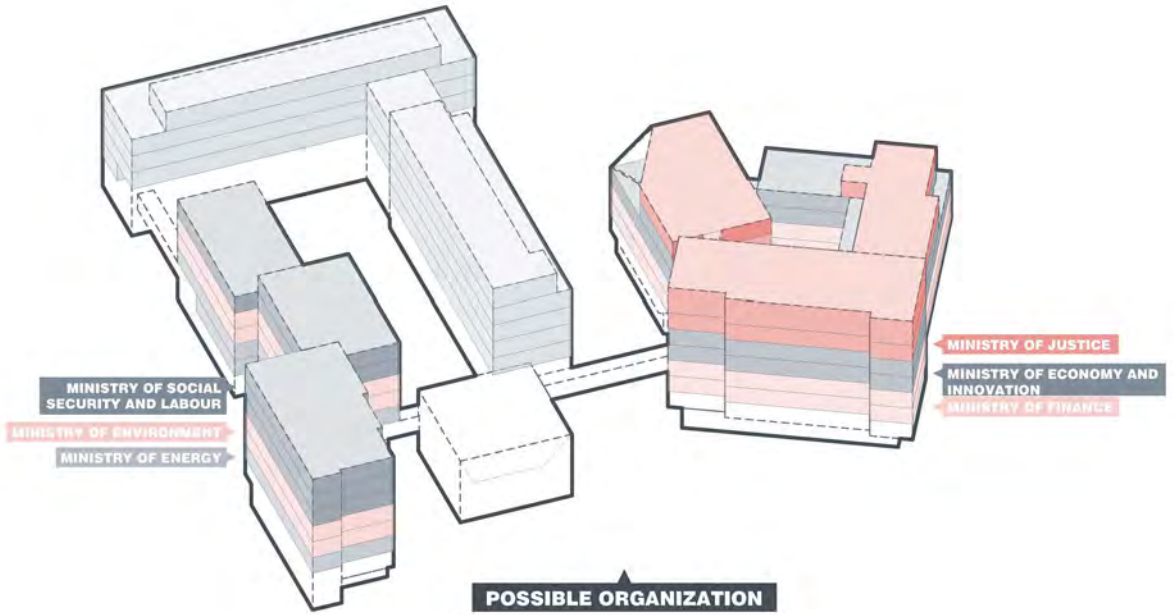
In order to guarantee good accessibility the adjacent ground floor part of the building (B) will be used for collaborative spaces, educational, civic education and exhibition spaces. In other parts of the building ground floor (B) easily accessible catering spaces include several cafés and a canteen. All the spaces have the possibility to expand, opening onto a landscaped courtyard. They are easy to reach from the main volume. All these spaces are

FUNCTIONAL PLANNING OF THE BUILDINGS

easily accessible, both for those working in the buildings and for visitors. The functioning of service transport is ensured.

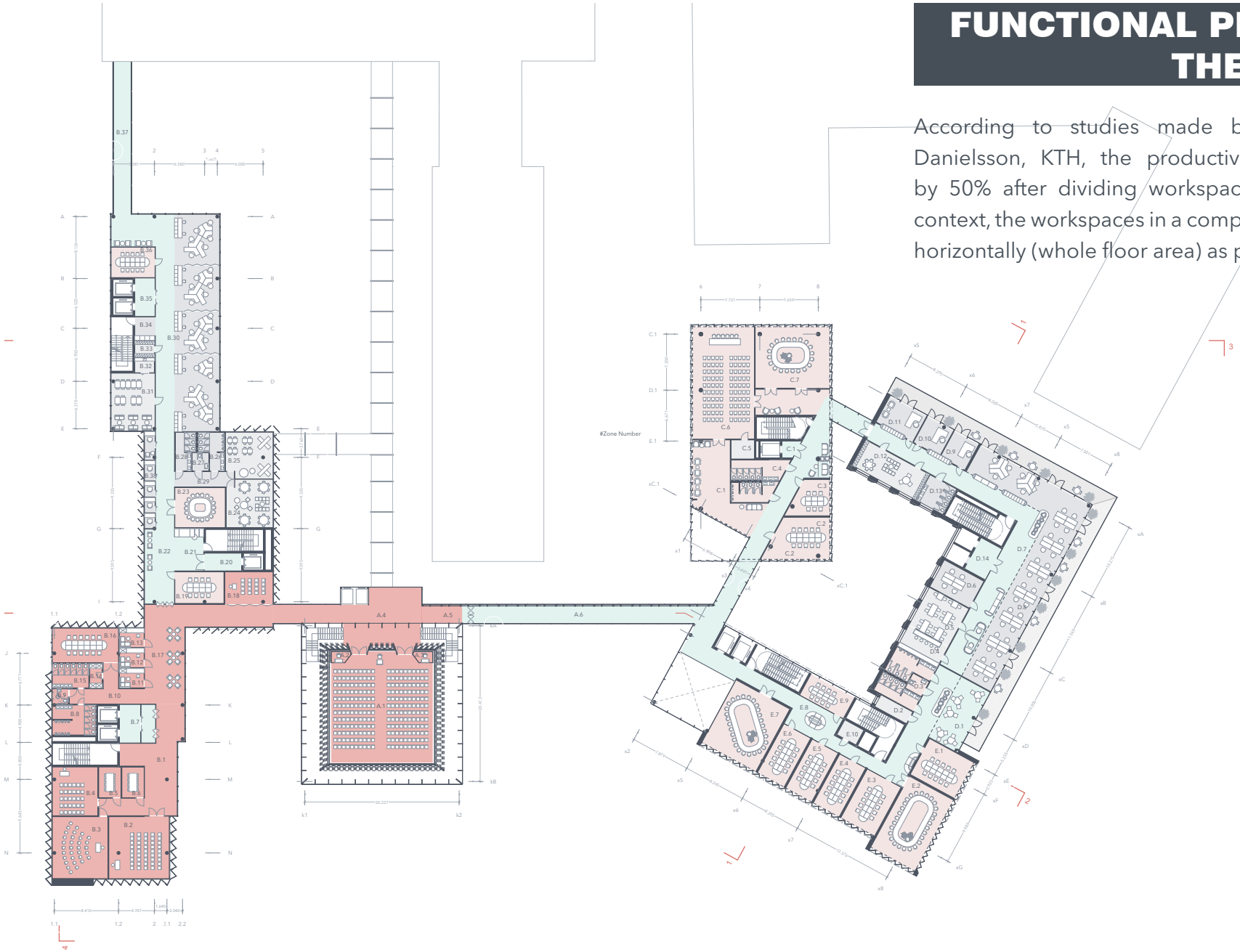
The **flow of traffic** is clearly modelled to ensure the privacy and **security** of employees, separating them or isolating them from the general flow of traffic by means of security measures (turnstiles). At the second floor a comfortable connection between different buildings is created by designing warm corridor-bridges. Second level of building B, also provides accessible functions for all the users. These include transformable training rooms (30-50 per.), meeting rooms, a press conference room with technical service areas and the possibility to connect a mobile TV studio, and individual preparation rooms. Ministerial working rooms are foreseen above. Access to the other floors (except 1f and 2f.), where staff rooms are planned, is restricted by various security measures. On the eastern side of the central lobby three separate buildings (C,D,E) are designed and connected by a glazed corridor on the second floor. On the ground floor they provide functions accessible to all. A multi-purpose hall with auxiliary facilities (C) a day centre (with a children's playground in the courtyard) (D), commercial premises (D), an art gallery opening onto the main square (E). On the second floor and floors above all ministerial staff quarters are planned. The upper floors have access to the existing roofs which are landscaped. Additional recreational spaces with panoramic views are created.





FUNCTIONAL PLANNING OF THE BUILDINGS

According to studies made by Dr. Chistina Bodin Danielsson, KTH, the productivity of work decreases by 50% after dividing workspaces vertically. In such a context, the workspaces in a complex are planned as more horizontally (whole floor area) as possible.



2ND FLOOR PLAN

MATERIALITY OF THE BUILDINGS

The use of materials in the designs are rational. Prefabricated façade elements and a variety of material and textural qualities to create the most **expressive** and **changing aesthetics** of the building's finishes. The main materials are concrete, glass, aluminium composite panels, stucco, ceramics and stone. **The different expressions and the clarity of the structure allow easy orientation**. The ground floors of the buildings are designed to be more open. Glass, transparency and the possibility of transforming the ground floor spaces, opening them up and connecting them to the outdoor space. Commercial, service, catering and service spaces are designed on the ground floors.

For the site amenities spaces hard surfaces are proposed - stone, a durable, long-lasting material. These are cut, burnt surface, non-slip, light-coloured granite tiles.

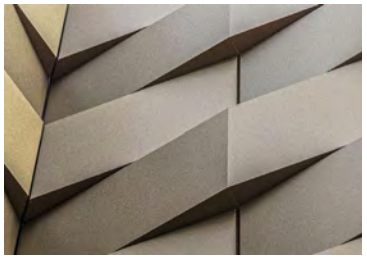
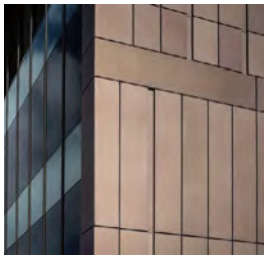
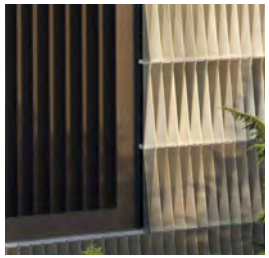
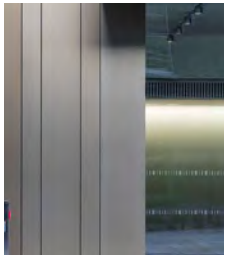
TINTED CONCRETE




STONE



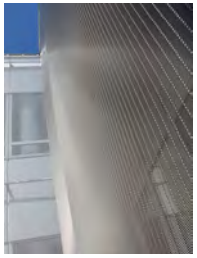
ANODIZED ALUMINUM

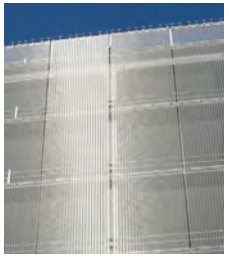





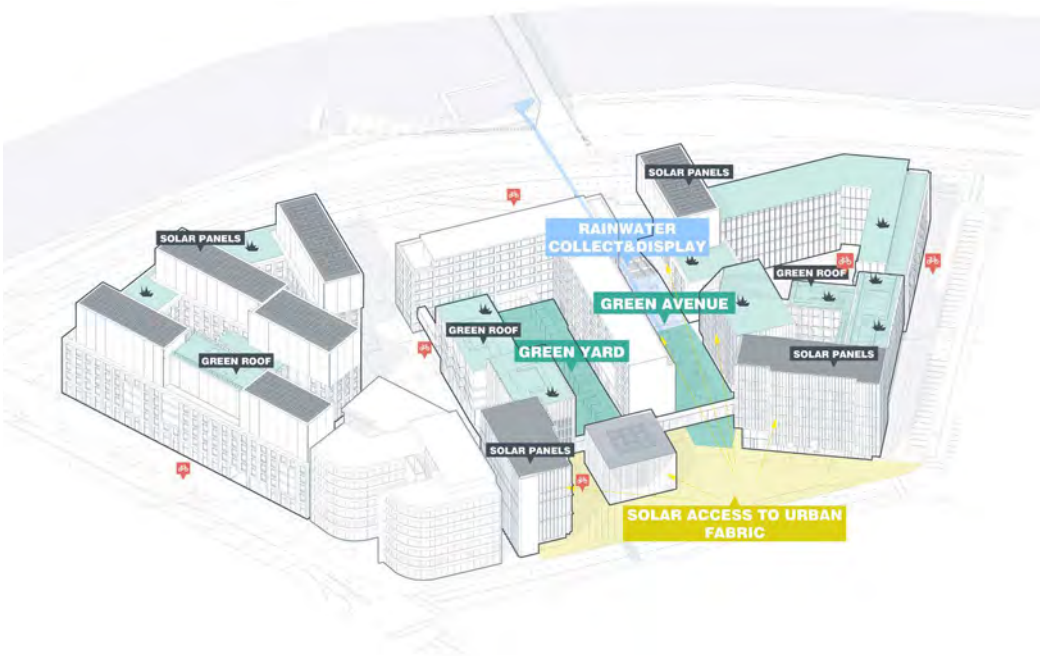
WOOD




STEEL MESH





The orientation of the buildings, their size and the design of the façades make it possible to ensure the necessary lighting and control it.
The principle of prefabrication of facades, rational use of materials and labour costs. The use of durable, ecological and recycled materials.
Creating comfort in the interior spaces by providing high quality and comfortable natural lighting. Transformable, easily adaptable interior spaces for changing needs, with floor installations.
Innovative engineering solutions help to reduce operating costs (geothermal heating, solar cells, rainwater harvesting and harvesting, passive and active façade protection against overheating) Moderate, cost-effective architectural solutions deliberately dominate. Clearly distinguishing and concentrating costs on accent solutions. The creation of internal "green spaces" combines the green areas on both sides of the projected plots. Existing green areas are preserved and their quantity is increased. Additional greenery is provided on some roofs. A new link is created to facilitate walking and cycling. Promoting mobility, accessibility and creating new public spaces for all.

SUSTAINABILITY

The entire urban/architectural structure of the urban block is organised according to the these principles:

- Flow optimisation,
- Shortening of links between functions,
- Use of natural light,
- Use of natural ventilation,
- Increasing the area of green areas (on the ground, roofs, walls),
- Improving accessibility on foot and bicycle.

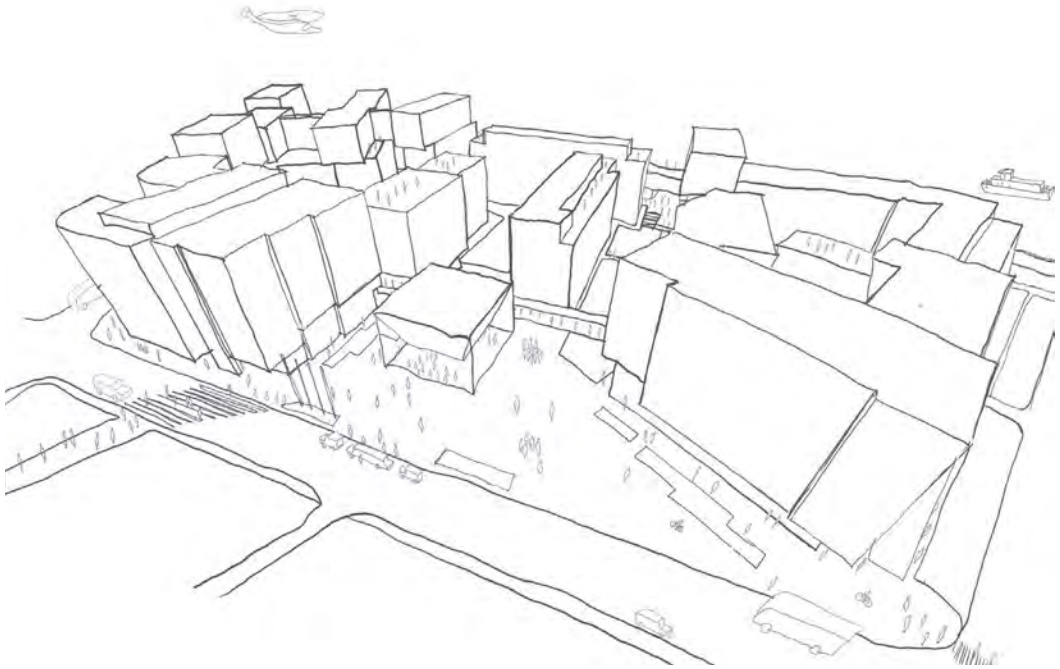
To provide additional energy for the complex, the roofs of the tallest buildings are covered with solar cells.
The complex is equipped with a waste management system.
The spatial structure of the complex creates favourable microclimatic conditions in both inside the buildings and in the outdoor spaces. The sun is let in as much as possible into the courtyards and passageways. Draught-free zones are formed. The future development of the surrounding areas is taken into account. Even dismantling culture is proposed. The recycled remains of demolished buildings are used to form new building structures (mixed into mortars, used as rubble, etc.).
The aim is to use wood in the construction of buildings where it is rational for safety reasons (the main conference hall, blind parts of hanging façades made of wood panels, which are clad with wood panels to protect them from the elements, roofs of upper floors). In the end the aim is to use 30-40% of the structures of organic origin.
Thoughtful architectural solutions enable the rational implementation and operation of the design solutions.
Maximum use is made of existing resources - existing buildings. They are renovated and adapted to new needs.

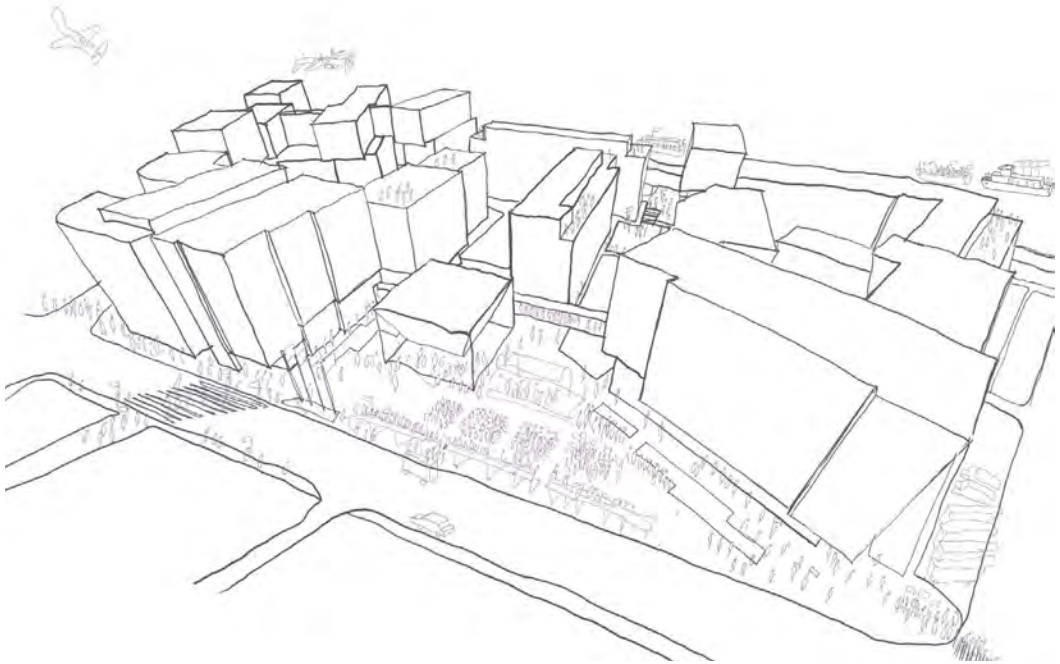
PUBLIC SPACES DESIGN

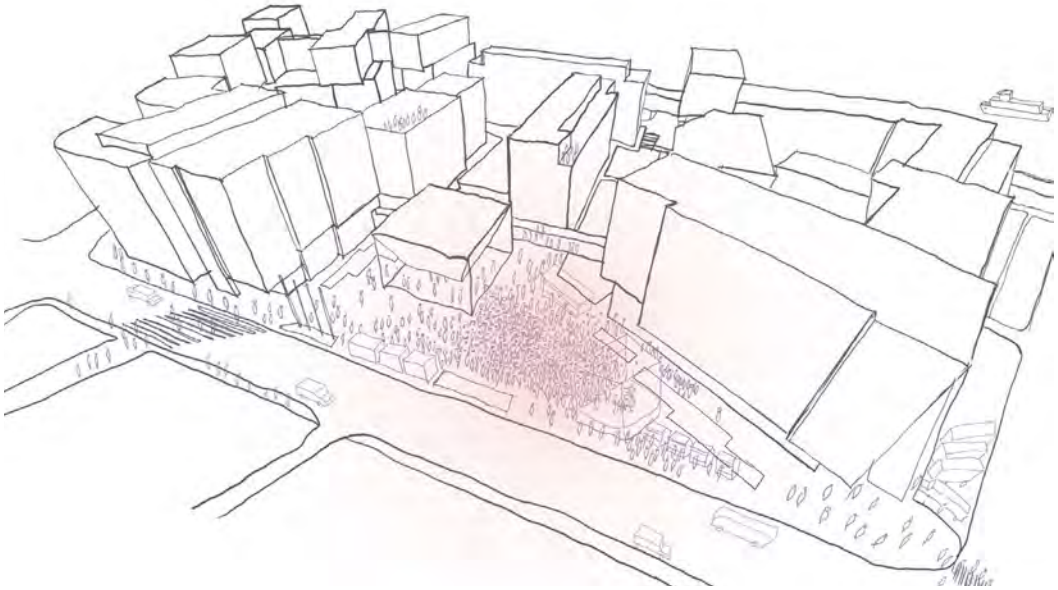
New public spaces are created with links to surrounding attractions. Newly designed pedestrian and cycle routes integrate into and complement the existing structure. There is the possibility to create a pedestrian and cycle bridge connecting to the right bank of the river. The newly formed spaces would be more accessible to a larger number of people. Taking into account the needs of the main people flows, two squares and a lively and comfortable connection between them are organised.

Between them new recreational spaces, new green spaces and development of existing spaces. The glazing of the ground floors creates a sense of openness, accessibility and security, both during the day and in the dark. It creates a quality environment that combines public administration, public, commercial and recreational functions. The newly designed public spaces offer space for the display of contemporary art: sculptures and changing exhibitions. The presentation and integration of artworks in the public spaces is one of the distinctive features of the site. An art gallery could be located in one of the ground floor spaces. This would act in synergy with this principle of creating public exhibitions.

An underground bicycle path under A.Goštauto St. to the Neris river bank is proposed. Various types of recreation areas are planned here: Outdoor fitness equipment, a water column, picnic and relaxation areas by the water. This space could be shared by those working in the planned







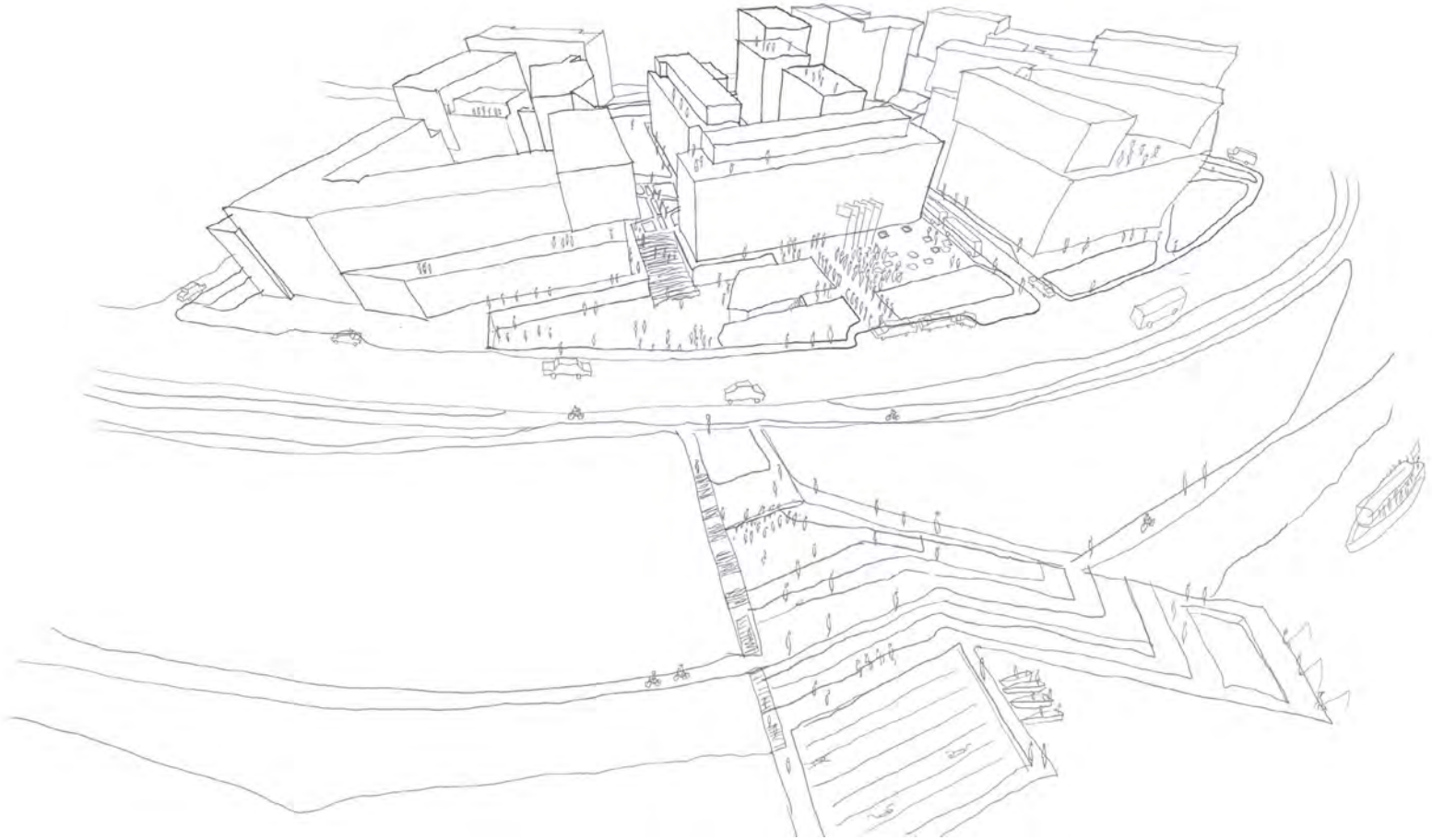
PUBLIC SPACES DESIGN

ministry campus and by the general public.

The entire site allows free movement and access to all public areas. Tactile guidance systems shall be integrated into the newly designed hard surfaces. Passenger kiss&ride points and parking spaces for disabled persons are destined. A car-sharing format is proposed, with on-site parking spaces. The main entrances to the buildings have clear addresses. Clear fonts and contrast shall be used for informative signage.

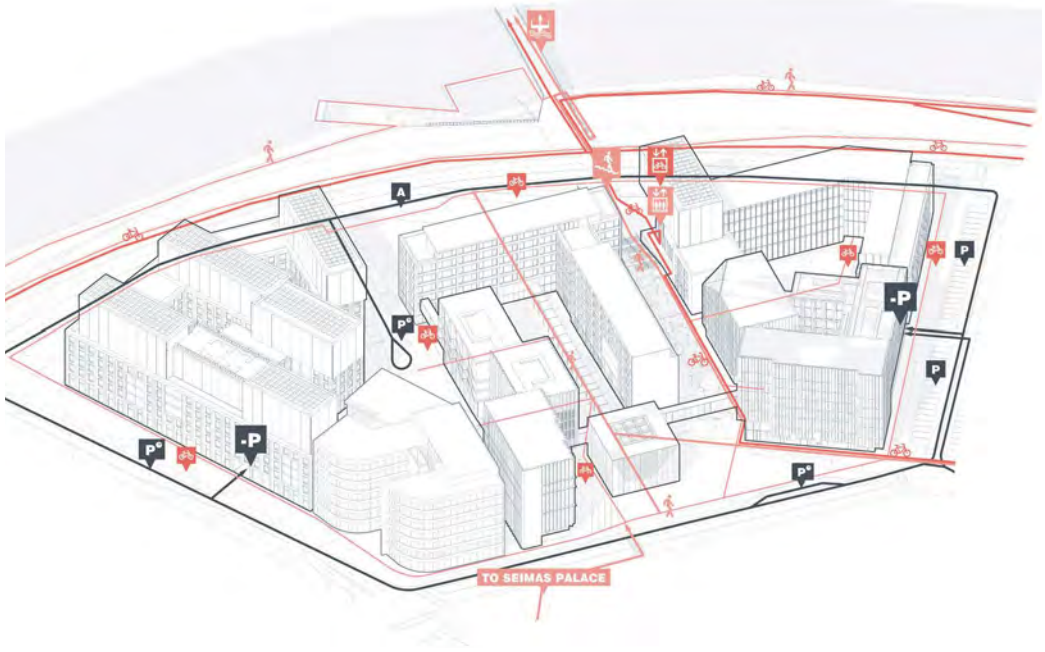
PUBLIC SPACES DESIGN

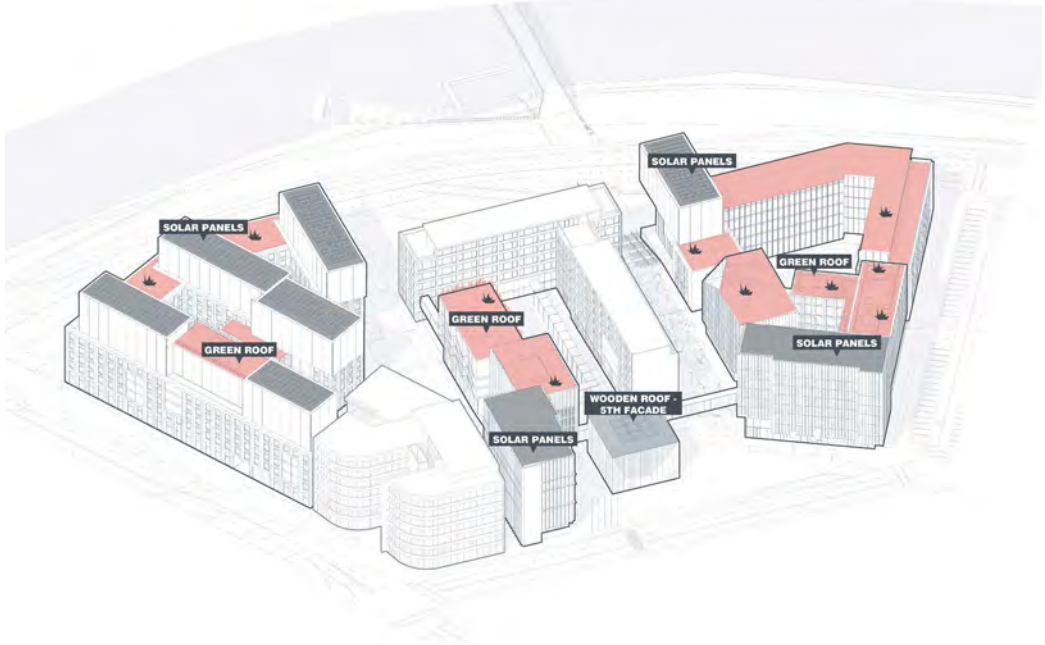
In order to connect and contribute to the existing community, outdoor public open spaces are implemented. They encourage interaction, active leisure and recreation among building users. Sports facilities, a children's playground, and areas for quiet relaxation are designed. A drinking water station is foreseen. The public spaces have rich natural biodiversity of the local ecosystem and are adapted to all seasons. Tall plants and planted roofs will reduce the 'heat island' effect. They will also provide shade for the building users and the roofs will absorb part of the rainwater. Special vegetation will also reduce the need for irrigation water. At the same time an efficient irrigation system and intelligent management will ensure water efficiency. Rainwater collected from the roofs of the building will be used as "grey" water for irrigation of the vegetation, purified and stored.



TRANSPORT SYSTEM

The whole proposed urban block is Car-free. Only access is provided for service vehicles and the entrance in the northern part of the territory, from A.Goštauto St. with a cul-de-sac. It is used for service transport, special transport and courier vehicles. Next to the cul-de-sac 2 buses can be parked, as well as kiss & ride and short-term stopping places. Kiss and ride locations are foreseen on all four block perimeters. On-site parking is only allowed on Mečetės st. and Gynėjų st. Most parking spaces designed in underground parking lot that is accessible from Mečetės St. and Gynėjų St. The urban design gives priority for pedestrians and cyclists in the quarter. A north-south cycle path is designed within the block as a prospective continuation of the cycle path across the Neris river. A lift for mobility impaired people is planned. The proposed new cycle paths would complement the existing urban path structure and ensure easy accessibility to the area by bicycle (proposed cycle path on Lukiškių Street and Gynėjų Street). Inside the block and along its perimeter bicycle racks are planned. The underground parking area also includes employee bicycle parking with auxiliary functions: bathrooms, showers, drying rooms, changing rooms with lockers. Pedestrian flows inside and outside the block are designed to take account of the main traffic flows. An additional crossing on Lukiškių Street is proposed. Creation of an underground connection through A.Goštauto Street to provide easy access to the river embankment. A pedestrian-bicycle bridge would be recommended at this location. Such a solution would ensure the viability of the project area and accessibility for a large number of people. It would connect the existing fragmented cycle and pedestrian paths. It would create an opportunity to reduce the traffic intensity in the area.





USE OF ENERGY-SAVING AND SUSTAINABLE SOLUTIONS

To meet the high energy requirements, ground-source heat pumps will be used to maintain the building's microclimate. The building will be additionally supplied with heat from the district heating network. Ventilation of the building will be provided by mechanical ventilation systems with heat exchangers on individual floors of the building. The high energy efficiency of the heat exchangers and fans will allow for efficient use of energy. The building will be equipped with high-efficiency LED luminaires. Sensors above workstations will automatically switch the luminaires on and off. To reduce the environmental damage caused by Freon entering the atmosphere, the building's cooling needs will be met by water cooling systems. Some of the energy will be generated by solar cells on the roofs of the tallest buildings, as well as by renewable electricity generated in remote solar parks. The building envelope is subject to strict requirements in order to achieve high energy performance. For the glazed areas of the building, a double-glazed façade system is used with integrated blinds or external roller shutters and passive solar control - selective glass. Dynamic energy modelling of the buildings is foreseen in the design of the buildings in order to optimise energy consumption and reduce the CO2 footprint of the buildings. The simulation results will also help to determine the optimum efficiency parameters for the engineering equipment, operating schedules, energy saving opportunities, future operating costs, external envelope performance and compliance with international energy standards. The building will have an advanced energy monitoring system, accounting for all types of energy.

MICROCLIMATE AND WELLBEING

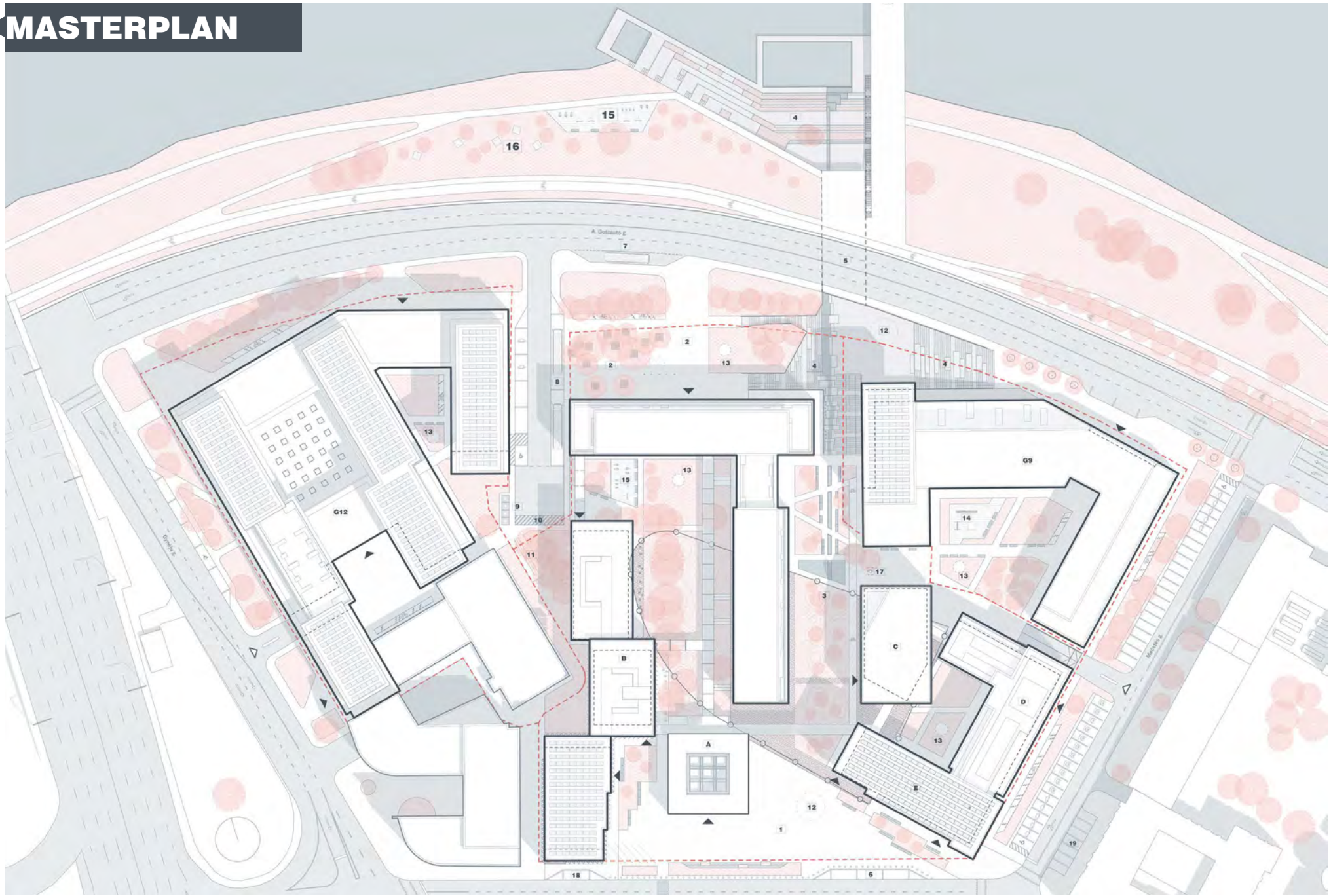
The building is focused on the comfort and well-being of the people who work and use it. The building will be constructed using materials that are reliable and have the least possible negative impact on the environment and people. Depending on the layout and functionality of the premises, separate zones with individual temperature, humidity and lighting control options are foreseen. The buildings have mechanical operable windows to allow natural ventilation for the employees. The high percentage of glazing in the buildings allows for sufficient natural light in the workplaces, while the lighting systems shall be provided with glare control measures. In order to avoid solar glare, integrated automatic external blinds shall be provided on the building facades. For visual comfort, all workstations will be close to the windows, and the partitions bounding the work areas in the centre shall be made of transparent glass with a view through the windows of the building. For acoustic comfort, noise from engineering systems shall be localised and reduced. The quiet areas of the building shall be separated from the rest of the building by soundproofing structures. Noise emitting equipment (coffee machines, printers, etc.) shall be located outside the work areas. Localised soundproofing surfaces, such as walls and appropriate floor and ceiling coverings, shall be used in work areas.

In order to maximise the green areas in the block, operational roofs with landscaping are provided.

ESSENTIAL STRUCTURAL SOLUTIONS FOR THE BUILDINGS

The majority of the new buildings will have rational reinforced concrete construction with modular, prefabricated façade elements. Each building volume has a different façade finish and expression. Variability and a sense of the city are created. The reconstructed buildings retain their load-bearing structures. Facades are adapted and changed

MASTERPLAN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G11 PLOT	NOTE
LAND PLOT	
Development intensity Development density	1.88 42%
BUILDINGS (NEW)	
Number of floors Building heights Built-on area Surface volume Underground volume Gross floor area Useful floor area: - commerce - catering - office	8 32 m 4 302 m^2 99 242 m^3 11 889 m^3 **21 995 m^2** 19 733 m^2 561m^2 476 m^2 18 696 m^2
Spaces without access control	**3 644 m^2**
Common areas Synergistic commercial functions of common areas Parking lot Number of parking spaces	1 134 m^2 2 511 m^2 13 771 m^2 389
Spaces with access control	**18 351 m^2**
Meeting and coworking spaces for all ministries Offices of the ministers and their teams Workspaces for ministerial staff Functional backroom spaces	1 264 m^2 2 116 m^2 13 770 m^2 1 201 m^2

Office: 18696/25 = 748 (aut.)
Commerce: 561/30= 19 (aut.)
Catering facilities: 476/15=32 (aut.)
Total: 748+19+32=799
After adjusting the coefficient (0.5) = 799x0.5=400 parking spaces needed

TOTAL	NOTE
Number of parking spaces underground/aboveground	894/57
Underground floor area	28 500 m^2
Phase I total area	21 995 m^2
Phase II total area after reconstruction on land plot G9	8 907 m^2
Phase II total area after reconstruction on land plot G12	22 234 m^2

GENERAL BUILDING DETAILS

G9 PLOT	NOTE
LAND PLOT	
Development intensity Development density	1.97 58%
BUILDINGS	
Number of floors Building heights Built-on area Surface volume Underground volume Underground floor area Parking spaces number Gross floor area Useful floor area Parking spaces needed	7 31 m 2627 m^2 51947 m^3 33 068 m^3 4 070 m^2 142 **8 907 m^2** 8 016 m^2 147

G12 PLOT	NOTE
LAND PLOT	
Development intensity (without existing residential building) Development density (with existing residential building)	2.75 75%
BUILDINGS	
Number of floors Building heights Built-on area Surface volume Underground volume Underground floor area Parking spaces number Gross floor area Useful floor area Parking spaces needed	9 35 m 6 065 m^2 115 246 m^3 88 604 m^3 10 659 m^2 363 **22 234 m^2** 20 010 m^2 330

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