

ECOLOGICAL MOVEMENT

PRAGUE HÁJE

YURCHENKO FEDOR
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THESIS

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0 PART: INTRODUCTION

PART 1: ANALYSIS

- Introduction
- History and current state of the territory
 - Historical development of the site
 - Historical traces in the site
 - Character of the site
 - Existing condition of the site
- Site plan analysis
 - Zoning Plan
 - Metropolitan Plan
- Transport analysis
 - PUBLIC TRANSPORT
 - IAD
 - Bicycle transport
- Morphology analysis
 - Terrain morphology
 - morphology of the built environment
- Spatial study of Háje

PART 2: CONCEPT

- Functional zoning of the area
- greenery
- cycling traffic
- Walking and cycling
- Materials and greenery

PART 3: DRAFT

- Situation
- Park design
- Proposal for a private bicycle station
- Proposal for a public bicycle station

PART 4: RESOURCES

The subject of the thesis is the solution of the area near the Háje metro station in the Prague 11 district. The theme of the thesis is the development of bicycle transport and making the current unorganized park more attractive by designing various functions such as squares, exhibition spaces, playgrounds, front gardens and recreational areas.

Proposed

park improvements are in keeping with the historic footprint of the area.

Nowadays, automobile traffic is the most popular and one of the most space-intensive, but certainly inefficient. Current urban design theories lead to a reduction in the spacing between destinations. The better alternatives to the car are public transport, public transport, public transport.

pedestrian and bicycle transport.

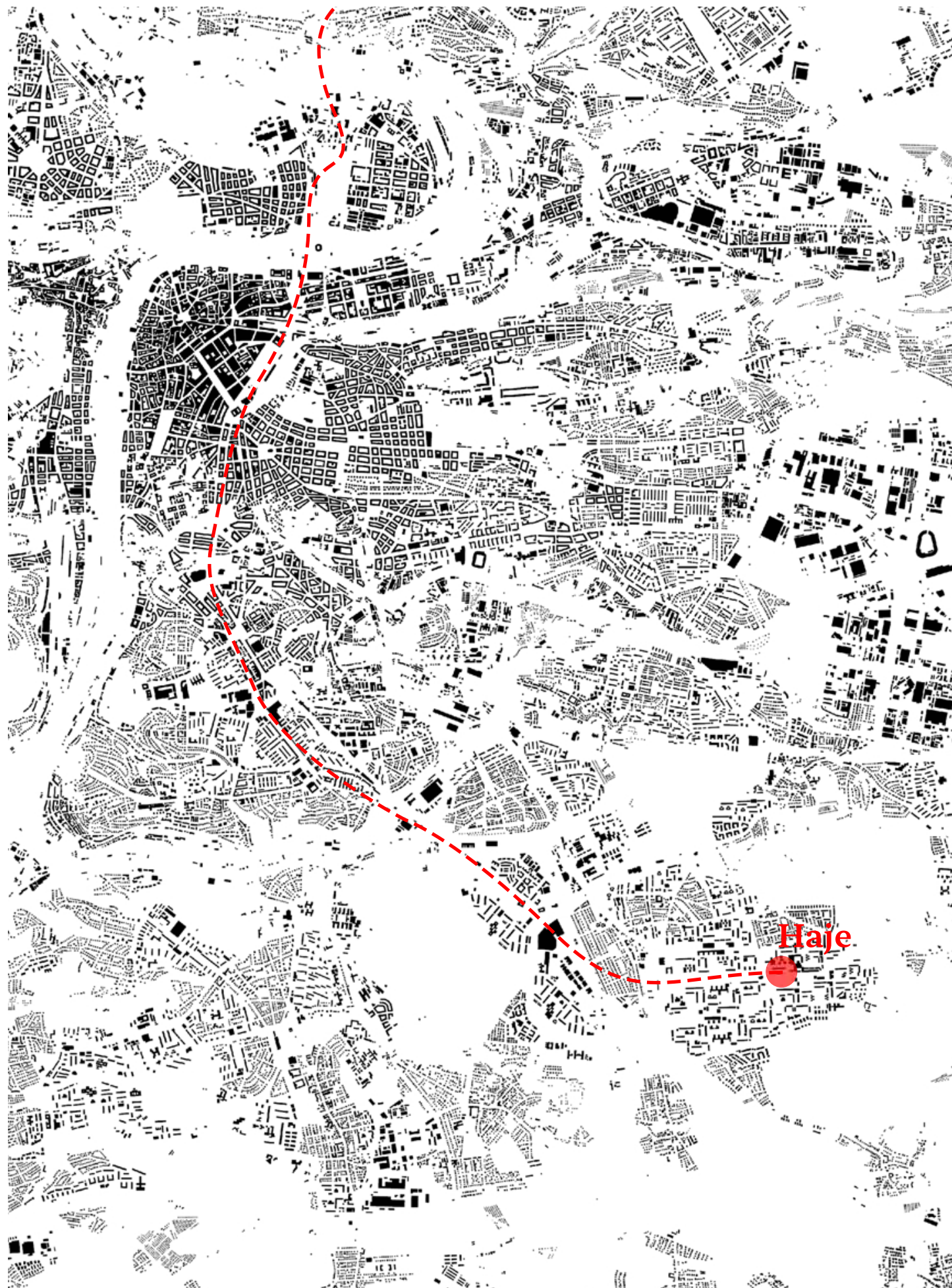
Designing new infrastructure can increase the attractiveness of cycling and increase its popularity.

The land in question belongs to the city, and is managed as Urban Green Space, Parks and Green Space, a general mix, leading to different approaches to the design of urban space.

Within the thesis the emphasis is on the design of cycling, parking and connectors. Further emphasis is placed on the connection of individual cycling infrastructure with different functions such as Cafés, shops or service centra.

The aim of the thesis is to create a quality part of the city, a pleasant and attractive environment that implements new elements of cycling infrastructure

1: ANALYSIS



PRAGUE 11 Háje

Our selected area is Prague 11, around the Háje metro station. This area has a triangular shape because it is bordered on three sides by forest. The area itself is then divided into 2 parts by the large European motorway E55/E65, which connects the cities of Helsingborg (Sweden) and Kalamata (Greece) / Malmö (Sweden) and Chania (Greece). The road is a big challenge in connecting the two parts of one administrative unit. Most of the territory lies to the east. Which is divided into smaller parts by local communication I tip.

The terrain in this area is mostly flat with no significant hills. Potential development is possible in a southerly direction or densification of existing development. The area is equipped with all necessary cultural and civic functions such as schools, hospitals, theatres and shopping centres. The area can be said to be moving towards automation. Residents perceive it as a self-contained and independent city. The extensive forest areas in the surroundings are an important part of the residents' life, such as Kunratice Forest, Hostivařský lesopark and Miličovský les.

One of the most important problems is the insufficient connections which do not meet the needs of the population in terms of safety, attractiveness and aesthetics. Large green areas between buildings are undeservedly unused by people, mainly due to the lack of a common concept of public spaces.

There are three stations of the Red Metro line in the area, which are the main focal points of social life and activities.

HISTORICAL DEVELOPMENT OF THE SITE



Stabilní katastr - 1842

Chodov (1) appeared in 1195 and 1197. It was the property of the Cistercian monastery in Waldsassen. Litochleby (2) in 1326. Háje (3) founded in 1603, the history of the village was closely linked to the mining and quarrying activities that took place in the area. In 1841, a common cadastre was established for Chodov and Litochleby. A total of 18 houses of various importance and 3 vacant farm sites.



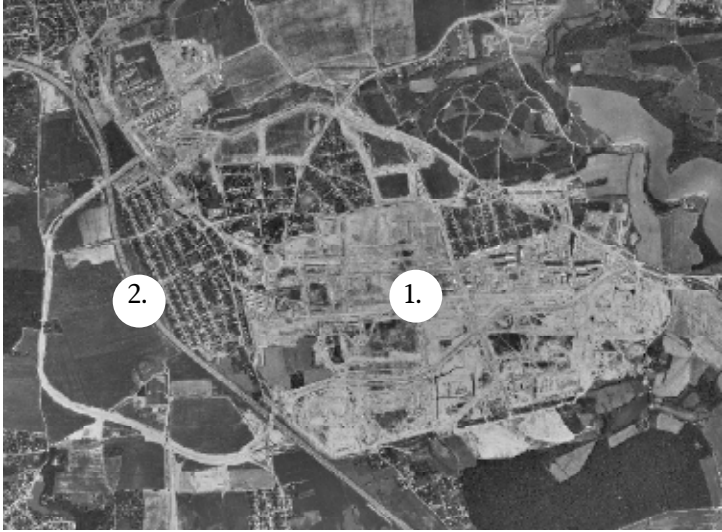
Výškopis - 1920 - 1924

In 1918 Chodov (1) and Háje (2) were not incorporated into the emerging Greater Prague. However, they had more than 593 houses with a total population of 7,035. But the Kunratice landowner sold the Chodov court, which included 294 ha of fields, to the Prague municipality in 1920, and Prague allowed construction on part of this land. In the following years Chodov was electrified.



Arhiv ÚP - 1971

In 1949 the villages of Chodov and Háje became part of the newly established Prague-East district, but in 1960 they became part of the Prague-West district. More family houses and new inhabitants were added. After 1971, the yard and some houses gave way to the backbone roads for the emerging South Town. St. Francis Church (1) escaped demolition.



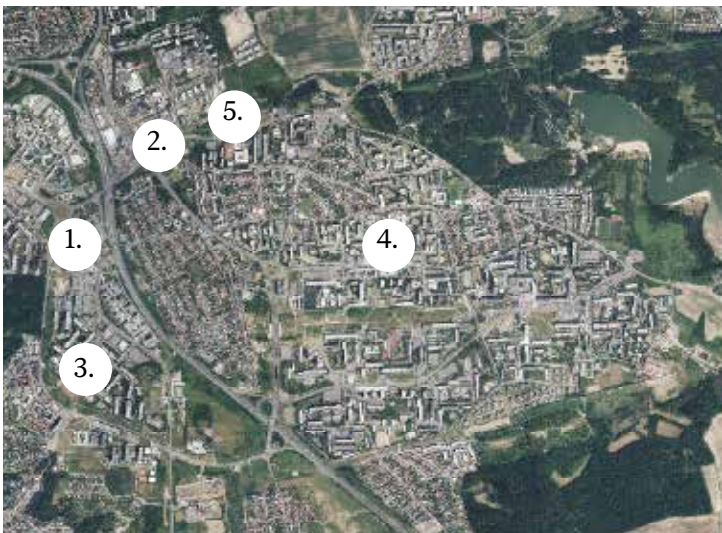
Ortofoto Prahy - 1974

After several years of preparation, construction began (1) in 1971 in Hájích. In the meantime, other large constructions had already crossed the Chodov area in several places: the construction of the D1 motorway (1), a water pipeline for Prague from Želivka and a backbone road connecting Prague with Central Bohemia. The extension of the metro line C,



Ortofoto Prahy - 1988

The resulting town was surrounded by suburban forests: the Kunraticko-Michel Forest (1), the Milíčov Forest (2) and the Hostivař Forest Park (3). Apartments were allocated to households that were socially diverse, with workers, engineers, doctors and teachers living together. Which allowed the city to develop and invest further. The handing over of flats while the landscaping of the houses was still incomplete. Since the 1990s, there has been an extensive programme of regeneration of houses and neighbourhoods.



Ortofoto Prahy - 2021

The South Town offers a wide range of shops and other retail outlets, restaurants, sports and cultural facilities. The Westfield Chodov shopping centre was built in 2005 and expanded in 2017. Dale Chodov Fortress (2) and the Garden Cultural Centre (3). South Town Sports Hall (4), Horohala (5).

HISTORICAL TRACES IN THE SITE

CULTURAL MONUMENTS



4. Keramická plastika v ulici Anežky Malé



1. Komunitní centrum Matky Terezy



2. Kaple svatého Jana Nepomuckého



3. Fontána ve vnitrobloku v Mendelově ulici



5. Socha Kosmonauti u stanice metra Háje



6. Den před kinem na Jižním městě



7. Kovová plastika Květ v parku Ocelík

VALUABLE BUILDINGS



11. Modrá škola



8. Klinika jednodenní chirurgie



9. Obchodní centrum Háje



10. Cinema City Galaxie



12. Úřad MČ Praha 11, budova Ocelíkova



13. Úřad MČ Praha 11, budova Vidimova



14. Centrální park

PUBLIC SPACES



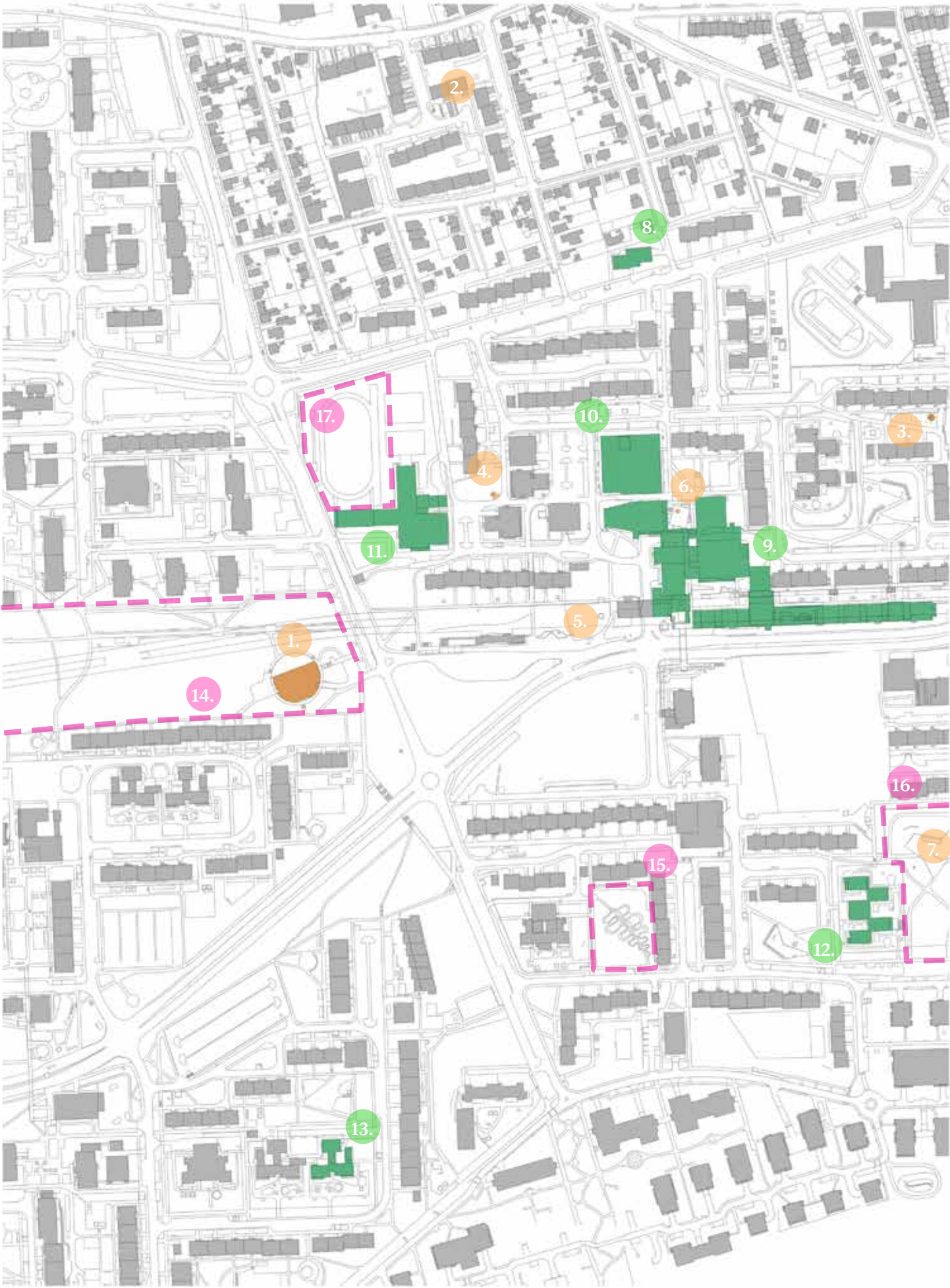
15. Regenerace vnitrobloku Stříbrského



16. Park Ocelík



17. Volnočasový Areál Kupeckého



CHARACTER OF THE SITE



1. Central park



2. Michnova a Podjavorinská ulice



3. Hnevkovského ulice



4. RD, původní obec Haje



5. Starobylá ulice a U Rybářství



6. Michnova a Podjavorinská ulice



7. OC Haje



8. RD, původní obec Haje



9. Metodějova ulice



10. Kosmická



11. Stříbrského ulice



12. Loosova ulice



13. Steinerova ulice a náměstí



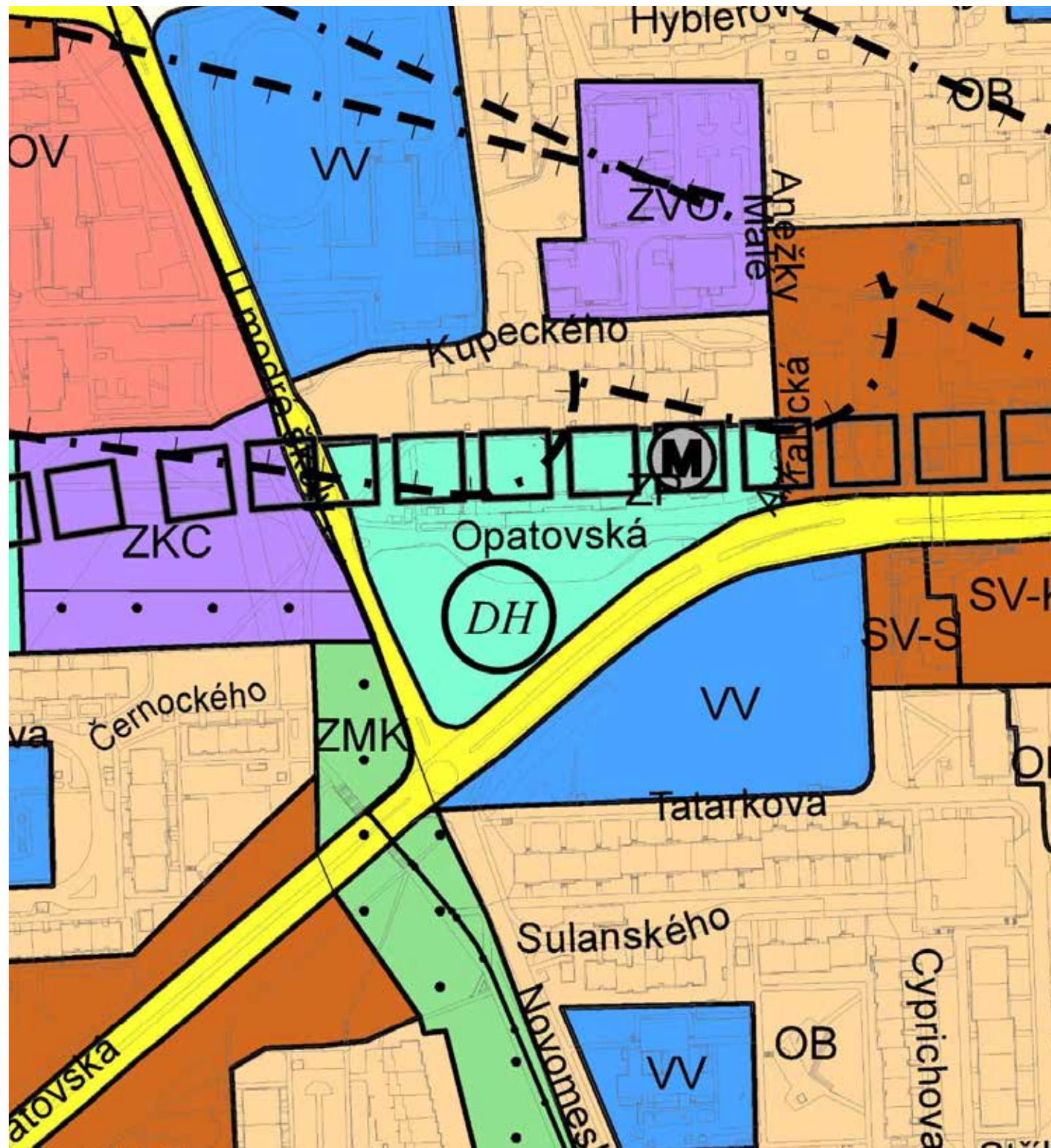
14. Hvězdoslavova ulice

Urban structure

Originally the area was 3 small villages with family houses. Its shape and layout is preserved in today's urban structure. The active construction of the housing estate in the 1970s surrounded the existing villages with a new urban structure that still prevails today. Within a decade, hundreds of high-rise buildings, dozens of kilometres of roads and several metro stations were built. In the following 50 years, the area did not change much. Areas were developed that were not in demand at the time. In the most active places (metro stations) commercial and administrative functions developed. On the site of the original village, the land was subdivided and developed. Old houses were replaced by larger and more modern ones. The main problems and the main advantages of the created structure stem from its spatial design. Tall buildings with small apartments have the same density as urban block development. Which leads to the creation of large public areas that are difficult to organize. The result is a public space with very low safety and attractiveness. Maintaining a large public space requires constant investment. Therefore, most urban spaces become neglected. But on the other hand, there is great potential for the development of public spaces, creating spaces that could not be found in a densely built city, auto-cinema, large parks, lakes and comfortable bike paths.



ZONING PLAN



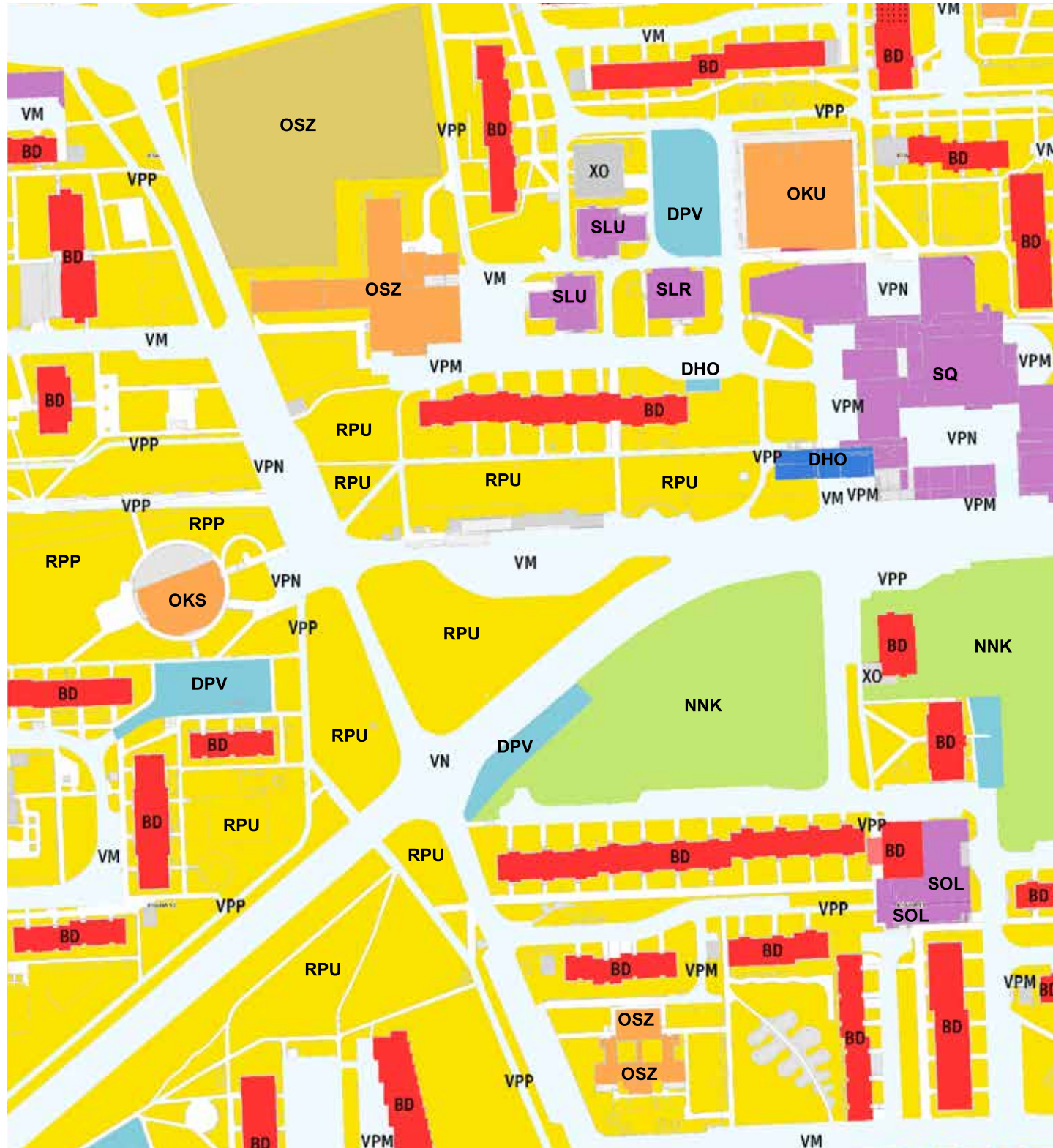
In the current Urban Plan of the Capital City. Prague, in relation to the Principles of Territorial Development, the South Town is counted as one of the important centres of citywide significance (C/4). In contrast to the original version of the master plan from 1999, the current version does not include the Novomeský Street (the area close to the boundaries of the area under consideration) as ZMK - urban and landscape greenery. There are no other major changes. The development of the area will be mainly solved by reclamation of public spaces and completion of the housing complex under construction.

METROPOLITAN PLAN



The land in question is located in the buildable transformation area 411/553/2039 with an area of 13.1 ha. The aim of the proposed regulations is to preserve the urban structure and complement public amenities and connect the site to the tram transport network. The height level of the new development ranges from 6 to 21m.

USE OF THE TERRITORY

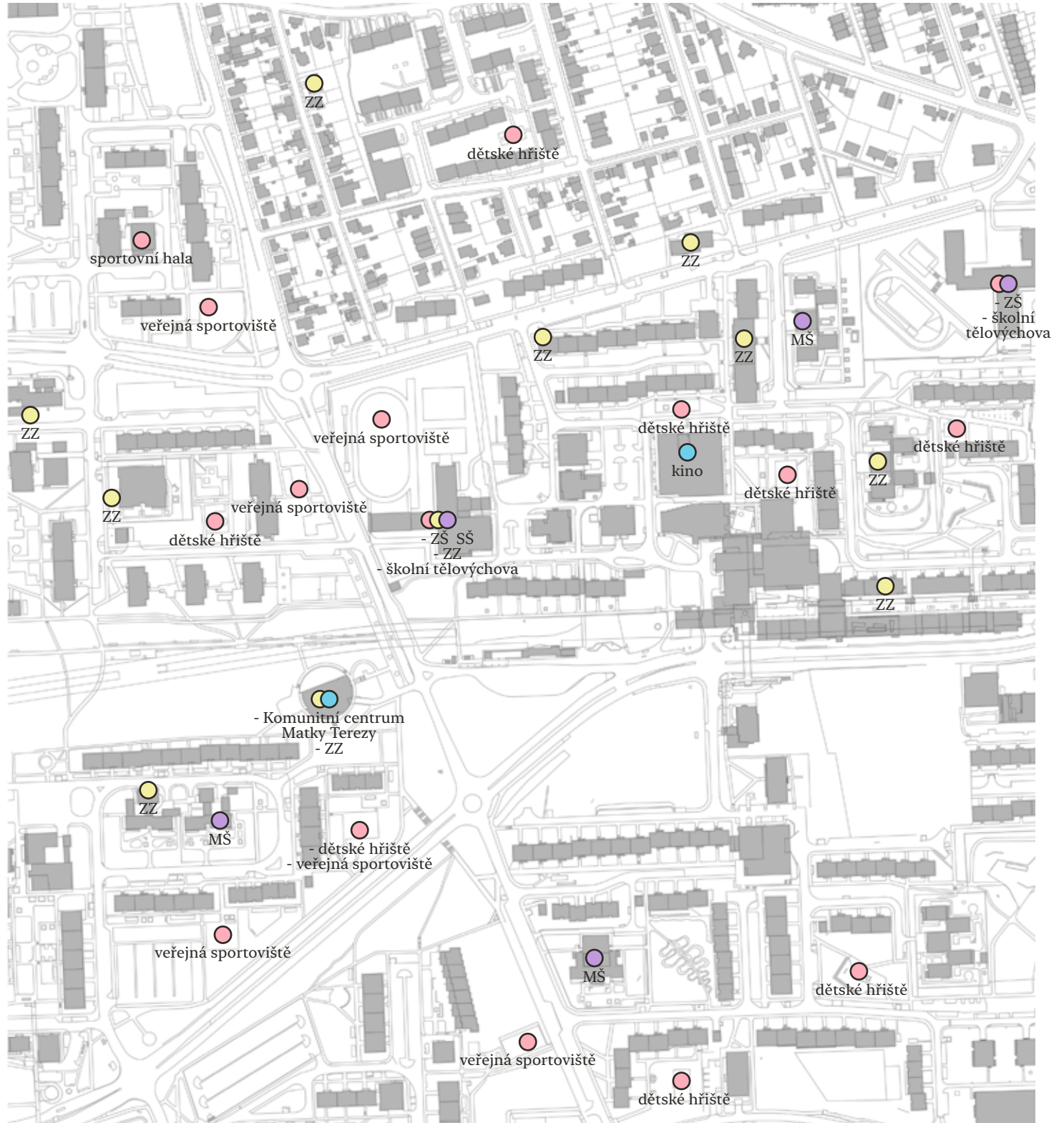


LEGENDA

- Natural recreation
- Non-forest landscape
- Schools and education
- Garages and car parking
- Housing
- Services
- Public passenger transport
- Areas without use

The area in question is a modernist urban structure, where mostly mono-functional units such as housing, culture, services and social functions are embedded in the green areas and parks.

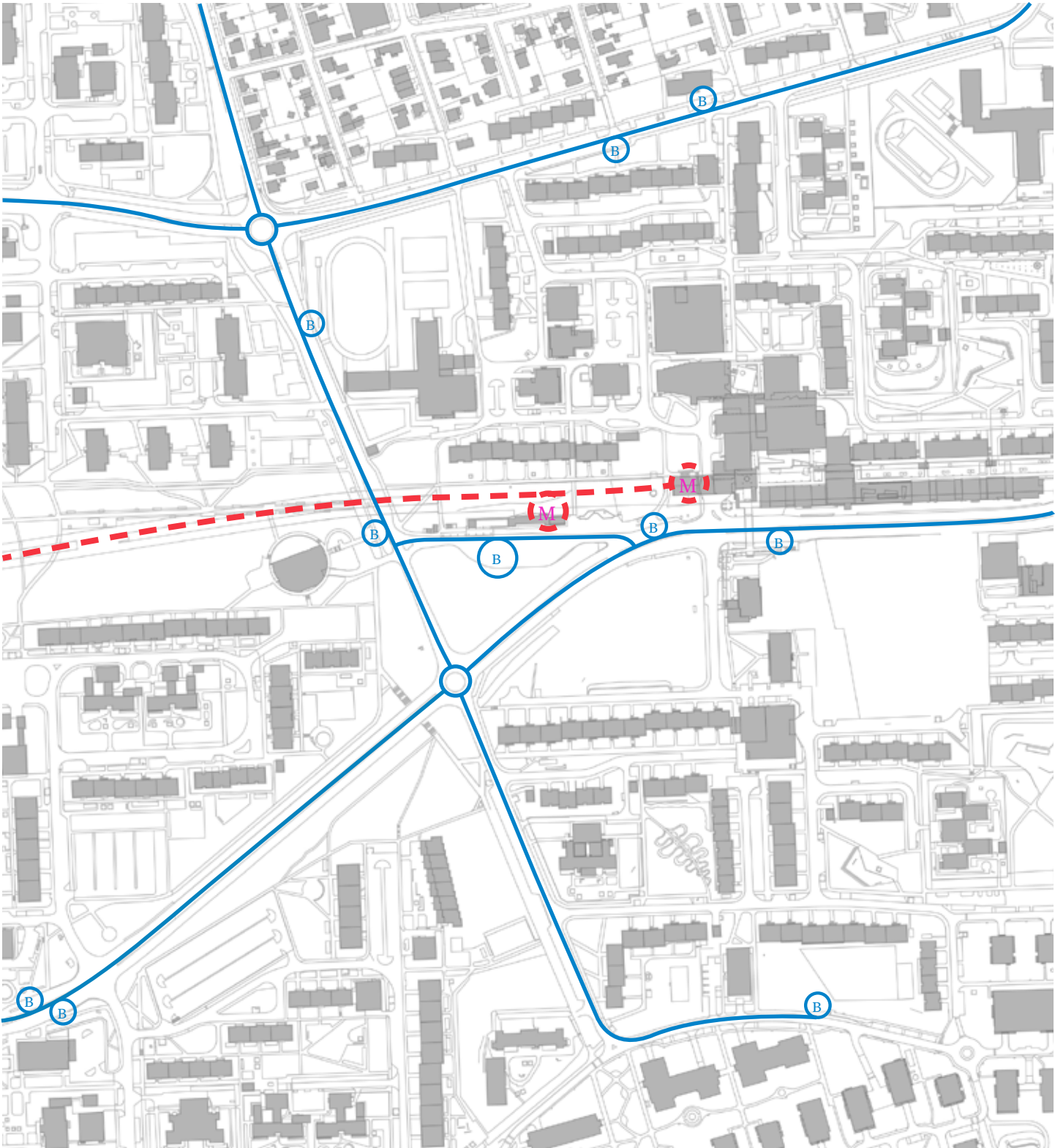
PUBLIC AND CIVIC AMENITIES



LEGENDA

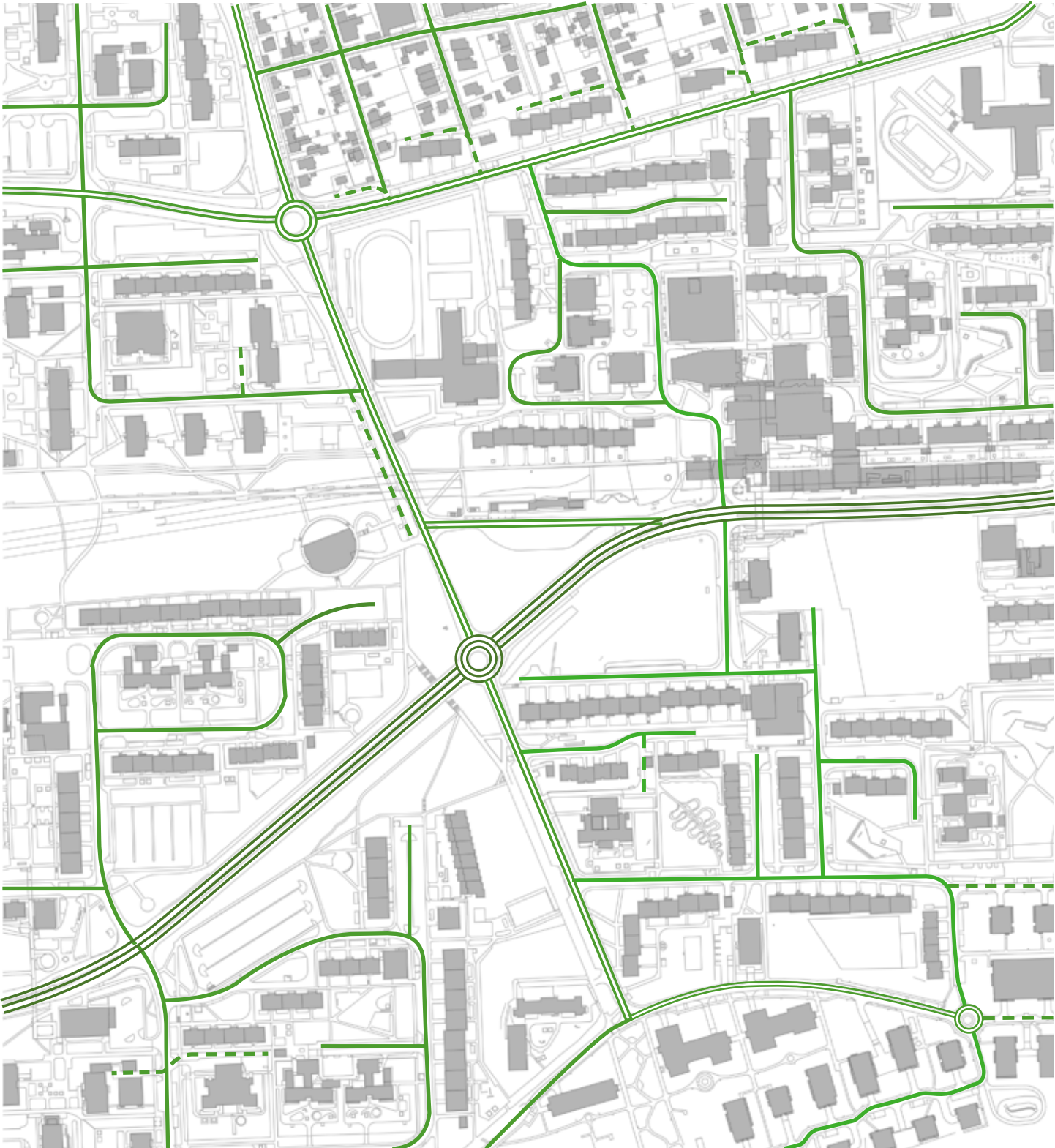
-  Health Centre
-  Sports centre
-  Education centre
-  Cultural centre

The city is not a polyfunctional and individual functions usually self-sufficient building. Over time, the tendency changes and unattractive residential subdivisions are transformed into various functions such as restaurants, small offices and services.



- LEGENDA
- Bus
 - ⊙ Bus stop
 - - - Metro
 - ⊙ Metro stop

There is a metro and bus terminus in the area, which reduces the accessibility of the area itself but allows better transport to other parts of the city. Public transport does not cover the "inner blocks" of the sites to a sufficient extent.



- LEGENDA
- Local roads of class I
 - Class II local roads
 - Class III local roads
 - - - Dedicated roads

The area is surrounded by local roads of II and I class. The road forms a large barrier and divides the mono-pluive parts of the town. A major constraint is the Haje bus terminus, which has a large demand for bus parking.

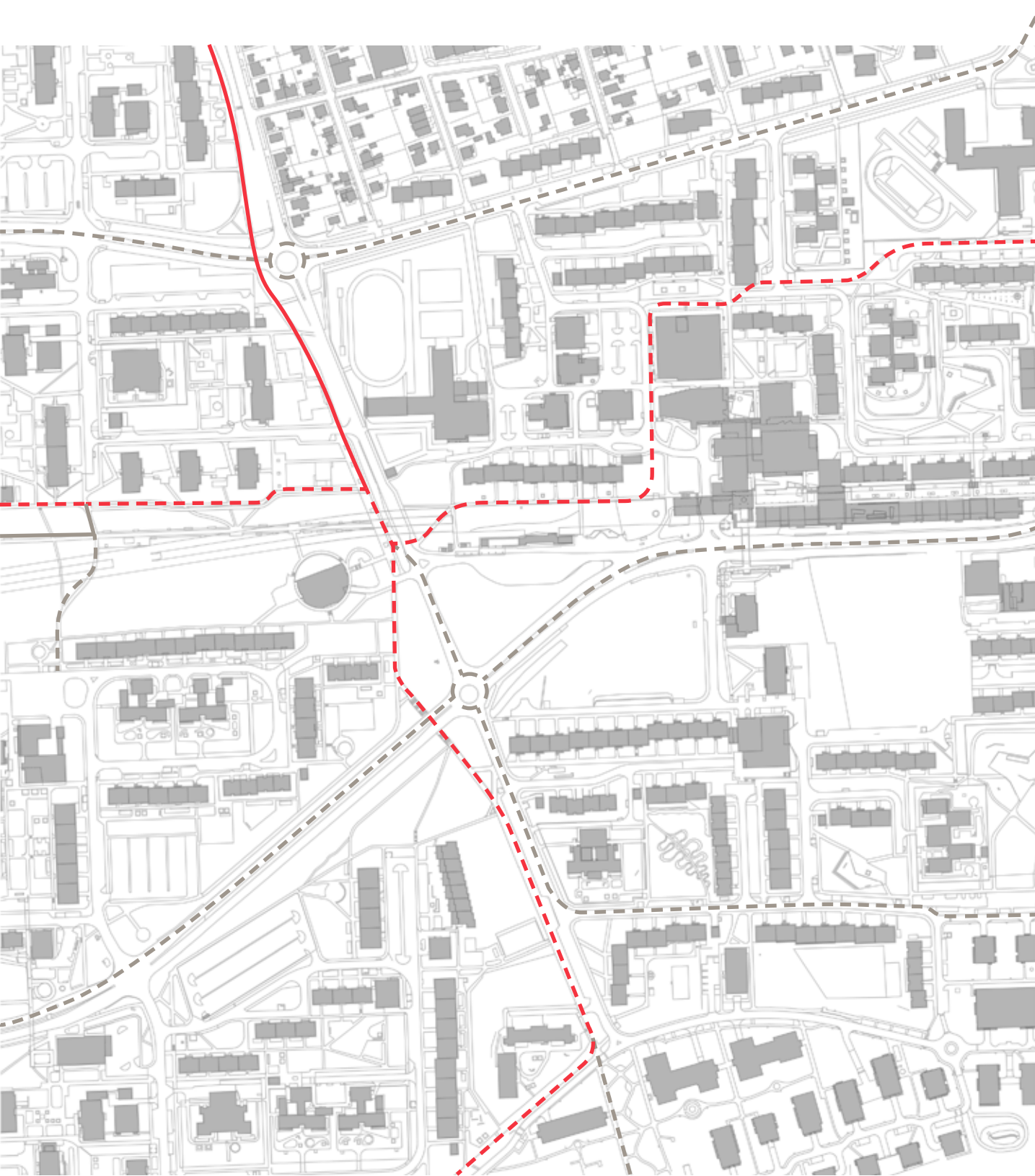
CYCLING TRANSPORT



- LEGENDA
- Cycle path main
 - - - Secondary cycle path
 - Main cycling route
 - - - Cycling route secondary

The current cycle routes mostly run on the road in a delayed lane. There is a cycle path in Central Park in close proximity to the study area. Road crossings are underground, designed with steps

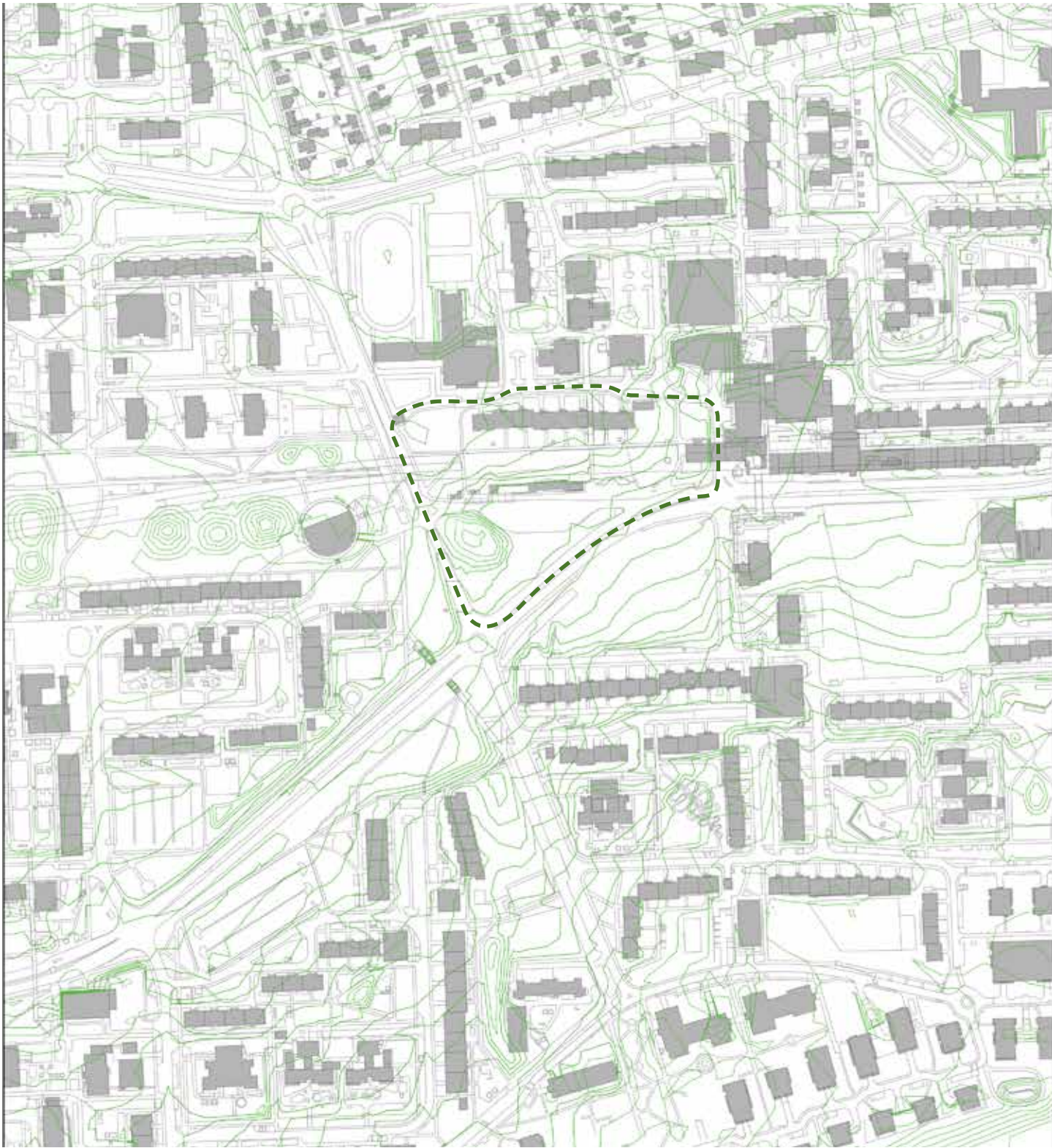
GENERAL CYCLING ROUTES



- LEGENDA
- The main route
 - - - Secondary route
 - - - Existing routes

A bicycle path is proposed in the general bicycle routes through the designed area, which is an important element in the design

FIELD MORPHOLOGY



The morphology of the area is predominantly flat with a gentle slope to the south. Exceptions are the hills formed by the excavation of the underground at the end of the 20th century.

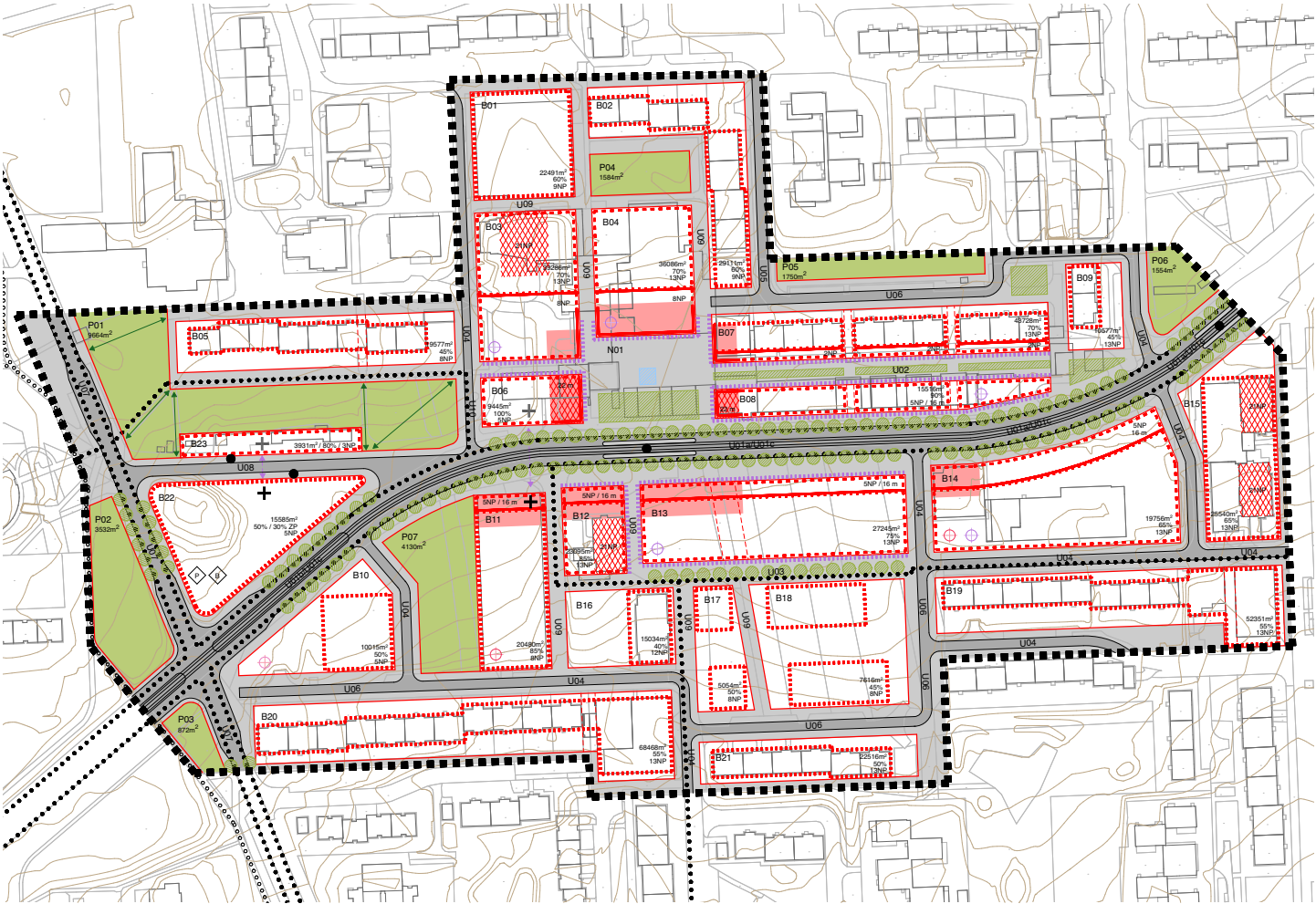
MORPHOLOGY OF THE BUILT ENVIRONMENT



LEGENDA

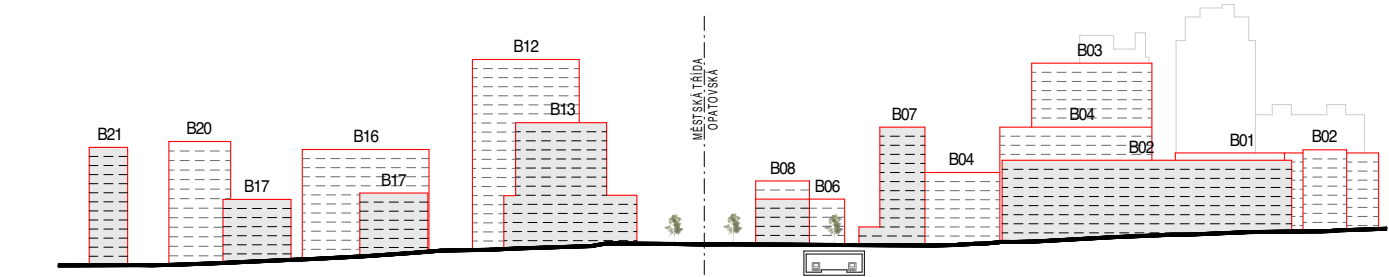
bez údajů	6 NP
≤ 2 NP	7 – 8 NP
3 NP	9 – 12 NP
4 NP	≥ 13 NP
5 NP	

Almost all ranges of storey heights are reflected within the height regulations, some as high as 21 storeys, otherwise the majority of buildings or development sites in this location fall within the 7-12 storey range.



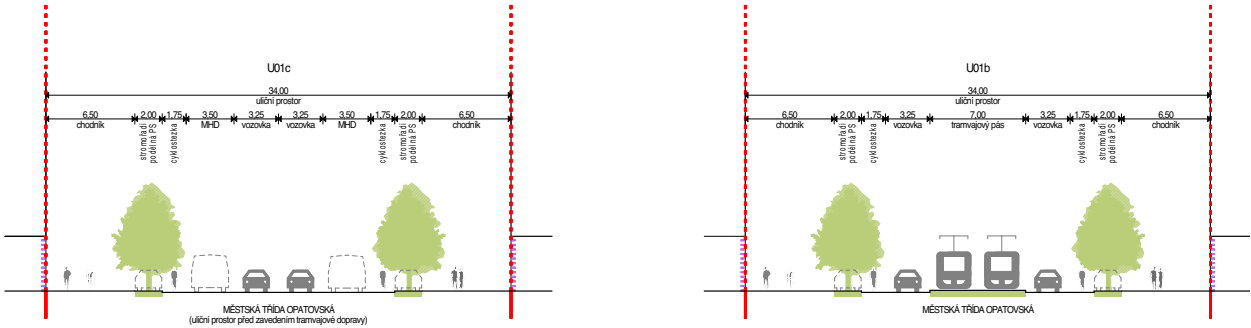
A. DESCRIPTION AND JUSTIFICATION OF THE PROSPECTIVE SOLUTION

In the prospective solution within the framework of the land use study, we propose the preparation of a Regulatory Plan, which is defined in the graphic part (see the outline part - 01 Main drawing). complex property relations, which we are unable to resolve within the framework of the planning study. In our opinion, this is a key point for the completion of the planning study. Without mutual agreement and settlement, the northern part of the area from Opatovská Street will be without the possibility of further development and will be developed only the southern part.



In the subject part, for building blocks located, within the framework of the valid Zoning Plan, in areas with a land use rate code, we specify in brackets the gross floor area of the block (see drawing 01 Main drawing) that can be used in the case of the validity of the forthcoming Metropolitan Plan.

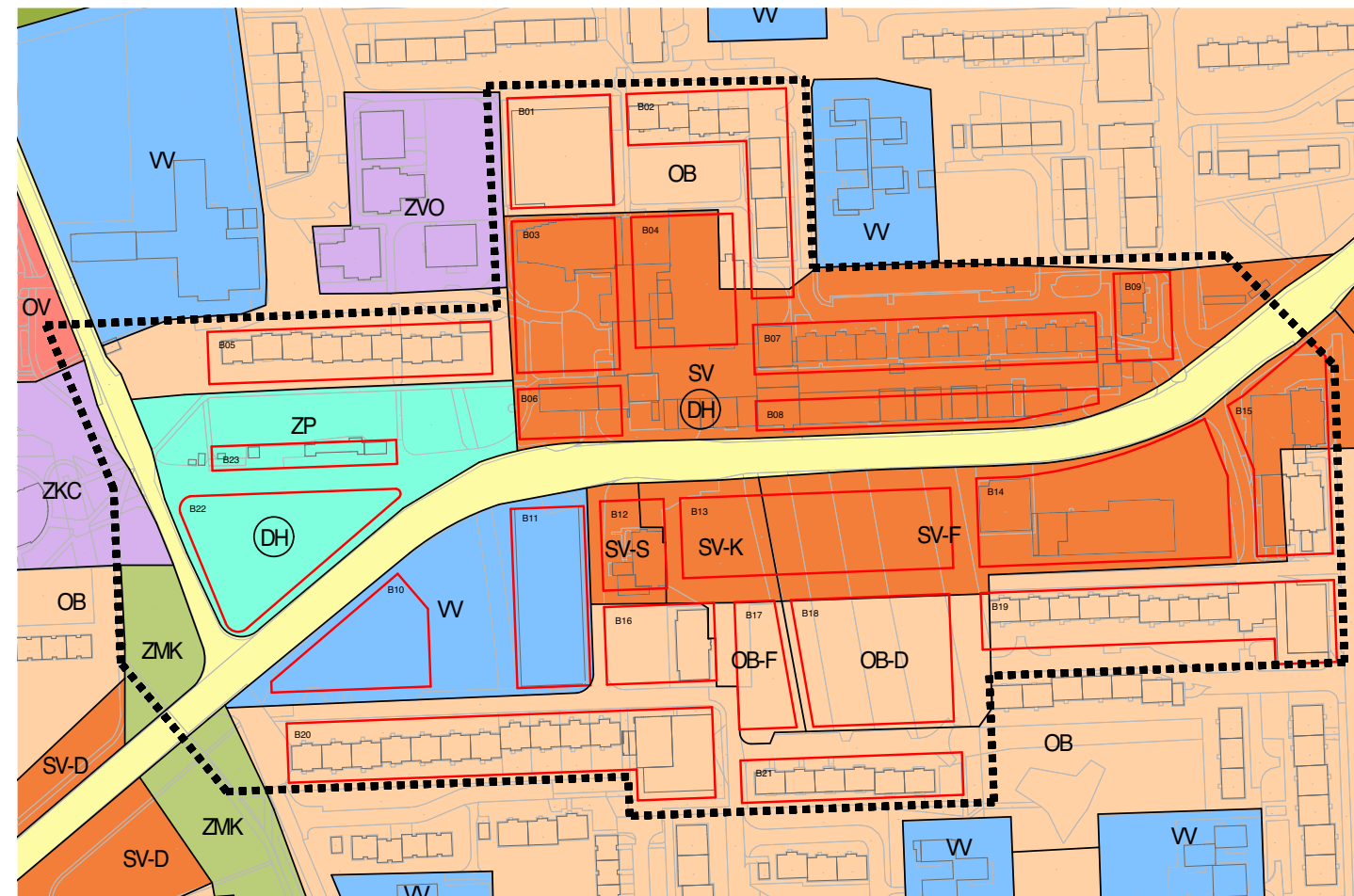
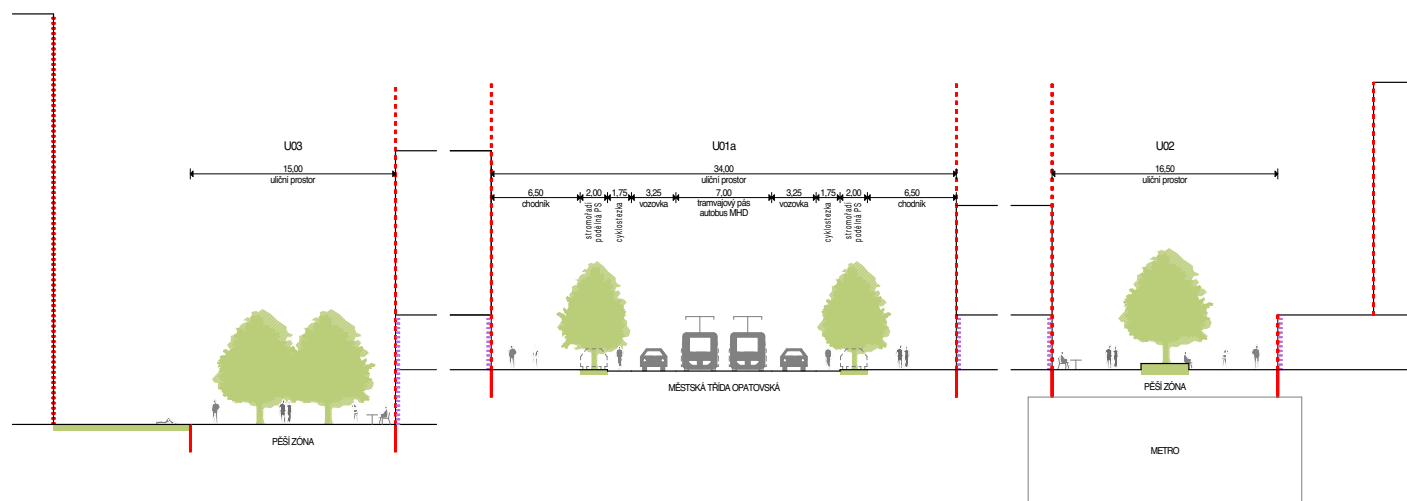
Due to the potential conflict with the Master Plan in the siting of building blocks B22 and B23, we propose its change in the ZP functional use area (see design part - 03 Land use). Building blocks B22 and B23 are located in the area on the basis of the floating marker DH, which allows for the designation of an area for the placement of mass passenger transport buildings including P+R parking lots. These functions are in the building blocks are represented. Conflicts may arise in the design of the buildings as the predominant use of the area must be adhered to ZP, and this may be limiting in the design.



ZONING STUDY HÁJE



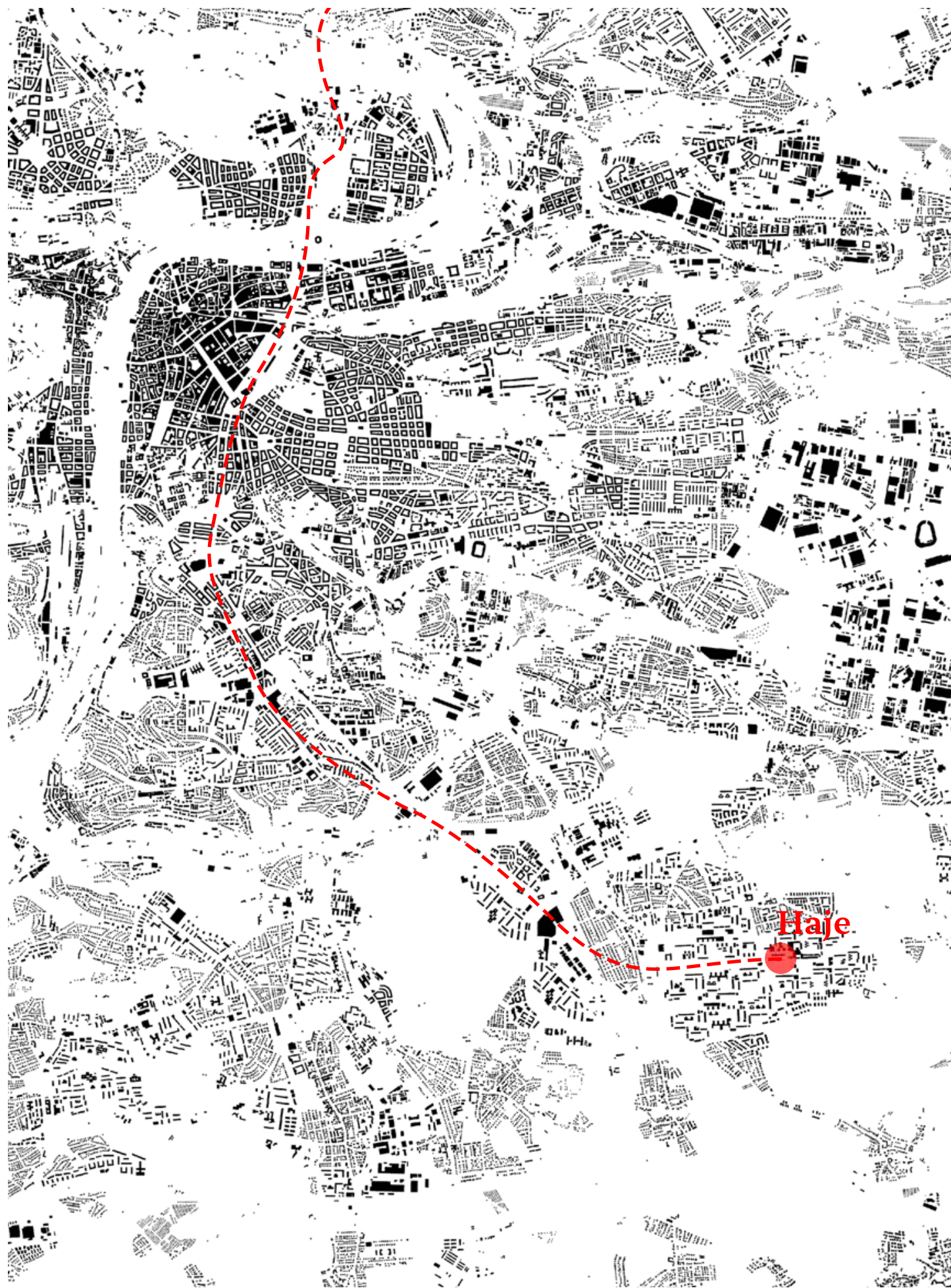
In the design part this problem is solved by defining the maximum the percentage of the built-up area of block B22 to 50%, with 30% of the minimum area of the undeveloped part to be left in the area with the functional use ZP. The alternatives to block development are shown in the diagram below. This shows how the block can be developed, with grey indicating the building, white indicating the resulting open space within the block and green indicating the retained part with a ZP functional use. The location of the building within the block is arbitrary, but the need to retain 30% of the area for the ZP function is for the design of the transport terminal and car park P+R is limiting.



The solution would be to amend the Zoning Plan to reduce the ZP functional area. The part south of the U08 road would be defined as an area with functional use SV or similar, The part to the north of the dedicated road U08 would be retained as a ZP functional use area, together with a DH floating sign, within which the location of the B23 building block with the metro lobby.

The Zoning Plan amendment would also be appropriate for the location of the relocation of Arkalycká Street, which would be newly located in the functional area ZP as a dedicated road. In the event of a finding of inconsistency of this with the Zoning Plan, it would be necessary to locate the road in the SV functional area, which is, however compositionally and urbanistically illogical.

2: KONCEPT

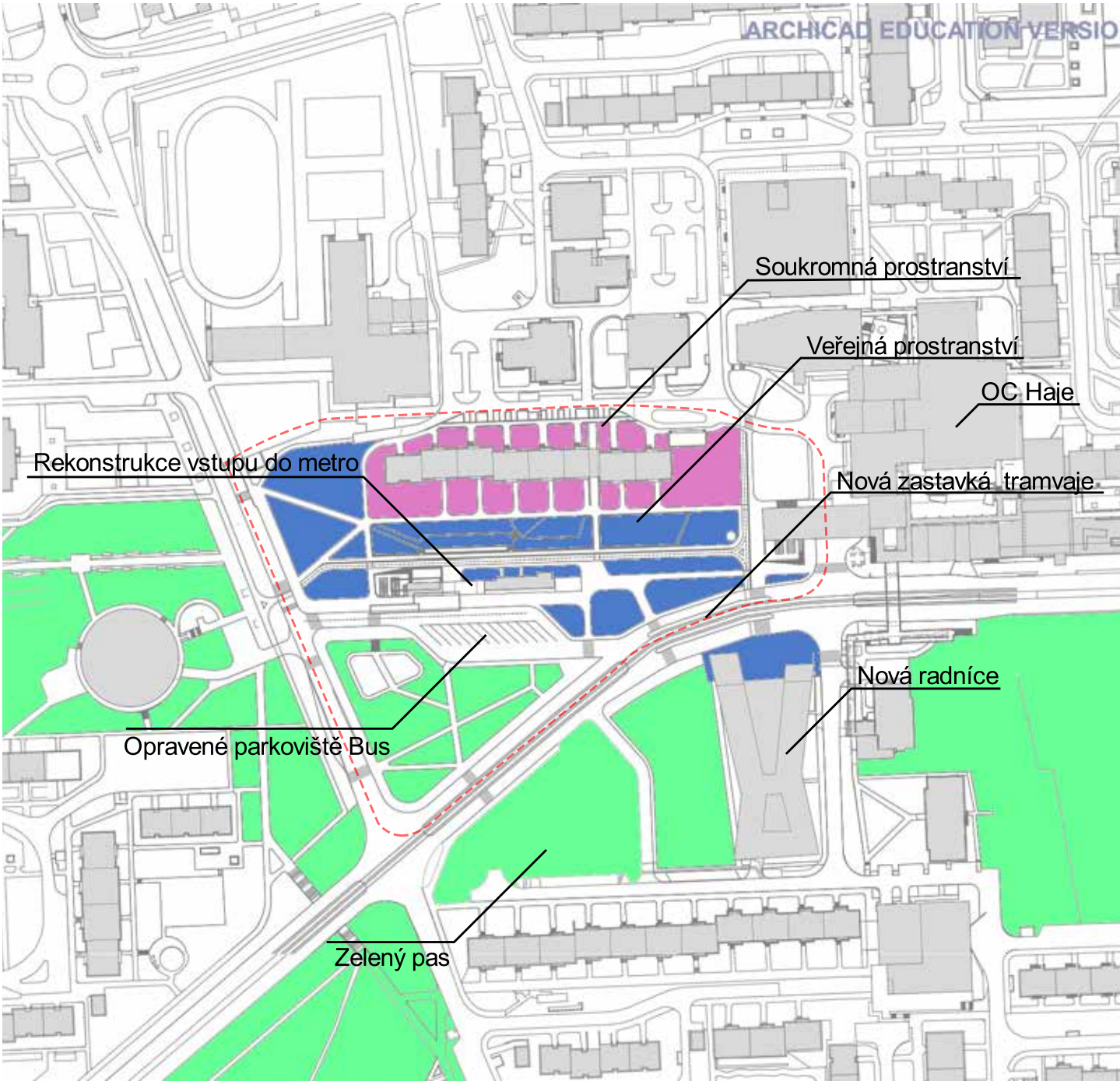


ECOLOGICAL MOVEMENT

The area is located in the south of Prague, in the cadastral area of Prague 11, Háje. The proposal deals with the solution of the adjacent areas near the metro station and the final bus stop Háje. The aim of the work is the development of cycling infrastructure. The design of new elements managed in the pre-dissertation and its implementation in the actual project.

The surface is divided into 3 big parts which are different but connected to each other. The residential complex and the adjacent areas is the more private part of the design is separated by tree lines and front gardens. The public part lies between the housing complex and the large bus parking area. It includes the Square, exhibition areas, children's play areas and recreational areas, which are linked by an associated cycle path. Through landscaping and construction, access to the subway will also be provided from the proposed bike path. Allowing for the creation of quiet accessible representational, recreational areas. The platform and extensive bus parking form a major barrier. The reorganisation of the car park has managed to reduce its area, surround it with green spaces and create another link. These modifications can be applied during the construction of the planned tram line, which will be in Opatovská Street. The extensive green areas in the southern part of the designed area were designed as urban greenery to connect the overall system of greenery in Prague 11. In the park based cysts and a large lookout tower with playgrounds. The embankment that will serve the observation tower was formed by the excavation of the metro in the 1970s, and by levelling the balance of the proposed landscaping around the metro entrance. The subway excavation allows for the planting of a tree over the existing subway vestibule of the Grove. Thus about 2 tree plantings one of *Tilia Tomentosa* which separates the housing complex from the linear park bringing privacy. *Ausculus Hippicatanum* separates the linear park from the road. *Prunus Serrulata* forms important colour accents. The landscaping of the adjacent roads to the south extends the Central Park into the developed reach. Safe road crossing is provided by the proposed Zone 30. To the south-east is the planned Great City Hall for Prague 11. This major transformation affects the proposal. In response, therefore, an island has been proposed in the road for trams and buses which will serve as a representative and important transport hub. The proposal proposes 2 public bike parking spaces, each with additional functions such as a café and service with a total capacity of approximately 100 parking spaces.

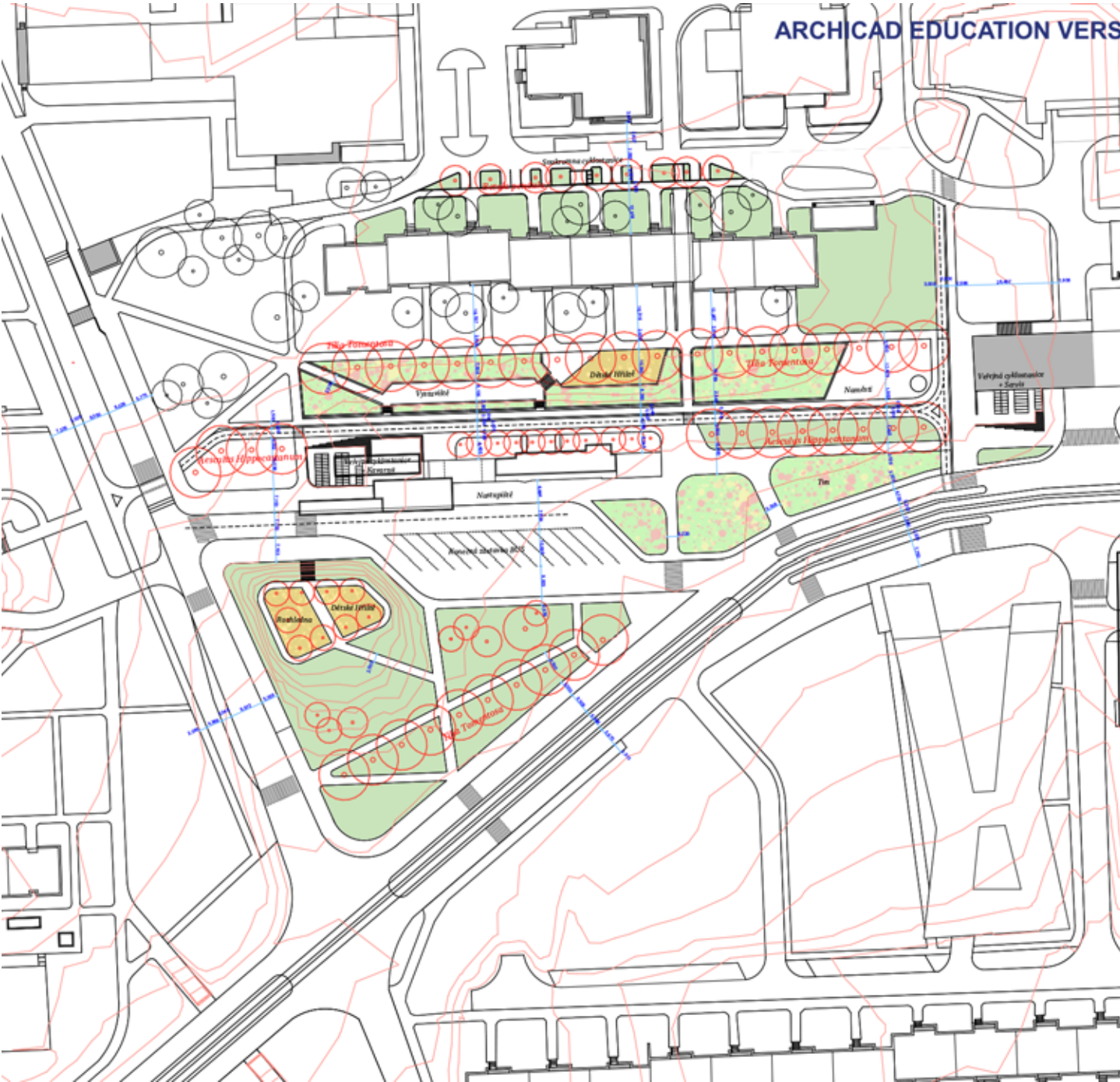
FUNCTIONAL SUBDIVISIONS OF THE TERRITORY



- LEGENDA
- Cycle path main
 - Secondary cycle path
 - Main cycling route
 - Cycling route secondary

In relation to the spatial and metropolitan plan, the area is divided into three basic parts: private, public and urban. Each zone has its own unique functions. The large bus parking lot is a major barrier and divides the larger part. The front gardens of the residential buildings also separate the buildings from the activities in the public space.

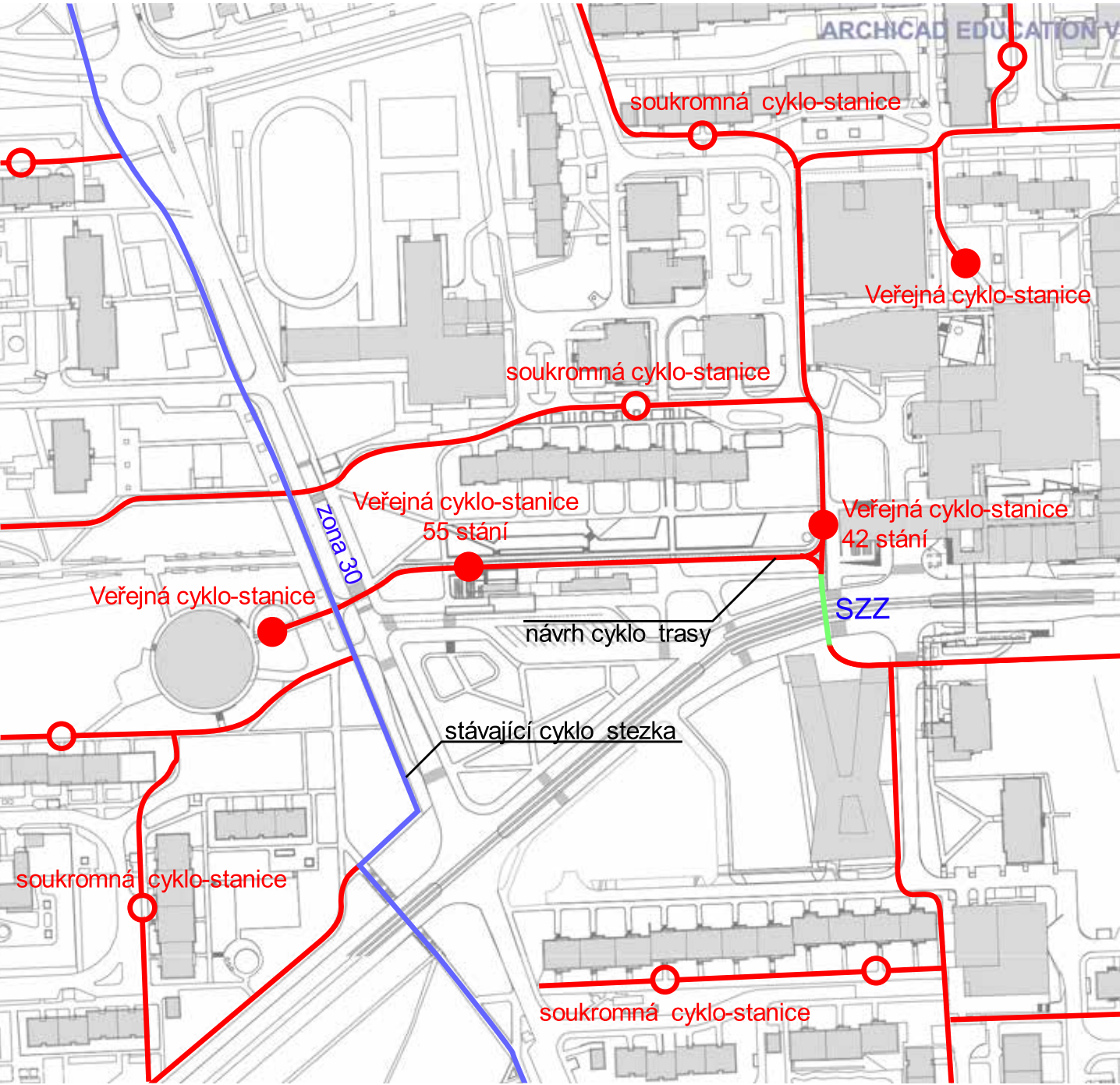
GREENERY



- LEGENDA
- Travnobyliná směs
 - Travník
 - Návrh strom
 - Stávající strom

The design makes use of a number of drůhu roztlin. Along the housing complex is a Tilia Tomentosa tree plantation, it is a large tree and separates the active public space from the private space. Another tree planting is Aesculus Hippicastanum and Prunus Serrulata which not only provides an accent but also separates the square and recreational areas from the road. In the park, Tilia Tomentosa is used to separate the park from the road.

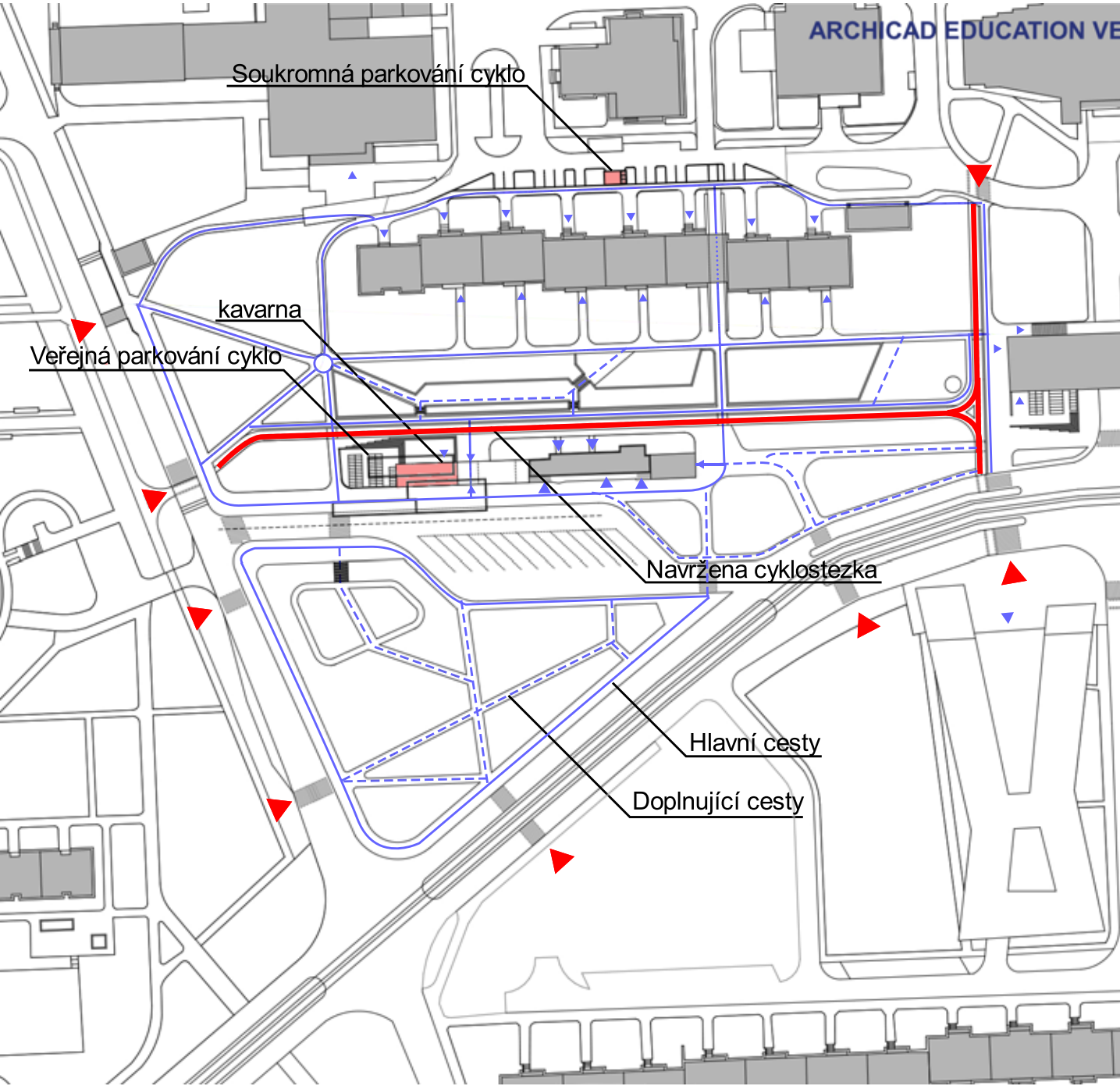
CYCLE TRANSPORT



- LEGENDA
- Cyklostezka Původní
 - Cyklostezka Návrh
 - Soukromná cyklostanice
 - Veřejná cyklostanice

The new cycletracks cover the velke space within the loose development. Part of the crossing is cut by the SZZ. Zone 30 is proposed at the connection of Central Park to our area for the safe passage of children from the kindergarten adjacent to the road. Private bike racks are used for long term bike storage, with a module capacity of 8x2 spaces. The public bike station is open and partially covered with a total of 55x1 posts. 8 of them are protected

WALKING AND CYCLING



- LEGENDA
- Main roads
 - Visited roads
 - Cyclo-trail
 - Entrance to the territory
 - Entrances to buildings

A new pedestrian screen created based on the analysis of the building paths of the new proposed function. The main traffic corridor is a central bicycle path that connects all the new functions such as exhibition space, playgrounds, playgrounds, cafeteria, service and recreational areas for sports.

MATERIALS, GREENERY



Park dekor



Tilia Tomentosa



Aesculus Hippocastanum



Asfalt barvený



Betula Pendula



Aesculus Hippocastanum



Pražská mozaika



Travinobylinná směs



Prunus Serrulata



Asfalt

Pinus nigra is a native tree that occurs in the study area. Several other plant species are used in the proposal. Tilia Tomentosa is a classic Prague tree that tolerates air pollution and salt well, ideally suited for the city. A tree planting has been created along the apartment buildings. Aesculus Hippocastanum is a Large tree that forms a visual gateway between the linear park and the busy road. Prunus serruselata is an ornamental tree that has been used in place of recreational areas, forming a colourful accent. In the northern part of the study area mostly are Betula Pendula. By changing the profile of the street, new areas for trees have been created, the former tree line is missing, they propose its addition .



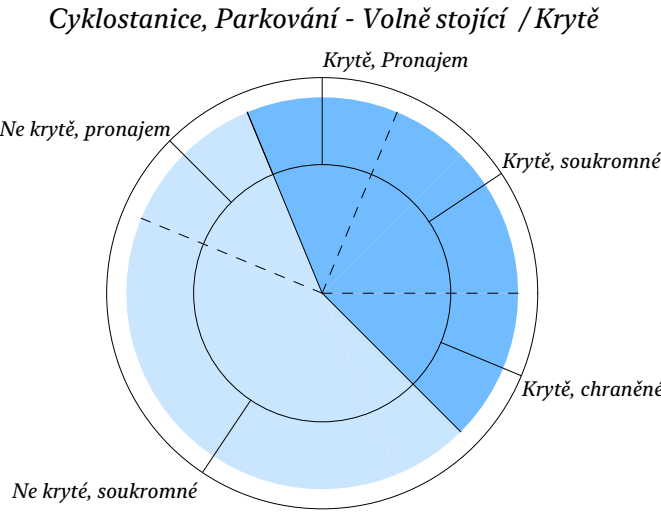
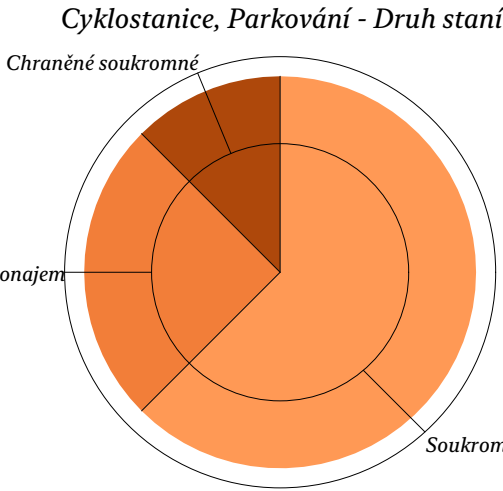
Aktivní cyklostezka



Terenní úprava, pěstování



Dětské hřiště

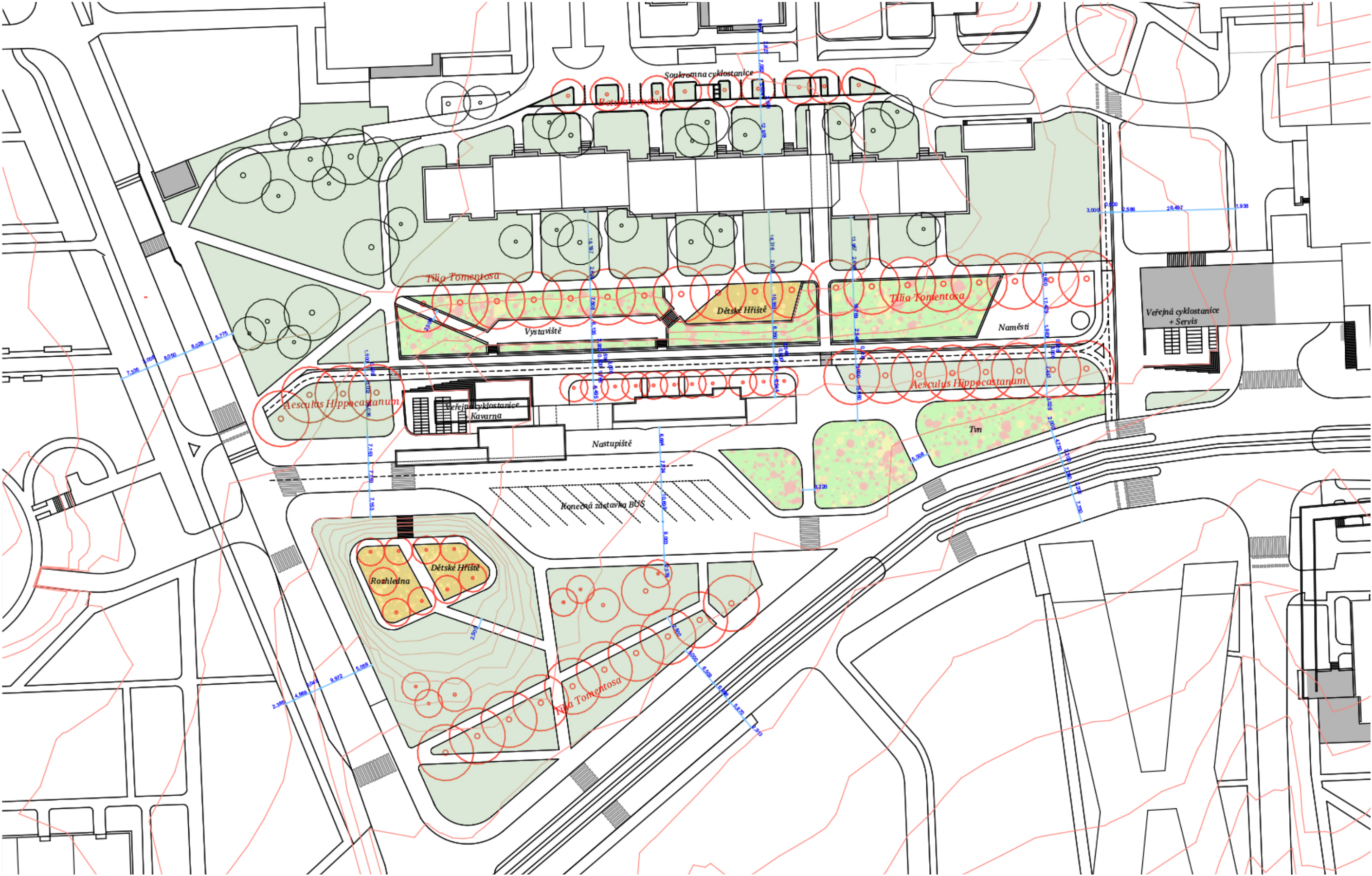


Cycling concept

Today, cycling is not very popular in the Czech Republic. But Europa is moving towards the promotion and popularization of cycling, because the combination of public transport and an easy and environmentally friendly bicycle is one of the most efficient modes of transport. Developments in technology make it possible to electrify bicycles and other alternative modes of transport, so it is essential to design new infrastructure. Modular systems will allow cycling parking to be established, relocated and expanded as needed without large investments. The best combination would be to have 25% publicly accessible bikes for rent and the rest private. During the rain the number of cyclists will decrease but the permanent number will be about 40% so they propose to re-shoot this number. To increase security from theft or damage they are proposing 10% private lockable boxes. Each public parking will be supplemented with a small function such as a café, service, soot or shop according to the needs of the area.

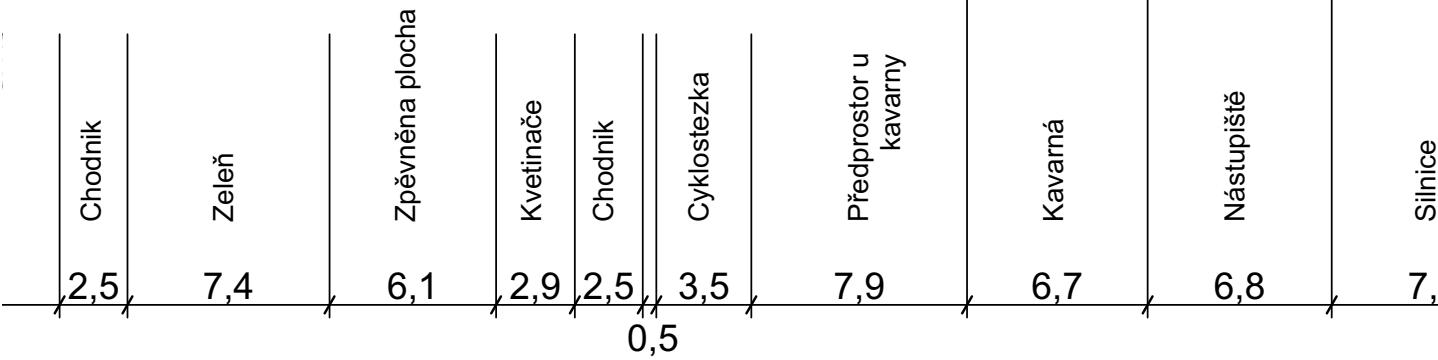
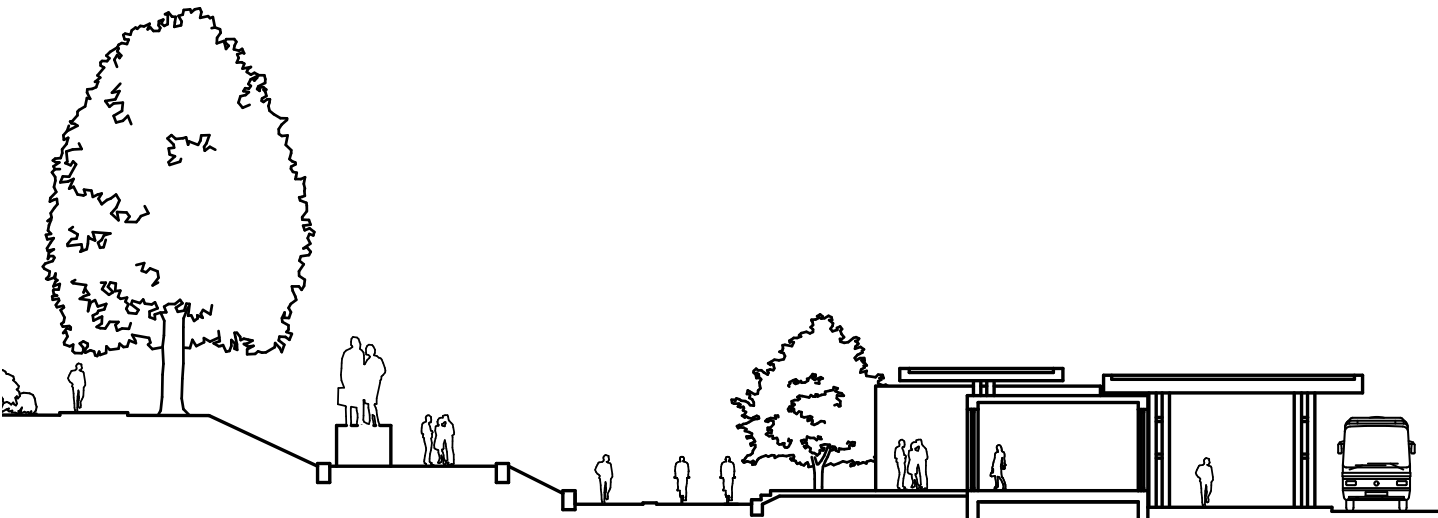
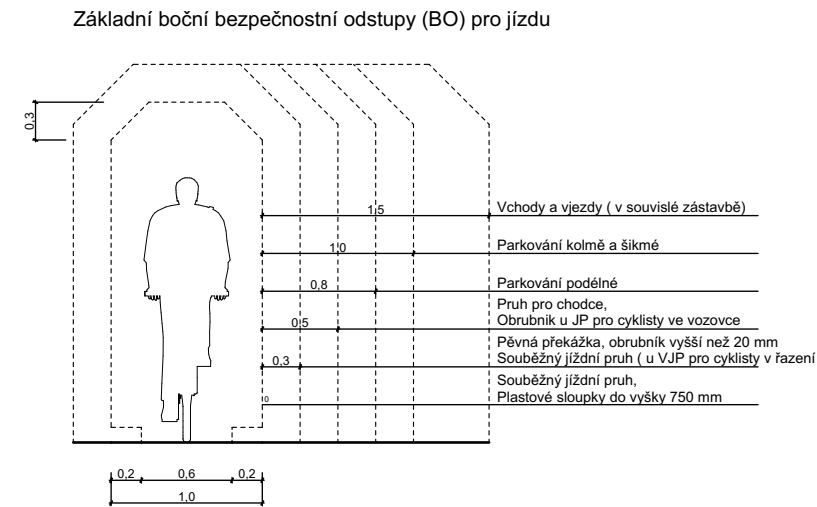
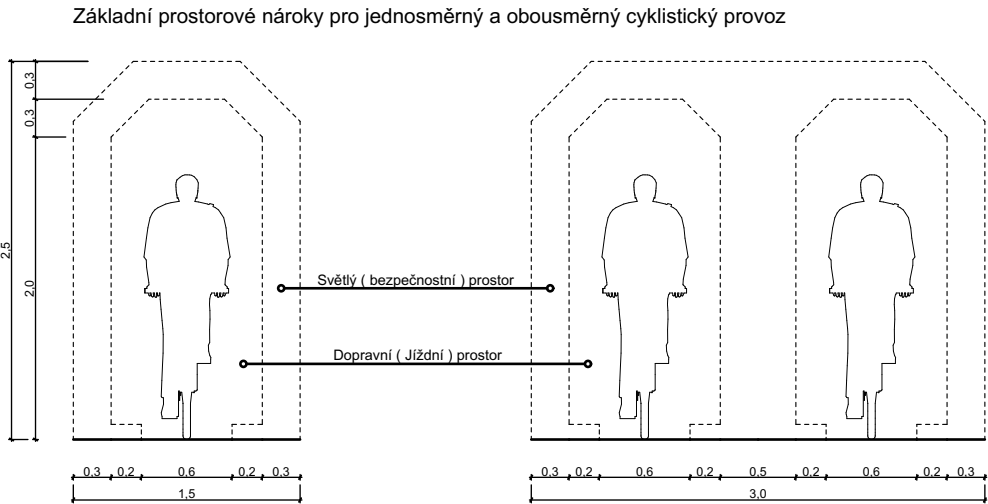
2: DRAFT





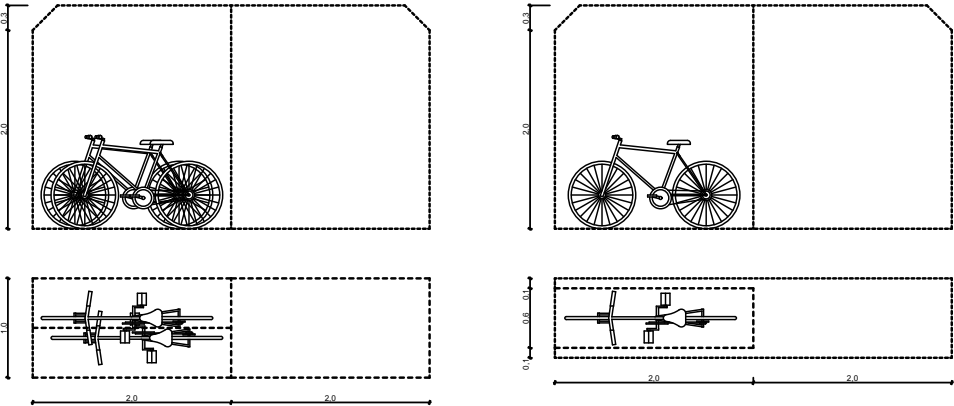


BICYCLE PATH



Cycle path

According to TP 179 - Designing roads for cyclists, a combined cycle path is proposed. The cycleway links all the new proposed features such as the Náměstí, the Café, the exhibition space with sculpture, the playground and the recreation areas. A crosswalk is drawn and marked with a crosswalk sign at the intersection of the path and the sidewalk. also, the cyclist speed is limited to 20km/h on that section to ensure safety. The bike path differs from the sidewalk not only by the red color but also by the grain of the surface. A 500mm buffer zone is proposed on each side.



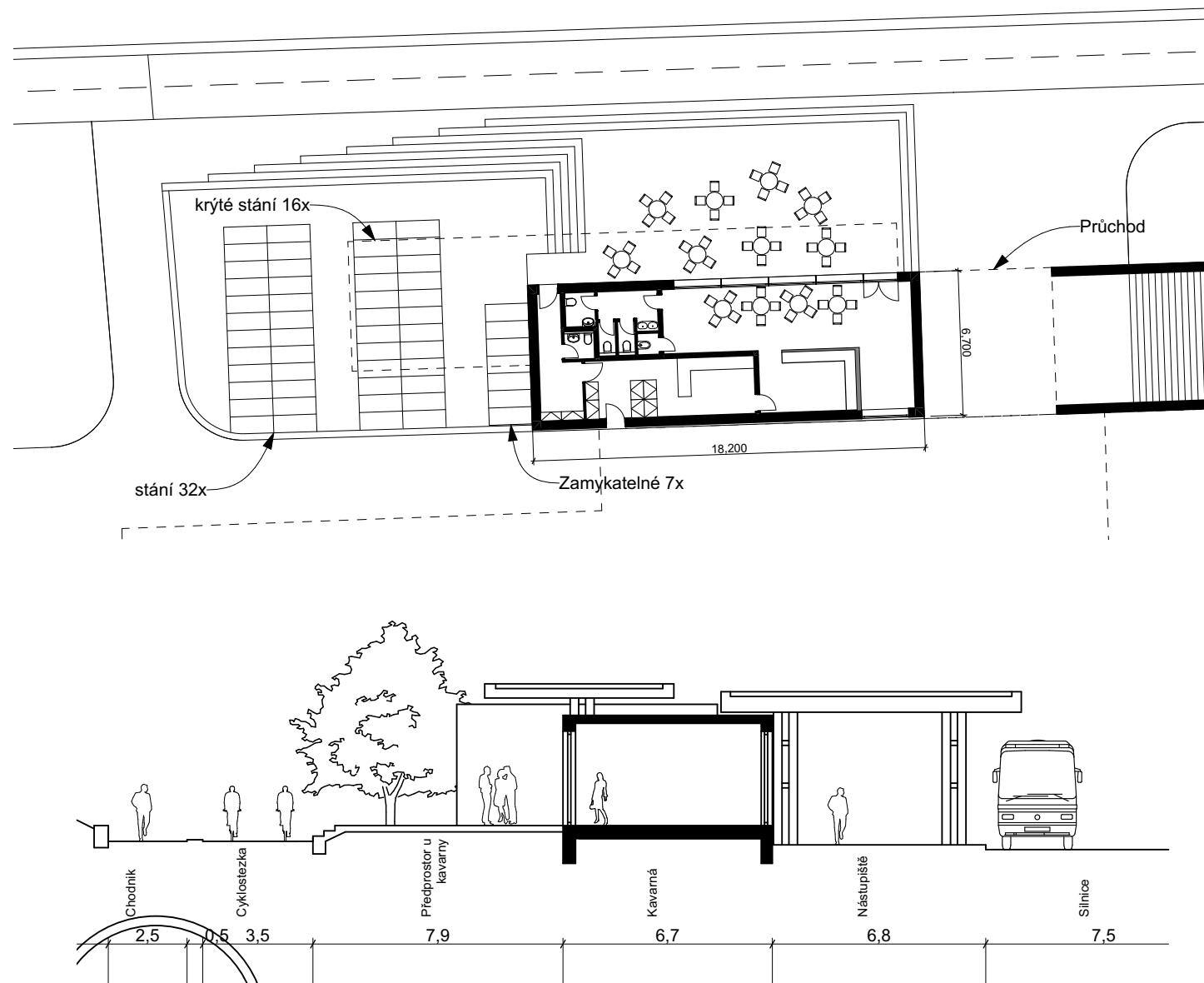








PUBLIC BICYCLE TRANSPORT STATION



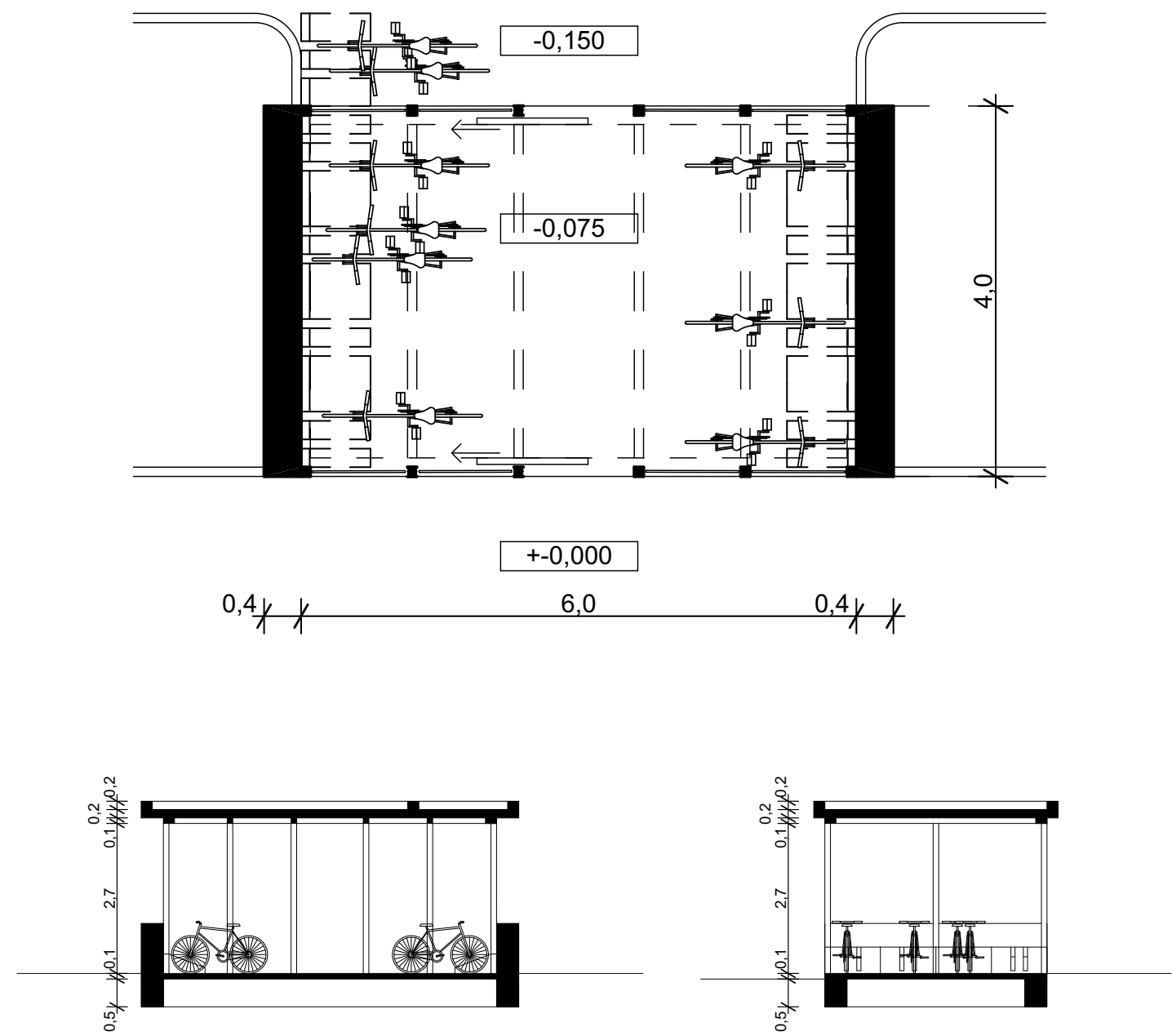
Public bicycle transport station

Designed for the temporary storage of bicycles or alternative means of transport. Stations are usually located at the centre of interest of the population, i.e. schools, shops, services, public transport nodes. Parking periods are usually short-term, from early morning to evening. Each public station must be complemented by other functions such as café, restaurant, small shop, service or service. Consideration should be given to re-roofing at least 30% of the parking spaces. Thus, fully lockable cells, sockets for charging electric bikes and bikes for rent to the public must not be missing. Electricity intervention will be solved by photovoltaic panel its surplus can be provided to the public grid





PRIVATE BICYCLE TRANSPORT STATION



Private bicycle transport station

The station is located in close proximity to the housing complex is small-scale architecture designed for long-term storage of bicycles or other means of transportation. The total capacity of one module is 8x2 stalls. Each unit will be lighted, monitored and lockable. There shall be a sufficient number of outlets for charging electric bicycles. Electricity supply shall be provided by photovoltaic panels located on the roof. The station replaces 2 conventional car parking spaces.



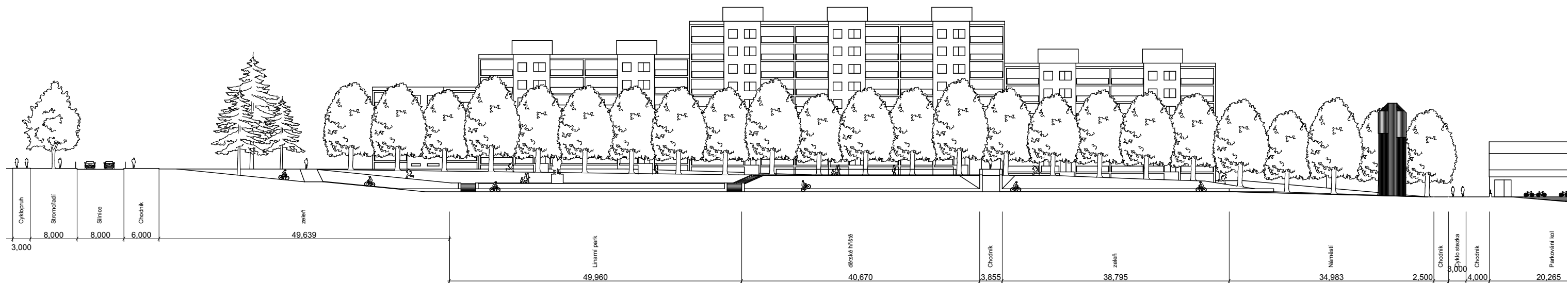
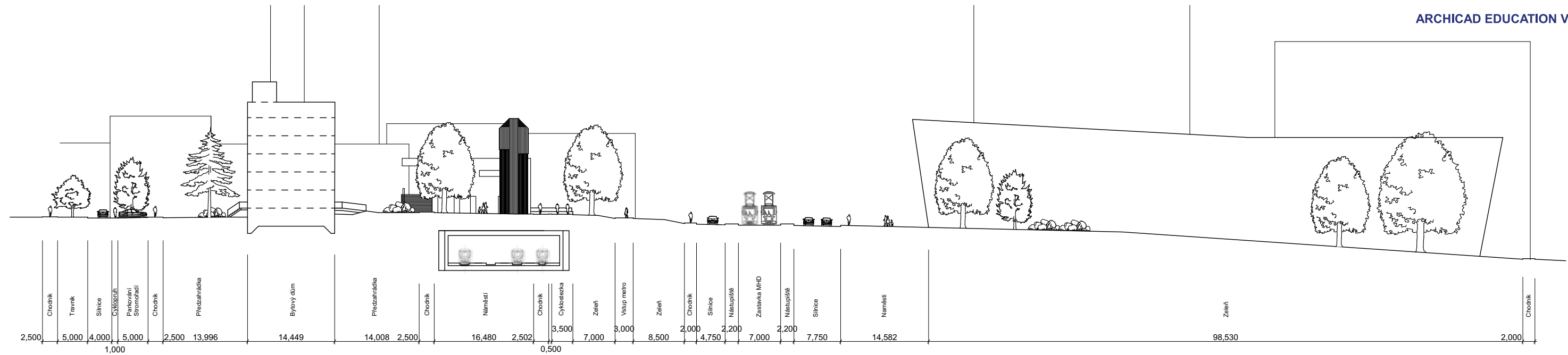
PRIVATE BICYCLE TRANSPORT STATION



ARCHICAD EDUCATION V

Sections A-A, B-B

The sections show the typological street profiles and the course of the landscaping around the cycle path. The depth of the subway foundation allows planting trees on the left side without any measures, while the trees on the right side are planted outside the subway area but still need anti-corrosion measures. The soil left over from the landscaping will be used in the southern park, to fill in the tower and the playground.



C-C and D-D cuts

The height of the embankment above the metre in the eastern part of the site is about 3m, which is sufficient for most plants, but I suggest additional root provision. The ventilation element from the subway will be cleaned and painted, and will serve as a landmark and an artificial feature in the field. Trees under the residential structures will separate and shape the frontage for the residential struc-

Resources

Map documents:

- Geoportal Praha [online]. Dostupné z: <https://www.geoportalpraha.cz/>
- Google maps [online]. Dostupné z: <https://www.googlemaps.com/>
- Mapy CZ [online]. Dostupné z: <https://www.mapy.cz/>
- Mapy stabilního katastru [online]. dostupné z <https://https://archivnimapy.cuzk.cz/uazk/pohledy/archiv.html/>
- Digitální Technická mapa Prahy, [online]. Dostupné z <https://app.iprpraha.cz/apl/app/dtmp/index.html>
- Geoportal ČÚZK [online]. Dotupne z <https://ags.cuzk.cz/geoprohlizec/>

Regulations:

- Pražské stavební předpisy: Nařízení č.10/2016 Sb. Hl. m. Prahy. In: <https://www.iprpraha.cz/psp>. Praha, 2018, ročník 2018
- Vyhláška č. 398/2009 Sb. o obecných technických požadavcích zabezpečujících bezbariérové užívánístaveb
- Vyhláška č. 137/2004 Sb.: Vyhláška o hygienických požadavcích na stravovací služby a o zásadách osob
- Technické podmínky 218 : Navrhování zón 30
- Technické podmínky 179 : Navrhování komunikací pro cyklisty 2017
- Technické podmínky 133 : Zásady pro vodorovné dopravní značení na pozemních komuniacích
- Technické podmínky 103 : Navrhování obytných a pěších zón

Reference images:

- Pinterest.com
- Archdaily.com
- Archiweb.cz

