The New Philharmonic in Prague

Master diploma project / Caroline El Ayoubi

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This book is about a proposal to build Prague's future Philharmonie above the rail tracks of Hlavni Nadrazi- the main railway station in the center of the city.

The yard is one of the last large undeveloped areas in the very center of Prague. The newly designed building upon its new platform above tunnels can occupy an area of up to 6,000m2. The area has been examined in the past by several projects, but none has been implemented yet.

At the moment Vinohrady is cut off from the historical core not only by rail tracks, but also three to four lanes of the north-south highway.

In addition to providing a cultural hub at the significant and symbolic center of the city, the project will have to bridge the rails, connect Vinohrady with Wanceslas Square, mark a gateway between these two neighborhoods and also introduce a robust and vibrant public space throughout.

I.
Brief

The project includes producing a ‘cultural quarter’ as a dialogue between two museums with a public space weaving them together starting from Wenceslas Square to Vinohradská street.

The cluster concept, first proposed in 1990 by Michael Porter, has come to be regarded as a strategic tool for local economic development. Cultural clusters are geographic concentrations of interconnected museums and various cultural entities which work closely with local suppliers, tourist attractions and public sector entities. Cluster-based development is founded on the premise that a museum can realize higher levels of competitiveness when it looks beyond its own limited capability to address challenges and solve problems. The cluster-based approach helps cities identify new market opportunities, become aware of best practice and be more innovative.

The urban design of clusters redefines the public space and potentially enhances the social, cultural and economic development of the city. The radiance of a cluster springs from the material and intangible values both in the museum content and in the urban and architectural environment. A cultural cluster is engraved in the collective consciousness as an innovative site for knowledge communion and culture, as a special quality element of the city.

Extending the site of the National Museum to connect to Vinohradská street will redefine the center’s morphology and reconnect the city center as originally planned. The additional philharmonie and gallery will make the site the epicenter of Prague is it supposed to be.

With this proposal we respond to the height of the ledges of the surrounding houses and the building of the National Museum. From the rooftop, the new corner landmark will allow long-distance views - through New and Old Town to the Castle, in addition to the rooftop landscape of Vinohrady. From the opposite direction - from Wenceslas Square it should offer a view of the new entrance gate to Královské Vinohrady.

MAIN GOAL OF THE PROJECT

Creating a pulsating, cosmopolitan, and forward-looking cultural district with a feel-good factor. The Philharmonie's square is a place of encounter. The site is open around the clock and entry is free; there are no gates and no barriers. Furniture in the public space surrounding the building invites visitors to hang out, relax, and chat. And the many cafés and restaurants offer a wide range of culinary options. Home to various initiatives, associations, agencies, and editorial offices working in the field of culture. The spectrum ranges from fine art, architecture, music, fashion, theater, dance, literature, children's culture, game culture, and street art to design and photography. Cultural workers, creative entrepreneurs, artists, the public, visitors from all over the world, they all make up the Cultural Quarter. This means that it creates opportunities for dialogue between the public, international guests, artists, and many others. The people who come together create a climate of cosmopolitanism and creativity.

The project will be a detailed architecture solution for a philharmonie that is to be added to the cultural complex described above.

GENERAL PARAMETERS

Typology:	Philaharmonie
Capacity:	2,150 visitor + staff
Parcel footprint:	4,686m^2
Approximate volume:	121,836 m^3
Maximum height limit:	26 meters
Max. Number of stories:	8

APPROXIMATE PROGRAM OF THE COMPLEX:

Outdoor space: 25% - 1171.5^2
75% of site (3514.5^2) * 8 floors =28,116m^2 -> 100% of building:

Commercial Space:	05% - 1,405.8 m^2
Cultural Space:	37% - 10,402.9 m^2
Residential Space:	00% - 0000 m^2
Public Space:	30% - 8,434.8 m^2
Cleaning and security services:	05% - 1,405.8 m^2
Technical facilities:	05% - 1,405.8 m^2
Circulation:	18% - 5,060 m^2

PROGRAM

Large Concert Hall / 2000 seats
Small Concert Hall / 500 seats
Restaurants / 2
Performance Area
Bar
Bar Area
Lounge
Artist Spaces
Concert Hall related spaces
Back of house
Public Access
Management
Green Room
Rehearsal Room
MEP
Dressing Rooms
Storage
Cloak Rooms / 2
Gallery

Materiality

Structure: Steel + Concrete
Facade:
Interior:

1. BASIC DATA ON CONSTRUCTION

Building: Philharmonie
Location: Prague, Vinohrady
Height: 24m - 27m
Defined by the streets: Legerova, Vinohradská, Španělská
Built-up area: 5 620 m2

2. URBANISTIC SOLUTION

Morphology of the site
The space to be built is defined by the streets Legerova, Vinohradská, and Španělská each of which is sloping in a different direction (1 - the terrain/street slope heights). The yard level is therefore between 6 to 14m below the street network level. The importance of the area is enhanced by buildings in the vicinity: the National Museum, the Federal Assembly building, the Czech Radio building, the State Opera House (2 - the cultural buildings around). Location in itself, Prague city center provides excellent transport services. Close to metro station and tram stop Muzeum and about 2 minutes walk from one of the main Prague squares, Wenceslas Square (3 - the transport lines (road/rail/metro/tram). The area belongs to the Vinohrady district, which consists of a relatively symmetrical network of block buildings. The adjoining New Town of Prague is made up of blocks build-up of bigger shapes (4 - schwarzplan showing wenceslas sq. and vinohrady blocks).


1


2


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4

History of the morphology
The first city wall was built in the mid-14th century and was reconstructed again in the 18th century as the outer edge of the city. There was a passage through the bastion fortification - the Horse Gate - until the wall's demolition in the late 19th century. Territory outside the walls - before Vineyard Mountains, now Královské Vinohrady - had the character of open countryside with orchards, gardens, vineyards and independent farms.

After the abolition of the fortifications, first it was a green belt/ cultural promenade (similar to Vienna), linking east and west and north and south. The North-South Highway highway was built in 1974 and became part of the Prague grid system and remains even after the grate system has been changed to radial-circular as part of the so-called inner circuit. The construction often affected insensitively the existing structure of buildings, as well as the pedestrian flow around them.

Its public image
The designed building will surely be a highly exposed building both from Vinohradská Street and from the Main Station. An unbuilt area in the center of Prague should be a public benefit building, it should not serve only a limited number of people. The object has its place behind the building of the National Museum, which underwent a complete reconstruction and expanded its collections to the adjacent building of the New Museum (former Federal Assembly Bldg).

Its cultural location
The proposal is a new PHILHARMONIE for Prague. The cultural function supports the idea of a cultural cluster and complements it with another national building importance. The construction of the museum has shifted the focus of the importance of Wenceslas Square towards the National Museum, which leads to an improvement in the quality of public space in front of and next to the NM building.

Its appropriate location
The choice of PHILHARMONIE results from the following facts. There is an existing proposal to build a new Philharmonie in Prague that matches in its specs and design that of Hamburg's. The location itself invites such a preposition with it being of walking distance from the main railway station and major public transportation node, and the need to stitch the void in the city center with an equally important building.

II.
Abstract

There are profound similarities between music performance and architecture. What is most fascinating about the history of the long- standing interest in music and architecture is the richness of variation amongst the attitudes, inspirations, and discoveries that have come forth from within the union. This variation confirms the robustness of this concept as a source of inspiration.

The first goal of this thesis is to present the findings of the analysis of the site and show the advantages of a cultural cluster in that location. The findings are presented in sections I, Analysis, and II, Case Studies. Section I contains a summary of the findings of the research. Section II explores how these findings were implemented in the process of the architectural design. The second goal of this thesis is to synthesize the above information and enact it upon an architectural design, as presented in sections III, Site & Program and IV, Design. This is accomplished through a series of translations of musical strategies (such as rhythm, syncopation, and melody) upon the building blocks of architecture (including massing, circulation, and spatial arrangement).

III.
Table of content

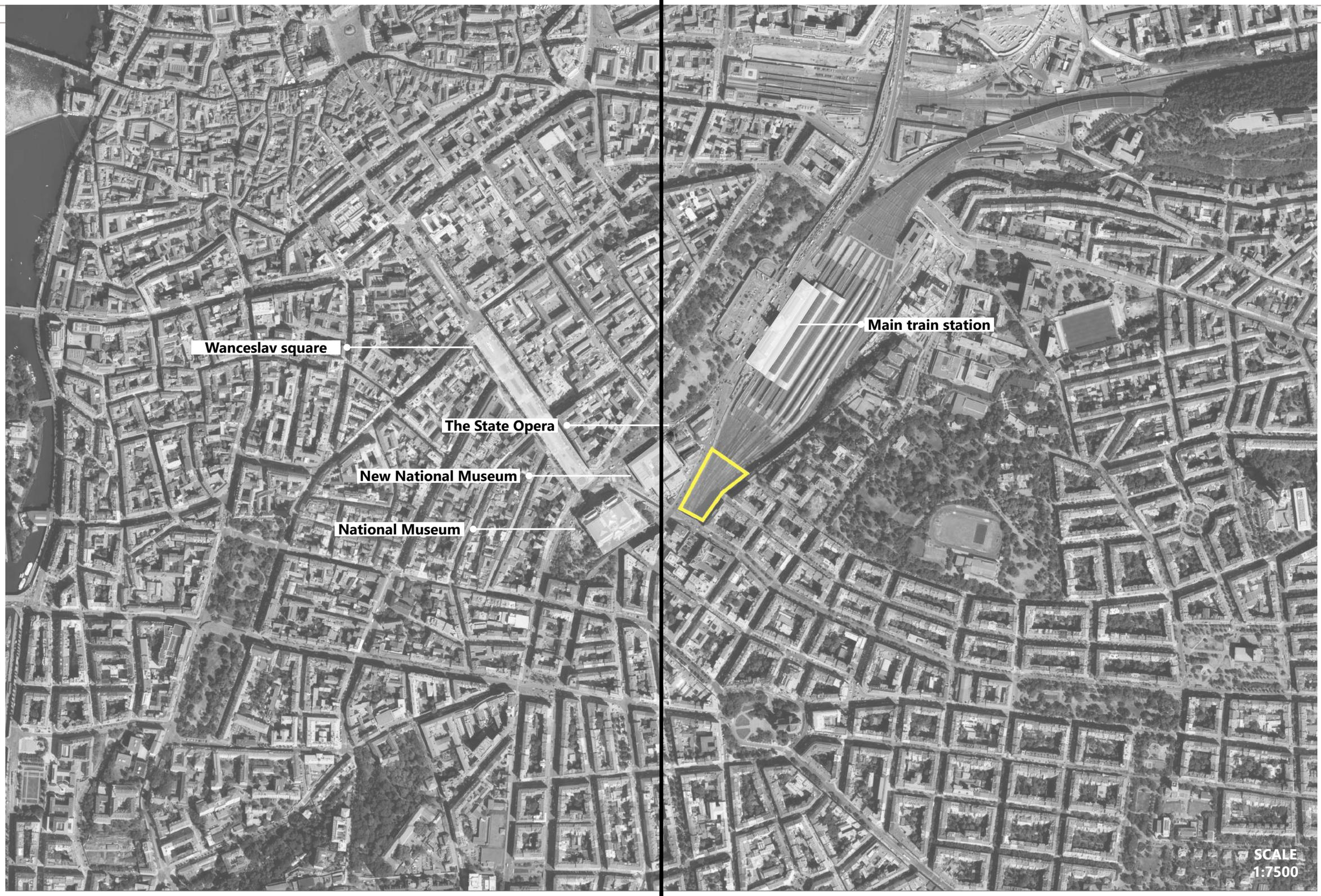
1.

Analysis

The following is an urban contextual analysis of the site stretching between Vinohradská street in Vinohrady and the National Museum in Prague. This analysis includes the possibility of extending slab to include the void above the railway tracks. The study is meant to provide a good understanding of the plot, its connection with the surrounding, as well as give a foundation for preparation of design brief for future redevelopment of the squares. The study is presented as a series of diagrams and maps and accompanied textual analysis and conclusions.

About:
The plot is located between Legerova street and Spanelska street next to the New National Museum. The site is stretching between Vinohradská street in Vinohrady and the National Museum in Prague. An extending slab connecting the two streets to include the void above the railway tracks will be constructed.
The approximates Area of the buildable footprint is around 4,686sqm while the whole plot is around 8,2848sqm.

Project site consist of a semi-rectangular plot which is located in the core of the city. As it is located in the city center, just next to the site area we can find worldwide famous monuments and tourists destinations, as Wanceslav Square, National Museum, the new national museum, Czech radio building, and the state opera.


Wanceslav square
The State Opera
New National Museum
National Museum
Main train station
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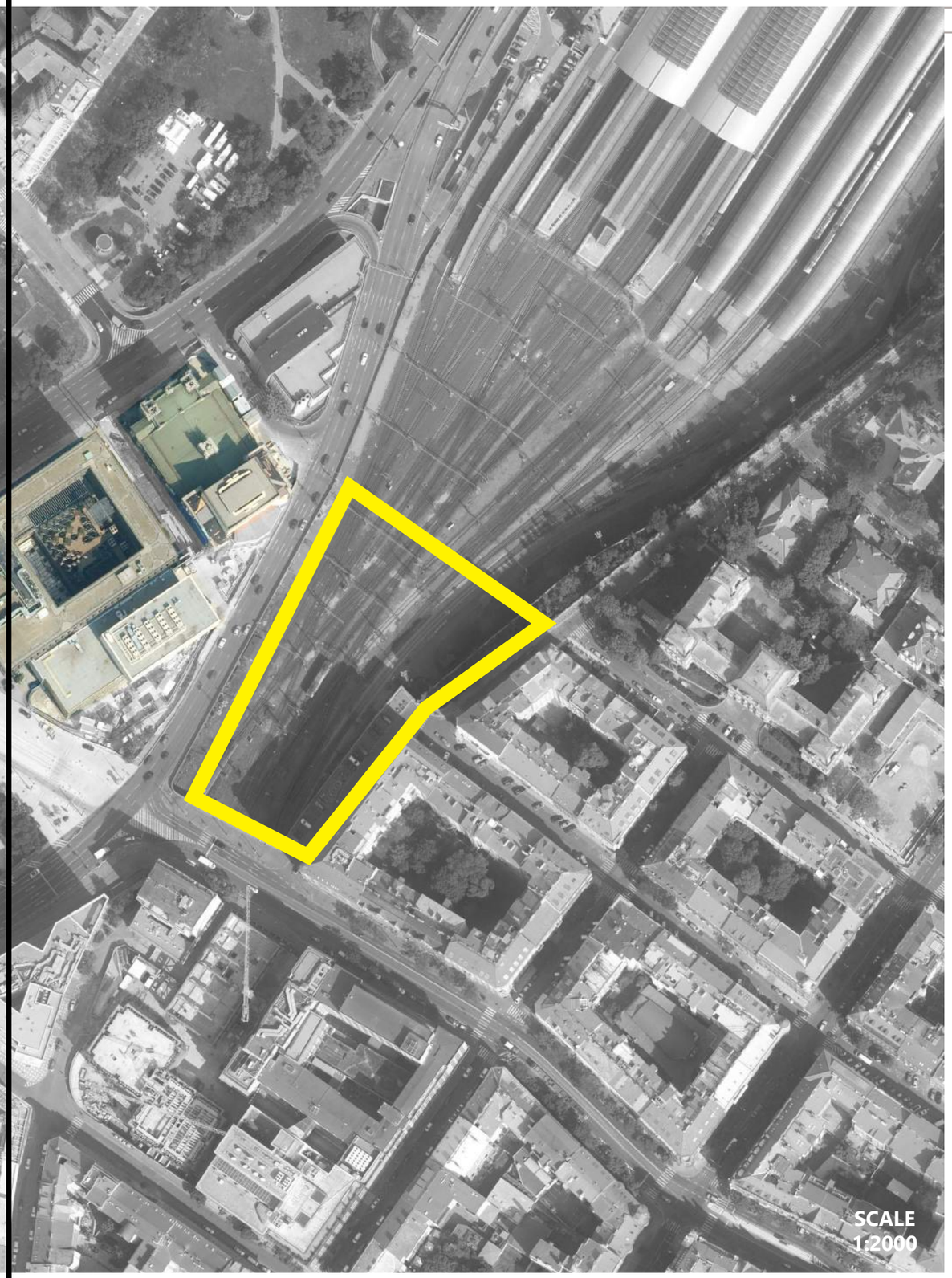

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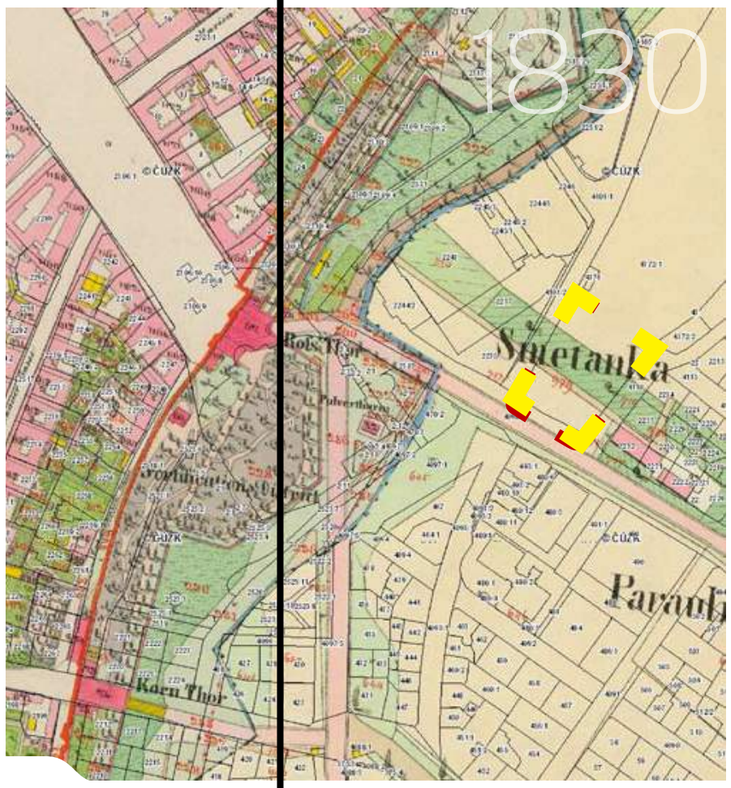
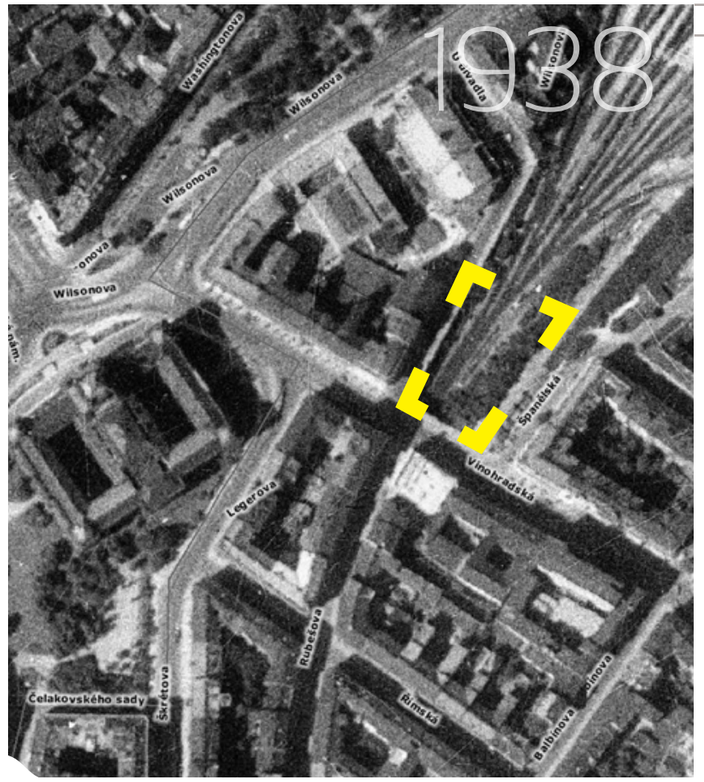
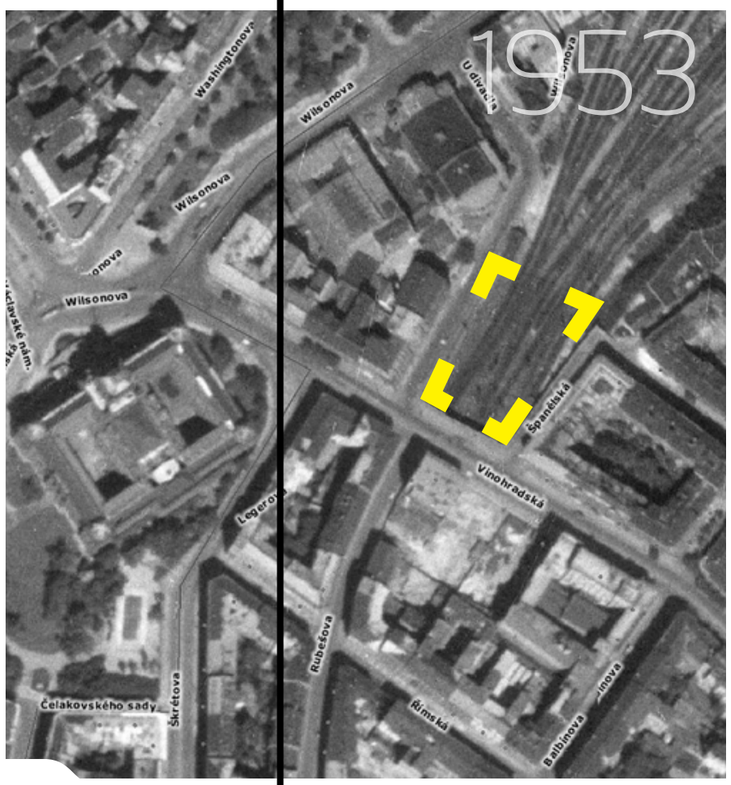
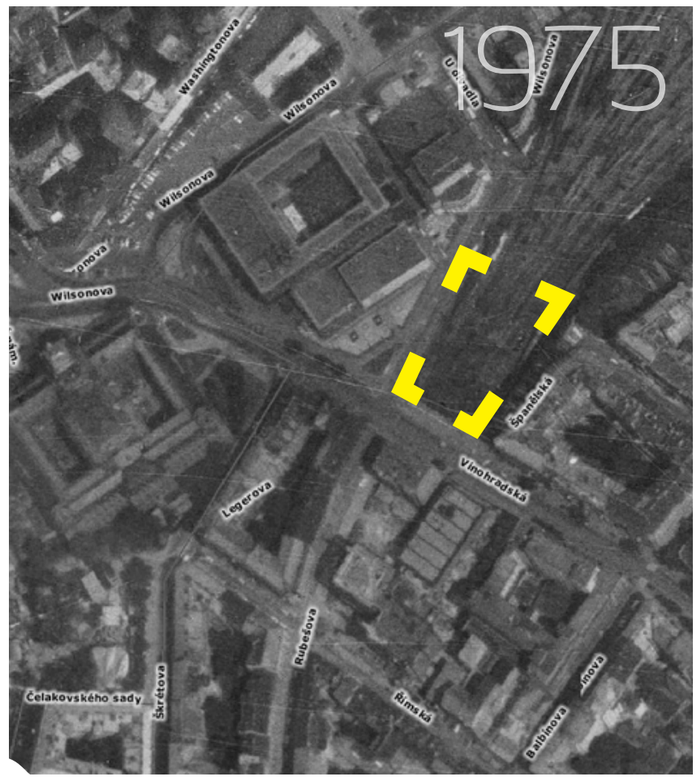
A.
History

Praha 2, Vinohrady - Žitná brána

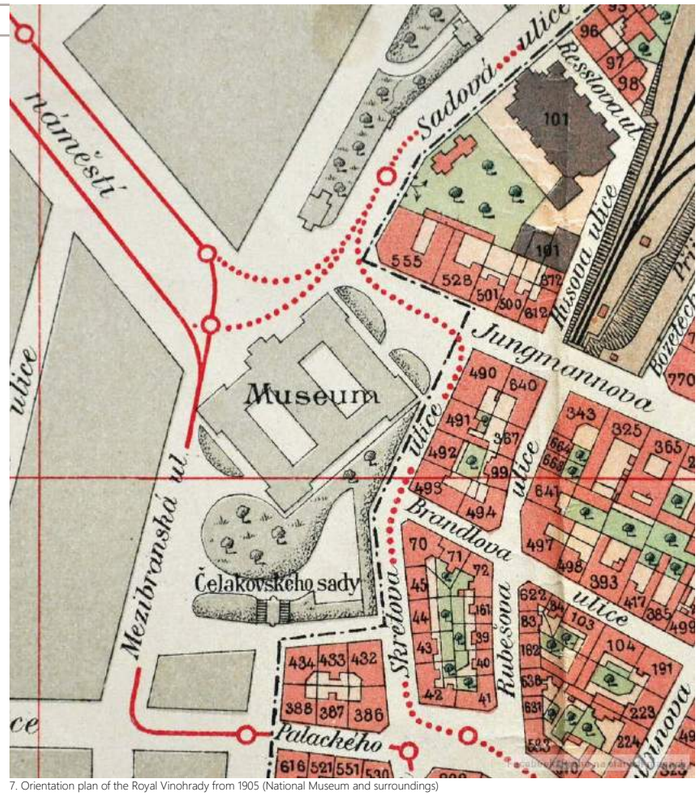




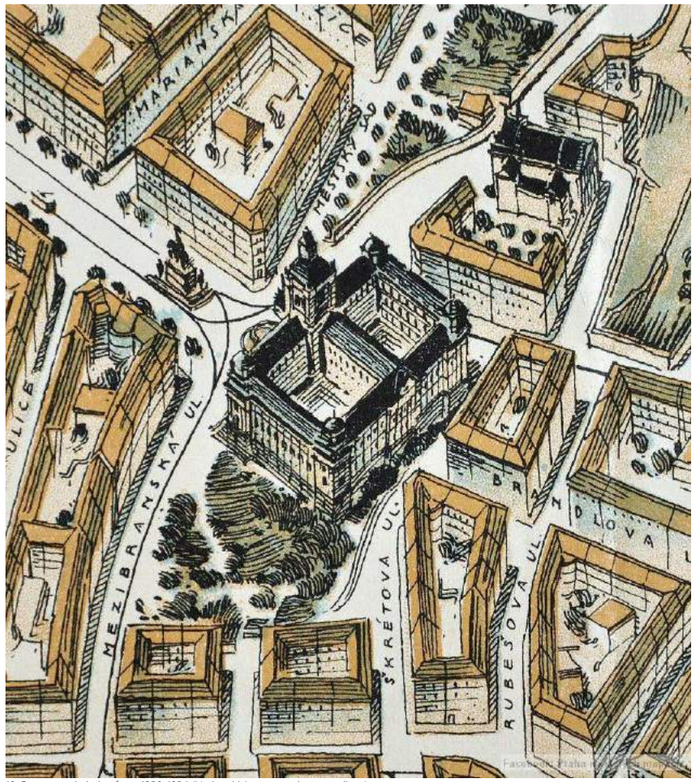




A. Historical Morphology of the site



7. Orientation plan of the Royal Vinohrady from 1905 (National Museum and surroundings)



10. Prague capital plan from 1920-1924 (National Museum and surroundings)

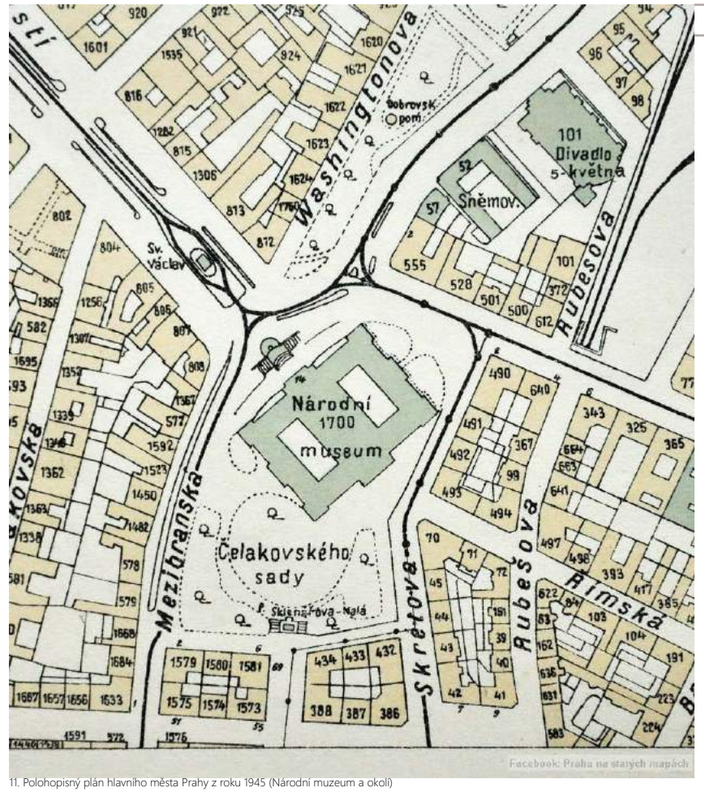
On the 1905 Guidance Plan of the Royal Vinohrady (No. 7) notice the close construction of apartment houses that surround the museum from the east and north. Houses from the block on the east side were down to one (which disappeared in the 90s) in the second half of the 70s during the construction of the municipality and today there is a tram stop Museum, office building and the new apartment house of the residence U Museum.

A similar fate met neighboring houses, instead of which the Transgas building complex was erected in the 70s, which was demolished this year. A number of houses standing on the north side of Vinohrady street between the museum and the State Opera were demolished in the late 60s due to the construction of the Federal Assembly. This literally embraced the original building of the Prague stock exchange, which was built in close proximity to the German theatre in the second half of the 30s. You can see her neoclassical face while driving around the municipality.

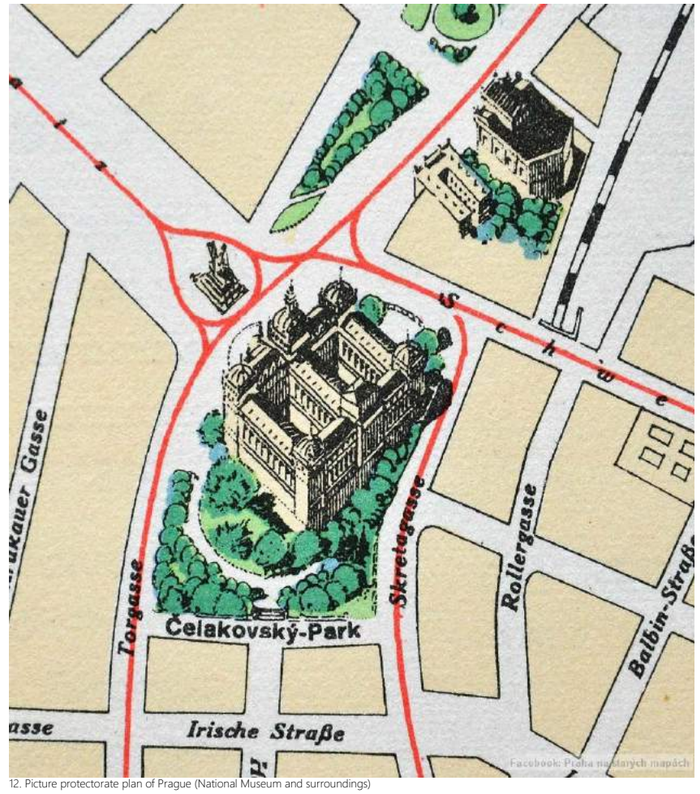
Right after the end of World War II, the National Assembly settled in the former Exchange building, and the members of the Federal Assembly moved to new premises in the early 70s. Separately standing stock market building or. Parliament is nicely displayed on positioning plan 11 from 1945 (compare to the previous 1924)

and also on protectorate plan No. 12. As a result of the construction of the northern municipality, the triangular block of houses between the State Opera and the main station, where the story garage has now vanished.

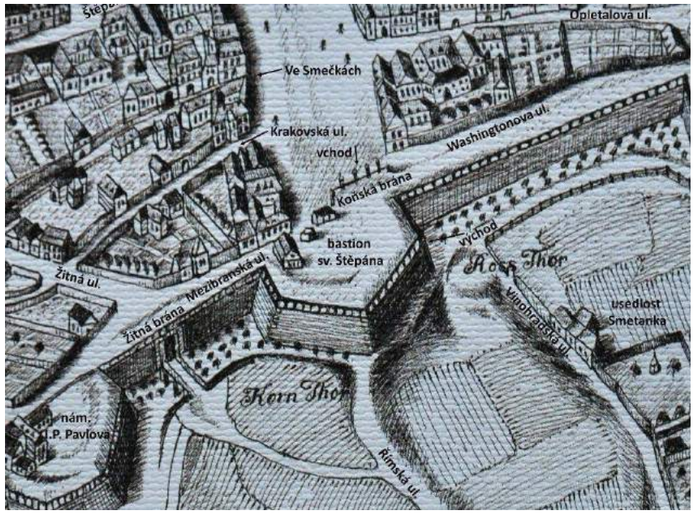
Looking at plan no. 8 of 1912 you see that the space between the museum building and the statue of St. Václav was a very frequented and important tram crossroads from which you could go in five directions. The first cars (still drawn by horses) appeared in Wenceslas Square in 1884. More tracks to the Emperor František Josef Station or today's Vinohrady Street joined in the following years. The first tracks from Mezibranská Street disappeared in 1969, whose name, by the way, reminiscent of its location between two gates - Horse and Rye. Trams stopped driving to the main station in the early 70s and the last tram passed "under the tail" in December 1980. Changes in tram transport in these places occurred as a result of the construction of metro A and C and north-south municipality during the 70s. It disrupted the atmosphere of the nearest surroundings of the National Museum and the State Opera and from the previously natural and elegant connection of New Town and Vinohrady creating a hard-permeated island full of noise, dust, and dirt.



11. Polohopisný plán hlavního města Prahy z roku 1945 (Národní muzeum a okolí)

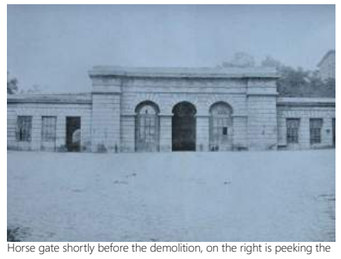


12. Picture protectorate plan of Prague (National Museum and surroundings)



A.1 The Baroque Wall


Wenceslas Square from the Bridge, at the top ended by the Horse Gate, around 1870 (source Z. Wirth, Old Prague, 1942)

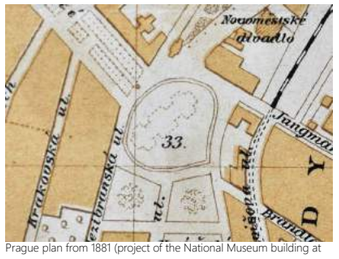

Horse gate shortly before the demolition, on the right is peeking the theatre arena on the walls, 1874 (source Z. Wirth, Missing Prague)


Wenceslas Square from the Bridge, Horse Gate already demolished, 1876 (source: Z. Wirth, Old Prague, 1942)

Huber's perspective plan of Prague from 1769
(Baroque bastion st. Stephen with Horse Gate at the National Museum site)

For centuries, the upper part of Wenceslas Square was finished with a gate, which intersect the city walls across the eastern district of the New Town, roughly in the route of today's north southern municipality. The gate was called Horse (German Ross Thor) and the same name, the Horse Market (German Ross Markt) carried today's Wenceslas Square until the middle of the 19. The century. Behind the entrance empire portal of the Horse Gate in the form of three arches, the broken corridor of the Baroque bastion of St. Stephen and stoned on his north side. In the first half of the 19. th century, in the space from Těšnov to today's square I. P. Pavlova walls and the peaks of the bastion park began to be adjusted. There were promenade roads with aleys, complemented by beds, benches, gazebo and later even cafes. The upper part of the Horse Gate was adjusted as a sightseeing terrace, which certainly offered a great view of most of Prague then.
The gate was demolished by 1876.

A.2 The National Museum



Prague plan from 1881 (project of the National Museum building at the site of the demolished Baroque bastion)


Construction of the National Museum,, in the middle Jindřišská tower, on the right a number of apartment houses later to become the Federal Assembly, 1885-1886 (source P. Státníková, Vinohrady)


Prague view plan from 1923 (National Museum and surroundings)

Photo by Jiri Lizler
Národního muzea founded in 1818 by Kašpar Maria Šternberg. The Main Building of the National Museum was built by prominent Czech neo-renaissance architect Josef Schulz from 1885 - 1891.

After demolishing the bastion of st. Stephen with the Horse Gate from 1875-1876, the city council provided a vacant space for the construction of the much needed main building of the Museum of the Czech Kingdom (now National Museum). It took another 9 years to start construction and another 6 years before it was opened in 1891 The monumental New Renaissance building of architect Schulz still dominate over Wenceslas Square. The area south of the museum building was made a park and the Čelakovsky sady was created, which kept its name continuously until the present time. Shortly after the completion of the museum, a competition to make the equestrian statue of St. Václav, who was supposed to stand on an elevated ramp in front of the main entrance according to the original intentions. However, the author of the winning proposal J.V. Myslbek protest significantly against this variant, so the monument was inaugurated in 1913 at the place where it still stands today.

A.3 Hlavní Nádraží

A picture of the track yard taken from Jungmannova Street. The track was open until the new railway station was built. 1881 | photo: stock photos Profimedia

New railway station building and vaulted structure above the rails, which consumed 2,000 tons of steel, 1.2 million rivets, 18,000 m2 of zinc sheet for roofing and over 200 pieces of large-scale glass panes. 1918 | photo: stock photos Profimedia

Wilson Railway Station, 1936

Opened in 1871 as Franz Josef Station, after Franz Joseph I of Austria. During the First Republic and from 1945 to 1948 the station was called Wilson Station (Czech: Wilsonovo nádraží), after former President of the United States Woodrow Wilson.

The Art Nouveau station building and station hall were built between 1901 and 1909, designed by Czech architect, Josef Fanta, on the site of the old dismantled Neo-Renaissance station designed by Czech architects Antonín Viktor Barvitius and Vojtěch Ignác Ullmann.The station was extended by a new terminal building, built between 1972 and 1979, including an underground metro station and a main road on the roof of the terminal. The new terminal building claimed a large part of the park, and the construction of the road cut off the neo-renaissance station hall from the town. The first double-track tunnel was built between 1869 and 1871 as part of the then Franz Josef railway. Four tunnels are drilled through the rock . The oldest trains now run in the direction of Smíchov , the second tunnel opened in 1944 leads the line to České Budějovice. The third vineyard tunnel had to wait for its completion until 1989 and still inside the rock branches from the original double-track to two single-track; when viewed from the main station because they are seen only three holes .

A.4 New National Museum

The new building of the National Museum , originally the Federal Assembly (Parliament), is located in Prague between the historical building of the National Museum and the State Opera , in the belt between the North-South Highway , which is the intersection between the city district and Prague 1 district and Vinohrady ..

The original Money Exchange building was built between 1936 and 1937 according to the winning design by architect Jaroslav Rössler. The parliament building was originally planned for Letná, after 1948 and the abolition of the stock exchange, the seat of the parliament (National Assembly) was moved here from Rudolfinum. The extension of the Parliament building between 1965 and 1966 was designed by Karel Prager , Jiří Kadeřábek and Jiří Albrecht and realized during operation in 1968 - 1973. Since January 1969, the Federal Assembly has been sitting in the building as a successor to the former National Assembly. After the dissolution of Czechoslovakia and the dissolution of the Federal Assembly, it was used by Radio Free Europe / Radio Liberty between 1995 and 2009. On 22 November 2006 , the building was assigned to the National Museum for its permanent expansion.

A.5 The State Opera

1902

1930

1999

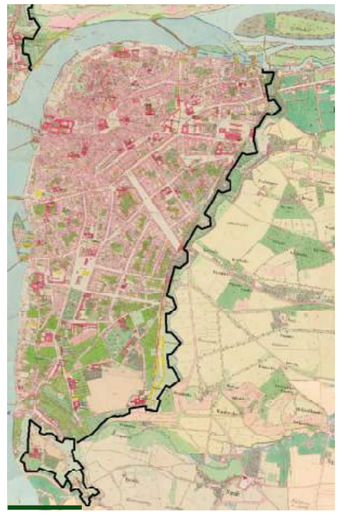
Legerova 75, 110 00 Praha 1, Česká republika
Owned by the Ministry of Culture. It has a capacity of 1041. The building opened on 5 January 1888 and was rebuilt in 1960. Designed by Architect Fellner & Helmer

The State Opera, is an opera house in Prague, Czech Republic. It is part of the National Theatre of the Czech Republic, founded by Ministry of Culture of the Czech Republic in 1992. The theatre itself originally opened in 1888 as the New German Theatre and from 1949 to 1989 it was known as the Smetana Theatre.

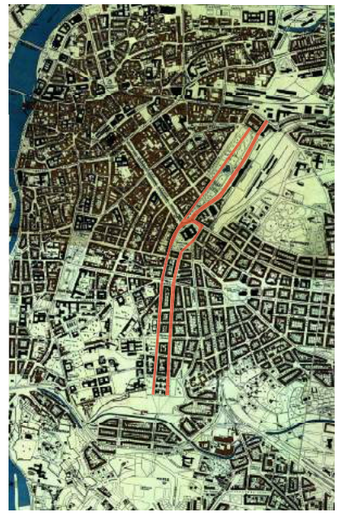
It was designed by leading architects of its day, the well-known Viennese firm of Fellner und Helmer, who invited the cooperation of the local architect of the Burgtheater, Karl Hasenauer. The actual construction was overseen by the Prague architect Alfons Wertmuller and the building was completed in less than two years.

Fig. 3 Aerial view of the area around the National Museum – the current state

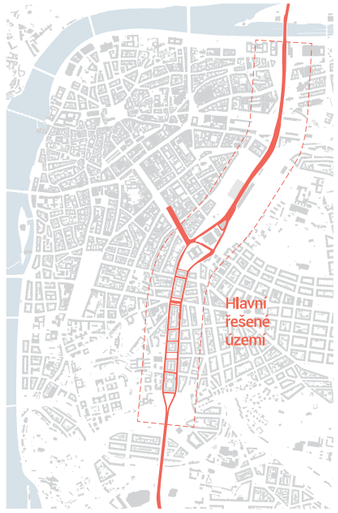
A.6 Magistrála



Before 1880



After 1880



Magistrála Spojující městská třída - Gehl - IPR PRAHA

A History of Urban plans and traffic solutions for this location.

The area in the upper part of Wenceslas Square has been busy in terms of the traffic volume since historic times, not only owing to the existence of a city gate and subsequent connection to the Prague suburb of Královské Vinohrady. The current condition is a result of modern historic development of the area surrounding the National Museum or the whole space occupied at that time by a southern fortification wall, protecting the Royal City of Prague. The recent layout is represented by the development of important constructions, such as the National Museum, the State Opera building or Franz Joseph's Rail Station (today the main railway station, Hlavní Nádraží), which commenced by demolishing the city fortification and the Horse Gate in the 1860s and 1870s.

1) urban/transportation plans+realizations. Ideas and consequences.

The surroundings of the National Museum stayed in this condition, in essence, till the 1930s, when the development of automobilism started in Prague. The main subject of interest in the subsequent period of time consisted of developing a capacity road in the area of the former fortification belt, leading from the Museum toward Těšnov and further north, via Štvanice. The efforts resulted in several variants, e.g. a design draft dated 1932 by Max Urban on behalf of the State Regulation Committee, comprising a large circular by-pass around the Museum building with a tram line running along its circumference, or a design draft dated 1935 for a capacity road running between the National Museum and Wenceslas Square.

Fig. 2 Demolition of a building in Vinohradská Street during the construction of the North-South Trunk Road

Generous after-war plans expected that major redevelopment of the area would be performed in favor of automobile traffic, as shown by plans, for example, from 1956 and, even more, the design draft from 1962 (see Fig. 1), which expected that the redevelopment would cover the area between Legerova and Sokolská Streets and construction of an urban motorway running along the created space. Nevertheless, real changes took place later, in the 1970s, in the context of the construction of the Line C of Prague metro, which was performed concurrently with the North-South Trunk Road in the form as we know it today (see Fig. 2).
This current condition is a result of a previous period's design for a high-level road system in Prague, the so-called ZÁKOS (Czech abbreviation for a basic road system).

2) architectural/public space demolitions+realizations

CURRENT CONDITION OF THE AREA

The entire North-South Trunk Road, with three to four traffic lanes for each direction of traffic, is currently the busiest arterial road in the capital, Prague. It brings all the negatives associated with traffic related works which influence the life in the city. The situation is even more serious because of the fact that the road runs across the very centre of the city and cuts into the edge of the Prague UNESCO world heritage site. During past years, its section leading along the National Museum has become one of the most problematic locations in the very heart of Prague in terms of traffic. In this area, the Trunk Road significantly degrades the urban environment, deteriorates its fitness for habitation and the recreational potential of adjacent park areas and reduces the urban significance of this location. The life of the city and urban functions virtually stagnate there (see Fig. 3).

Consequences of the highway being built
- Demolition from 1970s
- Construction of the transgas, the federal assembly bldg
- The cutting off of the area by roads
- Ongoing improvements today (the demolition of transgas, the linking public space of museums below ground and the future joining together of the public space on ground level)

B.
Present

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The site is a plot that is a carved out of the ground to make way for the train rail tracks leaving a gap in the city center. A huge retaining wall slops from the edges of the sidewalk framing the gap, with a height difference of over 9m. Around 10 railway tracks from the main train station converges into 3 lanes going through the tunnels leaving negligible space for foundation in between. The roof-lines of the adjacent museum align forming a top imaginary boundary.

Národní muzeum
J. Schulz, 1891

Nová budova
Národního muzea
(Federální shromáždění)
K. Prager, 1966-73

škola Na Smetance
A. Turek, 1888

Dům zeměděl. osvěty
J. Gočár, 1926

Hasičský dům
A. Krofta, 1929

Vinohradská tržnice
A. Turek, 19./20. st.

Vinohradská sokolovna
F. Marek, 1941

Dispečink tranzitního plynovodu a budova Světové odborové federace
V. Aulický, J. Eisenreich, I. Loos, J. Malátek, 1970 – 1979

Státní opera Praha
A. Wertmüller, 1888

Budova ČRo
B. Sláma, 1932

Vinohradské divadlo
A. Černský, 1905

Obchodní akademie
F. Kavalír, 1925

Radiopalác
A. Dryák, 1925

palác Orbis
A.Dryák, 1925

Maceškův palác
1929

LEGENDA

Počet podlaží

- ≤ 2
- 3
- 4
- 5
- 6
- 7 - 8
- 9 - 13
- > 13
- atypické objekty (kostely apod.)

- dominanta
- lokální dominanta
- umělecké dílo
- kompoziční osa
- průhled

- parky na náměstí
- parkově upravené plochy
- parky

- hranice městské památkové rezervace
- hranice městské památkové zóny
- hranice městských částí

květen 201

0 50 100 200m 1:5.00

VINOHRADSKÁ . Koncepční studie . Analýzy

Urbanistický kontext a architektur

Vinohradská koncepční studie, IPR PRAHA
Institute of Planning and Development of
the Capital City of Prague 2016

511

[IPR Praha 2015]

LEGENDA

ZÁVAZNÉ PRVKY

Plochy s rozdílným způsobem využití

návrh

ÚZEMÍ KRAJINNÉ

- ZL plochy lesní
- ZN plochy nelesní
- PZ plochy zemědělské a pěstební

ÚZEMÍ REKREAČNÍ

- ZP plochy parkové
- RP plochy rekreace
- SP plochy sportu

ÚZEMÍ OBYTNÉ

- VV plochy veřejného vybavení
- OB plochy bydlení
- SM plochy smíšené

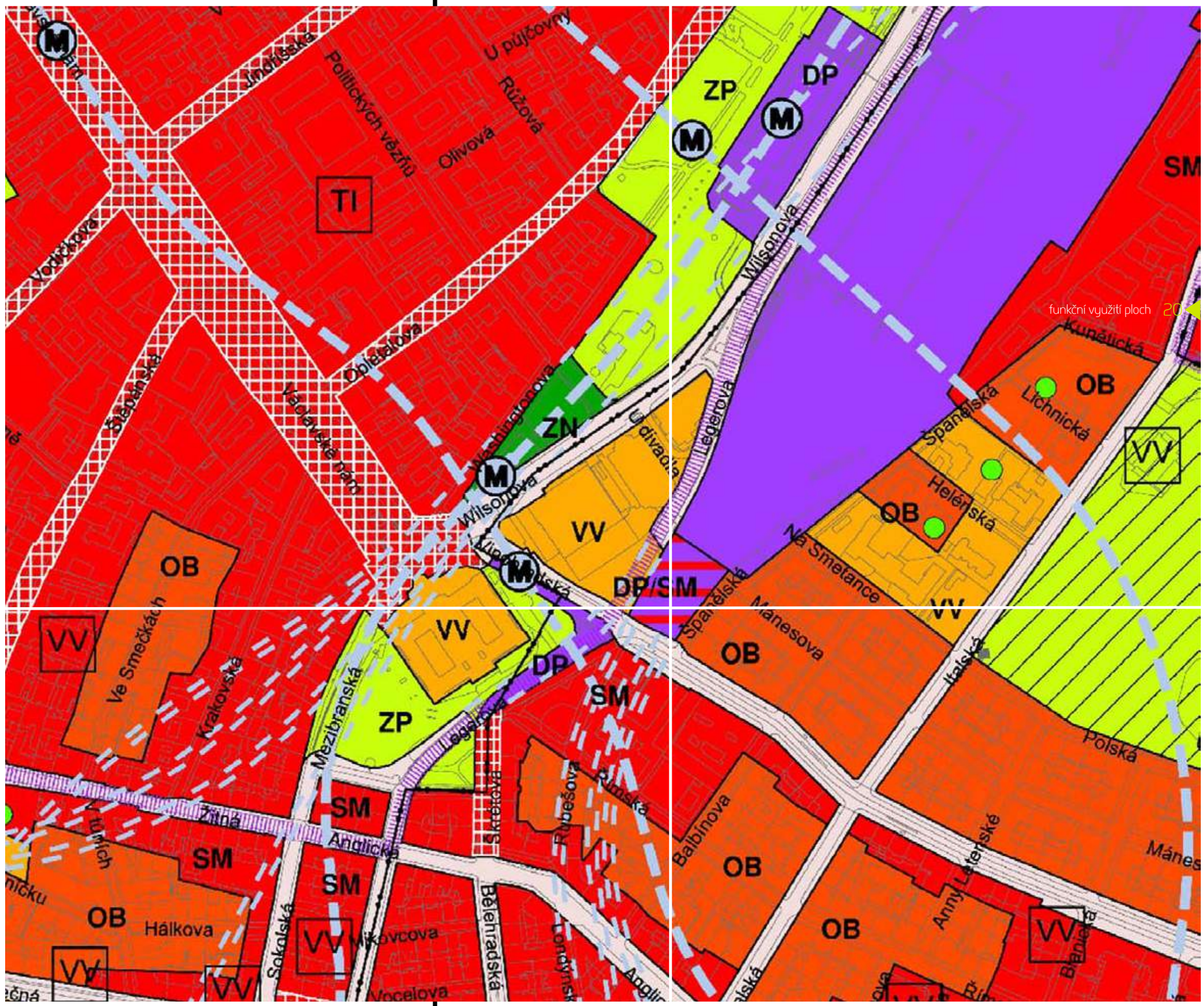
ÚZEMÍ PRODUKČNÍ

- DP plochy dopravní infrastruktury vyjma komunikací
- PR plochy produkce
- TI plochy technické infrastruktury

OSTATNÍ

- VO plochy vodní
- DK plochy dopravní infrastruktury - komunikace

As shown in the zoning plan map, ironically this piece of land at the center of the city is a void, but it is planned to become connected as 'mixed use'. The main challenge is to preserve the rail lines below and to build a new ground and building overhead.

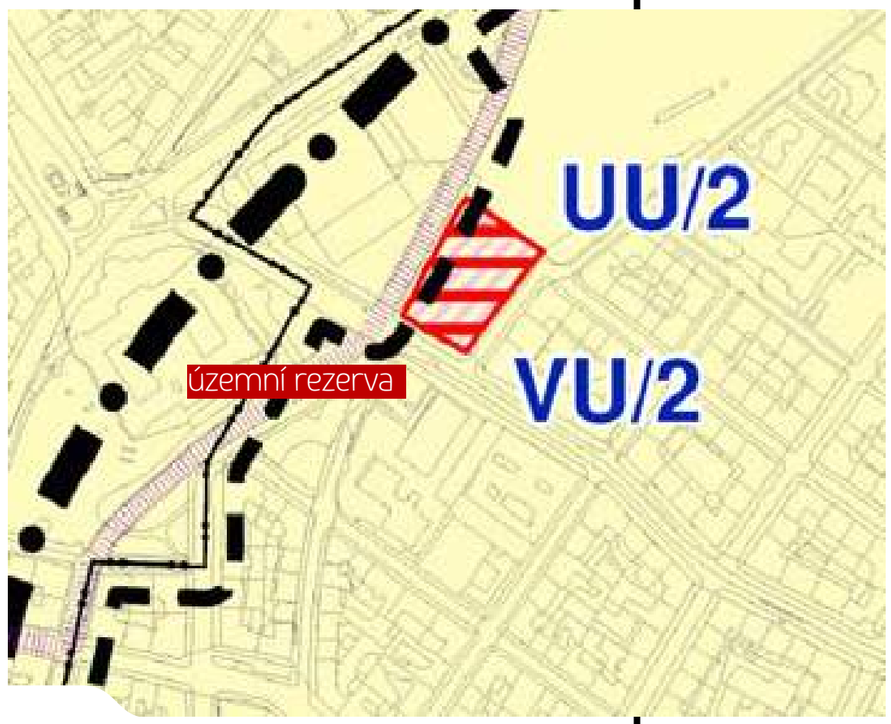


funkční využití ploch 20

B4. Zoning Plan

1_development of the basic division - territorial reserves
2_transportation
3_water and waste management
4_energetic, electronic communication and collectors

The land use plan shows that the territories are not under any protection zones



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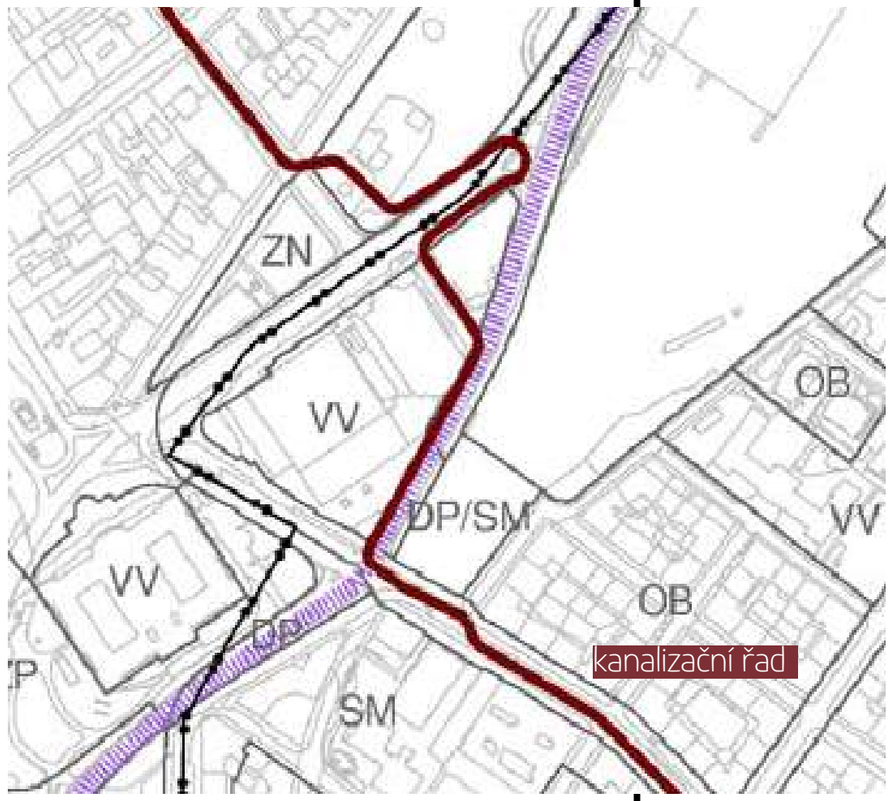
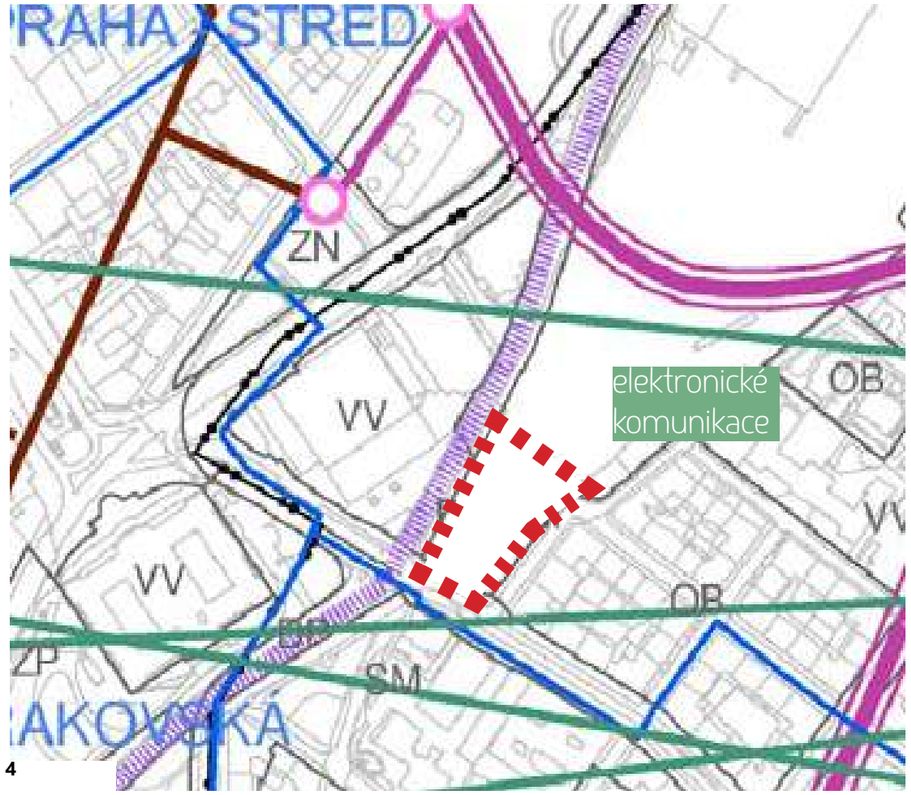




4

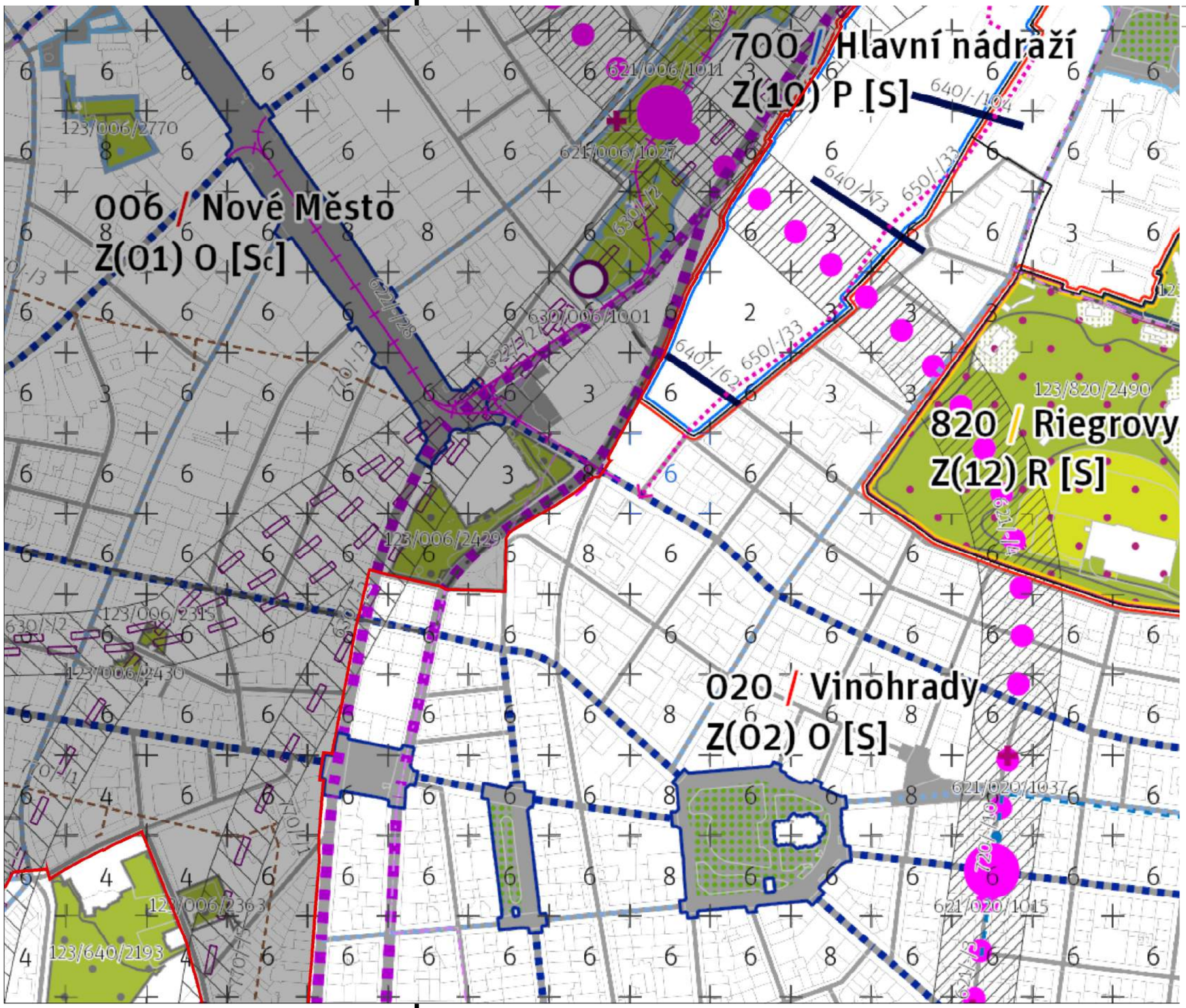
B5. Technical Maps

C.
Future

The Prague Institute of Planning and Development has unveiled the new Metropolitan Plan for the Czech capital that should come into effect in the year 2023. Among other things, the new strategic plan introduces building height regulation and attempts to prevent the city from sprawling into the surrounding countryside. In this plan, the site is included within the area of Vinohrady.

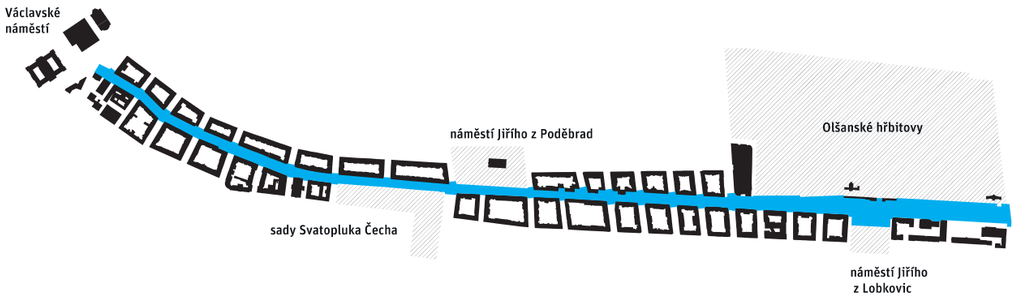
Pedestrian links from zizkov across to magistrala and to the train station (thick blue lines) have been planned to the north of the site boundary.

In this proposal I introduce another pedestrian links through the site.



www.geoportalpraha.cz, © Institut plánování a rozvoje hl. m. Prahy, stránka vytvořena: 15.4.2020 7:25:00

C1. Metropolitan Plan



C2. Reconstruction of Vinohrady

Vinohradská koncepční studie
IPR PRAHA
Institute of Planning and Development of the Capital City of Prague 2016

Vinohrady is expected to improve its transport solution, barrier-free tram stops and generally safer and more pleasant conditions for pedestrians. More trees will be added to the wide sidewalks and more restaurant front gardens should be created, which will add a touch of the city boulevard to the street. There will also be new benches, baskets, drinking fountains and bicycle stands.
Public involvement has shown that street safety and accessibility should be improved. When you get off today, for example, at the Jiřího z Poděbrad stop in the direction from the center, you can see at first glance that something is wrong. The intersection is surrounded by a red and white railing, the crossing is nowhere to be seen. You can only get to the other side by an underpass (but it is not barrier-free), or you have to cross the street outside the crossing. The conceptual study therefore proposes to complete the missing transitions, remove the railings and connect the square in general with the Svatopluk Čech orchards. At the bottom of the street, architects are designing a separate car lane separate from the tram line. Thus, there should no longer be a common situation where trams are blocked by columns of cars. Vinohradská will also be more friendly for cyclists, for whom either a cycle lane or a pictogram corridor is provided in a larger part of the street. It is also planned to create a new protected route for recreational cyclists along the Olšany cemeteries.

C3. Renovation of Wenceslas Square

New design for the top of Wenceslas Square.
IPR PRAHA
Institute of Planning and Development of the Capital City of Prague 2016

Prague city councilors have approved an updated plan to transform Wenceslas Square. The new plan calls for a tram line in the upper part of the square and a pedestrian promenade through the middle. The plan includes expanded sidewalks, a new line of trees, a separate lane for cyclists, and fewer parking spaces. The Prague Institute for Planning and Development (IPR Prague) helped update the design.
Prague's plan to transform all of Wenceslas Square has been in place since 2005. The winning design, which was created in collaboration with the Cigler Marani Architects studio (today Jakub Cigler Architekti) and Atelier DUA, was the result of an urban design and architectural competition. The design for the upper part of the square has now been updated, and the project is much closer to being realized.

"We are giving Wenceslas Square back to the people, the way it was in the last century before it was overrun by taxi drivers, sausage stands and night club barkers. By moving the tram track, we can also create a beautiful pedestrian promenade through the middle of the square, which will finally become accessible to ordinary residents of the city. The new tram track will stabilize the Prague tram network significantly. An alternative track through the city's center will permit other tram lines to be developed on the city's periphery," said city councilor for transportation, Adam Scheinherr.

C4. Vinohradská Administrative Center

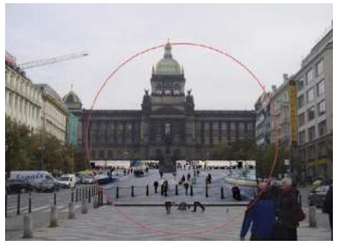
Vinohradská's Administrative center
Vinohradska 8, 120 00 Prague 2,Czech Republic
Jakub Cigler Architekti

The new Vinohradská Administrative Center building with six to eight floors is to connect Vinohradská and Římská streets. In addition to offices, shops or restaurants and a publicly accessible courtyard with greenery are to be built on the ground floor. The basement should have 220 parking spaces, warehouses and technical facilities.

The building will be a reinforced concrete monolith. "The facades are designed with stone cladding, glass details and cladding will continue the artistic and craft tradition of Vinohrady palaces," the announcement said. The roofs should be partially accessible, the design also includes their use for greenery. The project was created by Jakub Cigler Architekti.

The international development group HB Reavis, originally from Slovakia, is based in Luxembourg and operates in Slovakia, Poland, Hungary, the Czech Republic, the United Kingdom and Turkey. The group was founded in 1993. In the immediate vicinity of the project towards the main road, the Panorama Business Center was established in 2000. It has 6800 square meters of leasable area and 91 parking spaces in underground garages. It has eight above-ground and three underground floors.

C5. Humanization of the Magistrala



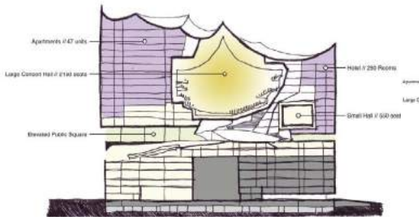
Humanization of the highway
IPR PRAHA - Gehl
Institute of Planning and Development of the Capital City of Prague 2016

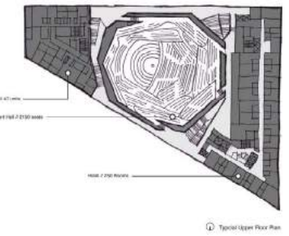
Architects from Copenhagen dealt with the three-kilometer section of the North-South Highway between the Hlávka and Nuselský bridges. The traffic artery intersects the densely populated districts of the city center and passes many important institutions: the National Museum, the State Opera and the Museum of the Capital City of Prague. The Danes presented the analysis of the main road and the draft measure at the end of June. The City Council today approved their proposal and commissioned IPR Prague to draw up a timetable for gradual changes.

The concept looks at the highway from three perspectives: the environment, people and mobility. The main road will continue to be an important traffic route, but the city can work better with its effects on the surrounding streets, parks and squares. These can be adjusted and made more pleasant so that people do not avoid them. It is also necessary to improve the permeability across the main road. Although tens of thousands of people move here every day, they have only a minimum of crossings and very neglected underpasses.

2 Precedents

A.
Elbphilharmonie Hamburg





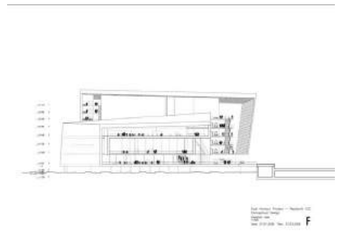
Hamburg, Germany
Concept 2001, concept phase 2003, project 2004-2014, realization 2006-2016

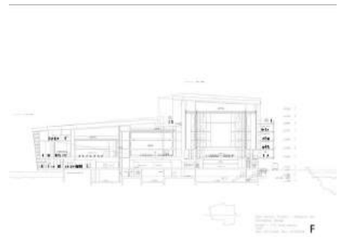
ELBPHILHARMONIE HAMBURG GREAT HALL

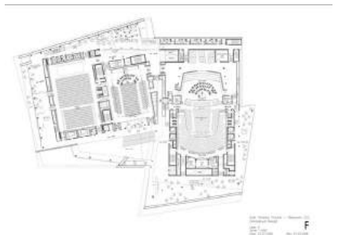
The heart of the Elbphilharmonie: The large concert hall with 2,000 seats is built according to the Weinberg principle - with the stage in the middle, which is surrounded by terraced public crowds. The tiers are arranged on different levels, with the orchestra playing in the middle, and the audience is very close to the musicians. The space gives a feeling of intimacy to an extent that you are not conscious that the Hall seats 2,100 people. It is more reminiscent of a chamber music venue.

The proximity between musicians and audience is a special feature of the Hall of which I tried to reflect in the design of this concert hall. The seats surrounding the stage with the furthest one at a maximum distance of 30m. Moreover, this project is quite unique as it respects its urban context and adapts to it. One aspect is keeping the existing building frame and working within its boundaries.

B.
Harpa Concert Hall and Conference Center





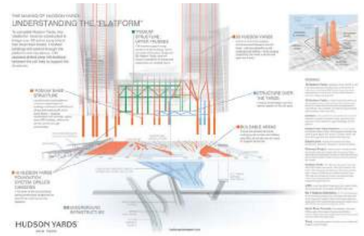


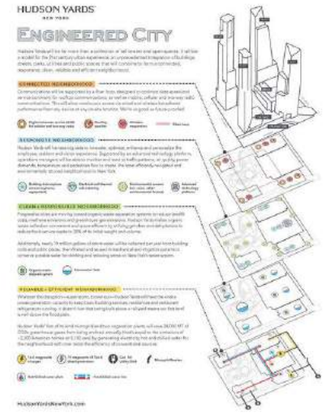
Reykjavik, Iceland
Client: Austurhofn, IPC / Area: 28,000 m² (301,000 ft²) / Status: Built

"we have created a living icon for Iceland. All year round, the poetic building sets the stage for a diverse range of events – from music school concerts and picnic lunches to international gala performances and banquets."

The major feature of this project is its crystalline structure, created by the geometric figures of the facade, which captures and reflects the light - promoting the dialogue between the building, city and surrounding landscape. One of the main ideas has been to "dematerialise" the building as a static entity and let it respond to the surrounding colours - the city lights, ocean and glow of the sky. In this way, the expression of the facade changes according to the visual angle. treating each facade differently depending on its location and its surrounding enforced the building's character. It looks quite unique from every angle yet it is unmistakable as the facade element unifies it.

C.
The Hudson Yards





New York, USA / 2019 / Investor: HB Reavis Management CZ

The area was dominated by rail yards. Hudson Yards had to be constructed above 30 active Long Island Rail Road tracks, New Jersey Transit and Amtrak passageways, as well as the Gateway Tunnel. To do this, engineers from Thornton Tomasetti, Langan, and Arup devised a ten-acre platform to support the development. This ultracomplex platform (which includes special ventilation, cooling, stormwater retention, and plant-friendly "smart soil") weighs more than 35,000 tons and uses more than 25,000 tons of steel.

The concept of utilizing the airspace over the rail tracks provides a much needed solution especially in condensed metropolitan cites of which a lot of its prime location are dominated by train stations. The development stitches up the cities fabric so smoothly that during my visit it went unnoticeable. The foundation design itself is a breakthrough that will be opening a lot more opportunities to utilizing these airspaces.

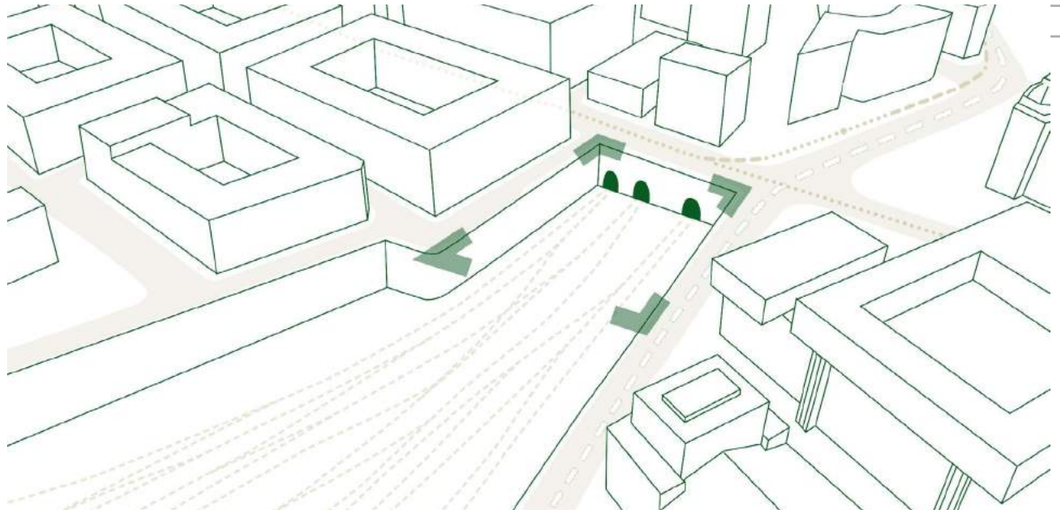
A similar approach will be used in this project in regard to the foundation design and building structure. In particular the PODIUM Structure and that of the SHED.

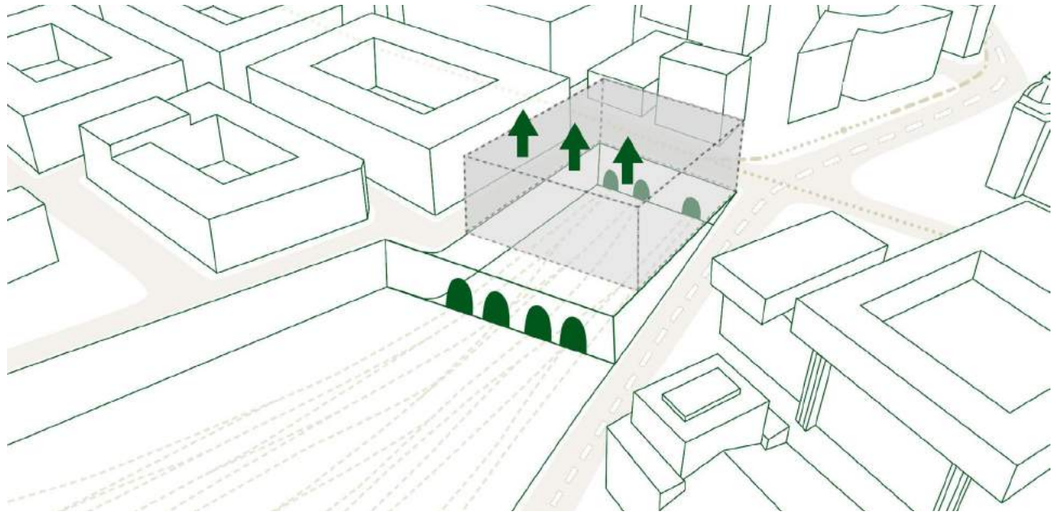
3

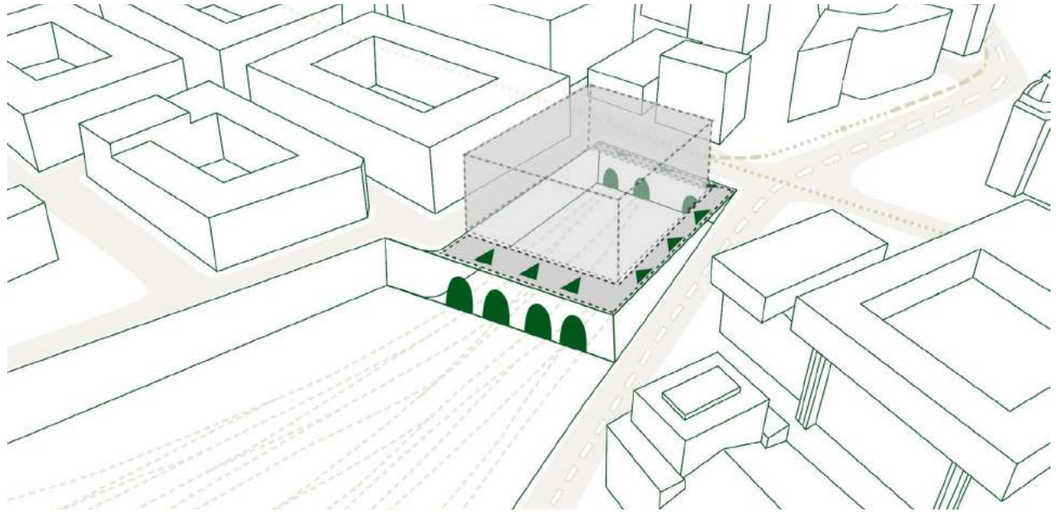
Concept development / schematic

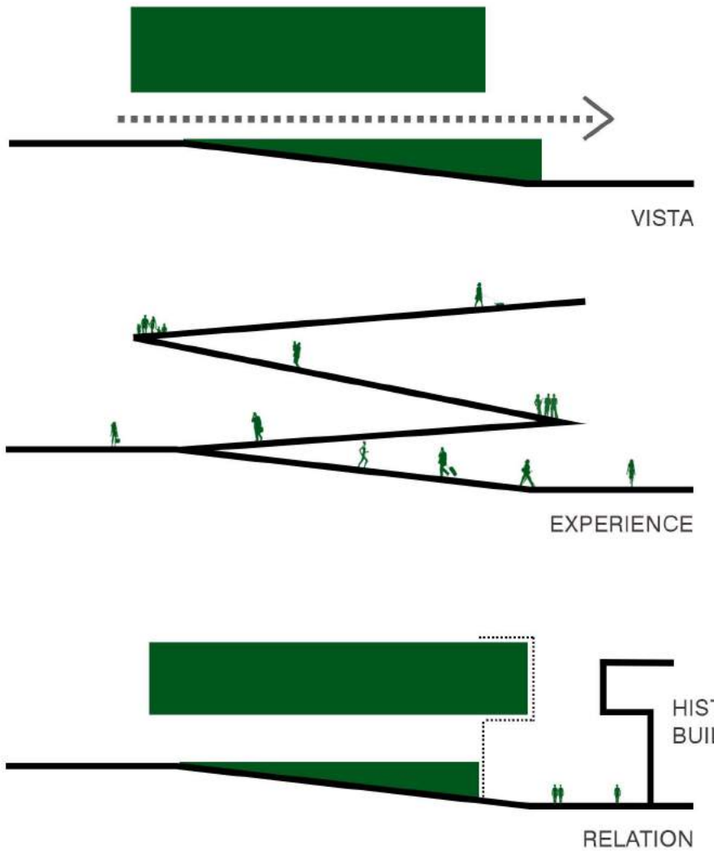
A.
Explanatory Diagrams

Schematic Development
The proposal entails connecting the vinohradska neighborhood with Wenceslas square by introducing a slab raised above the railway tracks on which the Philharmonie is added on top.
The building height is raised to the level of the New National Museum approximately. the building boundaries on the ground floor are pushed in on three sides, Legerova str., Vinohradska str., and Manesova str.
On Vinohradska's edge the building is aligned along the residential block to its right and the sidewalk along to that of the New National Museum. Legerova's edge is push pushed in more dramatically creating a public space connecting the building to the New National Museum and forming a continuation of the area surrounding the museums. From the Manesova edge, the building is aligned along the residential block and extending the street to Manesova to reach Legerova only it is not Vehicle accessible, instead it is used as a pedestrian connection and an outdoor exhibit.







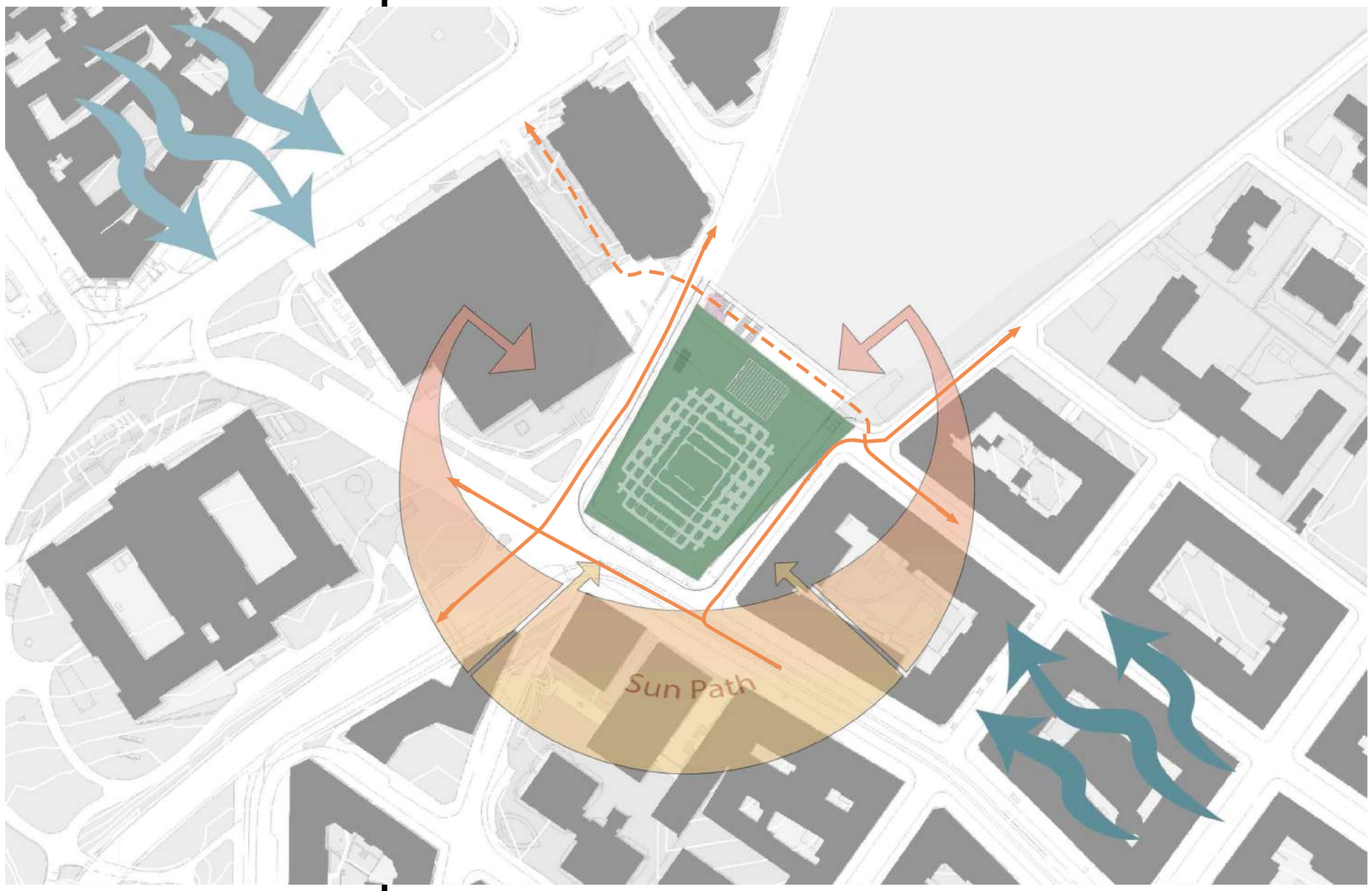


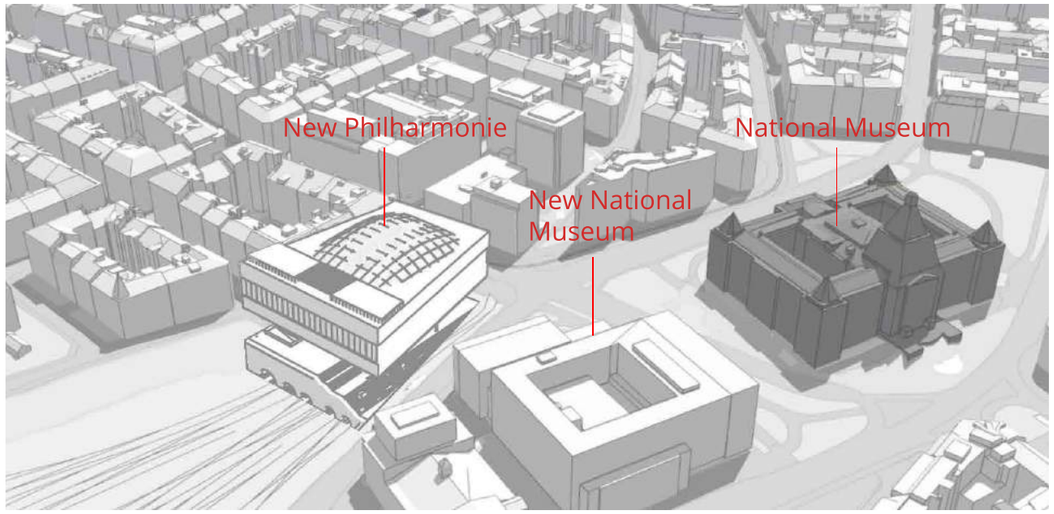
Concept Diagrams

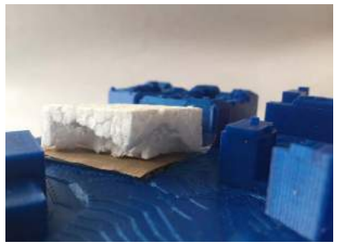
In addition to the main function of the building, there is a focus on public use as it is a major part of the cultural cluster to be formed. Introducing Publicly accessible sitting areas, Kavarna, lounge, gallery, and exhibition aimed at increasing public interest in addition to those interested in music. Moreover, the site itself serves as a major pedestrian footpath as it creates a much-needed connection. The public stair is a continuation of the landscape connecting Legerova with Spanelska. This stairs begins at the level of Legerova street and ends at the level of the intersection of Spanelska and Manesova. That and the push-in of the building boundary permits a continuous visual connection along Manesova Towards the State Opera building and the New National Museum. The circulation within the building is directed towards the views. A panoramic view is found on the main foyer level and the main concert hall entry-level in addition to the 360-degree view of the rooftop. The building massing is somewhat a profile reflection of that of the New National Museum. this form permits the logic of the ground floor level while providing the needed space for the concert hall on top.

B.
Site

Site Diagrams
I Site Diagrams
A main pillar of the concept is public accessibility and creating public interest. In addition to the Gallery and outdoor exhibition, another approach is creating a visual connection with the street. The small concert hall is situated on the Vnohradska street level with glazing separating the pedestrians and the musicians and their audience.

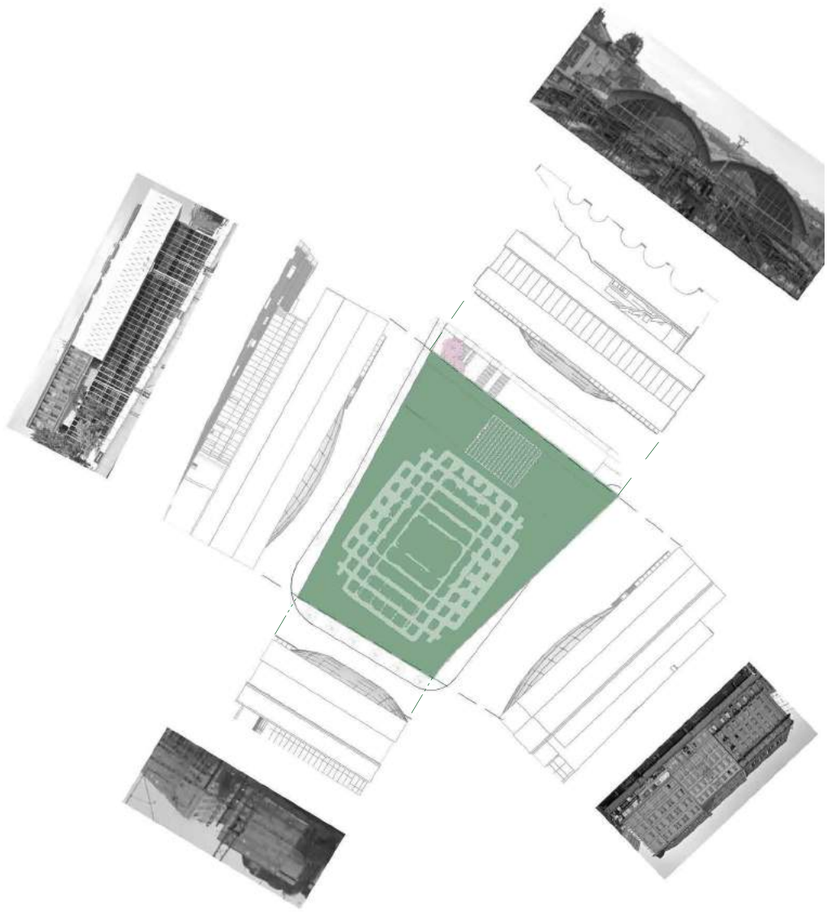






Massing Model

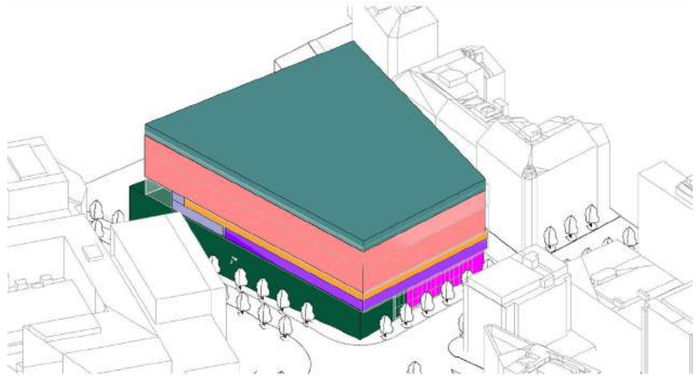
The approach from the start was to create a more open space towards Wenceslas square while having most of the massing towards the residential blocks on the other side. The open space is a frame of the new cultural quarter square that is formed by the National Museum, The new National Museum, the State Opera, and the Philharmonie.



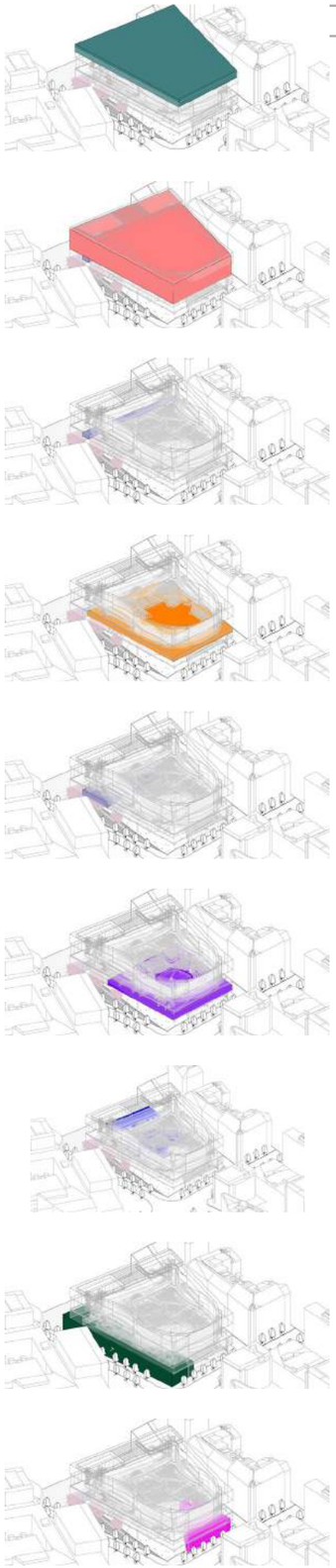
Site Relatiocn

C.
Program

program Diagram
The lower block of the building constitutes several functions creating a more dynamic activity throughout and more consistent throughout the day. as for the Main Concert hall block, its grand bar with a 36o degree view rooftop ensures that the space is never empty.

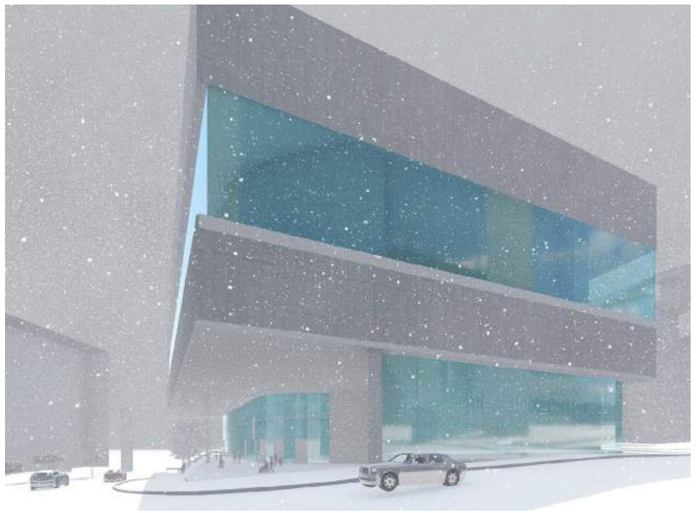


- Rooftop
- Conert Hall + Foyer + Amenities
- Administrative offices + Classrooms
- Stage + Dressing rooms + Rehersal Space Ammenities + Stage amenities
- Concert Hall Structural base + Mechanical rooms + Technology rooms + archives
- Public spaces + Publicly accessible spaces (Gallery + Lounge + Kavarna + Exhibition
- Mini Concert Hall + Backstage + Dressing rooms
- Ticket Sales + Employee lounge + Restrooms + Back of house circulation + Security room



4. The Proposal

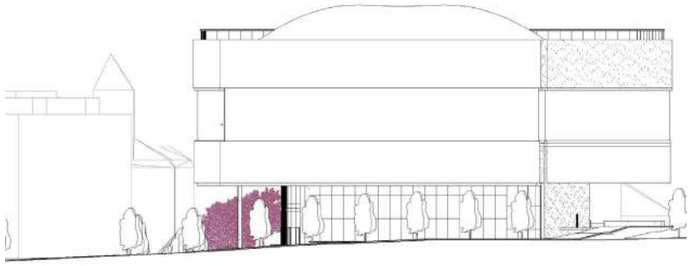
A.
Renders

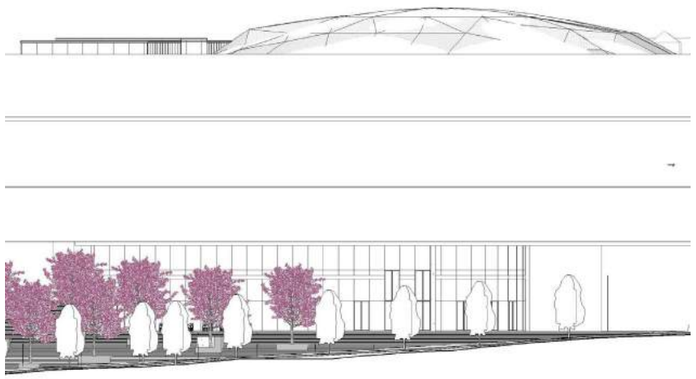


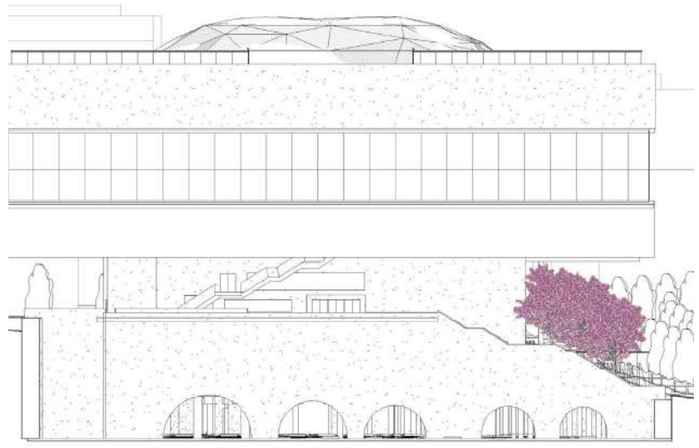
The Main Entrance with the Kavarna showing in the back

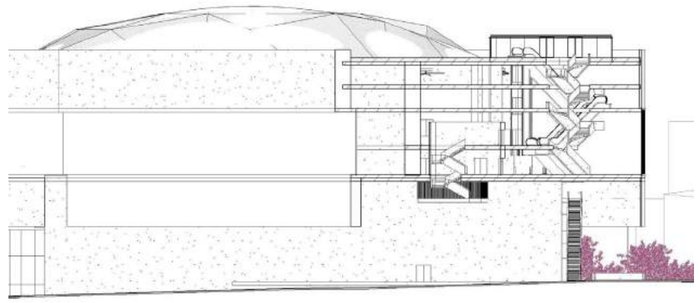
The Small Concert Hall situated on Vinohradska street level with clear glazing allowing pedestrians to observe all the action

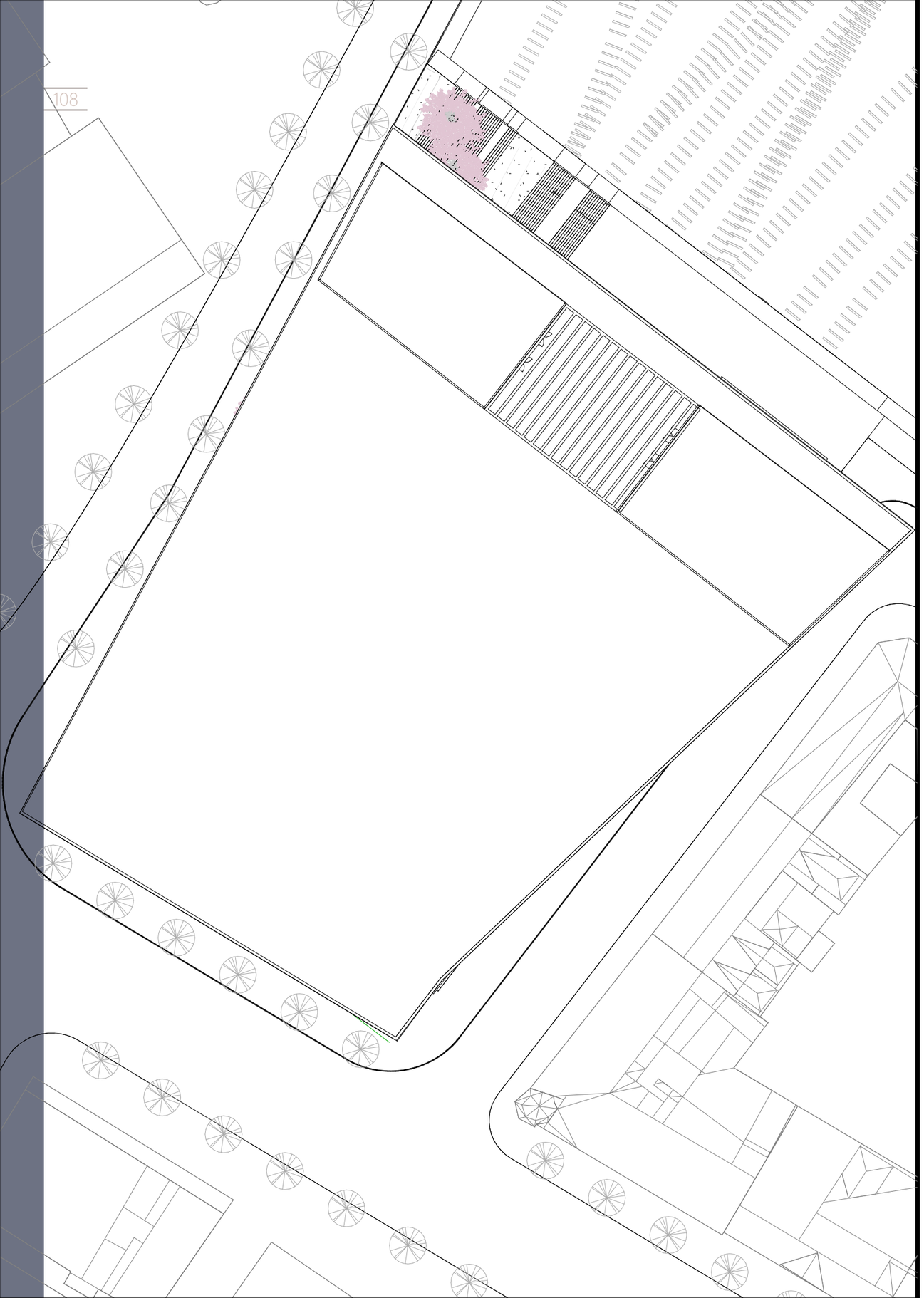
B.
Technical Drawings







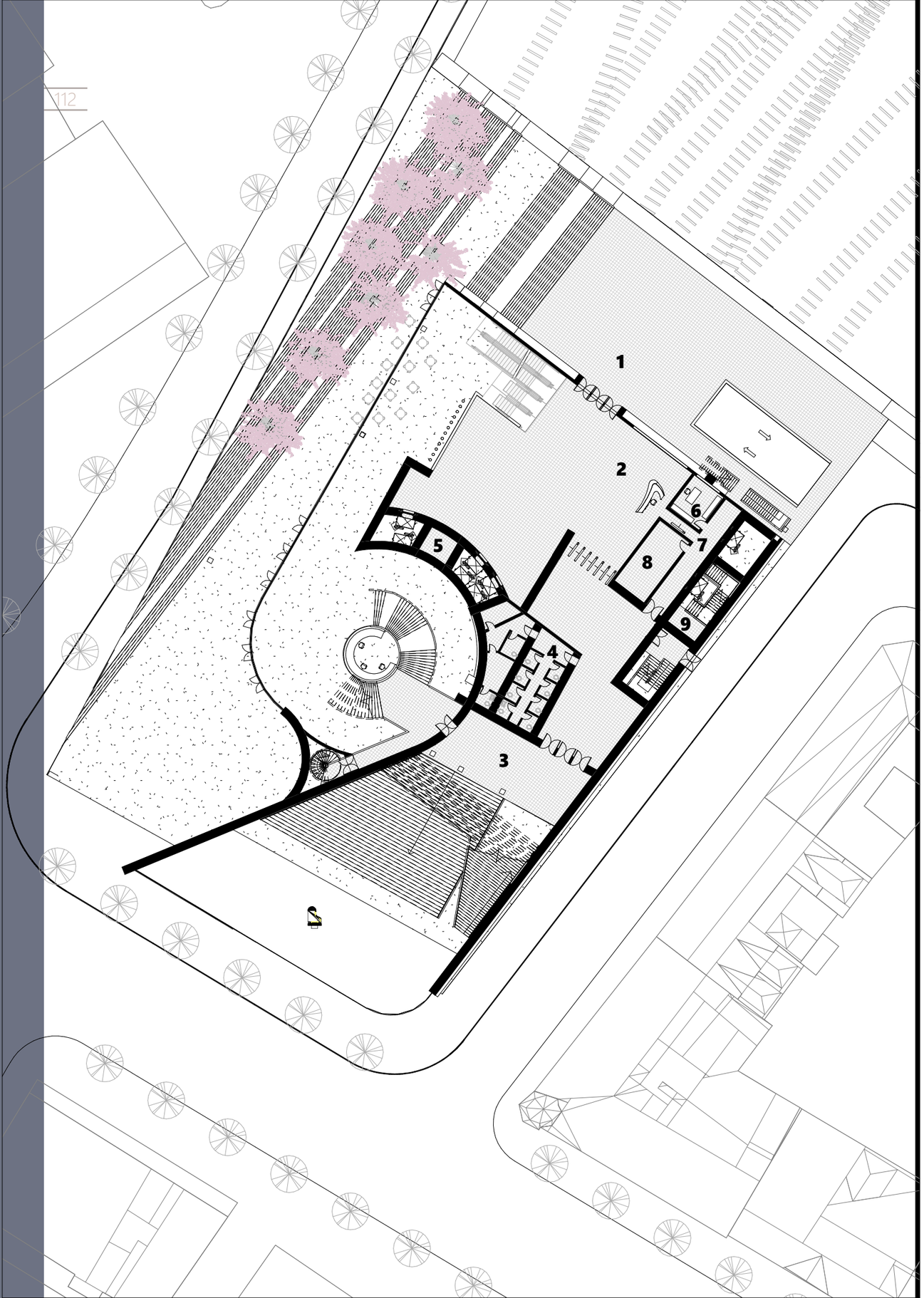




Site Plan
1:500

Ground Floor (level: 0)
1:500

1. Main Building Entry
2. Reception
3. Small Concert Hall
4. Backstage
5. Ticketing Office
6. Cloakroom
7. Mechanical Room
8. Security
9. Dressing Room
10. Restroom
11. Kavarna
12. Employee lounge
13.parking + drop off + Storage
14. Back of House Circulation

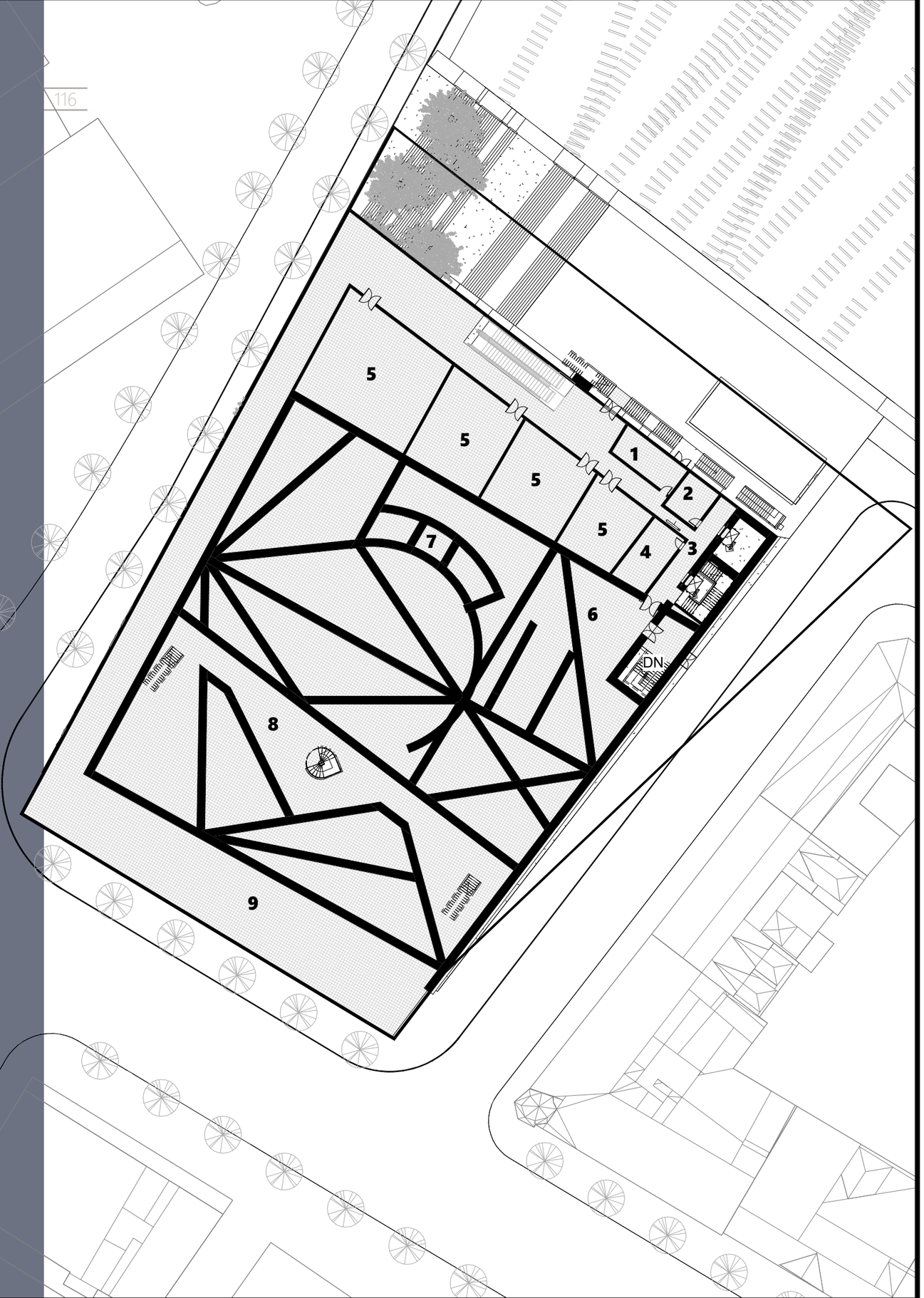


1st Floor (level: +4m)
1:500

1. Secondary Entrance
2. Reception
3. Small Concert Hall
4. Restrooms
5. Mechanical Room
6. Security
7. Back of House Circulation
8. Office
9. Storage

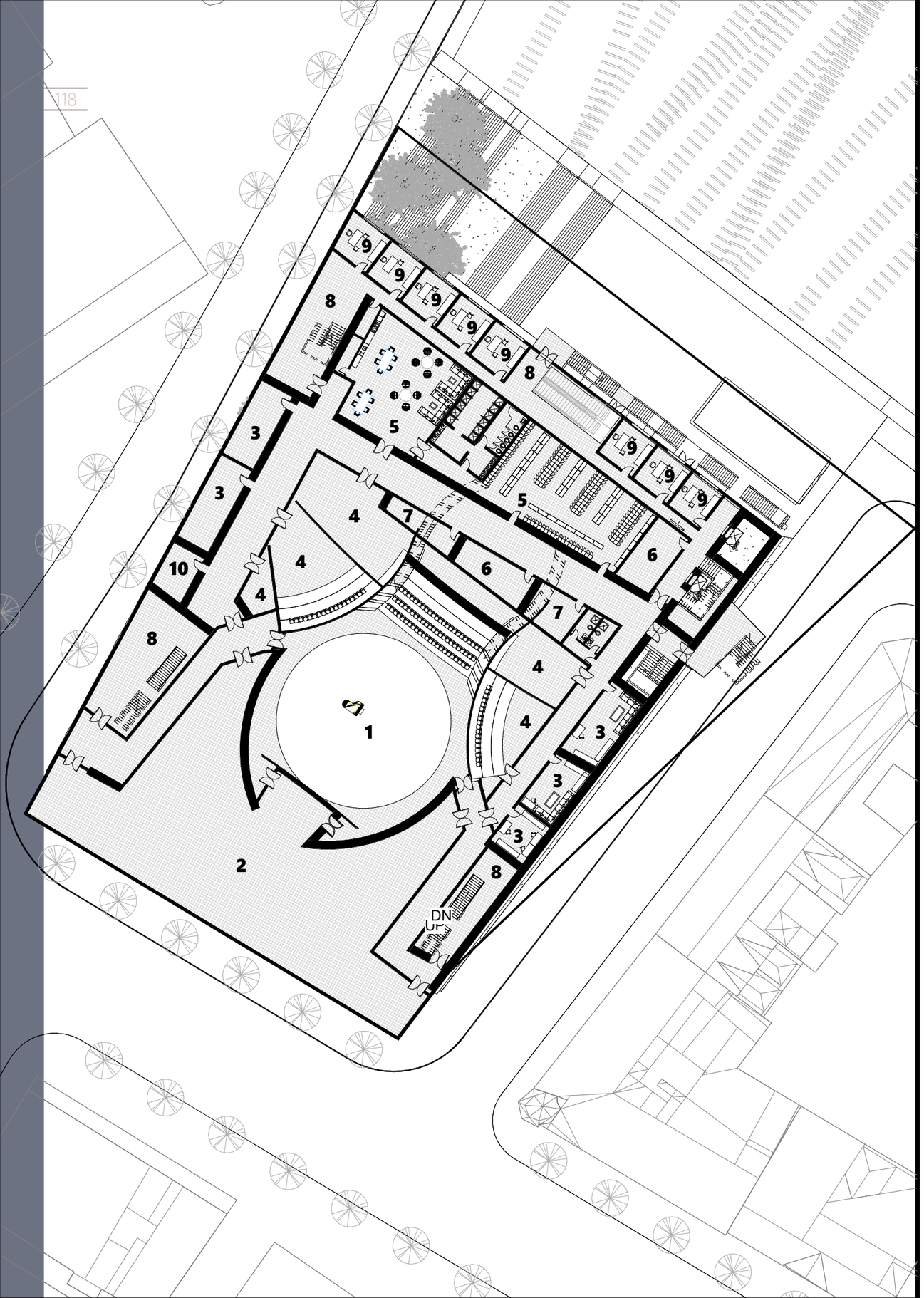
2nd Floor (level: +7.5m)
1:500

1. Panoramic View
2. Gallery
3. Lounge
4. Cloakroom
5. Office
6. Back of House Circulation
7. Storage
8. Restrooms
9. Small Concert Hall



3rd Floor (level: +11m)
1:500

1. Kitchenette
2. Office
3. Back of House Circulation
4. Storage
5. Classroom
6. Technology Room
7. Mechanical Room
8. Fire Escape Route
9. Archives



4thFloor (level: +14.5m)
1:500

1. Stage
2. Backstage
3. Dressing Room
4. Storage
5. Locker Room + Lounge
6. Technology Room
7. Mechanical Room
8. Fire Escape Route
9. Office
10. Restroom

5th Floor (level: +18m)
1:500

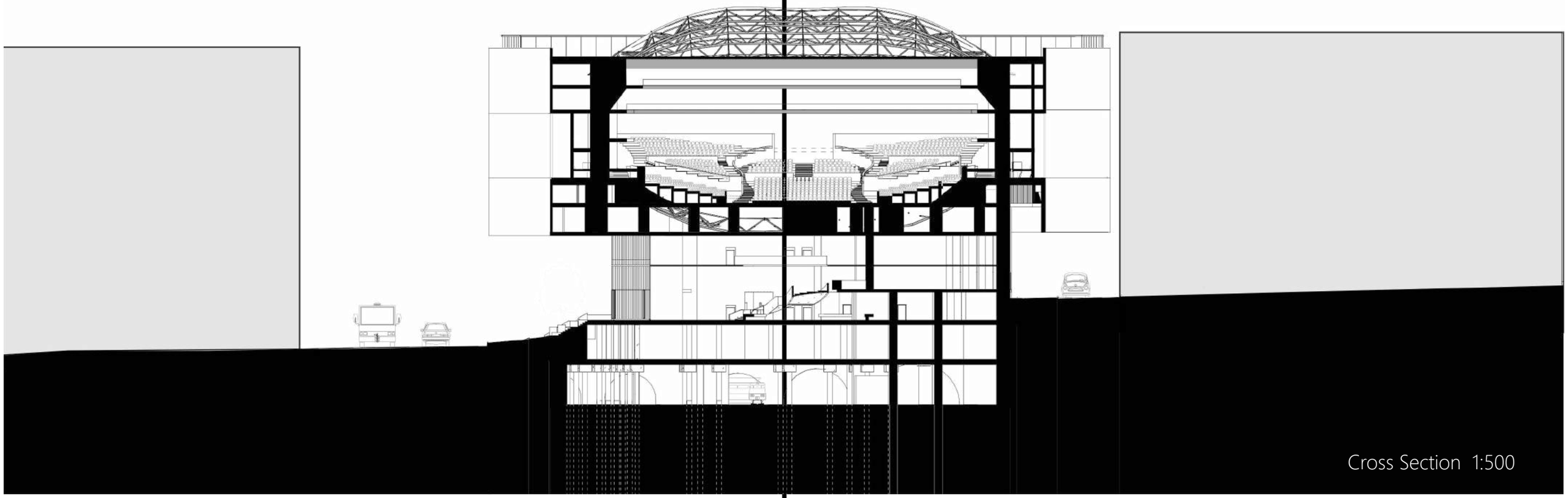
1. Foyer
2. Bar Area
3. Storage
4. Fire Escape
5. Restroom
6. Back of House Circulation

6th Floor (level: +26m)
1:500

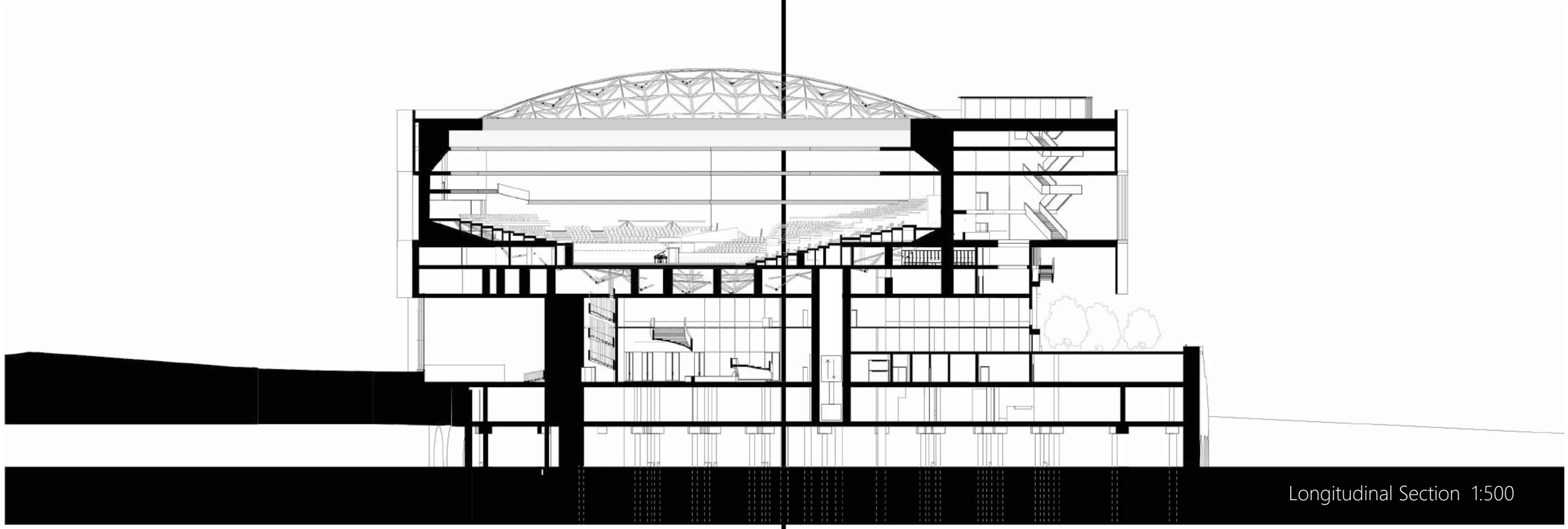
1. Fire Escape
2. Bar Area
3. Restroom

7th Floor (level: +30 m)
1:500

1. Rooftop Circulation
2. Shaded Bar Area



Cross Section 1:500

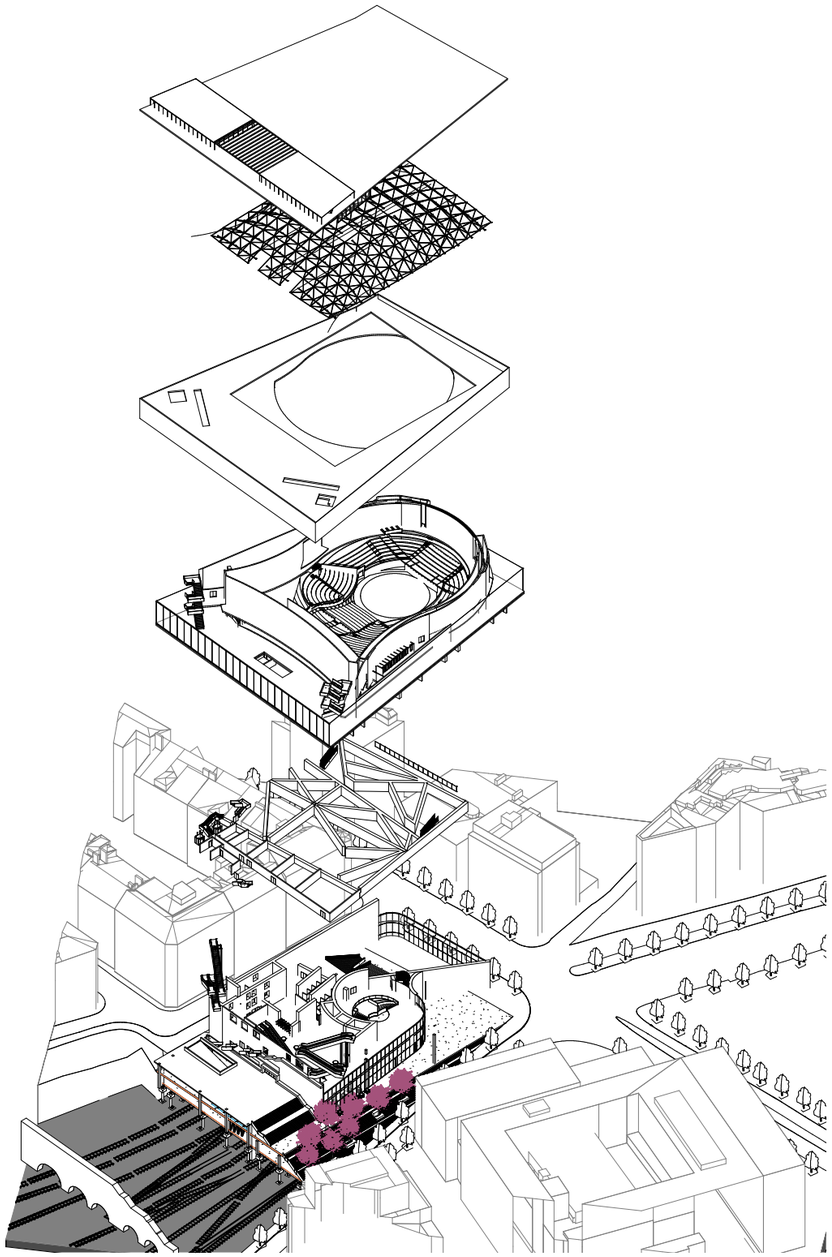


Longitudinal Section 1:500

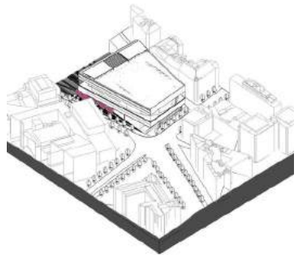
C.
Technical Report

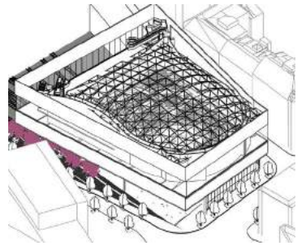
The Halls

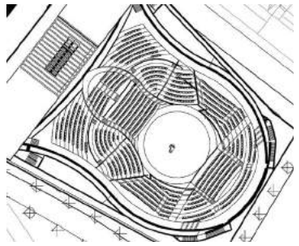
The philhwrmonie contains the best of two (concert hall) worlds: a »vineyard«-style hall and a »shoebox«-style hall. »Vineyard« is the technical term used to describe halls where the seating is arranged around the concert platform, and climbs upwards like the terraces of a vineyard. A »shoebox« in this sense refers to any room with a rectangular floor plan, where the stage or platform is located at one of the narrow sides. The Grand Hall follows the »vineyard« principle that was first used at the Berliner Philharmonie by architect Hans Scharoun in the early 1960s. Since then, this style of construction has been used for many other halls all over the world, among them Tokyo's Suntory Hall, the Walt Disney Concert Hall in Los Angeles and the Philharmonie de Paris. The Recital Hall is in the classic »shoebox«-style, where the audience seating can either be arranged all on one level, or it can ascend towards the back of the hall. Thanks to the oval shape of the Grand Hall, on the other hand, no seat is more than 30 meters away from the conductor's rostrum. Moreover, the arrangement of the seating in a circle means that everyone in the audience also has a view of the rest of the audience, which increases the feeling of community while listening to the music. The hall places the music at the center of things, both visually and in terms of the concert experience, making it clear that classical music is not something for the elite, but belongs in the middle of society.



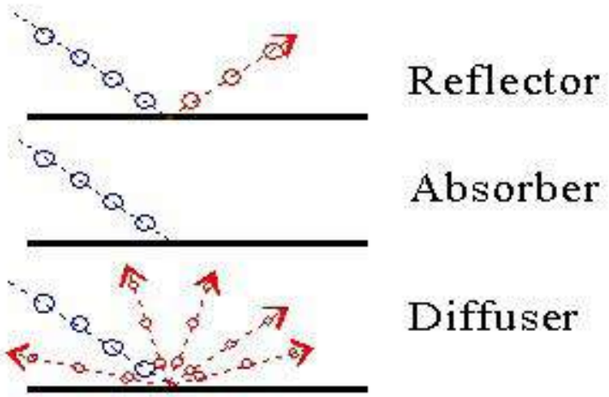
Acoustics - Structure



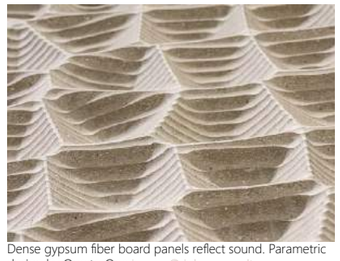




The philharmonie's architecture cleverly tricks the surrounding noise of trains passing under, sirens and all kinds of other street sounds. The Grand Hall is designed with a double wall. The outer wall is made of reinforced concrete and forms part of the building as a whole. The inner wall is not connected with the outer one: it rests on large groups of springs that shield the concert halls completely from the outside world. There are 362 such groups of springs under the Grand Hall. This acoustic separation guarantees that the concert audience can enjoy the music without interference from any outside noise, while by the same token no music leaks through the walls to the exterior, ensuring that local residents can sleep undisturbed.



Acoustics - Materiality



Dense gypsum fiber board panels reflect sound. Parametric design by One to One image © johannes arlt

Seating Capacity: 2,000
Room Volume: 20,000 m3
Finish Materials
- Ceiling: HGF, milled MS (Mass 125kg/m2)
- Walls: HGF, milled MS (Mass 125kg/m2)
- Aud. Floor: Wood flooring on HGF
- Stage Floor: Oregon pine 50 mm supported with wooden joists and sleepers
- Canopy: HGF, milled MS (Mass 125kg/m2)
- Seat: Upholstered
- Pipe Organ: 4-manual, 65 stops
- HGF: High-density gypsum fibreboard panels
- MS: Micro-shaping
- Acoustic Roller Banner

ARCHITECTURAL SOLUTION

Urbanism
The proposal envisages the implementation of the so-called Humanization of the Highway, which will reduce the number of lanes, and reduce the speed of the road from 70 km/h to 50 km/h, creation of cycle paths and tracks of urban greenery, expansion of sidewalks, new pedestrian crossings, and more traffic lights. The tram line should be extended from Vinohradská Street to Wenceslas Square. The crossing of Legerova and Vinohradská streets should be calmed down. This will create a full-fledged public space that is not limited to car traffic.

Necessary in designing the Philharmonie building is a representative public space, which should create a decent entrance to the museum. The proposed building is oriented towards Vinohradská třída. Due to the mutual communication between the museum buildings, the entrance is axially oriented to the National Museum building.

In the framework of humanization, SJM's newly designed pedestrian crossing connects the space next to the Federal Assembly building and the new Philharmonie's pre-space.

Architectural massing
The administrative part of the building is set aside from the main volume, to which all permanent expositions are devoted, due to different construction heights and a different construction system.
The volume intended for the Philharmonie staff is set to the edge of Vinohradská Street and has similar proportions as the opposite residential block. Together they create an imaginary gate to Vinohrady. This way Vinohradská street gets a solid beginning. Between the volumes of the administration and the concert halls is a designed passage from which you can enter the Philharmonie itself. There is also an entrance for Philharmonie staff and access to the adjacent alternative mini-gallery. The newly established pedestrian link will allow pedestrians to move smoothly from the historic center
to Riegrovy Sady.

The whole area above the yard on the Vinohrady side has a high potential, from here you can see not only Prague Castle but the whole Prague roof landscape from an unusual perspective. The project aims to create multifunctional, interesting premises in the spirit of the latest trends in cultural buildings. Live public relations, especially with children and youth are provided through playful, thematically varied educational, experiential and presentation programs created by and managed by specialized lecturers.

Interior
These principles were crucial in creating the interior of the Philharmonie.
The building tries to evoke unusual feelings in the visitor. At the entrance to the Philharmonie, they forget the worries of everyday life and bring their thoughts to exciting experiences waiting ahead.

The atrium of the Philharmonie is designed as a rhythm of a musical note in which life is created and the movement flows creating a pleasant acoustic atmosphere and bringing some dynamics into an otherwise modest space. An unconventional shape solution responds to the dynamism of the surrounding space formed by the movement of cars, trains.

OPERATING AND TECHNICAL SOLUTIONS

Access to the underground garage including supplies is provided from Legerova street. Visitors and services are separated. A freight elevator can be supplied to the depository, library, independent restaurant and gallery.
The entrance hall of the Philharmonie is connected to the premises of a gallery, library, gift shop, temporary exhibition, children's workshop, including facilities in the form of cloakrooms, toilets, etc. The restaurant/café with panoramic views is accessible by a long escalator.
The visitor ascends to the 7th floor, where the publicly accessible panorama is, buys a ticket behind the entrance, then falls on footbridges to the lower floor where the concert hall entrances are and checks in his coat at the cloakroom. The ramp ends in a gift shop adjacent to the lobby. The restaurant with views of the National Museum building operates independently as a gallery, which has a large glass area oriented to Vinohradská.
The building will be connected to the existing utilities. Heating will be provided by air conditioning, whose units are placed in the underground garage and on the administrative roof parts of the building.
The heat exchanger station, including other technical facilities, is located on the lowest floor.

MATERIAL AND CONSTRUCTION SOLUTIONS

The volumes have a solid smooth exterior. Specifically, it is white covered concrete, complemented by a structure bringing into large areas some detail.
The footbridges connecting the individual sections of the building are of reinforced concrete, the floors including the railing are made of concrete.
The temporary exhibition is divided into two zones, one is hidden by an opaque concrete jacket. The second, glazed part is finished with a terrace with the possibility of organizing openings and parties with views of the railway yard and Central Station. Part of the temporary exhibition can be seen from the street. The supporting structures are designed from monolithic reinforced concrete. The building is based on massive reinforced concrete walls extending the tunnel track by 90m. On them are placed reinforced concrete beams after 8 meters. Inside the layout is a compact core that helps to reinforce the building under static load. The administrative part of the building and the lowest technical floor, including underground garages, consist of an 8 x 8m column skeleton. The concert halls consist of monolithic reinforced concrete and are supplemented with steel columns and beams. Lifts in buildings are of the KONE Monospace type, which ensures the transport of a sufficient number of persons per minute.

FIRE SOLUTIONS

The building is accessible for emergency vehicles on a paved area. On the lower floor, there are several entrances to the terrain. On each floor is escape via escape stairs and evacuation lift (protected escape route type A). There is also an escape to the terrain from the underground parking space.

5.

Bibliography

XI.
Author’s statement

STATEMENT OF AUTHOR

Titled: .....

Written by: .....

Student number: .....

Supervised by: .....

Aware of the legal liability, I hereby declare this diploma thesis to have been written by myself independently and not to include any unlawfully acquired content. I also state that the submitted diploma thesis has never been subject to any procedures aimed at obtaining a professional title at any university. Additionally, I confirm that this version of the diploma thesis is identical with the attached electronic version.

....
(Date) (Author’s signature)

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Apply as appropriate