

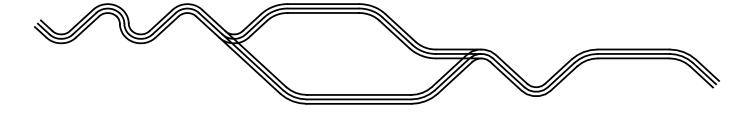
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introduction

# preface

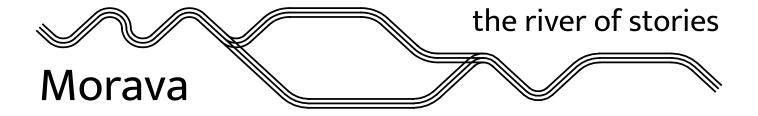


The water as an element attracts people since time immemorial.

- ...as a source of living
- ...gathering point for people and animals
- ...territory enabling different activities.

Not only the topic of revitalisation of a river but also complex approaches to water in landscape are going to be quite common these days. One of the most important reasons is the basic need of retaining the water for the longest period in the given area to assure the pleasant environment and biodiversity.

It left tales about itself in the countryside with its lazy movement. It has remained as a legend in the life of the town. Let's get carried away with its stories.



The water - the beginning of everything. This sentence goes exactly with the origin character of the town Uherské Hradiště.

During the first visit of Uherské Hradiště I felt a strong peculiarity of the place which I could not forget about. However, I had no idea that in the closeness of the historical center runs the Morava river such a spontaneous element, such an important component in the history and urban structure and such a continual belt with huge potential for use.

The river has a lot of stories to tell, but we need to listen to it first.

The goal of this diploma thesis is to find the most appropriate urban concept of forming the waterfront of the river in order to revive the area and integrate it into the town unit.

České vysoké učení technické v Praze, Fakulta architektury **2/ ZADÁNÍ diplomové práce** 

Mgr. program navazující

jméno a příjmení: Adéla Chmelová

datum narození: 25. 8. 1993

akademický rok / semestr: 2017/2018 obor: architektura a urbanismus ústav: Ústav krajinářské architektury vedoucí diplomové práce: Till Rehwaldt

téma diplomové práce: Revitalizace nábřeží

#### zadání diplomové práce:

1/ popis zadání projektu a očekávaného cíle řešení description of the project assignement and expected solution goals

Zadáním diplomové práce je revitalizace nábřeží řeky Moravy v Uherském Hradišti. Cílem je nalezení nejvhodnějšího městotvorného konceptu ztvárnění prostoru nábřeží řeky za účelem jeho oživení. Jedná se o pás na levém a částečně pravém břehu řeky v délce cca 1000 m.

The assignment of the diploma project is the revitalization of the embankment of the Morava river in Uherské Hradiště. The aim is to find the most appropriate urban concept of rendering the waterfront of the river in order to revive the area. It is a belt on the left and partly right riverbank, about 1000 m long.

2/ jasně a konkrétně specifikovaný stavební program clearly and specificly defined building program

Základním programem diplomové práce je revitalizace nábřeží řeky Moravy v Uherském Hradišti. Součástí programu je také nalezení konceptu začlenění řeky jako důstojné a organické součásti prostředí městského centra a památkové zóny. Urbanistický a respirační potenciál nábřeží řeky ani v části, která těsně přiléhá k centrální zóně - k městské památkové zóně a jejímu ochrannému pásmu, není využit. Je žádoucí v lokalitě podél nábřeží přověřit možnosti rekreace, sportování a aktivního trávení volného času, dále prověření vybavení prostoru prvky k zastavení a spočinutí, dalšími atraktivními či uměleckými prvky a v neposlední řadě mobiliářem.

The basic program of the diploma project is the revitalization of the embankment of the Morava river in Uherské Hradiště. The part of the program is also to find the concept of integrating the river as a dignified and organic component of the city center and town heritage zone. The urban and respiratory potential of the river embankment, even in a part that closely adjoins the central zone - to the town heritage zone and its protection zone, is not used. It is desired in the area along the waterfront to prove the possibilities of recreation, sports and active leisure activities, as well as possible equipping the area with elements for making a break or resting, other attractive or artistic elements and, last but not least, the street furniture.

3/ popis závěrečného výsledku, výstupy a měřítka zpracování description of final result, outputs and processing scales

Výsledkem diplomové práce bude ověřovací studie lokality dle výše uvedeného rámcového stavebního programu.

Předběžný rozsah diplomové práce:

- 1) textová část, která bude obsahovat
  - průvodní text
  - analytickou část (se schématy)

2) grafická část, jež bude představovat

- výkresová část komplexní urbanistický plán 1:1000, krajinářský plán 1:1000, detailní řešení 2 lokalit dle vlastního výběru v měřítku 1:250 - půdorysy, typické řezy, rozvinuté pohledy, osazovací plány
- upřesňující schémata, náčrty, představa o mobiliáři
- vizualizace návrhu, zákresy do fotografií

The result of the thesis will be the verification study of the site according to the frame building program above.

Preliminary extent of the diploma project:

- 1) the text part that will contain
- accompanying text
- analytical part (with diagrams)
- 2) the graphical part that it will represent
- drawing plans complex urban plan 1: 1000, landscaping plan 1: 1000, detailed solution of 2 locations of own choice in scale 1: 250 floor plans, typical sections, developed views, planting plans
- specifying schemes, sketches, idea of the street furniture
- design visualization, photograph

4/ seznam dalších dohodnutých částí projektu (model)

Fyzický model v měřítku 1:1000.

Physical model in scale 1:1000.

Datum a podpis studenta 1.3, 2018 adala aluma lana

Datum a podpis vedoucího DP 11.03, 2018

Datum a podpis děkana FA ČVUT

registrováno studijním oddělením dne



Praha 25.5. 2018 Adéla Chmelová

# ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

## **FAKULTA ARCHITEKTURY**

**AUTOR, DIPLOMANT: Bc Adéla Chmelová** 

AR 2017/2018, LS

NÁZEV DIPLOMOVÉ PRÁCE:

(ČJ) REVITALIAZACE NÁBŘEŽÍ ŘEKY MORAVY V UHERSKÉM HRADIŠTI

(AJ) REVITALISATION OF THE MORAVA RIVERBANK IN UHERSKÉ HRADIŠTĚ

#### JAZYK PRÁCE:

Vedoucí práce:	Dipl. Ing. Till Rehwaldt Ústav: 15120
Oponent práce:	Ing arch. Igor Kovačević Ph. D.
<b>Klíčová slova</b> (česká):	nábřeží, řeka
<b>Anotace</b> (česká):	Zadáním diplomové práce byla revitalizace nábřeží řeky Moravy v Uherském Hradišti. Cílem bylo nalezení nejvhodnějšího městotvorného konceptu ztvárnění prostoru nábřeží řeky za účelem jeho oživení.  Jedná se o pás na levém a částečně pravém břehu řeky v délce cca 1000 m. Součástí programu bylo také nalezení konceptu začlenění řeky jako důstojné a organické součásti prostředí městského centra a památkové zóny. Součástí práce bylo také prověření možnosti rekreace, sportování a aktivního trávení volného času, dále prověření vybavení prostoru prvky k zastavení a spočinutí, dalšími atraktivními či uměleckými prvky a v neposlední řadě mobiliářem.
Anotace (anglická):	The assignment of the diploma project is the revitalisation of the embankment of the Morava river in Uherské Hradiště. The aim was to find the most appropriate urban concept of rendering the waterfront of the river in order to revive the area. It is a belt on the left and partly right riverbank, about 1000 m long. The part of the program was also to find the concept of integrating the river as a dignified and organic component of the city center and town heritage zone. The integral part of the project was to prove the possibilities of recreation, sports and active leisure activities, as well as possible equipping the area with elements for making a break or resting, other attractive or artistic elements and, last but not least, the street furniture.

## Prohlášení autora

Prohlašuji, že jsem předloženou diplomovou práci vypracoval samostatně a že jsem uvedl veškeré použité informační zdroje v souladu s "Metodickým pokynem o etické přípravě vysokoškolských závěrečných prací."

V Praze dne 25. 5. 2018

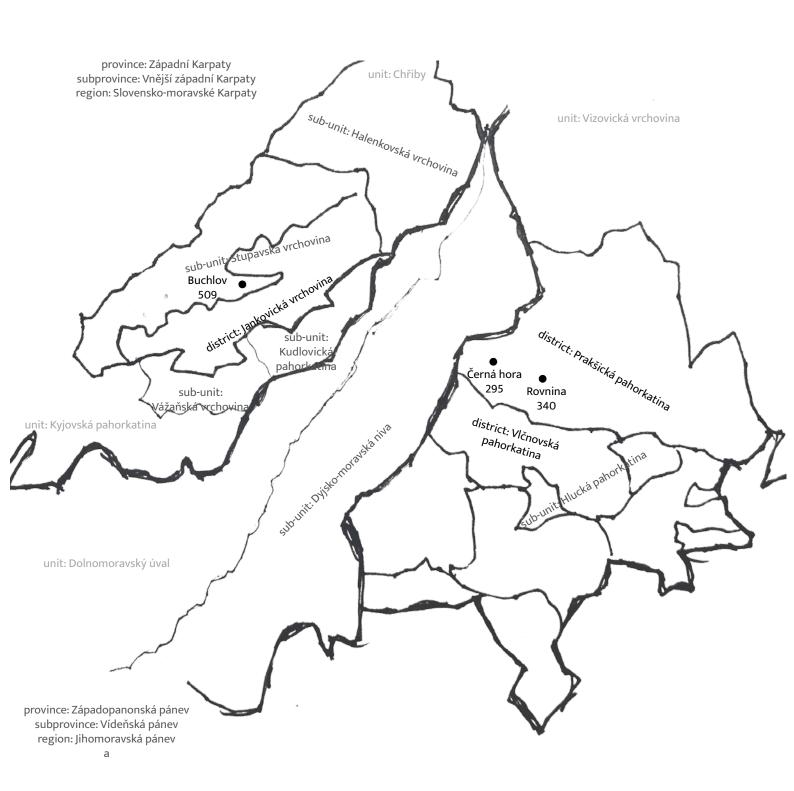
podpis autora-diplomanta

analytical part



## landscape context

The town extends in the northern part of the Dolnomoravský úval, flat area formed by a depression in the western Carpathian mountains. On the east touches the area the Hlucká hilly area, part of the Vizovice hills. Above the river rises the hill Černá hora, Rochus and Rovnina. On the west runs to the town the Stupavská hilly area, part of the Chřiby mountains.



According to the potential vegetation map the area belongs to elm ash tree territory (jilmová jasenina) and primrose oak hornbeam territory (prvosenková dubohabřina) represented by these tree types.

elm ash tree territory (jilmová jasenina)



## primrose oak hornbeam territory (prvosenková dubohabřina)





Campanula persicifolia





rock type map

1:100 000 the bedrock is rich to clay, sand and gravel that is plentifully extracted

#### soil type map

1:100 000 according to the soil type taxonomy belongs the area to fertile territories

Rock subsoil is mostly created by sand, gravel and clay around the river field, from the east is represented by sandstone and claystone. Streams of the river also brought sediments from which arose soil type - fluvizem modální and glejová according to czech soil taxonomy. On the terraces above the river mostly brown earth soil types and in a lesser extent black earth soil types are spread. Those fertile soils also predestined plentifully use of the nearby area for agriculture. However with this use also disappeared diversity in the landscape.

According to Quitt systematics of climate regions belongs the area to the warm region T2 and T4. That means that summers are long, warm and dry. The transition seasons spring and autumn are short and also warm, as well as winter. The warmest month is july with average temperature of 18 - 19°C, on the other hand the coolest one january has average temperature about -2 - -3°C.



the Morava river flow

1:100 000

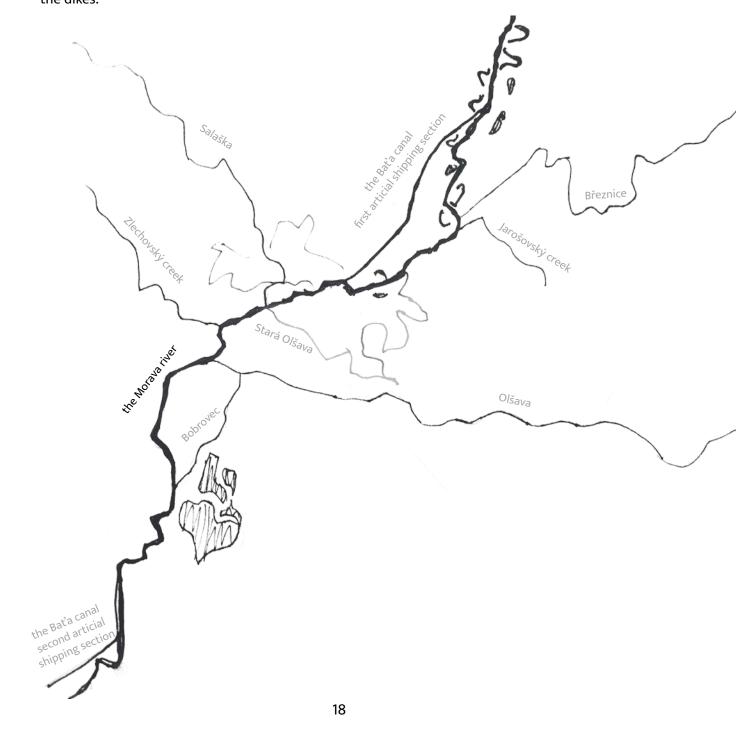
map on the left showing the original Morava river flow, on the right map showing the current state

Through the town flows the Morava river, which gives a unique character with a flat river field to the whole area. It creates many meanderes showing its liveliness and movement. Earlier very common, however, in the present days disappearing with the regulations in the blind stream branches. The historical course of the riverbed is still documented in these blind streams branches. Maybe bigger changes were carried out on the Olšava river which split in two branches in the area of Sady. Nowadays not existing northern branch of the Olšava river flowed in the northwest direction. Somewhere near the Smetanovy sady park was flowing into Olšava a branch of the Morava river called Morávka. This branch is still remained in the street name Na Morávce.

It was intervened from the early beginnings of the settlement of Uherské Hradiště to the Morava river catchment area by cutting down the trees and transforming the areas into fertile fields. According to this were in the area constituted conditions for erosion and floods. The regulations for the navigation purposes were considered since the 17th century because of the idea of the Danube-Oder canal. First local regulation works started on the stretch of the river between towns Kroměříž and Kvasice in the beginning of the 19th century. However complex regulations

started during the beginning of the 20th century after the big floods at the end of the 19th century. The part between Jarošov and Uherské Hradiště called "the town track" was also regulated in this period. The regulations had shortened the river length by 40%. The biggest advantage of those regulations is a positive influence on the restriction of floods. On the other hand also disappeared the diversity as one of the feature that a river offers. Another way for navigating the Morava river brought Tomáš Baťa with his idea of canal joining Otrokovice and Rohatec in order to get lignit from mines to his factories in Zlín.

After big floods in 1997 other regulations were projected in the form of anti-flooding wall and rising up the dikes.



#### town context

## urban development

The area with the settlement from the stone ages belongs to the one of the oldest inhabited areas of the Czech lands. The area lied on the important merchant roads - amber road Krakow-Wien and the Hungary road from the west. The island fortress as a core of today's urban structure was founded in the 8th century. However, the town was established later on the 15th October 1257 by the king Přemysl Otakar II on the then border between the Czech lands and Hungary at the place of the former settlement. The original name was Nový Veligrad as a reaction on the neighbouring settlement Staré město (Veligrad), since the 14th century is the town named Hradiště after its function as a fortress on Hungarian borders.

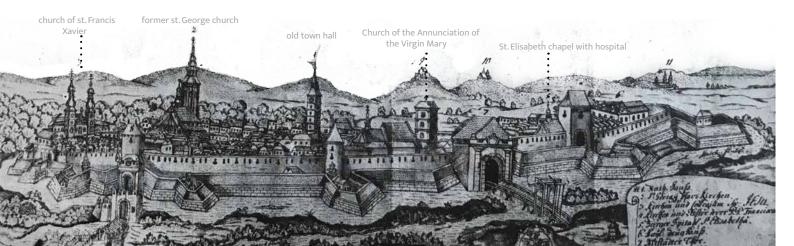


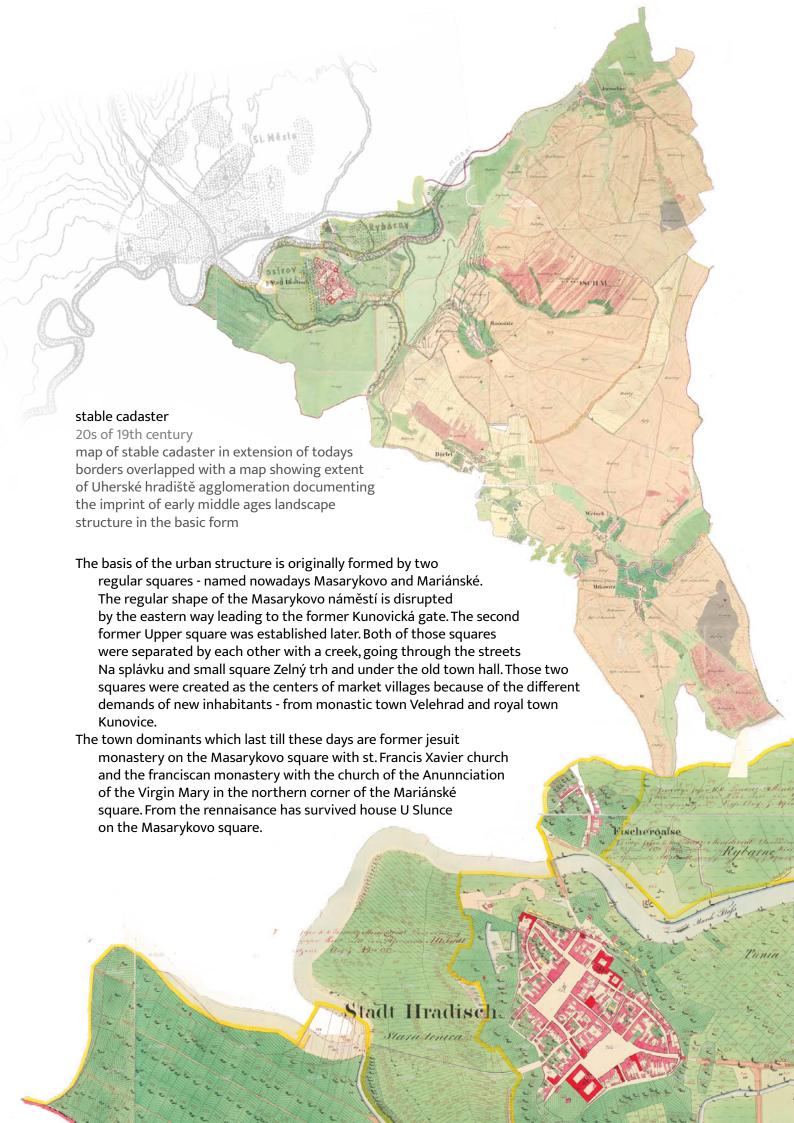
historical Müller map, 1716 map showing the former island of st. George named after a little chapel standing on the island

#### view of the city,

20s of 18th century

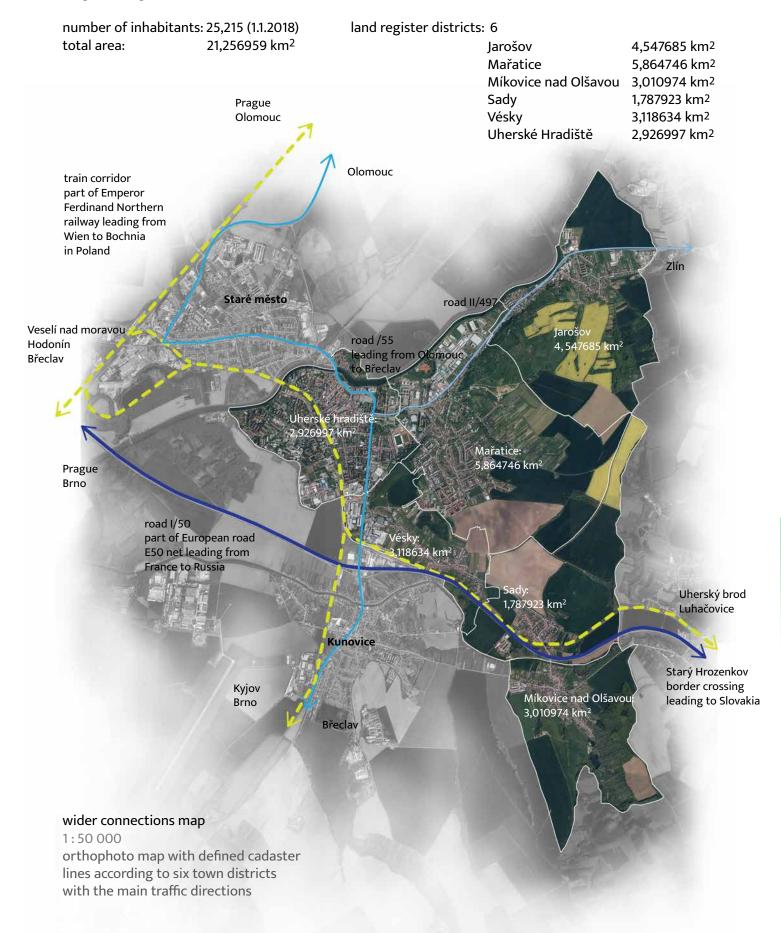
panorama showing the northern fortress walls surrounded by the water ditch and one of the main gates - Staroměstská - leading to Staré město and Kunovská. There was one more gate Královská, later Shořelá behind the jesuit monastery, however, burnt down after huge fire in 1609, still in existence. To the old middle ages the settlement was rebuilt into a bastion fortress during the 17th and 18th century.





- The town suburbs had developed from 19th century after abolition of the walls. At the end of the 19th century was added the third square Palackého to the urban structure . The assumption for the town development was the regulation of the watercourses. At this time were founded buildings like the Regional court (Justiční palác) or the Czech grammar school (České gymnázium).
- Since the 50s of the 20th century new residential complexes Mojmír I, Mojmír II, Pod svahy, Tenice and Maršála Malinovského started to grow.
- In 1937 realized the czech architect Bohuslav Fuchs a building of the town spa, in 1942 according to his design was rebuilt the Slovácké museum. He was also dealing with the regulation plan in 1941 connecting also Staré město and Kunovice.
- In 1967 the local cinema Hvězda was built which becomes the center of the Uherské hradiště film festival. From the 80s comes the bus station.

The town Uherské hradiště is one of the important historical towns of the southeast of Moravia. According to the land register constitutes the town itself 7 areas - Uherské hradiště itself, Mařatice, Jarošov, Sady, Vésky and Míkovice nad Olšavou. Nowadays creates Uherské Hradiště agglomeration with neighbouring towns Staré město and Kunovice.





# extent of study

#### connections

The solved area is a strip along the both riverbanks of the Morava river.

It has got a potential of the continual recreational area of the town in the immediate proximity of the urban heritage area. The strip is on the left riverbank lined with the Morava water catchment area, the new residential complex, the Rowing club Moravia, the sport club areal of T. J. Sokol with the Slovácké theatre, the Grammar school areal with sport facilities and the Police directorate. This area is also crossed with many bicycle paths and footpaths.

The entrance with the biggest potential is leading from the Mariánské square through the passage of the Malá scéna of the Slovácké theatre. Other entrances are from the housing estate area on the west, from the Moravní square with the connection to the pedestrian bridge, from the Moravní square to the harbour, entrance in the direction of the Velehradská avenue to the stairs leading to the lower level of the promenade and the one between the Grammar school and the Police directorate.

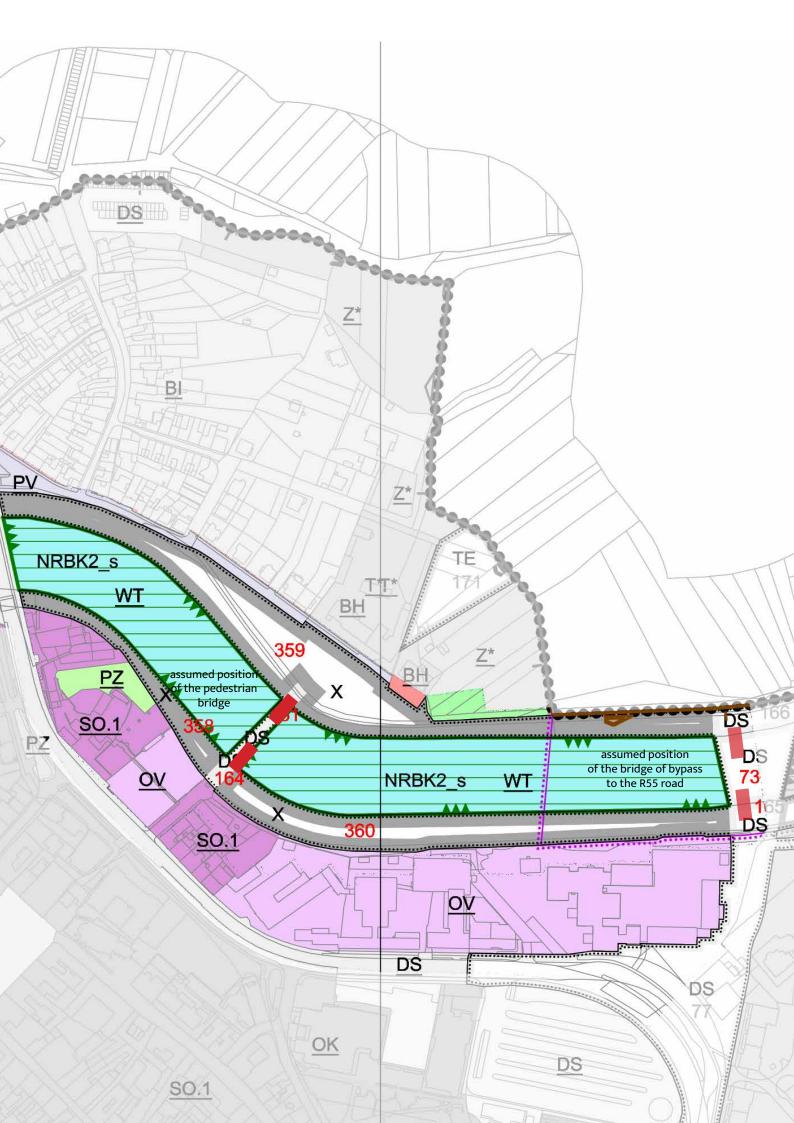
connection map of the extent of study 1:5 000 orthophoto map with places (coloured) and movement among them in the solved area.





# extent of study zoning plan According to the zoning plan the area along the river belongs to specific areas enclosed with areas of public facilities (light purple), mixed areas of housing in the cetral zone (dark purple), commercial public facilities (orange), individual housing (light pink) and mass housing (dark pink). There are two areas of greenery in the whole area - the Moravní square and the green space on the former fortification which can be considered to involve into the net of green infrastructure. There are also some intentions already included in the zoning plan, namely the pedestrian bridge leading from the theater and bridge as a redirection of traffic from the Velehradská avenue and Maršál Malinovský boulevard. This redirection could help to make from the nowadays two divided parts the town and the riverbank - into one connected unit. OK OK BH SO.2 zoning plan of the extent of study OV 1:3 000 zoning plan with the most important intentions (marked

with red) in the area

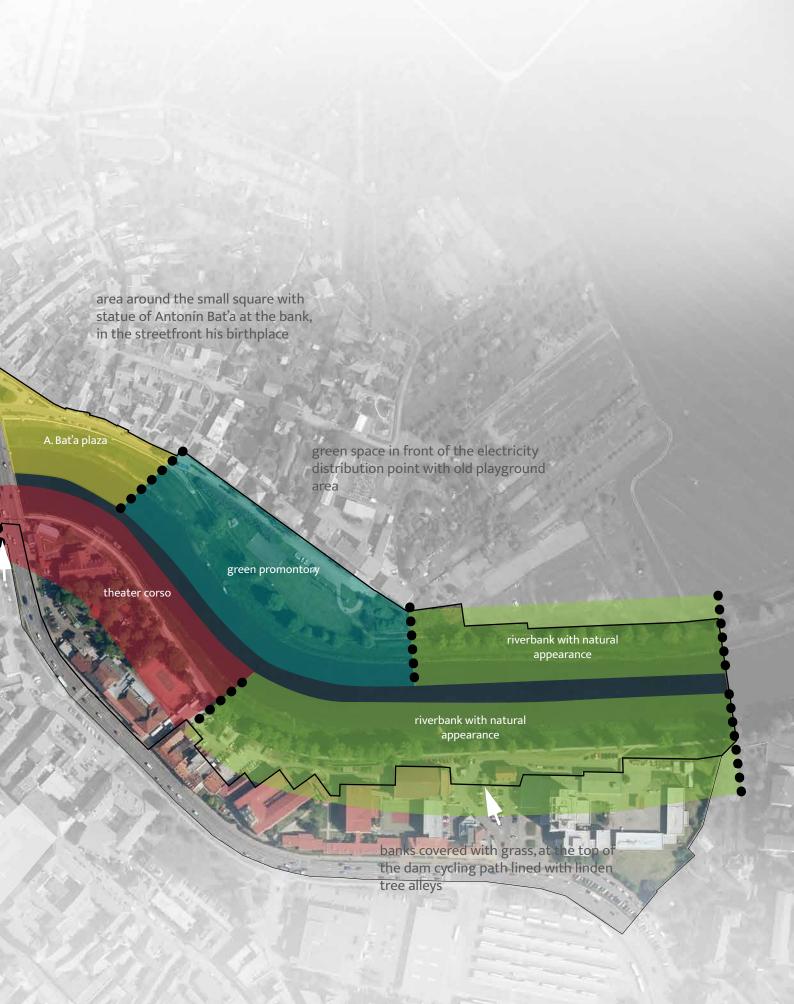


# extent of study

## characters

The whole solved area can be divided into parts with different characters according to the surrounding actions and functions.









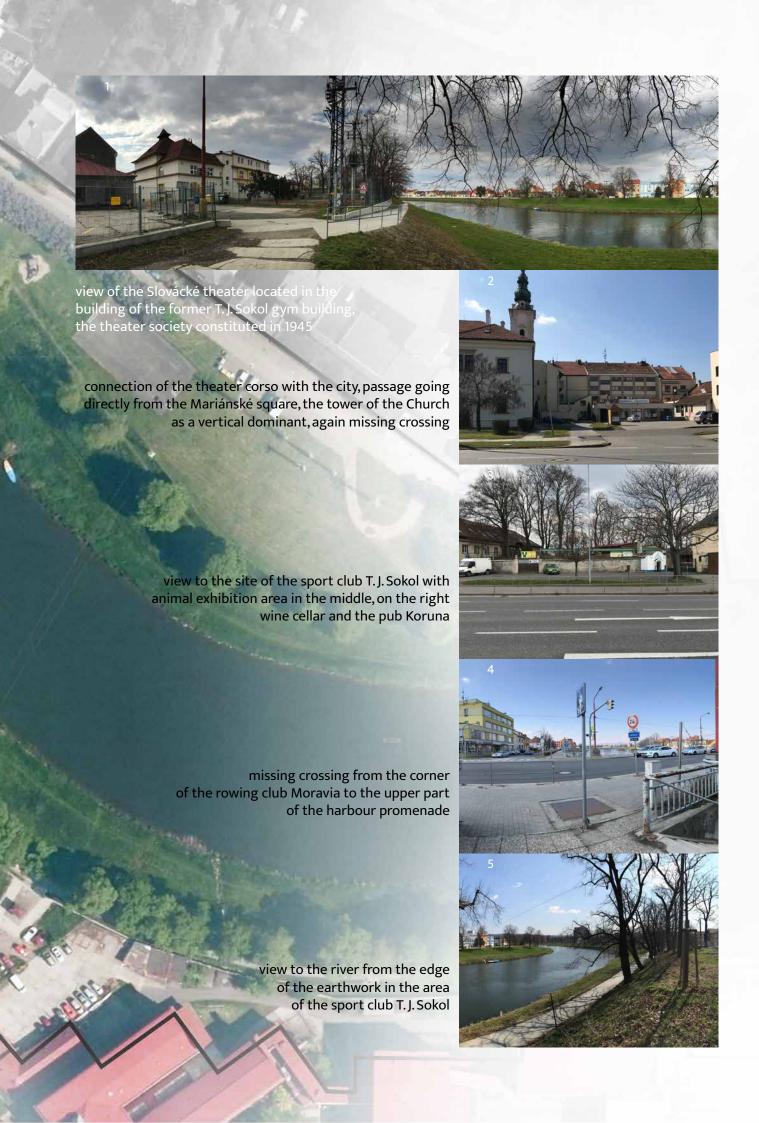




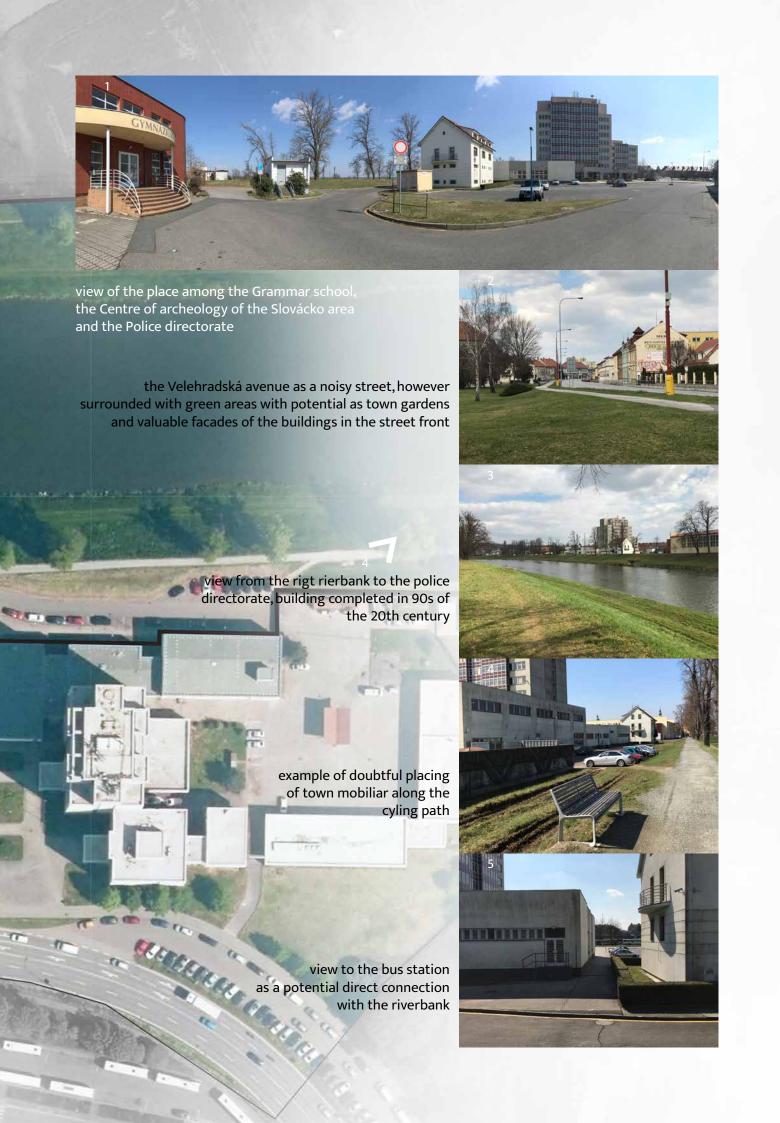












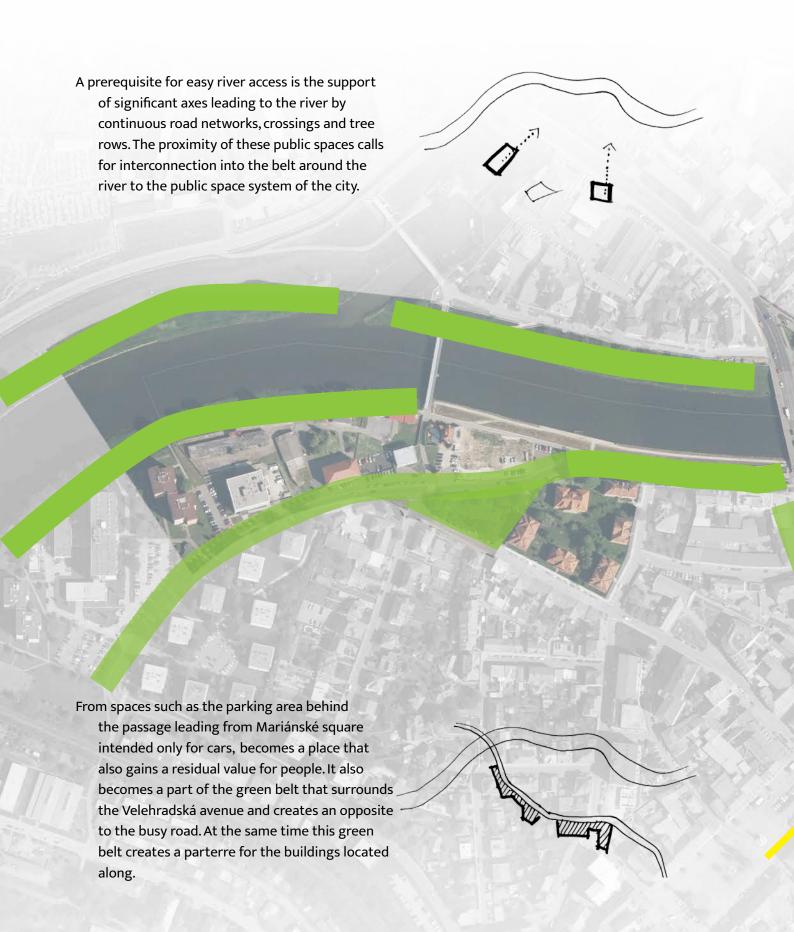
# extent of study problems and values views to the churches in Staré město and possible path along to the Buchlov castle the water level linden tree row sing crossing connected a connection to harbour promenade one-purpose parking paved area map of the extent of study 1:3 000 map of the extent of study representing problem and valuable spaces or elements

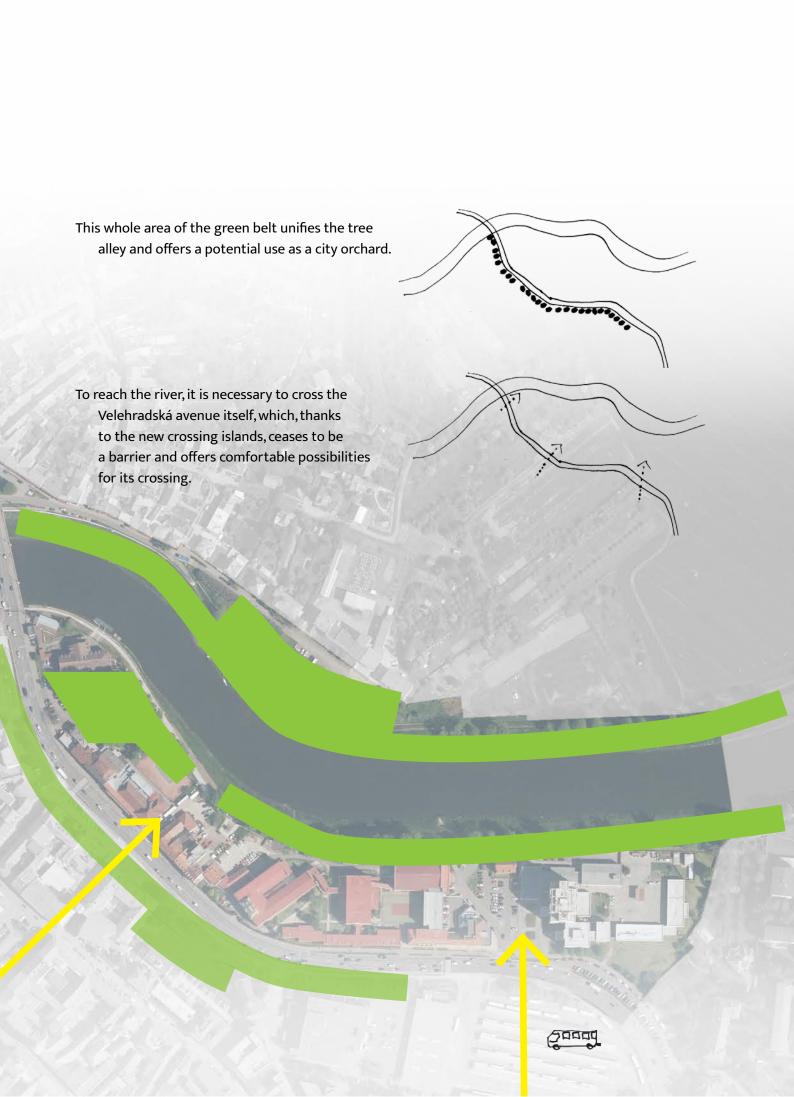


proposal part

#### concept

#### urban connections

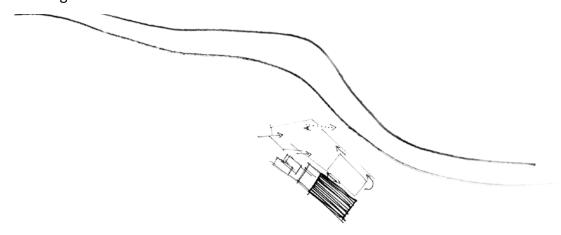




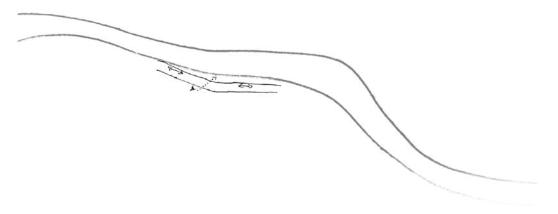
## concept

#### stages

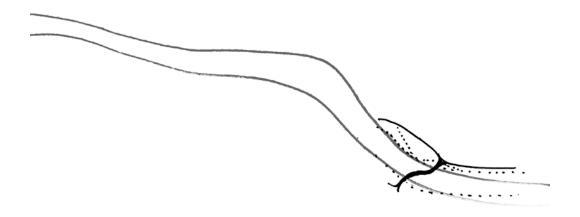
The key for creating an attractive riverbank is to adjust the area around the theater, as the focal point with the greatest concentration of users.



After that the construction of a pedestrian and bicycle bridge and its integration into the route network, what creates a recreational path along the shore..



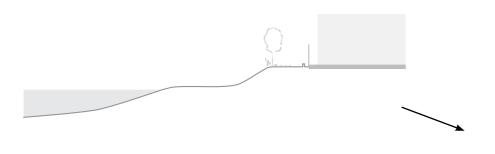
Another node is the remodeling of a harbour in the town promenade with a further use for recreational water entertainment.

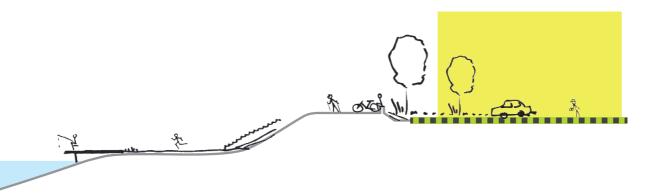


The new accesses to the dike and their surroundings take a residential function and bring an aesthetics to the entire riverbank.

Primarily paved parking areas become an area involved with vegetation and a softened surface into a green belt around the river.

The linden tree alley is completed with new plantation of the same species.







#### visualisation

picture showing the meandering creek as a way (although in small scale) to retent the water in the area and attract users with the direct contact with the water







## the design manual

#### vegetation

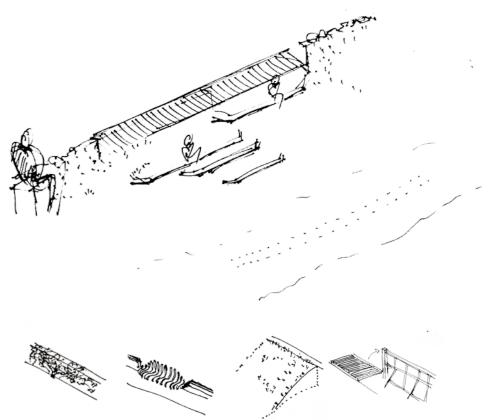
For keeping the original character of the area, it is recommended to use species naturally being occured in the area - deciduous species, according to the potential vegetation map with their natural habitus. The approach is also advantageous because of the ensuring the spectrum of species. During replacing the plantation is easier to ensure the species naturally occurring in the area.

#### elements

It is necessary to think about the elements that are being placed along the river not as the elements only for one purpose but to join several functions into one element.

## examples of anti-flood walls

On these examples such as use of antiflood wall could be demonstrated the approches to those elements. Basically could it be used as an edge for sitting, it could be integrated in terrain or it is possible to think about those elements as movable parts.



#### surfaces

Especially by the surfaces is important to pay attention to the quality of realization.

50

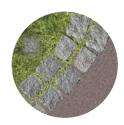
#### granite

- slabs for the harbour promenade design, also suitable for other significant places
- cubes dissolving in grass for the parking zone areas
- cubes as an edge between materials
- cubes as a boudary









poured asphalt in different shades and structures

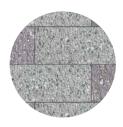






#### concrete

- as a paving of common streets with different structures and shades, the grid suitable with the surroundings
- for prefabricated elements





pine wood for the piers and wooden elements





#### visualisation

perspective showing another approach to the shore with its modelling and refilling with movable objects - the floating islands movable along the shore according to the users' needs, object can change its position also according to the water level state

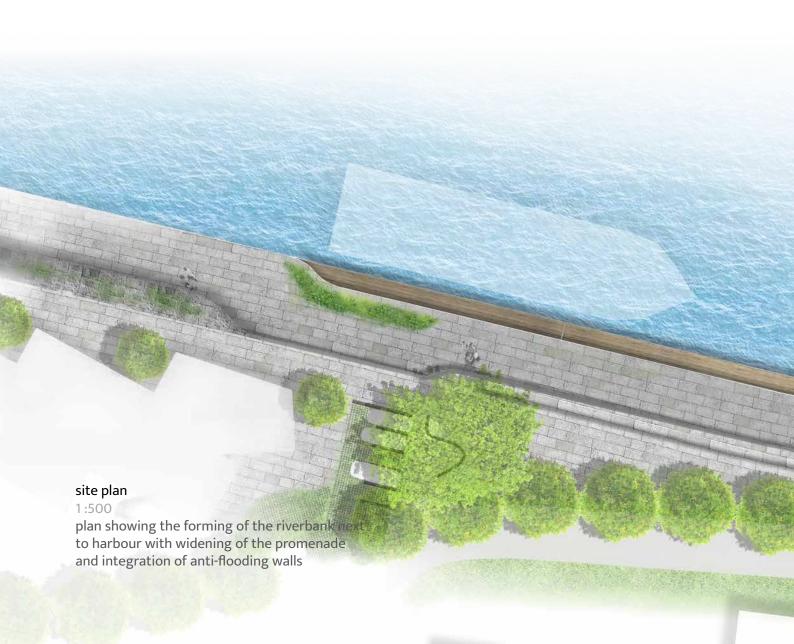


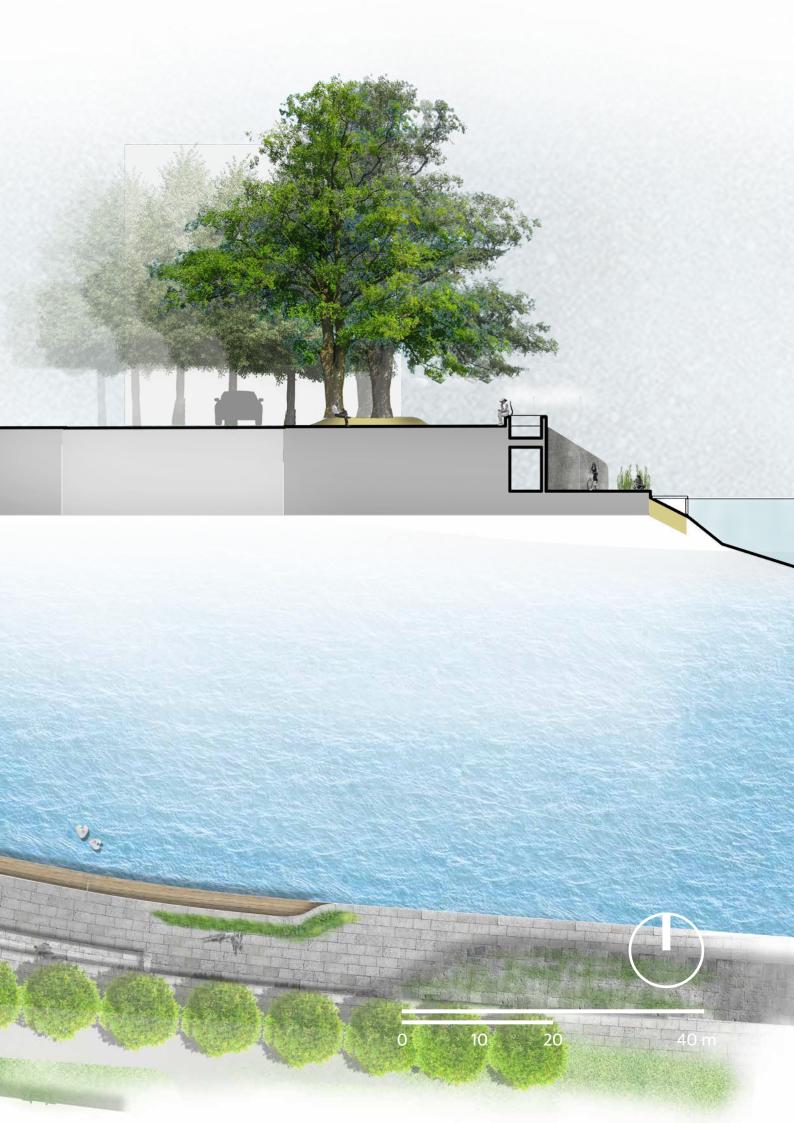
### the harbour promenade

The strip with the harbour is intersected with tourist and cycling paths. At the same time, the area is used as a waiting and observation point for boats.

Insufficient width of the riverbank has been extended to avoid future collisions of all potential users. For these purposes, entrances were also reduced by defining one ramp entry, also suitable for people with reduced mobility. The space under the ramp can be used for toilets or seasonal pedal boats storage.

The area above the harbour is suitably adapted as a pre-space with character evoking port atmosphere. The anti-flood protection wall is used as a surface for placing sitting elements.



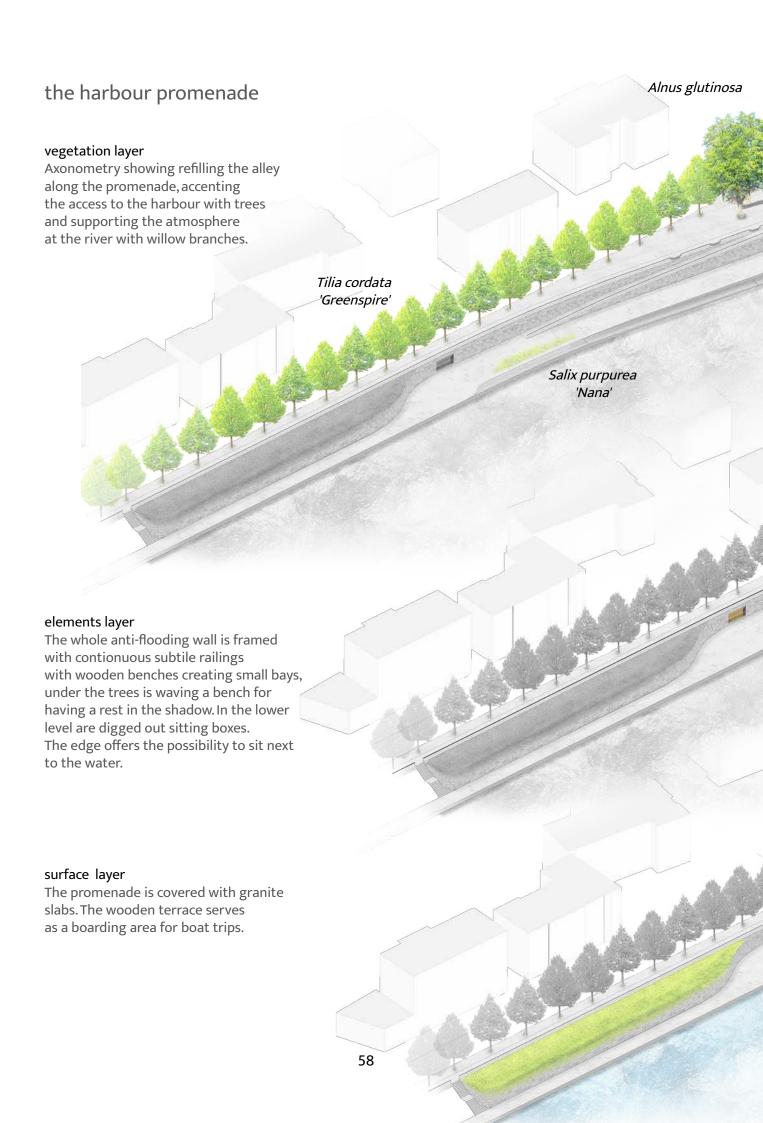


## the harbour promenade



#### visualisation view from the harbour promenade towards the Moravní bridge







## the harbour promenade

material and elements detail

#### harbour pre-space

covered with granite slabs pavement
 green parking area detached
 from the paved surface of the promenade
 with granite kerbs

#### wavy bench under alder trees

- bench made of pine wood lamelles waving around the trees
- alder trees roots covered with steel grate against trampeling down in the same level as the surface of the pavement

#### sitting on the anti-flood wall

- the one-purpose anti-flood wall changed into sitting edge with benches
- slope going to the anti-flood wall that it is not visible from the opposite side



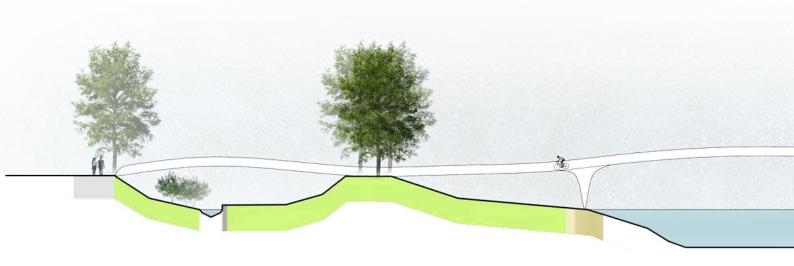
The area around the theater has a great potential. The main axis from Mariánské square passes this part and connects to the pedestrian walkway. So far, the uniquely used playground area is changing due to the cultural needs of the city. The sitting area of stairs is extended around this area. Artificially rendered staircases also descend to the river, suggesting passers-by stories that may take place in the neighbourhood.

The adjoining areas of the parking area treated with loose granite cube with grass growing around that underline the recreational significance of the place.

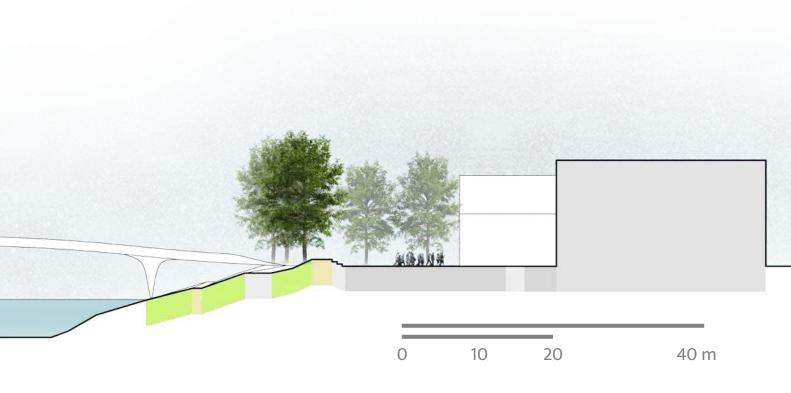
The volume of the earthwork is adjusted to a contiguous area, of which is designed a park inspired by the waves of the river. The vistas to its flow are created on the highest places.













#### vegetation layer

On the former earthwork are left the original well-grown trees supplemented with shrubs like *Cornus sanguinea* and *Euonymus alatus* which bring red colour in autumn months. This change is reminding the seasonal rhytm of the river.

Euonymus alatus

Cornus sanguinea

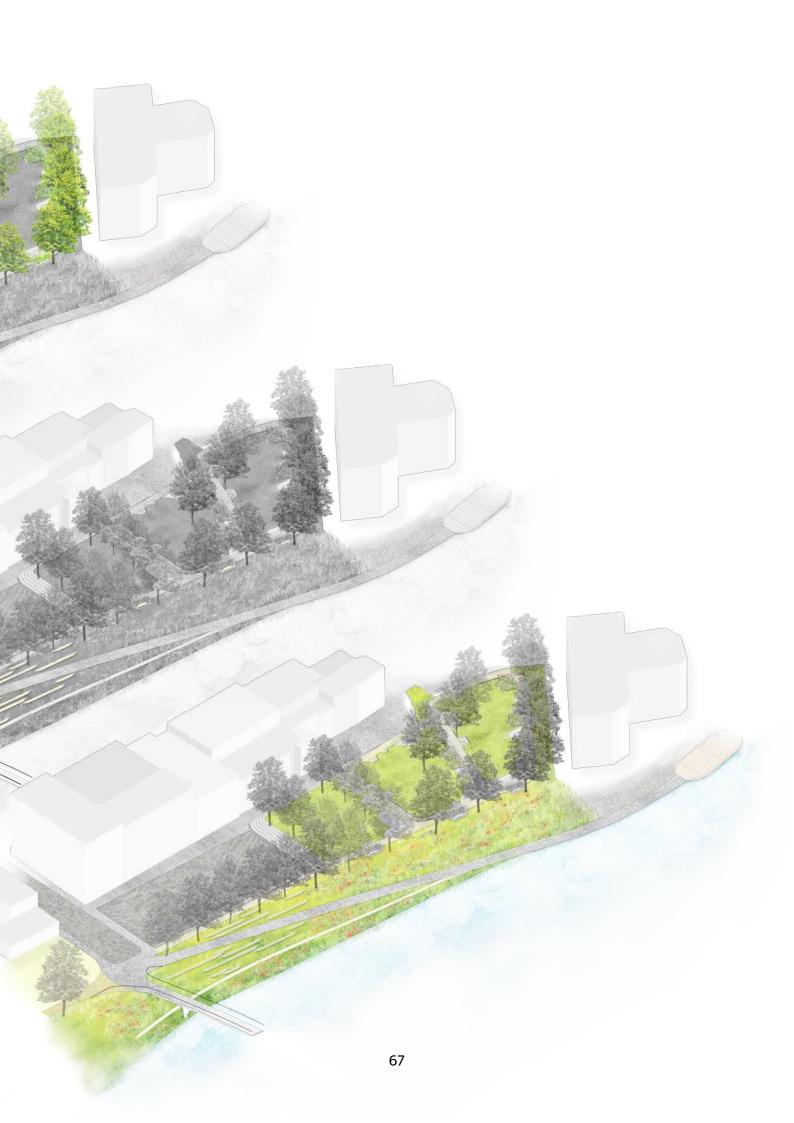
Tilia cordata

#### elements layer

The riverbank at the theatre has a potential as a view point to the Rochus hill with chapel. Because of that are created on the edge detached spaces, furnished with benches. To the river are running steps for sitting.

#### surface layer

The surface of the corso is mostly formed with poured asphalt in grey shade resembling sand paths with the structure. The paths in the parks are covered with decomposed sand. The same material lies on the cycling path.



#### material and elements detail

#### sitting steps

- sitting steps as an auditorium for occasional floating summer cinema sunken in the terrain made of concrete
- the meadow on the slope is covered with flower meadow mix of Papaver rhoeas, Centaurea cyranus, Leucanthemum Vulgare, Ammi majus, Salvia horminum

#### gradual ramp

- ramp covered with gussasphalt with texture reminding the stabilized gravel path lined with granite cube paving from the both sides
  - sitting stairs constituting tribune for watching performances made of concrete going into the ramp

#### green parking edge

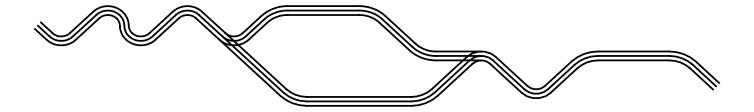
- granite cube paving with gaps coresponding with its dimensions in grass constituting permeable surface, the edge is also formed with granite cubes wider on the side with the cycling path
- the cycling path covered with stabilized gravel dilated from the gussasphalt with steel strip







## conclusion



During the work on this diploma thesis, I realized that we read the stories of the rivers not exactly and brushed them from their richness with tough interventions and forgot about the natural personality. There is a need for listening to the temperament river stories. I also realize that the issue is very complex and suitable for deeper research. However, it is an opportunity to study this topic further in the context of the whole landscape.

First of all, I would like to thank the supervisor of the diploma thesis Dipl. Ing. Till Rehwaldt for his guidance, great support and kind advice throughout the whole work. I also would like to thank Ing. Vladimír Sitta for helpfully consultations and reactions. Other thanks go to Ing. Josef Filip Ph.D. for the consultations of the traffic solution and other consultants for advices.

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