

# BRIDGE UNDERCROFT IN BRNO

ATELIER SITTA - CHMELOVÁ  
FA CTU IN PRAGUE  
WINTER TERM 2021

## MICHAL PIETOR



Studying architecture and urbanism. Already in the last year of a master degree. I am from Bratislava, Slovakia and I am 23 years old. My main focus is on larger projects with dynamic and artistic concepts mainly used for living. My favourite topic of architecture is human living and the way we behave and exist. This project I took as something of a smaller scale and somehow different. In spare time I play the piano, paint and sometimes write poetry or create my own graphics. My motto - Either you are an artist or you are not.

Type of studio - ATVZ

## ABOUT THE AUTHOR

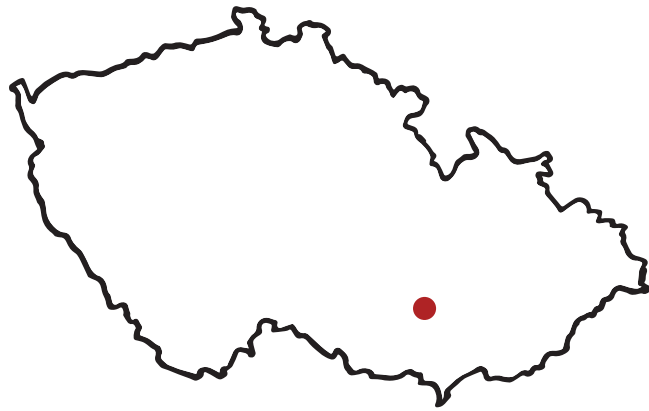
# BRNO MAIN STATION BY BENTHEM CROUWEL AND WEST 8

*unsolved and missing part of the winning project*



## INTRODUCTION

LOCATION: BRNO, CZECH REPUBLIC

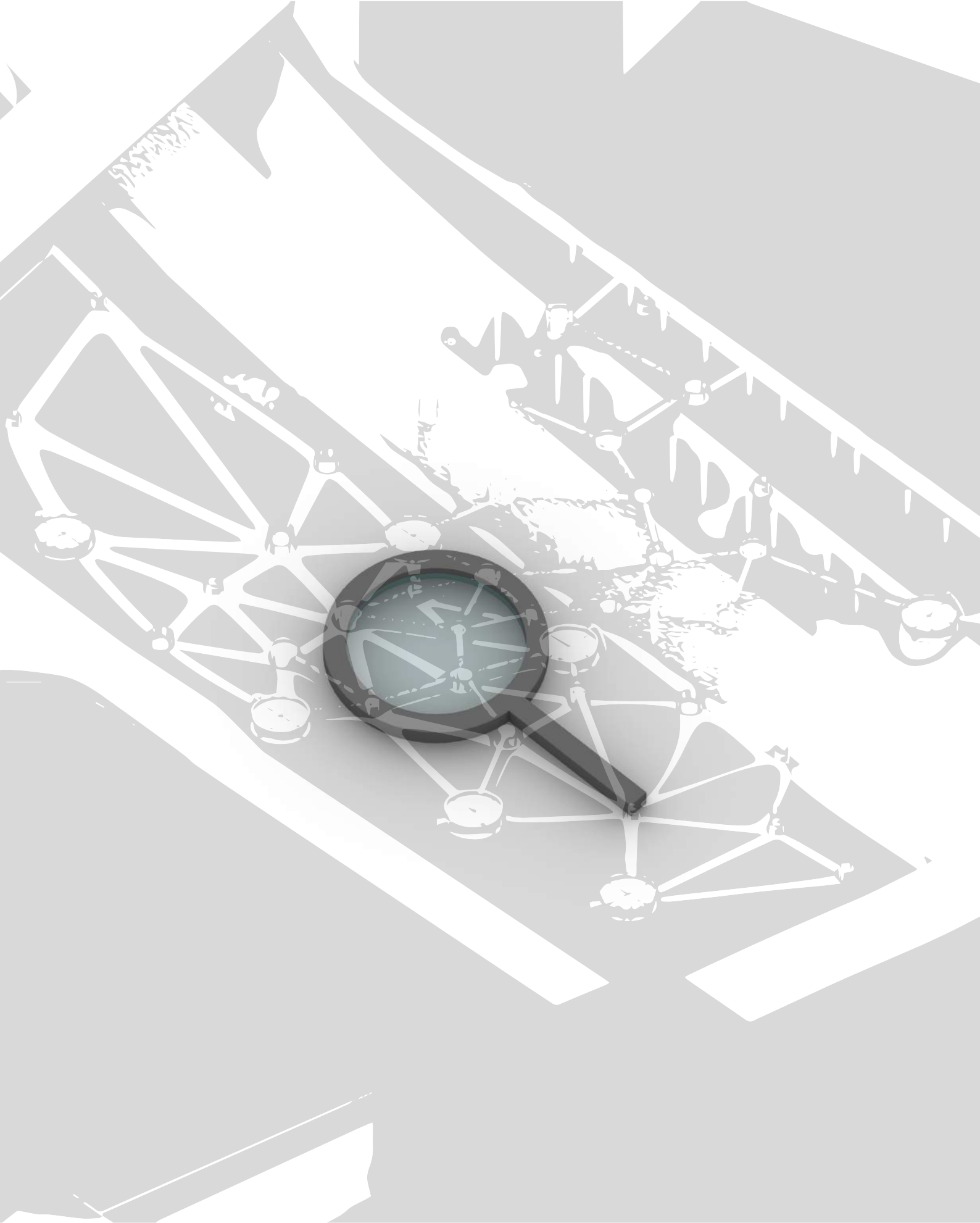


The assignment tries to solve the problematic area near the newly planned train station of Brno, which design was a topic of international architecture competition. The winning studio Benthem Crouwel with studio West 8 did not count with nor design the huge space, which will be created under the railway bridge as a spatial leftover. Huge junk space decrease the overall value of such a precious space of a coastal area of river Svatka, Now it is time to fill this hole and make a new future and purpose for this place and to motivate people to visit this place after the train station will be built.



CURRENT SITE PLAN  
1:5000





**ANALYSIS**

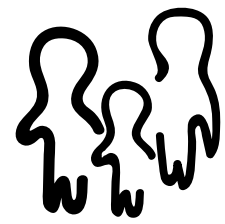
Such a vegetation cannot be well-planted in those conditions !



Dodging the problematic area on the left coast



This is not how the sunlight conditions will look like !



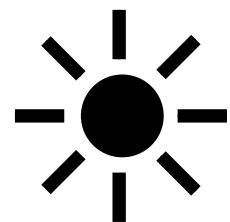
Motivate people  
to visit such a place



Highlight the river  
by enabling pedestrians  
to cross it by foot



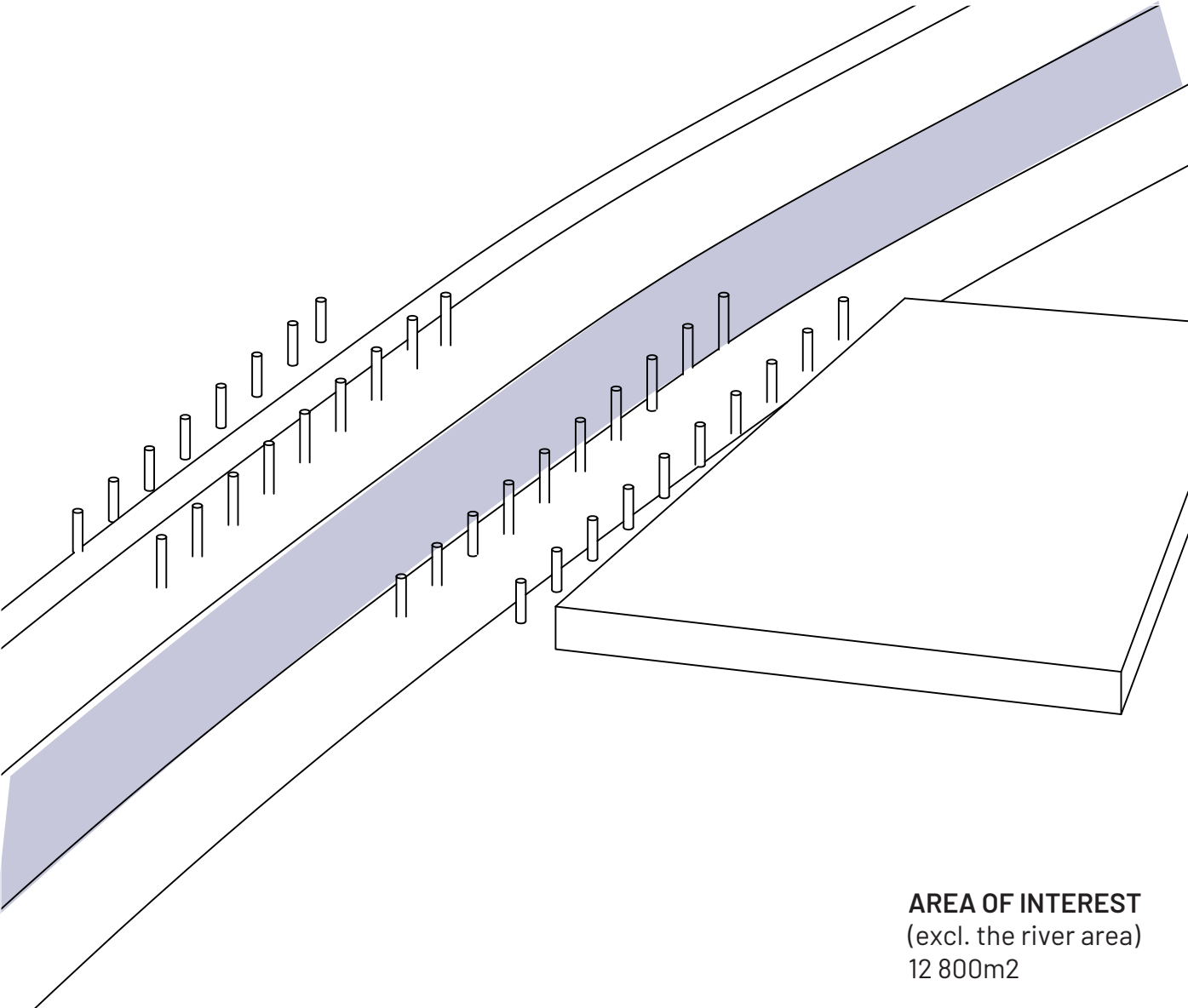
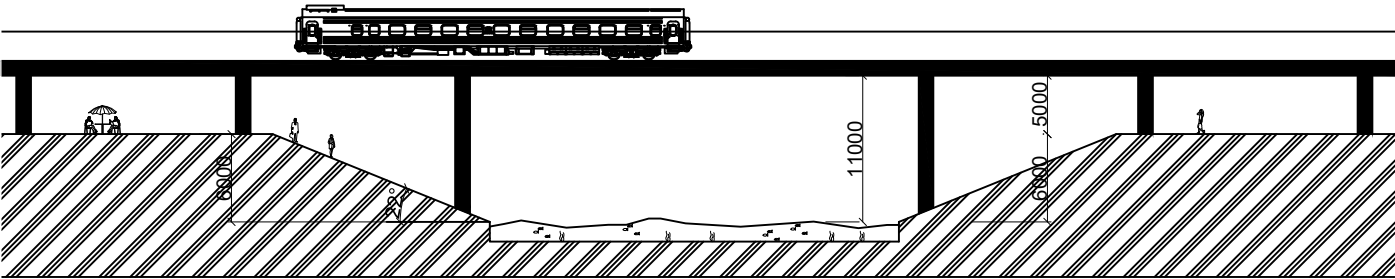
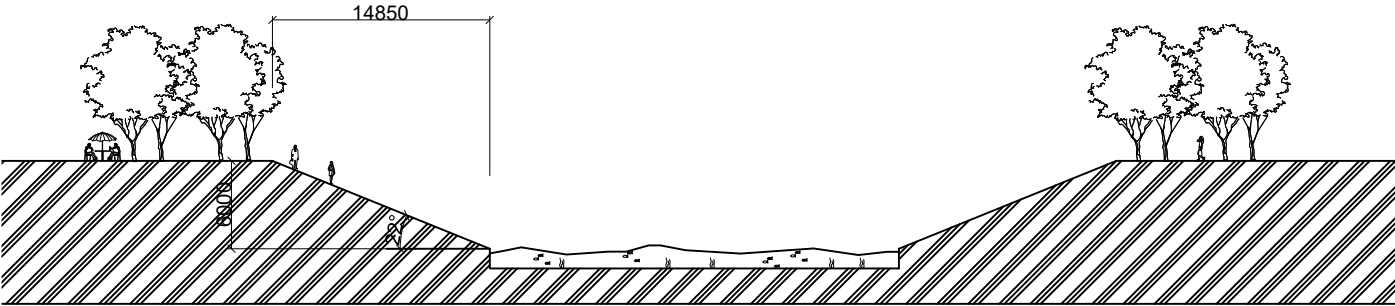
Problem with  
growing of plants  
under the bridge



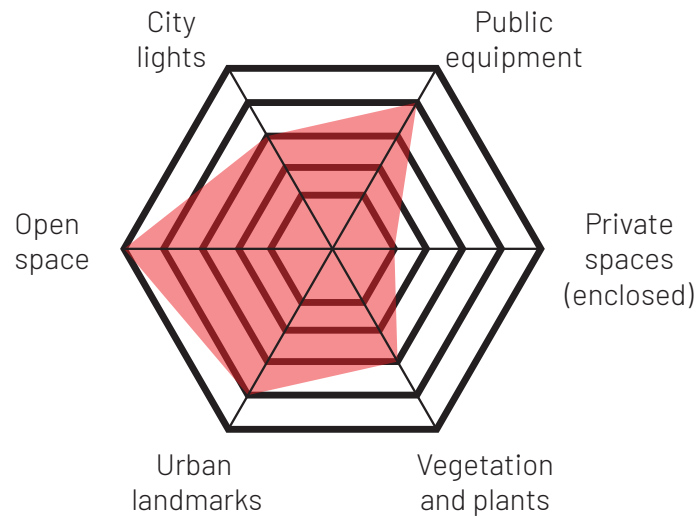
Insufficient amount  
of sunlight

SCHEMATIC SECTION OF THE RIVER

Dimensions and spatial aspects, in which the project is situated



## GRAPH OF SIGNIFICANCY OF THE SPATIAL ASPECTS UNDER THE BRIDGE



## REFERENCES



Dutch design week  
Space under bridge in Eindhoven 2012



Underpass Park - Toronto, CAN (2012)  
Phillips Farevaag Smallerberg



The second hand book market under Av Fuerzas Armadas  
Caracas, Venezuela



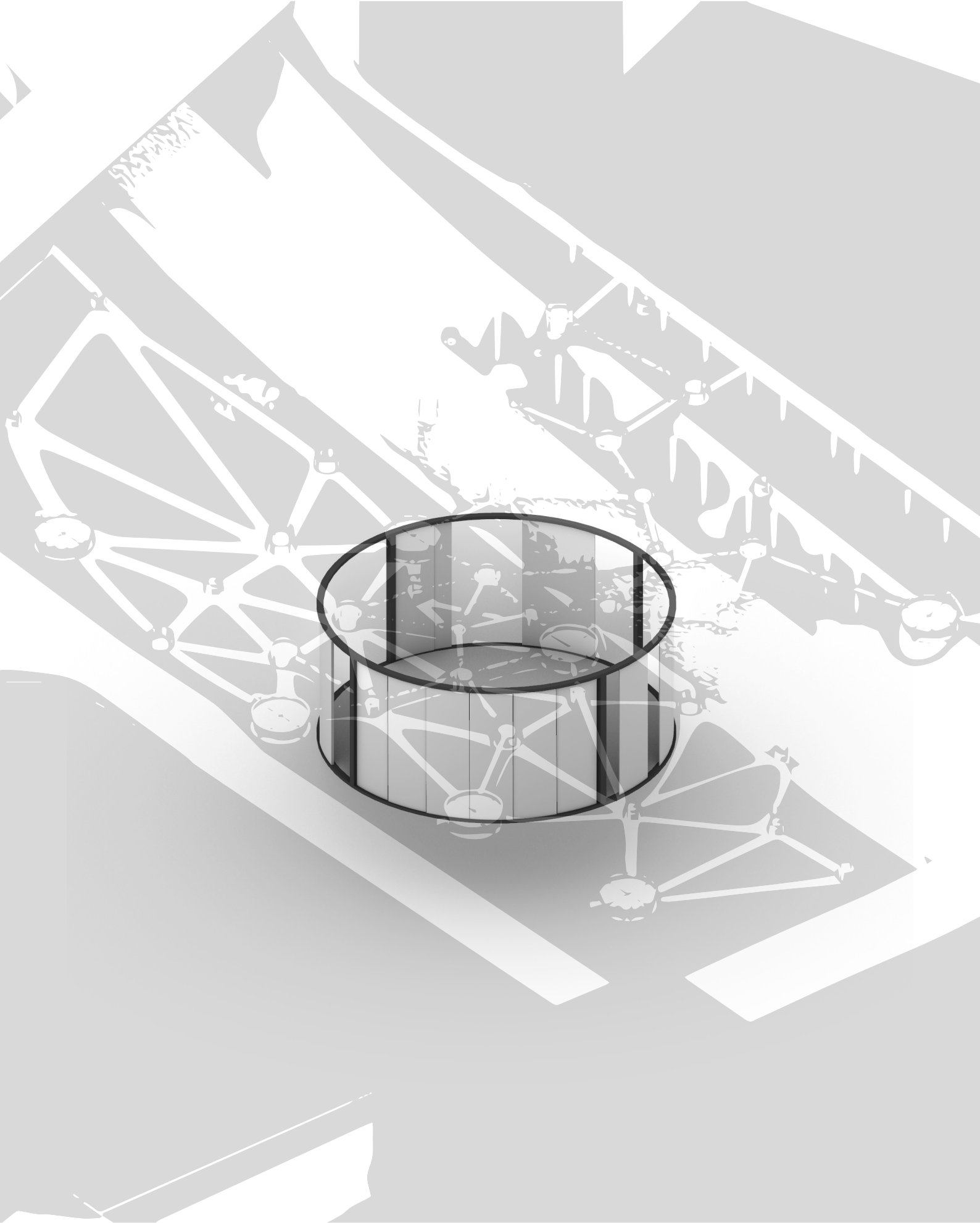
Leisure market  
Kajinocho, Koganei City, Tokyo Prefecture



Taipei street corner encounter - Taipei, Taiwan (2017)



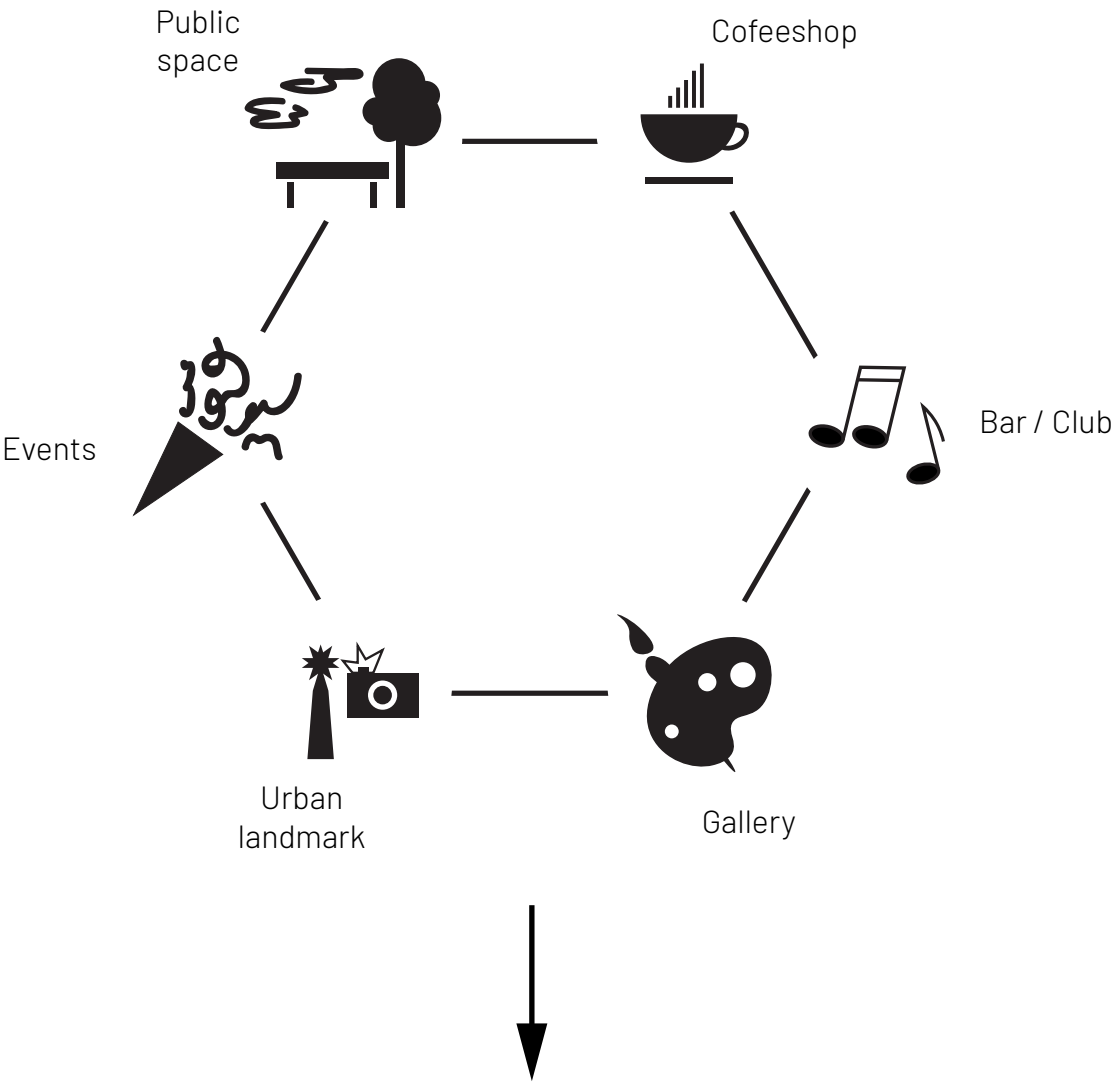
Theatre under the bridge



**CONCEPT**

FORM FINDING - DESIGN FINDING

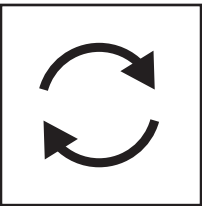
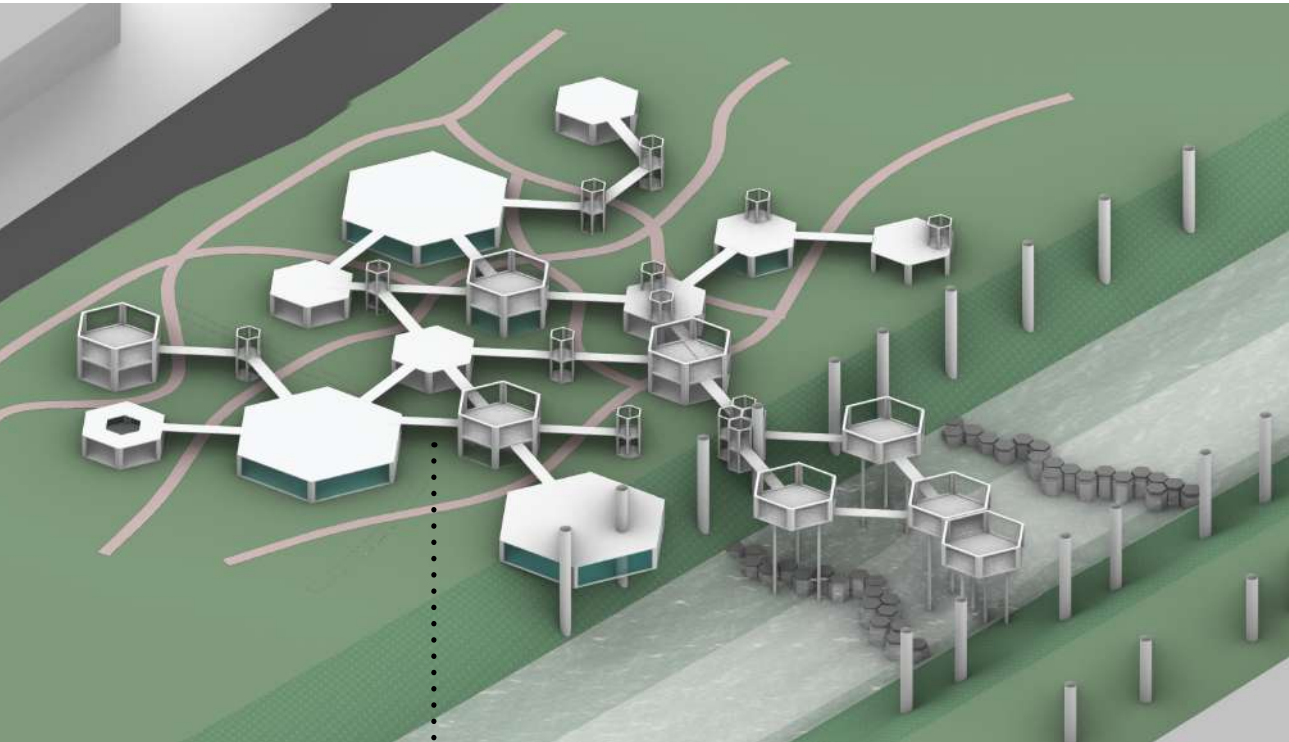
Aim is to create a form, which would be able to serve publicly for different kinds of programmes and at the same time it wont be rigt for its uses and purposes



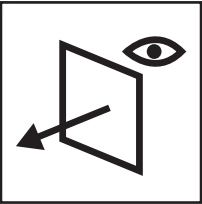
KEY PARAMETERS OF FORM AND FUNCTION

Variable uses and purposes	Transparent	"Unlimited variables"	Spatial attractor	Accessible and walkable

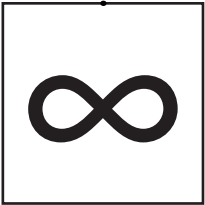
SPATIAL MAZE  
IN A FORM OF JUNGLE



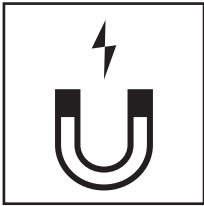
Spatial attractor  
lights and colors



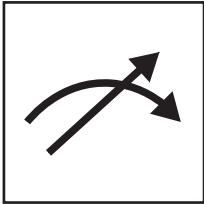
Either transparent  
or openable



Spatial maze  
Infinite combinations of paths

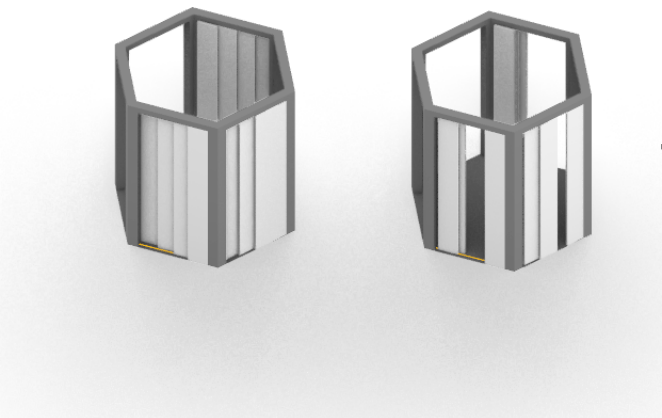


Spatial attractor  
lights and colors

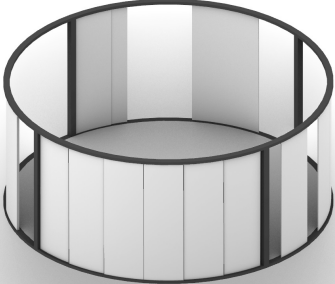


Accessible and  
walkable-through

To make it maximally accessible the shape turned  
to circular, so the form will be panoramic and  
totally through-walkable



Conceptual form

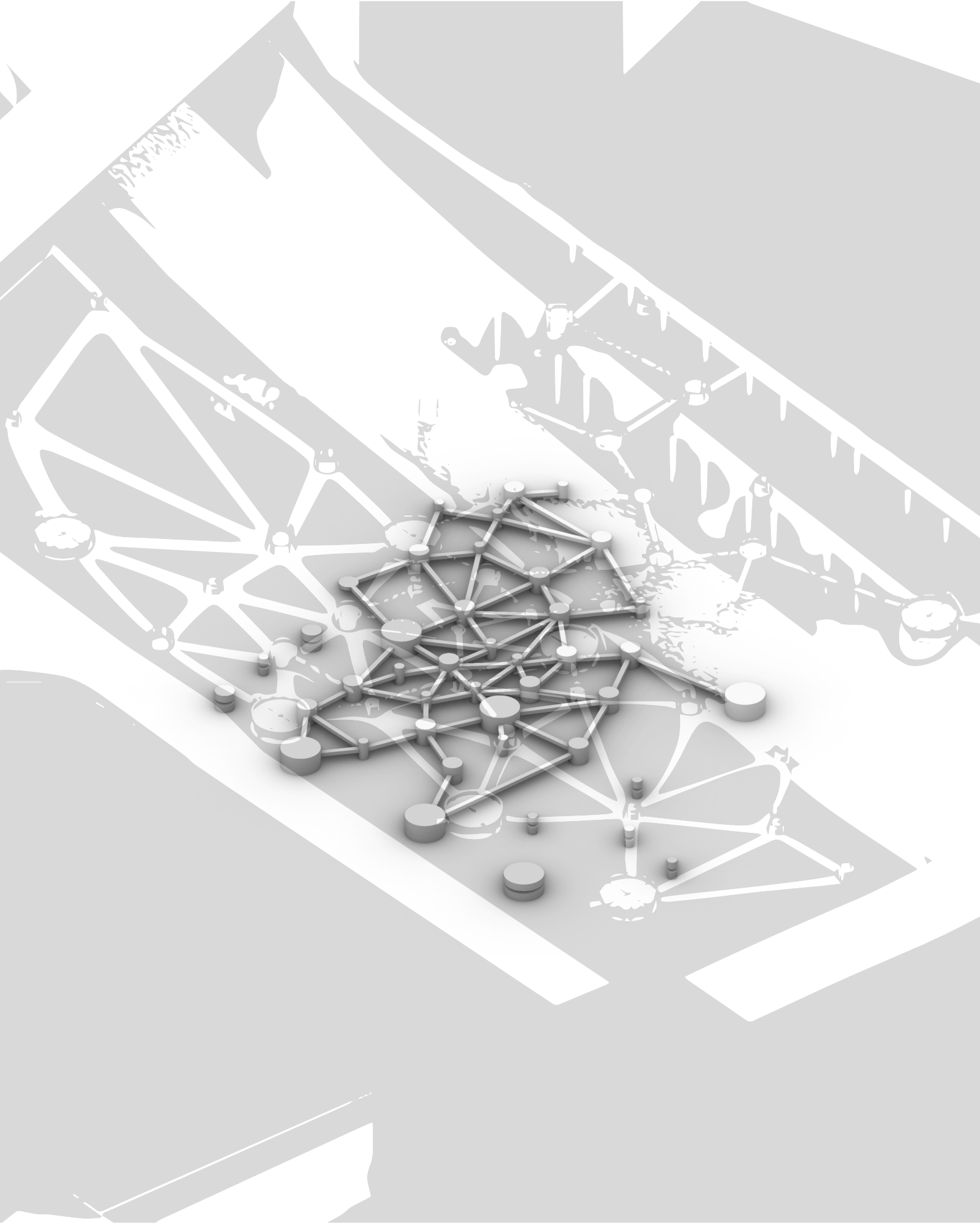


Final form

## TESTING RENDERERS

OF THE LIGHTS AND PLANTS IN ORDER TO EVOKE JUNGLE/MAZE





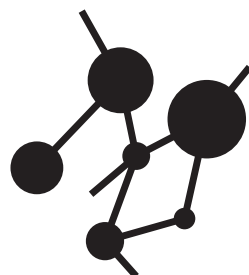
**DESIGN**

# URBAN MAZE

The project has an ambition to find a new purpose of a newly created inhospitable space under the bridge, usually referred as a junk space - spatial leftover. Designed solution has an ambition to bring in a new purpose, to solve the problem of urban voids and to motivate people to visit such a place. Whole project works with an idea, that it's not necessary to dictate people, what they should do in a public space, but rather to give them just a hint. Due to that, project has a form of open constructions, which can be used for sitting, resting or we can use them as a closed shelter, but beside that, there is no exactly strict use.

Design transposes the idea of Treetop Walk and looks like a spatial maze, which enables the pedestrians to cross the river. To ensure there will be a social control, there are some frame constructions, which dimensions allow them to include cafés, galleries, bars, or small clubs etc. To enhance the attractiveness of the space in late hours, constructions have integrated led light stripes, which bring a play of colours, lights and increase the allure of the space. The lights and design cooperate with an idea of bars, clubs or cafés and together it gives a new status of this place as an urban landmark, which is worth to be seen or photographed and in every aspect tries to attract people for a visit. Combination of ivy genus Hedera plants and led lights with frame constructions creates a maze-like pathway, which evokes the impression of jungle.

Guide: Ing arch. Vladimir Sitta  
Assistant: Ing. arch. Adéla Chmelová  
Year: WS 2021 / 2022 2.ys. M.A.

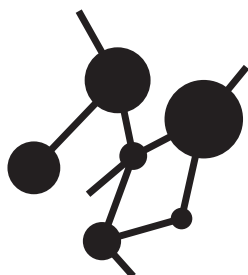


# MESTSKÉ BLUDSKO

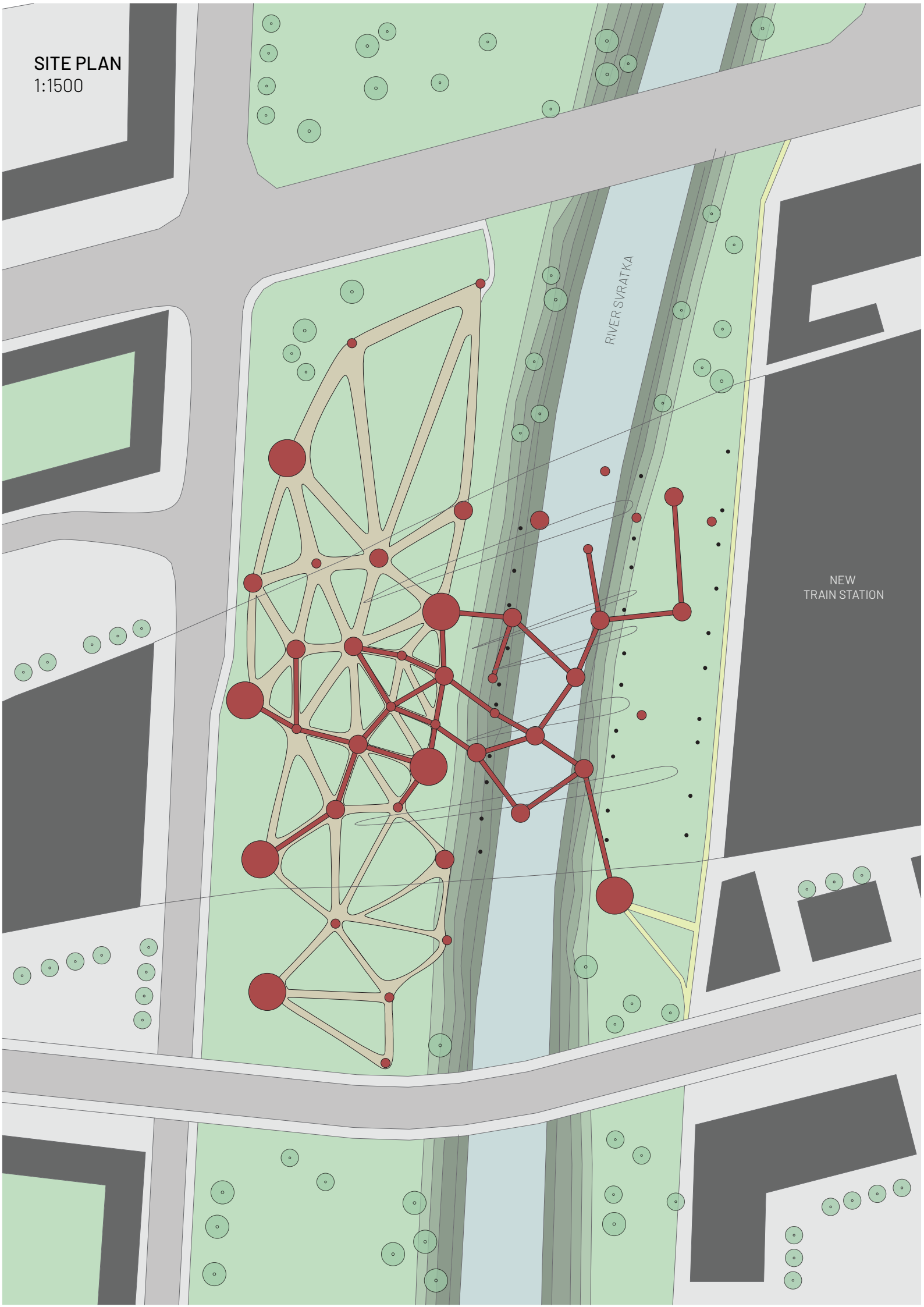
Návrh sa snaží nájsť nové využitie novovzniknutému nehostinnému prostrediu pod mostom, často označované ako zbytkový priestor (tzv. junkspace). Navrhované riešenie má ambíciu vniesť potenciál pre nové využitie, riešiť otázku zbytkových priestorov a zároveň motivovať ľudí tento priestor navštevovať. Celý projekt pracuje s myšlienkou, že netreba ľudí nútiť niečo vo verejnom priestore robiť, ale skôr ich iba usmerniť. Aj preto má projekt podobu otvorených a čiastočne uzatvárateľných rámových konštrukcií, ktoré však okrem možnosti si v nich sadnúť alebo sa do nich uzavrieť, nemajú žiadne ďalšie konkrétne využitie.

Návrh transponuje ideu chodníka korunami stromov a tvári sa ako priestorové bludisko, ktoré umožňuje prechod cez rieku na pešo, pri čom prechádzajúci si môžu užiť bohatý pohľad na priestorovo zložené formy. Pre zaistenie sociálnej kontroly sa tu nachádzajú časti bludiska, ktorých rozmer umožňuje tu umiestniť kaviarne, malé galérie či klubové a barové priestory či iné. Zvýšenie atraktívnosti vo večerných hodinách zaisťujú integrované led pásové osvetlenia v rámových konštrukciách, ktoré vnášajú do priestoru farby, svetlo a zvyšujú vábivosť prostredia. Zároveň kooperujú s konceptom umiestnených barov či klubov a dávajú miestu status mestského medzníka, ktorý stojí za to ho vidieť, zažiť či si ho odfotiť, nakoľko projekt sa snaží každým aspektom motivovať ľudí k návšteve. Spolu s navrhovanými popínavými rastlinami a vankúšovými krami pomedzi chodníky vzniká bludisková prechádzka evokujúca dojem džungle.

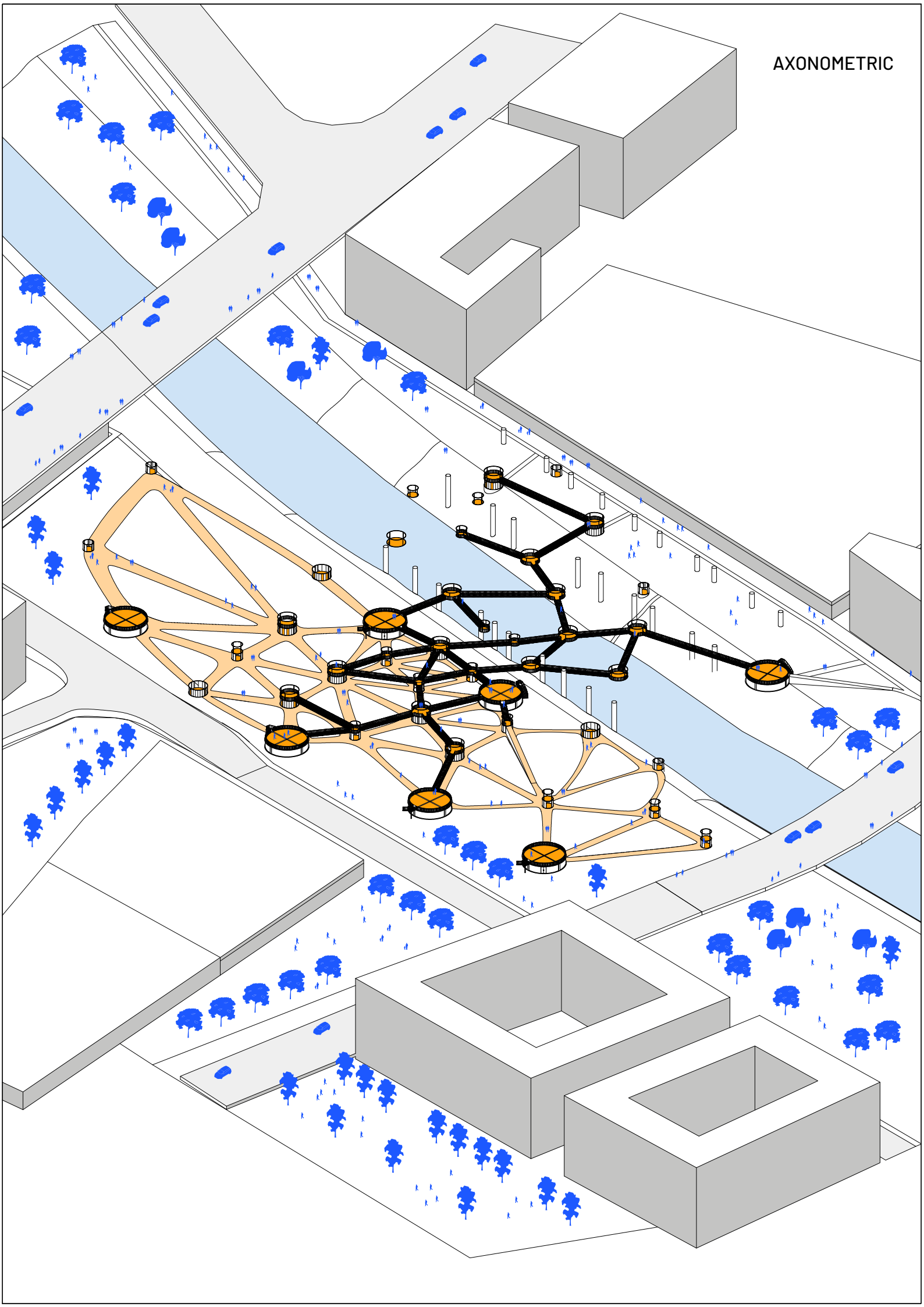
Vedúci práce: Ing arch. Vladimír Sitta  
Konzultácie: Ing. arch. Adéla Chmelová  
Ročník: ZS 2021 / 2022 2.r. MAG. ŠTÚDIA  
Ateliér: ATVZ



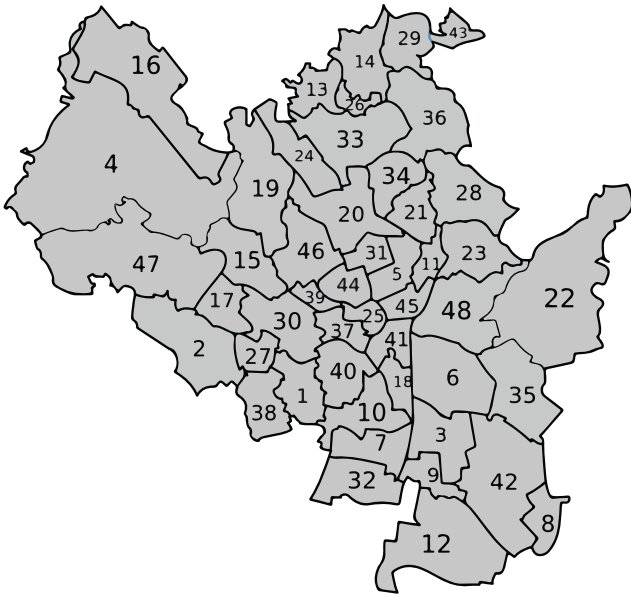
SITE PLAN  
1:1500



AXONOMETRIC



## RASTERIZING



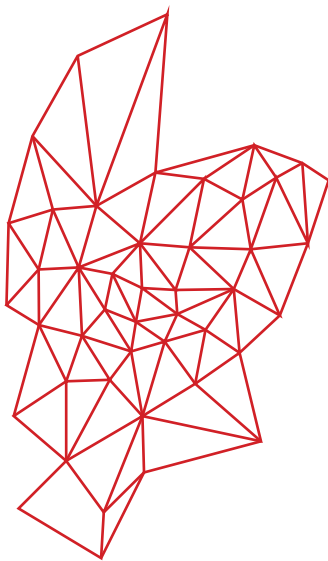
### CONTEXT

The project should serve the public function for the city Brno and for its people. Therefore I decided to place the constructions and make a raster from the centerpoints of the city districts, so it will presents people from all districts and everyone can relate to one of the frames based on their preferences such as home address or favourite city part.

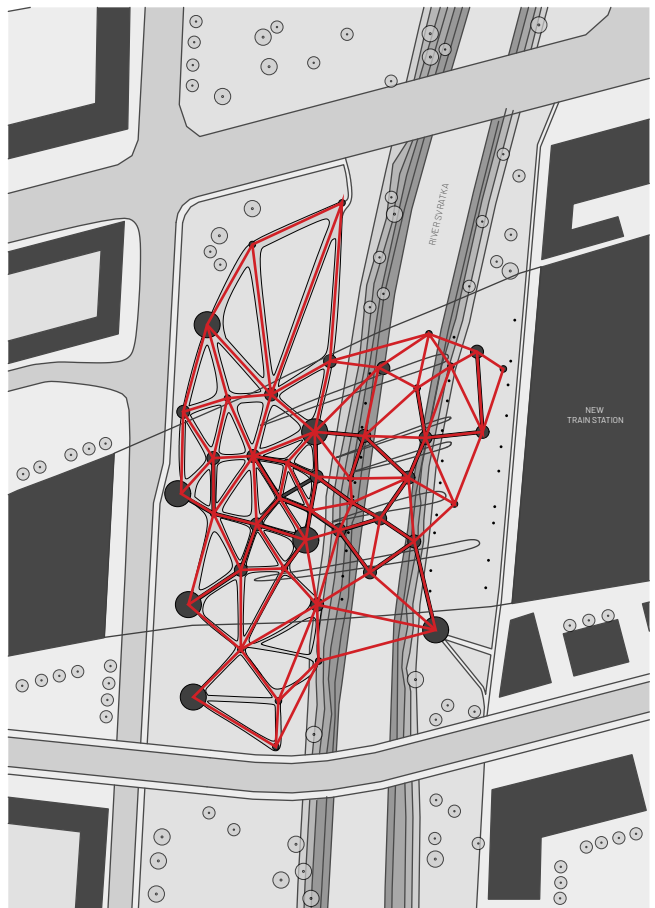
### RASTER

There is too many combinations and ways how to connect centerpoints of districts. Therefore I connected them in order to create triangular pattern of the raster as a metaphor of collective strength of people in Brno. Because triangles do not let the static forces to escape, so it will not break up.

### TRIANGULATION EXTRACTED



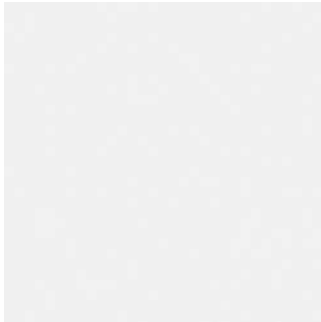
### IN SITE PLANE



## MATERIALS AND COLOURS



Red alucobond / steel



White colored steel - matte



Milky glass



Grey wooden flooring/planks



Red rope for bridges

## INSPIRATION



City flag of Brno

Main source of material inspiration comes from the flag of the city.

Whole construction and materials will be colored same as the city flag.

White color will be more effective with the reflections of the colorful night-lights, which will be integrated in the constructional frameworks.

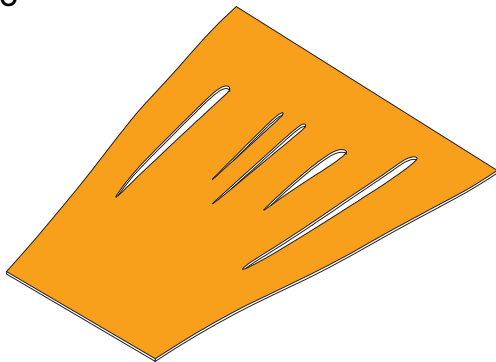


*Parthenocissus tricuspidata*

The suitable vegetation, which could be hanged on the framework constructions.

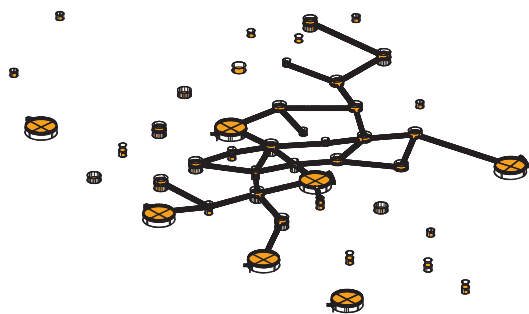
The plants with the lights should evoke the feeling of "urban jungle".

## EXPLODED AXO

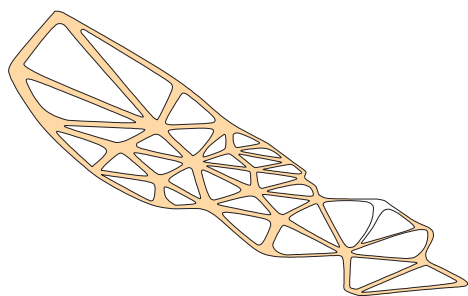


### BRIDGE FOR THE RAILWAYS OF THE NEW TRAINSTATION

The holes divide railways and provide at least some sunlight under the bridge (design by Benthem Crouwel + West8)

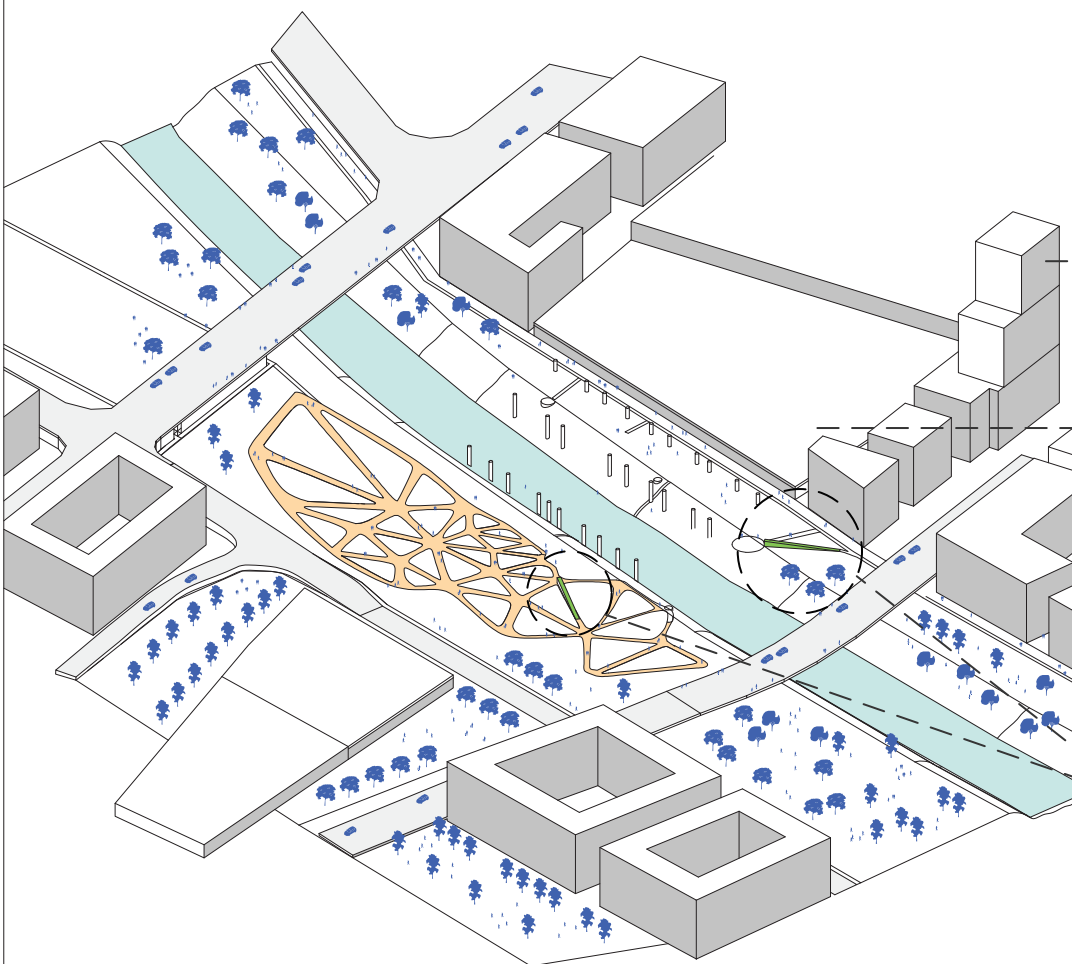


### FRAME CONSTRUCTIONS



### PATHS IN FORM OF TRIANGULAR RASTER

Organic shapes for gentler and more natural feeling



### PLANNED HIGH-RISE

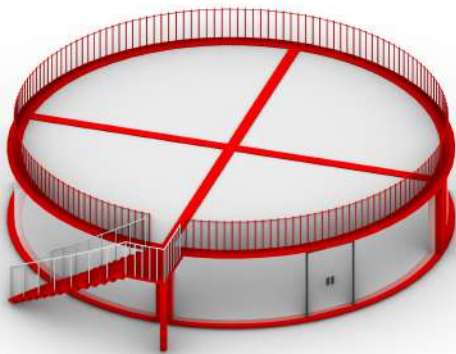
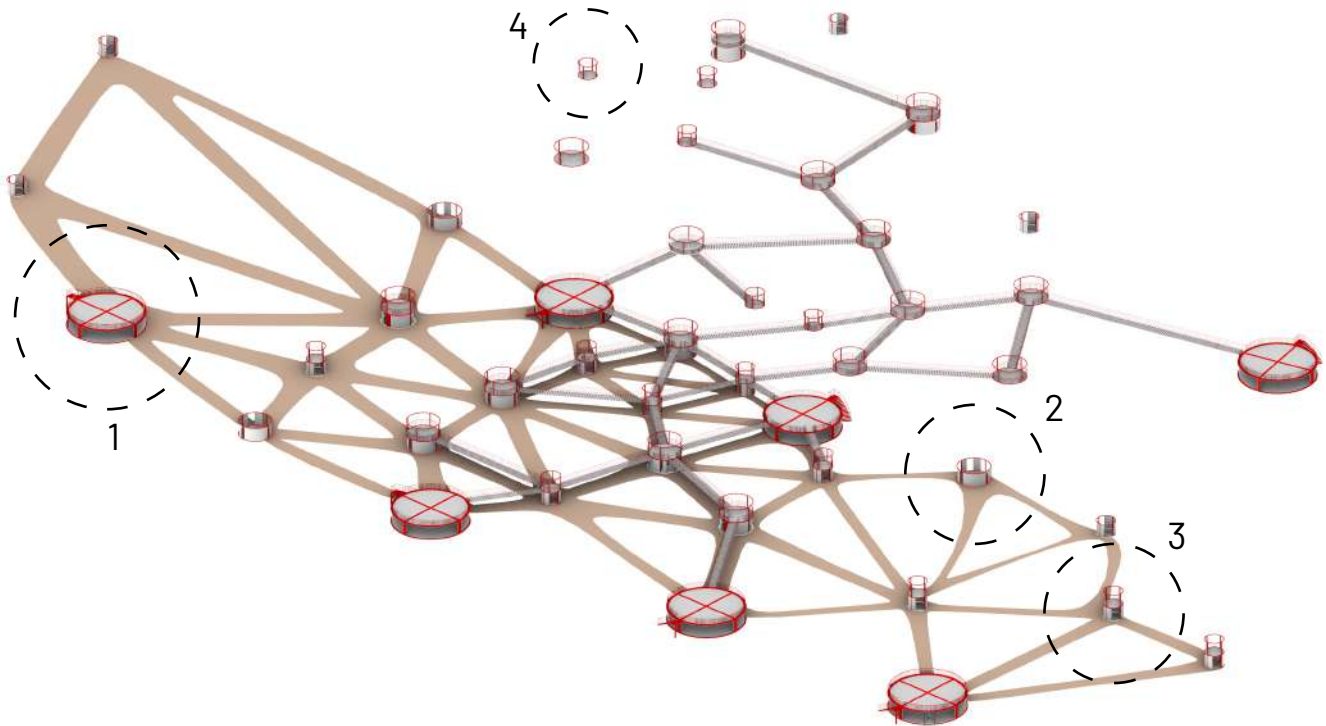
Building will put a shade on the holes of the bridge make it even worse with the daylight conditions underneath.

### NEW TRAIN STATION

### CYCLING PATH

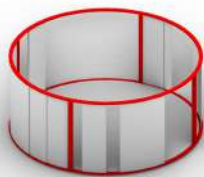
Enabling cyclists to go through this maze as well.

## TPOLOGY OF FRAME CONSTRUCTIONS



### 1. Multifunctional frames

The largest frame has a diameter of 12m and its area is 115m<sup>2</sup>. The dimension is not rigid and may be adjusted in order to place there a **small café, bar etc.** The meaning of this large framework is to put there some particular function which would **attract people** to stay there in order to provide and **ensure a social control** in this space.



### 2. Halfway semi-closed frames

The medium sized frame contains **curved sliding panels**, which allow users to partly closed in this framework in order to get some **intimacy and to create a temporary private space** in public space. Frames have integrated **led light-stripes**, so during the night time it will be lightened and safe to use. Medium size allow users to gather in larger groups and even sit down, exercise, take a rest etc.



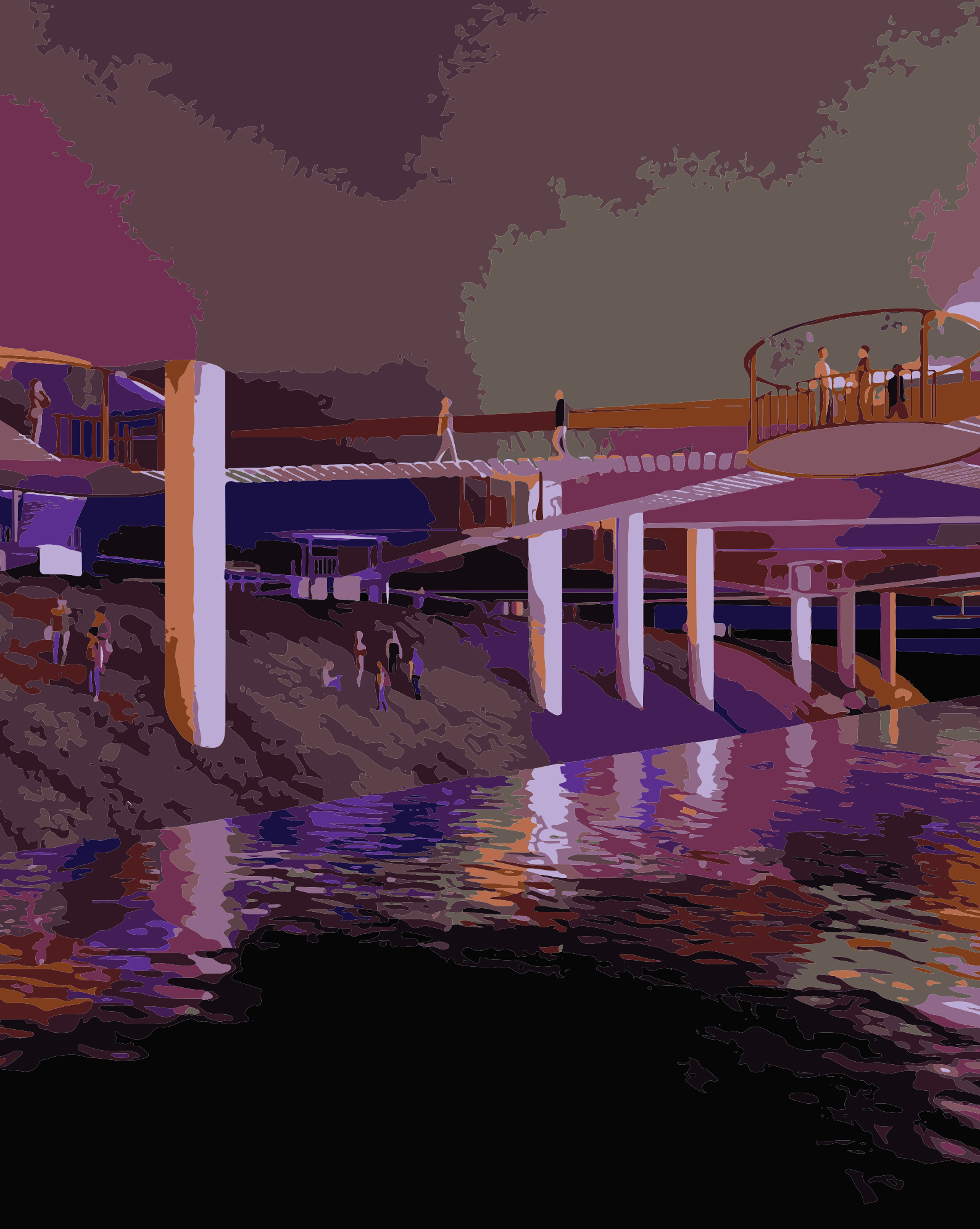
### 3. Small closeable frames

These frames have similar meaning as the medium sized, but to increase the intimacy **the size of frames was reduced** and its diameter is just 3m with a total area of 28m<sup>2</sup> to **maximize the privacy inside**.



### 4. Small exhibitory frames

These small frames still have the lights in its construction and their meaning is to provide a exhibition space. Frames can **spotlight exhibited artworks** or can be used for **hanging some paintings** or other artworks. Main purpose is to **exhibit and spotlight anything "inside"**.



RENDERS

## RENDERS



Daytime view from the distance



In the middle of the maze



Under the bridge



Night time



Sunset under the bridge - instead of grass would be used some low-growing shrubs



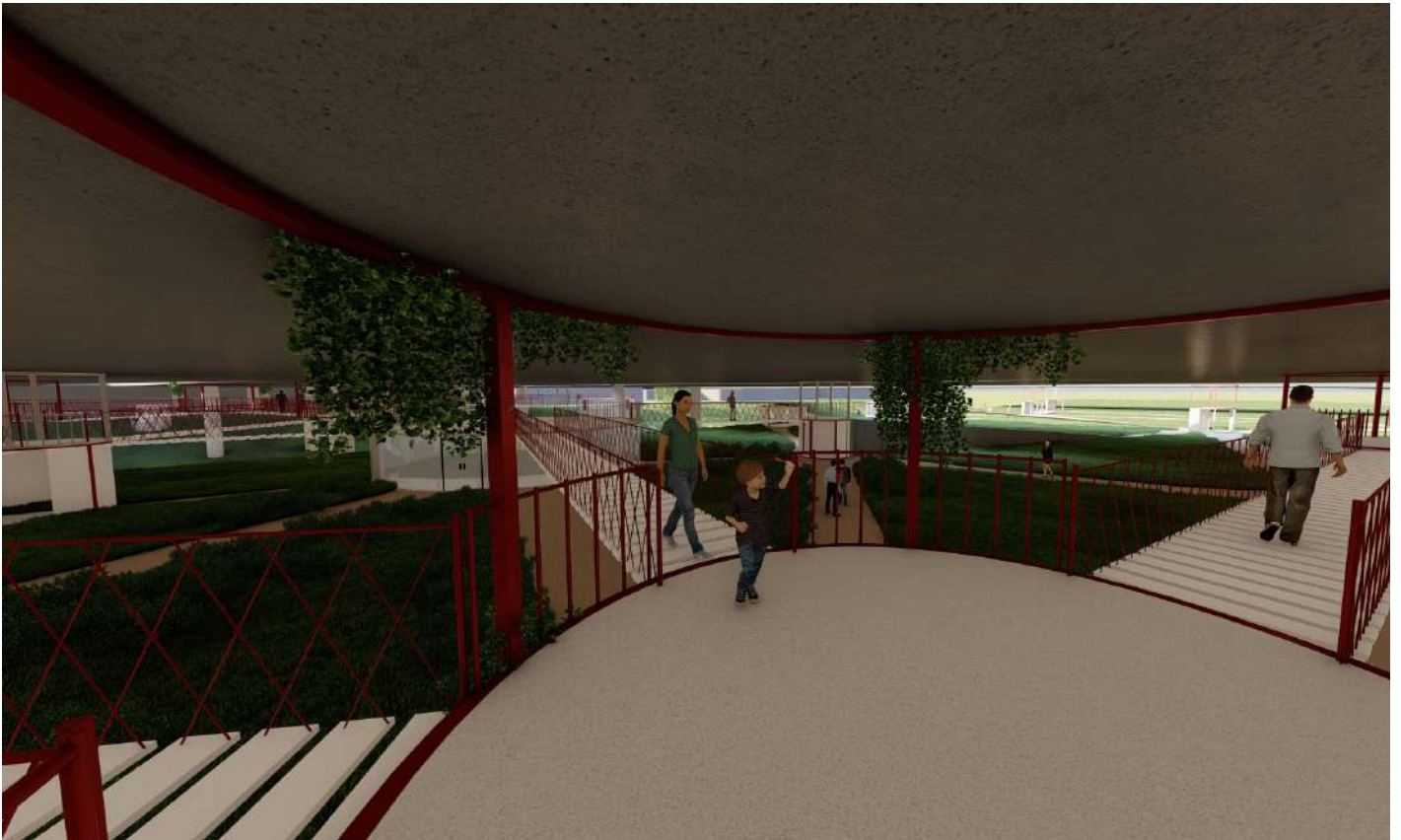
Large frame construction used as a small bar



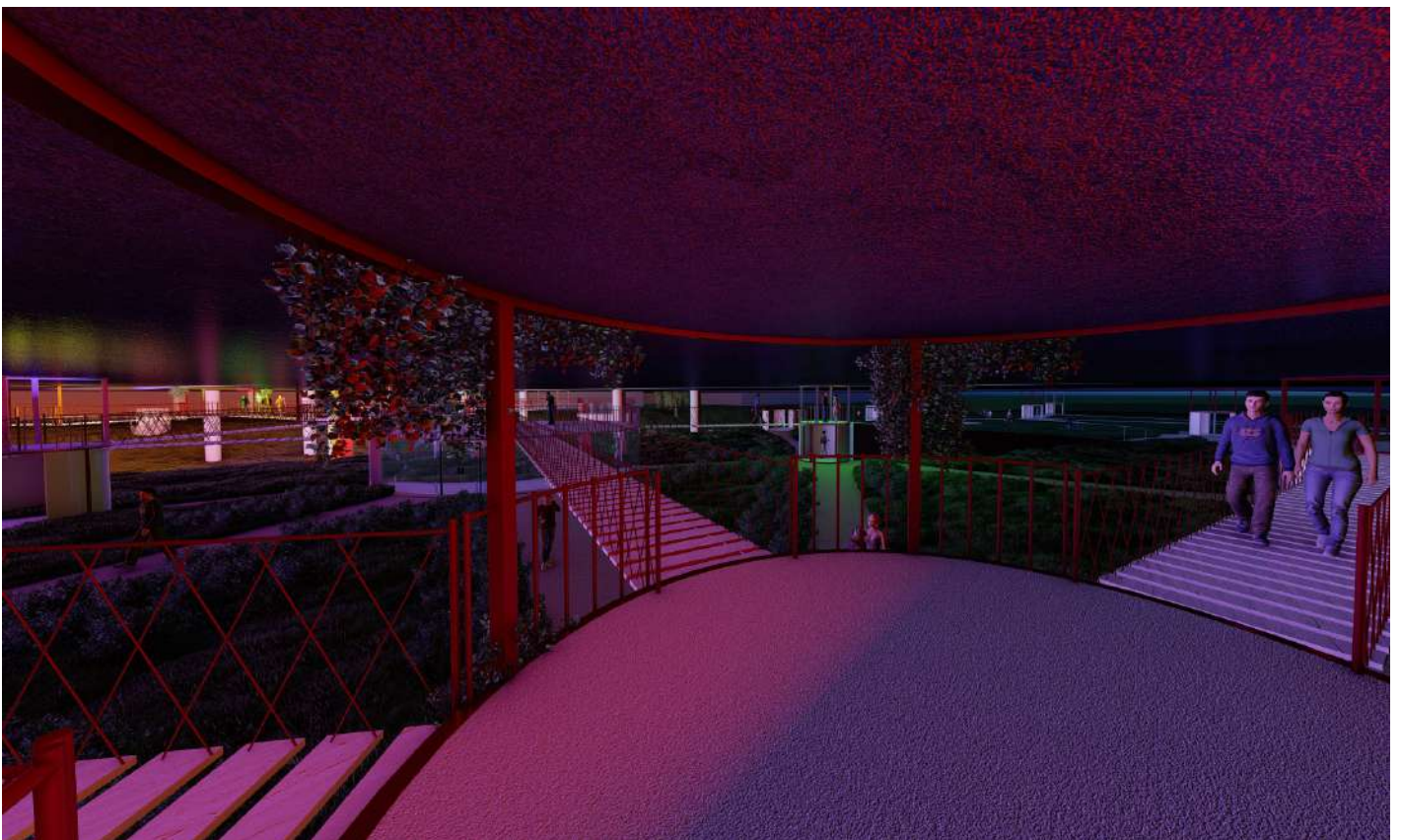
Inside of the medium sized frame construction



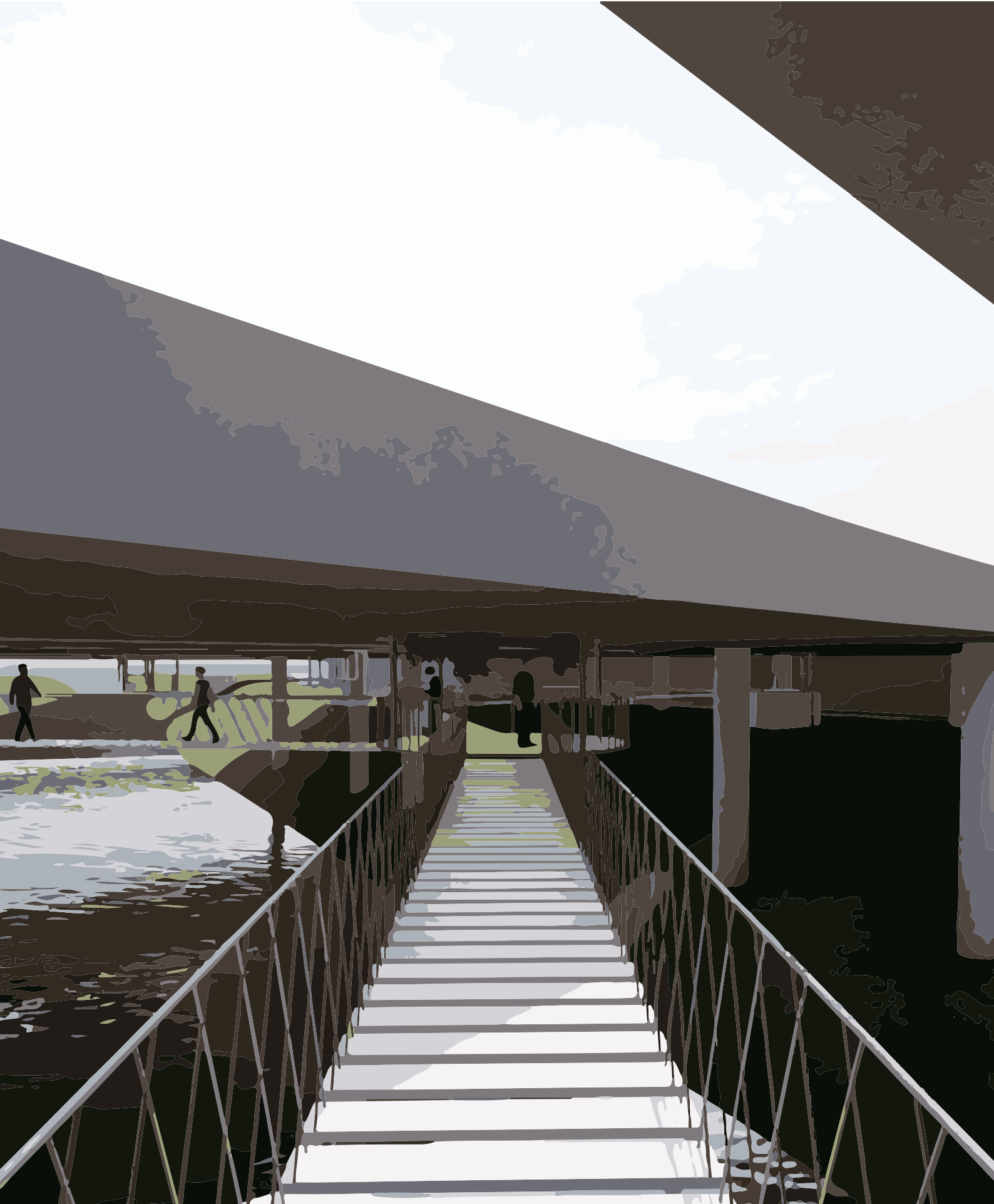
Night time



View of the maze - many paths



Night time



ATELIER SITTA - CHMELOVÁ  
FA CTU IN PRAGUE  
WINTER TERM 2021