

<b>UNIVERSITY:</b>	SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA
<b>FACULTY:</b>	FACULTY OF ARCHITECTURE
<b>FIELD OF STUDY:</b>	ARCHITECTURE & URBAN PLANNING
<b>SUBJECT:</b>	DESIGN STUDIO VII
<b>NAME OF THE PROJECT:</b>	VISITOR CENTER RED BRIDGE
<b>TOPIC:</b>	CARPATHIAN - GATEWAY - BRATISLAVA
<b>PROJECT STAGE:</b>	ARCHITECTURAL STUDY
<b>STUDENT:</b>	Hraška Gregor
<b>ACADEMIC YEAR:</b>	2023 / 2024
<b>VERTICAL STUDIO:</b>	Ateliér BIG (Bjarke Ingels Group) design studio FAD
<b>SUPERVISOR:</b>	Ing. Ján Baška RIBA (AA)
<b>SUBJECT GUARANTEE:</b>	doc. Ing. arch. Alexander Schleicher, PhD.

**A large IT company** is establishing its Headquarter Campus on a former military hospital ground at the gateway between the city and the natural reserve around Kamzík mountain. The campus will house more than 1000 employees together with a mix of residential, commercial, event and sport programs. The ambition to create one of most innovative and sustainable campuses is envisioned to bring benefits not just its occupants but also wider public.

**The large investment** is seen as a highly beneficial development which will bring life to a quiet part of the city, but as a result will present new challenges to the surrounding area ranging from extra footfall to traffic overload in an already overstressed district. The popular recreation area Zelezná Studienka, which is in effect the Small Carpathian gateway, already struggles with recreational crowds.

**Visitors traditionally come by car** (which is the most convenient yet most polluting form of transport). Eventhough the City tries to shift this preference towards public transport, by creating TIOP Zelezná Studienka, at this moment it has barely been seen as a viable replacement. The popularization of this area has to be carefully planned in order not to overload its facilities and disrupt its environment.

Half the program is a real physical project, dealing with the challenges of connection between the site and adjacent recreational area with the city and wider context. In this respect it will be necessary to re-visit they current amenities and functions within the area and suggest solutions for enabling creation of world class recreational gateway.

The other half would contemplate an ideal connection scenario within the realm of alternative reality. Students are to imagine that cars have never been invented and people have never experienced a need for this mode of transport. The task would be to explore possibilities and impacts on local urbanism and how those learnings could be implemented into the real world.

A "bike highway" typically refers to a dedicated and well-designed cycling infrastructure, often separated from motorized traffic, that facilitates safe and efficient commuting for cyclists. Several benefits make bike highways appealing:

**Safety:** Bike highways are designed with the safety of cyclists in mind. Separation from motorized traffic reduces the risk of accidents, making cycling a safer mode of transportation.

**Efficiency:** Dedicated bike highways often provide a direct and efficient route for cyclists, allowing them to reach their destinations quickly. This can be particularly advantageous for commuting, reducing travel times compared to less direct routes.

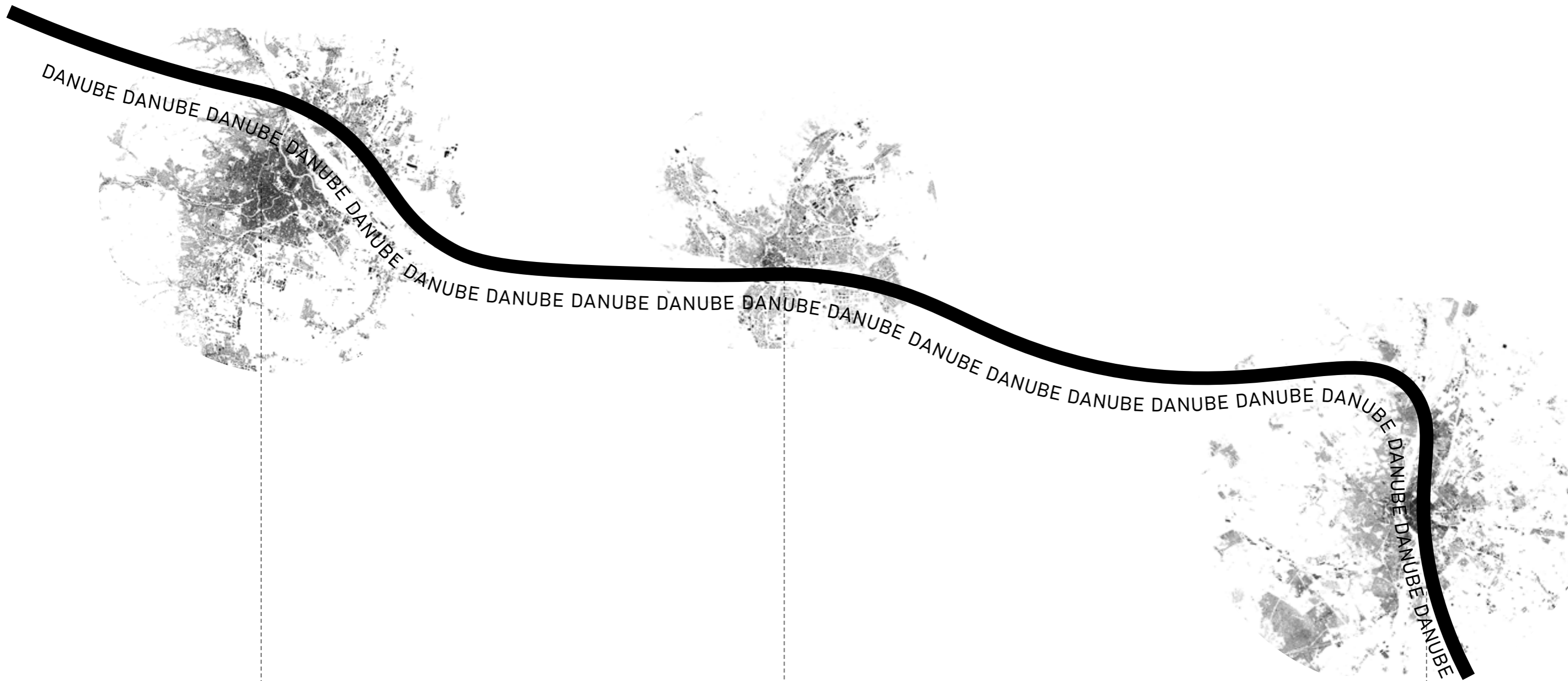
**Environmental Sustainability** Encouraging cycling as a mode of transportation helps reduce the carbon footprint associated with motorized vehicles. Bike highways contribute to sustainability efforts by promoting a cleaner and greener form of transportation.

**Reduced Traffic Congestion:** By providing a separate route for cyclists, bike highways can help alleviate traffic congestion on traditional roadways. This benefits both cyclists and motorists by reducing overall congestion and improving traffic flow.

**Urban Planning and Connectivity** Well-designed bike highways are integrated into urban planning, contributing to a more connected and accessible city. This can improve overall transportation infrastructure and create a more inclusive and integrated urban environment.

**Quality of Life:** Bike highways contribute to a higher quality of life in urban areas by providing an alternative and enjoyable means of transportation. They can enhance the overall urban experience by promoting a sense of community and reducing noise and air pollution.

UNDISCOVERED SPACE OF FORGOTTEN HISTORY



**WIEN**

AREA: 414.6 KM<sup>2</sup>  
POPULATION: 1 897 000



**BRATISLAVA**

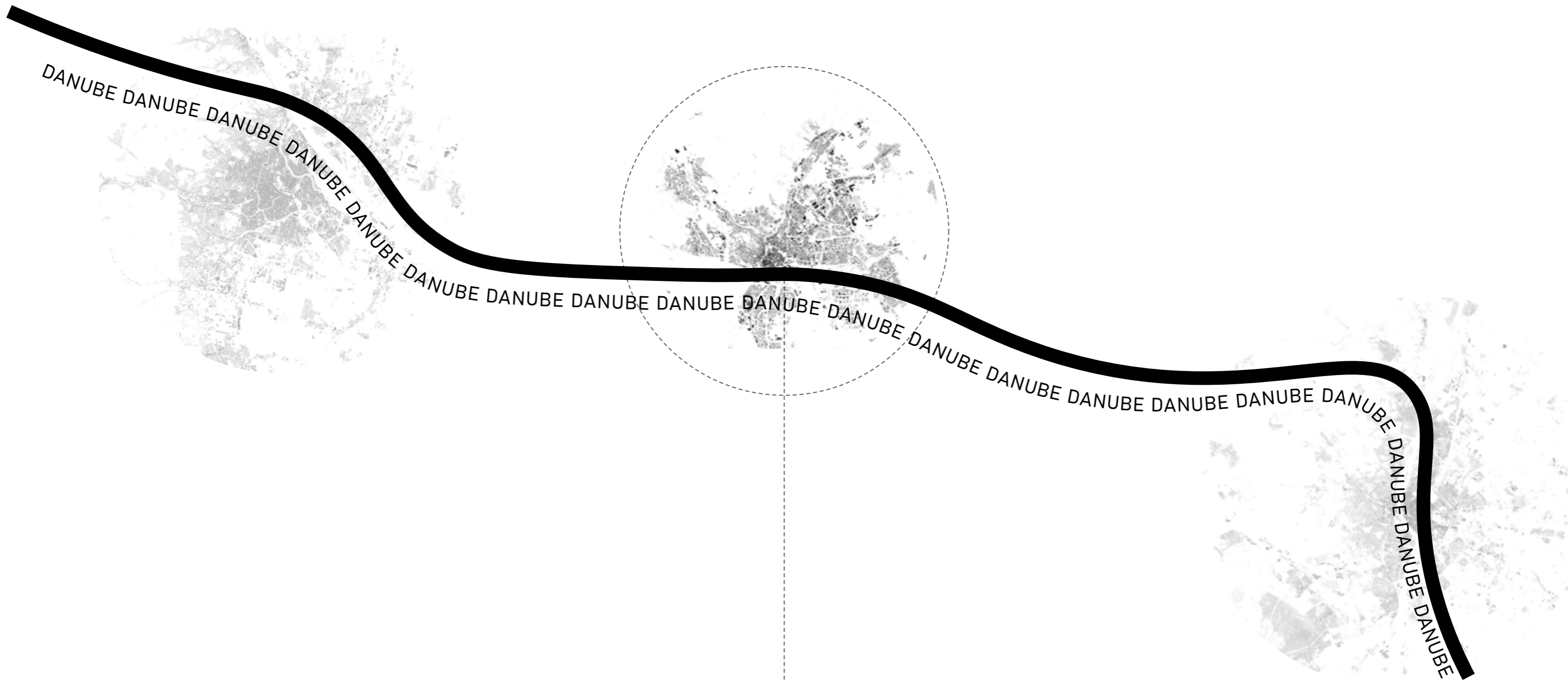
AREA: 367.6 KM<sup>2</sup>  
POPULATION: 719,537



**BUDAPEST**

AREA: 525.2 KM<sup>2</sup>  
POPULATION: 3,011,598

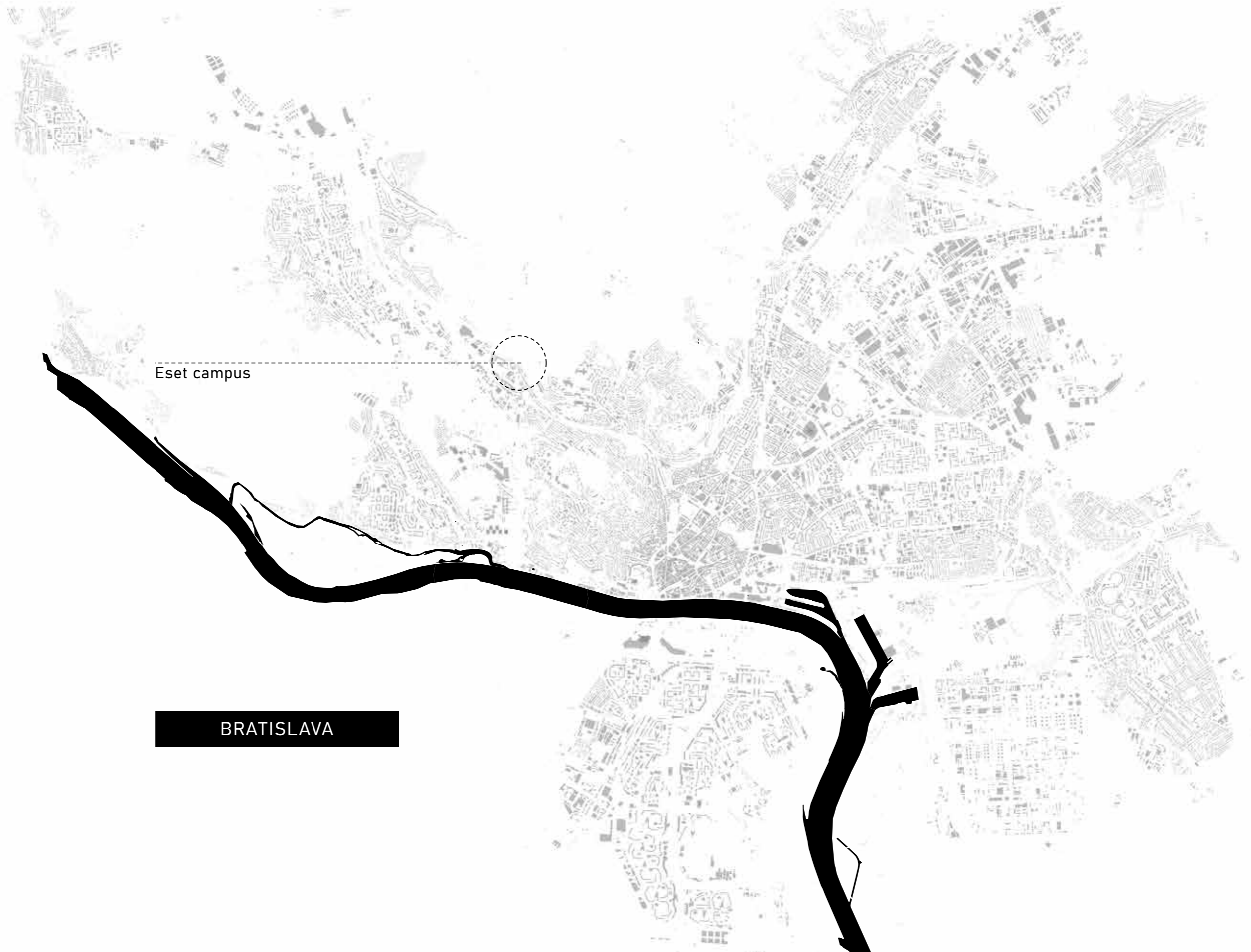




BRATISLAVA

AREA: 367.6 KM<sup>2</sup>  
POPULATION: 719,537





Eset campus

BRATISLAVA



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FAD

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SITE IN CONTEXT OF BRATISLAVA

HRAŠKA GREGOR 2023



Eset campus

City center

INDUSTRIAL ZONES  
MAIN PUBLIC AREAS

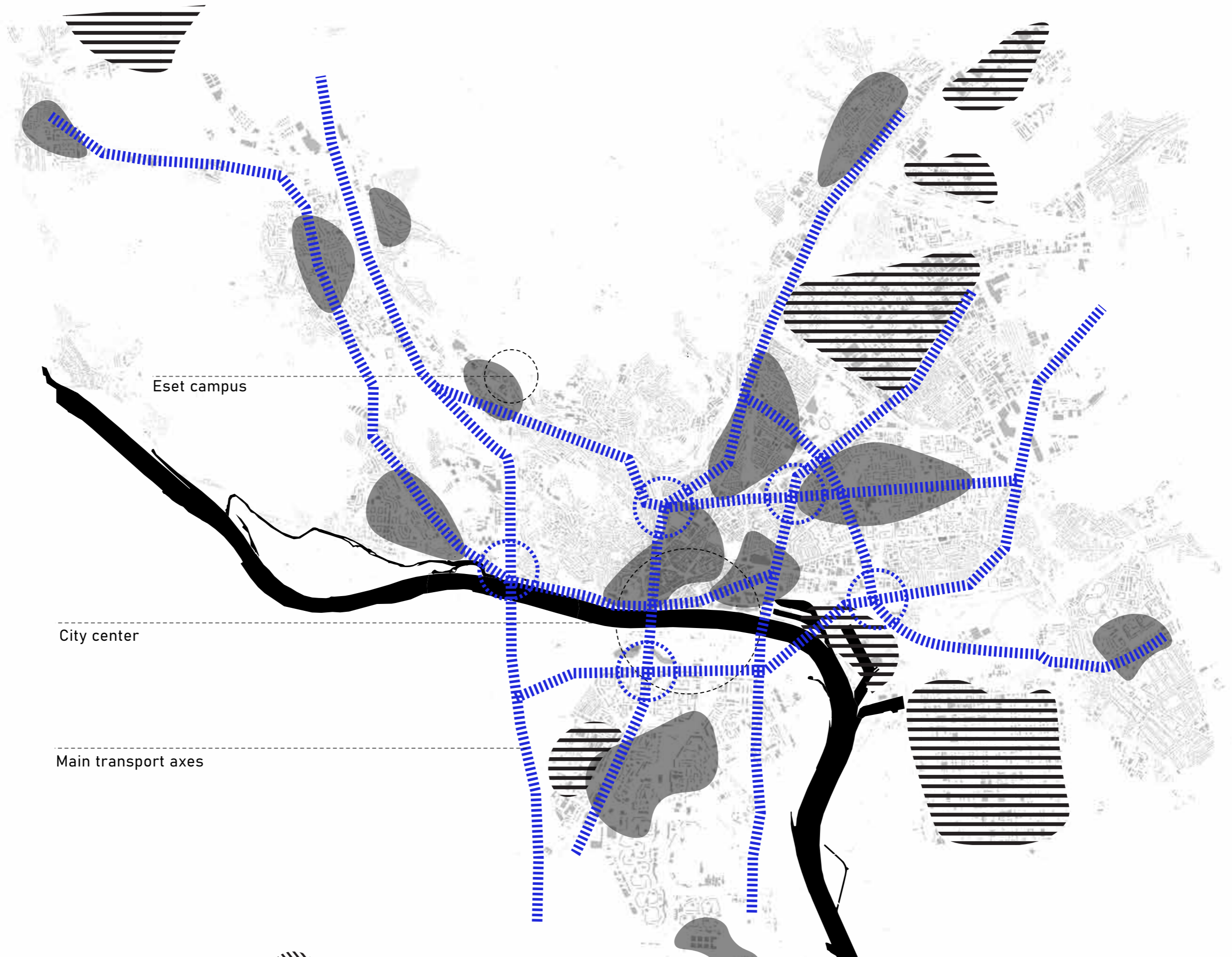


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ZONES & AREAS  
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City center

Main transport axes

INDUSTRIAL ZONES  
MAIN PUBLIC AREAS



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ZONES & TRANSPORT AXES  
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Devínska nova ves train station

Vajnory train station

Vinohrady train station

Eset campus

Locomotive depot

Main train station

Old shipyards

New shipyards

Slovnaft refinery

Petržalka train station

TRAM LINES IN USE

TRAM LINES UNDER CONSTRUCTION

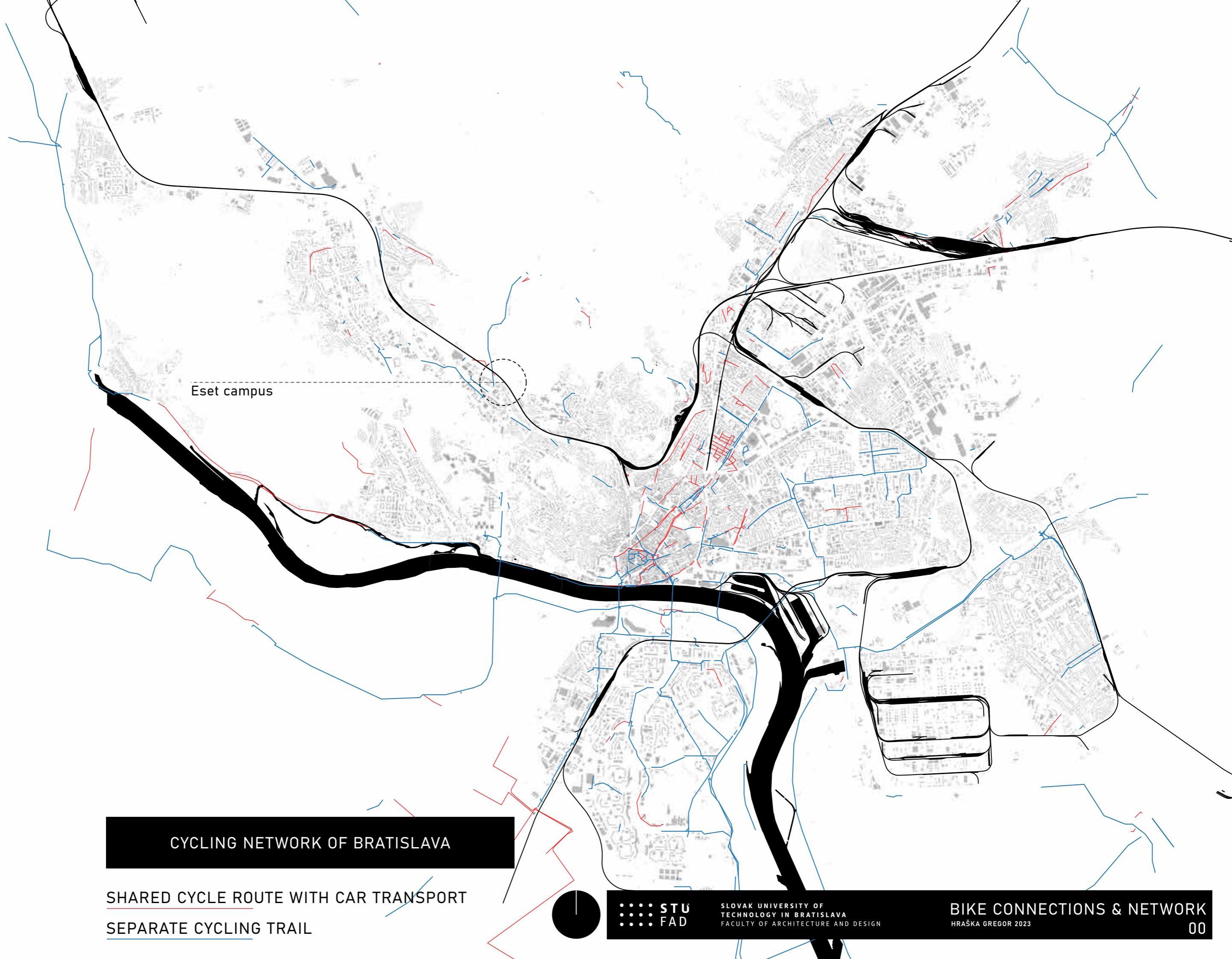
TRAIN LINES



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RAILWAY NETWORK  
HRAŠKA GREGOR 2023



Eset campus

**CYCLING NETWORK OF BRATISLAVA**

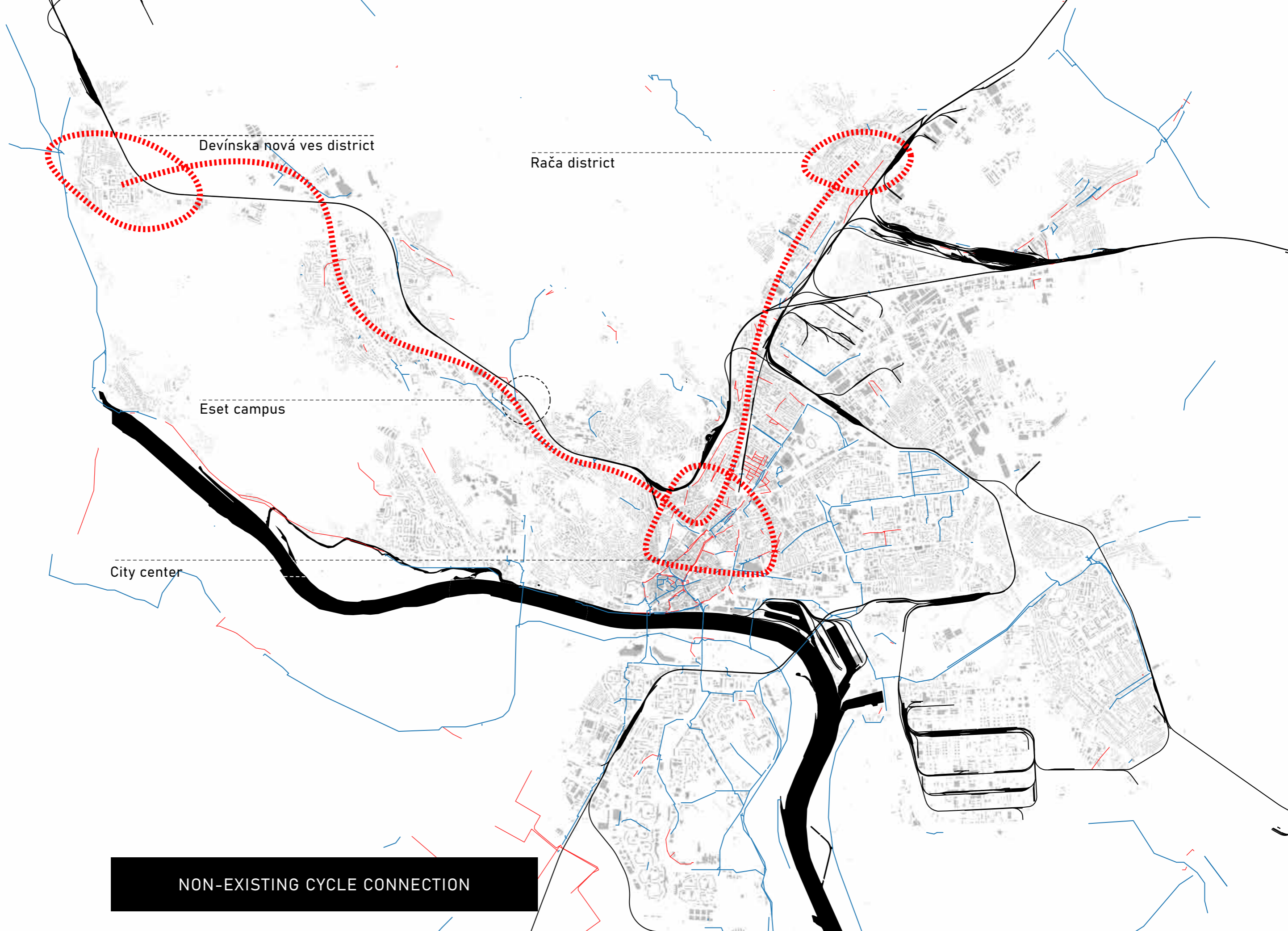
SHARED CYCLE ROUTE WITH CAR TRANSPORT  
SEPARATE CYCLING TRAIL



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BIKE CONNECTIONS & NETWORK  
HRAŠKA GREGOR 2023



**NON-EXISTING CYCLE CONNECTION**

SHARED CYCLE ROUTE WITH CAR TRANSPORT

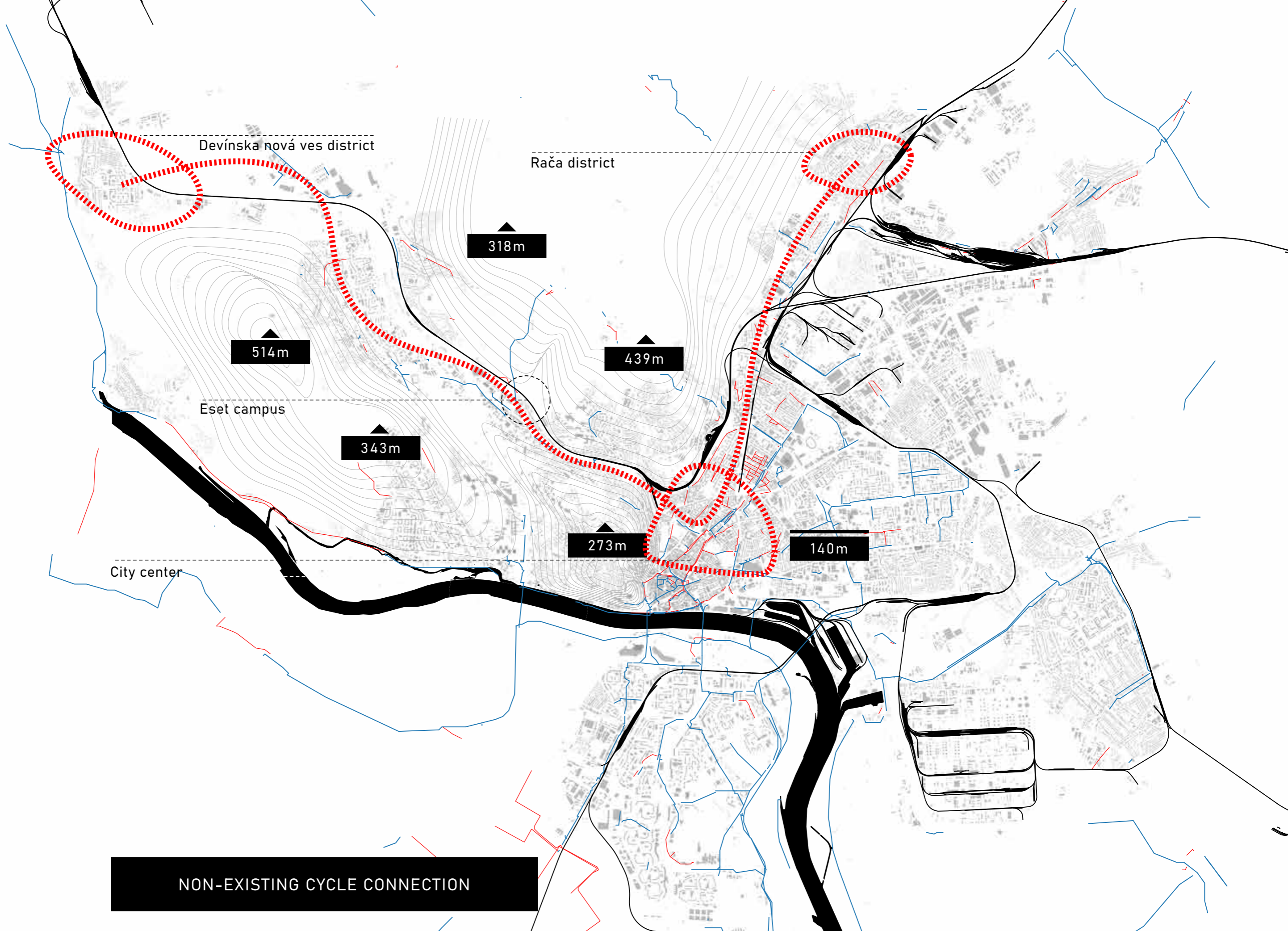
SEPARATE CYCLING TRAIL



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BIKE CONNECTIONS & NETWORK  
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**NON-EXISTING CYCLE CONNECTION**

SHARED CYCLE ROUTE WITH CAR TRANSPORT

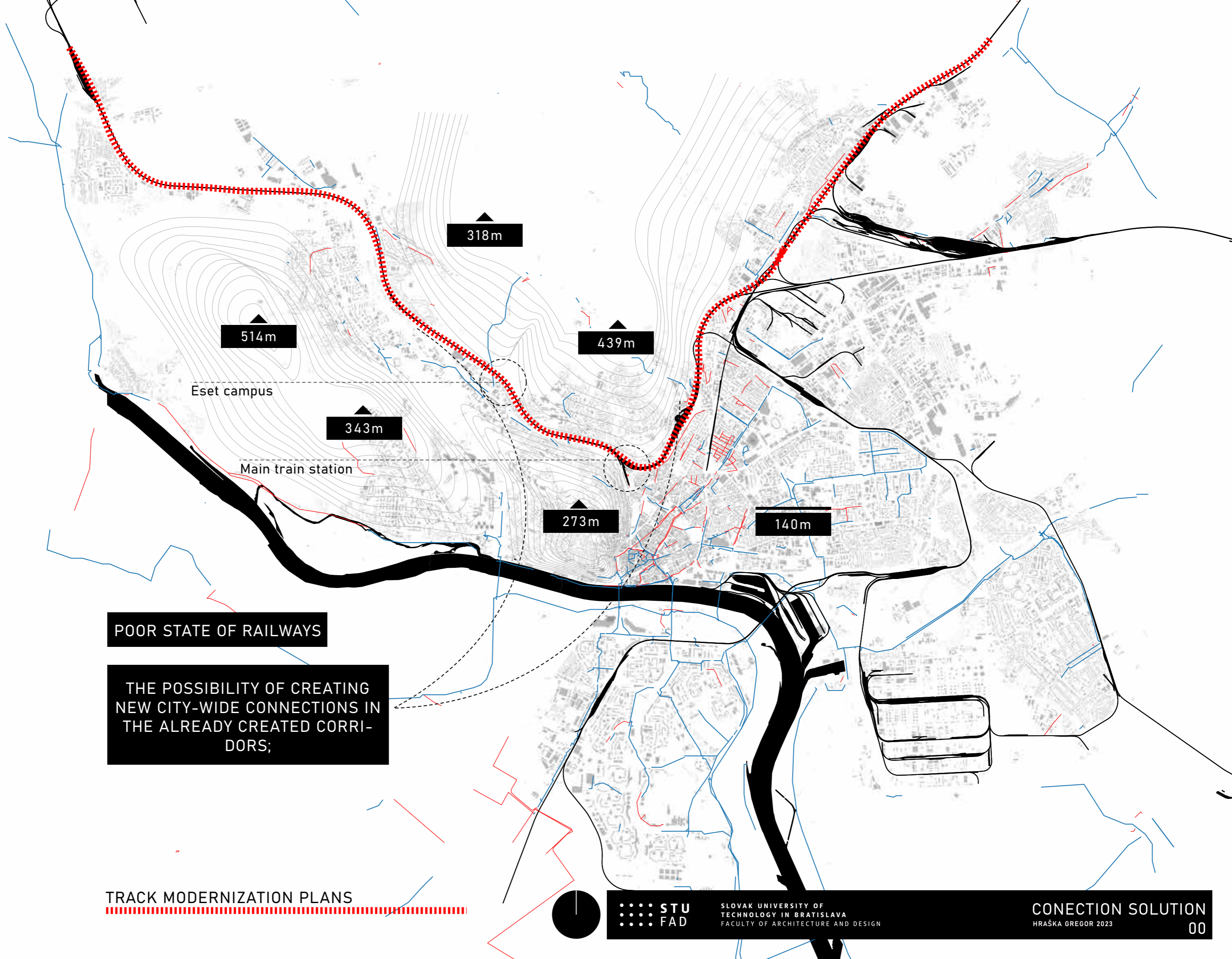
SEPARATE CYCLING TRAIL



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BIKE CONNECTIONS & NETWORK  
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POOR STATE OF RAILWAYS

THE POSSIBILITY OF CREATING  
NEW CITY-WIDE CONNECTIONS IN  
THE ALREADY CREATED CORRI-  
DORS;

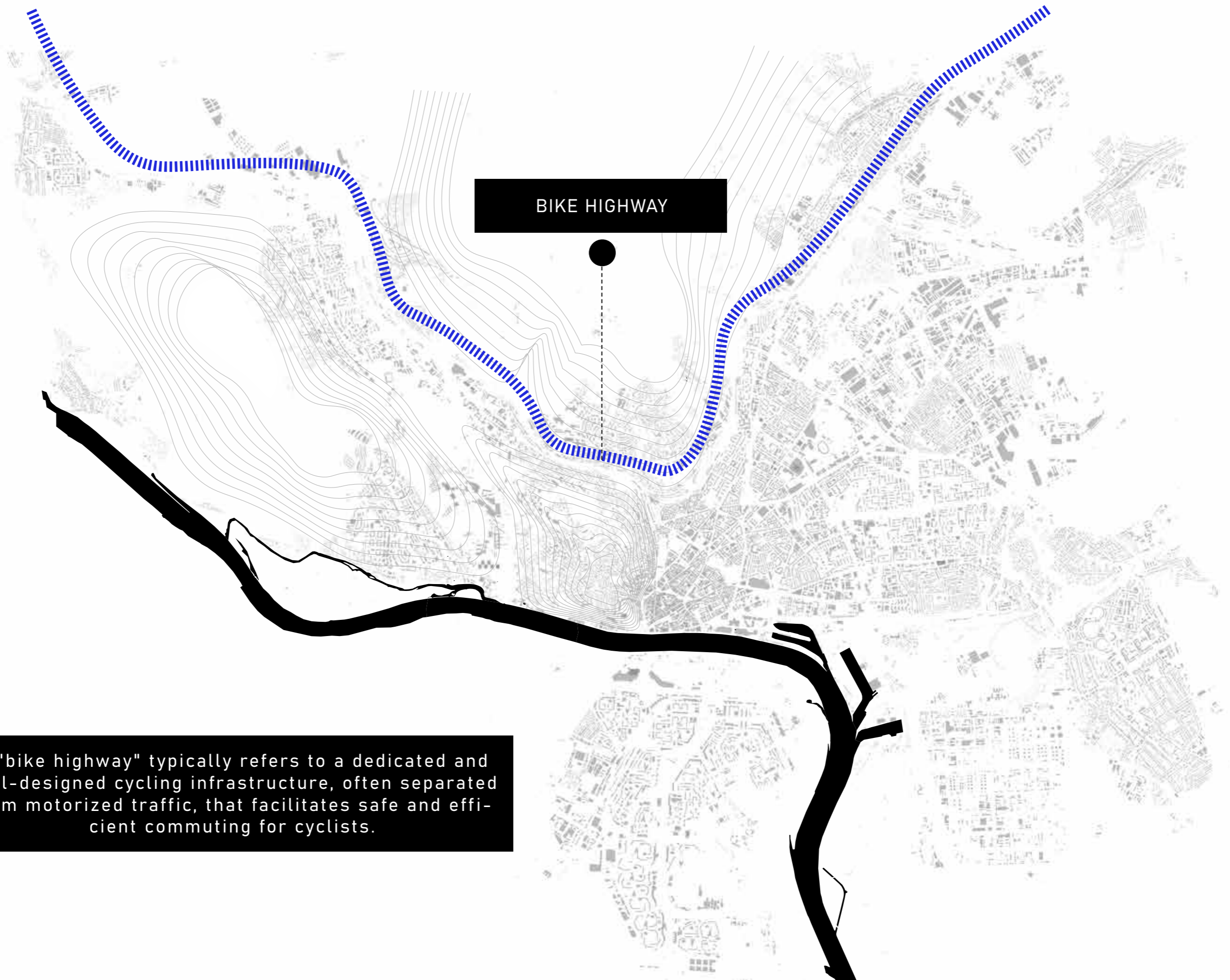
TRACK MODERNIZATION PLANS



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CONNECTION SOLUTION  
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BIKE HIGHWAY

A "bike highway" typically refers to a dedicated and well-designed cycling infrastructure, often separated from motorized traffic, that facilitates safe and efficient commuting for cyclists.



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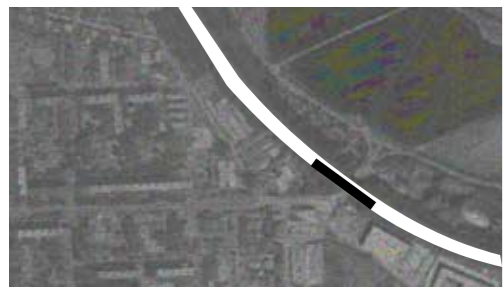
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CONECTION SOLUTION  
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**MODEL SITUATION APPLICATION OF THE MODULAR CONSTRUCTION AT THE BIKE HIGHWAY**



● **MUSEUM**  
 institutions that collect, preserve, and exhibit objects of artistic, cultural, historical, or scientific significance.



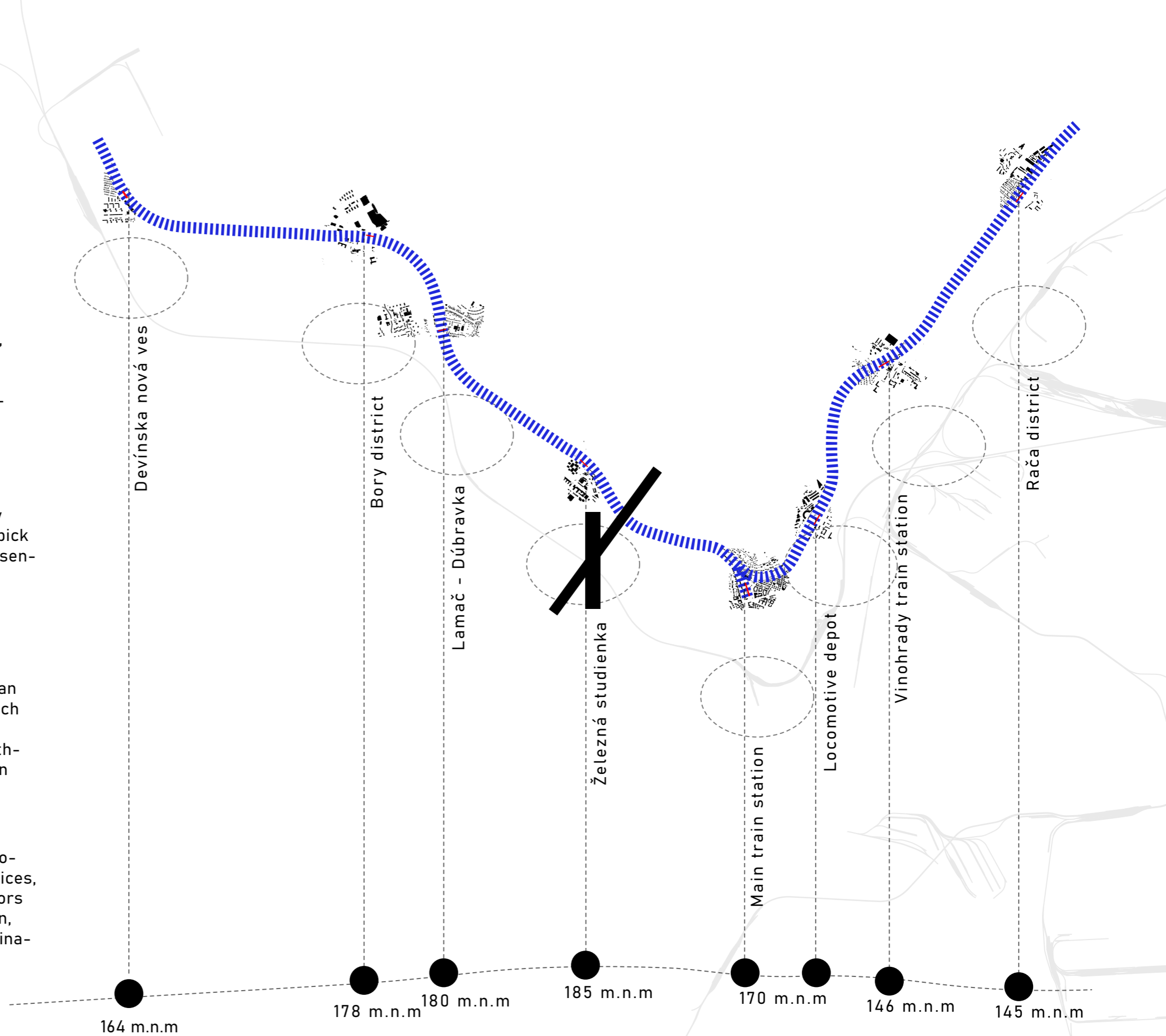
● **TRAINSTATION**  
 transportation facility where trains stop to pick up and discharge passengers.



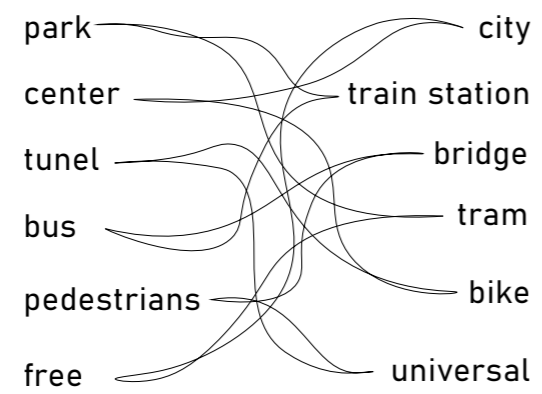
● **BRIDGE**  
 structures built to span physical obstacles such as rivers, valleys, or roads, providing a pathway for transportation or pedestrians.



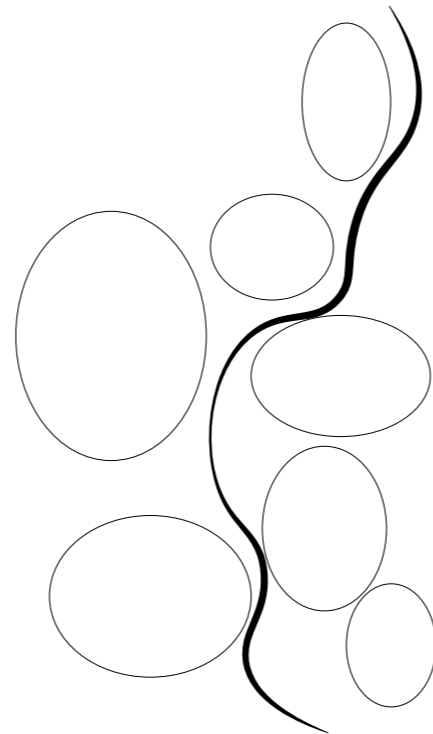
● **VISITOR CENTER**  
 facility designed to provide information, services, and amenities to visitors of a particular location, such as a tourist destination.



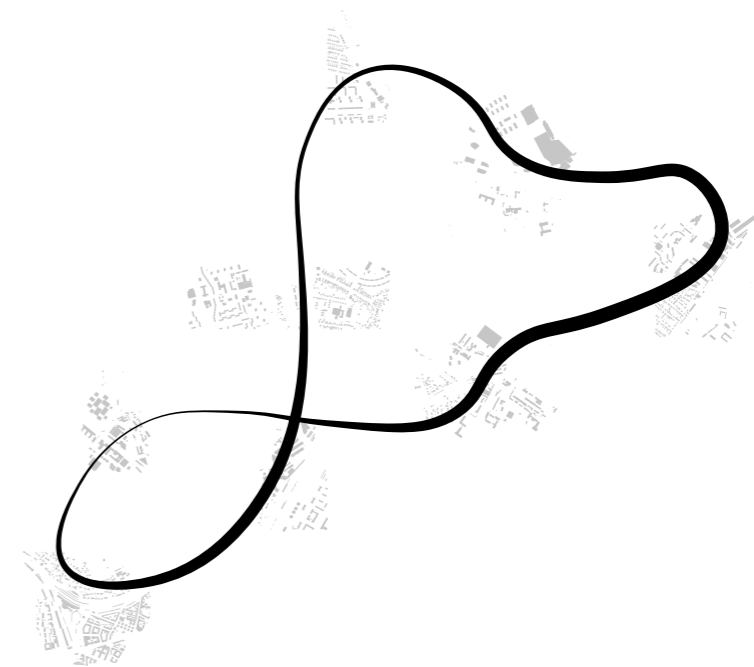




adaptability

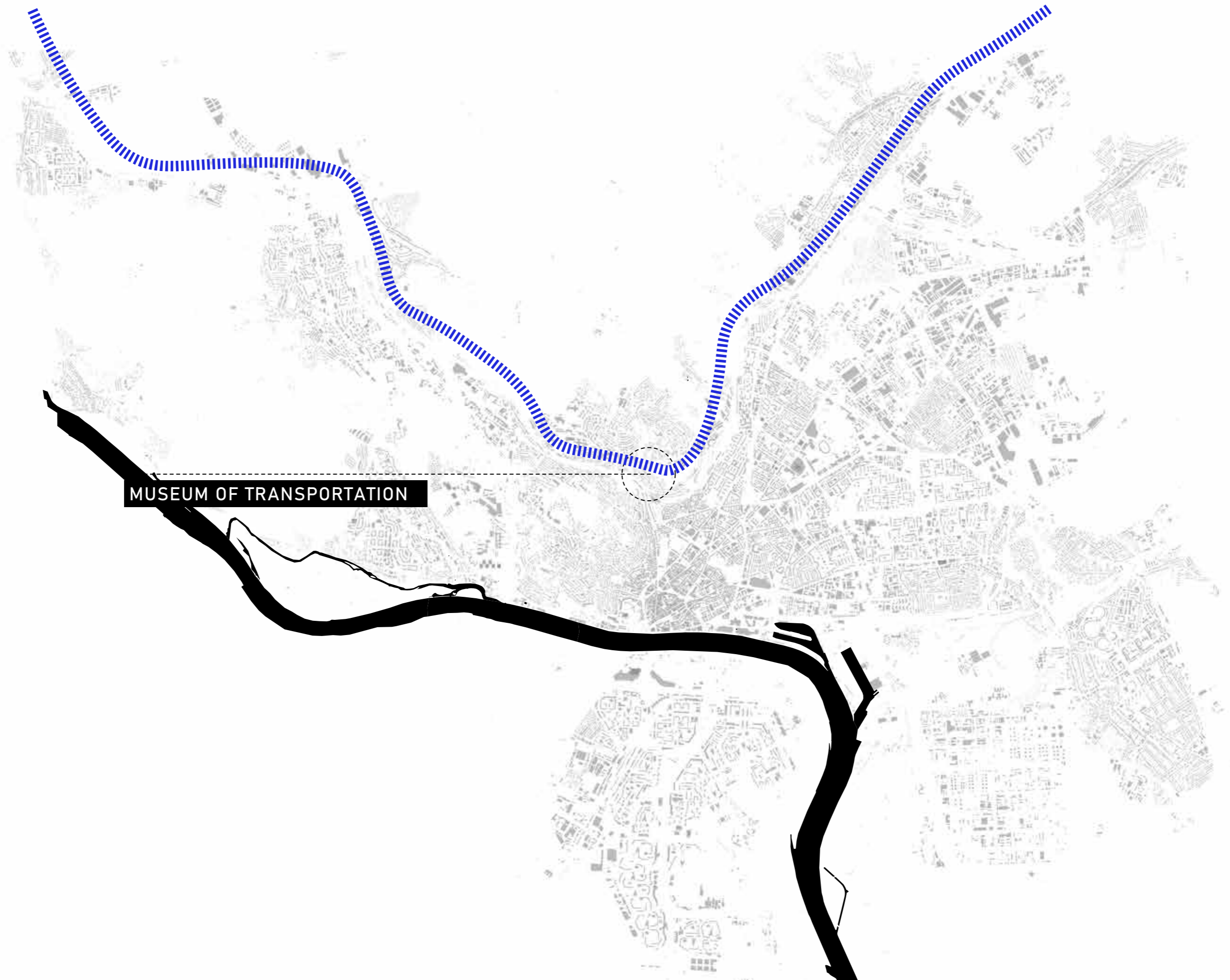


existing corridor



connected city

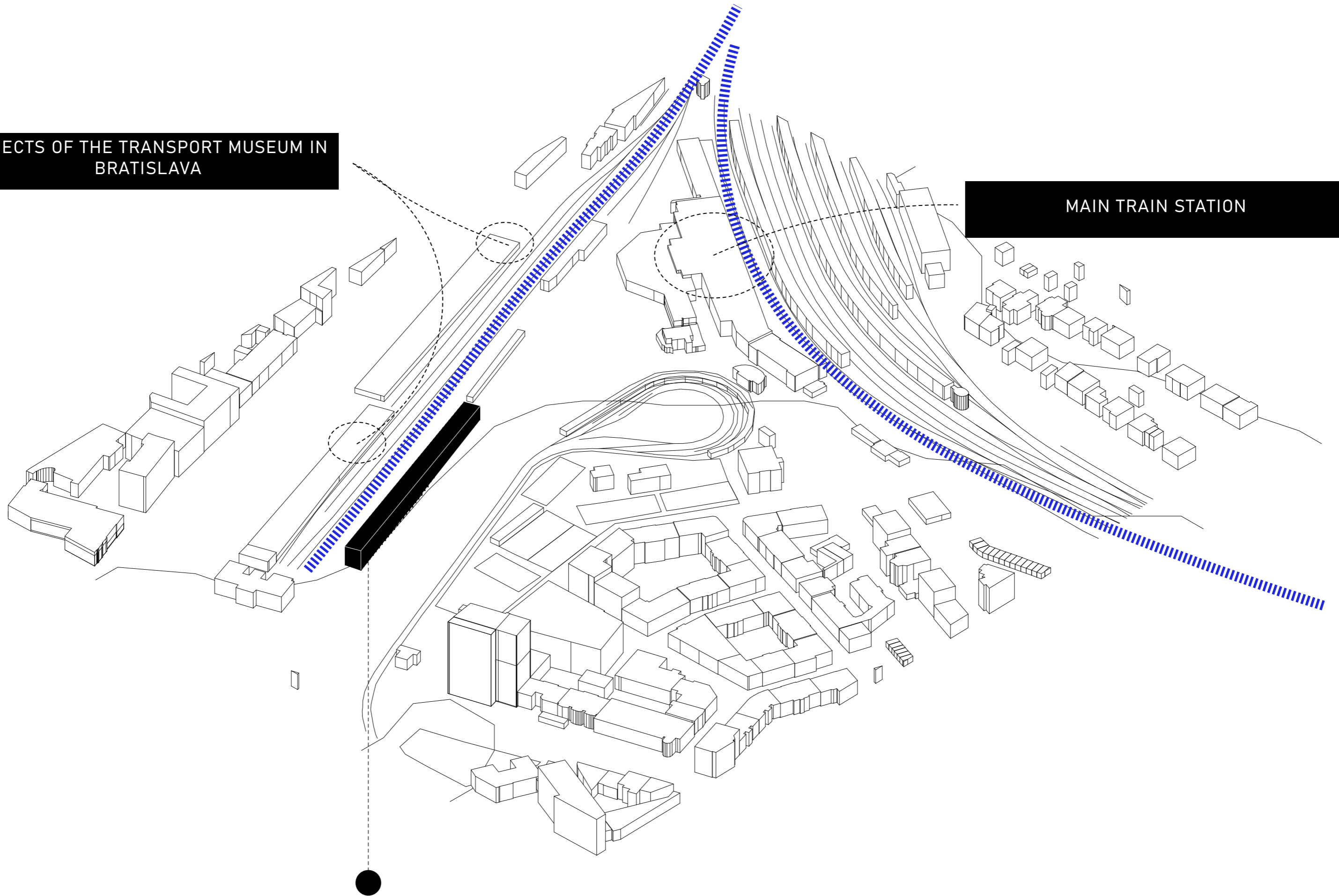
MODEL SITUATION APPLICATION OF THE MODULAR CONSTRUCTION AT THE BIKE HIGHWAY

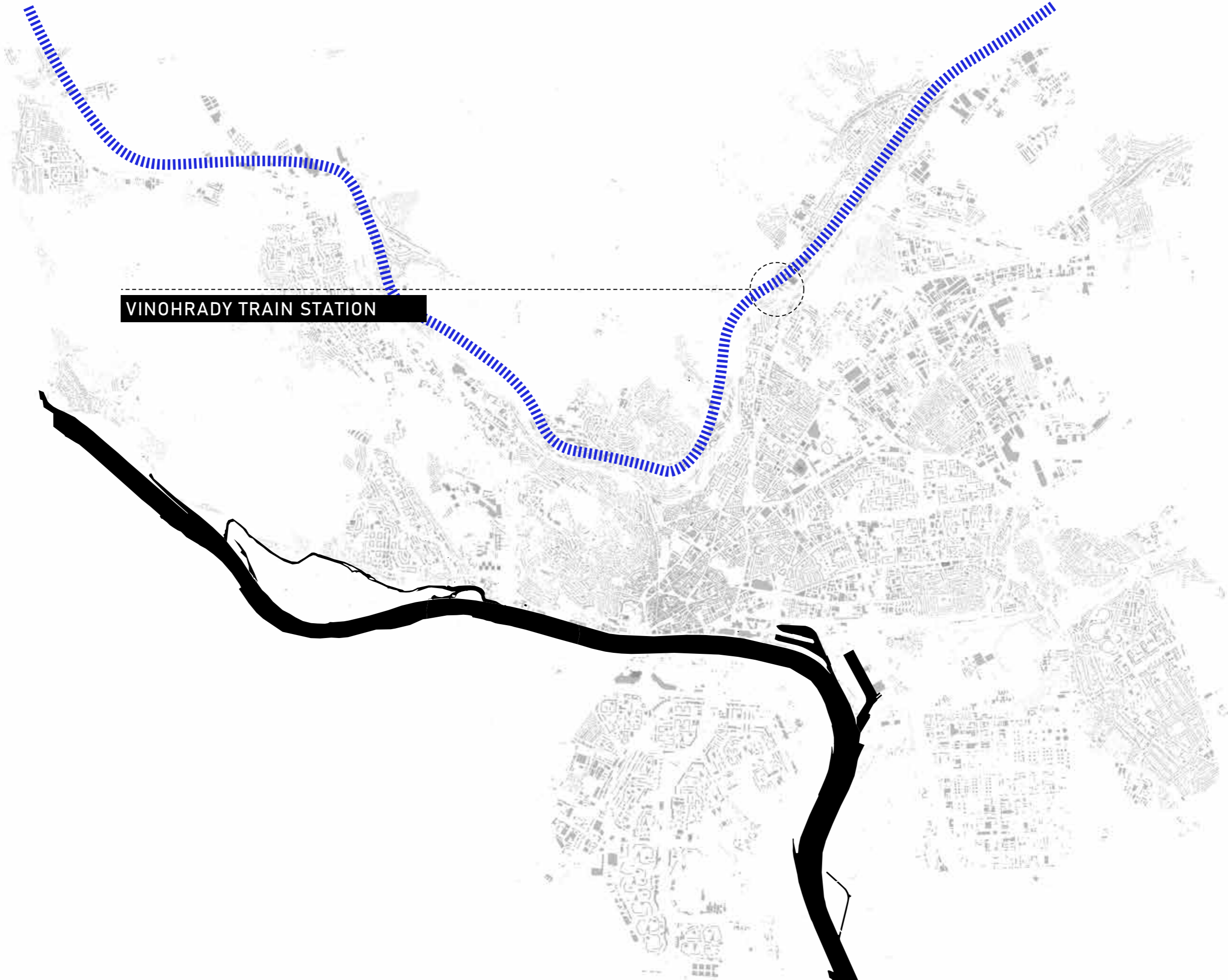


MUSEUM OF TRANSPORTATION

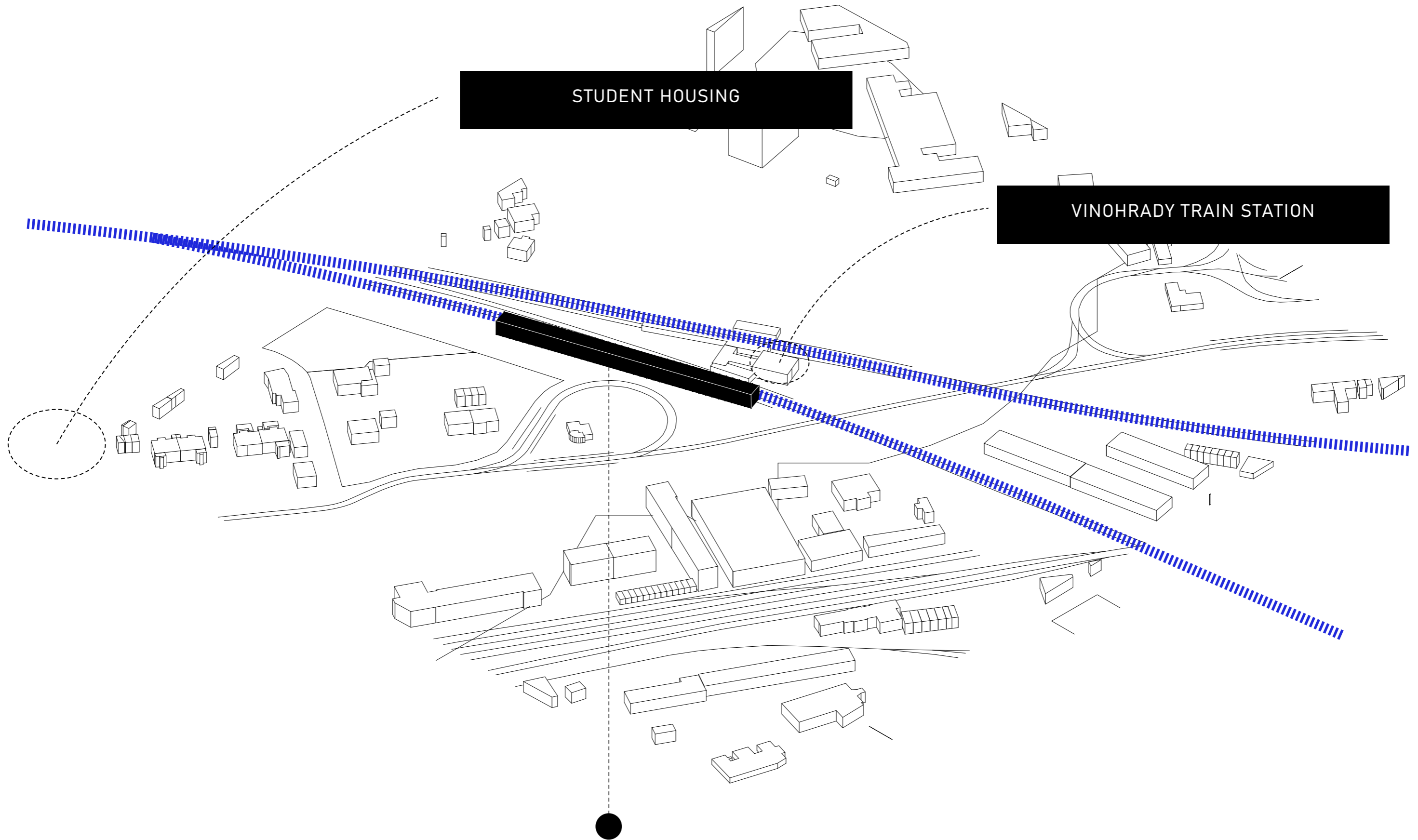
OBJECTS OF THE TRANSPORT MUSEUM IN  
BRATISLAVA

MAIN TRAIN STATION



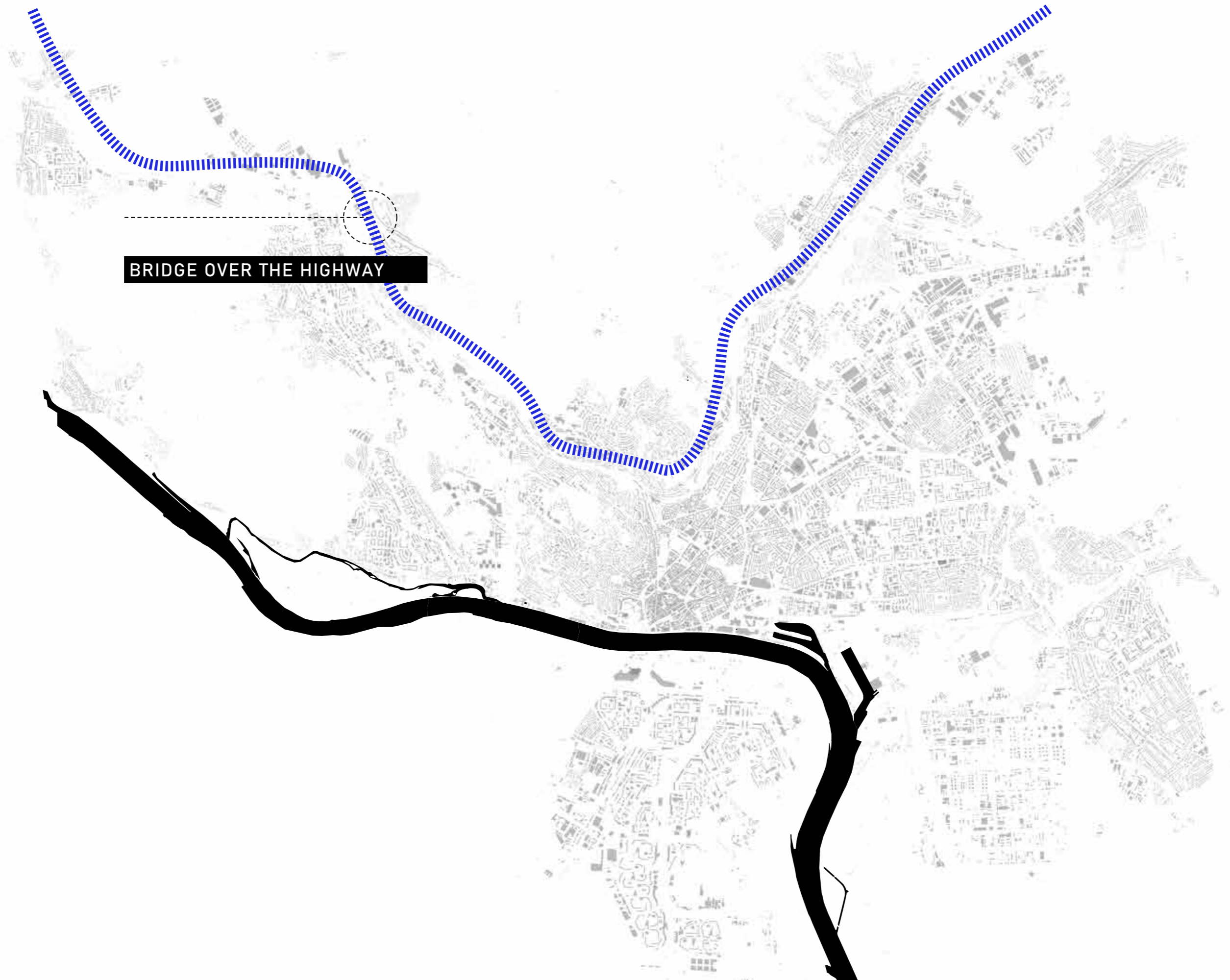


VINOHRADY TRAIN STATION



STUDENT HOUSING

VINOHRADY TRAIN STATION

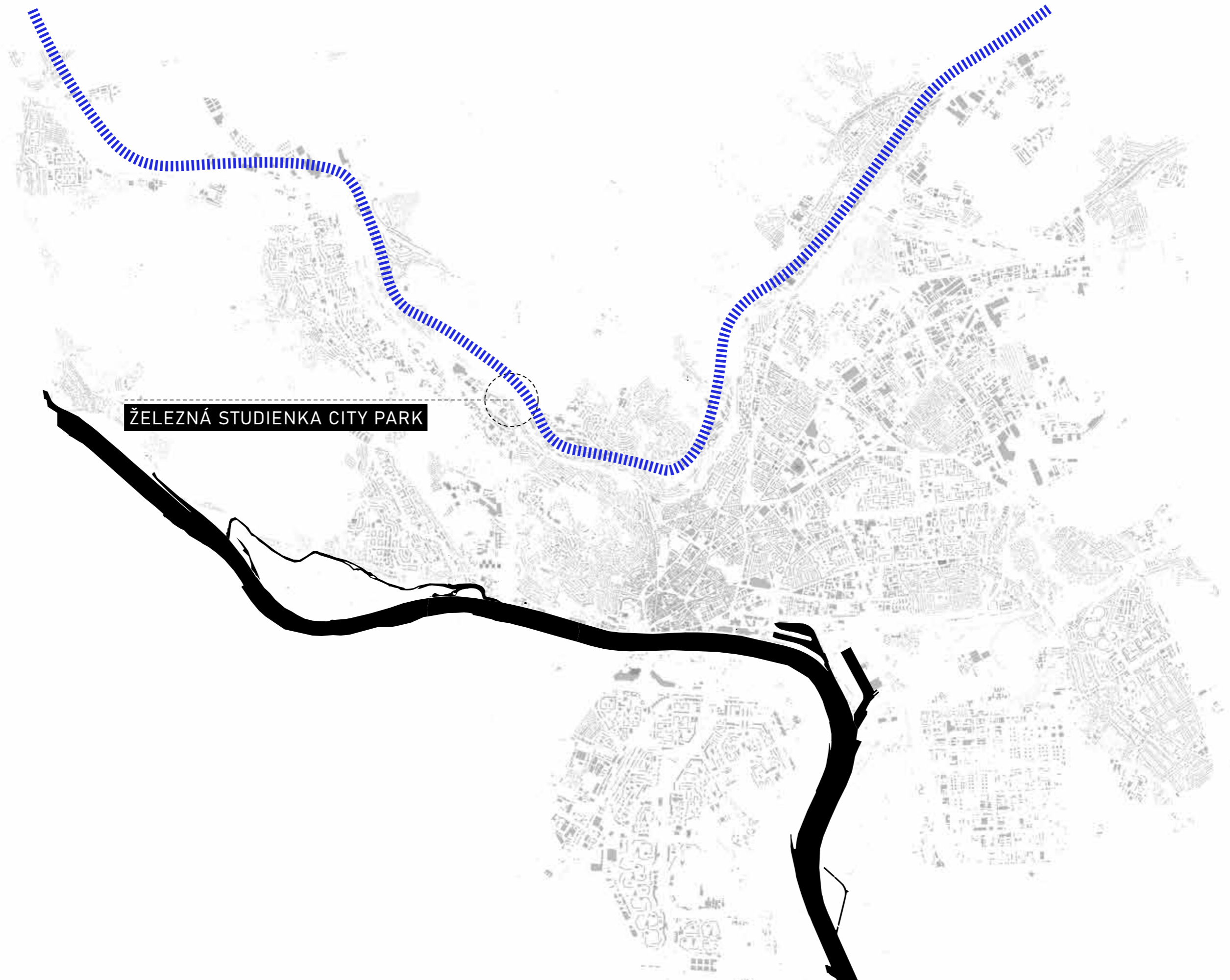


BRIDGE OVER THE HIGHWAY

OLD PART OF THE LAMAČ DISTRICT

DÚBRAVKA DISTRICT

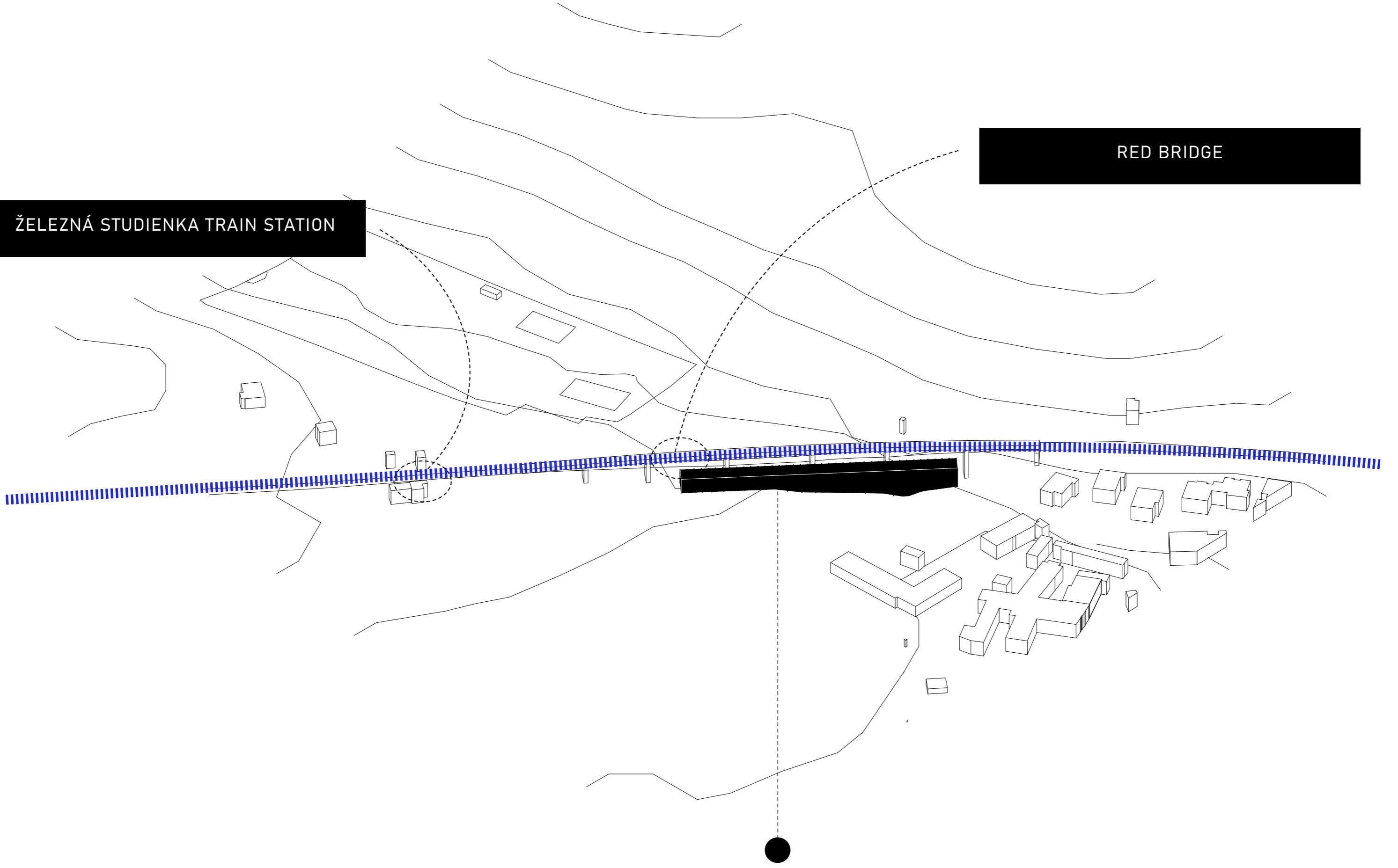




ŽELEZNÁ STUDIENKA CITY PARK

ŽELEZNÁ STUDIENKA TRAIN STATION

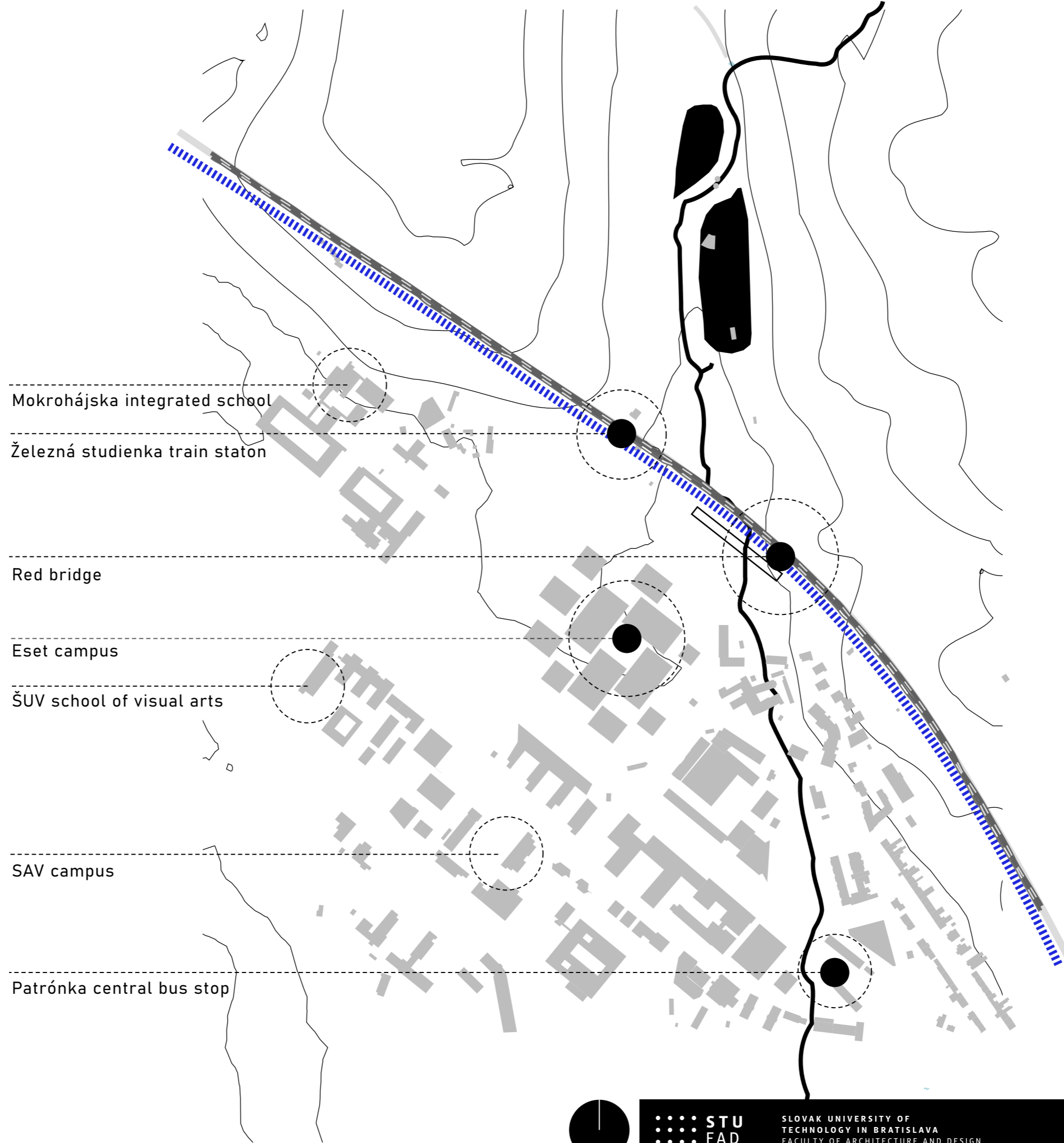
RED BRIDGE

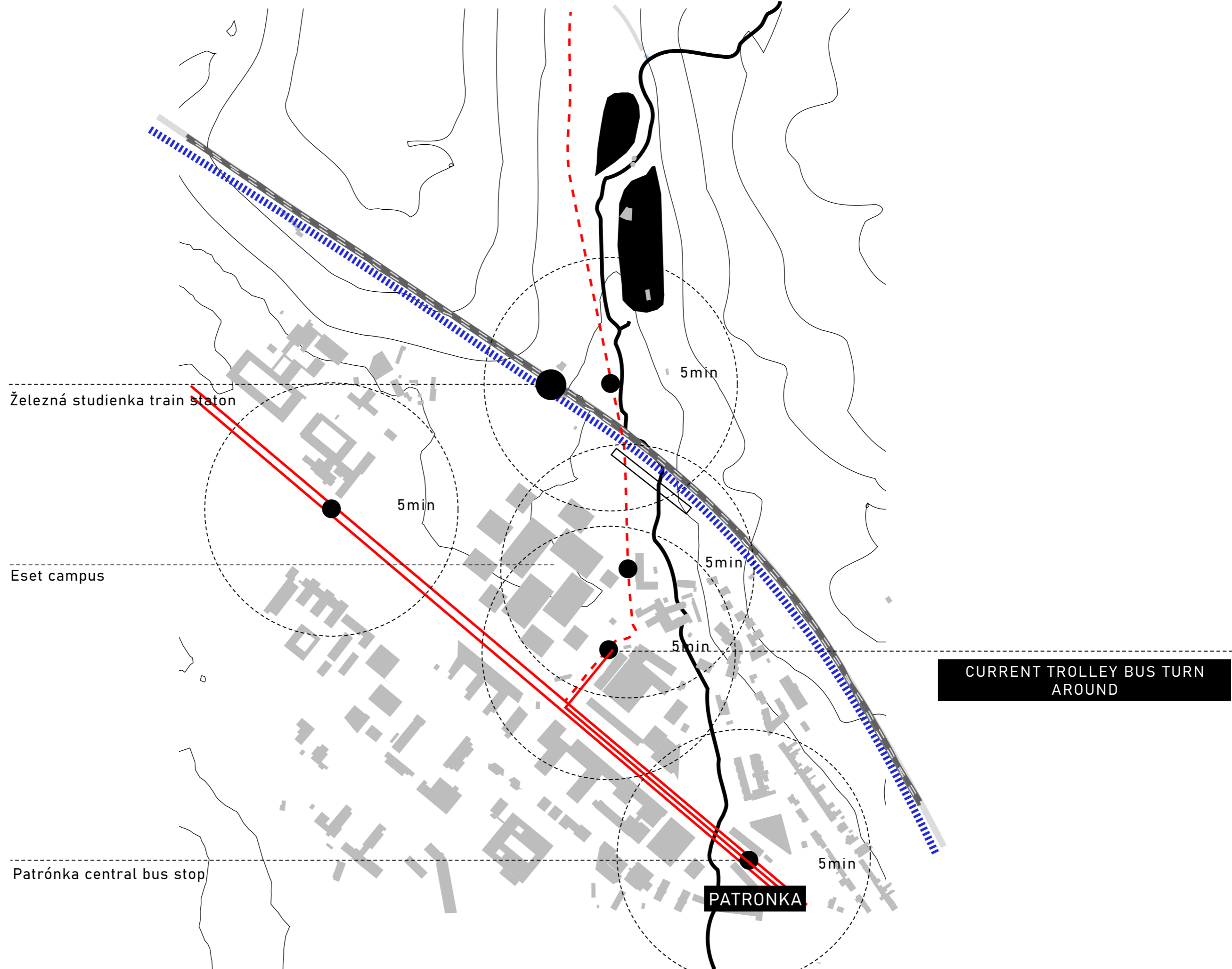


VISITOR CENTER - ŽELEZNÁ STUDIENKA RED BRIDGE



PUBLIC ARCHITECTURE SHOULD BE  
PLAYGROUND FOR ADULTS





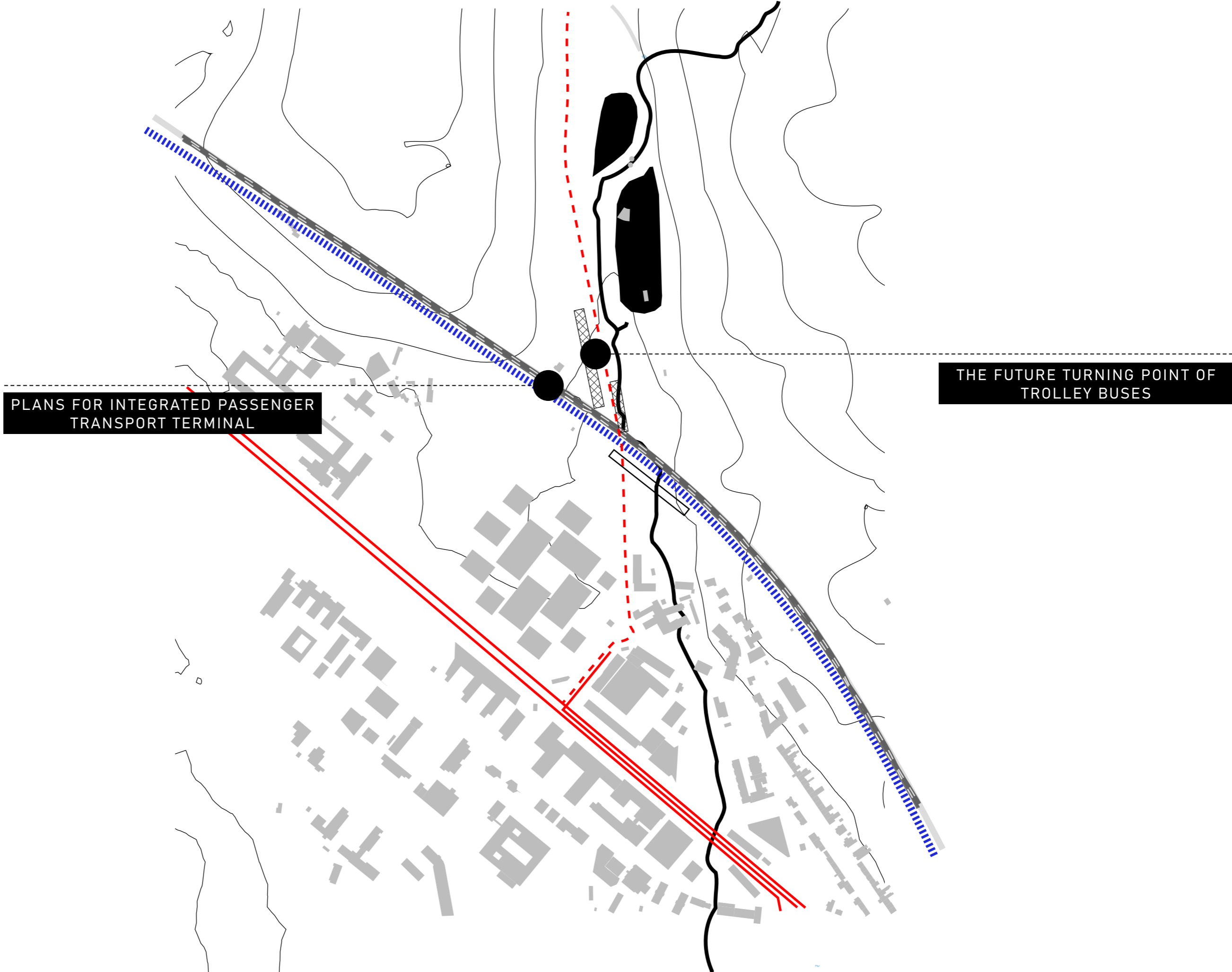
REGULAR BUS LINES  
SPECIAL BUS LINES



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ANALYSIS OF THE SITE  
HRAŠKA GREGOR 2023

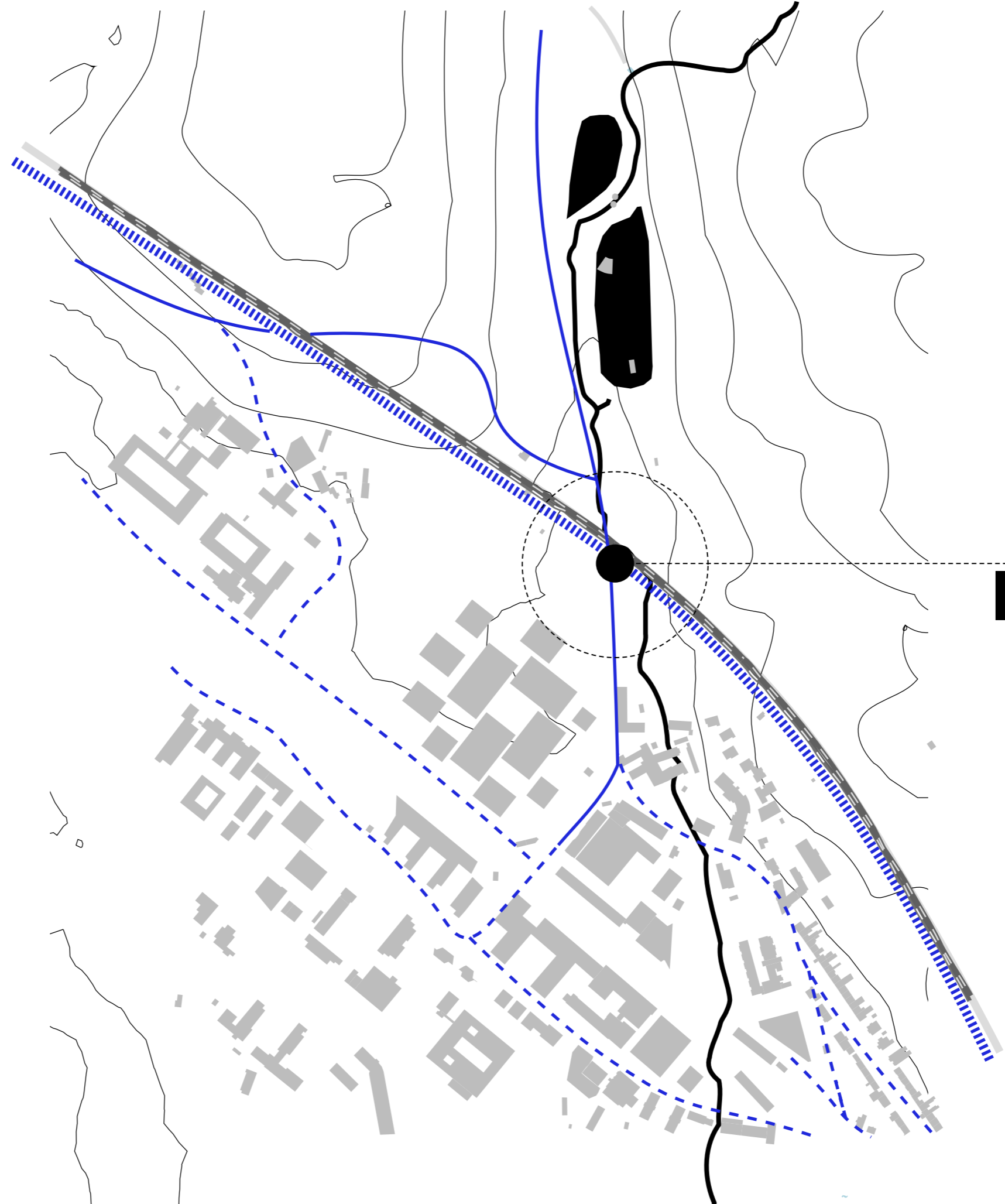


PLANS FOR INTEGRATED PASSENGER TRANSPORT TERMINAL

THE FUTURE TURNING POINT OF TROLLEY BUSES







MULTI-LEVEL BIKE CROSSOVER  
WITH THE BIKE HIGHWAY

EXISTING SEPARATE CYCLE ROAD  
RECOMMENDED PARTIALLY MARKED



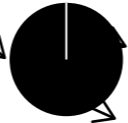
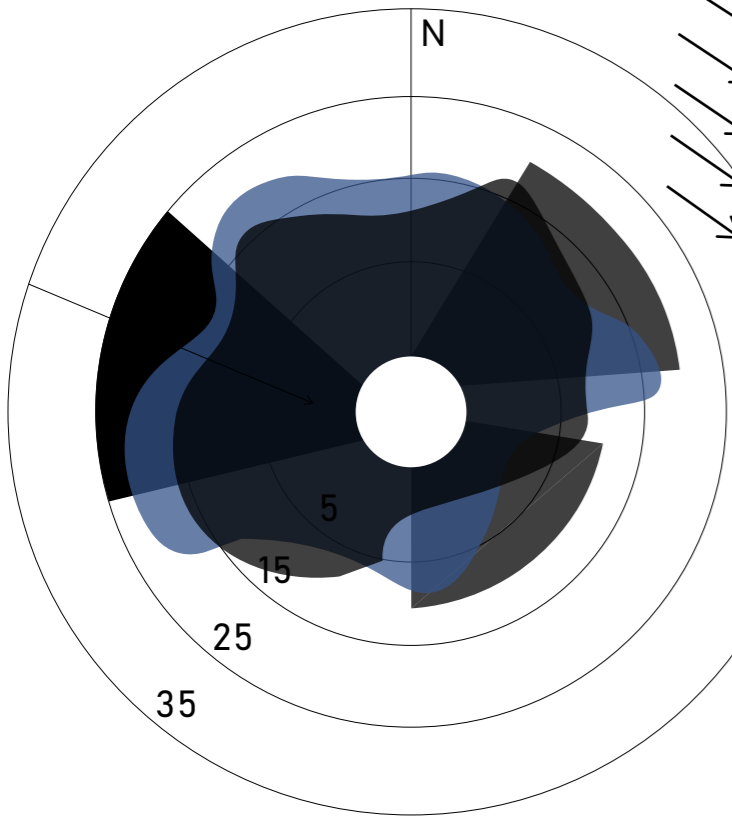
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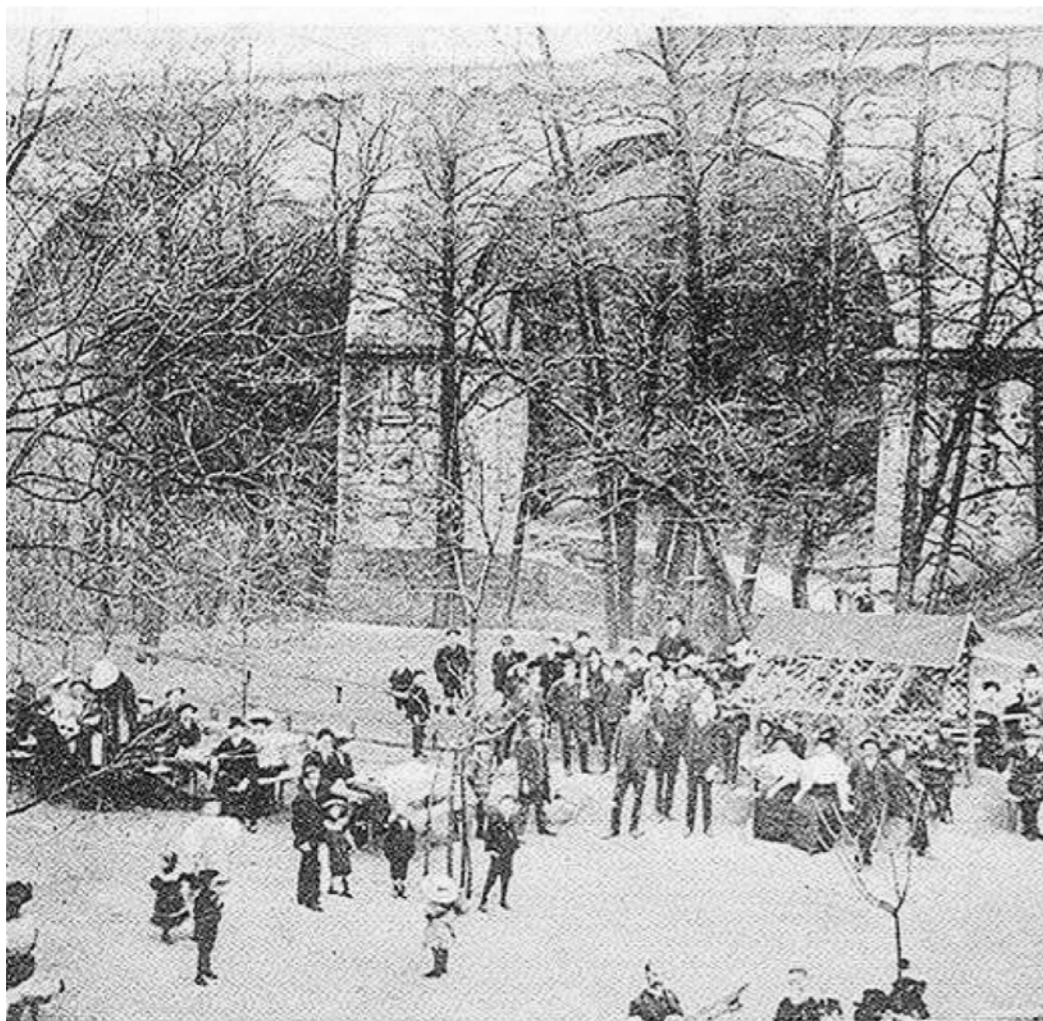
ANNUAL PRECIPITATION : 683 mm  
 ANNUAL TEMPERATURE : 10,8 °C



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## OLD VIADUCT

The Red Bridge, initially single-track, was built in 1848 and spanned the valley of the river Vydrice in the recreation area of Bratislava at a height of approximately 16 m. The bridge had nine semi-circular arches.

On August 20, 1848, the first steam train arrived in Bratislava via the viaduct

1848 - 1945



## TEMPORARY BRIDGE ON WOODEN SUPPORTS

In a record short time, in one week, the Red Army built a single-track temporary structure outside the track axis of the destroyed bridge, with a track in an arch attached to steel welded beams, which were placed on high wooden pillars.

1945 - 1948



## STEEL RED BRIDGE

The definitive reconstruction of the Red bridge was considered with an increase in track speed to 150 km/h, therefore the railway line was shifted by about 12 m in the direction of the Vydrice valley compared to the viaduct route.

This bridge is still perceived as temporary, in the future it will be replaced by a new wider bridge

1945 - 1948



ORIGINAL POSITION OF THE OLD VIADUCT

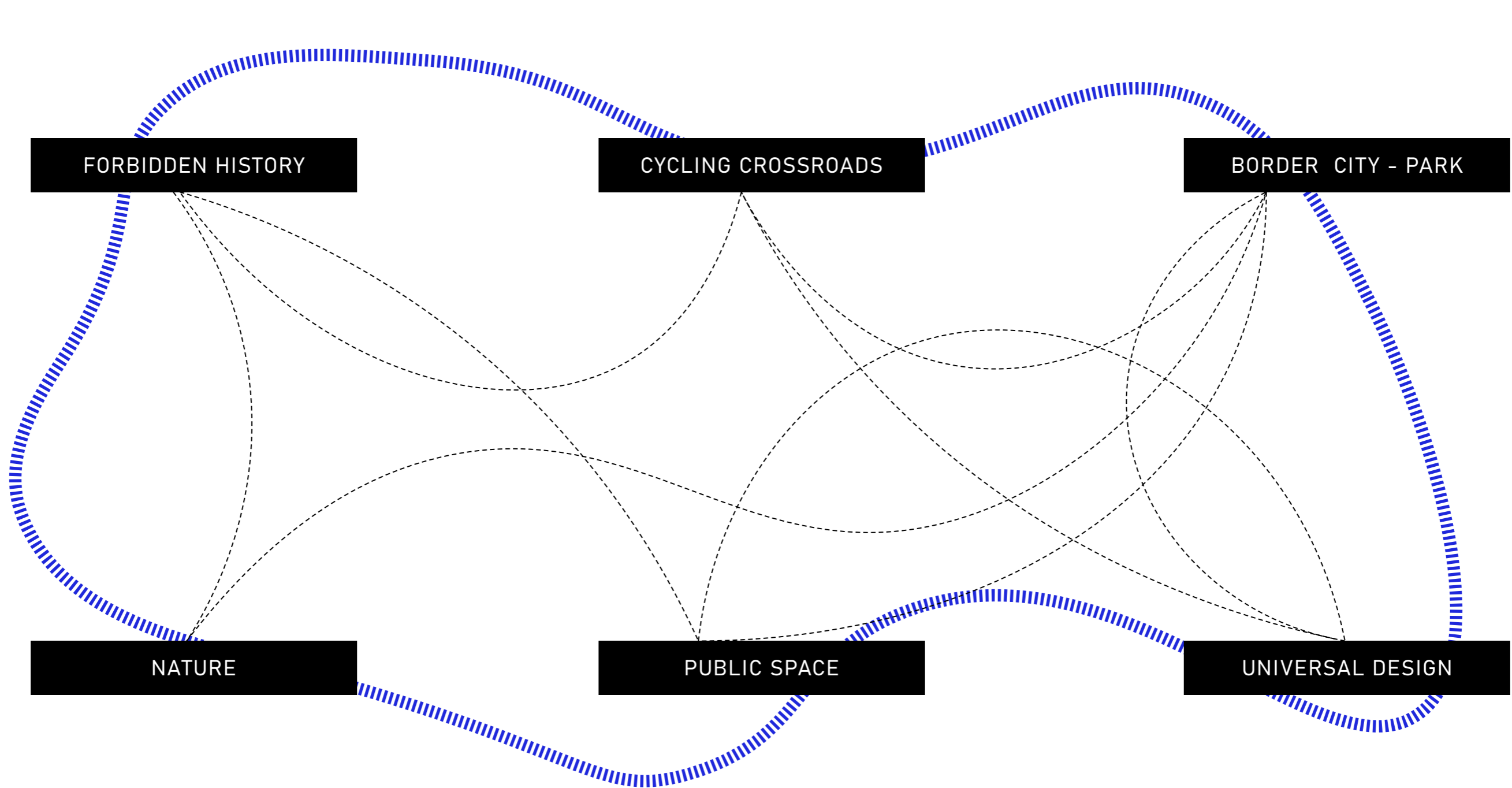
The new railway line was shifted by about 12 m in the direction of the Vydrice valley compared to the viaduct route.





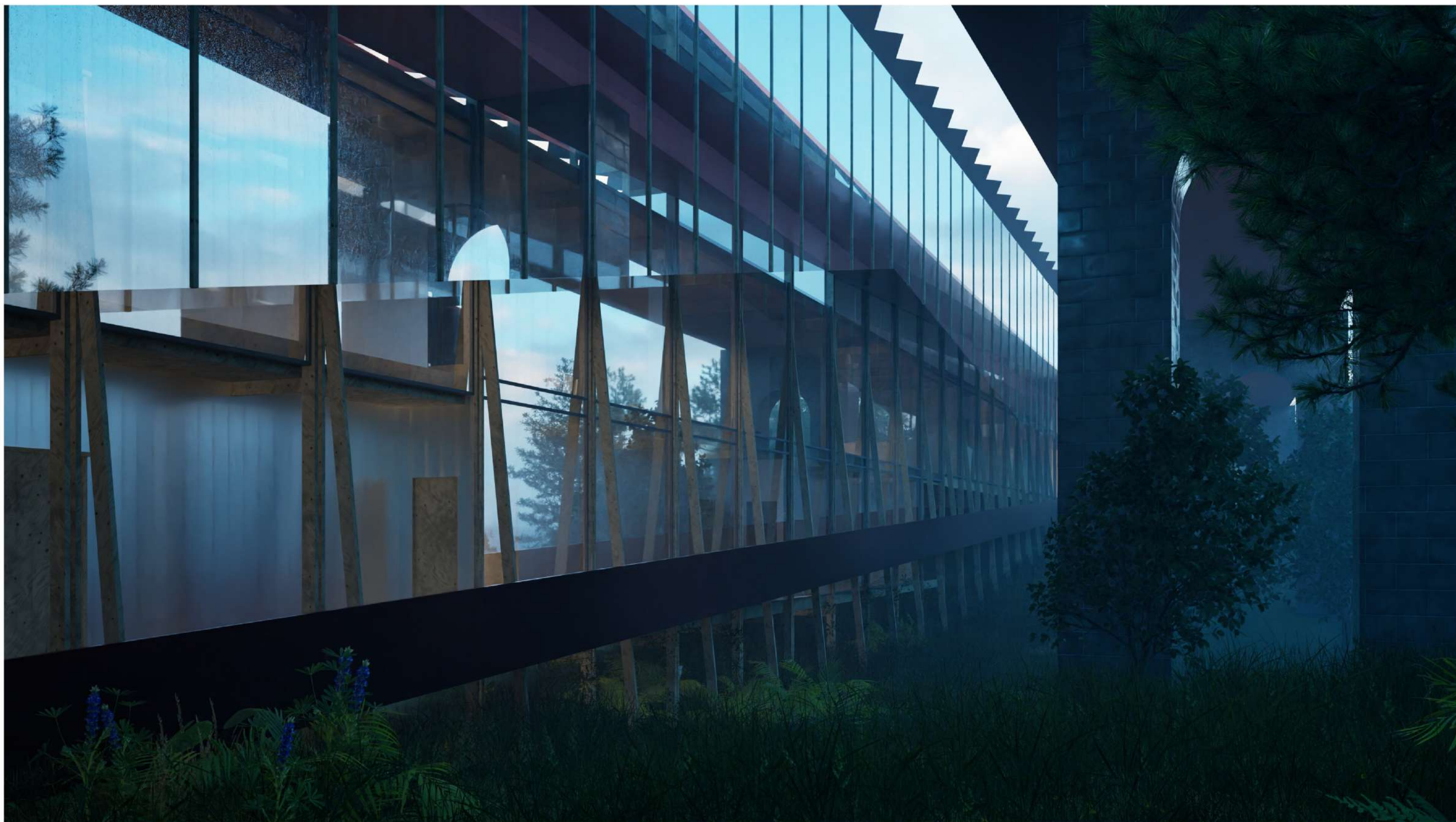
ENTRY POINT - VISITOR CENTER



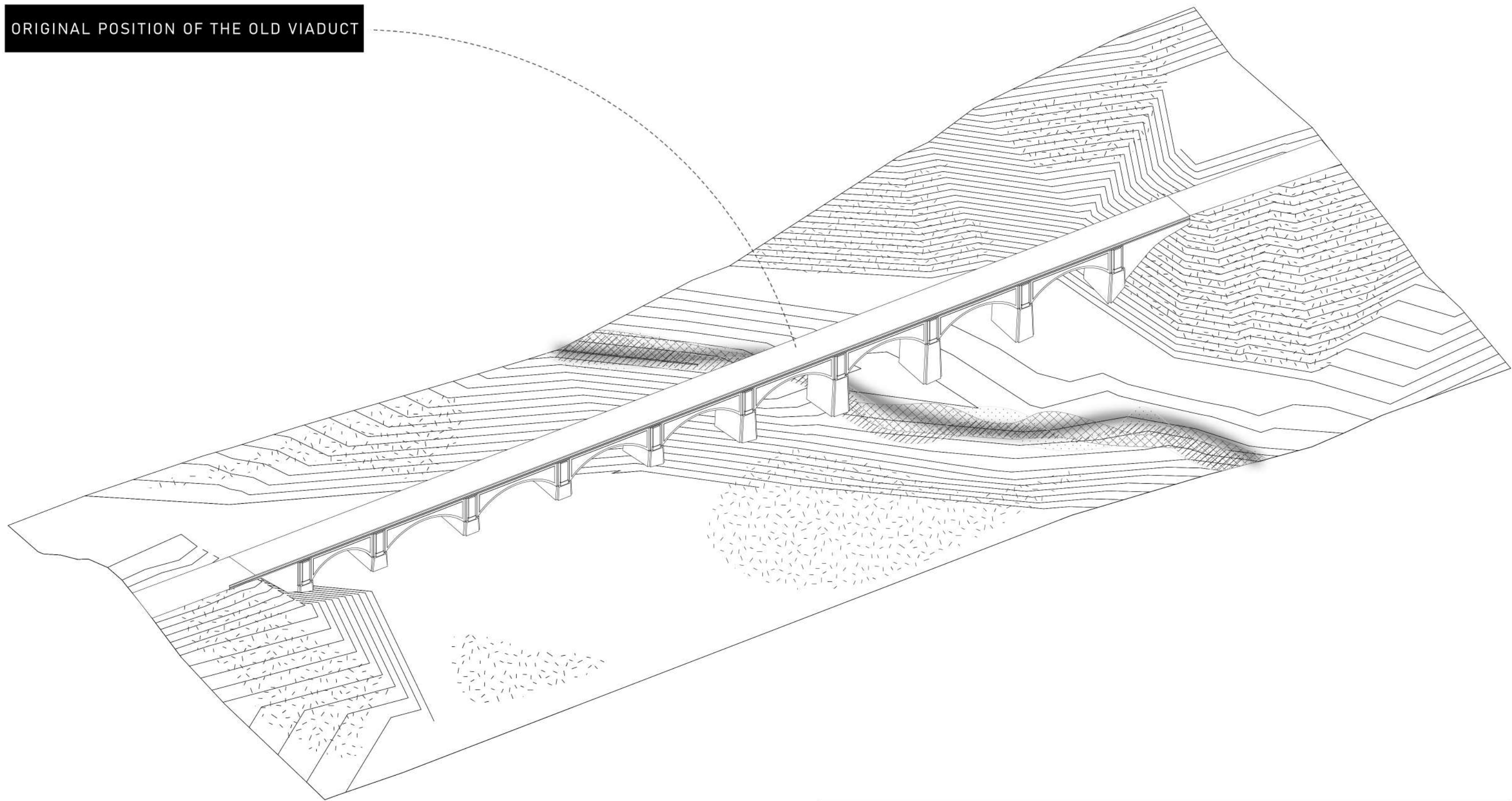






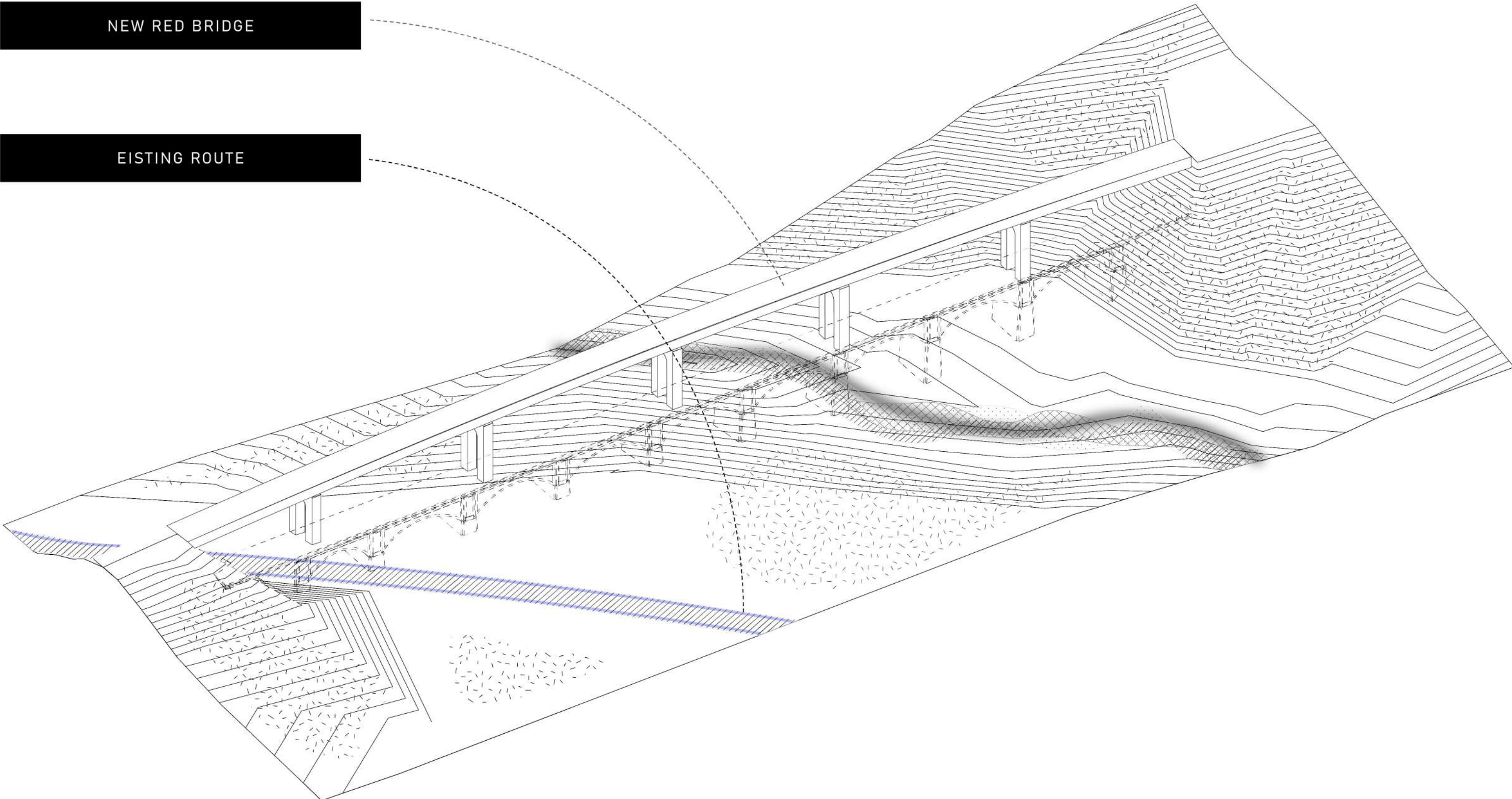


ORIGINAL POSITION OF THE OLD VIADUCT

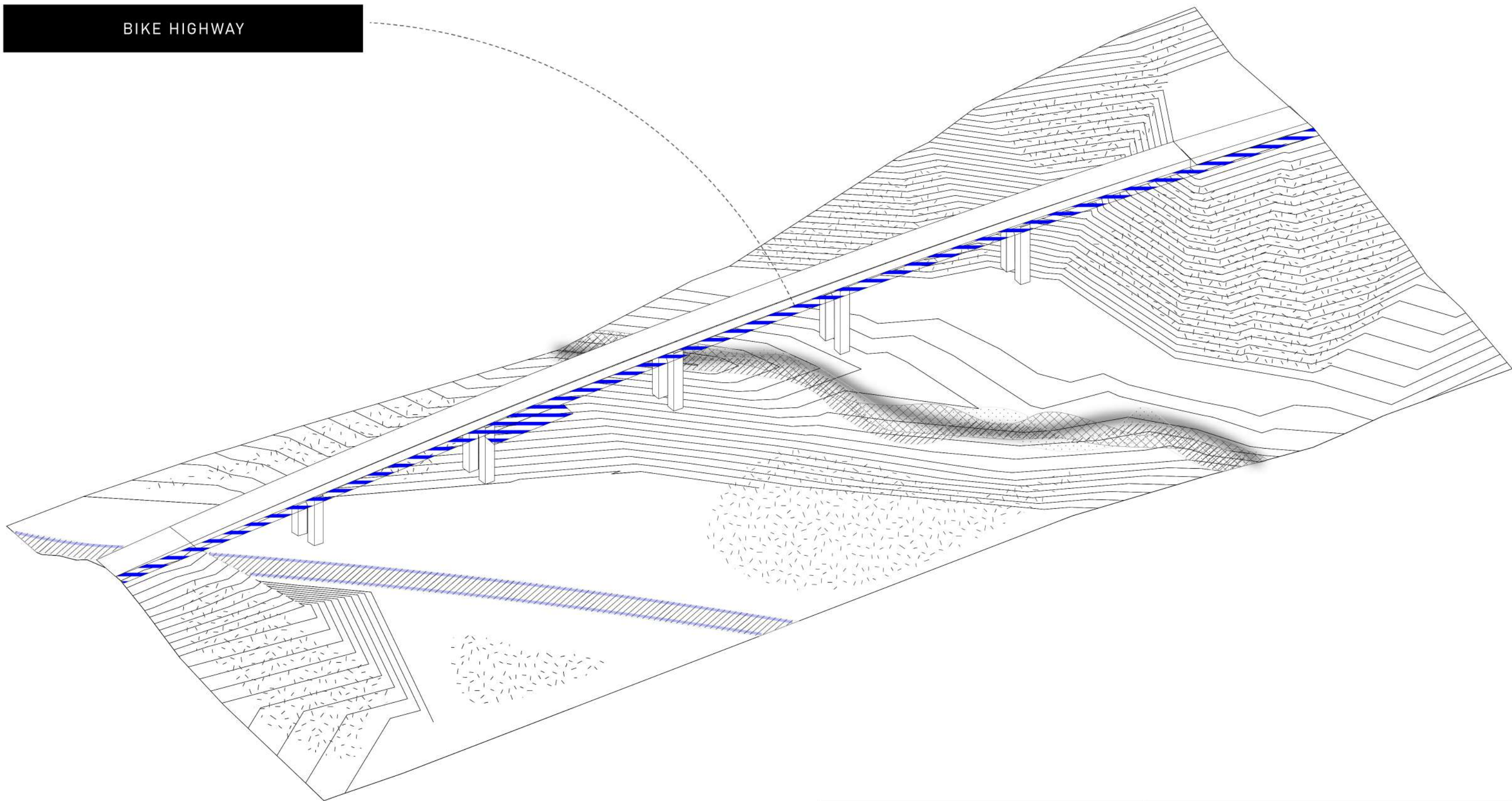


NEW RED BRIDGE

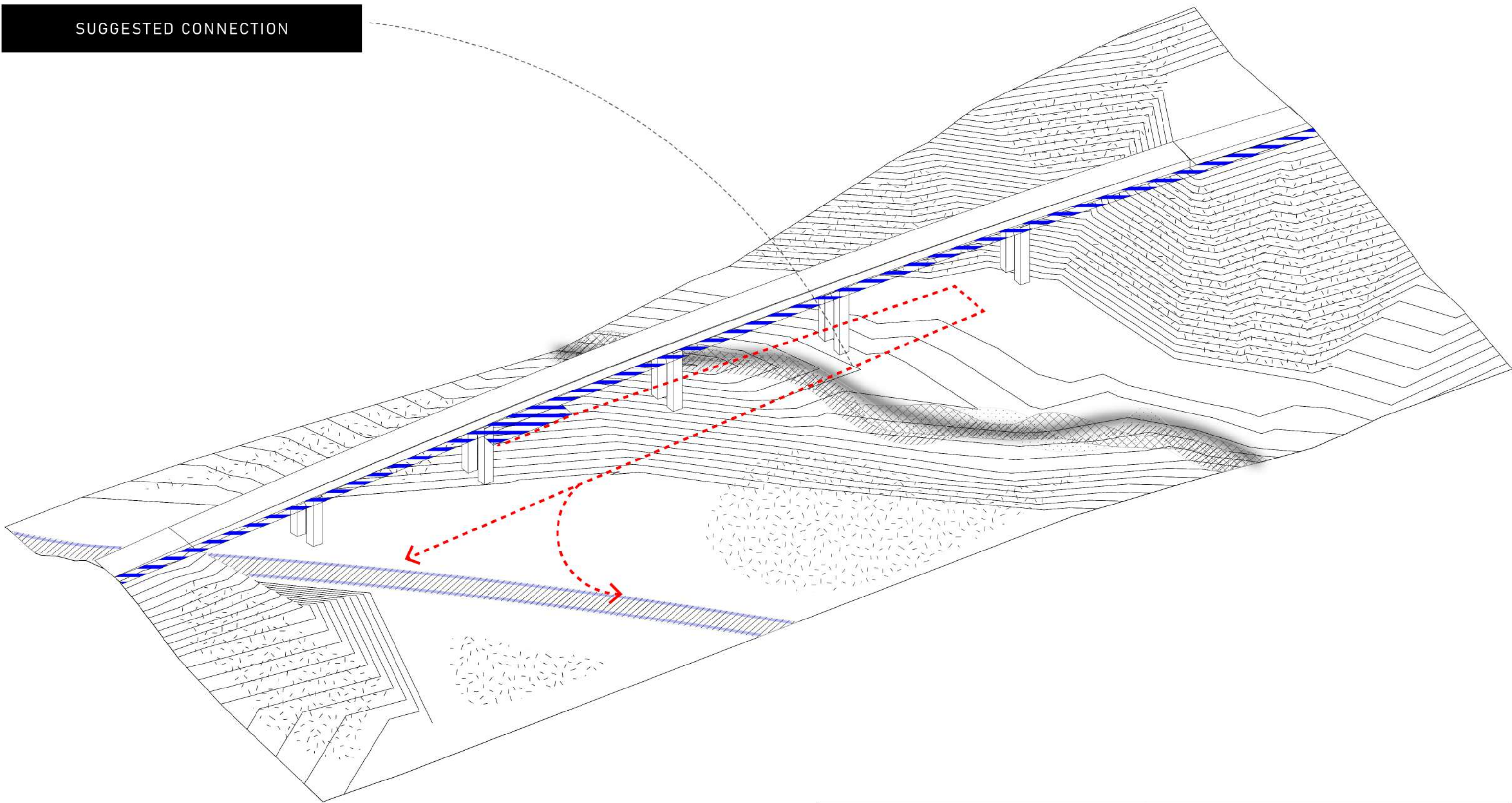
EISTING ROUTE



BIKE HIGHWAY

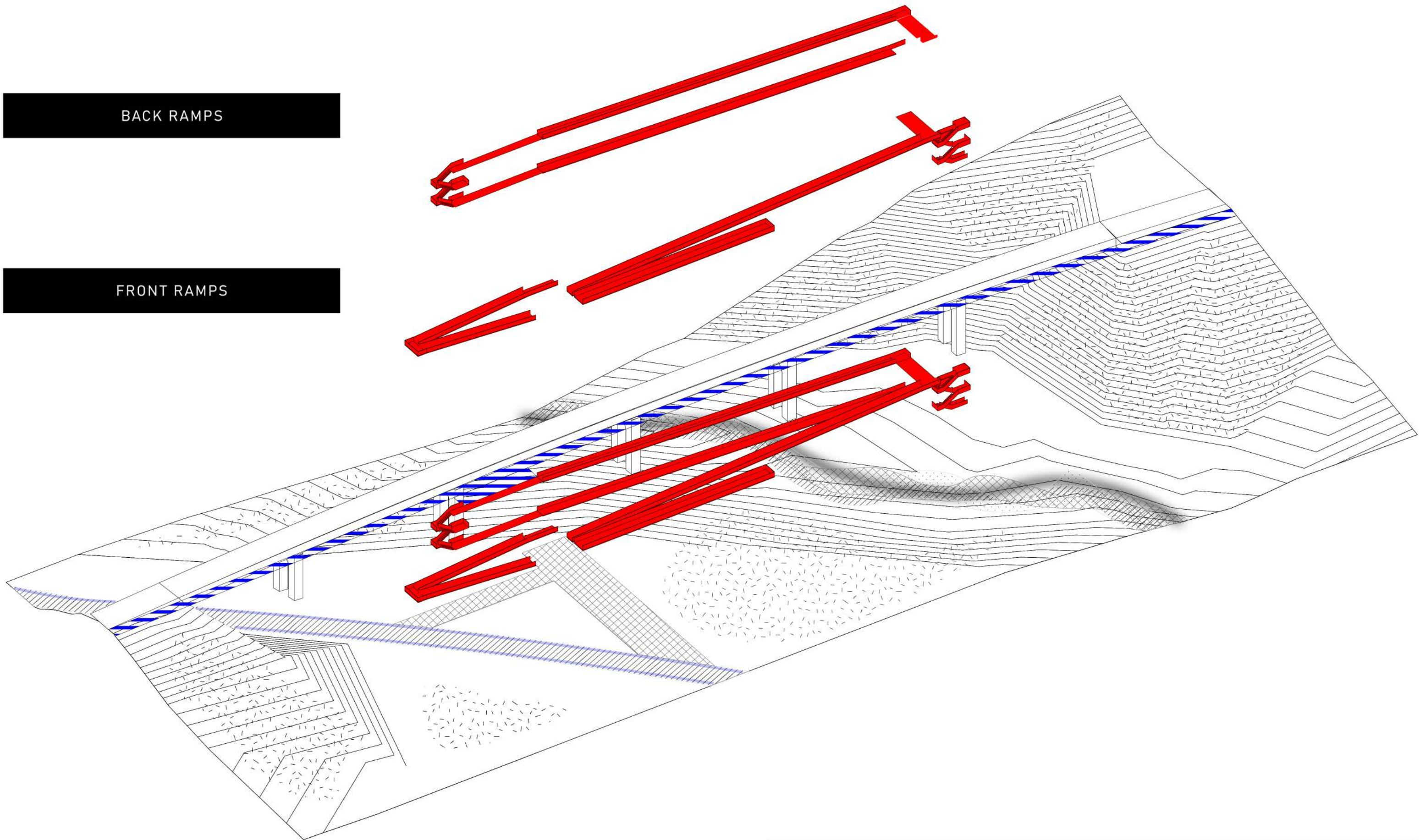


SUGGESTED CONNECTION



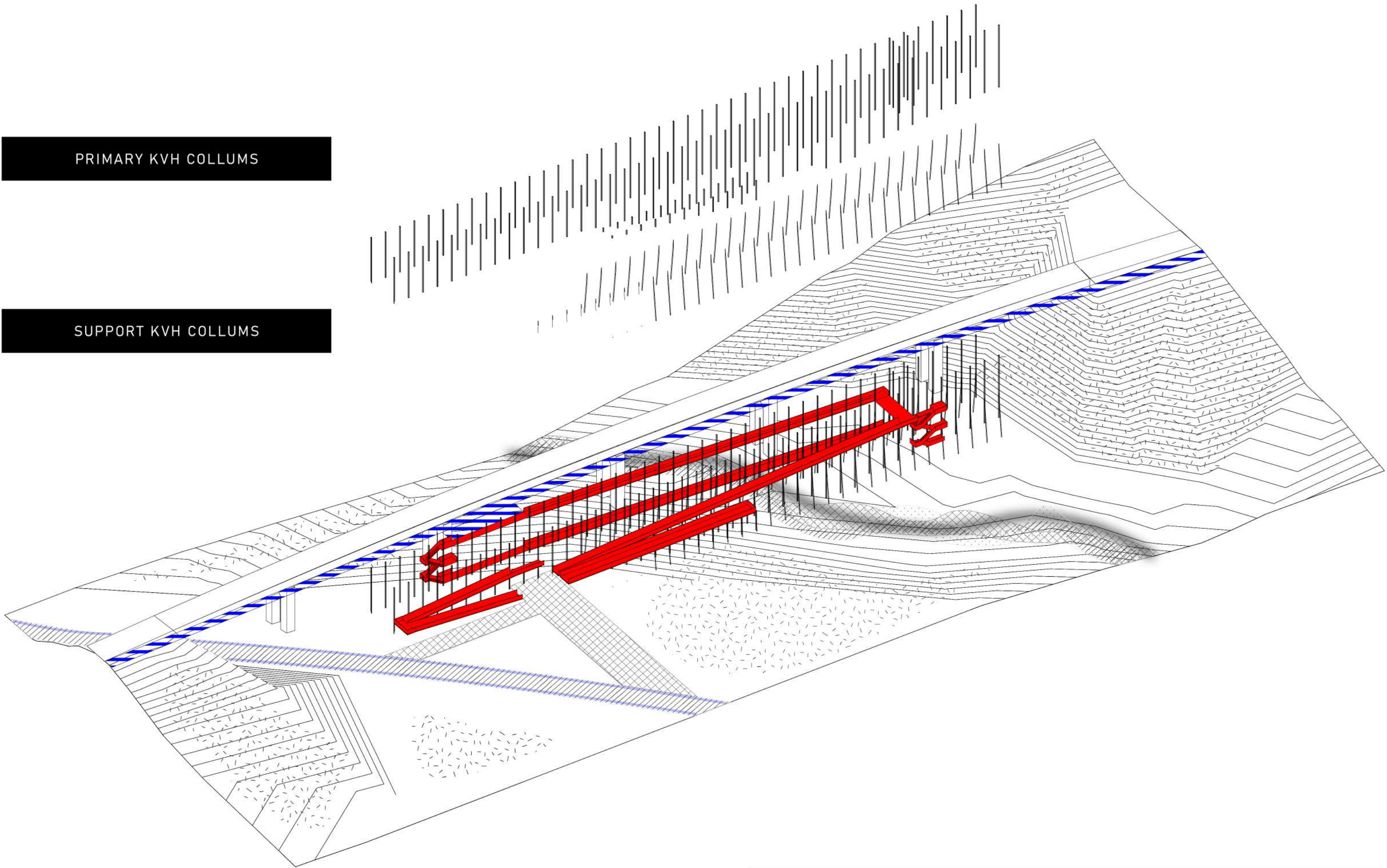
BACK RAMPS

FRONT RAMPS



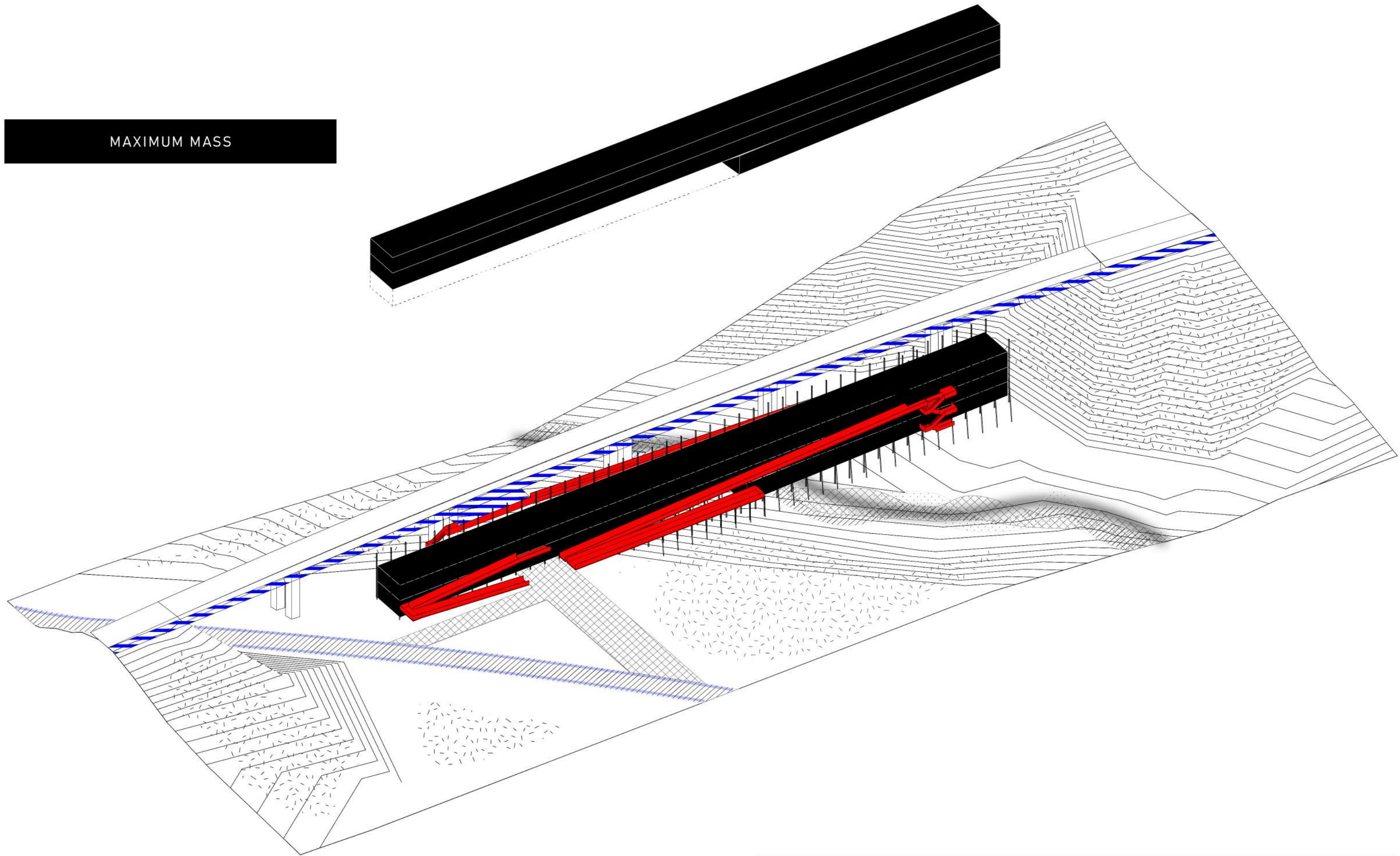
PRIMARY KVH COLLUMS

SUPPORT KVH COLLUMS





MAXIMUM MASS



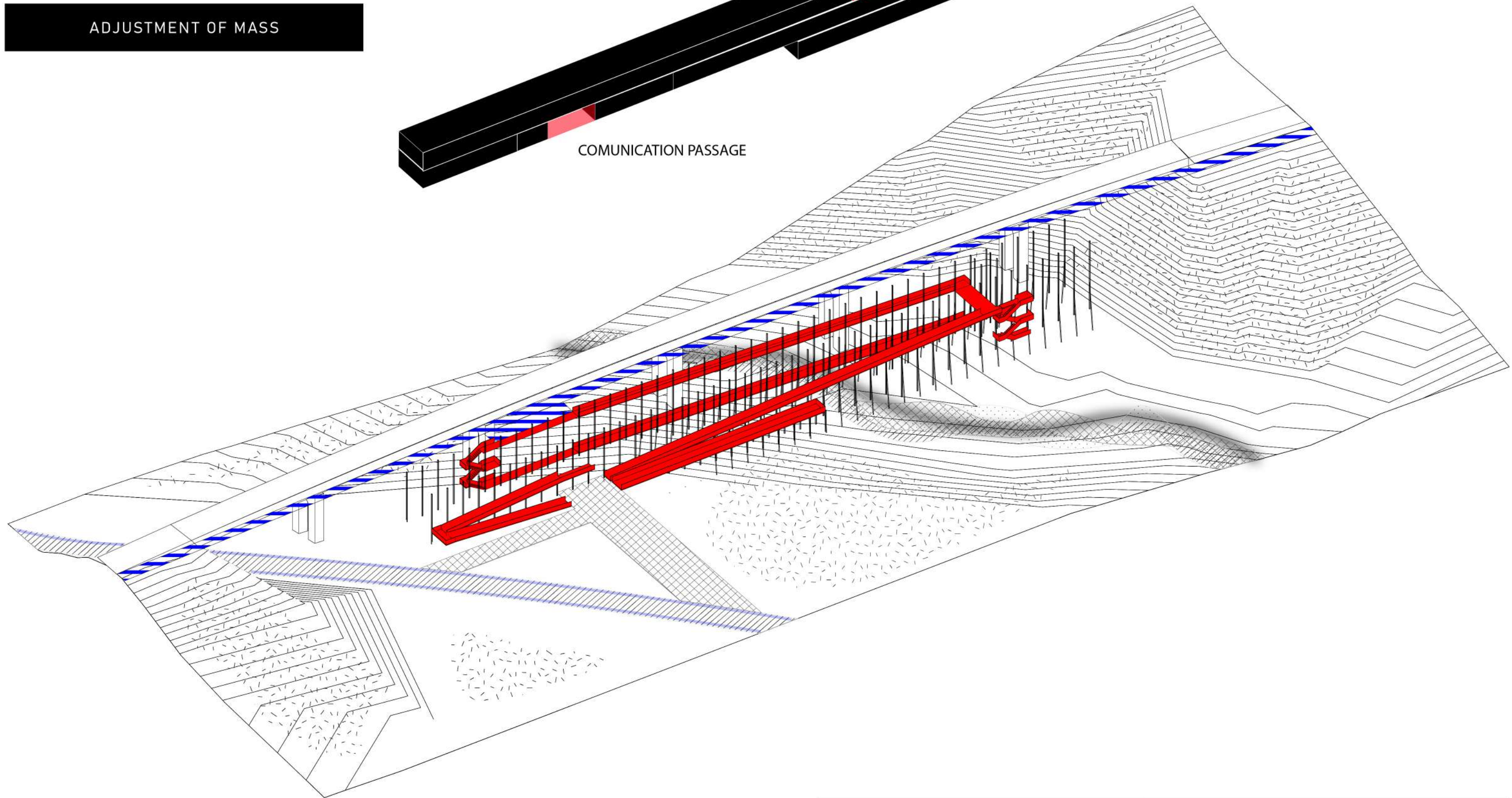
ADJUSTMENT OF MASS

VIEWING PART OF THE TERRACE

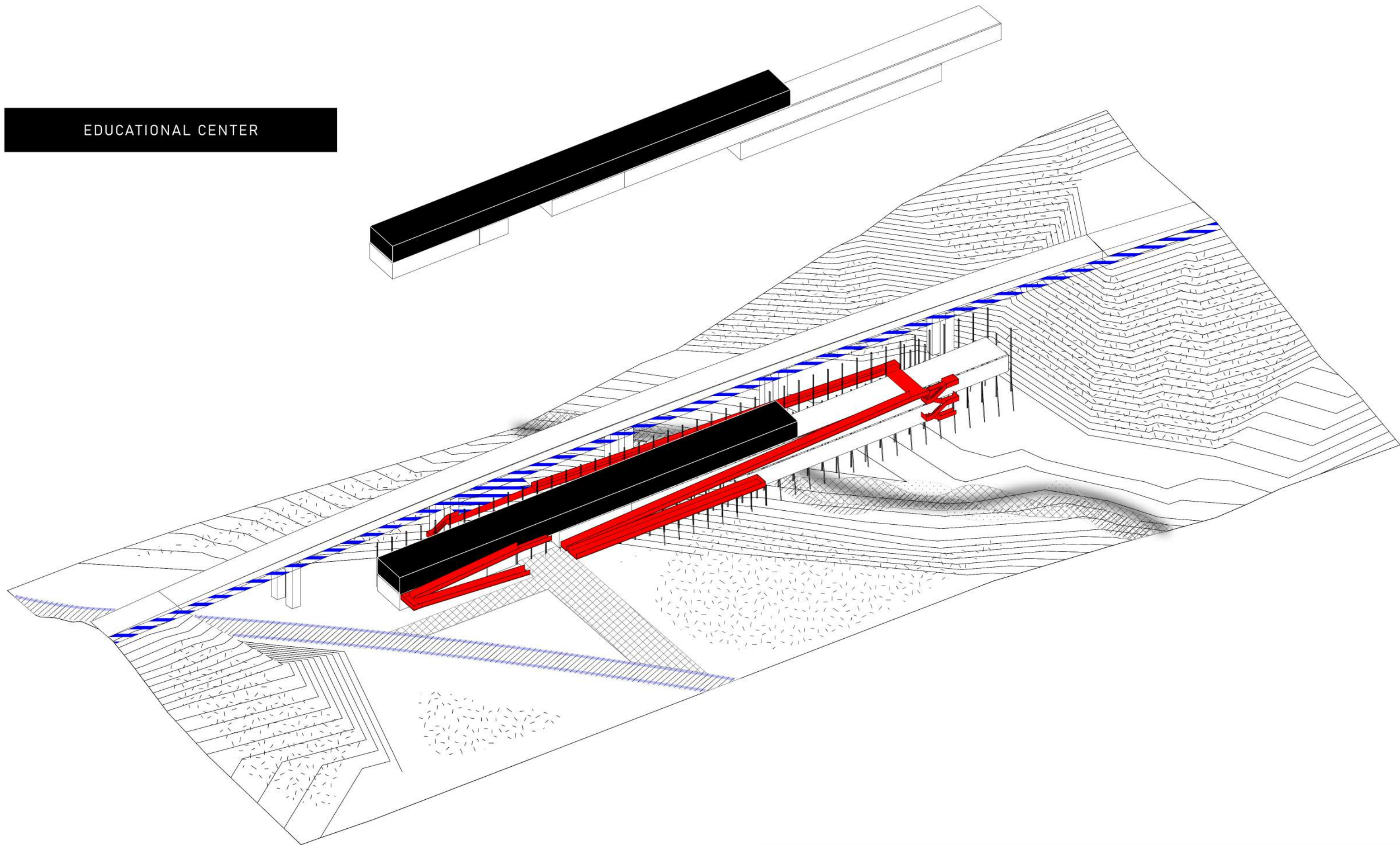
CREATING A TERRACE FOR A SMOOTH TRANSITION

CONNECTION TO THE EXISTING PATH

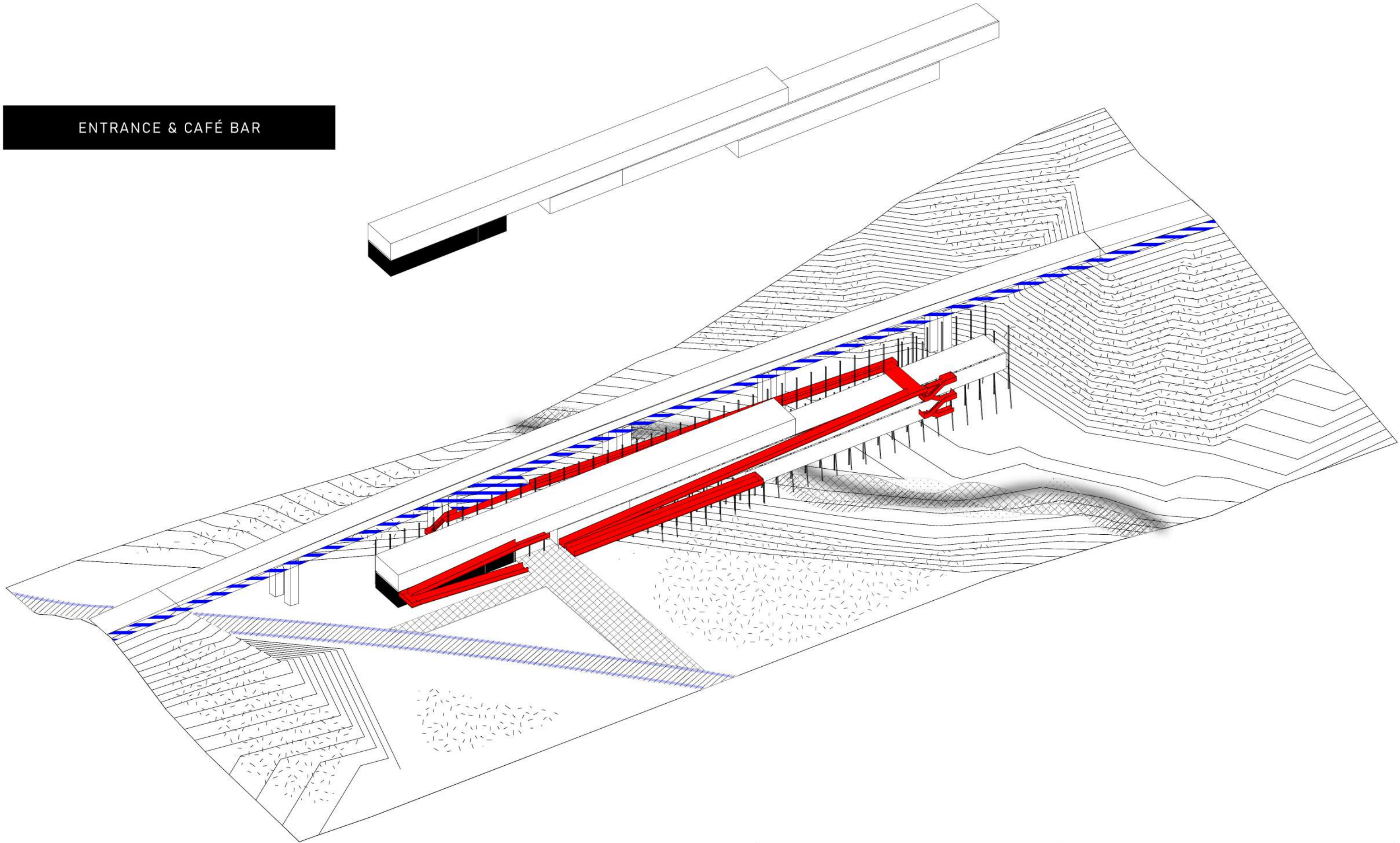
COMMUNICATION PASSAGE



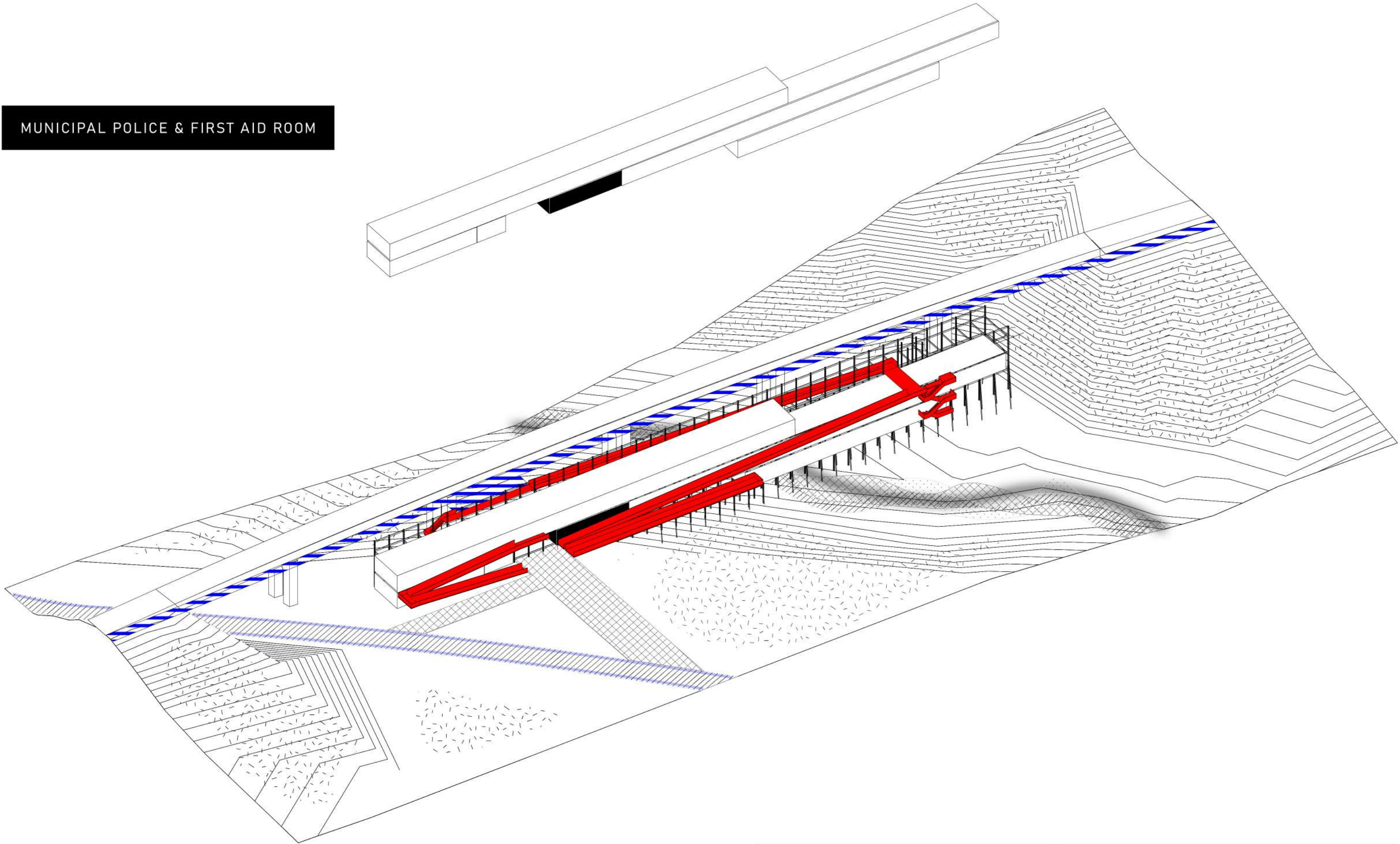
EDUCATIONAL CENTER



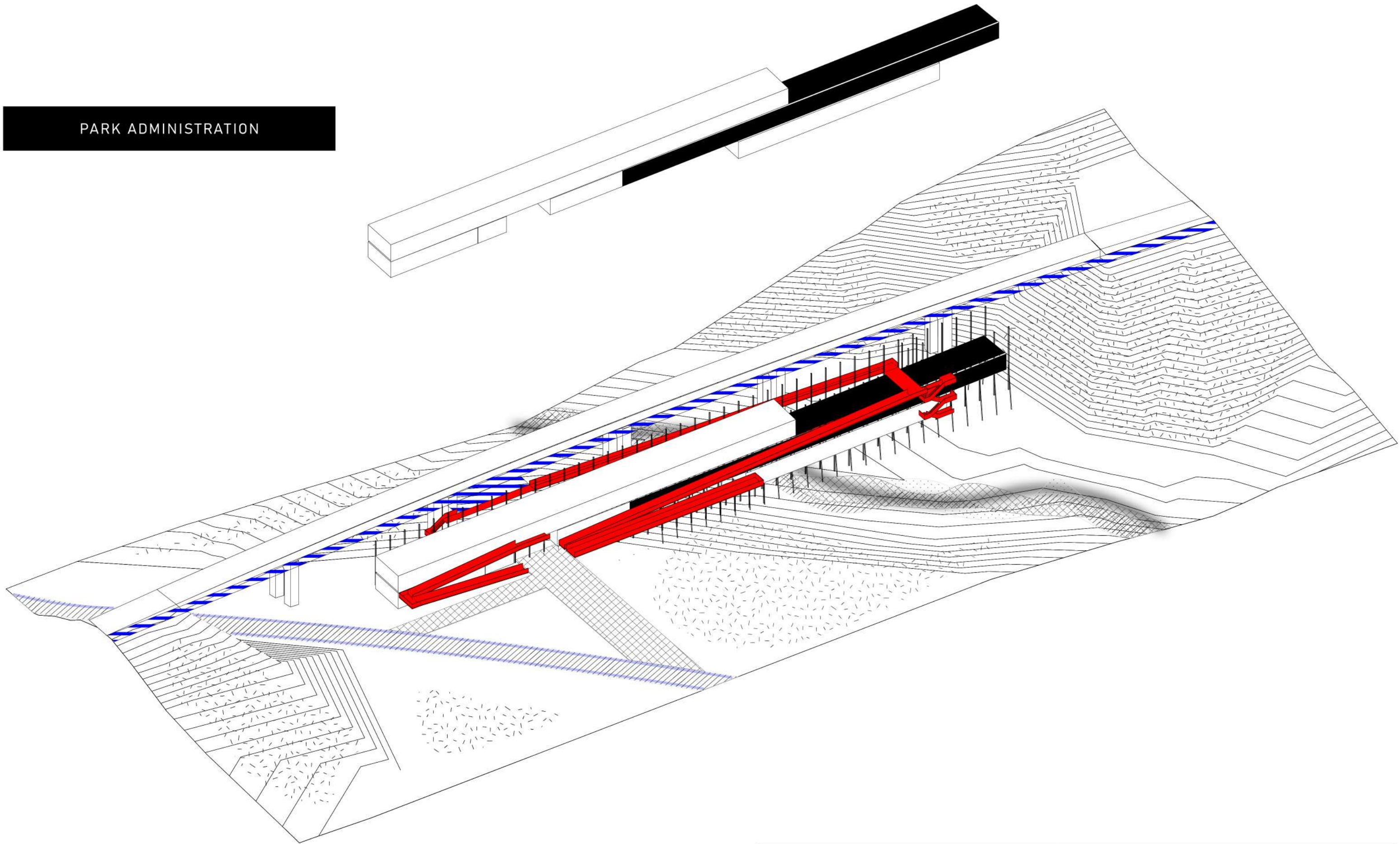
ENTRANCE & CAFÉ BAR



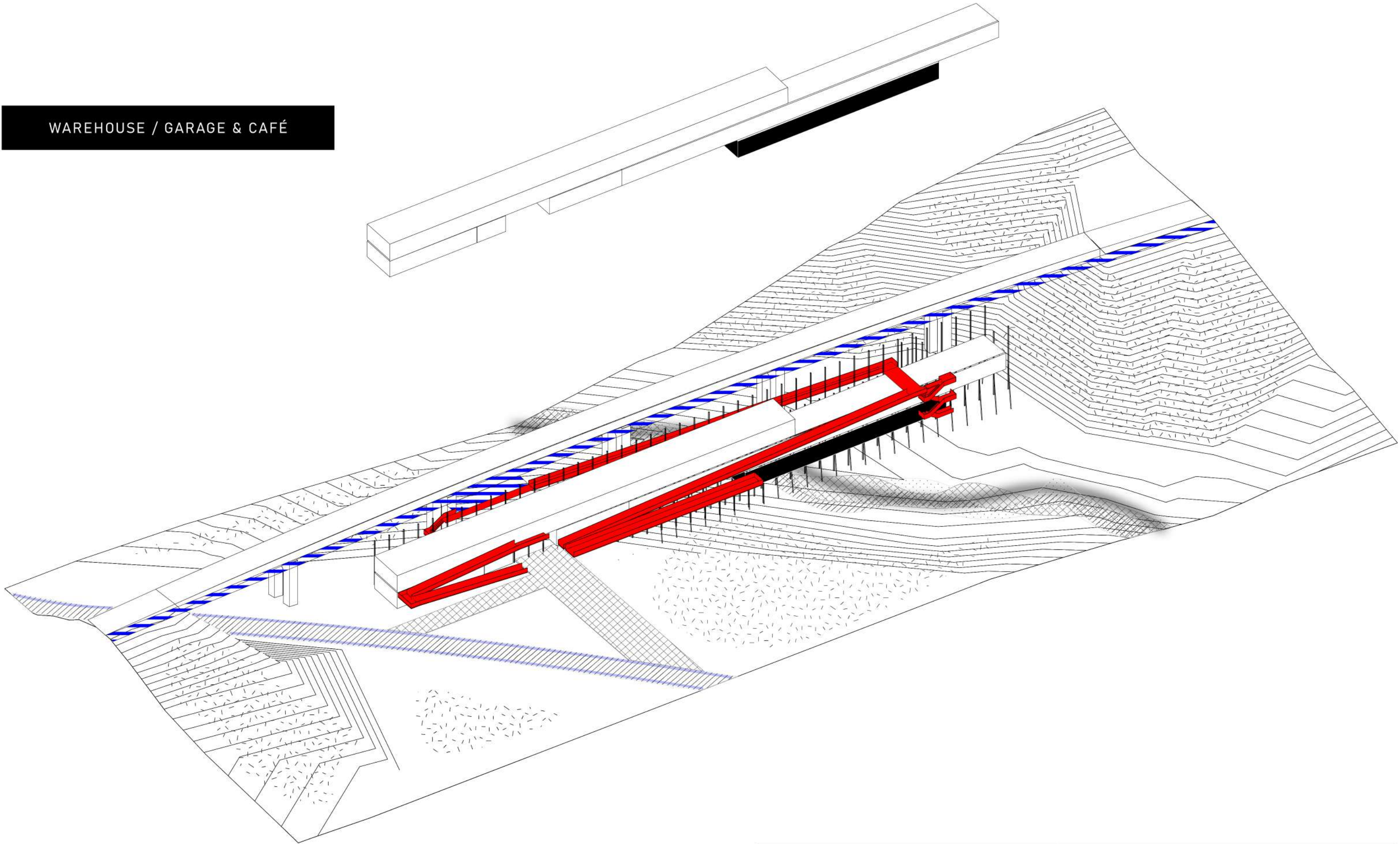
MUNICIPAL POLICE & FIRST AID ROOM



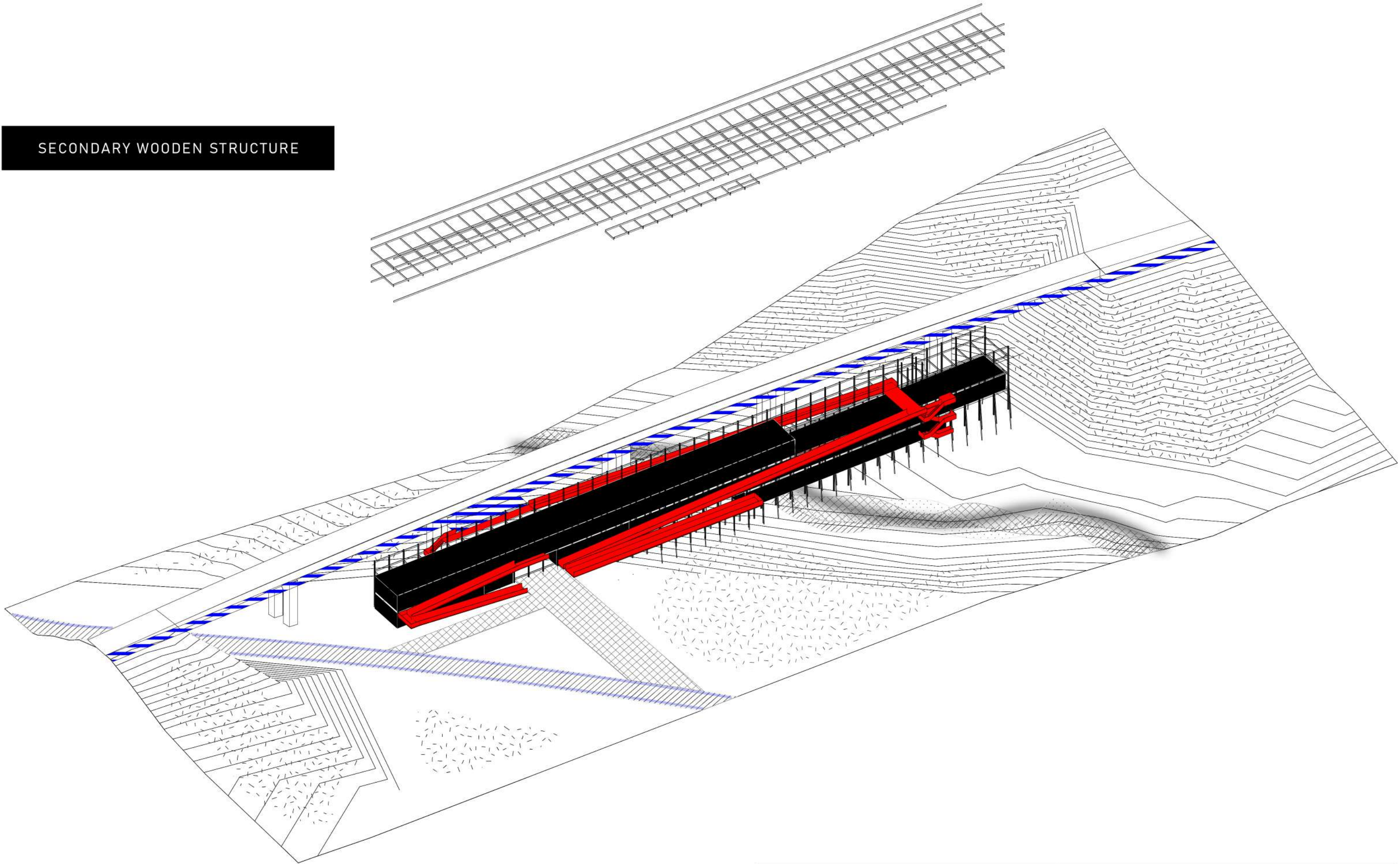
PARK ADMINISTRATION



WAREHOUSE / GARAGE & CAFÉ

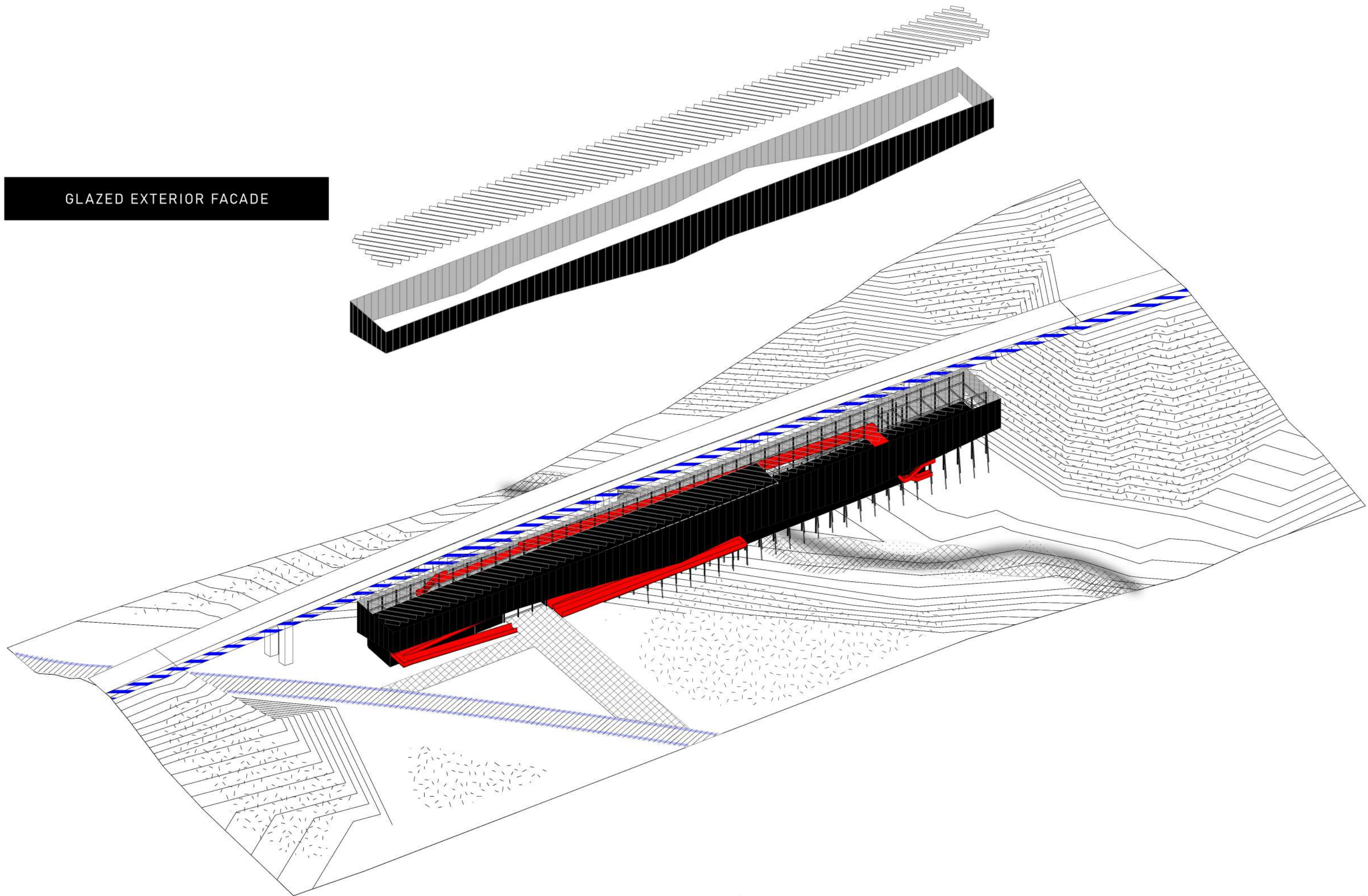


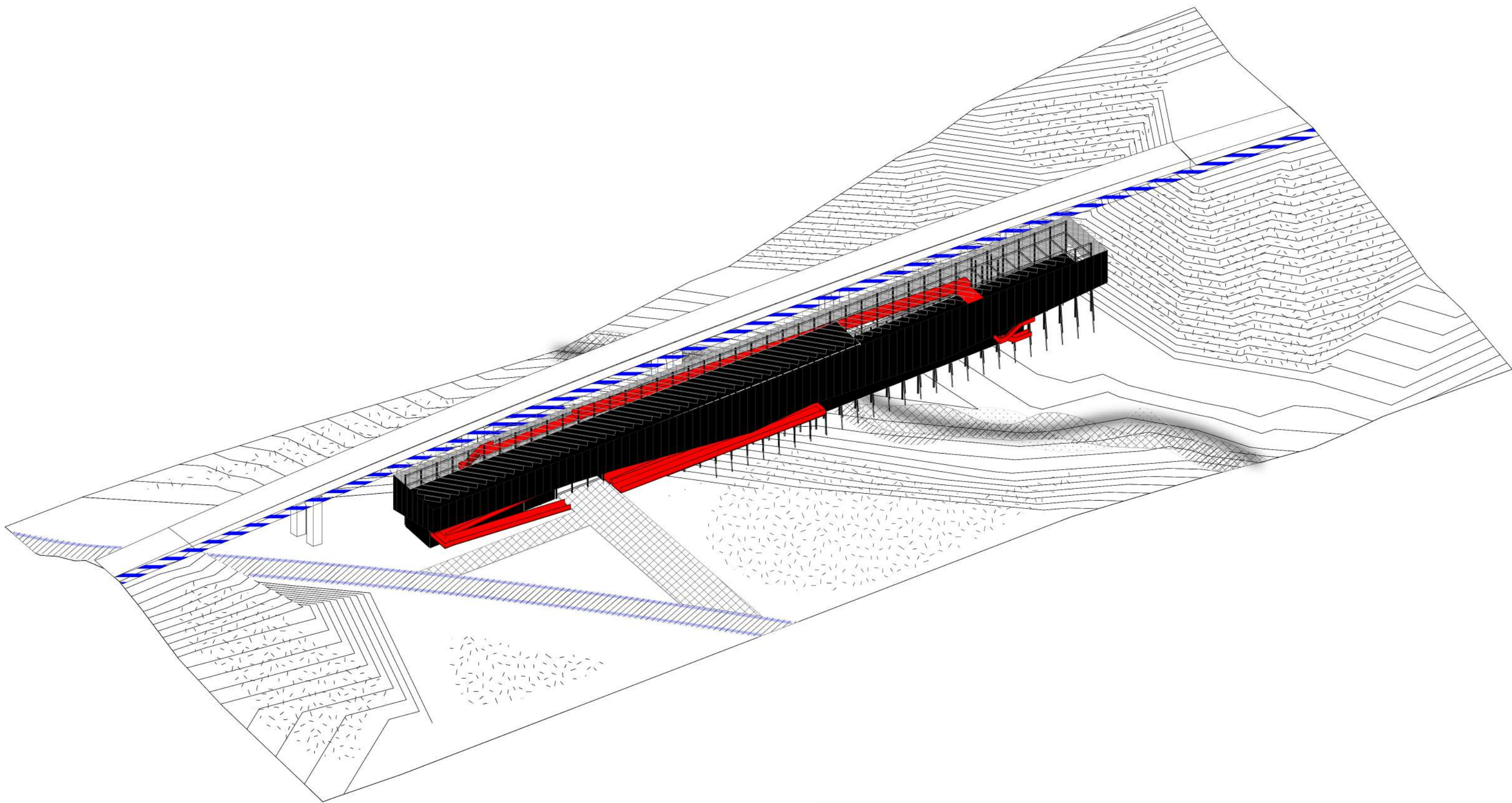
SECONDARY WOODEN STRUCTURE

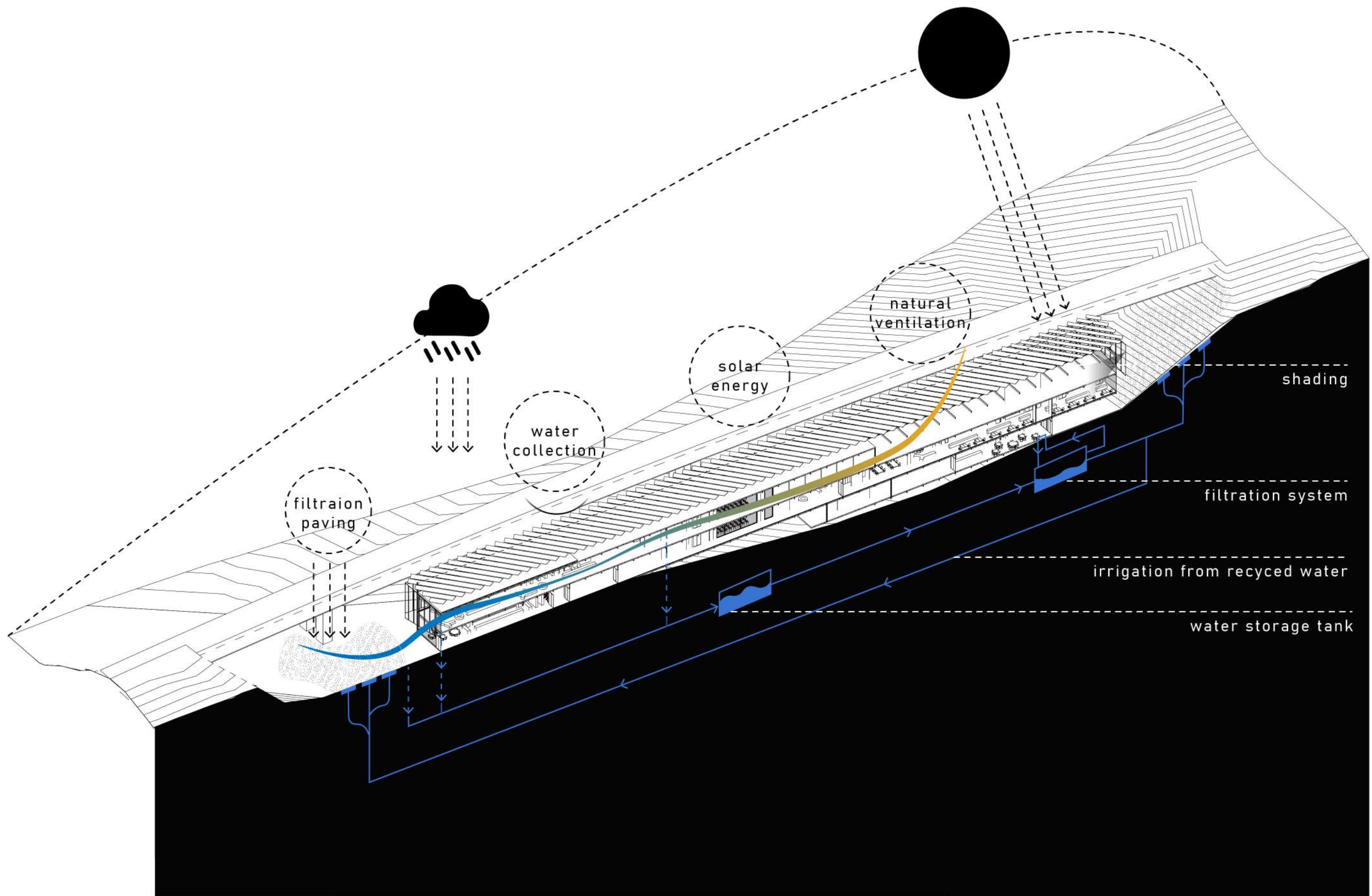




GLAZED EXTERIOR FACADE







filtration paving

water collection

solar energy

natural ventilation

shading

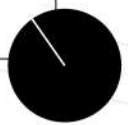
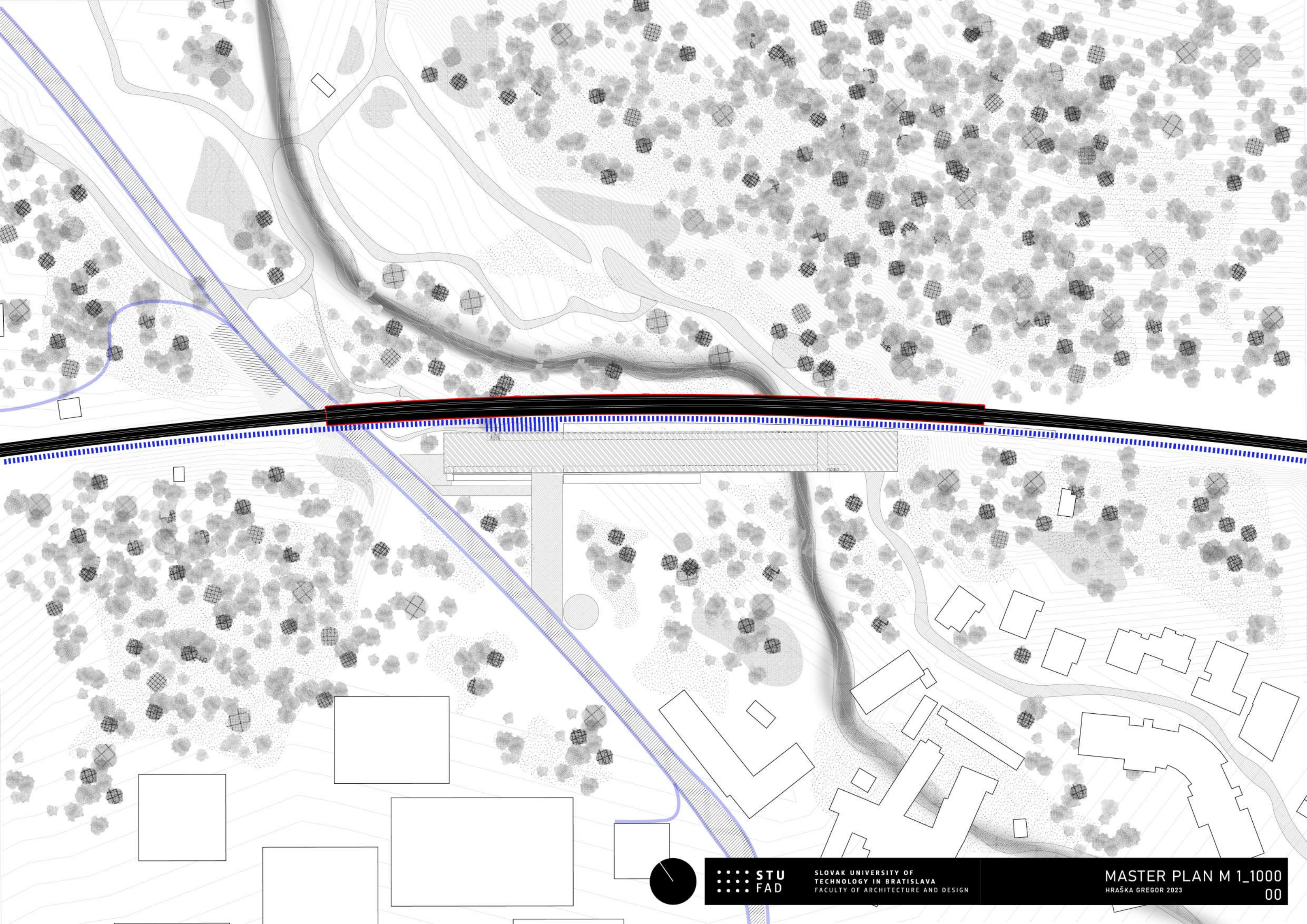
filtration system

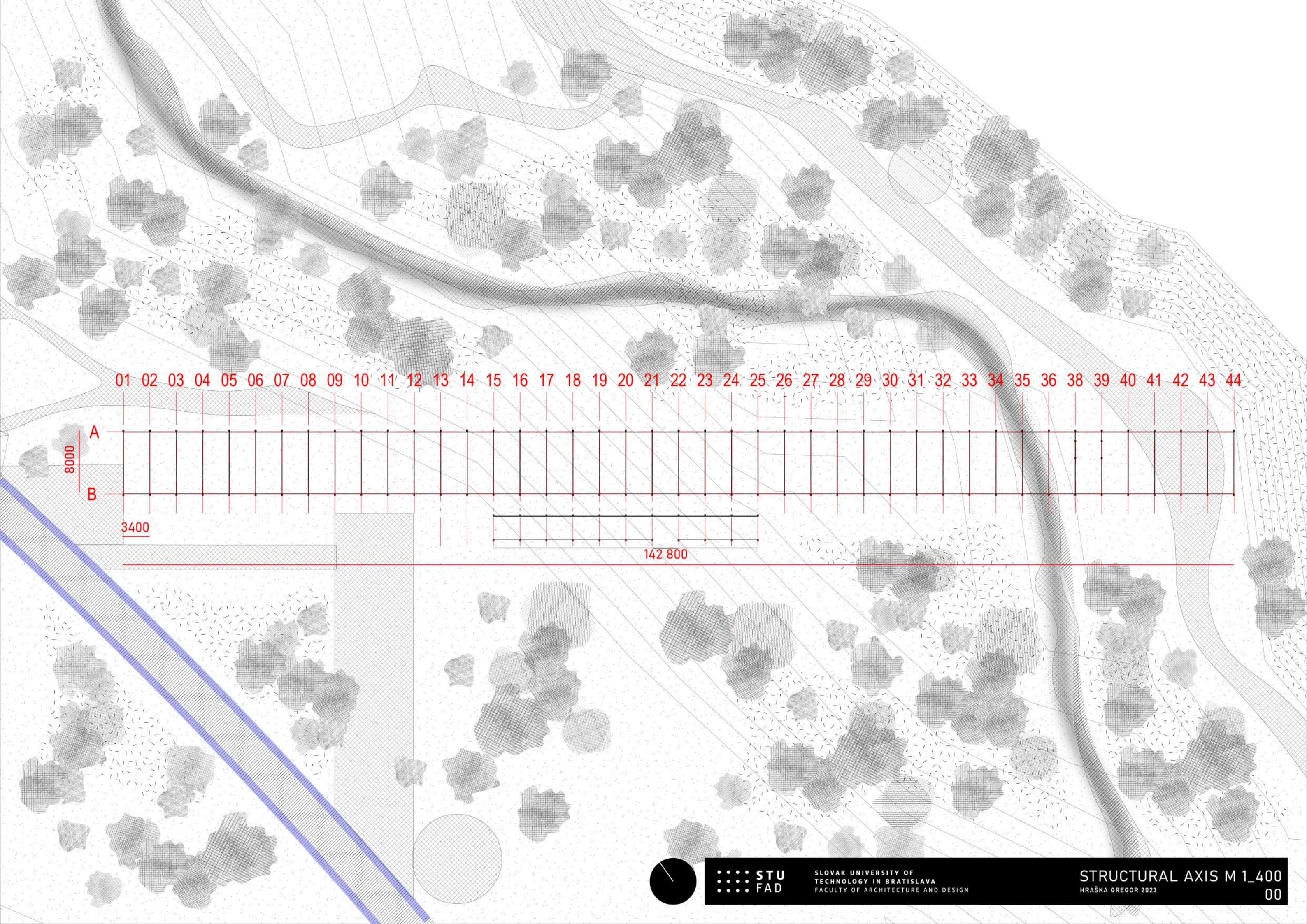
irrigation from recycled water

water storage tank









01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 38 39 40 41 42 43 44

A  
8000  
B

3400

142 800

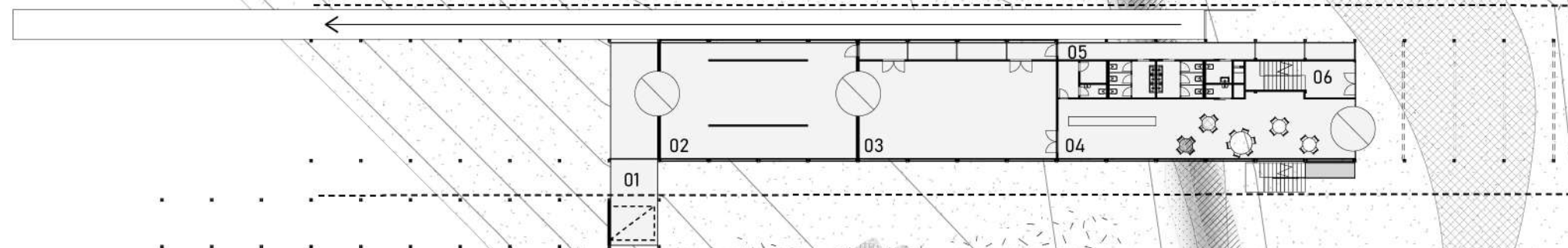


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STRUCTURAL AXIS M 1\_400  
HRAŠKA GREGOR 2023

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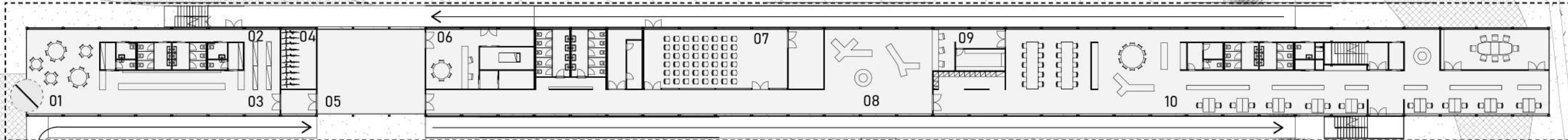
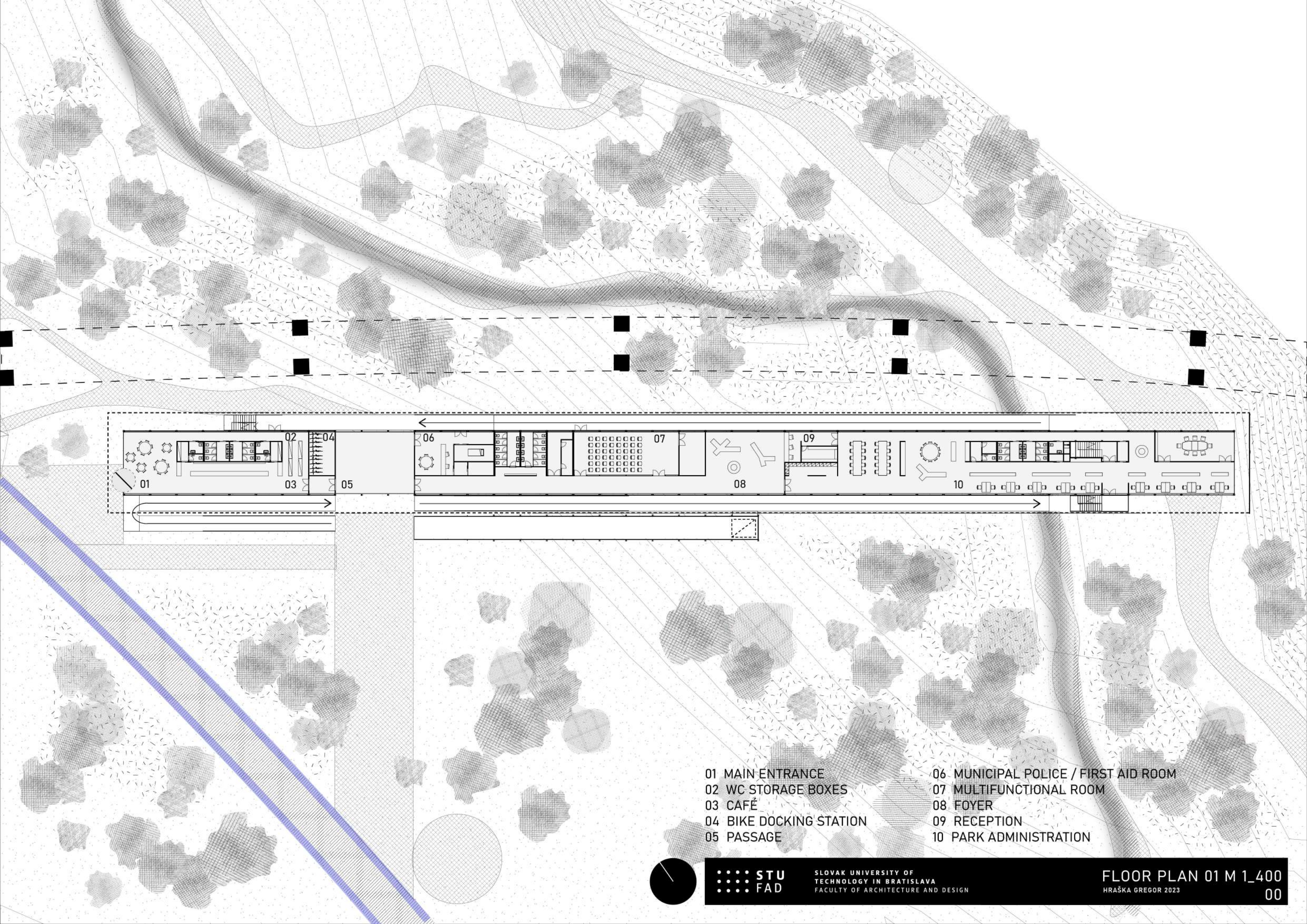


- 01 LIFTING PLATFORM
- 02 TECHNICAL ROOM
- 03 WAREHOUSE / GARAGE
- 04 CAFÉ
- 05 OUTDOOR TOILETS

06 BACK ENTRANCE - ADMINISTRATION PART

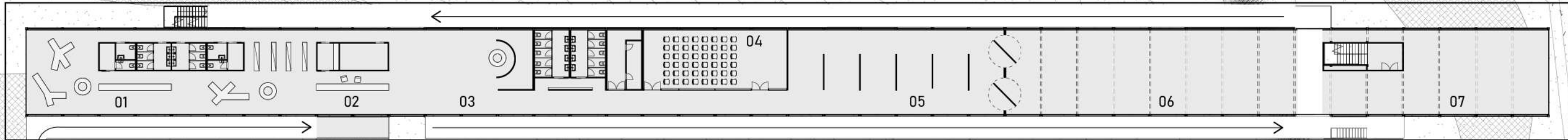
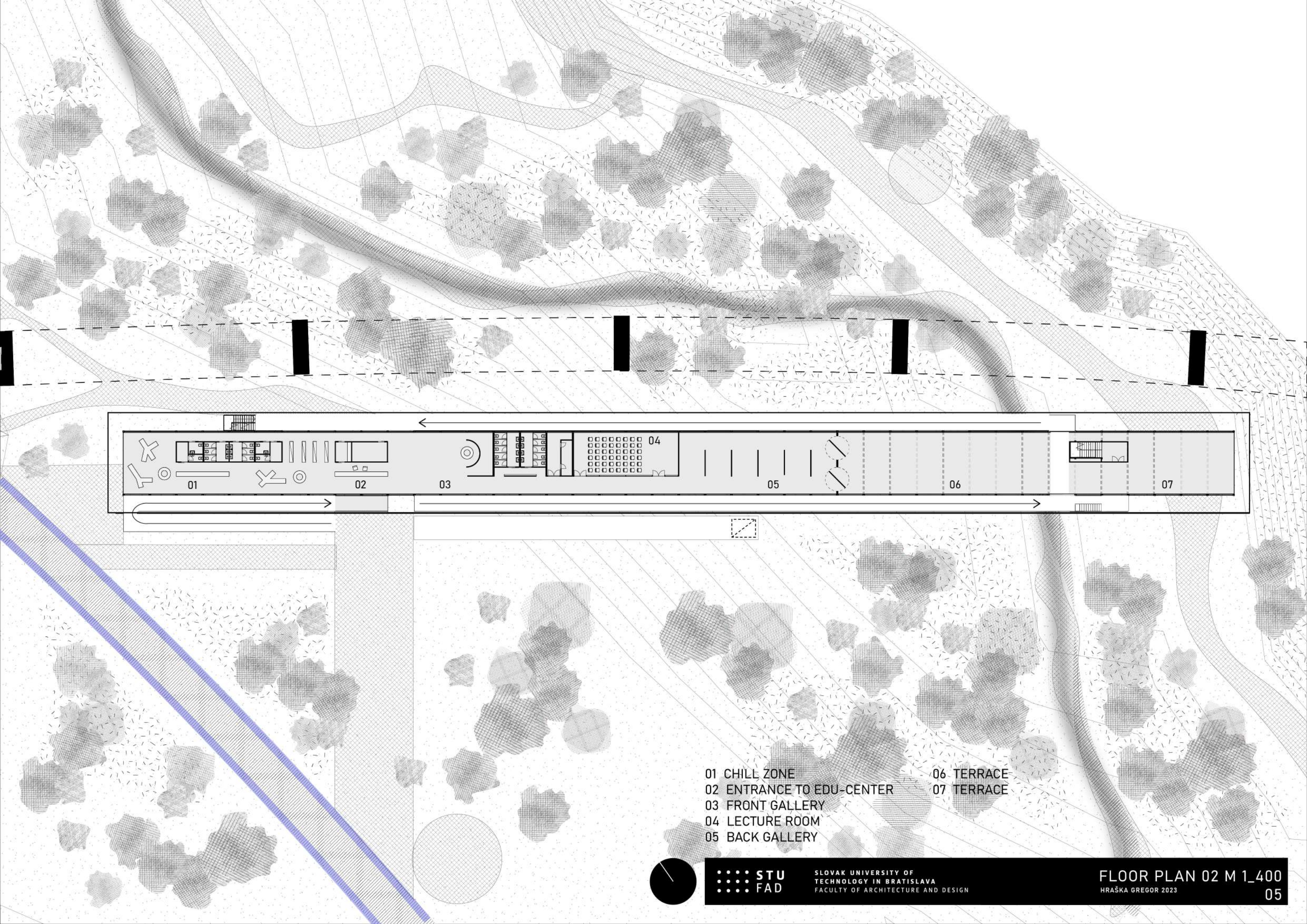






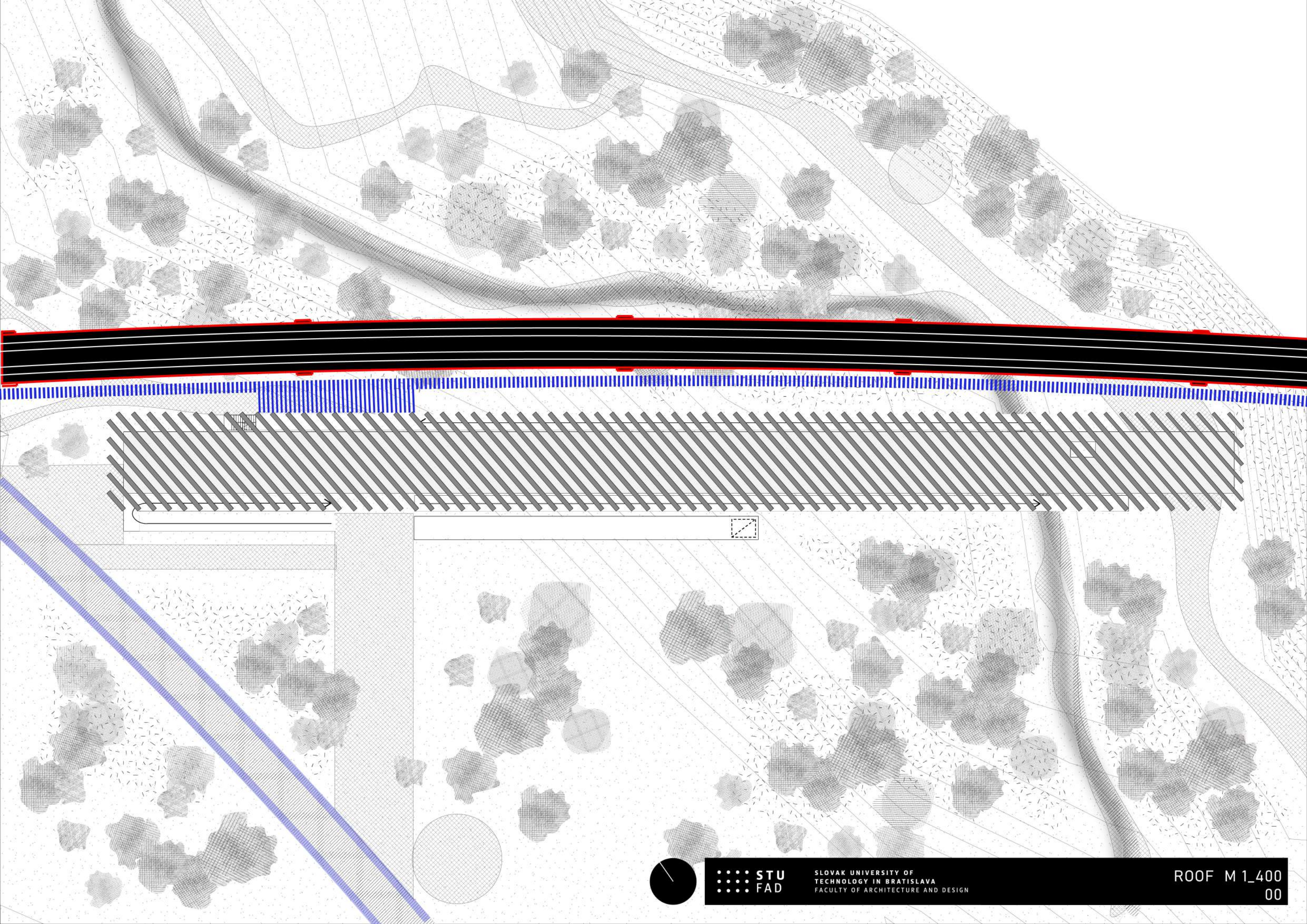
- 01 MAIN ENTRANCE
- 02 WC STORAGE BOXES
- 03 CAFÉ
- 04 BIKE DOCKING STATION
- 05 PASSAGE
- 06 MUNICIPAL POLICE / FIRST AID ROOM
- 07 MULTIFUNCTIONAL ROOM
- 08 FOYER
- 09 RECEPTION
- 10 PARK ADMINISTRATION

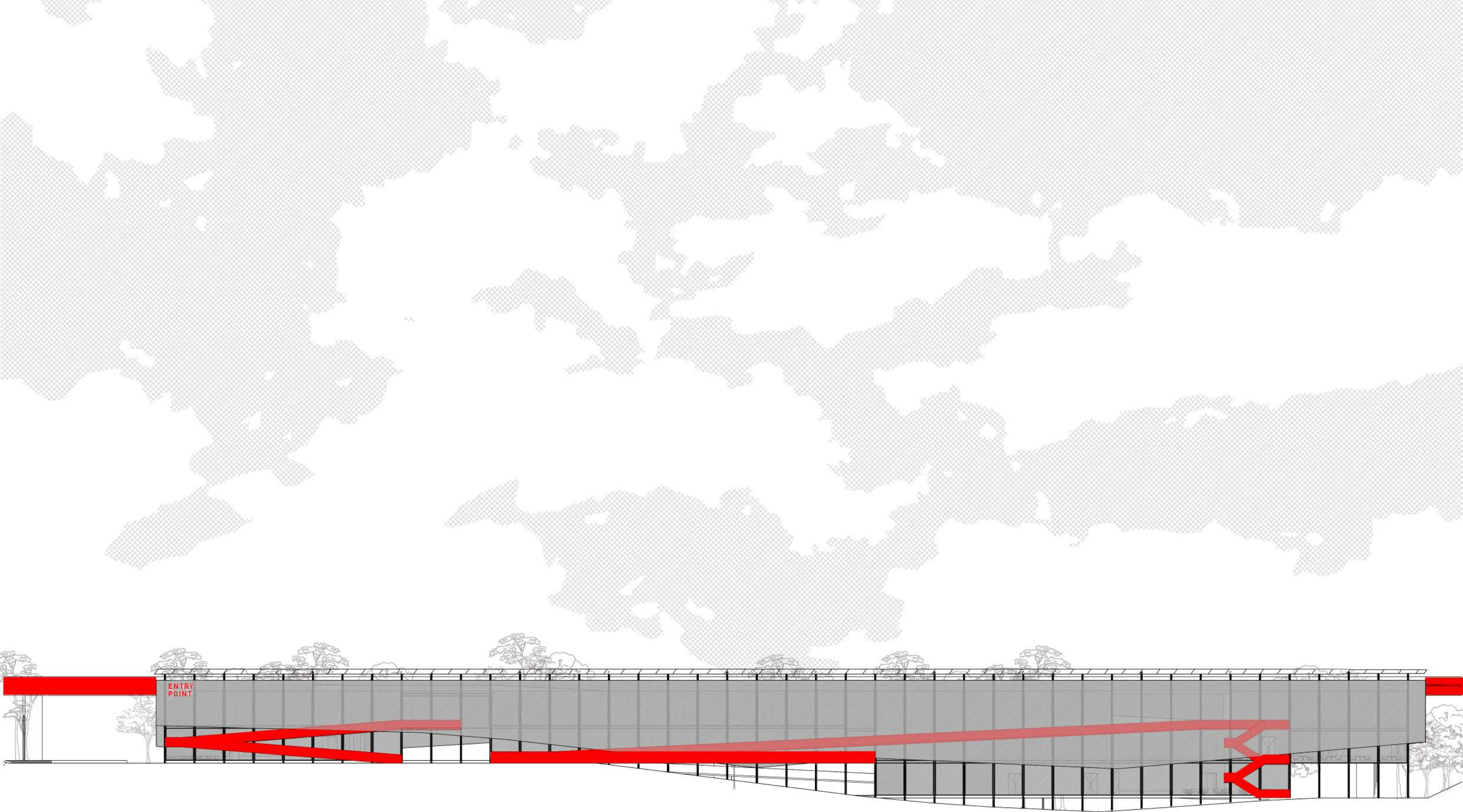




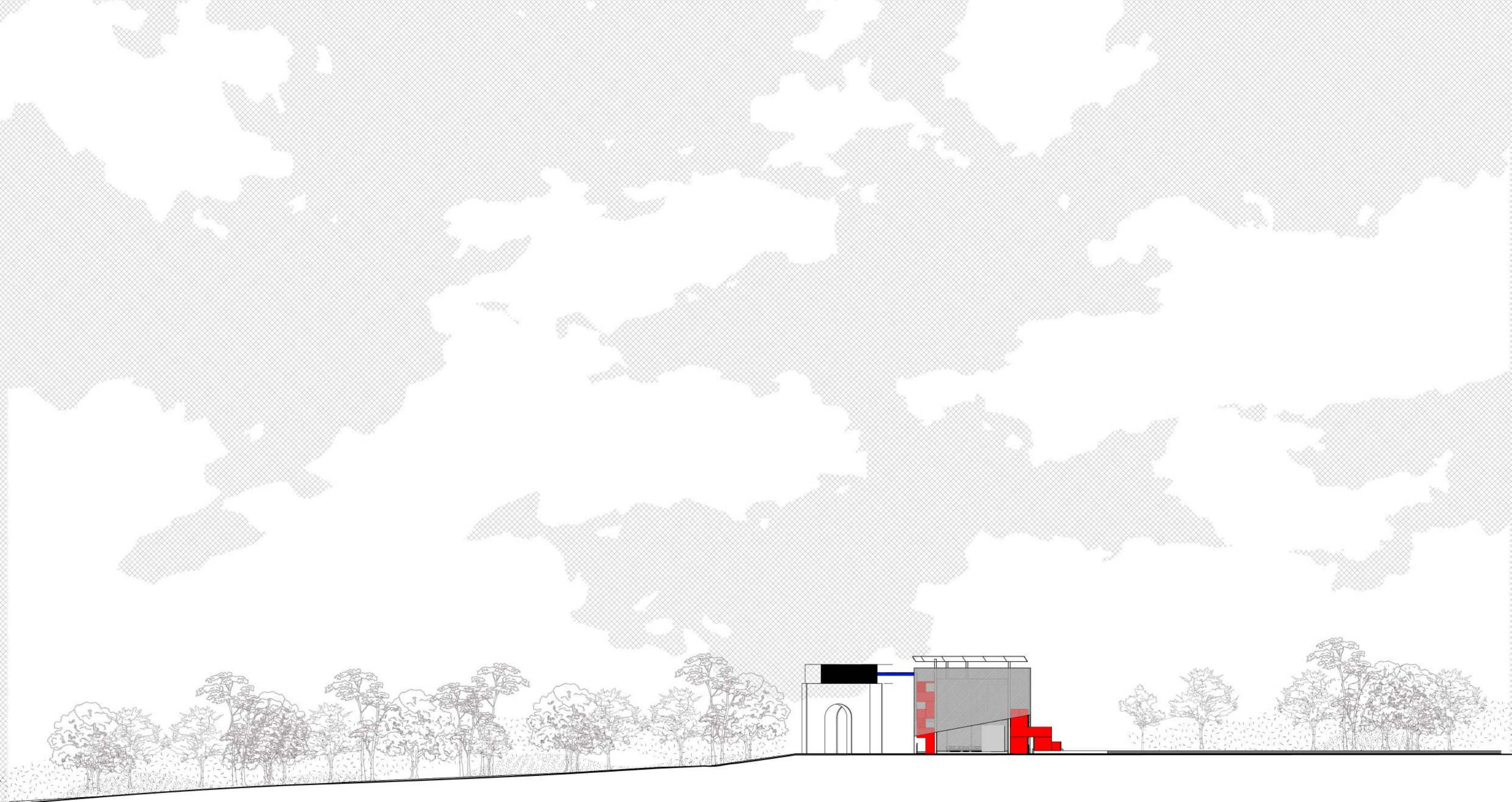
- 01 CHILL ZONE
- 02 ENTRANCE TO EDU-CENTER
- 03 FRONT GALLERY
- 04 LECTURE ROOM
- 05 BACK GALLERY
- 06 TERRACE
- 07 TERRACE

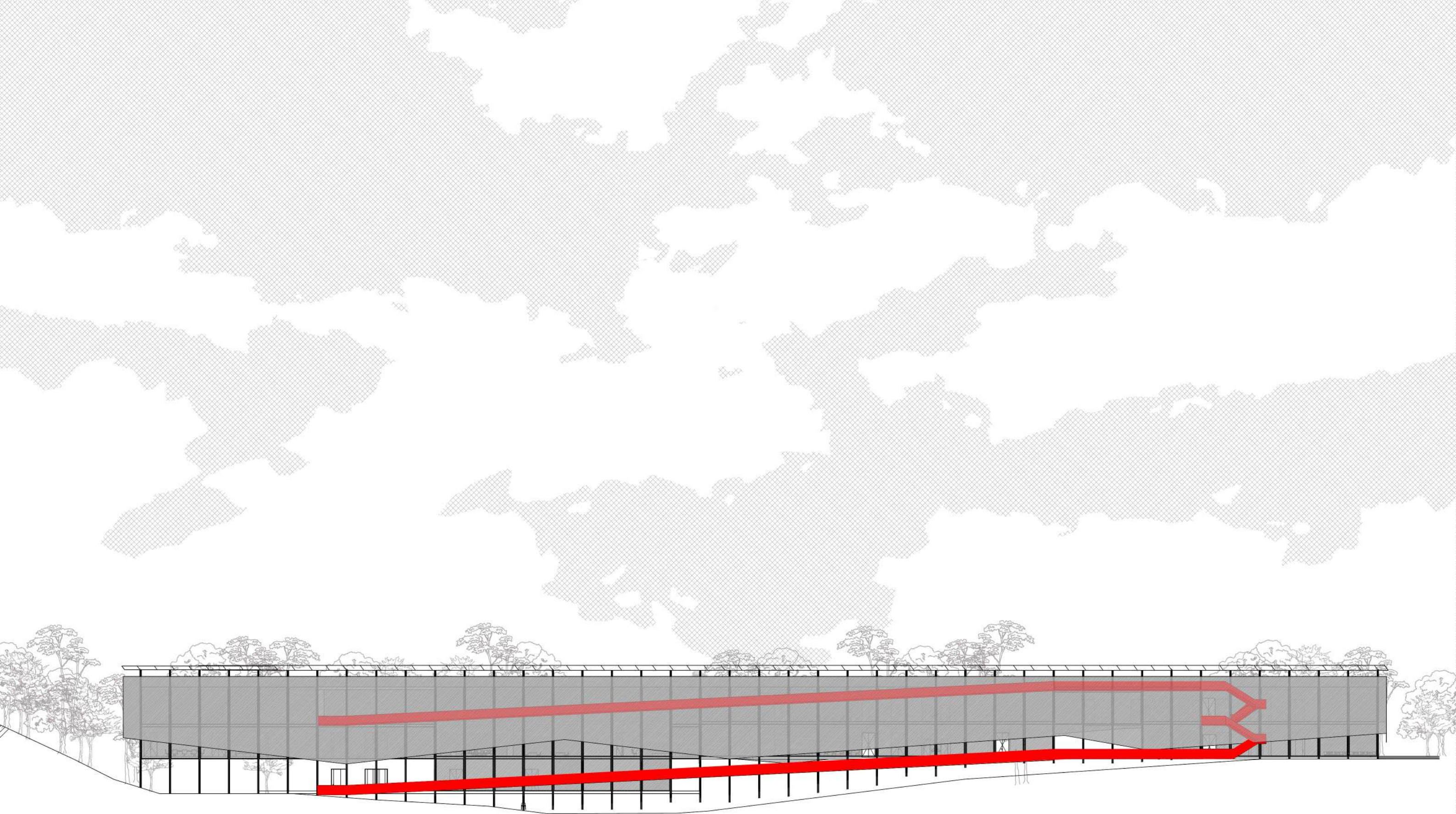




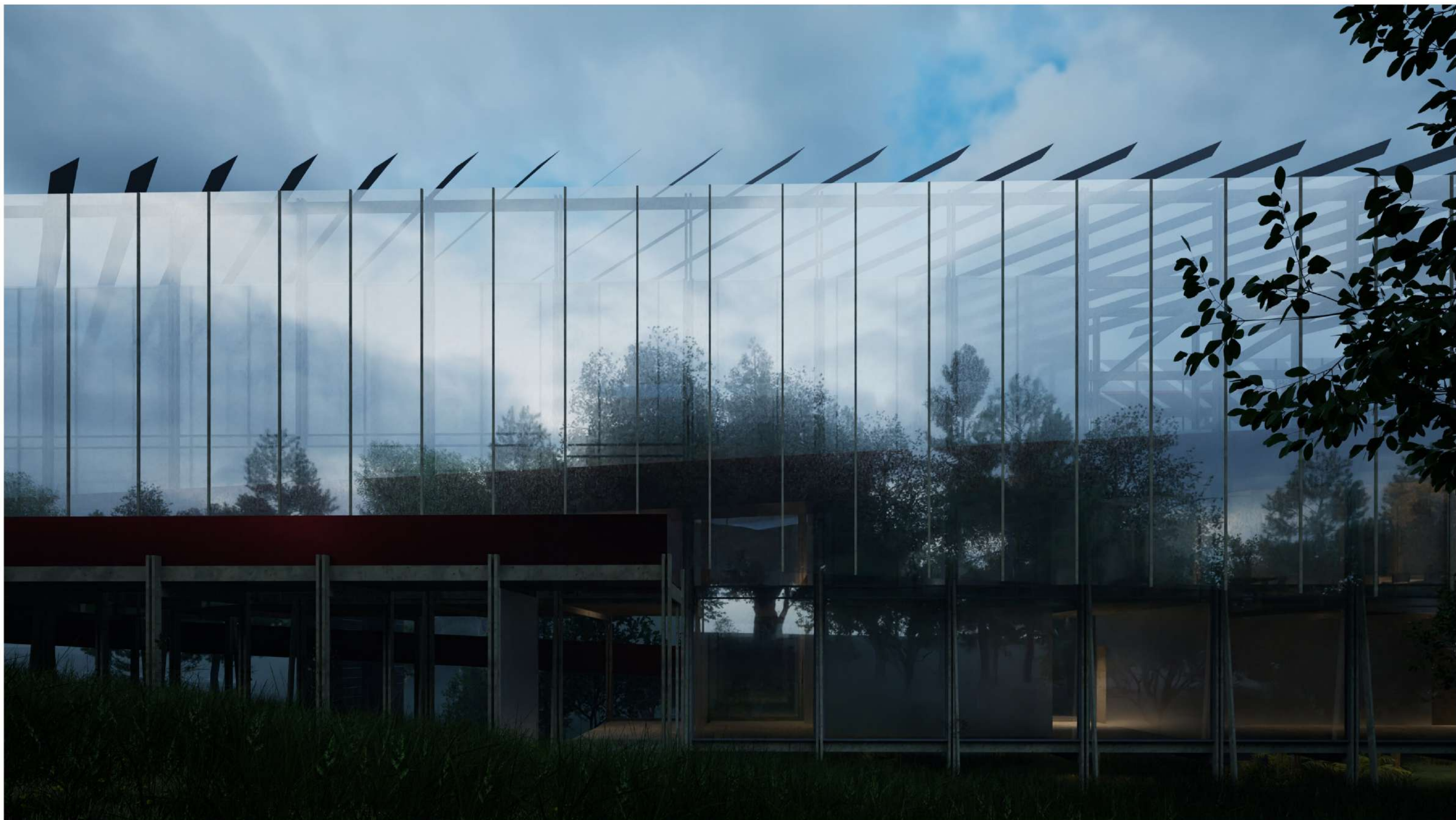


ENTRY  
POINT

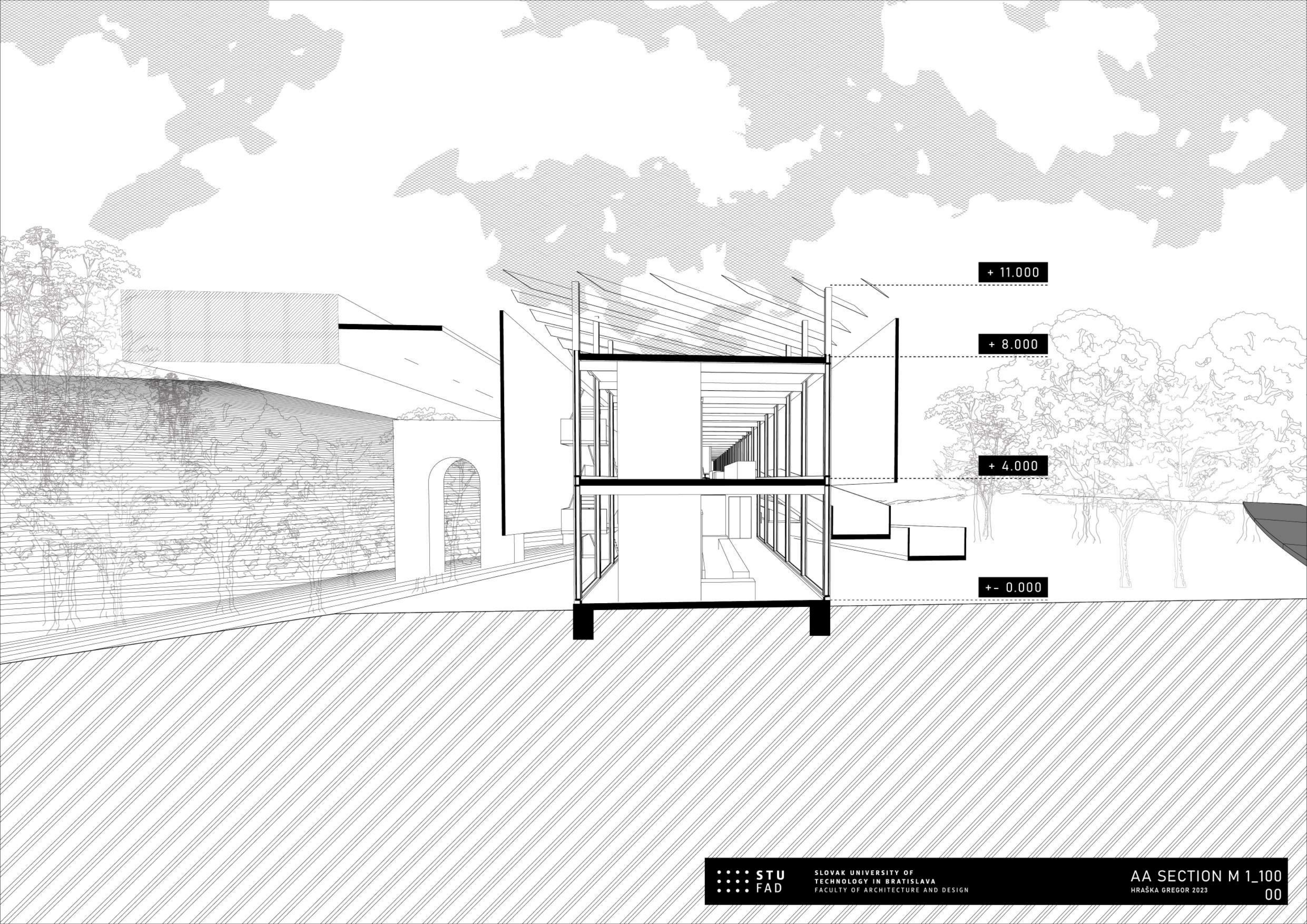










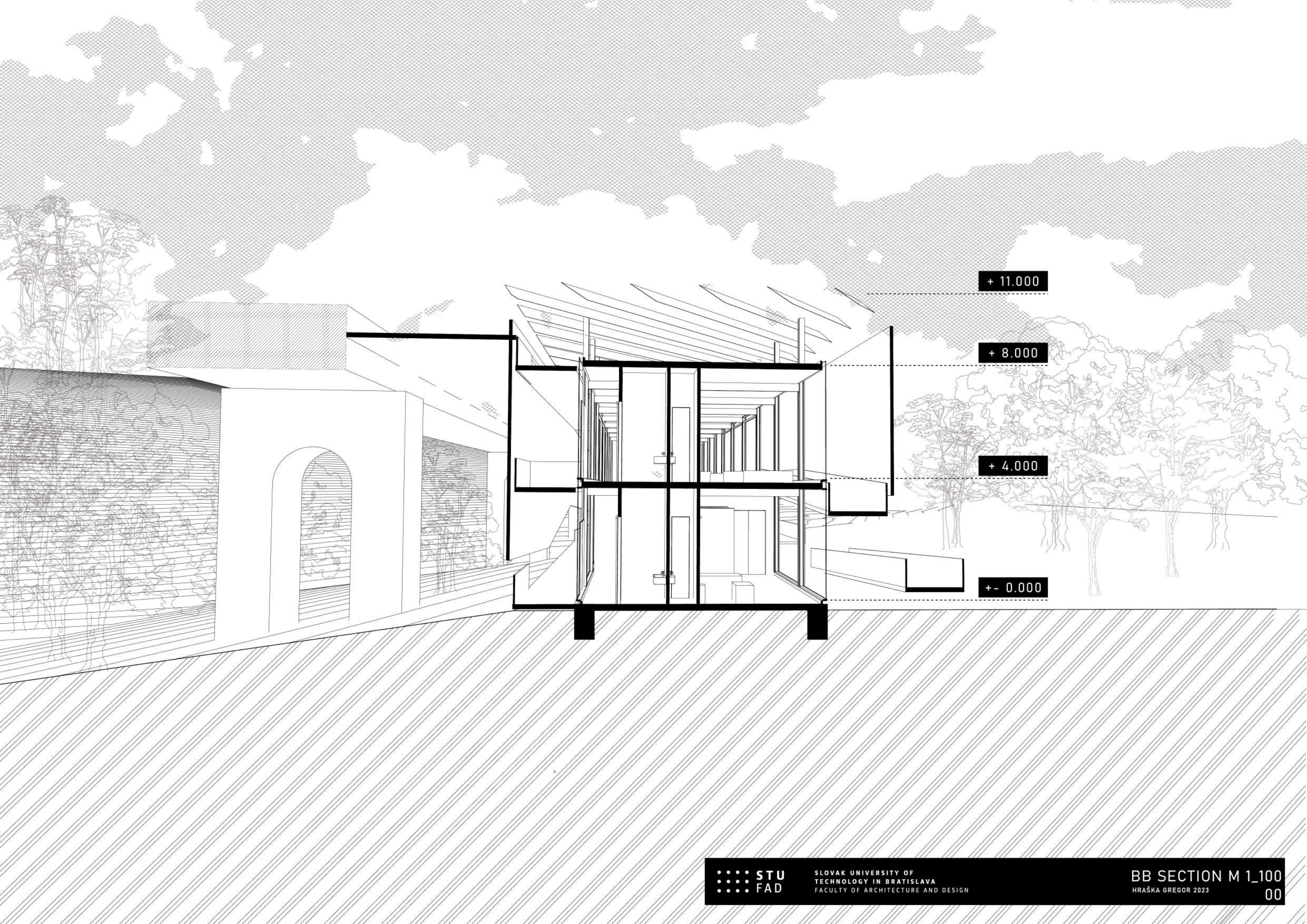


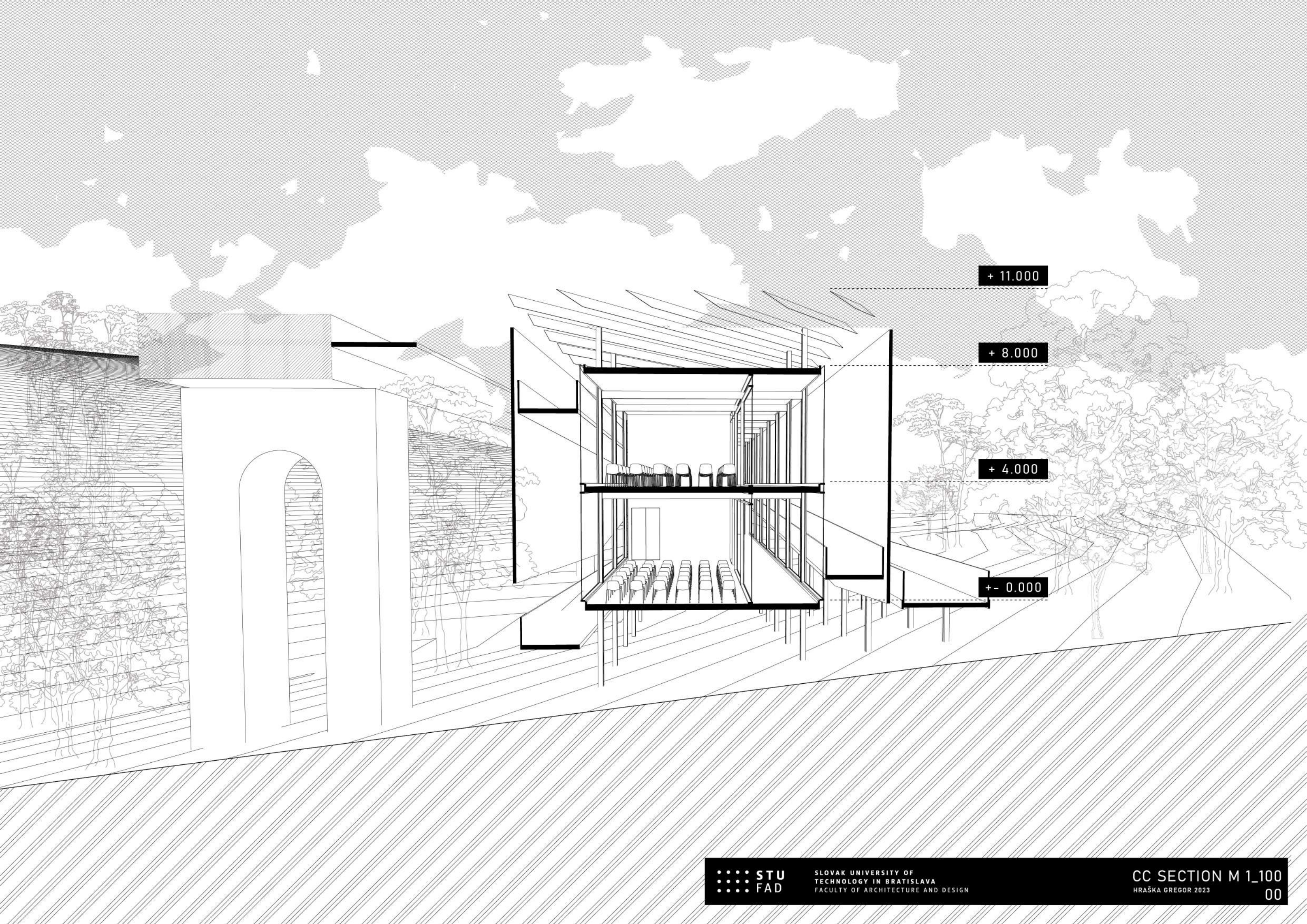
+ 11.000

+ 8.000

+ 4.000

+/- 0.000



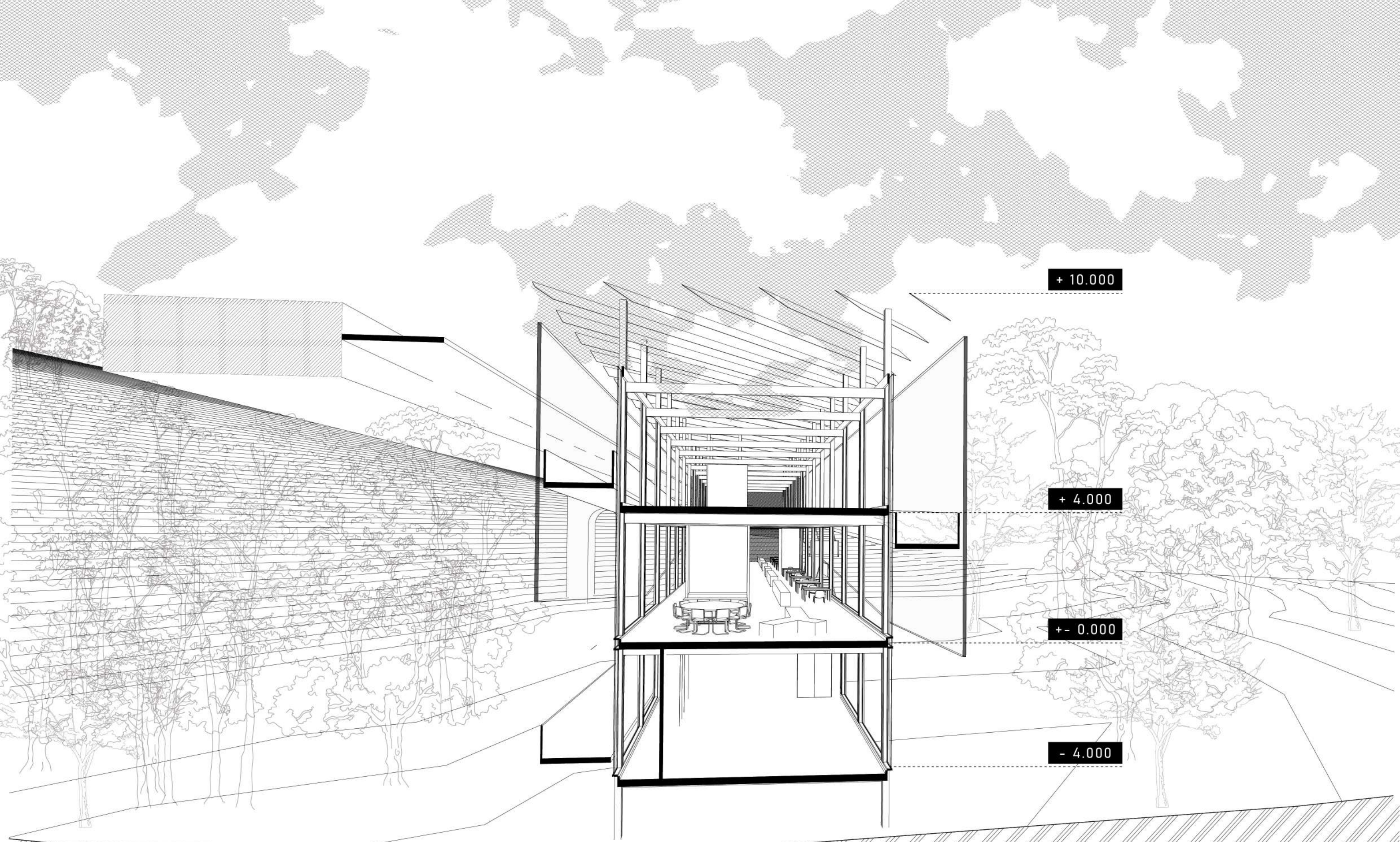


+ 11.000

+ 8.000

+ 4.000

+/- 0.000



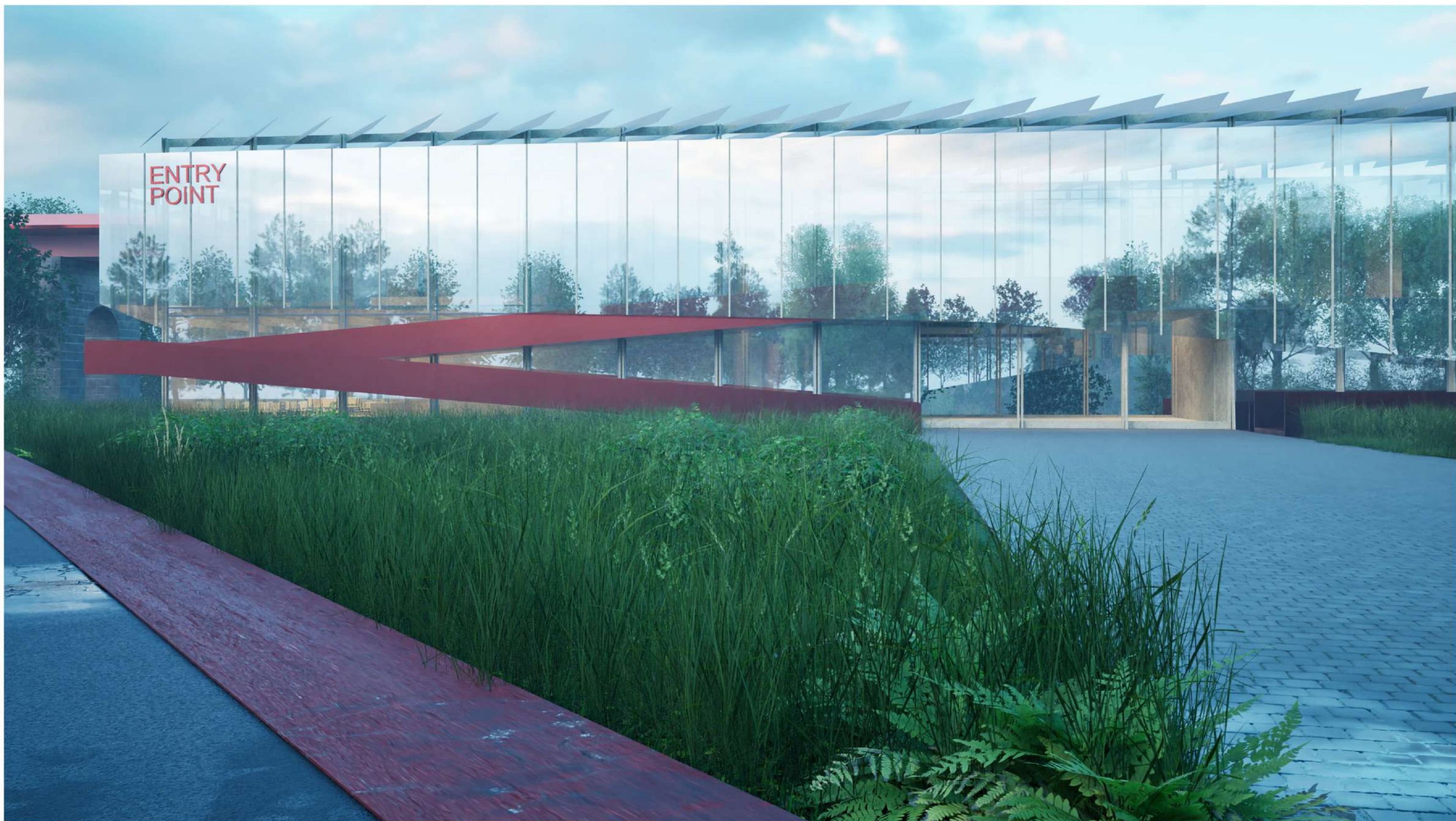
+ 10.000

+ 4.000

+/- 0.000

- 4.000





ENTRY  
POINT



