

FROM MINERAL TO VEGETAL: IMPROVING THE BAHLUI RIVERBANCKS WITH AESTHETIC AND FUNCTIONAL ELEMENTS

University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca,
Faculty of Horticulture and Rural Development Affairs

Master's student: Alexandra Alexandru
Scientific coordinator: Șef lucr. dr. Sonia Bodea

INTRODUCTION

Water is essential in urban design for aesthetic and psychological benefits, reducing stress. When a natural water source exists, designing spaces to maximize these benefits is crucial [2]. To highlight the significance of rivers in the new urban context, various concepts can enhance river landscapes. Green infrastructure integrates natural and man-made elements, incorporating forests, parks, green roofs, or walls to preserve ecosystems, offering diverse benefits and contributing to a more sustainable environment [4]. In landscape design, sustainability means planning urban spaces with eco-friendly solutions that consider ecological, social, cultural, and economic factors. The current trend is to create both functional and aesthetically pleasing green spaces for a successful and sustainable design [1]. When evaluating a site, safeguarding unique plants, animals, historical elements, and personal significance is crucial. Preserving existing trees is vital for the environment and property value [6]. Guidelines, emphasizing water benefits, regulate riverside actions for ecological preservation, green spaces protection, biodiversity enhancement, and accessibility. In urban planning, the focus is on transforming the river from a barrier into a connection with other city elements [3]. The dual nature of a river's role in a city is evident in urban design, as water features evoke positive emotions and become places where people spend time [5]. This article serves as an example of changing the perception of a river in urban spaces using the mentioned concepts.



Site plan - existing

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ABSTRACT

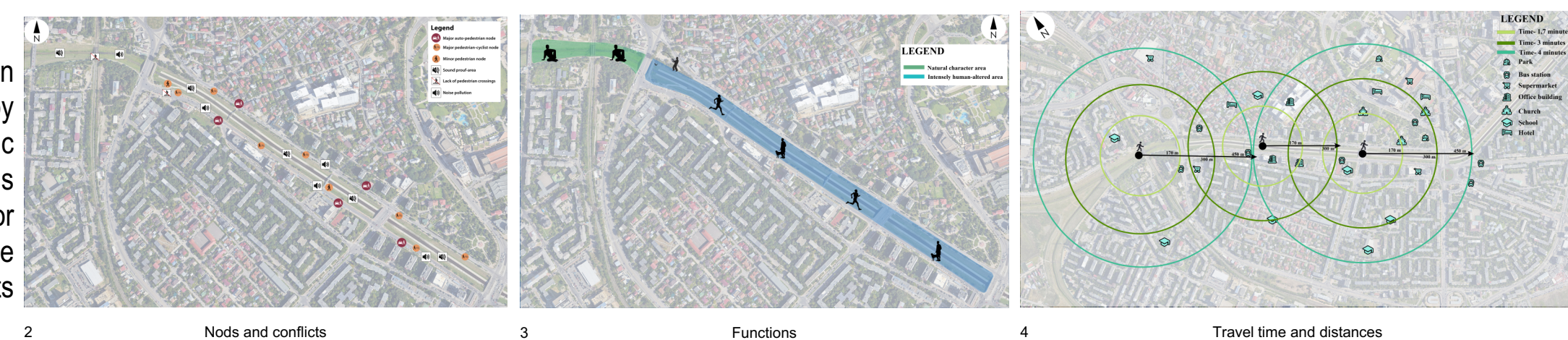
Sustainability in contemporary landscaping is a crucial consideration. Humanity has recognized its significance after years of haphazard development that ignored long-term consequences. Sustainability seeks a harmonious balance between various factors previously overlooked. It encompasses ecological aspects like biodiversity, social factors, and project feasibility. The goal is to create spaces that cater to current needs while safeguarding the ability of future generations to meet their requirements.

The site under study lies near the center of Iași, encompassing diverse neighborhoods, housing complexes, administrative buildings, offices, historical landmarks, and recreational areas. Its location, in addition to its assets, makes it an ideal candidate for landscaping. Existing issues include site inaccessibility, disorganized pathways, lack of vegetation, shading, and river biodiversity, also, urban furniture is lacking. The proposed development concept aligns with site and community needs, as determined through community input. These needs are addressed sustainably and ecologically, enhancing the river Bahlui with aesthetic and functional elements. This restoration benefits the community, biodiversity, and encourages coexistence between people and the natural environment.

Material and Method

The study area is in central Iași, has mineral surfaces, with green spaces covering 70-80% and a watercourse. Surrounded by residential zones, accessibility is ensured through major traffic routes and public transportation. Though green space access is limited, residents have created informal paths along the river for activities. Access points are well-distributed, emphasizing the importance of ensuring easy reachability for people from all parts of the city.

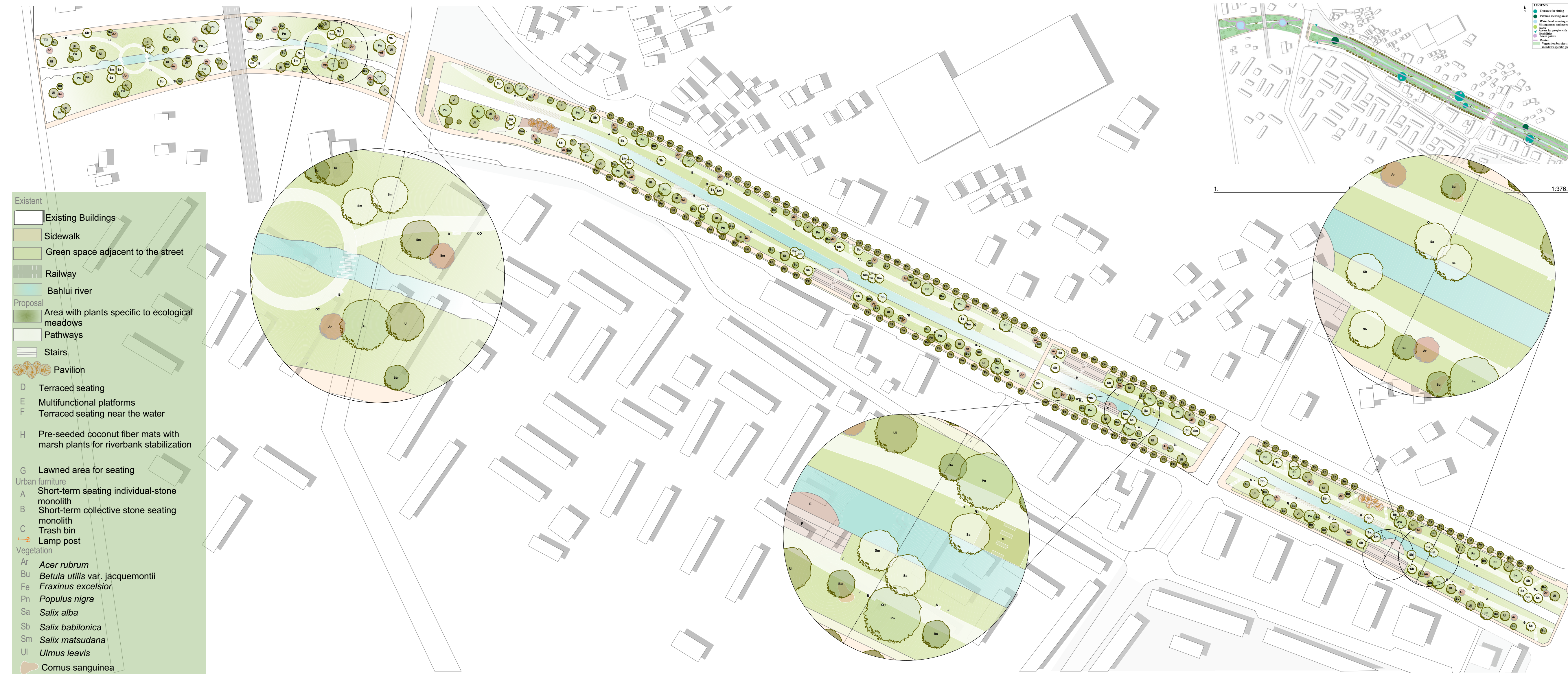
The studied area lacks specific functions, with users engaging in diverse activities based on needs. Divided into natural and urbanized sections, the latter lacks seating or spaces for leisure. In the natural area, residents use green spaces for relaxation, picnics, and fishing. The site's travel analysis reveals short pedestrian travel times to various facilities, indicating its importance for the community. However, noise pollution, lack of pedestrian crossings, and conflicts between pedestrians and cyclists are challenges in the urbanized area. Existing vegetation includes unevenly distributed trees and herbaceous plants, many showing signs of degradation. Urban furniture like benches and lampposts is limited and deteriorated, with a concrete barrier restricting access to the green area near the river. Improvements in better access, vegetation maintenance and furniture, are crucial for enhancing the site's functionality and aesthetics.



Area with natural character

Poetul de Plată - Historic monument

Riverbank consolidated with concrete



Site Plan - Proposal

1:2000

Results and Discussion

The proposed design concept aims to address various issues identified in the analyzed site, including inadequate access, trail deficiency, lack of urban furniture, limited water access, and insufficient vegetation. The focus is on creating a space that values water in the landscape, promoting community well-being and providing an escape from urban life. Sustainability and ecological aspects are central to the design, ... proposed vegetation acting as a green barrier to reduce noise and air pollution. The plan includes functional zones for all age groups, incorporating seating areas, walking paths, and diverse vegetation to establish a harmonious connection between people and nature. The design emphasizes the placement of a vegetation barrier along the entire site, offering benefits such as noise reduction, improved air quality, and lowered perceived temperature. Specific tree species and shrubs are strategically chosen for their ecological restoration properties and aesthetic value. The proposal suggests the use of annual plants specific to ecological meadows, promoting biodiversity and requiring less maintenance. The integration of terraced seating, grass-covered areas, and lookout pavilions is designed to attract users and enhance the overall aesthetic and functionality of the site. Access points are strategically located, and paths along the riverbanks are sinuously shaped to provide a more natural character. The design concept offers a comprehensive approach to transform the site into a sustainable, aesthetically pleasing, and ecologically sound environment.



Segment 1 section

1:150

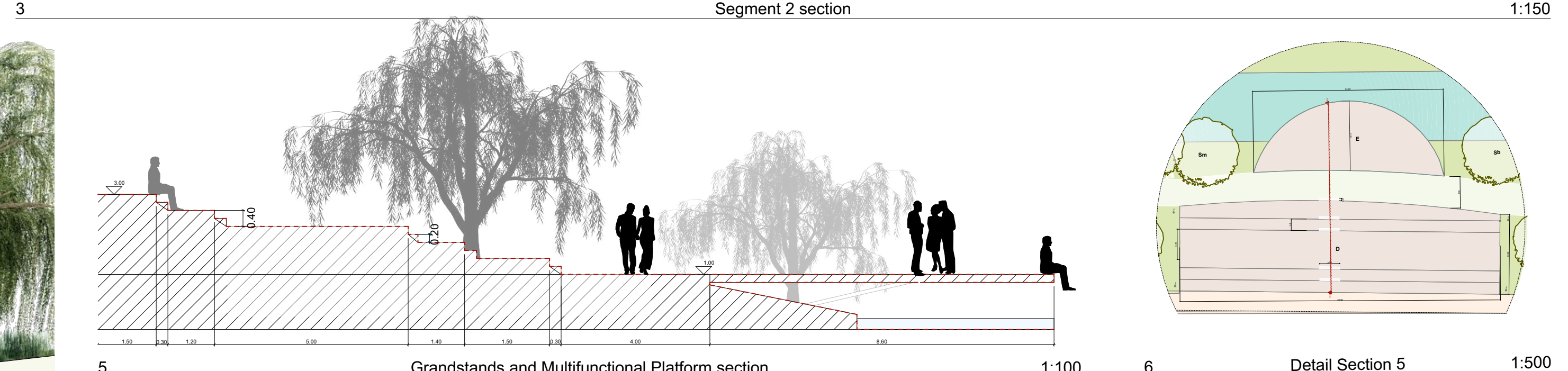


Segment 2 section

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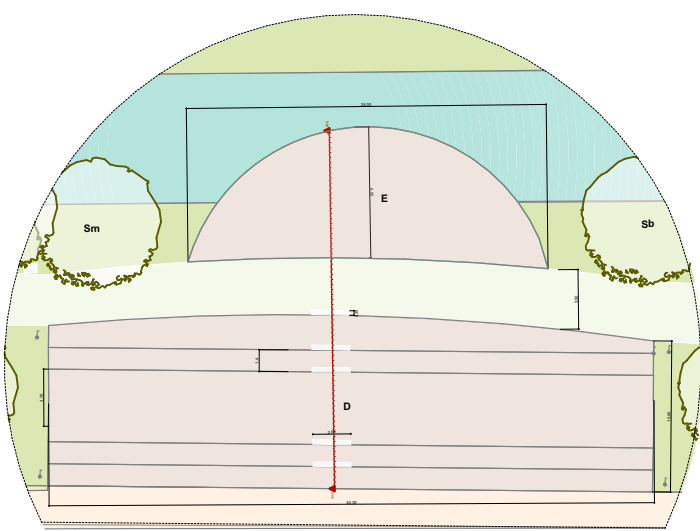


Segment 3 section



Grandstands and Multifunctional Platform section

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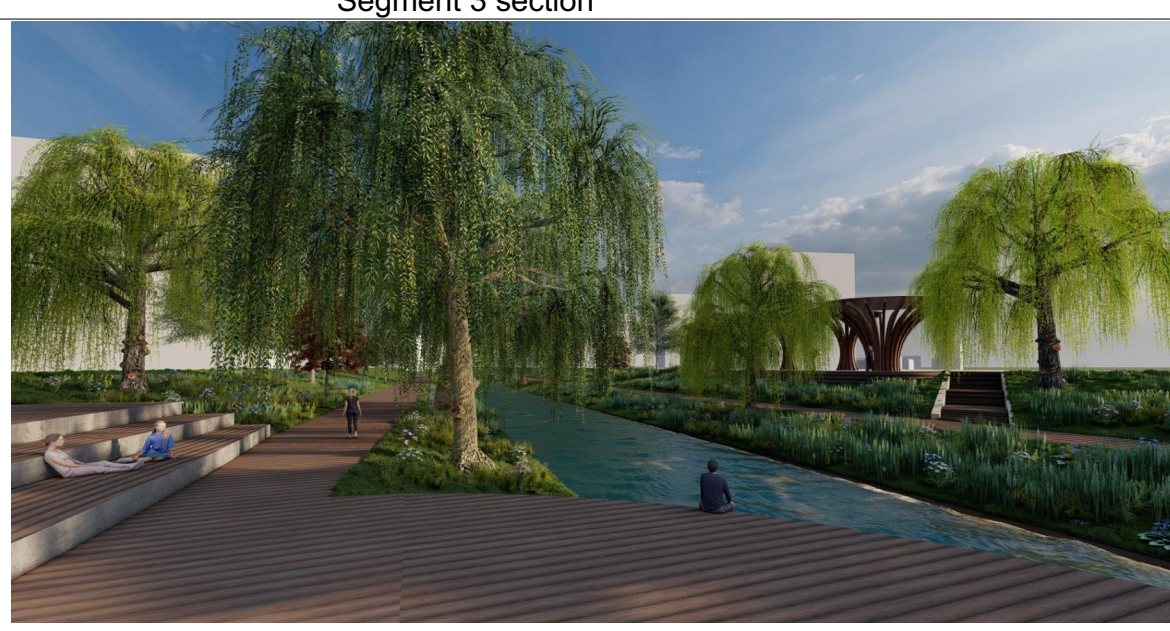


Detail Section 5

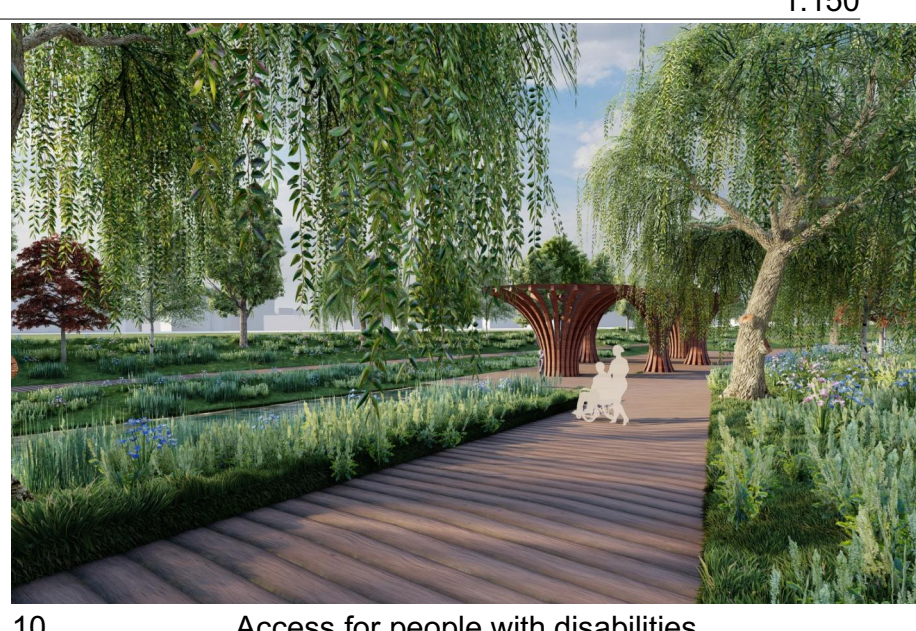
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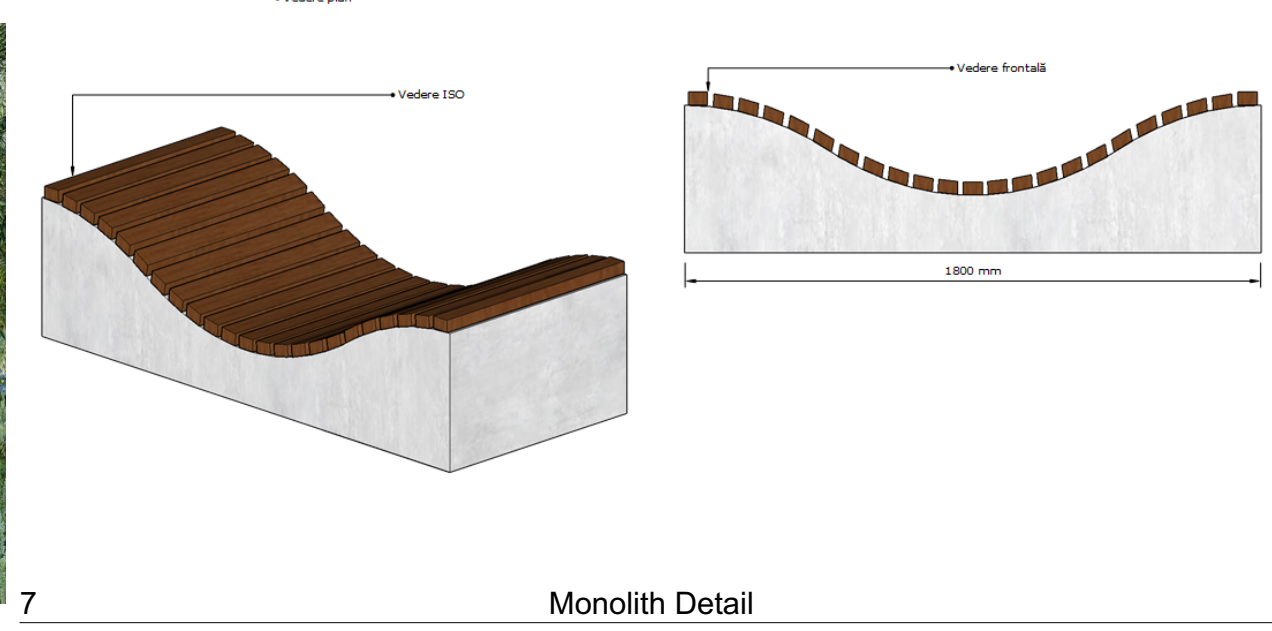
Perspective from the pavilion, segment 1



Perspective of the multifunctional platform



Access for people with disabilities



Monolith Detail



Perspective with the water level crossing



Night lighting from the pavilion



Access and perspective towards the terraces



Perspective with seating area and access to water



Short-term seating area



Access and perspective towards Pavilion



View from the pavilion towards the Stone Bridge



View with the route in segment 3

CONCLUSION

The proposed landscaping plan for the Bahlui River site seeks to address several challenges and enhance the area's natural beauty, making it more accessible and enjoyable for the community. The plan focuses on improving access, enhancing greenery, creating a vegetative barrier, providing relaxation zones, ensuring inclusivity, and promoting environmental sustainability. In conclusion, the plan represents a holistic approach to enhance the Bahlui River site, addressing accessibility and ecological concerns, creating an inviting and sustainable space that benefits both the community and the environment.

References

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