



DANURB+ - ACTION PLAN

DALJ CROATIA

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Deliverable D.T 4.1.2 - REGIONAL ACTION PLANS FOR ACTIVITY REGIONS FOR THEIR COMPETITIVENESS IN THE TOURISM, LABOR AND CULTURAL MARKETS

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Cover photo: Danube in Dalj; photo Dina Stober

December 2022, Osijek, Croatia

2. ANALYSIS OF THE ACTION AREA

Osijek-Baranja County is located in the eastern part of the Republic of Croatia. It borders the Republic of Hungary to the north, the Republic of Serbia to the east, and the four neighbouring counties are Virovitica - Podravina, Požega-Slavonia, Brod-Posavina and Vukovar-Srijem. Considering its physiognomic peculiarities, from the point of view of the global planning approach, it belongs to the group of counties of North-Eastern Croatia, together with which it forms the spatial-planning unit of Eastern Croatia.



Figure 1 County of Osijek-Baranja

Source: Regional spatial plan of County of Osijek-Baranja

258,026 inhabitants live in this county in 7 cities and 35 municipalities (Census 2021). The categorization of the County's settlements is based on the categorization in the Spatial Planning Strategy of the Republic of Croatia, in which settlements are classified into 4 basic categories: urban settlements, transitional - more urbanized settlements, transitional - less urbanized settlements and rural settlements. Transitional or urbanized settlements mean those settlements that have undergone a certain degree of socio-economic transformation. Transitional or urbanized settlements are considered those settlements that have undergone a certain degree of socio-economic transformation.

The municipality of Erdut, which includes the village of Dalj, belongs to Osijek-Baranja County. According to the 2021 census, there were 5,436 inhabitants in the Erdut Municipality in four settlements (Aljmaš, Bijelo Brdo, Dalj, Erdut). The settlements of Bijelo Brdo, Dalj and Erdut are classified in the category of transitional - less urbanized settlements, and Aljmaš in the category of rural settlements.

Table 1 Population number

Settlement	Population
Aljmaš	481
Bijelo Brdo	1.517
Dalj	2.877
Erdut	561
Ukupno:	5.436

The sparse population of rural areas is present in the entire Osijek-Baranja County, and its further spread is visible depopulation. The demographic characteristics of the municipality of Erdut have the following characteristics:

- strong negative demographic structures and trends in demographic processes of the population in relation to the overall population of Osijek-Baranja County and the Republic of Croatia,
- many emigrations of young families, young, working-age population
- the negative natural trend, i.e., the natural decline of the population, along with the birth of a decreasing number of children, high mortality and thus the reduction of the share of younger age groups, results in a distortion of the age structure of the population. Due to the number of the reduced generation, in the foreseeable future, they will enter the working age and cause a shortage of labour in the area of the municipality of Erdut.



Figure 2 Municipality Erdut

Source: <https://geoportal.dgu.hr/>

The economic development of the county is based on agriculture and the food industry, and there is also a wealth of natural resources, plant and animal species, and a preserved environment. The share of agricultural land in the total area of the County, which is 64%, is higher than the representation of agricultural land in the Republic of Croatia. The unique value of the area of the County consists of high-quality agricultural land and its preserved natural values (Kopački rit, the area along the Drava, the slopes of Krndija). The natural features and values of the area of Erdut Municipality, the area of valuable (partly protected) landscape along the Drava and Danube rivers (forest and water areas) stands out. These areas represent the basis of the tourism development of the Municipality, and with regard to the conditions, and the way of use, they are singled out as areas where interventions in the space are limited, and the natural features of the space are protected. Fertile soil, agricultural and vegetable crops, the Danube and the Drava, the proximity of irrigation water, ponds, waterways, natural fish breeding grounds, numerous bird habitats, archaeological sites from the Neolithic to medieval necropolises, sacred buildings, the wine road and other characteristics make this area recognizable. The main tourist attractions in the county are Kopački rit Nature Park, Đakovo Lipizzaner Stud Farm, Bizovačke Spa, Osijek Fortress, castles and gardens in the cities, and the Sanctuary of Our Lady of Refuge in Aljmaš.



Figure 3 Agrarian landscape in municipality Dalj

Source: <https://geoportal.dgu.hr/>

3. DALJ

The Roman fort Teutoburgium (Dalj location) was built in the 1st c. In several papers by Viktor Hoffiller, information about Roman graves and weapons from the site can be found. In the 1950's, M. Bulat related that two ditches could be distinguished in the steep profile of the Danube bank. Blocks of loess eroded into the Danube and allegedly, Roman remains were documented at the edge of the river shore.



Figure 4 Roman limes and location of Teutoburgium – Dalj

Source: <http://limescroatia.eu/dalj-2/>

Dalj is located on the right bank of the Danube, in the microregion of Erdutska kosa, at an altitude of 89 m. The settlement was first recorded under the name Dalj (Dalya) in 1471, and since 1706 it has been part of the Dalj manor. Today, Dalj covers an area of 67.75 km². The village is strongly connected to the Danube river. Everyday life is oriented toward the Danube river despite of the lack of urban furniture, playground infrastructure and public facilities. During the summer, the Dalj beach is the centre of outside activities.



Figure 5 Protected heritage sites – village area and the centre of the village

Source: <https://geoportalkulturnadobra.hr/>

The two tallest buildings in Dalj are two churches – Orthodox and Catholic. The Orthodox Church is protected heritage and it is dedicated to St. Demetrius, and the Catholic Church to St. Joseph. St. Demetrius is a religious landmark for the Serbian Orthodox community of the village. It is considered to be one of the largest churches of the Serbian Orthodox order in the country. The church was constructed in 1799 CE, in place of a former wooden church.

The village of Dalj is known as the birthplace of the scientist Milutin Milanković. Today, there is a science center with a small museum in his birth house presenting information about the work of this world-famous astronomer.

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4. STRATEGY

Aims of the Action plan were drawn from EUSDR, adapted for local and microlocal spatial level.

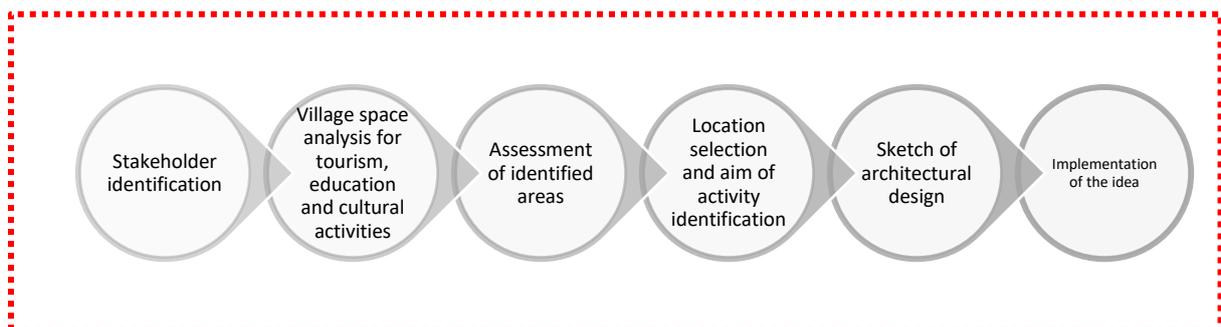


Figure 6 EUSDR Action Plan

Source: <https://danube-region.eu/the-eusdr-new-action-plan-just-published/>

Social activities are the result of complex processes occurring in a certain space and they belong to a group of central service functions. They reflect social system, territorial and administrative structure and government policy of the country. They raise the educational, cultural and scientific level and health culture of the population in the area that gravitates to them and that they influence. They contribute to the enhancement of social care so as to eliminate the existing social problems and differences.

Action plan framework is set up:



4.1 STAKEHOLDER IDENTIFICATION

Mission of the Action started from identification of the stakeholders. Internet data mining was provided and list of all NGOs situated in Dalj were made. NGO were identified from the national NGO register (and then superposed with the list of NGOs that are active in local projects).

Table 2 NGO registered in Dalj and their field of interest

NGO NAME	INTEREST
DEMOKRATSKA ZAJEDNICA MAĐARA HRVATSKE - UDRUGA OPĆINE ERDUT	national
HRVATSKO KULTURNO UMJETNIČKO DRUŠTVO "STJEPAN PENIĆ" DALJ	cultural
KLUB AMERIČKOG NOGOMETA "TEUTOBURGIUM PITBULLS" DALJ	sport
INFO KLUB DALJ	technical
ZAJEDNO ZA ZAJEDNICU	democratic culture, economy, international cooperation, education, scientific research, sustainable development, social activities, environmental protection
NEVLADINA UDRUGA "DANICA"	other
KULTURNO-UMJETNIČKO DRUŠTVO "PETOFI SANDOR" DALJ PLANINA	art and culture, civil rights, education, scientific research
KONJIČKI KLUB DALJ	art and culture, sport
EKOLOŠKA UDRUGA "EKO CENTAR DALJ"	ecology
UDRUGA DOBROVOLJNIH VATROGASACA HRVATSKE	protection and risk management
UDRUŽENJE "ĐORĐE OČIĆ"	democratic culture, spiritual culture, economy, hobby, civil rights, international cooperation, education, scientific research, sustainable development, social activities, environmental protection, health protection, technical culture
RADIO KLUB "DARIO DUJMOVIĆ" DALJ	technical culture
ŠPORTSKO RIBOLOVNO DRUŠTVO "DUNAV" DALJ	sport, environmental protection
KICKBOXING KLUB "DALJ"	sport
SPORTSKO RIBOLOVNO DRUŠTVO "SMUĐ"	sport, environmental protection
DOBROVOLJNO VATROGASNO DRUŠTVO DALJ	economy, art and culture, education, scientific research, activities, environmental protection, protection and risk management
NOGOMETNI KLUB "RADNIČKI" DALJ	economy, sport
LOVAČKO DRUŠTVO "JAZAVAC" DALJ	economy
UDRUGA UMJETNIKA I LJUBITELJA LIKOVNIH UMJETNOSTI "LEONARDO"	cultural
UDRUGA HRVATSKIH BRANITELJA DALJ	homeland war memory
SRPSKO KULTURNO UMJETNIČKO DRUŠTVO "BRANKO RADIČEVIĆ" DALJ	art and culture,
EKO-DUNAV	economy, education, scientific research, sustainable development, environmental protection
CENTAR ZA MLADE DALJ	democratic culture, sustainable development, social activities, environmental protection
UDRUGA ZA UZGOJ MALIH ŽIVOTINJA "KING" DALJ	other
LOVAČKO DRUŠTVO "PATKA" DALJ	economy
NOGOMETNI KLUB DUNAV	sport
KLUB MLADIH DALJ	children, young and family gathering and protection

HRVATSKA UDRUGA MAJPAN	defenders and victims, art and culture, international cooperation, social activities, environmental protection
"DALJSKA INFORMATIVNA KUĆA"	democratic culture, art and culture. Education and scientific research
UDRUŽENJE PENZIONERA I OŠTEĆENIH PENZIONERA OPĆINE ERDUT	civil rights, social activities
NOGOMETNI KLUB VETERANA DALJA - "DALJ"	sport
UDRUGA ZA ZAŠTITU ŽIVOTINJA, SKRB, UDOMLJAVANJE, PRIJEVOZ GRIZLI & ŠAPICE	environmental protection

Source: <https://registri.uprava.hr/#!udruga>

Additionally, an interview with the director of the Entrepreneurial Development Center of the Municipality of Erdut local development agency d.o.o., Mrs Bojana Orsić was conducted during the September, 2022. Several NGOs were identified as potential stakeholders (Zajedno za zajednicu, Centar za mlade Dalj, Primary school, Secondary school and others).

4.2 VILLAGE SPACE ANALYSIS FOR TOURISM, EDUCATION AND CULTURAL ACTIVITIES

In the first step, the leading spatial points marked by architectural or park heritage, open public spaces and locations with educational, cultural or scientific purposes were identified.

Table 3 Protected cultural heritage sites and buildings in Dalj

No	Register number	Cultural heritage site name	Address	Type	Legal status
1	Z-3643	Archeological site "Velika straža"	Dalj	Archeology	Protected cultural heritage
2	Z-4208	Building Milanković	Dalj, Zlatka Takača 13	Individual building	Protected cultural heritage
3	Z-3742	Archeological site "Livadice"	Dalj	Archeology	Protected cultural heritage
4	Z-3644	Archeological site "Poloj - Lisova skela"	Dalj	Archeology	Protected cultural heritage
5	Z-3743	Archeological site "Bogaljevci"	Dalj	Archeology	Protected cultural heritage
6	Z-1244	Church st. Demetrius	Dalj, Zagrebačka 2c	Individual building	Protected cultural heritage
7	Z-1245	Patriarchy Center	Dalj, Zagrebačka 2	Individual building	Protected cultural heritage
8	Z-6160	Archeological site "Kraljevo brdo"	Dalj	Archeology	Protected cultural heritage
9	Z-6174	Archeological site Bajer	Dalj	Archeology	Protected cultural heritage
10	Z-6135	Archeological site Busija	Dalj	Archeology	Protected cultural heritage

Source: <https://registar.kulturnadobra.hr/#/>

In the second step, open public spaces such as squares, parks, and children's and sports playgrounds were identified, and their potential for upgrading into a public proctor with touristic or educational purposes was assessed through a field trip.

In the third step, the functions of education, culture and entrepreneurship were identified.

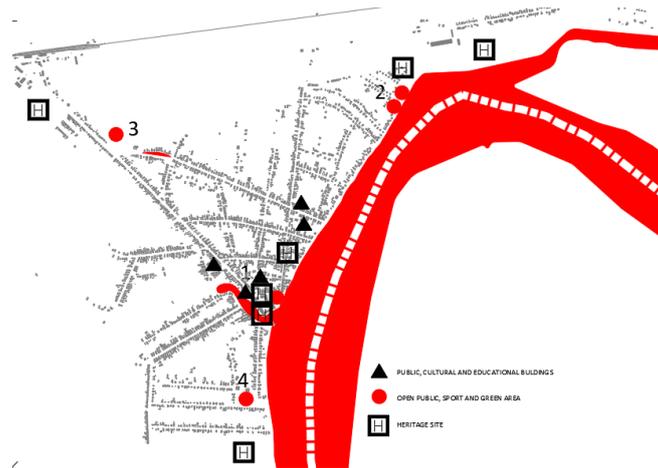


Figure 7 Dalj public, educational and religious land uses, heritage sites and open public areas

Authors interpretation

4.3 ASSESSMENT OF IDENTIFIED AREAS

1 The location in the center of Dalj brings together all the requested categories of activities: two buildings of cultural heritage - Church of St. Demetrius and the Patriarchate Court as individual cultural assets, facilities, and the Patriarchate Park as a monument of park architecture. These functions are near Dalj Elementary School and the Entrepreneurial Development Center of the Municipality of Erdut. In the broader observed area, there is no organized public space such as a square where residents would gather, but there are open spaces in front of the Church of St. Demetrius, along the Jana canal and Patriarchate Park. The area between the school, the Patriarchal Building and the church is underutilized. This location has an excellent potential for development into a significant tourist, public and educational location in Dalj.



Figure 8 Location 1

Authors interpretation



Figure 9 Patriarchy house and office (photo Dina Stober)
(photo Dina Stober)



Figure 10 Danube in Dalj



Figure 11 Church St Demetrius and schoolyard fence (photo Dina Stober)



Figure 12 Canal Jana floating in Danube center of Dalj (photo Dina Stober)

2 The location on the northern outskirts of Dalj brings together an archaeological site, a children's playground and a green, undeveloped area. It has potential for improvement, but into an open green area with sports activities and urban excursion equipment.

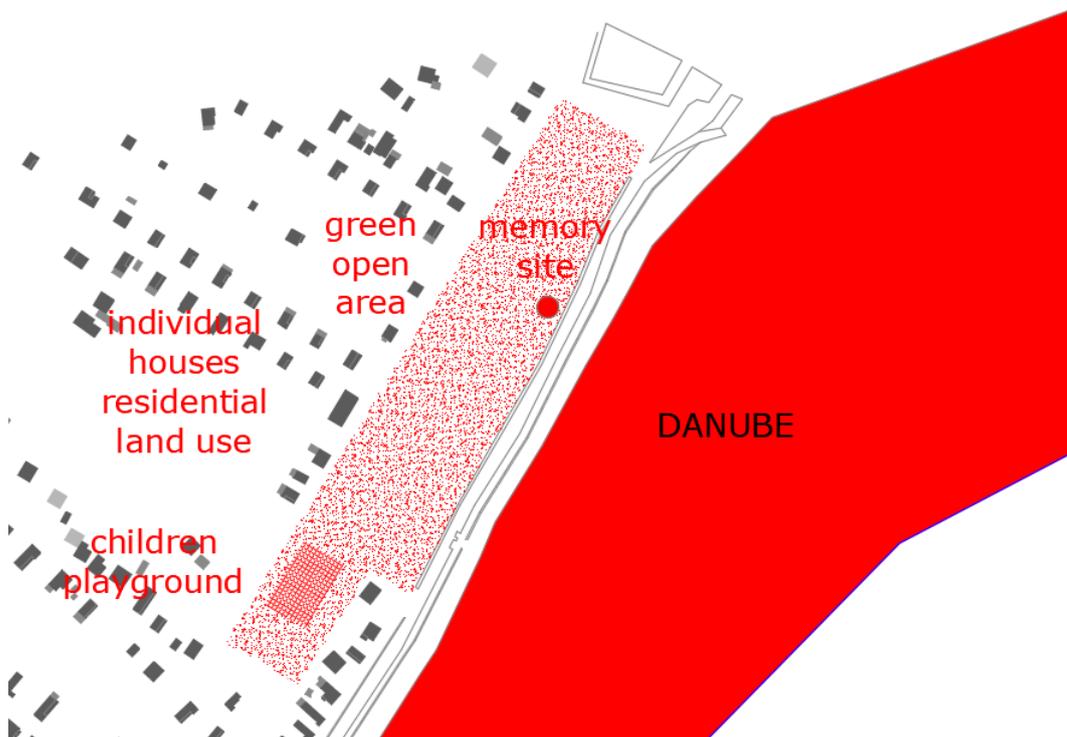


Figure 13 Location 2

Authors interpretation



Figure 14 View to archeological site and former brick factory (photo Dina Stober)



Figure 15 View to Danube, park, children playground and memorial site (photo Dina Stober)

3 The location on the eastern outskirts of Dalj brings together a functional football field, a nearby unkempt green area and an archaeological site in a residential environment, which does not offer significant potential for transformation into a public or touristic facility.

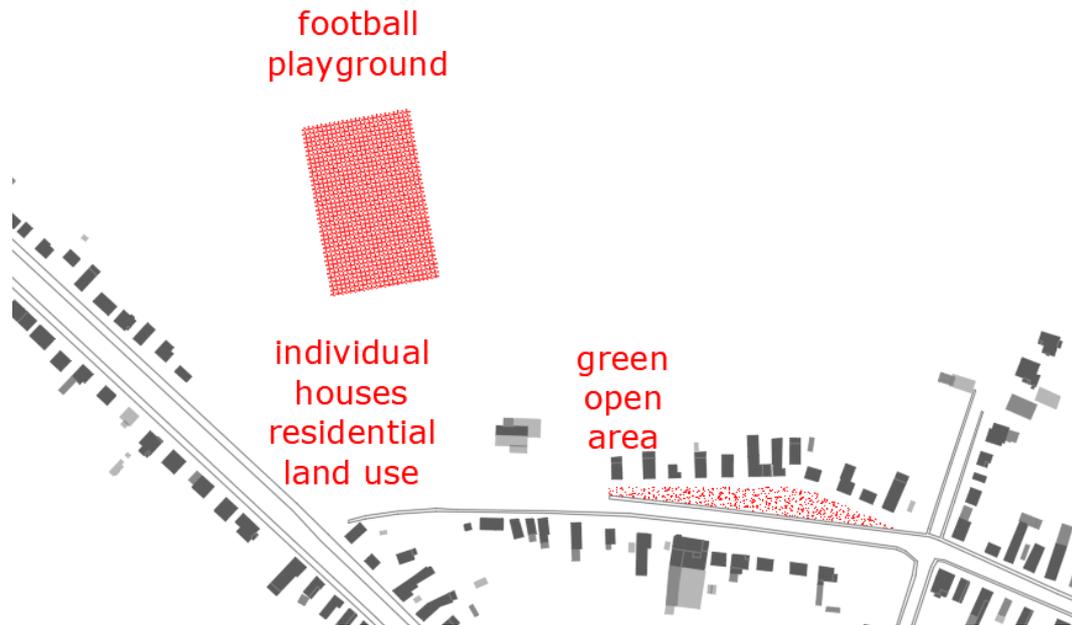


Figure 16 Location 3
Authors interpretation

4 The location on the southern periphery has the characteristics of location 3, a sports football field near an archaeological site in a residential environment can become one of the points in the Dalj space that can be improved, but the associated functions are less significant.



Figure 17 Location 1
Authors interpretation



Figure 18 Football playground near archeological site (photo Dina Stober)

4.4 LOCATION SELECTION AND AIM OF ACTIVITY IDENTIFICATION

We selected a central location that brings together multiple purposes and open spaces with potential. An analysis of the selected location was carried out, and the following steps were identified:

- Checking the conditions of the intervention in the area of Patriarchate Park - meeting the conditions in the Administrative Department for Spatial Development, Construction and Environmental Protection for the County of Osijek-Baranja (meeting September 2022)
- Checking the conditions for construction in the Spatial Plan of the municipality of Erdut for educational purposes (September 2022)

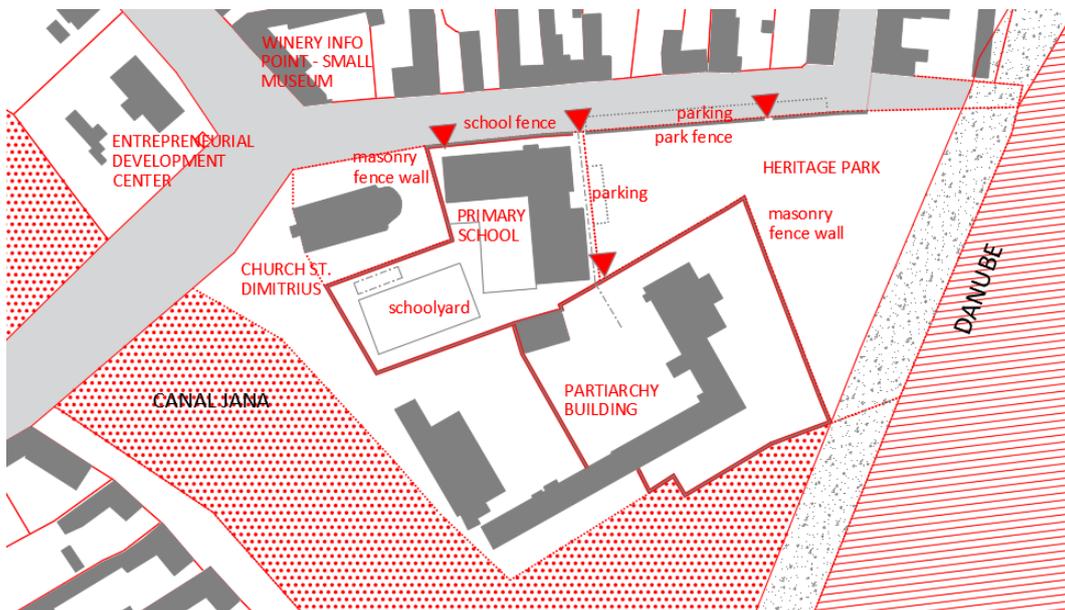


Figure 18 Analysis of the center of Dalj Authors interpretation

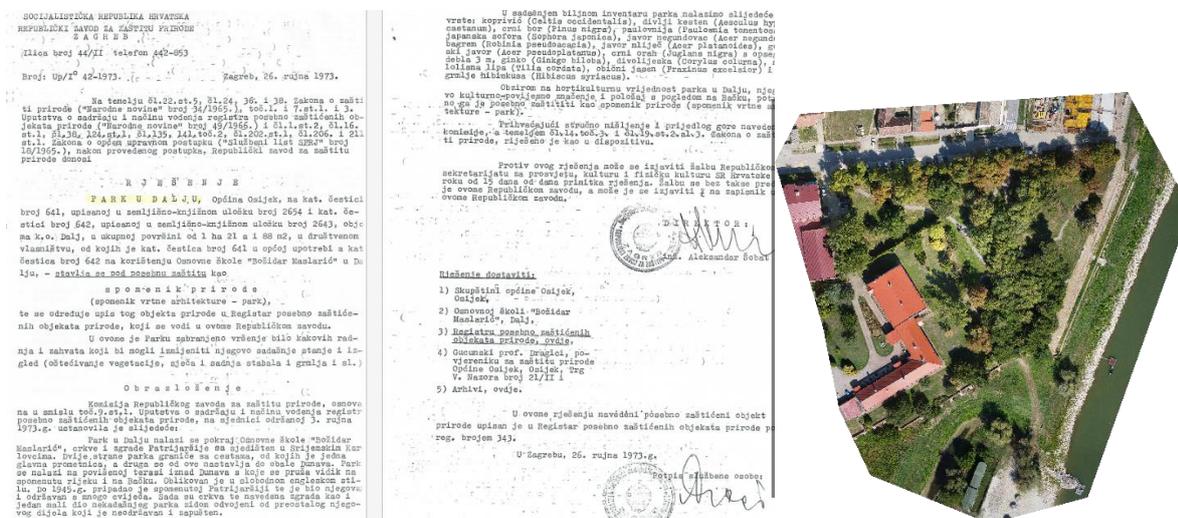


Figure 19 Patriarchy Centre rules for building permit Meeting September 2022, Administrative Department for Spatial Development, Construction and Environmental Protection for the County of Osijek- Baranja

4.5 SKETCH OF ARCHITECTURAL DESIGN - SENSORY INTEGRATION AND SENSORY PARK/PLAYGROUND IN DALJ

Sensory integration is a process during which sensory information from our senses of movement, sight, hearing, touch, taste, and smell comes to the brain via brain nerves, then it is processed so that we give it meaning and then respond to it with some activity. Sensory integration is a neurobiological activity that takes place inside our body and is very important for children's development.

One of the body's most important sensory systems is the vestibular system. Its function is to tell in which position our body is in relation to the Earth's gravitational force and in which direction and how fast our body is moving, or simply is at rest.

The proprioceptive sensory system has the task of collecting information from our muscles, tendons, and joints and tells our brain how our limbs and trunk should move, as well as where they are in space. When these two systems do their job well and fully, we have good head movement control, a stable field of vision, good muscle tone and posture, are able to maintain balance, and generally enjoy rocking, driving, running, etc. When the vestibular system works well, then we also understand everything we receive visually.

The tactile sensory system receives information from the skin, but not equally from all parts of the skin. The parts of the skin that are most sensitive to tactile information are the tongue, lips, face and head in general, fingertips and palms, and feet.



Figure 20 Model of enlarged body parts according to the amount of information received

The auditory system receives information about everything we hear. If the child has difficulties in the sensory integration of auditory information, it pays excessive attention to the usual very quiet sounds (the hum of the air conditioner or the ticking of the clock), shows fear and covers his ears to sudden loud sounds (the start of the vacuum cleaner or the radio).

The gustatory sensory system is responsible for taste and food texture information. Difficulties in this area are: pickiness in the sense of eating only certain types of food, or only food that is pureed, chopped, creamy; then difficulties regarding chewing and swallowing, refusing to brush teeth and visiting the dentist, as well as eating extremely cold or hot and spicy food, often sucking and chewing clothes, fingers, hair and the like.

We receive olfactory information with our sense of smell. Two extremes may be visible - extreme sensitivity (avoidance of people with perfume, rooms with an intense scent) or they have a need for intense scents.

Sensory integration difficulties lead to various difficulties in behaviour, socialization, emotional stability, concentration, independence and learning. The most common developmental difficulties are reflected in the areas of: self-regulation, fine and gross motor skills, motor planning, visual perception, speech-language and social-emotional skills, self-care and cognitive skills (Bellis, 2004).

Sensory parks/playgrounds also help in sensory integration. There are different definitions of a sensory park. A sensory playground is one that contains playground equipment/elements that stimulate one of the seven senses – touch, movement, smell, taste, sight, hearing, and balance. A carefully created outdoor space that enables learning through the senses with its elements, and its main feature is that it is intended for all children, regardless of whether they have developmental difficulties or just want to connect with their senses. A sensory park is a park that, with its shape, materials, and equipment, meets the needs of people with sensory difficulties. The purpose of such a park is to improve communication with the environment, develop learning abilities, develop

socialization, develop a positive self-image and reduce aggressive behaviour (breaking furniture and glass) (Autism Center Rijeka, 2020). In Sensory Park, children are surrounded by an outdoor environment that provides interactive learning through the senses. It is particularly useful for children's development and for their inclusion in the environment through spatial definition and interactive play equipment (Ball State University, 2020).

Benefits of children's stay in the sensory park:

- meeting new friends, hanging out and socializing,
- improvement of the child's health due to being in nature in the fresh air and sun,
- exercise through play while developing gross motor skills,
- development of sensory senses and self-regulation (in terms of endurance on play equipment) (Occupational Therapy Helping Children, 2020).
- improvements in communication with the environment,
- children become more dexterous, more coordinated, calmer, more concentrated and ultimately more satisfied, and educators and teachers are enabled to be more creative in teaching.

Elements of the sensory park/playground:

Senses: touch, movement, smell, taste, sight, hearing and balance

Touch

1. A series of wooden houses with an opening through which the hand passes. In each house, one ball (larger than the opening) of different textures, mass and hardness - smooth, covered with cloth, prickly, heavier, lighter, harder, softer.
2. Tactile wall - elements of different textures

Movement

Different substrates on the ground - rectangles with different materials (gravel, tree bark, sand) and/or a narrow board/line for movement and balance

Balance

1. Small logs placed vertically and of different heights so that you can walk on them and horizontally so that you can walk as if on a beam.
2. Small maze in the fence.
3. Seesaw in the fence.

Vision

1. Hourglasses with different colors of sand.
2. Kaleidoscope

Hearing

1. Hanging metal pipes in the frame of the fence that produce different sounds if touched with different objects - metal sticks, wooden sticks, plastic sticks...

or/and

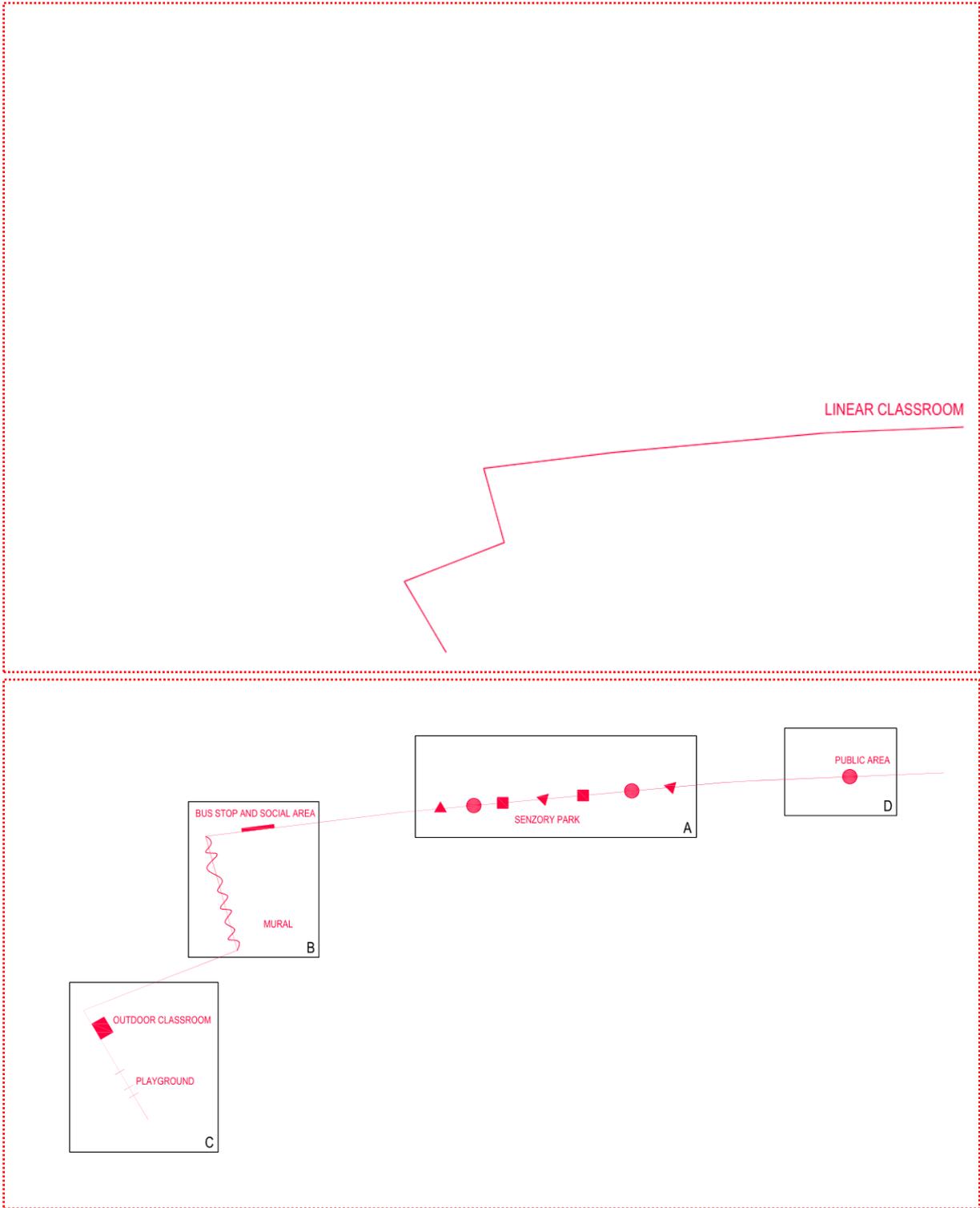
2. Passage through the "door" in the fence with rustling strips.

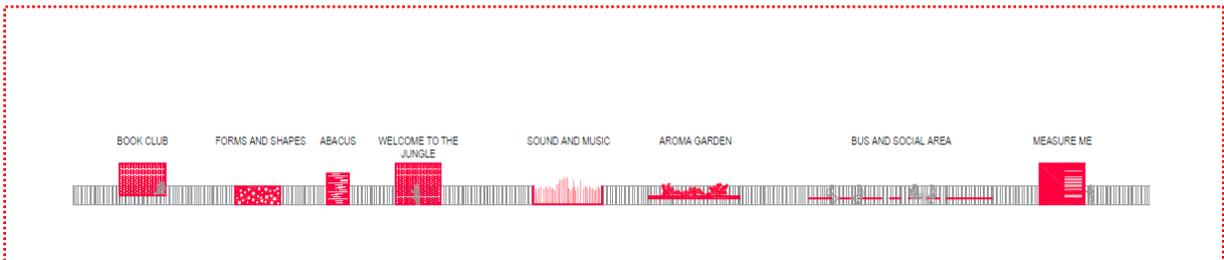
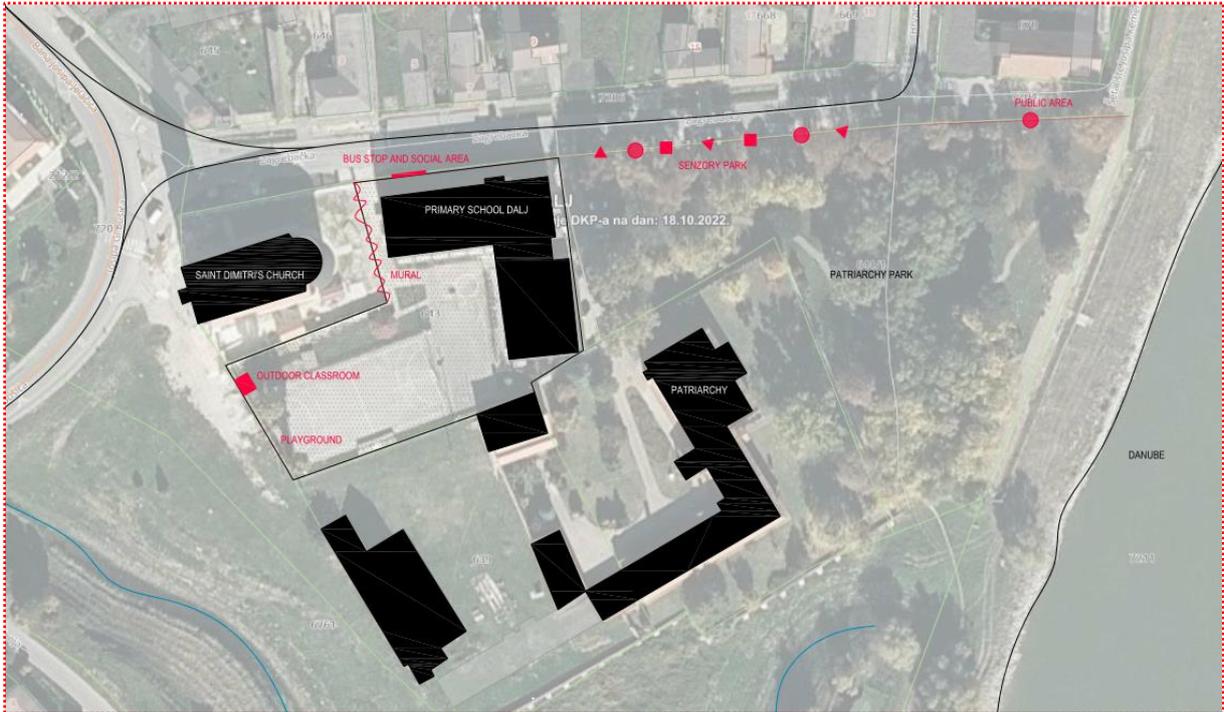
Smell and taste

Places to sit in the fence with messages that it is a place for socializing and eating fruit together.

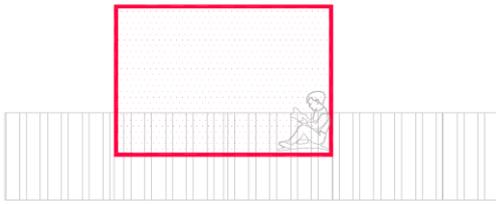
The sensory park should have elements from nature in combination with a fence (metal), changeable - the possibility of changing elements and textures, upgradable - the possibility of adding elements according to the needs of children.

It would be good in some parts to involve the students in the planning and creation of the sensory park so that they feel that **it is their park** that they will maintain, supplement, reshape and preserve.





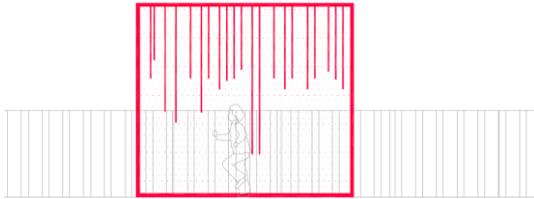
BOOK CLUB



FORMS AND SHAPES



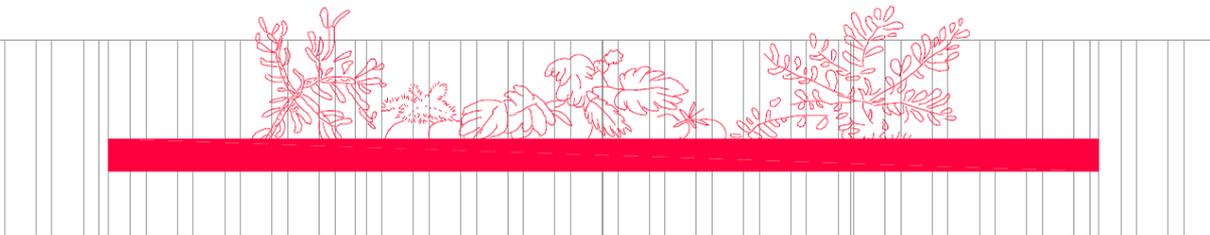
WELCOME TO THE JUNGLE



SOUND AND MUSIC



AROMA GARDEN



BUS AND SOCIAL AREA



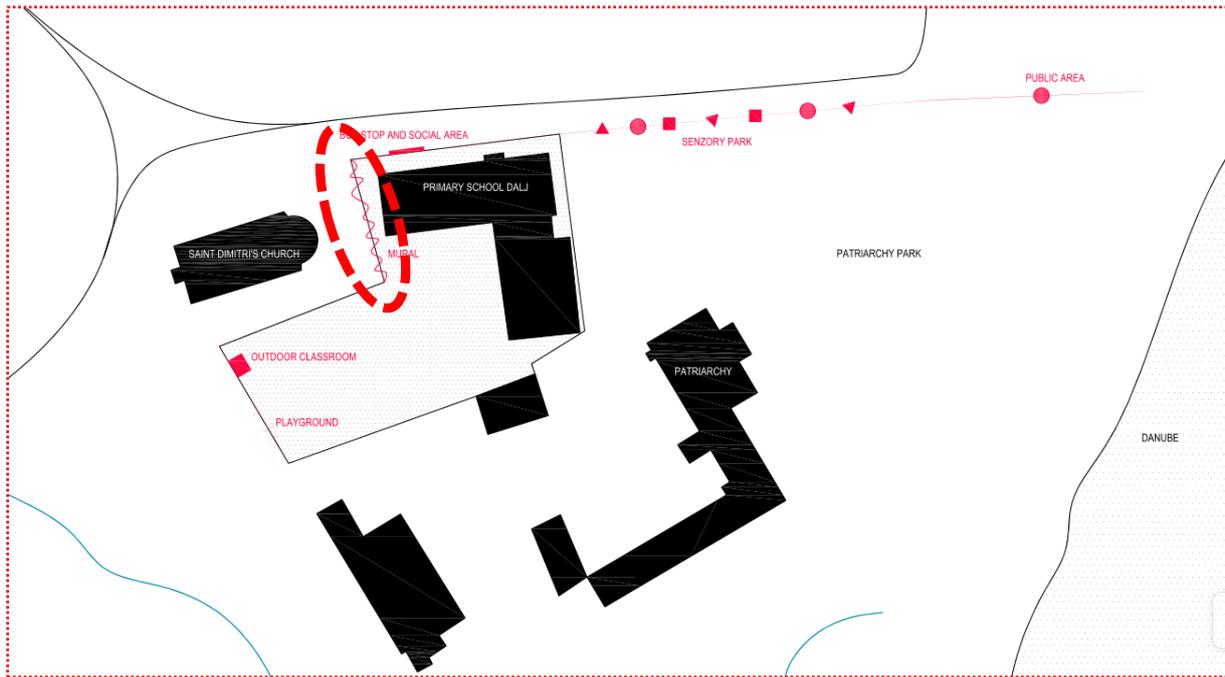
MEASURE ME



Figure 21 Architectural sketch of the linear classroom

5. IMPLEMENTATION

Primary school Dalj and associated project partners selected the idea of wall mural to be implemented. The linear classroom concept included the activation of the wall towards the Church of St. Demetrius with large paintings of Danube landscapes from different countries. The activity was organized into several parts. The first part was dissemination of knowledge about Danube values, Danube countries and symbols that represent Danube landscape in different countries. Next step was making drawings on big wood panels that was held on 17th of July 2022. Nine panels were presented in the main school hall until 18th of December 2022 when they were installed on the wall as planned in the architectural sketch of the linear classroom (Figure 21).





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Figure 22 Making drawings on panels and panel installation on the school/church wall

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