



# OUTPUT 0.T3.6

---

**Title** Transnational protection strategy for cultural heritage  
**Part 5 – Hungary**

---

Final version  
12/2022

**Author(s)** PP6 BME  
Budapest University of Technology and Economics  
ASP János Banner Foundation of Archaeology

With additions by Michaela Zorko & Gábor Tarcsay  
Danube University Krems

**Project ID** DTP3-1-359-2.2

## Contents

1. Characterisation of the pilot site .....	2
2. Threat analysis pilot site .....	5
3. Threat analysis for further selected Roman sites along the Danube.....	5
3.1. Ács - Bumbumkút ( <i>ad Mures</i> ) .....	5
3.1. Paks ( <i>Burgus Annamatia 9</i> ).....	6
4. Responsibilities in cultural heritage protection – case study pilot site .....	6

## 1. Characterisation of the pilot site

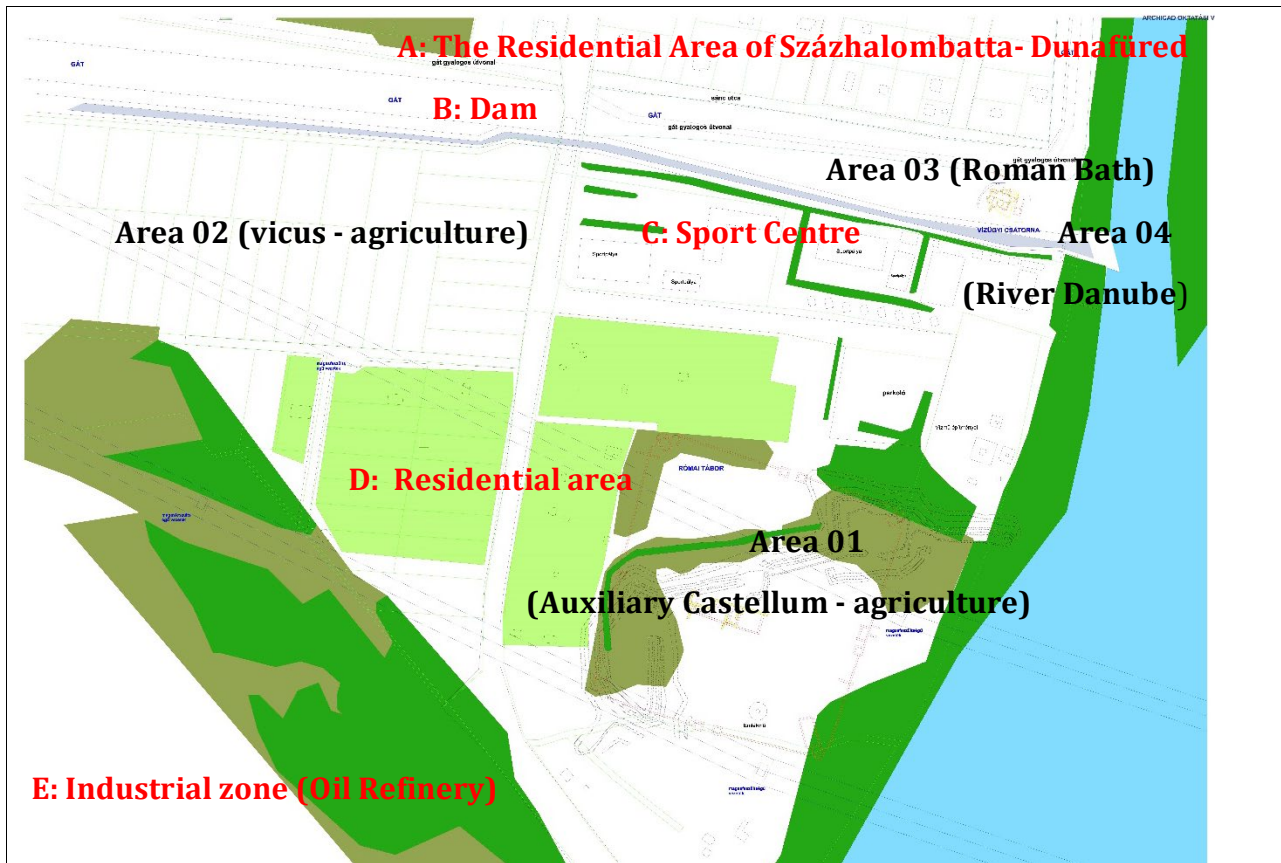
The Hungarian Pilot Site of the Living Danube Limes project (**Fig 1**), the territory of the Roman auxiliary castellum 'Matrica' (**Area 01 - Fig. 2-3**), the vicus in its surroundings (**Area 02 - Fig. 4-5.**), and the traces of the Roman Bath (**Area 03 - Fig. 6-7-8**) is located on the southern part of the city Százhalombatta, in the town's district called 'Dunafüred' (**A**), near the banks of the River Danube (**Area 04 - Fig. 9-10**). Százhalombatta is an industrial city with the population of app. 18.500 people, 40 kms south to the Capital, Budapest, on the western banks of River Danube. The city itself celebrated its 50th Anniversary in 2021, however, its land's history can be traced back to the Early Iron Age (7-6th Century BCE). The term 'Százhalom' literally means "One hundred tumuli" referring to the tumulus field from the at the boundary of the town.

The area of the former Roman castellum is located on a low flat floodplain of the river. On the Eastern side, a thin zone of forest separates the area from the Danube. On the Northwestern and Western sides, private plots are located with small houses – it partially covers the former area of the camp (**D**). On the Northern area a camping site is located with sport facilities (**C**). This area and a canal separate the territory of the former Matrica military fort from the remains of the bath. All these structures are surrounded with a dam (**B**) on the north, which defends the Southern residential area of Százhalombatta (**A**) consist of houses with gardens, but does not defend the historical area. The Southwestern part of the military vicus is partially covered with private houses (**D**), however, two major coherent territories are ploughlands where the research can be fulfilled. The southern neighbour of the area Hungary's biggest oil refinery complex is situated<sup>1</sup> (**E**).

These aforementioned features: the closeness of the river without dam, the oil refinery complex and the absence of any infrastructure that preserves the historical area are the core key risk factors.

---

<sup>1</sup> Despite the serious emergency system of the refinery, small accidents can be happen, as it was in June 14, 2022, when a small fire happened at the AV-2 Unit of the Refinery. See: <https://telex.hu/belfold/2022/06/14/tuz-volt-a-mol-szazhalombattai-olajfinomitojaban> (Accessed on June 15, 2022)



**Fig. 1.** The site map of the examined area



**Fig. 2.** The territory of the Roman auxiliary castellum /Area 01/ (Photograph: Gergő Máté Kovács, BME, 2021)



**Fig. 3.** The territory of the Roman auxiliary castellum /Area 01/ (Photograph: Gergő Máté Kovács, BME, 2021)



**Fig. 4.** The area of the former vicus /Area 02/ (Photograph: Gergő Máté Kovács, BME, 2021)



**Fig. 5.** The area of the former vicus /Area 02/ (Photograph: Gergő Máté Kovács, BME, 2021)



**Fig. 6.** The area of the traces of the Roman Bath /Area 03/ (Photograph: Gergő Máté Kovács, BME, 2021)



**Fig. 7.** The traces of the Roman Bath /Area 03/ (Photograph: Zsuzsanna Emília Kiss, BME, 2021)



**Fig. 8.** The traces of the Roman Bath /Area 03/ (Photograph: Zsuzsanna Emília Kiss, BME, 2021)



**Fig. 9.** The banks of the Danube near to the Roman Bath /Area 04/ (Photograph: Gergő Máté Kovács, BME, 2021)



**Fig. 10.** The banks of the Danube near to the Roman Bath /Area 04/ (Photograph: Gergő Máté Kovács, BME, 2021)

## 2. Threat analysis pilot site

Likelihood	Almost certain			Agriculture / vegetation (the main area of the territory is used for agriculture) Pests and mold		
	Likely			Severe weather (frost) Deterioration Vandalism (there is no visitor centre and fence around the site)	Flood	
	Possible			Light	Fire, Accidents/ malfunctions (industry – oil refinery)	
	Unlikely	Climate		Theft Pollutants Violence		
	Rare	Earthquakes				
		Insignificant	Minor	Moderate	Major	Severe
		Impact				

## 3. Threat analysis for further selected Roman sites along the Danube

### 3.1. Ács - Bumbumkút (*ad Mures*)

The *auxiliary castellum Ad Mures* is located northwest of the city of Ács, in a place called Bumbumkút. It was first identified by László Barkóczi in 1946. Today the archeological structure is fully covered under a vineyard, therefore no elements are visible. Its existing part is about 130x175 m, but its northern part was destroyed by the Danube. The first stone fortress was built during the reign of Hadrian by the vexillationes of the legio XIII Gemina, legio XIV Gemina and the legio XV Apollinaris. The rectangular fortress had rounded corners. During the 4th century the *castellum* was rebuilt with fan-shaped corner towers.

Likelihood	Almost certain					Agriculture
	Likely	Earthquake	Flood			
	Possible	Accidents, Pollutants, Severe Weather	Theft			
	Unlikely	Light	Climate			
	Rare	Vandalism, General Security, Violence, Pests & Mold, Deterioration				
		Insignificant	Minor	Moderate	Major	Severe
Impact						

### 3.1. Paks (*Burgus Annamantia 9*)

The watchtower (Burgus) Annamantia 9 was recently discovered by Otto Braasch due to the interpretation of aerial images. Until today the watchtower is fully covered and there are no visible remains above ground. Based on the analysis of the aerial images, the burgus was surrounded by rectangular double ditches, measuring 52 m<sup>2</sup> and 30 m<sup>2</sup> in size. Chance findings from the area are indicating, that the tower was probably built during the reigns of Constantius II and Valentinian I.

Likelihood	Almost certain					Agriculture
	Likely					
	Possible	Accidents, Severe Weather	Theft			
	Unlikely					
	Rare	Vandalism, General Security, Violence, Pests & Mold, Deterioration, Earthquake, Light, Flood, Climate, Pollutants				
		Insignificant	Minor	Moderate	Major	Severe
Impact						

## 4. Responsibilities in cultural heritage protection – case study pilot site

In the case of a disaster and emergency in the Pilot Site, it is possible to contact services with responsibility of both in local and national level.

- At the local level, in case of natural or industrial disaster, the competent organisation is the **Municipality of Százhalombatta**, where a responsible person with competence of disaster prevention works. In case of the protection of persons and property, the official organisation is the **Police**, however, in the city a **Civil Guard (Polgárórség)** also operates.

- In regional level, in the case of Százhalombatta, the **Pest County Directorate of Disaster Recovery**.<sup>2</sup> The organisation was established on the 1st January 2012 after the contraction of the Pest County Fire Department, Pest County Directorate of the Civil Defence. The main task of the directorate is to suit the requirements of the standard state-run disaster recovery organisation in point of control, training, qualification, control on operation. Our main tasks are the recovery against disasters, emergency prevention, contribution in damage mop-ups. We do our duty on behalf of the personal and financial safety of the metropolitan inhabitants. The Teritorial Department Units of the Pest County Directorate of Disaster Recovery are: Cegléd Sub-Office (SO), Érd SO, Gödöllő SO, Monor SO, Vác SO.

The County Directorates of Disaster Recovery implement regular training – and in several cases at historical environment.<sup>3</sup>

- In Hungary, in the case of catastrophe, the main operative institution in national level is the **National Directorate General for Disaster Management, Ministry of the Interior Affairs**.<sup>4</sup>

The basic function of the National Directorate General for Disaster Management, Ministry of the Interior (NDGDM) as a law enforcement body with a national competence is protecting the lives and the property of the population living in Hungary and insuring the safe operation of the national economy and protecting the elements of the critical infrastructure. Its main mission is preventing disasters as an authority; carrying out rescue operations in civil emergencies; organizing and controlling protection activities; eliminating the negative consequences of emergencies and performing reconstruction and rehabilitation.

In order to fulfil its function:

- It possesses a wide range of industrial safety, fire safety and civil protection authoritative competences: regulates, permits, prohibits, restricts, controls and sanctions. In order to prevent emergencies it coordinates the activities of other authorities.
- It has national, county, district and local professional organizations, voluntary and obligated civil protection bodies, a large pool of equipment, a well-established logistics background. It operates a business entity manufacturing and repairing special equipment, covering entire Hungary. It effectuates investment and property management.
- It possesses important competences in identifying and monitoring the critical infrastructure in Hungary, and in civil emergency planning, in defense/protection

---

<sup>2</sup> Source: <https://pest.katasztrofavedelem.hu/19052/introduction> (Accessed on 24th May 2022)

<sup>3</sup> The University of Pécs and the Baranya County Directorate of Disaster Recovery renewed the intention to continue the good practice in order to continue the previous successful professional cooperation. The first event of this new contract is the "Monument 2019", a monument protection exercise, the main objective of which is to protect monuments and rescue in the event of natural disasters, where these priceless assets and the people staying there can be damaged. Source: <https://www.bama.hu/helyi-kek-hirek/2019/10/katasztrofavedelmi-gyakorlatot-tartanak-szerdan> (Accessed on 24th May 2022)

<sup>4</sup> Source: <https://www.katasztrofavedelem.hu/33763/introduction> (Accessed on 24th May 2022)



administration, in the mobilization of the national economy, and in the State reserves management.

- It regulates and directly commands and controls the national fire protection system. Its local on-call professional bodies perform firefighting and conduct technical rescue operations, protect, inform and alert the population. It controls the participation of municipal and industrial fire brigades, and voluntary fire associations in firefighting and technical rescue operations. It effectuates the county level deployment control.
- It maintains broad international relations, based on bi- and multilateral agreements; it represents Hungary in the professional organizations of UN OCHA, EU and NATO; in the International Association of Fire and Rescue Services (CTIF) and the international organization of fire officers.
- It maintains regional training bases, runs the Disaster Management Training Center, administers the Disaster Management Institute of the National University of Civil Service, operates the Central Orchestra, the Museum and the Research Institute. It publishes a monthly periodical, a professional magazine, other publications and educational materials; it manages the scientific activities of the disaster management system and maintains a sports club.
- It maintains an up-to-date telecommunications network, a deployment control and IT system, furthermore, measuring, detecting and public alert systems, covering the entire area of the country.
- It cooperates with other law enforcement bodies, the Hungarian Defense Forces, municipalities and other authorities ensuring public safety.
- It maintains relations with non-governmental and charitable organizations, with their federations, educational and scientific institutions and the media.