



## **A multidisciplinary approach to sewage and storm water drainage - Case studies of the cities of Pula and Rovinj**

Tatjana Uzelac<sup>1</sup> and Katja Sošić<sup>2</sup>

<sup>1</sup> Starum Ltd., Croatia, [tanja@starum.hr](mailto:tanja@starum.hr),

<sup>2</sup> Studio Kappo Ltd., Croatia, [katja@studio-kappo.com](mailto:katja@studio-kappo.com),

### **ABSTRACT**

The paper deals with examples of application of a multidisciplinary approach for master study concerning sewage and storm water drainage within planning of municipal infrastructure, and also protecting greenery and developed areas in a city. The bases of spatial and environmental planning are principles of a wider socio-ecology approach concerning entire ecosystem beside hydraulic engineering techniques. The emphasized components are as follows: aesthetical, ecological and economic encompassing sustainability of developed and natural spaces. The paper presents a compound concept of increasing city spaces' values and possibilities of less expensive solutions than the conservative ones. Such modern decentralized systems consist of local micro drainage systems of waste and storm water, based on sustainable phases, such as retention, attenuation and infiltration facilities. This approach is characterized by financial efficiency including practice of multiuse of city spaces and corridors, not only for the protection against negative impact of water but also an improvement of aesthetic, social and ecological values of a city. The given examples present recently designed and already constructed systems in the cities of Pula and Rovinj, including partial separation within combined sewer system, aimed at protecting the lower part of these towns against flooding and upgrading existing city areas with environmental planning approach.

### **KEYWORDS**

Keywords: sewage system, storm water, drainage, decentralized drainage, micro systems, economic efficiency, multiuse corridors.