

JASPERS

Guidance Note III

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JASPERS assignment(s) code:	2013 211 HR WAW WAT
Project title:	WASTEWATER TREATMENT SYSTEM: BIBINJE – SUKOSAN AGGLOMERATION
Country(s)	Croatia

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The revised Feasibility Study is considered as presenting a comprehensive and well considered proposed project that provides a clear conclusion. However, regarding the preference of having a separate treatment plant at a new location to serve the Bibinje – Sukosan agglomeration it is considered that some clarifications of underlying assumptions and technology choice are required before the appropriateness of this conclusion can be made.

1. Introduction

This Guidance Note III provides initial feedback on the project documents as received on 24th July 2019. The original project as presented to JASPERS fell within the general assignment Dalmatian Coast Lot I. However, subsequent to this assignment the original consultant responsible for preparation of the proposed project as well as the subsequently appointed consultant have been replaced and it is understood that the project no longer forms part of the Lot I contract. Nevertheless and for the purpose of JASPERS reporting, the project is retained within the Lot I JASPERS assignment (2013 211 HR WAW WAT).

The proposed project comprises mainly two components (i) extension of the sewer system of 64 km that represents a slight increase on the previous amount and (ii) construction of a secondary level wastewater treatment plant with a capacity of 19,000 PE. As a consequence of extending the sewer system, 31 km of the existing water supply network will need to be replaced.

The revised feasibility study provides a comprehensive analysis of options for wastewater treatment including at the site of the existing mechanical treatment facility, transfer to the Zadar treatment plant with various methods of upgrading the plant examined, and the construction of a new treatment plant at a new location in Bibinje. The range of options and supporting analysis is seen as strong and concludes that a separate treatment plant at a new location to serve the Bibinje – Sukosan agglomeration as the preferred option on both cost and technical grounds. However, despite the comprehensiveness of this analysis and the marginality of the cost differences some concerns exist regarding the robustness of this conclusion. These concerns are further elaborated in Section 2 of this note.

The Feasibility Study also recommends the merger of Odvodnja Bibinja-Sukošan into Odvodnja d.o.o, Zadar. This recommendation is welcomed.

2. Specific Comments

a) Option Analysis: Location of the Wastewater Treatment Plant

The outcome of the option analysis is shown as”

Variant	1-C1: Existing site	2D: Connection to UPOV Zadar	3-A: New location
Investment costs (HRK)	42.836.000	40.061.400	50.993.000
Annual operating and maintenance costs (HRK/year)	2.335.300	3.115.075	2.257.040
Net Present Value (NPV)	87.407.663	88.602.356	85.187.319
Ranking of variants	2	3	1

Although the final preference and the opinions of the project beneficiary and the two operators are very clearly presented, before a final decision can be ratified it is considered that the following aspects of the analysis require further clarification:

- Results of the Present Value Calculation.

The supporting calculations for the present value cost comparison are not provided and results may suggest some inconsistencies. For example, between options 1 and 3: Option 1 has a capital saving of HRK 8 million and yet only incurs an operating cost of HRK 90,000. Nevertheless, its present value cost is some HRK 2.2 million higher than Option 3.

- Residual sludge volumes under the preferred technical solution for the Zadar plant.

The preferred technological solution involves the introduction of a FBAS stage (biomodules). As a consequence of the introduction of this process the annual volumes of residual sludge are estimated to increase from 5,760 tonnes to 9,490 tonnes. Residual sludge from the plant are proposed to be sold to a third party for final disposal at a cost of HRK 750 per tonne. Out of the present value cost of Variant 2D of HRK 88.8 million, the additional cost of disposal of the extra volume of sludge accounts for at least 40% of this amount. Given this high proportion, it is considered appropriate that alternative solutions, such as low temperature thermal drying, should be explored to reduce this volume.

- Costs associated with trial operating periods.

The costs of the trial operating period are given as HRK 3.6 million and HRK 1.25 million in options 2D and 3, respectively. It is understood that the majority of these cost are the actual cost of operation. However, it is not clear how these costs have been determined (in relation to the estimated operating costs). Furthermore, care should be taken that there is no double counting and the incremental costs applied are stated in economic terms.