



MUNICIPAL SERVICES IMPROVEMENT PROJECT – (MSIP)

TECHNICAL ASSISTANCE:

SMALL SIZE WASTEWATER TREATMENT IN RURAL AREAS

(CS-CQ-002-16)

FINAL SUMMARY REPORT WITH RECOMMENDATIONS

(Output Task n° 3)



Krems, 24 March 2017

QM / REGISTER OF SUBMISSIONS

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ENCLOSURES:

**ANALYSIS OF THE EXISTING SANITATION AND WASTEWATER
TREATMENT IN THE RURAL AREAS WITH POPULATION EQUIVALENT UP
TO 10,000 IN THE REPUBLIC OF MACEDONIA**

(Output Task no 1)

**ASSESSMENT AND RECOMMENDATION REPORT REGARDING
PROPOSED WASTEWATER SOLUTIONS FOR 8 MUNICIPALITIES**

STATEMENT RE CONNECTION OF FRANGOVO TO WWTP STRUGA

(Output Task n° 2)

1 CONTRACT

The Contract for Consulting Services, dated 30.09.2016, was signed by the Client, i.e. Government of the Republic of Macedonia - Ministry of Finance, on 12/13 October 2016, and countersigned by the Consultant, i.e. Consortium (Joint Venture) HYDRO INGENIEURE Umwelttechnik GmbH, Austria and Kommunalkredit Public Consulting (KPC), Austria, on 18 October 2016.

The Consortium's Financial Proposal dated 12 September 2016, for a total amount of EUR 99.617 was rejected by the Client, and a reduction of the budget to EUR 60.000 was requested. The Consortium made adaptations to the methodology and work plan in order to fit into the requested budget; details are included in the Annex C of the Contract for Consulting Services.

1.1 Contract Extension

By e-mail from 23.2.2017, the Client granted contact extension until 24.3.2017.

2 EDITORIAL NOTE

According ToR, the "FINAL SUMMARY REPORT WITH RECOMMENDATIONS" shall comprise the compilation of "Output Task no 1" (i.e. "ANALYSIS OF THE EXISTING SANITATION AND WASTEWATER TREATMENT IN THE RURAL AREAS WITH POPULATION EQUIVALENT UP TO 10,000 IN THE REPUBLIC OF MACEDONIA) and "Output Task no 2" (i.e. "ASSESSMENT AND RECOMMENDATION REPORT REGARDING PROPOSED WASTEWATER SOLUTIONS FOR 8 MUNICIPALITIES; STATEMENT RE CONNECTION OF FRANGOVO TO WWTP STRUGA").

"Task 2 Report" has been originally submitted to the Client on 23.12.2016. After receiving comments from the Client, "Task 2 Report" has been amended (adding of "Appendix 01" including replies to Client's comments, and amending of report respectively), and re-submitted on 10.3.2017.

Due to the requested preparation of "Task 2 Report" ahead of "Task 1 Report", in "Task 2 Report" preliminary results from Task 1 had been included (in chapter 2.6.). Subsequently, the mentioned chapter 2.6. has been moved to "Task 1 Report" (becoming chapter 5 of "Task 1 Report"), and slightly amended.

In addition, chapter 1.1 and chapter 1.3 have now been moved from "Task 2 Report" to this "Task 3 Report", becoming chapter 1 respectively chapter 3 of this "Task 3 Report".

Task 1 has been submitted to the Client on 24.3.2017, and is included unchanged hereinafter.

3 AGREED PROCEEDING / CHANGES & CLARIFICATIONS REGARDING THE TOR

During the meeting on 16.11.2016 in the Ministry of Finance, some changes and clarifications regarding the ToR have been agreed as follows.

Due to dead-line for application for IPA-financing, Output Task 2 Report shall be prioritised, aiming at delivering it by mid of December 2016; Output Task 1 Report will be prepared of course in parallel (among others because we need at least preliminary results, to be considered in Task 2), however it will be delivered only in January 2017.

It was clarified that the **scope of the ToR regarding Task 2 includes the projects as described in the table on page 13 of the ToR, i.e. what is submitted for financing by IPA (e.g. if in any study/project is included in addition e.g. "a WWTP foreseen in the future", such future solution is not in our scope).**

For clarification it was discussed what is to be understood, according "Macedonian practice", by "detailed design". At the example of the electronically received design of WWTP Malo Konjari (in Municipality Prilep) it is confirmed that this is a "detailed design according Macedonian practice", ready for tendering and construction and that there will be no more additional design (it will be "Red FIDIC" contract).

Regarding Task 2, the 8 Municipalities as included in the ToR are confirmed.

Additionally, Struga is included regarding Task 2 *, in exchange for taking out Gjorche Petrov ***** from Task 1; meaning that in total there shall be included 9 Municipalities regarding Task 2 (instead of 8), whereas for Task 1 there have to be included 5 WWTPs (instead of 6).

The Task 2 review of "Struga" will focus on an overall review whether WWTP Struga is functioning, and whether it has enough capacity/capability to receive in addition the wastewater from the settlement Frangovo, while the wastewater disposal situation of settlement Frangovo itself, as well as institutional and financial topics, will not be subject of Task 2 investigations.

Nevertheless, we will include, in addition to the now required 5 WWTPs for Task 1, some information gained regarding operation experience of WWTP Struga in addition into Task 1 Report * (*this was not discussed in the mentioned meeting*).

Regarding Task 1, it was agreed that the aim shall be to have included as much as possible different potentially adequate technologies; some options regarding potentially to be included WWTPs were discussed during the meeting; finally the below listed WWTPs have been selected.

Accordingly, Task 2 Municipalities comprise:

- (1) Novaci
- (2) Rankovci
- (3) Debrca **
- (4) Cheshinovo - Obleshevo
- (5) Novo Selo
- (6) Valandovo

(7) Vasilevo

(8) Prilep

(9) Struga *

Task 1 WWTPs comprise:

(a) Chucher-Sandevno (Trickling Filter)

(b) Krivogastani (Aerated Lagoons)

(c) Lozovo (Aerated Treatment – Container type)

(d) Jasenovo *** (Constructed Wetland)

(e) Ilinden WWTP (container type)

+ Struga ** (Activated Sludge Treatment)

+ Debarca/Belchisti (container type) ****

Notes:

** As informed in the meeting 16.11.2016, the WWTP (in Grko Pole) shall NOT be financed by IPA; the design of the WWTP is completed, approvals are received, and tendering is ongoing. Still, within Task 2 Report an opinion regarding the design of the WWTP shall be given.

*** Jasenovo (Constructed Wetland, 250 p.e.) was selected in order to have included, as agreed, as much as possible different potentially adequate technologies; it is noted that this WWTP is not owned or operated by a Municipality or its PUC, but by the Hospital Jasenovno.

WWTP Karbinci, which originally has been discussed to be included as example for Constructed Wetlands, had to be omitted, as it turned out that it is NOT Constructed Wetlands type. No other suitable WWTP of Constructed Wetlands type could be identified.

**** in Municipality Debrca we have found an existing WWTP ("Container type") in settlement "Belchisti". We will include, in addition to the now required 5 WWTPS for Task 1, some information regarding experience gained from this WWTP.

***** the Consultant had already been working on the received documentation prior to the meeting of 16.11.2016.

The above proceedings were summarized in e-mail to the Client from 28 November 2016.

Krems/Vienna 24 March 2017