



Universität Stuttgart



akkreditiert durch ZevA
im Auftrag des Akkreditierungsrats (KMK / HRK)

Universität Stuttgart · WAREM · Pfaffenwaldring 7a · 70569 Stuttgart

WAREM Seminar October 28th, 2014

Master's Thesis Presentation

of Dunja Tanaskovic

Supervisors:

Prof. Dr.-Ing. Heidrun Steinmetz
Dipl.-Biol. Jovana Husemann, M.Sc., M.Eng.
Institute for Sanitary Engineering, Water Quality and Solid
Waste Management-ISWA

Pfaffenwaldring 7a
70569 Stuttgart
Telefon: (0711) 685 - 66615 / 66616
Telefax: (0711) 685 - 66600
warem@iws.uni-stuttgart.de
<http://www.warem.uni-stuttgart.de/>

Anne Weiss M.A., M.Sc.
(Durchwahl: - 66616)

seminar_abstract_template

Determination on municipal wastewater characteristics in Serbia as a base for the conceptual design of wastewater treatment plants, Case Study "East Srem"

An accurate characterization of raw wastewater in terms of its quantity and quality is crucial for the effective design of wastewater treatment plants (WWTPs). Due to a lack of flow and pollutants concentrations data, particularly in transition and developing countries, the international technical standards (e.g. German, European, American etc.), and their recommended dimensioning values are often used as a single information source in the planning process of WWTPs worldwide. However, this practice might lead to wrong sizing and poor operation of the constructed treatment units. Current practice in Serbia regarding the determination of input data for WWTPs design is based on the internationally recognized design values. So far, no local in-depth studies have been carried out to evaluate the actual sewage composition in Serbia and thereby justify the application of the international standard values.

The aim of this study was to characterize the raw municipal wastewater in Serbia and to develop the WWTP preliminary design for the selected case study region in Serbia. The study is based on the measured flows and standard parameters (COD, BOD₅, TSS, TN and TP) concentrations obtained for the ten municipalities in Serbia. The raw data is used to calculate the inhabitant-specific pollutant loads expressed in g/(cap*day). As a result, the typical ranges of pollutants loads in Serbia were determined and WWTP design values applicable in Serbian local conditions were proposed. Finally, in the case study, the preliminary WWTP design for the "East Srem" Region is done with three different sets of design loads: (1) design loads based on the measurements, (2) German standard design loads and (3) American standard design loads. The results were compared to show to which extent the differences in design loads influence the WWTP design outputs and to assess the applicability of the international WWTP standard design values in Serbia.

Date: Tuesday, October 28th, 2014

Time: 17:30

Location: Pfaffenwaldring 7, Room 7.11

WAREM Students and other interested parties are cordially invited.

Auslandsorientierter Studiengang „Water Resources Engineering and Management - WAREM“

Program Coordinator
Prof. Dr.-Ing. Silke Wieprecht

Course Director
Anne Weiss M.A., M.Sc.