

عنوان مقاله:

Optimizing Subsurface flow wetland by Using Pamys and scoria stone

محل انتشار:

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خلاصه مقاله:

Based on this research, the effects of two filler material of pamys (mineral stone and Escoria and comparing them with the sand bed were considered and analyzed. In this research, three similar beds were made with 8 days hydraulic detention time and one primary sedimentation tank with 2 hour time. One bed was filled as a witnessed test with sand and second and third beds were filled with Pamys and Escoria stone in order to research. In order to water the reeds with the urban wastewater one urban wastewater system was used with these features BOD=250 mg/l, TSS=200 mg/l, COD=300 mg/l, and PH=7.2, TP=6 mg/l, TN=21 mg/l. the pilot was used during one year and it was used after that. The experiments were done by the use of the standard method and analyzing the data by means of SPSS software. Using the performed analyses during the performing of the pilot it was revealed and showed that the omitting output of COD, BOD₅, TSS, TP, TN in the test bed is respectively 47, 37, 40, 20, 47 percent. This result are 56, 49, 53, 38, 62 percent for Pamys bed and it is respectively 63, 59, 69, 53 and 73 in Escoria bed. The surface roughness and a big space of porous material in the bed filter is a good reason to increase the biofilm on it. This subject causes an increase in the omitting output for the carbon organ material and Nitrogen organ material, and the suspended solid. The Escoria stone has increased the omitting output considerably in the reeds. Because of having the features mentioned. The Pamys stone is lower than Escoria and higher than sand in the features mentioned. This has been observed in the omitting output of the material. At the end, the usual sand has specified the lowest omitting output by using a high surface net and its porosity is near to zero and it has the lowest degree of porosity. Then it has less area in comparison to the similar omitting output of Escoria bed. It justifies the use in industrial centers especially using the reeds in these centers.

کلمات کلیدی:

primary sedimentation, Escoria, Pamys, Subsurface flow wetland

لینک ثابت مقاله در پایگاه سیویلیکا:

