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PROFITABILITY OF STABILIZATION PONDS IN SERIES FOR TREATMENT OF SANITARY SEWAGE

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Abstract:

Sewage stabilization pond is recommended as one of the economical methods for sewage treatment particularly in dry areas of the world and those places which are in shortage of water and income deficit, this method can be used for treatment of sewage in rural areas, small towns and even large cities. Sewage stabilization pond system does not require technical equipment and specialists, and effluent may be used in agriculture, or may be discharged in receiving streams and lakes without any danger. In order to study the profitability and advantageous aspects of stabilization pond for treatment of sewage, the sewage plant of pouladshahr was taken into consideration. Pouladshahr sewage plant with total surface area of 149500 sq.m. and capacity of 288,850 cu.meters consists of 18 ponds which operate in 2 series. Detention time is 24 days and the organic load is 8.36 gr/m²/day. The average of BOD, COD and N, the three important parameters of sewage, were 104.2, 194 and 68 mg per liter in the influent, and 28, 58 and 14 mg per liter in the effluent of stabilization ponds respectively with 73, 70 and 71 percent decrease. Since all the tests have been made on non filtered effluent containing algae, this amount of decrease indicates the good efficiency of the stabilization ponds. The curve for monthly changes of dissolved oxygen indicates that usually the least amount of dissolved oxygen in the ponds is in the month of December and the greatest amount in July. From the economic point of view, the average cost of this sewage plant is 652.5 Rials per person as compared to 4000 Rials per person in activated sludge system.

Keywords:

[Oxidation pond](#) , [Sewage treatment](#)

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