**Improve the Water Quality in Front of Water Treatment Plants**

**Intakes**

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**ABSTRACT**

An investigation was carried out to evaluate the effect of improving the velocity in front

of intakes to control the effect of sedimentation on withdrawal water turbidity. The

phenomenon of sedimentation is one of the most important problems affecting intakes

of water treatment plants. The Nile river is known to be an alluvial river, so pipe intakes are the most affected by sedimentation due to its contribution as an obstacle on the river side which lead to the reduction of water velocity on its side which leads to increase the deposition rate at the intake. On the other hand, any regulation work may be work on increasing the water velocity at the intake site, causes increasing of water turbidity and will lead to increasing of the treatment cost. A comparison between different methods of regulation works such as dredging; spur dike usage on the other side of the intake, and the removal of flow obstructions was carried out to adjust the velocity to reach a proper value. Experimental results indicated that the dredging upstream the pipe intake 50m to 200m downstream the pipe intake with a width of 100 m is a sustainable alternative in economic terms for sediment control. On the other hand using spur dikes as a second sustainable alternative may be desirable in terms of initial cost and river morphological stabilization.