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Effects of inlet flow distribution evenness on outlet water quality from multiple parallel-arrayed sedimentation basins

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ABSTRACT

This study evaluates the effects of the evenness of the flow distribution from the open channel between a rapid mixing basin and multiple parallel-arrayed flocculation/sedimentation basins on the water quality. The results of the tracer tests in an actual domestic water treatment plant showed that modifying the hydraulic structure of the distribution channel could improve the evenness of the flow distribution by ~50%. The results of turbidity measurements for each sedimentation basin also showed that a more even flow distribution reduces the turbidity of the settled water by more than 25%.

Keywords: Evenness of flow distribution; Multiple parallel-arrayed flocculation/sedimentation processes; Tracer test

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