



INSITE GROUP, INC.

CASE STUDY

RINSEATE TREATABILITY STUDY

Wood Manufacturer
Knox, Pennsylvania

MUNICIPAL SEWER AUTHORITY COMPLAINT

A local municipal sewer authority observed that the discharge from the plant was not meeting the discharge requirements due to the color of the effluent. The culprit was identified as an upstream wood production facility. Their process included painting of the wood products followed by cleaning of equipment. The resulting rinseate included tiny white suspended paint particles, which entered the liquid waste stream and traveled to the municipal treatment plant. The waste stream could not be removed by the treatment process at the municipal plant. The Client was approached by the municipal authority and requested to mitigate the cause of the white particles in the effluent.

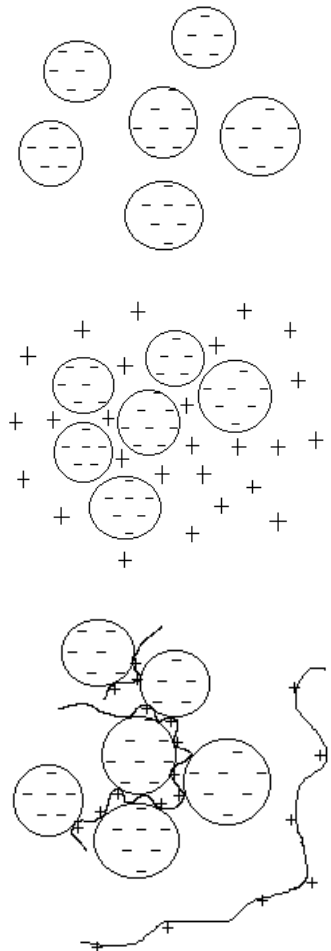
TREATABILITY STUDY

Insite Group, Inc. (IGI) evaluated the process that resulted in the rinseate and implemented a laboratory treatability study to understand and resolve the problem. The water-based paint used in the process results in highly stabilized suspensions of sub-micron size particles in the effluent. The stabilized suspension is resistant to liquid-solid separation by routine methods of filtration and sedimentation. The paint particles remain in solution, in large part, due to the repulsion of like charges on the surface of the particles.

IGI evaluated the effects of coagulants, flocculants and solidifying agents on the rinseate, performing numerous bench top tests using different products. Through this evaluation, methods using flocculation and solidification were successful in precipitating out the paint and producing a clear effluent.

TREATMENT OPTIONS

IGI completed a cost benefit analysis of the treatment options. The analysis included design, capital invested, operation and maintenance costs, and disposal fees. The analysis identified the most economical solution as the isolation of the liquid waste stream from the effluent by storage of the rinseate in a tank followed by loading, transport and disposal at an offsite disposal facility as non-hazardous liquid.



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