

# Have The Rules Changed for Vortex Grit Removal?

By William Flores – Vice President, Municipal Systems

Phone: (913) 888-5201 x308

[wflores@smithandloveless.com](mailto:wflores@smithandloveless.com)

Smith & Loveless, Inc.

14040 Santa Fe Trail Drive

Lenexa, Kansas 66215

TITLE: Have The Rules Changed for Vortex Grit Removal?

## ABSTRACT:

The presentation will begin with an introduction to grit removal systems and more importantly focus on Do's and Don'ts in grit removal design. The introduction to grit removal systems will begin with a fundamentals presentation on what is grit, the importance of grit removal, capture efficiencies and describe the various technologies available on the market. The technologies that will be described in the proposed presentation are as follows:

1. Detritors
2. Aerated Grit Tanks
3. Stacked Tray Tanks
4. Vortex Grit Tanks

In addition to the above removal technology education, the introduction will include an in depth look at grit pumping means such as airlifts, vacuum primed and flooded suction grit pumps with recessed impellers. The introduction to grit removal systems will conclude with the audience's exposure to grit dewatering technologies. The grit dewatering technology review will include the distinction between a classifier and a grit washer.

The Do's and Don'ts topic is associated with upfront design work executed by the consulting engineering community. It's important for all water professionals to understand the Do's and Don'ts to follow the best practices in grit removal design. Following best practices allow end users to collaborate with the consulting firms and manufacturers for a common positive outcome. Segments of the water professionals to benefit from the presentation include operations and maintenance personnel, young professionals, seasoned engineers and WRRF managers. It is the presentations' main objective to share the knowledge of best practices in design, so the operation and maintenance aspect of the grit removal system can follow a routine set of practices without having to question as built infrastructure. For example, participants will be asked to question a commonly plugged grit pipe run by asking: "Would two 45 degree elbows be a better choice over this single 90 elbow?" or "Is it too late to bring in NPW (Non-Potable Water) to this grit pump suction line?" These are common questions that can be addressed during design with the proper educational foundation by both design and end user professionals.



**Smith & Loveless Inc.**