

GRIT (Grit Removal Innovative Technologies) Team

Task List Spring 2015

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1. Determine/confirm realistic settling velocity of grit - by mid-February
 - a. Define what "grit" actually is
 - i. How dense is it?
 - ii. What is the settling velocity/diameter of the particles?
 - iii. How uniform are the particles?
 - b. Talk to Walker/John about grit problems in Agalteca and Marcala
 - i. What are they getting in the flocculator?
 - ii. How much of it are they getting?
 - iii. What problems are they facing from grit build-up?
 - iv. How often do they have to clean the flocculator?
 - v. Does the grit interact with coagulant significantly?
2. Design "GRF": A combined Flocculator/Grit Removal Chamber - by mid-March
 - a. Plate settlers in series (like flocculator)
 - b. Check Monroe's previous "grit roll-up" analysis
 - c. Determine main constraints (baffle spacing, costs, plan view area, grit roll up, grit removal efficiency, etc....)
 - d. Determine minimum spacing between baffles
3. Design "Entrance GRU": a separate Grit Removal Unit within the entrance tank- by mid-April
 - a. Plate settlers in parallel (like a smaller sed tank)
 - b. Ensure even flow distribution among the plates and adjust width accordingly
 - c. Effectively position the entrance tank in relation to the inlet manifold (?) to the chamber
4. Design "Channel GRU": a separate Grit Removal Unit in the first flocculator channel - by end of April
 - a. Plate settlers in parallel (like a smaller sed tank)
 - b. Ensure even flow distribution among the plates
 - c. Confirm the slope of the bottom of the unit (probably 50 degrees)
 - d. Determine an optimal depth of the GRU by playing with the floor height
 - e. Cost savings: dosing before vs. after the grit removal chamber
 - f. Effectively position the LFOM in relation to the GRU
5. Synthesize all designs into best possible option for an array of plant flows - by early May
 - a. Analyze how different plant flows will affect needed length and depth of the design
 - b. Follow up with design sketch sent to San Juan Guaritas, Honduras! :)