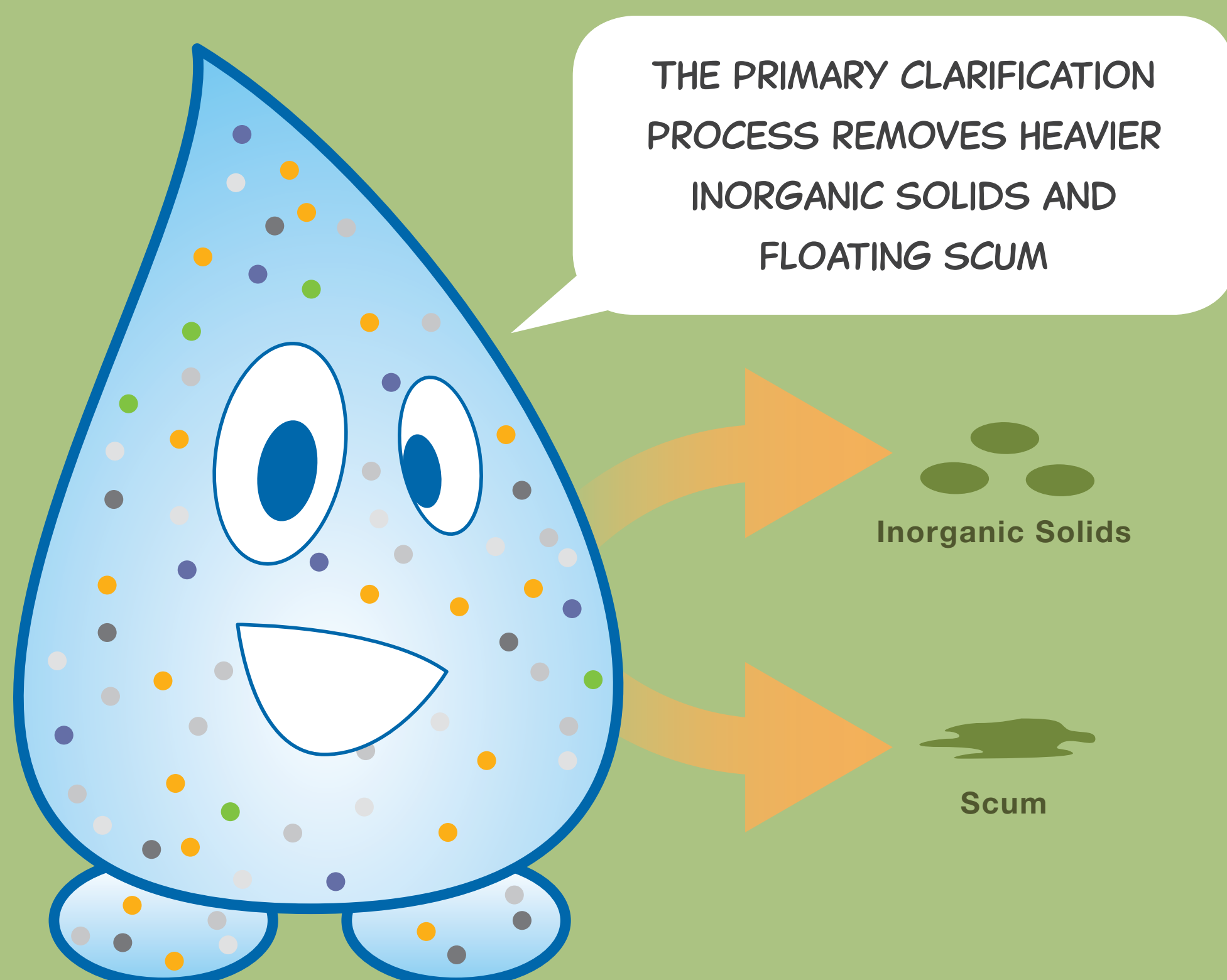
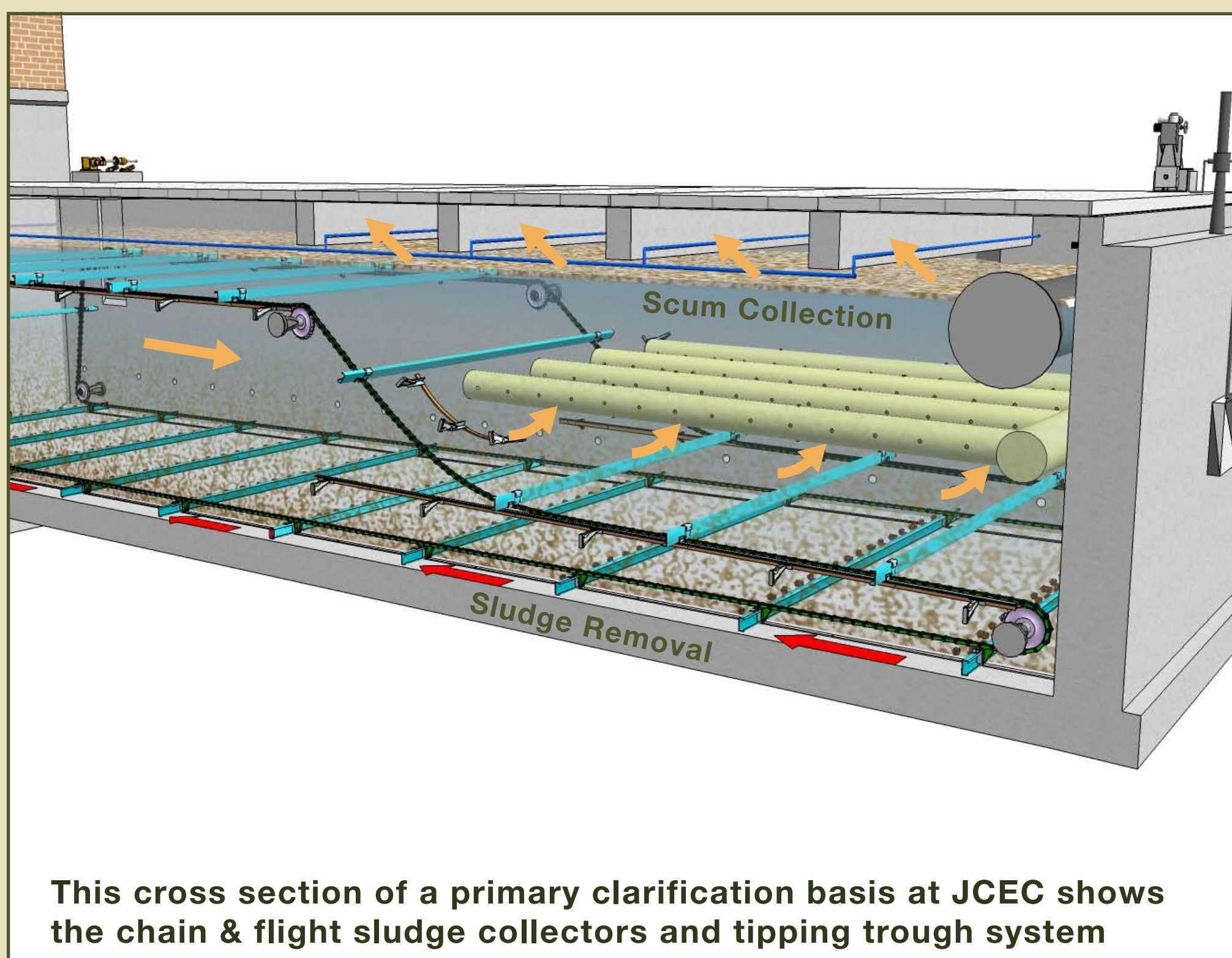


# Primary Clarification

Following Grit Removal, flow enters into eight different primary clarifiers. Primary clarification is the final step of the primary treatment phase. Primary clarification is a physical separation process that separates heavier inorganic solids in wastewater that “settle,” from the lighter solids that stay in suspension and will be treated later. Chemical of ferric chloride helps the separation process.

At the Johns Creek Environmental Campus, primary clarification occurs in rectangular clarification basins, which are approximately 25 feet wide by 100 feet long and have a minimum of 15 foot depth. The solids that settle in the clarification basins are scraped to one end of the basin with long boards called “flights” pulled by chains. The solids are pulled into sludge hoppers where they are pumped to the aerobic digesters. . A scum layer consisting of oils, fats, and grease floats on top of the water and is pushed to one end of the tank with spray water nozzles. The scum is collected with a “tipping” trough that collects the scum and it is also transferred to the Aerobic Digesters.



Post Aeration Process Design Parameters	
Number of Primary Clarifiers	8 (6 duty and 2 standby)
Length x Width	100 ft x 25 ft
Surface Overflow Rate at 33.1 mgd	1661 gpd/ft <sup>2</sup>
Solids Collector System	Chain & Flight
Primary Clarifier Solid Pumps	16 (8 duty and 1 standby)
Primary Clarifier Solid Pump Capacity	Progressing Cavity Pumps
Primary Clarifier Solid Pump Capacity	30 gpm
Scum Removal System	36" Diameter Tipping Trough
Primary Clarifier Scum Pumps	4 (3 duty and 1 standby)
Primary Clarifier Scum Pump Type	Submersible Chopper Pumps
Primary Clarifier Scum Pump Capacity	240 gpm