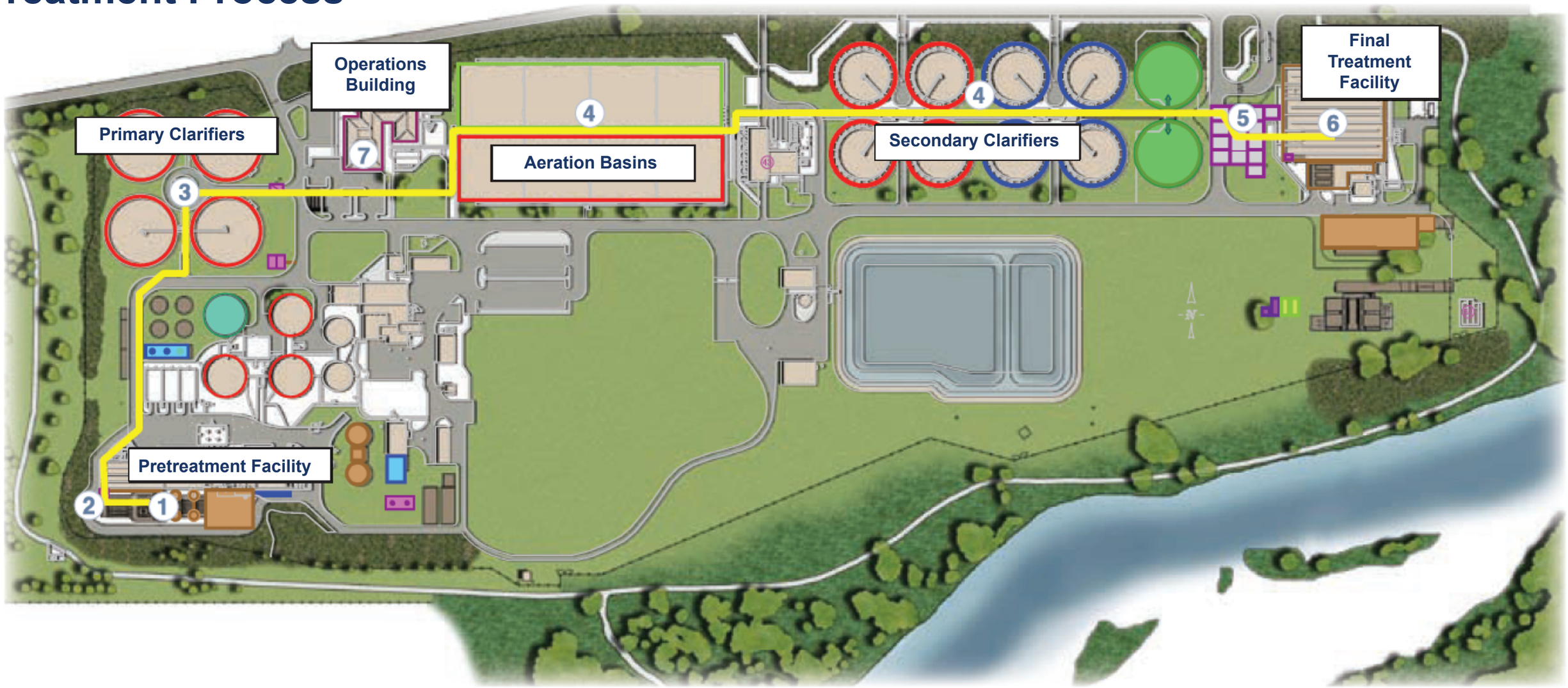
Treatment Process



1 **Influent Pump Station:** Wastewater collection pipelines carry the wastewater, or influent, from homes, businesses, and industries to 49 pump stations throughout the area; these pumps transfer wastewater on to the treatment plant's pump station.

2 **Preliminary Treatment:** Wastewater enters the "headworks," where it is lifted by giant screw pumps to the top of the preliminary treatment structure. From this point on, the wastewater travels through the processes by gravity, saving significant energy. The wastewater passes through bar screens and grit chambers that remove large solid objects like rocks, rags, sticks, sand, and gravel.

3 **Primary Treatment:** Primary clarifiers begin to separate smaller solids out of the wastewater through gravity. The solids settle to the bottom of the clarifiers and are pumped to anaerobic digesters to be processed into "biosolids." Biosolids are removed and pumped off-site to our Biosolids Management Facility and the Biocycle Farm on Awbrey Lane to be turned into beneficial soil amenities. Back at the treatment plant, wastewater with solids removed flows into the aeration basins.

4 **Secondary Treatment:** Aeration basins mix incoming wastewater with oxygen and "good bacteria" in a biological process to dissolve and absorb remaining organic matter. Water then flows into secondary clarifiers where the good bacteria are settled out and recycled back to the aeration basins to do their work all over again.

5 **Tertiary Treatment:** Filters remove any remaining minute solids. Tertiary treatment will be developed in phases over the coming years.

6 **Disinfection:** As a final stage, chlorine is added to eliminate any remaining traces of harmful bacteria. The chlorine is then removed from the cleaned wastewater, now called effluent, in order to protect fish and other aquatic life, before being released into the Willamette River.\

7 **Monitoring and Testing:** A sophisticated console room at the treatment facility monitors key functions and readings 24/7, while the lab tests the water at many points throughout the process to ensure quality control and to meet or exceed federal and state standards.