

Mazzei Injector Corporation AirJection System Oxygen Transfer Requirement Calculation

Customer:

Project:

Purpose For Aeration:

Process (SBR, Lagoon etc.):

The following information is needed for design of an aeration system for an Activated Sludge Wastewater Treatment Process. Please try to provide as much of the information as possible.

Design Parameters

Average Design Flow, ADF	MGD	
Influent Loading, @ ADF, BOD5	mg/l	
Total Kjedaahl Nitrogen, TKN	mg/l	
Peak Flow, PF	MGD	
Influent Loading, @ PF, BOD5	mg/l	
Total Kjedaahl Nitrogen, TKN	mg/l	
Effluent Loading, BOD5	mg/l	
Total Kjedaahl Nitrogen, TKN	mg/l	

Aeration Basin Dimensions

Aeration Basin Volume	Gallons	
Aeration Basin Water Depth	ft	
Aeration Basin Length/Width	ft	
Aeration Basin Slope of Sides		

Process Operating Parameters

Mixed Liquor Volatile Suspended Solids (MLVSS)	mg/l	
Food/Microorganism Ratio		
Sludge Yield Ratio, Y, VSS/BOD5		
Specific Decay Rate, Kd	lbs/day	
Design MCRT (Sludge Age)	days	
Denitrification Credit Claimed?	Yes/No	
Water Temperature	C	
Operating Dissolved Oxygen	mg/l	
Available Aeration Time	hr/day	
Beta		
Alpha		
Site Elevation	ft	

Reference: Wastewater Engineering, Metcalf & Eddy, Third Edition