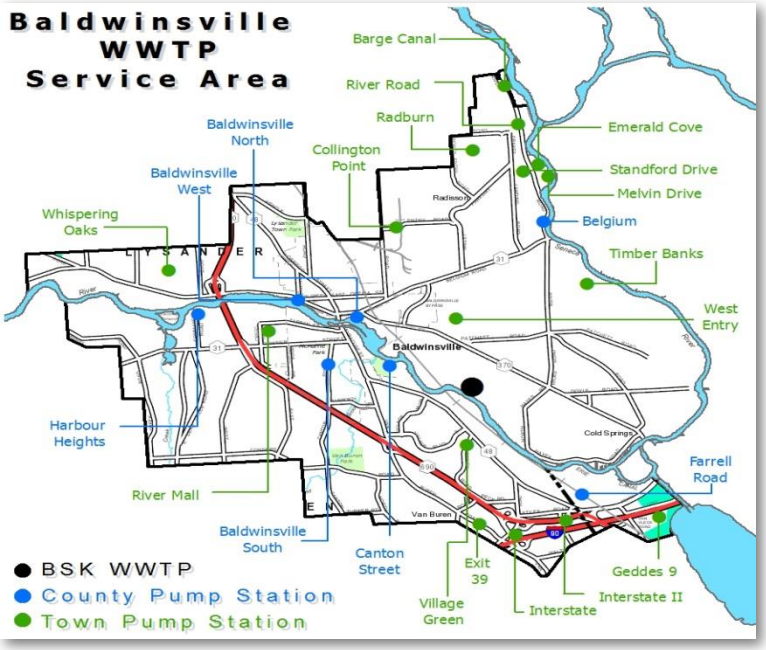
FACT SHEET: BALDWINSVILLE-SENECA KNOLLS WASTEWATER TREATMENT PLANT (WWTP)

SPDES Permit No. NY – 0030571 Barbara Lane, Lysander, NY

Service Areas

The Baldwinsville-Seneca Knolls (BSK) WWTP construction was completed in 1982, replacing a number of treatment plants serving the towns and villages on both sides of the Seneca River. These older, deficient plants were converted to pump stations to convey the flow to the new advanced WWTP and thereby improve the water quality downstream. The BSK WWTP also allowed for more housing developments in the area with sewers and more pump stations. There are now 23 pump stations in Baldwinsville, Radisson, Seneca Knolls, Interstate Island, and River Mall serving 36,000 residents. The wastewater is essentially all residential, since the few businesses and industries are not significant water users. Improvements were made to the plant in 2002, and include variable-speed influent pumps, PLC process controllers, and an odor control system.



Treatment Process Description

The Baldwinsville-Seneca Knolls Waste Water Treatment Plant is a 9 MGD design facility located in the Town of Lysander along the shore of the Seneca River. The influent flow averages 3 MGD, and undergoes preliminary, primary, and advanced secondary treatment. Pure oxygen generated onsite intensifies the activated sludge process, which consistently removes over 95% of the BOD and Suspended Solids. The addition of ferrous chloride affects the chemical precipitation of phosphorous, which is a very important nutrient to keep out of the receiving waters. The treatment process is enhanced further in the warm weather to include nitrification and seasonal disinfection. The biosolids generated are treated in pure oxygen aerobic digesters and dewatered by belt-presses prior to transportation to a landfill.

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Treatment Plant Specifications

Grit Chambers	(2) Chambers - 25,000 gal / tank
	50,000 gal - total
Primary Clarifiers	(2) Tanks - 140'l x 40'w x 8'd
	335,100 gal / tank
	670,200 gal - total
Aeration Tanks 1st Stage Pure O_2 & 2nd Stage Atmospheric	(2) Tanks 1st Stage
	(3) Tanks 2nd Stage
	Tank -123'l x 41'w x 8.8'd
	332,000 gal / tank
Secondary Clarifiers 1st and 2nd stage (3rd Tank Available in 2nd Stage)	Normal Operation
	(2) Tanks each per 1st/2nd Stage
	Tank- 155'l x 40'w x 12.4'd
	575,100 gals / tank
	1,150,200 gal / stage
Chlorine Contact Tanks	(2) Tanks-77'l x 18'w x 8.8'swd
	91,200 gal / tank
	182,400 gal - total
Sludge Thickeners Pre and Post Digester	(4) tanks - 25,000 gal / tank
	(2) Pre Digester-50,000 gal-tot
	(2) Post Digester-50,000 gal-tot
Aerobic Digesters Pure Oxygen	(2) Tanks - 50'l x 50'w x 15.4'd
	288,000 gals / tank

Treatment Plant Data (2016)

Average Daily Data	
Design Flow:	9.0 MGD (peak 18.0 MGD)
Avg Flow:	2.8 MGD (peak 12.3 MGD)
Design BOD:	13,400 lbs/day
Ave Inf CBOD:	135 mg/L / 2,938 lbs/day
Ave Eff CBOD:	5.0mg/L / 120 lbs/day
Design TSS:	13,400 lbs/day
Ave Inf TSS:	188 mg/L / 4,119 lbs/day
Ave Eff TSS:	7.2 mg/L / 174 lbs/day
Ave Inf TP:	4.3 mg/L / 95 lbs/day
Ave Eff TP:	0.57 mg/L / 13 lbs/day
Ave Inf TKN:	38.7 mg/L / 850 lbs/day
Ave Eff TKN:	4.4 mg/L / 109 lbs/day
Annual Information	
Biosolids Hauled:	648,300 dry lbs
Grit Hauled:	529 cu ft
Screenings Hauled:	3,809 cu ft
Grease Hauled:	0 gal
Ferrous Chloride Usage:	63,226 gal
Na Hypochlorite Usage:	13,130 gal
Cationic Polymer Usage:	19,588 lbs

SPDES Permit compliance history can be found at: https://echo.epa.gov/

Treatment Process Flow Diagram