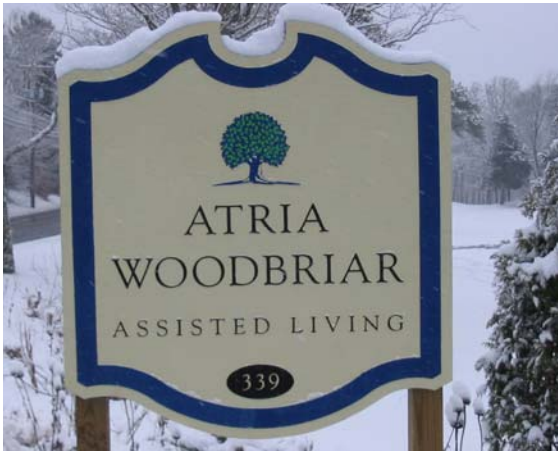


MicroC™ Performance Example

Atria-Woodbriar



Facility Name: Atria-Woodbriar

Facility Location: Falmouth, Massachusetts (Cape Cod)

Facility Description: Assisted living facility

Flow: Average Flow* = 8,349 GPD. Design flow = 16,500 GPD

Denitrification technology: RUCK® CFT – with denitrification occurring within anoxic basin

Previous carbon source: n/a – plant began w/ MicroC™

Date MicroC™ started: February 2002

Operations & Maintenance firm: Holmes & McGrath, Inc.

Discharge permit : Massachusetts DEP Permit Number 719-0

Permit limits : BOD – 30mg/L

TSS – 30 mg/L

Nitrate-N – 10 mg/L

Total Nitrogen (NO₃+NO₂+TKN) – 10 mg/L

Oil & Grease – 15 mg/L

MicroC™ performance narrative: Plant was started with MicroC™ in February 2002 and continues use of MicroC™. Nitrate removal has been consistent with occasional non-conformities in the TN permit limits due to incomplete nitrification.

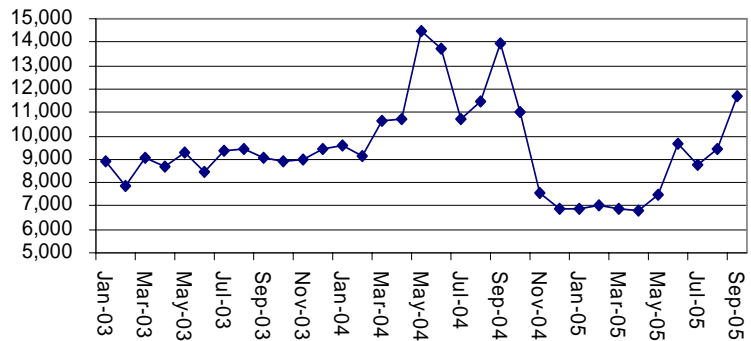


Entrance to Woodbriar-Atria facility

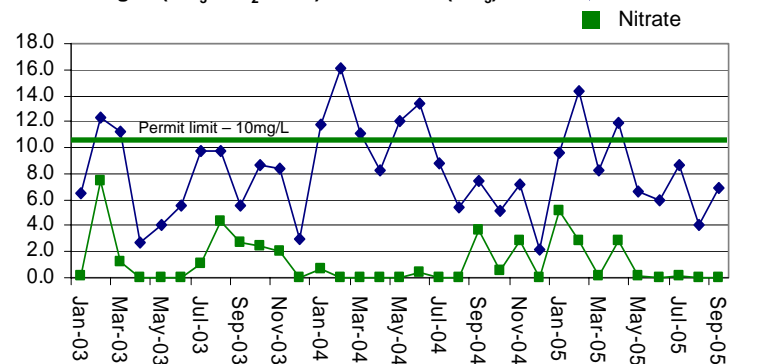


Wastewater treatment plant control room containing control panels and MicroC™ storage. The plant is located sub-surface beneath parking lot (see reverse for schematic).

Flow (GPD)



Total Nitrogen (NO₃+NO₂+TKN) and Nitrate (NO₃)



* Average GPD from Oct. '04 to Sept. '05

MicroC™ operation



MicroC™ Performance Example (continued)

Atria-Woodbriar

Atria-Woodbriar	Flow GPD	Influent characteristics					Effluent characteristics					
		BOD	TSS	Total Solids	NH3	TN*	BOD	TSS	Total Solids	NH3	NO3	TN*
Jan-03	8,894	140	42	280	19.0	26.0	6	10	190	4.5	0.1	6.5
Feb-03	7,825	100	44	230	13.0	20.1	10	17	180	3.3	7.5	12.3
Mar-03	9,073	180	48	270	11.0	20.3	5	10	220	7.5	1.2	11.2
Apr-03	8,651	220	92	290	18.0	25.1	6	10	180	0.2	0.0	2.6
May-03	9,285	220	72	330	19.0	28.1	21	38	230	0.2	0.0	4.0
Jun-03	8,468	150	38	290	18.0	27.3	9	10	230	2.3	0.0	5.6
Jul-03	9,355	110	58	280	15.0	21.1	4	10	230	3.4	1.1	9.7
Aug-03	9,470	130	27	250	17.0	24.2	2	10	190	9.8	4.3	9.8
Sep-03	9,043	130	35	240	16.0	21.1	4	10	150	1.7	2.7	5.5
Oct-03	8,903	430	510	990	15.0	36.1	4	10	180	0.9	2.4	8.6
Nov-03	8,998	370	380	520	11.0	31.1	9	10	190	0.04	2.0	8.4
Dec-03	9,445	170	93	170	9.3	17.1	26	21	150	1.7	0.0	2.9
Jan-04	9,601	260	46	310	11.0	24.1	10	10	200	8.7	0.7	11.8
Feb-04	9,163	140	48	310	14.0	26.1	14	34	200	10	0.0	16.1
Mar-04	10,606	530	56	300	11.0	21.1	13	26	260	8.5	0.0	11.1
Apr-04	10,713	220	29	570	30.0	160.0	20	19	190	4.9	0.0	8.3
May-04	14,478	140	65	170	6.6	17.2	45	25	190	9.1	0.0	12.1
Jun-04	13,755	77	160	NS	11.0	16.1	13	22	NS	1.4	0.4	13.4
Jul-04	10,750	94	45	NS	2.1	6.0	6	11	180	0.08	ND	8.8
Aug-04	11,430	ND	44	87	1.3	7.7	6	8	140	4.16	ND	5.4
Sep-04	13,979	95	180	240	1.5	23.2	8	ND	140	2.35	3.7	7.5
Oct-04	11,048	20	12	240	2.5	11.1	16	ND	140	1.6	0.6	5.1
Nov-04	7,586	200	76	320	26.7	35.0	4	ND	160	1.26	2.8	7.2
Dec-04	6,885	200	51	NS	19.6	28.0	83	17	240	ND	ND	2.2
Jan-05	6,915	240	43	NS	22.3	31.0	10	ND	220	2.29	5.1	9.6
Feb-05	7,046	280	43	NS	23.4	34.0	10	5.9	210	6.8	2.8	14.4
Mar-05	6,891	300	35	350	22.8	29.0	15	11	2	6.21	0.1	8.2
Apr-05	6,792	340	49	330	23.8	32.0	6	7.6	200	6.29	2.8	11.9
May-05	7,462	270	120	360	20.2	29.0	10	11	180	3.84	0.2	6.7
Jun-05	9,685	220	43	260	18.9	25.0	10	9.4	180	3.35	ND	6.0
Jul-05	8,769	160	54	230	14.6	20.0	6	8.4	15	6.3	0.2	8.7
Aug-05	9,439	230	45	NS	20.0	28.0	5	5.6	160	2.95	ND	4.0
Sep-05	11,666	200	44	230	14.4	19.0	15	7	15	ND	ND	6.9

Source data from Massachusetts Department of Environmental Protection Groundwater Permit Discharge Monitoring Report (DMR).

*TN = Total Nitrogen (NO₃+NO₂+TKN)

Note: Influent TN is affected by recycle line and is most likely higher than reported

Satellite image of Atria-Woodbriar



Wastewater treatment plant control room and MicroC™ storage

Buildings served by wastewater treatment plant

Wastewater treatment process schematic

Note: wastewater treatment plant is located beneath surface of parking lot

