

SUFFOLK COUNTY WATER AUTHORITY
Production Control - Bay Shore, New York

INTER-OFFICE CORRESPONDENCE

DATE: January 20, 2021

TO: Jeffrey Szabo, CEO

FROM: Michael O'Connell, Director of Production Control
Timothy Kilcommons, P.E., Chief Engineer & Dir. of R&D

SUBJECT: Emerging Contaminants Action Plan Monthly Update

The Suffolk County Water Authority has for years proactively addressed emerging contaminants in groundwater such as the perfluorinated compounds PFOA and PFOS and 1,4-dioxane, both through comprehensive testing and the development and implementation of innovative treatment technologies.

The following is the latest monthly update to the Emerging Contaminants Action Plan requested by the SCWA Board to provide the public with up-to-date information about the steps being taken to ensure that SCWA meets or surpasses the rigorous regulations established by New York State to remove these compounds from our groundwater. This update covers the period from December 15, 2020 to date.

PFC's

Since the last update, Calgon Corporation has completed the delivery of the next seven (7) GAC systems that SCWA had issued purchase orders for. The first two (2) systems of these seven were delivered to Plymouth St Well Field in Deer Park on December 9 and 10, 2020. The remaining five systems were delivered before the end of December with two systems delivered to Pierson St (Nesconset) one to Edgewood Ave (St.James), one to Lincoln Ave (Holbrook) and the last to Middleville Rd (Fort Salonga). The Middleville Rd system is for 1,4 Dioxane removal. CM can now begin piping the systems which will be loaded with carbon in the spring and then be placed into service. Note that placing them in service now would risk freezing the vessels and piping. Engineering has already completed the piping designs for these systems. CM had completed what piping work they could before delivery of the actual vessels and has begun the remainder of the piping work required for the new vessels at Lincoln Ave (Holbrook). The Civil Engineering department continues with clearing and concrete pad work for future systems.

We intend on having all the new systems in service before the peak demand season of 2021.

1,4 Dioxane

SCWA received verbal approval from NYSDOH for the Smith St East Farmingdale AOP system on December 10, 2020. Final revisions are being made to contract piping layouts. Upon completion of the layout this month, plans and specifications must be submitted for written approval. This contract should be out for bid in February.

Design work and contract preparation continues with regards to the mechanical installation, controls, and peroxide delivery systems contracts that will be required to build the AOP systems. Clearing and site work continues for future AOP sites and electrical upgrade work where required has begun at sites such as Flower Hill Rd in Huntington where the electrical service and transformer were upgraded for the larger electric requirements and SCWA Electricians are now rebuilding the entire control room to modernize equipment and make room for the additional AOP equipment. The Furnish & Deliver contract for 16 AOP reactors representing the wells at sites awarded WIIA grants has a bid opening date of January 21, 2021.

Two contracts have been awarded for AOP building additions at 7 locations: Hollywood Pl, McKay Rd, Waterside Dr, Sunken Meadow Park, Broadway, Falcon Dr, and Flower Hill Rd. These additions will house 13 AOP systems. Engineering has completed the design review process for both contractors covering all 7 locations. Those building additions have now been released to the manufacturer for fabrication. Anchor bolt drawings have also been provided which will allow the concrete foundation work to commence upon final approval. Concrete designs have been approved for Hollywood, McKay, Waterside, and Flower Hill Rd. Metal building additions have been fabricated and delivered for McKay, Waterside, and Hollywood. Foundation work at Flower Hill should commence before the end of January. Foundation work at Hollywood began on January 15, 2021

The AOP pilot work needed to obtain NYSDOH approval for the use of AOP at any of our sites continues. Production Control staff utilizing our mini-AOP reactor pilot trailer have completed pilot testing of twenty-two (22) wells. Since the last update, pilot work has been completed on Sunken Meadow Park #2 and Wayne Ct #1. The next stop for the pilot trailer is Church St (Northport). Analysis of the data obtained to date has revealed no surprises in terms of by-product formation resulting from the AOP process.

Engineering has drilled the new well Old Dock Rd #2 (Kings Park) and has installed the casing and set the screen. This well is expected to be complete in mid-February after all development, sampling and disinfection have been completed. This well was drilled with the knowledge that it will require an AOP treatment system. It will replace Carlson Ave #5 and #6 (Kings Park), both of which require AOP but are very old wells and are located on a site that does not have enough room for more treatment systems.

Emerging Contaminant Wells Current Status

As of this writing, all wells that have PFOA or PFOS above the MCL are either being treated to remove the contaminants, are being blended to below the MCL or have been removed from service. All wells requiring GAC to treat for PFC's on SCWA's deferral list now have GAC systems delivered on site and await piping connection and carbon loading in the spring before being placed into service.

The same blending strategy applies to 1,4 Dioxane. We continue to add blending where we can or are removing wells from service as soon as we get an analytical result that shows an exceedance of the MCL. We have been fortunate that this is occurring as the seasonal demand is low. We have recently completed carbon exchanges on a few key 1,4 Dioxane wells so that these wells can remain in service on an emergency use only basis. Carbon does remove 1,4 Dioxane, not well, but it does for a short period of time. Therefore, with new carbon, a few wells will be available in the event of an emergency. We anticipate that we will have to do the same at several other wells where the levels of 1,4 Dioxane are just under the MCL but the carbon is no longer removing 1,4 Dioxane and the GAC effluent level is over the MCL.

SCWA applied for a MCL deferral to the NYSDOH. The application was approved on January 7, 2021.

Cc: J. Pokorny
K. Durk
T. Hopkins

Emerging Contaminant Wells Current Status
All Wells > 1/2 MCL

01/15/2021

PFOA / PFOS MCL = 10 ppt

Zone	Station	Well	Recent levels (PFOA/PFOS)	Current Status	Action plan (Planning window = 4 months)	Date Treatment I/S or Blend	Authorization(s)	Authorization(s) Value to Date (\$)
1	Bellmore Ave	1	15/19	I/S	On GAC	4/24/2020	195-20-00-0068	\$ 37,512
1	Church St Hol	1A	12/10	O/S	On outdoor GAC - Seasonal	5/7/2019		
1	Church St Hol	2	8.7/4.6	O/S	O/S 11/2/18 - pending additional GAC installation			
1	Foxcroft Ln	1A	4.7/23	O/S	Received DHS approval to treat with resin (ion exchange) in portable GAC system; first approval of resin for PFC's in NY. Outdoors - seasonal	5/30/2019	055-18-00-0019	\$ 165,590
1	Foxcroft Ln	2	4.9/6.8	O/S	Blended inside #1A - Seasonal well, #1A seasonal GAC	7/18/2019		
1	Station Rd	1A	11/50	O/S	On outdoor GAC - Seasonal	3/14/2020	055-19-00-0015	\$ 417,765
10	Ruth Blvd	3	ND/9	I/S	Piped to existing GAC. Currently < 1/2 MCL, monitor		055-19-00-0018	\$ 23,057
12	Carrol St	2	3.2/1.8	I/S	Blended - no further action planned	8/18/2016		
12	Hallock Ave	2	ND/6.8	I/S				
12	Hallock Ave	3	ND/6.0	I/S	With rotations, runs every other day - GAC project authorized		195-21-00-0061	\$ 758,862
12	Liberty St	3	6.9/3.5	I/S	With rotations, runs every other day - no further action planned			
12	Lincoln Ave	2	ND/11	O/S	Blended; New GAC vessels delivered	5/21/2020	195-21-00-0065	\$ 549,854
12	Morris Ave	1	ND/ND	I/S	Monitor		195-20-00-0059	\$ 576,048
12	Morris Ave	4	4/19	O/S	On outdoor GAC - Seasonal	6/28/2020	195-20-00-0054	\$ 118,797
12	Pierson St	1	10/4.3	O/S	With rotations, runs every other day - new Model 12 delivered on 12/30/20. Removed from service due to increased PFOA level.		195-21-00-0068	\$ 639,167
12	Pierson St	2	4.9/3.3	I/S	With rotations, runs every other day - GAC delivered 12/30/20		195-21-00-0068	\$ 639,167
12	Plymouth St	1A	8.2/13.0	I/S	Blended, Locked in Call-2 - New GAC vessels delivered 12/9/20. Last blend was 2.8/5.6	9/17/2020	195-21-00-0062	\$ 634,044
12	Plymouth St	2A	4.6/9.6	I/S	With rotations, runs every other day - New GAC Vessels delivered 12/10/20		195-21-00-0062	\$ 634,044
12	Sy Ct	3	14/6.3	O/S	On outdoor GAC - Seasonal	10/28/2020	195-20-00-0056, 195-20-00-0061	\$ 724,517
12	Townline Rd Nes	1A	9/14	I/S	On GAC	2/10/2020	055-19-00-0014	\$ 100,412
12	Wheeler Rd	3	18/32	O/S	Relocated Model 10 from Pierson St installed in existing building		195-21-00-0063	\$ 75,433
12	Wheeler Rd	5	18/32	I/S	On GAC	9/6/2019	055-19-00-0017	\$ 15,888
15	Bicycle Path	1	5.4/ND	I/S	Blended for Mn for many years			
15	Boyle Rd South	1	4.9/3.9	I/S	Monitor			
15	Dare Rd	2	3.3/3.8	I/S	No action planned, continue to monitor			
15	Edgewood SJ	1A	12.0/5.6	I/S	Blended for Nitrates - New Model 12 GAC vessels delivered to site 12/19/20; will need to be moved into existing building	10/16/2017	195-21-00-0064	\$ 579,263
15	Fairmount Medford	3	22/33	O/S	On outdoor GAC - Seasonal	5/19/2020	055-19-00-0021, 195-20-00-0052	\$ 609,567
15	Flint Ln	1	4.5/3.4	I/S	New GAC will load in Spring		195-20-00-0057	\$ 157,860
15	Flint Ln	2	5.4/6.0	O/S	New GAC will load in Spring		195-20-00-0063	\$ 1,051,739
15	Hawkins Rd	3	2.7/5.2	O/S	Continue to monitor - O/S for pump replacement			
15	Oxhead Rd	1A	3.8/110.0	O/S	On outdoor GAC - Seasonal	6/7/2017	055-17-00-0014	\$ 265,494
15	Oxhead Rd	4	ND/4.4	O/S	Blended inside #1A	7/1/2017		
15	Stem Ln	1	6.2/23	O/S	On outdoor GAC - Seasonal	8/6/2020	195-20-00-0058, 195-20-00-0062	\$ 672,080
15	Strathmore Ct	3	6.3/6.2	I/S	With rotations, runs every third day - no further action planned			

Zone	Station	Well	Recent levels (PFOA/PFOS)	Current Status	Action plan (Planning window = 4 months)	Date Treatment I/S or Blend	Authorization(s)	Authorization(s) Value to Date (\$)
20	Gus Guerrero	1	ND/23.0	O/S	On outdoor GAC - Seasonal	7/27/2016	055-17-00-0016	\$ 182,842
20	Gus Guerrero	2	ND/ND	I/S	Removed from GAC due to decrease in levels 11/2020	7/11/2017		
20	Meetinghouse Rd	12A	47.0/150.0	I/S	On GAC	6/10/2016	055-17-00-0015,	
20	Meetinghouse Rd	14	27.0/220.0	I/S	Same as above	6/10/2016	055-18-00-0015	\$ 788,844
20	Meetinghouse Rd	17	150.0/1,510.0	I/S	Same as above	6/10/2016		
20	Meetinghouse Rd	19	96.0/440.0	I/S	Same as above	6/10/2016		
20	Meetinghouse Rd	22	3.7/94.0	I/S	On GAC	7/27/2016	055-17-00-0013	\$ 29,528
20	Old Country Rd	1A	2.1/5.1	Blended	Blended with #3 and throttled	7/30/2007		
20	Old Country Rd	4	10/48	O/S	On outdoor GAC - Seasonal	6/26/2020	055-19-00-0020,	
							195-20-00-0053	\$ 802,282
23	Bridgehampton Rd	2A	3/36	I/S	On GAC	10/1/2019		
23	Long Springs Rd	1A	9/8	O/S	On outdoor GAC - Seasonal	4/20/2020	055-19-00-0019	\$ 35,490
23	North Magee	3	2/13	O/S				
23	West Prospect	1	7/20	I/S	Loaded carbon in existing empty vessel	3/18/2019		
32	County Rd 31	1	ND/22	O/S	On outdoor GAC - Seasonal	8/19/2020	195-20-00-0055,	
							195-20-00-0060	\$ 691,008

Total Funds Authorized to date for PFAS related work \$ 11,976,153

Total Funds Authorized to date for Emerging Containment Work \$ 23,136,397

Actions typed in RED have occurred in the past 30 days.

Emerging Contaminant Wells Current Status

01/15/2021

All Wells > 1/2 MCL

1,4 Dioxane MCL = 1.0 ppb

Zone	Station	Well	Recent levels HOP	Current Status	Action plan (Planning window = 4 months)	Date Treatment I/S or Blend	Authorization(s)	Authorization(s) Value to Date (\$)
1	Albany Ave	6	0.70	O/S	Blended w/ 4A - Last blend 0.28	8/23/2016		
1	Barton Ave	2A	2.05	O/S	Blended w/ any other well. Last blend was 0.78	2/19/2019		
1	Brook Ave	4	0.60	O/S	O/S for Mn			
1	Great Neck Rd	1	3.36	O/S	2 well blend was below 1.0. Blended	10/31/2016		
1	Harvest Ln	1A	1.52	O/S	2021 will be a 2 well blend. Last blend 0.91	10/31/2017		
5	Hollywood Pl	1	1.01	I/S	Lock in Fire Call to minimize run time. One of two well fields in Zone. Mini AOP pilot complete. New Carbon 10/20; blow-off basin modified, GAC Bldg addition started.		195-20-00-0068, 195-21-00-0052	\$ 518,835
6	Broadway	1A	1.73	O/S	2 well blend was still over 1.0, Stay O/S; mini-AOP pilot complete ; site work, piping has been relocated		195-20-00-0066, 195-21-00-0053	\$ 200,023
6	Broadway	2	0.89*	I/S	Monitor; mini-AOP pilot complete ; site work, piping has been relocated; *GAC Effluent sample		195-20-00-0066, 195-21-00-0053	\$ 200,023
6	Broadway	3	0.62	I/S	Monitor; mini-AOP pilot complete ; site work, piping has been relocated		195-20-00-0066, 195-21-00-0053	\$ 200,023
6	Flowerhill Rd	1	2.82	O/S	Runs blended with two other wells, last on - first off. Mini AOP pilot complete ; site work; piping has been relocated; building expansion project; PSE&G service upgrade complete, Control Room elec upgrade commenced and expected complete by May '21		195-20-00-0020, 195-21-00-0051	\$ 168,625
6	Flowerhill Rd	2	2.44	O/S	New carbon 09/20, Locked in Fire Call, Emergency use only. Mini AOP pilot complete ; site work; piping has been relocated; building expansion project; PSE&G service upgrade complete, Control Room elec upgrade commenced and expected complete by May '21		195-20-00-0020, 195-21-00-0051	\$ 168,625
6	Flowerhill Rd	3	0.82	O/S	New carbon 10/20, Locked in Call-4; mini AOP pilot complete ; site work; piping has been relocated; building expansion project; PSE&G service upgrade complete, Control Room elec upgrade commenced and expected complete by May '21		195-20-00-0020, 195-21-00-0051	\$ 168,625
6	Jennings Rd	1	0.65	I/S	With rotations, runs every other day			
6	Jennings Rd	3	0.74	I/S	With rotations, runs every other day			
6	Mayfair Dr	1	0.54*	I/S	With rotations, runs every other day. *GAC Effluent sample			
6	Mayfair Dr	2	0.87*	I/S	With rotations, runs every other day. *GAC Effluent sample			
6	Woodchck Hllw	1A	1.37*	O/S	Blended with Wells #2 and #3. *GAC Eff sample	9/25/2020		
7	McKay Rd	1	1.68	O/S	Mini AOP pilot complete		195-20-00-0070, 195-21-00-0055	\$ 465,219
9	Douglas Ave	1	2.73	O/S	Mini AOP pilot complete			
9	Douglas Ave	2	1.20	O/S	Mini AOP pilot complete			
9	Middleville	1	1.18	O/S	Blended - Mini AOP pilot complete ; site work project authorized; new GAC vessels delivered.		195-21-00-0059	\$ 159,693
9	Middleville	2	0.99	I/S	Mini AOP pilot complete ; site work project authorized		195-21-00-0059	\$ 159,693
9	Sunken Meadow	1	0.77*	I/S	Level has dropped significantly, monitor, piping relocated *GAC Eff Sample - Mini AOP pilot complete		195-20-00-0065, 195-21-00-0056	\$ 234,602
9	Sunken Meadow	2	0.65	I/S	Monitor; piping relocated - Mini AOP pilot complete		195-20-00-0065, 195-21-00-0056	\$ 234,602
9	Waterside Rd	2	1.08	O/S	Can change carbon for emergency use - Mini AOP pilot complete ; blow-off basin complete; GAC Bldg expansion material delivered.		195-20-00-0069, 195-21-00-0054	\$ 608,715

Zone	Station	Well	Recent levels HOP	Current Status	Action plan (Planning window = 4 months)	Date Treatment I/S or Blend	Authorization(s)	Authorization(s) Value to Date (\$)
9	Wayne Ct	1	0.97	I/S	Lock in Call-2. New carbon 11/10/20; Mini AOP pilot complete			
10	Church St NPT	1	1.20	I/S	Nitrate Blend w/ Washington - last blend 0.49	7/25/2007		
10	Church St NPT	2	1.09	I/S	Nitrate Blend w/ Washington - last blend 0.59	8/22/2007		
10	Reservoir Ave	1A	0.78*	I/S	Nitrate Blend w/ Washington - *GAC Effluent Sample; site work project for AOP	1/22/2016	195-21-00-0069	\$ 36,327
10	Reservoir Ave	2	0.55*	I/S	Nitrate Blend w/ Washington - *GAC Effluent Sample; site wrk project for AOP	5/25/2012	195-21-00-0069	\$ 36,327
10	Ruth Blvd	1	0.66*	O/S	With rotations, runs every other day - *GAC Effluent Sample			
10	Ruth Blvd	3	0.65	I/S	With rotations, runs every other day - monitor Now piped to GAC			
10	South Spur	1	1.21*	O/S	Blend in 2021. Leave O/S, change carbon if needed. *GAC Effluent sample			
10	South Spur	2	1.38	O/S	Remain O/S - Try to blend if we need more supply			
10	South Spur	3	0.66	O/S	Seasonal GAC - monitor			
11	Carlson Ave	5	2.16	O/S	Remain O/S - Long term, retire and replace w/ Old Dock Rd #2; drilling of Old Dock #2 has commenced		040-20-0009, 040-20-00-0010	\$ 598,311
11	Carlson Ave	6	3.11	O/S	Remain O/S - Long term, retire and replace w/ Old Dock Rd #2; drilling of Old Dock #2 has commenced		040-20-0009, 040-20-00-0010	\$ 598,311
11	Cornell Dr	2	0.83	I/S	Rotates Call-1, Call-2 daily, so only runs every other day			
11	Kings Park Rd	2A	0.61	I/S	Rotates Call-1, Call-2 daily, so only runs every other day			
11	Lawrence Rd	1A	0.91	I/S	With rotations, runs every other day - monitor			
11	Lawrence Rd	3	3.73	O/S	O/S pending AOP		195-21-00-0066	\$ 594,459
11	Lawrence Rd	4	1.04	O/S	Blended w/ Well #1A and #3 - Monitor - Last blend was 0.81	9/17/2020	195-21-00-0066	\$ 594,459
11	Old Dock Rd	1	0.97*	O/S	Locked in Call-2, coming out of service, *GAC Eff sample, Mini AOP Pilot complete			
11	Wicks Rd	1	0.76	I/S	With rotations, runs every other day - monitor			
12	Commercial Blvd	2	1.13	O/S	Site work authorized, Well failed and retired, have permit for Well #2A; contract for replacement well on street for Feb '21 bid		195-21-00-0060	\$ 45,583
12	Commercial Blvd	3	5.37	I/S	AOP completed - Station Treated	3/1/2018	055-14-00-0016	\$ 909,474
12	Eastwood Blvd	2A	2.11	O/S	Leave O/S			
12	Falcon Dr	1	0.76	I/S	Lock in Call-2. Mini AOP Pilot complete , piping relocated, building expansion awarded, bldg design submittals in		195-20-00-0067, 195-21-00-0057	\$ 217,314
12	Falcon Dr	2A	1.44	O/S	Throttled to 500 gpm, Blended w/ #1. , Mini AOP Pilot complete , piping relocated, building expansion awarded, bldg design submittals in		195-20-00-0067, 195-21-00-0057	\$ 217,314
12	Falcon Dr	2B	1.53	O/S	Leave O/S pending AOP. Mini AOP pilot complete , piping relocated, building expansion awarded, bldg design submittals in		195-20-00-0067, 195-21-00-0057	\$ 217,314
12	Oval Dr	4	0.48	I/S	Blend removed - Monitor, at or below 1/2 MCL			
12	Peconic St	1	1.68	O/S	Blended. Blend is still over 1.0 Leave O/S	8/15/2016		
12	Peconic St	2	0.78	I/S	Limited run time in winter			
12	Third Ave	3	0.87	O/S	Blended. Seasonal GAC. Last blend was 0.31. Mini AOP complete	4/1/2019		
15	Boyle Rd N	1A	1.21	O/S	Leave O/S			
15	Boyle Rd PJ	2	0.46	O/S	Nitrate Blend - monitor; O/S for pump failure	7/31/2007		
15	Boyle Rd PJ	3	0.49	I/S	Nitrate Blend - monitor	7/31/2007		
15	College Rd	3	0.84	I/S	Blended w/ #4 - monitor - Last blend was 0.46	10/27/2016		
15	Daniel Webster	2A	0.53	O/S	Blended - monitor. Last blend was 0.23	8/23/2016		
15	Hawkins Rd	2	0.60	I/S	Rotates Call-1, Call-2 daily, so only runs every other day			
15	Horseblock Rd	1	0.78	I/S	Nitrate Blend - monitor. Last blend was 0.43	5/12/2013	195-21-00-0067	\$ 724,023
15	Jayne Blvd	1	0.47*	I/S	Nitrate blend - monitor. Last blend was 0.30, *GAC Effluent sample	6/21/2007		
15	Jayne Blvd	2A	1.02	O/S	Blend with #5 and #1 in 2021. Seasonal GAC.			
15	Jayne Blvd	3	0.83	I/S	Blended w/#4 - monitor - Last blend was 0.41	2/19/2019		
15	Kayron Dr	1A	0.45	I/S	Rotates Call-1, Call-2 daily, so only runs every other day			
15	N Washington	1	0.70	I/S	Short timeclock for winter			

Zone	Station	Well	Recent levels HOP	Current Status	Action plan (Planning window = 4 months)	Date Treatment I/S or Blend	Authorization(s)	Authorization(s) Value to Date (\$)
15	Oxhead Rd	2A	0.96	O/S	Blended w/ #3 - monitor - Last blend was 0.72	8/25/2016		
26	Montauk St Blvd	1A	0.68	O/S	Blended. Last blend was 0.45	4/1/2016		
60	Gazza Blvd	2	3.62	O/S	Remain O/S. Additional supply to zone from Zone 12 now.			
60	Smith St Ef	1	22.30	O/S	AOP design approved 12/10/20, going out to bid soon; Mini AOP complete		190-19-00-0004	\$ 1,249,309
	Various				Electrical Service Upgrades for AOP		195-20-00-0072	\$ 562,630
	Various				Electrical Service Upgrades for AOP		195-21-00-0058	\$ 851,784
	Various				Mini-AOP by-products pilot testing project		195-20-00-0051	\$ 220,000
Total Funds Authorized to date for 1,D related work								\$ 11,160,244

Actions typed in RED have occurred in the past 30 days.