

July 10, 2023

Ms. Greta White
Project Manager, Remedial Bureau C
Division of Environmental Remediation
New York State Department of Environmental Conservation (NYSDEC)
625 Broadway
Albany, NY 12233-7014

Re: NYSDEC Site No. 360174; BCP C361074
June – July 2023 Monthly Progress Report
Westchester County Airport
240 Airport Road
Harrison, New York 10604

Dear Ms. White:

Actions Taken/Accomplishments (June to July 2023)

A schedule of completed and projected activities is included as Appendix A.

1. On June 2, First Environment, Inc. (First Environment) arranged a teleconference with WSP and New York State Environmental Conservation (NYSDEC) to provide additional information and further discuss previous sampling in the areas NYSDEC proposed. NYSDEC will consider what was presented on June 2 and provide a response before First Environment's proposed resubmittal of the Remedial Investigation Workplan (RIWP). On June 26, NYSDEC responded and in turn First Environment will finalize and resubmit the RIWP.
2. Continued the update of Electronic Data Deliverables (EDDs) sample locations.
3. First Environment is working with the County, Airport, and Triumph with respect to the installation of the water system improvements. Construction began on June 26. As of July 6, installation has been completed from 0+00 to 17+00 and is illustrated in Figure 1. First Environment has conducted continuous air monitoring during the entire process. The daily report, data collection table, and air monitoring results are included in Appendix B.
4. First Environment, Triumph, and Groundwater Treatment & Technology (GWTT) met at the site on June 5 to construct a plan for the system location and installation as well as to discuss logistics for the system operation. The system was delivered to the site on June 8 and June 9 and wired to the generator on June 20. While the system is set up and operational, no recoverable groundwater has been encountered; therefore, no groundwater

has been treated and analyzed for the required chemical constituents. Once groundwater is available, those constituents will be tested before entering and after leaving the treatment system as required by Westchester Department of Environment Facilities (DEF). Once it can be demonstrated that chemical constituents are below acceptable levels, the water will be discharged to the designated sanitary sewer.

5. On June 16, 2023, First Environment and Anchor QEA mobilized to the site to initiate a habitat assessment of the stream at Outfall 7 (OF-7). The stream was walked from OF-7 through to the culvert under Route 120. Additionally, at Outfall 4 (OF-4) was walked from the Airport property line to E-11.
6. On July 6, groundwater was identified for the first time in the bottom of the trench excavation, but not quantities necessary to support dewatering. The photograph below illustrates the excavation, groundwater daylighting, and waterline installation.



July to August Planned Activities

1. First Environment will collect influent and effluent samples from the treatment system, evaluate water quality data, and record water flow leaving the treatment system per DEF permit requirements once the system has begun operation. Triumph, the waterline installation contractor, is responsible for the treatment system operation and maintenance.

2. First Environment will resubmit the revised RIWP.
3. The estimated date for completion of the waterline construction is July 2024.
4. First Environment will continue to provide Continuous Air Monitoring during waterline intrusive construction activities as described in First Environment's Community Air Monitoring Program (CAMP) submittal to the NYSDEC/NYSDOH.
5. The 2021 constructed stormwater system has reduced the flow of PFAS impacted water leaving the Airport at OF-7 by as much as 50 times. The water flow leaving OF-7 during dry conditions is approximately one gallon per minute (gpm), and during the wet season flow leaving OF-7 is generally between 5 to 10 gpm (non-rain event conditions). The water leaving OF-7 under these conditions is attributed to groundwater entering the storm sewer system through leaks and daylighting to storm drains. The mass of PFAS leaving OF-7 has been reduced, but PFAS levels remain elevated in water leaving OF-7 as well as at the downgradient New York City Department Environmental Protection (NYCDEP) E-10 measuring station, as shown in Figure 2.
6. First Environment will initiate an estimated three-month pilot test at OF-7 to treat water and reduce PFAS levels discharging to OF-7. The system is scheduled for installation on July 10 and 11. A description of the system and sampling plan is provided in Appendix C.
7. The County will retain an independent third-party contractor in the third quarter of 2023 who specializes in stormwater systems to evaluate the presence of groundwater leaks and provide solutions to try to eliminate PFAS impacted groundwater from entering the stormwater system leading to OF-7.
8. Revisions of the EDDs will continue for submittal to the NYSDEC.

If you have any questions, please do not hesitate to call.

Regards,

FIRST ENVIRONMENT, INC.



Scott R. Green, P.G.
Director, Insurance Consulting
Service Group



David Luer
Project Manager/Field Team Leader

Att.

c: B. Tod Delaney, Ph.D., P.E., BCEE - First Environment, Inc.
Arthur Clarke, J.D. - First Environment, Inc.
Hugh Greechan, Jr. P.E. - Westchester County Public Works & Transportation
John Nonna - Westchester County Attorney
April Gasparri – Westchester County Airport Manager
John Inserra - Westchester County Airport Environmental
John Benvegna - WSP
K.Thompson, NYSDEC
M. Murphy, NYSDEC
D.Bendell/D.Pollock, NYSDEC
M. Doroski – NYSDOH
K. Kulow – NYSDOH

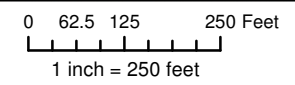
FIGURES



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

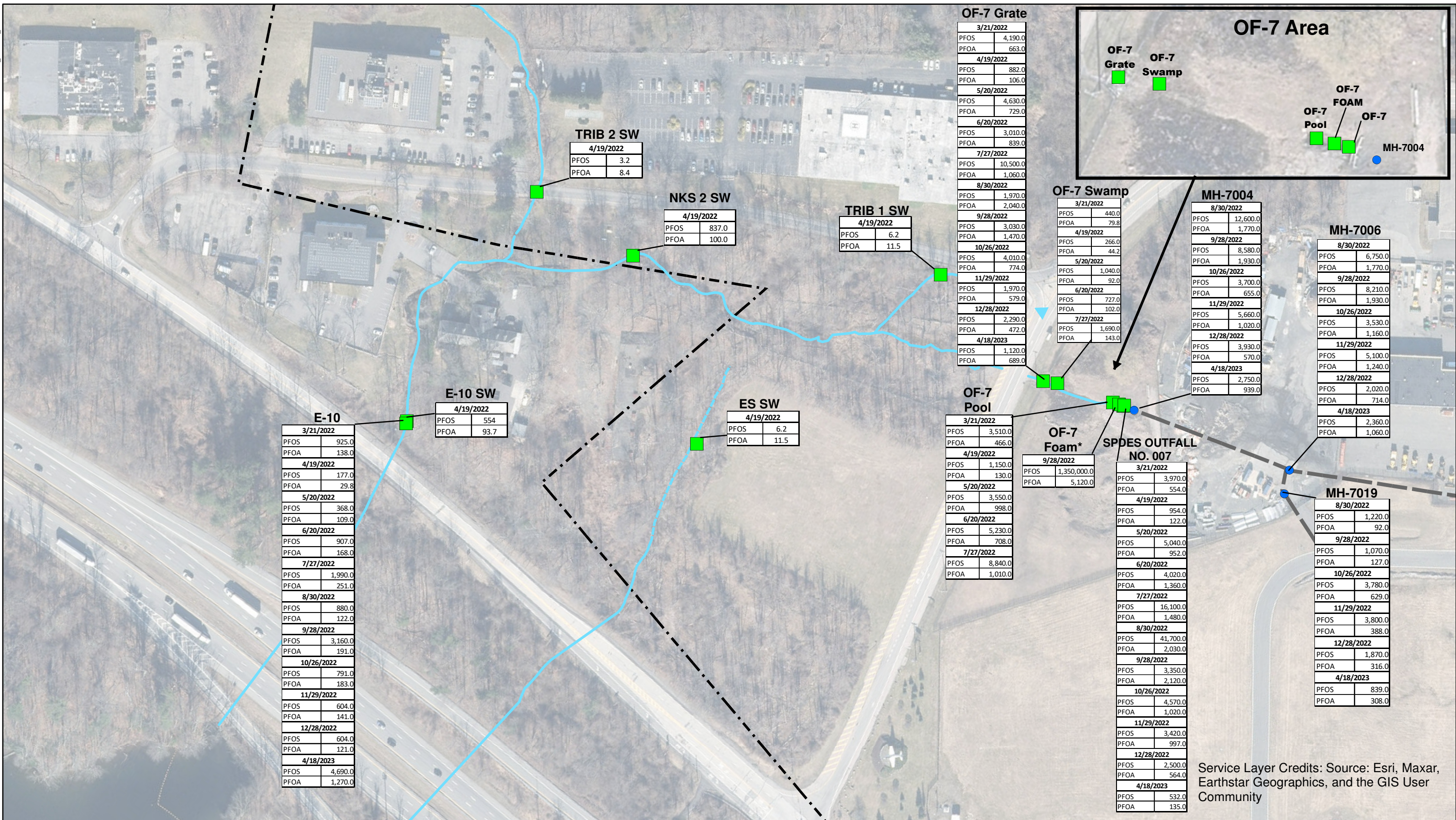
- Station
- Water Line
- Water Line Completed
- Former AFFF Burn Pit
- Property_Boundary
- Subsurface Catch Basin
- Open Catch Area



10 Park Place, Bldg 1A, Suite 504
Butler, NJ 07405

Revised	Drawn	Checked	Approved	Date
	CL	DL	SG	7/6/2023

NYSDEC SITE NO. 360174
WESTCHESTER COUNTY AIRPORT
White Plains, Westchester County, New York
FIGURE 1
WATER LINE
CONSTRUCTION PROGRESS



E-10	
3/21/2022	
PFOS	925.0
PFOA	138.0
4/19/2022	
PFOS	177.0
PFOA	29.8
5/20/2022	
PFOS	368.0
PFOA	109.0
6/20/2022	
PFOS	907.0
PFOA	168.0
7/27/2022	
PFOS	1,990.0
PFOA	251.0
8/30/2022	
PFOS	880.0
PFOA	122.0
9/28/2022	
PFOS	3,160.0
PFOA	191.0
10/26/2022	
PFOS	791.0
PFOA	183.0
11/29/2022	
PFOS	604.0
PFOA	141.0
12/28/2022	
PFOS	604.0
PFOA	121.0
4/18/2023	
PFOS	4,690.0
PFOA	1,270.0

E-10 SW	
4/19/2022	
PFOS	554
PFOA	93.7

TRIB 2 SW	
4/19/2022	
PFOS	3.2
PFOA	8.4

NKS 2 SW	
4/19/2022	
PFOS	837.0
PFOA	100.0

TRIB 1 SW	
4/19/2022	
PFOS	6.2
PFOA	11.5

ES SW	
4/19/2022	
PFOS	6.2
PFOA	11.5

OF-7 Grate	
3/21/2022	
PFOS	4,190.0
PFOA	663.0
4/19/2022	
PFOS	882.0
PFOA	106.0
5/20/2022	
PFOS	4,630.0
PFOA	729.0
6/20/2022	
PFOS	3,010.0
PFOA	839.0
7/27/2022	
PFOS	10,500.0
PFOA	1,060.0
8/30/2022	
PFOS	1,970.0
PFOA	2,040.0
9/28/2022	
PFOS	3,030.0
PFOA	1,470.0
10/26/2022	
PFOS	4,010.0
PFOA	774.0
11/29/2022	
PFOS	1,970.0
PFOA	579.0
12/28/2022	
PFOS	2,290.0
PFOA	472.0
4/18/2023	
PFOS	1,120.0
PFOA	689.0

OF-7 Swamp	
3/21/2022	
PFOS	440.0
PFOA	79.8
4/19/2022	
PFOS	266.0
PFOA	44.2
5/20/2022	
PFOS	1,040.0
PFOA	92.0
6/20/2022	
PFOS	727.0
PFOA	102.0
7/27/2022	
PFOS	1,690.0
PFOA	143.0

OF-7 Pool	
3/21/2022	
PFOS	3,510.0
PFOA	466.0
4/19/2022	
PFOS	1,150.0
PFOA	130.0
5/20/2022	
PFOS	3,550.0
PFOA	998.0
6/20/2022	
PFOS	5,230.0
PFOA	708.0
7/27/2022	
PFOS	8,840.0
PFOA	1,010.0

OF-7 Foam*	
9/28/2022	
PFOS	1,350,000.0
PFOA	5,120.0

SPDES OUTFALL NO. 007	
3/21/2022	
PFOS	3,970.0
PFOA	554.0
4/19/2022	
PFOS	954.0
PFOA	122.0
5/20/2022	
PFOS	5,040.0
PFOA	952.0
6/20/2022	
PFOS	4,020.0
PFOA	1,360.0
7/27/2022	
PFOS	16,100.0
PFOA	1,480.0
8/30/2022	
PFOS	41,700.0
PFOA	2,030.0
9/28/2022	
PFOS	3,350.0
PFOA	2,120.0
10/26/2022	
PFOS	4,570.0
PFOA	1,020.0
11/29/2022	
PFOS	3,420.0
PFOA	997.0
12/28/2022	
PFOS	2,500.0
PFOA	564.0
4/18/2023	
PFOS	532.0
PFOA	135.0

MH-7004	
8/30/2022	
PFOS	12,600.0
PFOA	1,770.0
9/28/2022	
PFOS	8,580.0
PFOA	1,930.0
10/26/2022	
PFOS	3,700.0
PFOA	655.0
11/29/2022	
PFOS	5,660.0
PFOA	1,020.0
12/28/2022	
PFOS	3,930.0
PFOA	570.0
4/18/2023	
PFOS	2,750.0
PFOA	939.0

MH-7006	
8/30/2022	
PFOS	6,750.0
PFOA	1,770.0
9/28/2022	
PFOS	8,210.0
PFOA	1,930.0
10/26/2022	
PFOS	3,530.0
PFOA	1,160.0
11/29/2022	
PFOS	5,100.0
PFOA	1,240.0
12/28/2022	
PFOS	2,020.0
PFOA	714.0
4/18/2023	
PFOS	2,360.0
PFOA	1,060.0

MH-7019	
8/30/2022	
PFOS	1,220.0
PFOA	92.0
9/28/2022	
PFOS	1,070.0
PFOA	127.0
10/26/2022	
PFOS	3,780.0
PFOA	629.0
11/29/2022	
PFOS	3,800.0
PFOA	388.0
12/28/2022	
PFOS	1,870.0
PFOA	316.0
4/18/2023	
PFOS	839.0
PFOA	308.0

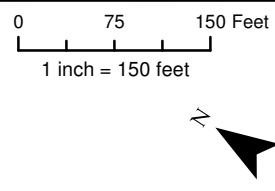
Legend

- Manhole (H) Surface Water Sample Location
- Surface Water Sample Location
- Airport Property Boundary
- Storm Sewer
- Stream
- Ephemeral Stream

Notes

ES Ephemeral Stream
 DS Down Stream
 NKS New King Street
 TRIB Tributary
 OF Outfall

*Minor foam accumulated next to OF-7 weir
 **Table concentrations are in part per trillion (ppt)



FIRST ENVIRONMENT

10 Park Place, Bldg 1A, Suite 504
Butler, NJ 07405

NYSDEC SITE NO. 360174
WESTCHESTER COUNTY AIRPORT
White Plains, Westchester County, New York
FIGURE 2
OF-7 PFOS/PFOA SURFACE WATER
SAMPLE RESULTS

Revised	Drawn	Checked	Approved	Date
	LS	DL	SG	6/5/2023

APPENDIX A

APPENDIX A
Work Activity Schedule
2022-2024

Milestone	Estimated Completion Date	Estimated Completion Percentage
OF-7 Storm Sewer Installation	May 13, 2022	100%
OF-7 Performance Monitoring	3 rd Quarter 2023	90%
OF-7 Pilot Test Treatment System	October 2023	5%
New King Street Workplan – Phase 1	January 24	100%
New King Street Workplan – Phase 2	April 2022	100%
Waterline Workplan	April 2022	100%
Waterline Completion	October 2024	5%
OF-4 IRM Pilot Test ¹	Summer 2023	55%
Remedial Investigation Workplan Submittal	July 2022	100%
GW Pilot Test Scope of Work ²	Summer 2022	100%
GW Pilot Test	Winter 2022	100%
GW Pilot Test Performance Monitoring	Winter 2024	25%
Execution of RI workplan ³	Fall 2023	0%
Remedial Investigation Report	Spring 2024	0%
Remedial Action Alternatives Evaluation	2023-2024	0%
Remedial Action Selection Report	TBD	0%
Remedial Action Workplan	TBD	0%
Certificate of Completion	TBD	0%

Estimated task durations and completions are tentative and are subject to modification based on site work, progress, weather delays, and other considerations such as contractor availability or Airport access.

¹ Pilot test CETCO Fluorsorb at OF-7 and/or treatment system after pilot test conducted at OF-7.

² Scope-of-work submitted to the County approved September 2022.

³ Start date dependent upon workplan approval.

APPENDIX B

Field Summary
June 26 to July 7

Monday – June 26

Triumph and First Environment mobilized to the site at 07:30 a.m. and began intrusive activities at B0+00. Dust monitors were placed immediately upwind and downwind of the work area and a PID was used throughout the day to monitor airborne particulate and VOC levels. No significantly elevated levels were observed with either the dust monitors or PID. Other data was gathered throughout the day, including OF-7 and E-10's flow rate and the treatment system's flow totalizer reading. Rain began at 11:15 a.m., but work continued throughout the day. At the end of the day (14:35), Triumph had excavated approximately 30 feet along the waterline and installed a valve junction at B0+00.

Tuesday – June 27

Triumph and First Environment mobilized to the site at 06:10 a.m. and began by reinstalling the valve junction that was placed on Monday. After completion, Triumph began excavating and laying pipe along the proposed line. By 11:15, Triumph had reached approximately B3+60 with excavation and pipe, and then began to backfill and clean up. Triumph concluded all activities by 14:20 p.m. Dust monitors and a PID were used to monitor airborne particulate/VOC levels, but no significantly elevated levels were observed. Flow measurements from OF-7 and E-10 were also taken.

Wednesday – June 28

Triumph and First Environment mobilized to the site at 06:15 a.m. Triumph resumed excavating and laying pipe at approximately B3+60. At 11:45 a.m., Triumph had reached approximately B9+00 and began backfilling the trench and cleaning up the site. Backfill and cleanup concluded at 14:50 p.m. No significantly elevated levels of particulates were observed with either the dust monitors or the PID throughout the workday. The PM10 AQI at approximately 7:00 a.m. was 27. The flow rates at E-10 and OF-7 were also taken during the workday.

Thursday – June 29

Triumph and First Environment mobilized to the site at 06:20 a.m. Triumph resumed excavating and laying pipe at approximately B9+00. By 10:35 a.m., Triumph had reached approximately B13+75 and began backfill and cleanup activities. Activities for the day concluded at 14:00 p.m.. At approximately 06:30 a.m., the PM10 AQI was 36 and the PM2.5 AQI was 70, indicating poor fine particulate air quality. At 09:10 a.m., the PM10 AQI increased to 41 and the PM2.5 AQI increased to 74. This is theorized to be a result of Canadian wildfire smoke being carried south by wind. The particulate dust monitors showed elevated baseline particulate levels in the air, but no significant differences between upwind and downwind locations were observed. Flow measurements were taken from OF-7 and E-10 and estimated at Trib 1 and Trib 2.

Friday – June 30

Triumph and First Environment mobilized to the site at 06:20 a.m. Triumph resumed excavating and laying pipe at approximately B13+75. By 08:12 a.m., Triumph had reached FAA lines at approximately B15+00 and was forced to halt proceeding until Thursday, July 6. Backfill and cleanup activities concluded at 13:20 p.m. No work will be completed on Monday July 3 or Tuesday July 4, and planned activities for Wednesday, July 5, include grading topsoil, locating watermains, and cutting hydrants. The topsoil grading will occur along the newly installed pipeline. Dust monitors and a PID were used throughout the day to monitor airborne particulate and VOC levels. No significantly elevated levels were observed with either instrument. AQI during the workday ranged from 74 to 107 on the PM10 index, and 126 to 149 on the PM2.5 index. Flow measurements from OF-7 and E-10 were taken and estimated from Trib 1 and Trib 2.

Data Collection Table

Date	Trib 1	Trib 2	OF-7	E-10	E-10 Stream Gauge	Rainfall (Inches)
6/26/2023			19.4	43.9	0.38	0
6/27/2023			4	21.7	0.33	0.125
6/28/2023			2.5	13.2	0.3	0
6/29/2023	2	0.5	2.6	10.3	0.29	0.125
6/30/2023	0.5	0	2.5	8.6	0.28	0

Date	PM10 AQI (High)
6/26/2023	19
6/27/2023	26
6/28/2023	27
6/29/2023	41
6/30/2023	107

Weekly Summary

Week of 7/3/2023-7/7/2023

Wednesday, 7/5

Triumph and First Environment mobilized to the site at 06:15. Triumph's scope-of-work for the day was to grade the topsoil along the newly installed pipeline, from approximately B0+00 to B15+00. By 13:15, all topsoil grading and cleanup activities were completed and all parties exited the site. Throughout the day, dust monitors and a PID were used to monitor airborne particulate and VOC levels, but no significantly elevated levels were observed. Other data gathered included flow measurements/estimates from OF-7, E-10 (+ stream gauge level), Trib 1, and Trib 2. Rainfall (cumulative over the weekend), PM10 AQI, and PM2.5 AQI were also recorded.

Thursday, 7/6

Triumph and First Environment mobilized to the site at 06:25. Triumph resumed excavation at approximately B15+00 until they reached FAA lines, and a vacuum truck was used to continue. An electric line was also encountered at approximately B17+00. By 11:20, Triumph had successfully excavated and installed pipe to approximately B17+10, approaching the perimeter fence. At 13:50, backfill and cleanup activities concluded, and all parties exited the site. Throughout the day, dust monitors and a PID were used to monitor airborne particulate and VOC levels, but no significantly elevated levels were observed. Other data gathered included flow measurements/estimates from OF-7, E-10 (+ stream gauge level), Trib 1, and Trib 2. Water level measurements were taken from wells P1-P3, P5, MW13-16, Trib 1, Trib 2, NKS 2, ES DS, and 4R. Rainfall, PM10 AQI, and PM2.5 AQI were also recorded.

Friday, 7/7

Triumph and First Environment mobilized to the site at 06:15. Triumph resumed excavation at approximately B17+10 and approached the perimeter fence. After reaching the perimeter fence, Triumph encountered groundwater. However, it was not enough to warrant active dewatering. Triumph placed stone at the bottom of the trench, from approximately B16+75 to beyond the fence line, before installing the watermain pipe. Triumph backfilled the trench before starting excavation on the outer side of the perimeter fence. At approximately B18+75, Triumph encountered groundwater. Again, it was not enough to warrant active dewatering, so stone was placed in the trench before watermain pipe installation. Triumph successfully excavated and installed pipe to approximately B19+00 and began backfill and cleanup activities. At 14:50, backfill and cleanup activities concluded, and all parties exited the site. Throughout the day, dust monitors and a PID were used to monitor airborne particulate and VOC levels, but no significantly elevated levels were observed. Other data gathered included flow measurements/estimates from E-10 (+ stream gauge level), Trib 1, and Trib 2. OF-7 has

been temporarily blocked off while a treatment system is installed. Rainfall, PM10 AQI, and PM2.5 AQI were also recorded.

The first picture below shows groundwater encountered at the perimeter fence. The second shows groundwater encountered at approximately B18+75.



Date	Trib 1 (gpm)	Trib 2 (gpm)	OF-7 (gpm)	E-10 (gpm)	E-10 Stream Gauge	Rainfall (Inches)
7/5/2023	1	0.5	3.5	19.1	0.30	0.7*
7/6/2023	1	0	2.5	12.5	0.29	0
7/7/2023	0.5	2	~	14.3	0.3	0

*Cumulative over weekend

Monitoring Well	DTW (ftbtoc)
P1	3.98
P2	4.81
P3	3.17
P5	3.15
MW-13R	8.63
MW-14	5.6
MW-15	10.17
MW-16	5.86
ES DS	3.84
4R	3.62
Trib 1	4.23
Trib 2	4.24
NKS 2	4.47

Date	PM10 AQI	PM2.5 AQI
7/5/2023	35	75
7/6/2023	44	45
7/7/2023	21	28

APPENDIX B
2023_06_26 Air Monitoring Data

Table with 3 columns: End Time, 50775 Mass Conc. Total (Upwind) (Avg), 47968 Mass Conc. Total (Downwind) (Avg). Rows include dates from Jun 26 2023 10:39:00 AM to Jun 26 2023 12:05:00 PM.

Table with 3 columns: End Time, 50775 Mass Conc. Total (Upwind) (Avg), 47968 Mass Conc. Total (Downwind) (Avg). Rows include dates from Jun 27 2023 9:14:00 AM to Jun 27 2023 10:48:00 AM.

Table with 3 columns: End Time, 50775 Mass Conc. Total (Upwind) (Avg), 47968 Mass Conc. Total (Downwind) (Avg). Rows include dates from Jun 28 2023 9:29:00 AM to Jun 28 2023 10:55:00 AM.

Table with 3 columns: End Time, 50775 Mass Conc. Total (Upwind) (Avg), 47968 Mass Conc. Total (Downwind) (Avg). Rows include dates from Jun 29 2023 9:24:00 AM to Jun 29 2023 10:50:00 AM.

Table with 3 columns: End Time, 50775 Mass Conc. Total (Upwind) (Avg), 47968 Mass Conc. Total (Downwind) (Avg). Rows include dates from Jun 30 2023 9:34:00 AM to Jun 30 2023 11:00:00 AM.

APPENDIX B
2023_06_26 Air Monitoring Data

End Time	50775 Mass Conc. Total (Upwind) (Avg)	47968 Mass Conc. Total (Downwind) (Avg)
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End Time	50775 Mass Conc. Total (Upwind) (Avg)	47968 Mass Conc. Total (Downwind) (Avg)
Jun 27 2023 1:30:00 PM	0.028	0.032
Jun 27 2023 1:31:00 PM	0.042	0.033
Jun 27 2023 1:32:00 PM	0.028	0.034
Jun 27 2023 1:33:00 PM	0.028	0.032
Jun 27 2023 1:34:00 PM	0.028	0.032
Jun 27 2023 1:35:00 PM	0.028	0.031
Jun 27 2023 1:36:00 PM	0.034	0.031
Jun 27 2023 1:37:00 PM	0.029	0.032
Jun 27 2023 1:38:00 PM	0.028	0.032
Jun 27 2023 1:39:00 PM	0.028	0.031
Jun 27 2023 1:40:00 PM	0.028	0.033
Jun 27 2023 1:41:00 PM	0.028	0.033
Jun 27 2023 1:42:00 PM	0.028	0.031
Jun 27 2023 1:43:00 PM	0.028	0.031
Jun 27 2023 1:44:00 PM	0.028	0.033
Jun 27 2023 1:45:00 PM	0.028	0.035
Jun 27 2023 1:46:00 PM	0.028	0.034
Jun 27 2023 1:47:00 PM	0.029	0.033
Jun 27 2023 1:48:00 PM	0.028	0.033
Jun 27 2023 1:49:00 PM	0.042	0.033
Jun 27 2023 1:50:00 PM	0.03	0.033
Jun 27 2023 1:51:00 PM	0.028	0.033
Jun 27 2023 1:52:00 PM	0.028	0.034
Jun 27 2023 1:53:00 PM	0.028	0.031
Jun 27 2023 1:54:00 PM	0.028	0.031
Jun 27 2023 1:55:00 PM	0.029	0.036
Jun 27 2023 1:56:00 PM	0.028	0.058
Jun 27 2023 1:57:00 PM	0.028	0.041
Jun 27 2023 1:58:00 PM	0.028	0.037
Jun 27 2023 1:59:00 PM	0.028	0.068
Jun 27 2023 2:00:00 PM	0.029	0.035
Jun 27 2023 2:01:00 PM	0.028	0.039
Jun 27 2023 2:02:00 PM	0.029	0.031
Jun 27 2023 2:03:00 PM	0.028	0.032
Jun 27 2023 2:04:00 PM	0.029	0.032
Jun 27 2023 2:05:00 PM	0.029	0.032
Jun 27 2023 2:06:00 PM	0.028	0.032
Jun 27 2023 2:07:00 PM	0.028	0.032
Jun 27 2023 2:08:00 PM	0.029	0.038
Jun 27 2023 2:09:00 PM	0.029	0.033
Jun 27 2023 2:10:00 PM	0.029	0.033
Jun 27 2023 2:11:00 PM	0.032	0.033
Jun 27 2023 2:12:00 PM	0.029	0.035
Jun 27 2023 2:13:00 PM	0.029	0.036
Jun 27 2023 2:14:00 PM	0.029	0.034
Jun 27 2023 2:15:00 PM	0.029	0.032
Jun 27 2023 2:16:00 PM	0.029	0.032
Jun 27 2023 2:17:00 PM	0.029	0.032
Jun 27 2023 2:18:00 PM	0.029	0.034
Jun 27 2023 2:19:00 PM	0.029	0.04
Jun 27 2023 2:20:00 PM	0.029	0.032
Jun 27 2023 2:21:00 PM	0.028	0.032
Jun 27 2023 2:22:00 PM	0.047	0.031
Jun 27 2023 2:23:00 PM	0.031	0.037
Jun 27 2023 2:24:00 PM	0.029	0.049
Jun 27 2023 2:25:00 PM	0.029	0.049

End Time	50775 Mass Conc. Total (Upwind) (Avg)	47968 Mass Conc. Total (Downwind) (Avg)
Jun 28 2023 1:45:00 PM	0.016	0.019
Jun 28 2023 1:46:00 PM	0.016	0.065
Jun 28 2023 1:47:00 PM	0.016	0.028
Jun 28 2023 1:48:00 PM	0.016	0.019
Jun 28 2023 1:49:00 PM	0.016	0.019
Jun 28 2023 1:50:00 PM	0.016	0.029
Jun 28 2023 1:51:00 PM	0.016	0.022
Jun 28 2023 1:52:00 PM	0.016	0.026
Jun 28 2023 1:53:00 PM	0.016	0.019
Jun 28 2023 1:54:00 PM	0.016	0.038
Jun 28 2023 1:55:00 PM	0.016	0.032
Jun 28 2023 1:56:00 PM	0.016	0.027
Jun 28 2023 1:57:00 PM	0.016	0.029
Jun 28 2023 1:58:00 PM	0.016	0.03
Jun 28 2023 1:59:00 PM	0.016	0.02
Jun 28 2023 2:00:00 PM	0.016	0.019
Jun 28 2023 2:01:00 PM	0.016	0.02
Jun 28 2023 2:02:00 PM	0.016	0.02
Jun 28 2023 2:03:00 PM	0.016	0.217
Jun 28 2023 2:04:00 PM	0.017	0.02
Jun 28 2023 2:05:00 PM	0.016	0.021
Jun 28 2023 2:06:00 PM	0.017	0.021
Jun 28 2023 2:07:00 PM	0.017	0.02
Jun 28 2023 2:08:00 PM	0.017	0.02
Jun 28 2023 2:09:00 PM	0.017	0.02
Jun 28 2023 2:10:00 PM	0.017	0.02
Jun 28 2023 2:11:00 PM	0.017	0.14
Jun 28 2023 2:12:00 PM	0.017	0.02
Jun 28 2023 2:13:00 PM	0.017	0.02
Jun 28 2023 2:14:00 PM	0.017	0.023
Jun 28 2023 2:15:00 PM	0.017	0.025
Jun 28 2023 2:16:00 PM	0.017	0.02
Jun 28 2023 2:17:00 PM	0.017	0.02
Jun 28 2023 2:18:00 PM	0.017	0.021
Jun 28 2023 2:19:00 PM	0.018	0.021
Jun 28 2023 2:20:00 PM	0.018	0.021
Jun 28 2023 2:21:00 PM	0.018	0.021
Jun 28 2023 2:22:00 PM	0.018	0.122
Jun 28 2023 2:23:00 PM	0.018	0.021
Jun 28 2023 2:24:00 PM	0.018	0.021
Jun 28 2023 2:25:00 PM	0.017	0.024
Jun 28 2023 2:26:00 PM	0.018	0.025
Jun 28 2023 2:27:00 PM	0.018	0.021
Jun 28 2023 2:28:00 PM	0.018	0.028
Jun 28 2023 2:29:00 PM	0.02	0.022
Jun 28 2023 2:30:00 PM	0.018	0.022
Jun 28 2023 2:31:00 PM	0.018	0.026
Jun 28 2023 2:32:00 PM	0.018	0.022
Jun 28 2023 2:33:00 PM	0.018	0.024
Jun 28 2023 2:34:00 PM	0.018	0.022
Jun 28 2023 2:35:00 PM	0.018	0.021
Jun 28 2023 2:36:00 PM	0.018	0.044
Jun 28 2023 2:37:00 PM	0.019	0.023
Jun 28 2023 2:38:00 PM	0.019	0.025
Jun 28 2023 2:39:00 PM	0.019	0.023
Jun 28 2023 2:40:00 PM	0.019	0.023
Jun 28 2023 2:41:00 PM	0.019	0.024
Jun 28 2023 2:42:00 PM	0.019	0.025
Jun 28 2023 2:43:00 PM	0.019	0.029
Jun 28 2023 2:44:00 PM	0.019	0.024
Jun 28 2023 2:45:00 PM	0.019	0.023
Jun 28 2023 2:46:00 PM	0.019	0.022
Jun 28 2023 2:47:00 PM	0.018	0.023
Jun 28 2023 2:48:00 PM	0.019	0.023
Jun 28 2023 2:49:00 PM	0.019	0.032
Jun 28 2023 2:50:00 PM	0.019	0.023

End Time	50775 Mass Conc. Total (Upwind) (Avg)	47968 Mass Conc. Total (Downwind) (Avg)
Jun 29 2023 1:40:00 PM	0.062	0.072
Jun 29 2023 1:41:00 PM	0.063	0.071
Jun 29 2023 1:42:00 PM	0.063	0.071
Jun 29 2023 1:43:00 PM	0.061	0.073
Jun 29 2023 1:44:00 PM	0.061	0.07
Jun 29 2023 1:45:00 PM	0.062	0.073
Jun 29 2023 1:46:00 PM	0.063	0.077
Jun 29 2023 1:47:00 PM	0.062	0.073
Jun 29 2023 1:48:00 PM	0.062	0.073
Jun 29 2023 1:49:00 PM	0.062	0.074
Jun 29 2023 1:50:00 PM	0.063	0.075
Jun 29 2023 1:51:00 PM	0.069	0.076
Jun 29 2023 1:52:00 PM	0.063	0.075
Jun 29 2023 1:53:00 PM	0.063	0.076
Jun 29 2023 1:54:00 PM	0.063	0.075
Jun 29 2023 1:55:00 PM	0.063	0.075
Jun 29 2023 1:56:00 PM	0.063	0.075
Jun 29 2023 1:57:00 PM	0.063	0.075
Jun 29 2023 1:58:00 PM	0.064	0.075
Jun 29 2023 1:59:00 PM	0.064	0.075
Jun 29 2023 2:00:00 PM	0.064	0.077
Jun 29 2023 2:01:00 PM	0.064	0.083
Jun 29 2023 2:02:00 PM	0.065	0.08
Jun 29 2023 2:03:00 PM	0.066	0.077
Jun 29 2023 2:04:00 PM	0.066	0.086
Jun 29 2023 2:05:00 PM	0.067	0.079

End Time	50775 Mass Conc. Total (Upwind) (Avg)	47968 Mass Conc. Total (Downwind) (Avg)
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Jul 7 2023 2:25:00 PM	0.029	0.03
Jul 7 2023 2:26:00 PM	0.03	0.033
Jul 7 2023 2:27:00 PM	0.03	0.063
Jul 7 2023 2:28:00 PM	0.03	0.031
Jul 7 2023 2:29:00 PM	0.029	0.045
Jul 7 2023 2:30:00 PM	0.029	0.029
Jul 7 2023 2:31:00 PM	0.03	0.03
Jul 7 2023 2:32:00 PM	0.03	0.031
Jul 7 2023 2:33:00 PM	0.031	0.032
Jul 7 2023 2:34:00 PM	0.03	0.032
Jul 7 2023 2:35:00 PM	0.031	0.031
Jul 7 2023 2:36:00 PM	0.031	0.031
Jul 7 2023 2:37:00 PM	0.03	0.049
Jul 7 2023 2:38:00 PM	0.031	0.043
Jul 7 2023 2:39:00 PM	0.031	0.033
Jul 7 2023 2:40:00 PM	0.031	0.035
Jul 7 2023 2:41:00 PM	0.03	0.031
Jul 7 2023 2:42:00 PM	0.03	0.03
Jul 7 2023 2:43:00 PM	0.03	0.062
Jul 7 2023 2:44:00 PM	0.03	0.111
Jul 7 2023 2:45:00 PM	0.03	0.046
Jul 7 2023 2:46:00 PM	0.03	0.066
Jul 7 2023 2:47:00 PM	0.03	0.064
Jul 7 2023 2:48:00 PM	0.03	0.031
Jul 7 2023 2:49:00 PM	0.029	0.033
Jul 7 2023 2:50:00 PM	0.029	0.036

APPENDIX C

Appendix C

OF-7 Pilot Test Workplan

BACKGROUND

The former New York Air National Guard (NYANG) facility, which operated at the Airport until 1983, practiced fire training exercises at an unlined Burn Pit. The NYANG used Aqueous Film-Forming Foam (AFFF) containing high levels of PFAS to routinely extinguish petroleum-based fires. Petroleum impacted soil was remediated in 2000. As result of the foam use for 10 or more years at the unlined burn pit, per-and polyfluoroalkyl substances (PFAS) have accumulated and are contained in the soil today. As a result, this location is considered the primary contributing source of PFAS to surface water and groundwater at the Airport. First Environment estimates 90 percent or more of PFAS identified at the Airport is from fire training activities conducted at the former NYANG Burn Pit. Additionally, groundwater in this area is contributing to the total surface water flow at SPDES Outfall No. 007 (OF-7) via stormwater infiltration and groundwater daylighting.

In the effort to evaluate alternatives to treat PFAS impacted surface water, First Environment has selected what it believes to be an appropriate remedy to reduce the perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) concentrations from surface water discharged at OF-7 through treatment of surface water using granular activated carbon (GAC) product and ion exchange (IX) resin product as PFAS compounds have an affinity to partition out of the aqueous phase and sorb onto GAC and IX resin.

Pilot Study Workplan

The following sections outline the tasks recommended for completion of the Pilot Study, as well as the methods that will be employed to complete those tasks.

Pilot Treatment System

The purpose of the Pilot Study is to evaluate the technical viability of treating surface water using both GAC and IX resin. To evaluate the performance of GAC vs. IX resin, surface water will be collected and fed to separate treatment trains: one using GAC and the other using IX resin as the treatment media before discharging back to OF-7. First Environment plans to operate the pilot treatment system for 3 months.

The Pilot Study will consist of installation of a continuous-duty submersible pump to feed the treatment systems. Surface water from the stormwater catch basin will be fed through an exterior bag filter and flow to an equalization tank to maintain twelve gallon per minute (gpm) flow rate. Dedicated feed pumps will provide a 6-gpm flow rate from the equalization tank to each media of the treatment train. A flow diagram of the treatment system is provided as part of Figure 1.

Pressure and flow instruments will log treatment system pressures and flows for each train continuously. Level switches will control system operations on high- and low-level conditions. Pressure switches on each train will control system operations to prevent overpressure conditions. The treated water will be discharged to a common discharge point downstream of the water intake location at OF-7.

The pilot treatment system would be located in the area of manhole MH-7006 (Figure 2) where water can be treated and discharge back into the storm water system at OF-7. First Environment estimates power requirements of approximately 60 amps of 120V power to operate the system and 15 amps of 120V power to operate the sump pump.

Treatment System Monitoring

First Environment will conduct and collect performance sampling throughout the pilot study.

Performance samples will be collected at start-up and periodically throughout the pilot study and will be analyzed for the full 40 PFAS standard to EPA Method 1633, while samples in between these periodic events will be analyzed for PFOS, PFOA and background chemistry (BC) which includes:

- Alkalinity
- Calcium
- Chemical Oxygen Demand (COD)
- Chloride
- Iron, Total
- Magnesium
- Manganese
- Nitrate
- pH
- Silica
- Sulfate
- Surfactants (MBAS)
- Total Dissolved Solids (TDS)
- Total Organic Carbon (TOC)
- Total Suspended Solids (TSS)

Sampling will be performed approximately every other day for the first two weeks followed by sampling twice a week for each media vessel as follows:

- (6) PFAS samples on the water to be treated
- (13) PFAS samples from each vessel effluent - (52) total
- (12) PFAS samples collected and held for potential analysis depending on results of samples analyzed - (48) total
- (6) BC samples on the water to be treated
- (6) BC samples from the end of each treatment train - (12) total.

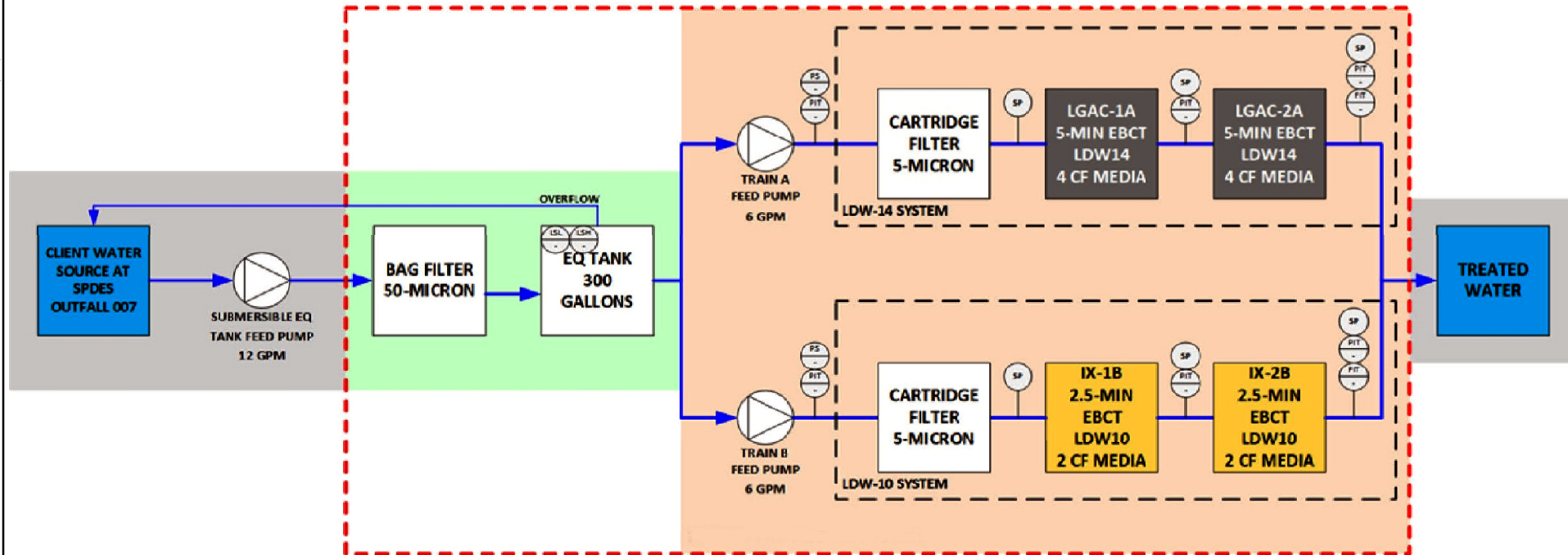
Treatment System monitoring samples will be collected and shipped within 24 hours to a New York State Department of Health (DOH) ELAP-certified laboratory unless otherwise specified.

Surface Water Monitoring

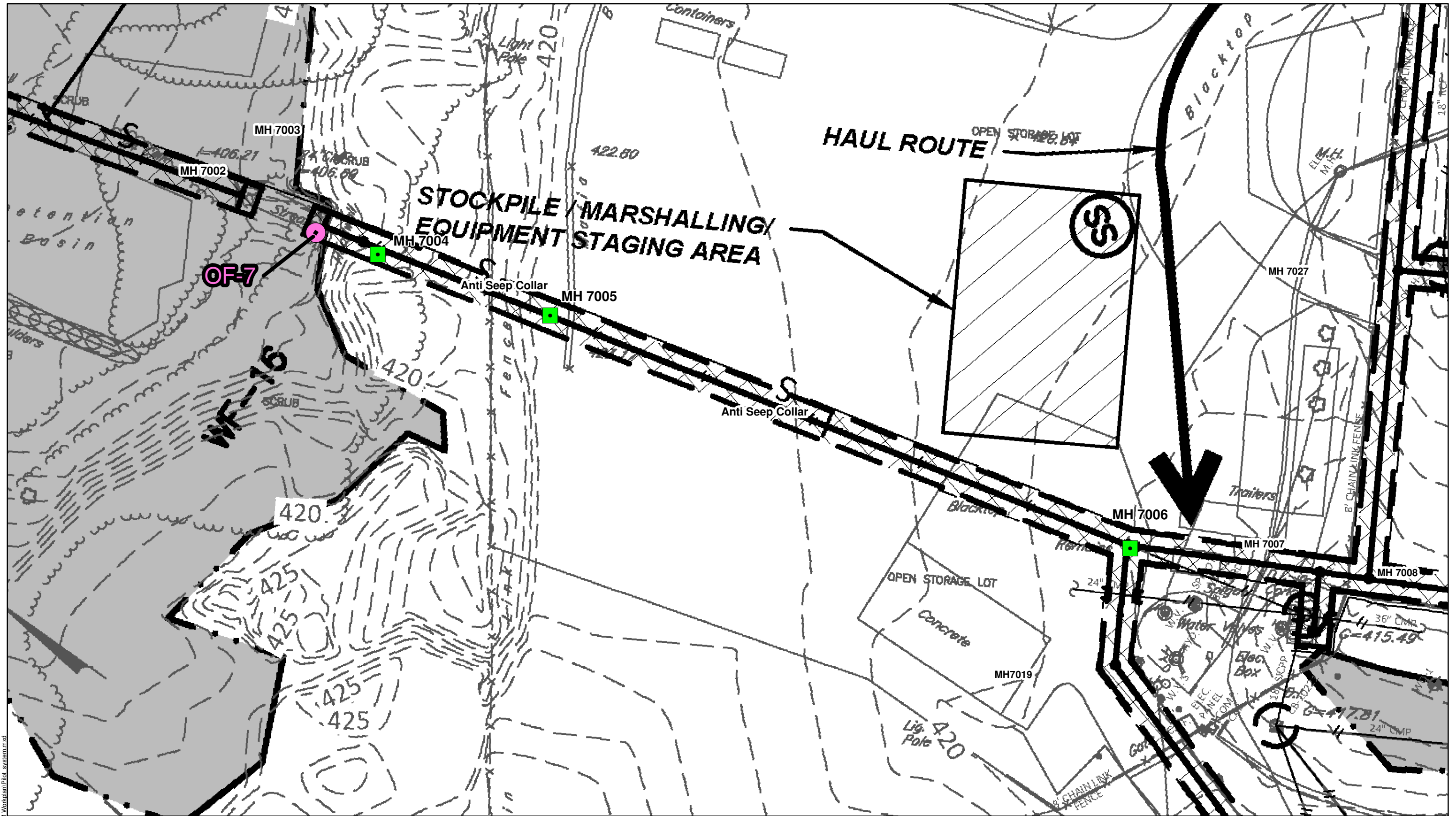
Additionally, First Environment will collect surface water samples at the beginning of the pilot test and at minimum of once every two weeks at the treatment system's influent and effluent along with downstream of MH-7006 at OF-7 and at the grate before water leaves the Airport as well as the downstream location New York City DEP Gauging Station (E-10) where surface water converges before the surface water enters Rye Lake. Water samples collected will be analyzed for the full 40 PFAS standard to EPA Method 1633. In addition, First Environment will be measuring flow leaving OF-7 as well as E-10 as well as

measuring daily rainfall and water levels in monitoring wells in the pilot test area.

The samples will be stored and shipped within 24 hours to York Analytical Laboratories (York) (a State Department of Health (DOH) ELAP-certified laboratory) unless otherwise specified. Samples collected for PFAS will be analyzed via EPA Method 1633, in accordance with NYDEC guidelines.



<p>LEGEND - PROCESS AREAS</p> <ul style="list-style-type: none"> - - - SCOPE BOUNDARY CONTAINER 1: PRIMARY TREATMENT EQUIPMENT BY OTHERS OUTSIDE CONTAINER <p>LEGEND - FLUIDS</p> <ul style="list-style-type: none"> PROCESS WATER PRIMARY PATHWAY PROCESS WATER SECONDARY PATHWAY 	<p>LEGEND - TANKS, MEDIA, AND MAJOR EQUIPMENT</p> <ul style="list-style-type: none"> GRANULAR ACTIVATED CARBON IX RESIN WATER SOURCE/ DISCHARGE 	<p>LEGEND - INSTRUMENTS</p> <ul style="list-style-type: none"> PIT - PRESSURE INDICATOR AND TRANSMITTER FIT - FLOW INDICATOR AND TRANSMITTER LS - LEVEL SWITCH SP - SAMPLE POINT PS - PRESSURE SWITCH 	<p>FIRST ENVIRONMENT</p> <p>10 Park Place, Bldg 1A, Suite 504 Butler, NJ 07405</p>	<p>NYSDEC SITE NO. 360174 WESTCHESTER COUNTY AIRPORT White Plains, Westchester County, New York</p> <p>FIGURE 1 PROPOSED PILOT STUDY BLOCK FLOW DIAGRAM</p> <table border="1"> <tr> <td>Revised</td> <td>Drawn</td> <td>Checked</td> <td>Approved</td> <td>Date</td> </tr> <tr> <td></td> <td>CL</td> <td>DDL</td> <td>TCB</td> <td>5/2/2023</td> </tr> </table>	Revised	Drawn	Checked	Approved	Date		CL	DDL	TCB	5/2/2023
Revised	Drawn	Checked	Approved	Date										
	CL	DDL	TCB	5/2/2023										



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- Legend**
- Outfall Location
 - Proposed Pilot System Locations
 - Wetland

Source: Provident Design Engineering PLLC, 2020 100% OF-7 Storm Sewer Design

	NYSDEC SITE NO. 360174 WESTCHESTER COUNTY AIRPORT White Plains, Westchester County, New York FIGURE 2 PROPOSED PILOT SYSTEM LOCATIONS			
	10 Park Place, Bldg 1A, Suite 504 Butler, NJ 07405	Revised ES	Checked DL	Approved SG