FACT SHEET SUPPLEMENT

1. Introduction

The Region 1 Office of the United States Environmental Protection Agency ("EPA" or the "Agency") and the Massachusetts Department of Environmental Protection ("MassDEP") are exercising their discretion, based on public comments, to provide additional opportunity for comment on certain revisions to the draft permit to further inform the permit proceedings and improve the agencies' decision making regarding the draft National Pollutant Discharge Elimination System ("NDPES") permit for the Springfield Water and Sewer Commission Regional Waste Water Treatment Facility (referred to herein as the "facility") in Agawam, MA. EPA is in the process of reissuing the NPDES permit under Section 402 of the Clean Water Act (CWA). 33 U.S.C. § 1342. As provided in 40 CFR § 124.14(c), any comment filed during this public comment period shall be limited to the following proposed conditions in the Draft Permit:

1) Revised total nitrogen requirements in Parts I.A.1 and I.H and
2) Revised combined sewer overflow (CSO) requirements in Part I.B.

These issues and questions are discussed in this Fact Sheet Supplement.

2. Background

EPA last issued a new Final NPDES Permit to the Springfield Water and Sewer Commission ("SWSC" or the "Commission") on December 8, 2000. The permit expired in February 2006, but was administratively continued in 2006 as a result of SWSC's timely application for permit renewal pursuant to 40 C.F.R. § 122.6.

EPA published a new Draft Permit for public notice and comment on November 15, 2017 (the "2017 Draft Permit"). Upon request from the permittee, EPA extended the initial 30-day public notice and comment period to February 12, 2018. Following requests from the Connecticut Department of Energy and Environmental Protection ("CTDEEP") and others for a public hearing, EPA reopened the public notice and comment period from March 14, 2018 through April 27, 2018 to facilitate an April 24, 2018 public hearing.

During the public notice and comment periods on the 2017 Draft Permit, EPA received comment letters from nine parties including the SWSC; the Towns of Agawam, East Longmeadow, Longmeadow, West Springfield and Wilbraham; CTDEEP; the Connecticut Fund for the Environment; the Connecticut River Conservancy; and the Massachusetts Water Resource Authority. In addition, representatives from the SWSC, CTDEEP, the Connecticut Fund for the Environment and the Connecticut River Conservancy provided oral testimony at the public hearing.

Since the closure of the public notice and comment periods for the 2017 Draft Permit, EPA has been considering all of the public comments received on the 2017 Draft Permit and developing

the new Final Permit. After consideration of all the comments, EPA and MassDEP agree that nitrogen and CSO notification requirements that differ from those which were proposed in the Draft Permit will need to be imposed in order to protect water quality in the Connecticut River and Long Island Sound and to protect recreational uses in the Connecticut River as explained in the sections that follow.

3. Total Nitrogen

The 2017 Draft Permit proposed a requirement to monitor and report total nitrogen ("TN") concentrations and mass loadings while optimizing system operation to meet an annual average mass-based TN optimization benchmark of 2,279 lbs/day. The optimization benchmark was intended to be an indication of successful optimization rather than an enforceable limit. The optimization requirement and associated benchmark proposed in the 2017 Draft Permit is consistent with the approach taken by EPA and MassDEP for smaller Massachusetts facilities with discharges to tributaries of Long Island Sound ("LIS").

In the 2017 Fact Sheet, EPA and MassDEP offered two other nitrogen control alternatives for public notice and comment. Both of these alternatives were also optimization requirements with variations on the benchmarks, as provided in Table 4 on page 19 the 2017 Fact Sheet. However, as it was pointed out in comments received from CTDEEP and other commenters, an optimization benchmark cannot provide assurance that the cumulative nitrogen load to the LIS will not exceed the out-of-basin (Massachusetts, New Hampshire and Vermont) point source wasteload allocation established by the LIS Total Maximum Daily Load ("TMDL"). In particular, commenters pointed out that TN loads discharged from the facility over the past ten years have not decreased and may be increasing, as shown in the figure in Attachment A to this Fact Sheet Supplement. The Springfield facility is the largest out-of-basin contributor of TN loading in the Connecticut River watershed and is also the closest out-of-basin major point source contributor to Connecticut's portion of the Connecticut River.

In order to assure that Springfield's TN load does not increase to a degree that would contribute to an exceedance of the TN out-of-basin wasteload allocation from the 2001 TMDL and in consideration of the facts and arguments presented in the comments and in the testimonies presented at the public hearing, an annual average TN loading limit of 2,534 lbs/day is proposed in the revised Draft Permit rather than an optimization benchmark. This value is the maximum annual average TN load discharged from the facility from 2012-2016 (See Attachment H of the 2017 Fact Sheet). This limit would meet the TMDL target of a 25% reduction in TN loadings from baseline loadings, since the estimated load to the Connecticut River from out-of-basin point sources would be 14,772 lbs/day[1]. This is less than the TMDL target of 16,254 lbs/day, allowing for non-POTW point source loadings as well as any possible new point source discharges.

[1]An annual average TN load of 2,534 lbs/day is 886 lbs/day greater than the TN load discharged in 2004, which was used in EPA's 2006 analysis of out-of-basin point sources to the CT River Watershed (see 2017 Fact Sheet Table 3 and Attachments G and H). This increase would bring the total estimated loadings to the CT River from out-of-basin point sources to 14,772 lbs/day, which is below the TMDL target of 16,254 lbs/day.

In recognition of SWSC's Integrated Wastewater Plan (which incorporates SWSC's Long Term Control Plan) to reduce CSOs by increasing its storage in the Collection System and its conveyance of flow to the treatment facility, the revised Draft Permit proposes to allow incremental increases in the proposed 2,534 lbs/day annual average load limit upon the completion of planned individual CSO abatement projects, as shown below in Table 1.

Table 1 Projected Connecticut River Interceptor (CRI) Annual CSO Volume Reductions and Allowable Incremental TN Load Increases Following Completion of Planned CSO Mitigation Projects

Project	Baseline Condition (CRI Total) (MG/Year)[1]	Estimated Annual CSO Volume Following Project Completion (MG/year)	Estimated CSO Volume Reduction From Baseline Conditions Following Project Completion(MG/Year)[3]	Allowable Incremental TN Load Increase (Lbs/Year)[4,5]	Allowable Incremental TN Load Increase (average Lbs/day)[5,6]
Phase I - Washburn CSO Control	441	390	51	2127	5.8
Phase I.5 - CSO 012/013/018 Modifications	441	390	0	0	0.0
Phase 2 - York Street Pump Station and River Crossing	441	216.7	224.3	9353	25.6
Phase 3 - Locust Transfer Structure/Conduit and Flow Optimization in Mill System	441	213	228	9508	26.0
Total Load Increase				**20987.61**	**57.5**

[1]Baseline Condition (model year 1976 – Connecticut River Interceptor (CRI) Totals) – see SWSC 2014 Integrated Wastewater Plan, Table ES.4-1
[2]Estimated Annual CSO Volume Following Project Completion – see SWSC 2014 Integrated Wastewater Plan, Table ES.6-3.
[4]Estimated CSO Volume Reductions From Baseline Conditions Following Project Completion = (Baseline Condition CSO Volume Following Project Completion (MG/Year)
[4]Allowable Incremental TN Load Increase (lbs/day) = [Estimated CSO Reduction From Baseline Conditions Following Project Completion (MG/Year) * Assumed TN Concentration in combined sewage (5 mg/l) * 8.34]
[5]Estimated TN Concentration in Combined Sewage – See *EPA Report to Congress: Impacts and Control of CSOs and SSOs* , Table 4.6 [EPA 2004 (EPA 833-R-04-001)]: Total Kjeldahl Nitrogen concentration in combined sewage (median of 373 samples)) = 3.6 mg/l. Total Nitrogen concentration in combined sewers estimated to be 5 mg/l to account for NO_2 and NO_3.
[6]Allowable Incremental TN Load Increase (lbs/day) = [(Allowable Incremental TN Load Increase (lbs/year)) * (1 year/365 days)]

As can be seem from Table 1, the net increase in the TN effluent limit would be 58 lbs/day upon completion of all four of the CSO abatement projects, to be completed, resulting in an estimated load to the Connecticut River (accounting for out-of-basin point sources) of 14,830 lbs/day, which is below the TMDL target of 16,254 lbs/day. The allowable incremental TN increases are included in the draft revised permit as Attachment E.

4. CSO Notification Requirements

The 2017 Draft Permit proposed requirements for the development and implementation of a plan for notifying the public of CSO activations ("Public Notification Plan"), including requirements to provide notification of a probable CSO activation within 24 hours of the initiation of any CSO discharge as well as subsequent notification to confirm the occurrence of a discharge and to provide discharge-specific information.

Several commenters, including the downstream State of Connecticut, questioned the adequacy of the notification requirements in the 2017 Draft Permit for protecting recreational uses in the Connecticut River. Specifically, commenters argued that a 24-hour notification requirement would not be protective of recreational uses in the Connecticut River both in the Massachusetts and Connecticut affected reaches. The State of Connecticut, which is immediately downstream of Springfield, currently has a "real-time" notification requirement for anticipated CSOs in statute and has developed a state sponsored website for the public to use to identify likely active CSOs. The estimated travel time from Springfield to the Connecticut border is two hours under average flow conditions. In consideration of the concerns raised during the comment period, EPA is proposing a requirement in the revised Draft Permit for the permittee to provide initial notification to the public of a probable CSO discharge no later than two (2) hours after becoming aware of a likely CSO discharge. This notification may be based on modeling estimates of discharge(s) based on rainfall (or other predictive modeling methodologies) rather than on actual CSO discharge measurements.

The revised Draft Permit requires the initial notification to be followed by supplemental notification within twenty-four hours of the cessation of a discharge event to confirm whether an actual discharge occurred, and if so, to include information specific to each discharge, including the CSO outfall number and location, total volume discharged, the date of the discharge as well as the time the discharge commenced and ceased.

In addition, the revised Draft Permit requires the permittee to provide the public with an annual notification that includes the following information: location of each CSO, a summary of CSO activations and volumes, status and progress of CSO abatement work, and contacts for additional information on CSOs and water quality.

These public notification requirements are reasonable given the uses of the receiving water, the proximity of the discharges to the Connecticut border, and the estimated time of travel from the discharges to the border. Further, these requirements are consistent with Nine Minimum Control #8 (public notification to ensure that the public receives adequate notification of CSO occurrences and impacts), in accordance with the CSO Control Policy.

EXHIBIT V

Attachment A

Springfield Regional Waste Water Treatment Facility – Annual Average Total Nitrogen (2007-2017)

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
1/31/2007	45.7	0.842	3.53	4.372	1,666	4.372	1,666
2/28/2007	47.5	0.606	5.6	6.206	2,459	6.206	2,459
3/31/2007	43.9	0.234	4.41	4.644	1,700	4.644	1,700
4/30/2007	45.2	1.18	1.18	2.36	890	2.36	890
5/31/2007	44.9	0.131	2.94	3.071	1,150	3.071	1,150
6/30/2007	43.7	2.81	2.24	5.05	1,841	5.05	1,841
7/31/2007	42.8	6.75	3.64	10.39	3,709	10.39	3,709
8/31/2007	42.3	3.21	2.35	5.56	1,961	5.56	1,961
9/30/2007	41.9	3.36	1.47	4.83	1,688	4.83	1,688
10/31/2007	41.3	266	0	266	91,622	NA	NA
11/30/2007	40.4	2.1	1.54	3.64	1,226	3.64	1,226
12/31/2007	39.8	2.37	2.16	4.53	1,504	4.53	1,504
1/31/2008	39.5	1.79	1.29	3.08	1,015	3.08	1,015
2/29/2008	41.5	2.64	1.18	3.82	1,322	3.82	1,322
3/31/2008	42.5	1.86	1.18	3.04	1,078	3.04	1,078
4/30/2008	41.8	2.37	1.47	3.84	1,339	3.84	1,339
5/31/2008	41.7	3.08	3.23	6.31	2,194	6.31	2,194
6/30/2008	41.9	3.92	2.16	6.08	2,125	6.08	2,125
7/31/2008	42.6	2.46	1.79	4.25	1,510	4.25	1,510
8/31/2008	43.7	2.81	1.67	4.48	1,633	4.48	1,633
9/30/2008	45	3.34	2.162	5.502	2,065	5.502	2,065
10/31/2008	45.6	3.38	2.35	5.73	2,179	5.73	2,179
11/30/2008	46.1	2.96	1.45	4.41	1,696	4.41	1,696
12/31/2008	47.6	1.73	1.37	3.1	1,231	3.1	1,231
1/31/2009	48.1	3.24	2.07	5.31	2,130	5.31	2,130

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
2/28/2009	46.7	3.19	3.49	6.68	2,602	6.68	2,602
3/31/2009	45.8	3.39	1.6	4.99	1,906	4.99	1,906
4/30/2009	45.1	3.79	2.31	6.1	2,294	6.1	2,294
5/31/2009	44.8	5	2.45	7.45	2,784	7.45	2,784
6/30/2009	44.8	4.89	3.2	8.09	3,023	8.09	3,023
7/31/2009	45.1	3.28	2.5	5.78	2,174	5.78	2,174
8/31/2009	44.9	4.88	1.2	6.08	2,277	6.08	2,277
9/30/2009	44	2.87	0	2.87	1,053	2.87	1,053
10/31/2009	43.7	2.743	2.8	5.543	2,020	5.543	2,020
11/30/2009	43.3	0.78	3.4	4.18	1,509	4.18	1,509
12/31/2009	43.3	0.65	10	10.65	3,846	10.65	3,846
1/31/2010	42	1.3	2.5	3.8	1,331	3.8	1,331
2/28/2010	37.3	1.478	2.1	3.578	1,113	3.578	1,113
3/31/2010	38.1	0.67	6.7	7.37	2,342	7.37	2,342
4/30/2010	42.3	3.356	1.8	5.156	1,819	5.156	1,819
5/31/2010	42.2	1.5	1.5	3	1,056	3	1,056
6/30/2010	41.7	5.82	1.7	7.52	2,615	7.52	2,615
7/31/2010	40.2	2.8	2.5	5.3	1,777	5.3	1,777
8/31/2010	39	2.659	2.8	5.459	1,776	5.459	1,776
9/30/2010	38.5	4.42	2	6.42	2,061	6.42	2,061
10/31/2010	38.3	7.569	1.1	8.669	2,769	8.669	2,769
11/30/2010	38.4	2.467	2.2	4.667	1,495	4.667	1,495
12/31/2010	38.1	2.059	1.5	3.559	1,131	3.559	1,131
1/31/2011	37.5	1.28	2.1	3.38	1,057	3.38	1,057
2/28/2011	37.3	1.478	2.1	3.578	1,113	3.578	1,113
3/31/2011	38.1	0.669	6.7	7.369	2,342	7.369	2,342
4/30/2011	38.4	0.273	7.6	7.873	2,521	7.873	2,521
5/31/2011	39.3	0.158	6.4	6.558	2,149	6.558	2,149
6/30/2011	40.4	0.354	7.1	7.454	2,512	7.454	2,512
7/31/2011	41.1	3.17	2.8	5.97	2,046	5.97	2,046
8/31/2011	42.1	1.986	2.1	4.086	1,435	4.086	1,435
9/30/2011	43.8	0.339	2.8	3.139	1,147	3.139	1,147
10/31/2011	44.9	2.363	1.1	3.463	1,297	3.463	1,297
11/30/2011	46.1	2.31	2.1	4.41	1,696	4.41	1,696

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
12/31/2011	47.4	0.445	2.4	2.845	1,125	2.845	1,125
1/31/2012	48.5	0.016	7.8	7.816	3,161	7.816	3,161
2/29/2012	48.7	0.455	9.6	10.055	4,084	10.055	4,084
3/31/2012	47.2	0.017	5	5.017	1,975	5.017	1,975
4/30/2012	46	0.884	7.2	8.084	3,101	8.084	3,101
5/31/2012	45	1.766	2.5	4.266	1,601	4.266	1,601
6/30/2012	44.1	0.339	3.9	4.239	1,559	4.239	1,559
7/31/2012	43.6	2.173	1.9	4.073	1,481	4.073	1,481
8/31/2012	43	2.266	1.4	3.666	1,315	3.666	1,315
9/30/2012	41.4	2.675	1.6	4.275	1,476	4.275	1,476
10/31/2012	40.2	0.92	8.1	9.02	3,024	9.02	3,024
11/30/2012	38.6	1.437	13	14.437	4,648	14.437	4,648
12/31/2012	37	0.84	8.4	9.24	2,851	9.24	2,851
1/31/2013	36.1	0.602	9.5	10.102	3,041	10.102	3,041
2/28/2013	35.7	0.393	11	11.393	3,392	11.393	3,392
3/31/2013	35.7	2.848	2.1	4.948	1,473	4.948	1,473
4/30/2013	35.6	1.58	2.9	4.48	1,330	4.48	1,330
5/31/2013	35.7	0.433	8	8.433	2,511	8.433	2,511
6/30/2013	37	3.81	2.9	6.71	2,071	6.71	2,071
7/31/2013	37.8	2.31	2.9	5.21	1,642	5.21	1,642
8/31/2013	38	0.545	10	10.545	3,342	10.545	3,342
9/30/2013	38.1	0.23	15	15.23	4,839	NA	4,839
10/31/2013	37.9	2.64	2.2	4.84	1,530	4.84	1,530
11/30/2013	37.9	4.539	2.8	7.339	2,320	7.339	2,320
12/31/2013	37.9	5.444	3.8	9.244	2,922	9.244	2,922
1/31/2014	38.5	0.11	2.4	2.51	806	2.51	806
2/28/2014	38.5	5.29	3.9	9.19	2,951	9.19	2,951
3/31/2014	38.7	3.71	6.1	9.81	3,166	9.81	3,166
4/30/2014	40	2.871	7.2	10.071	3,360	10.071	3,360
5/31/2014	41	2.64	4.5	7.14	2,441	7.14	2,441
6/30/2014	39.9	4.241	2.7	6.941	2,310	6.941	2,310
7/31/2014	39.6	2.669	1.6	4.269	1,410	4.269	1,410
8/31/2014	39.4	3.237	2.1	5.337	1,754	5.337	1,754

EXHIBIT V

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
9/30/2014	39.2	7.363	3.2	10.563	3,453	10.563	3,453
10/31/2014	39.4	3.493	2.4	5.893	1,936	5.893	1,936
11/30/2014	39.5	3.11	2.2	5.31	1,749	5.31	1,749
12/31/2014	40	3.099	4.1	7.199	2,402	7.199	2,402
1/31/2015	39.7	3.484	4.1	7.584	2,511	7.584	2,511
2/28/2015	39.4	2.41	5.3	7.71	2,533	7.71	2,533
3/31/2015	39.3	1.149	5.9	7.049	2,310	7.049	2,310
4/30/2015	38.8	1.446	4.1	5.546	1,795	5.546	1,795
5/31/2015	37.4	2.062	5.6	7.662	2,390	7.662	2,390
6/30/2015	37.4	1.323	5.3	6.623	2,066	6.623	2,066
7/31/2015	37.1	3.08	6.2	9.28	2,871	9.28	2,871
8/31/2015	36.7	5.16	2.8	7.96	2,436	7.96	2,436
9/30/2015	36.6	3.311	4.3	7.611	2,323	7.611	2,323
10/31/2015	36.2	4.686	3.5	8.186	2,471	8.186	2,471
11/30/2015	35.8	5.96	3.2	9.16	2,735	9.16	2,735
12/31/2015	35.2	4.91	2.1	7.01	2,058	7.01	2,058
1/31/2016	35	0.088	3.9	3.988	1,164	3.988	1,164
2/29/2016	35.5	1.51	7.1	8.61	2,549	8.61	2,549
3/31/2016	35.3	2.379	4.5	6.879	2,025	6.879	2,025
4/30/2016	34.5	0.935	3.2	4.135	1,190	4.135	1,190
5/31/2016	34.3	2.043	2.8	4.843	1,385	4.843	1,385
6/30/2016	33.6	0.989	3.5	4.489	1,258	4.489	1,258
7/31/2016	33.1	0.88	5.8	6.68	1,844	6.68	1,844
8/31/2016	33.1	1.431	3.4	4.831	1,334	4.831	1,334
9/30/2016	32.9	4.983	6.5	11.483	3,151	11.483	3,151
10/31/2016	32.9	1.822	4.5	6.322	1,735	6.322	1,735
11/30/2016	32.9	0.455	4.5	4.955	1,360	4.955	1,360
12/31/2016	32.6	0.161	2.8	2.961	805	2.961	805
1/31/2017	32.4	3.5	3.9	7.4	2,000	7.4	2,000
2/28/2017	32	1.609	6.15	7.759	2,071	7.759	2,071
3/31/2017	31.8	2.27	5.8	8.07	2,140	8.07	2,140
4/30/2017	32.3	3.151	2.2	5.351	1,441	5.351	1,441
5/31/2017	32.8	3.363	3.4	6.763	1,850	6.763	1,850
6/30/2017	33.4	3.51	2.9	6.41	1,786	6.41	1,786
7/31/2017	34.1	3.496	2.8	6.296	1,791	6.296	1,791

EXHIBIT V

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
8/31/2017	34.3	2.787	3.4	6.187	1,770	6.187	1,770
9/30/2017	34.4	2.98	3.4	6.38	1,830	6.38	1,830
10/31/2017	34.9	4.359	3.4	7.759	2,258	7.759	2,258
11/30/2017	35.4	3.62	5.6	9.22	2,722	9.22	2,722
12/31/2017	35.4	3.4	2.61	6.01	1,774	6.01	1,774

Outliers omitted

Attachment A

Springfield Regional Waste Water Treatment Facility Total Nitrogen (2007-2017)

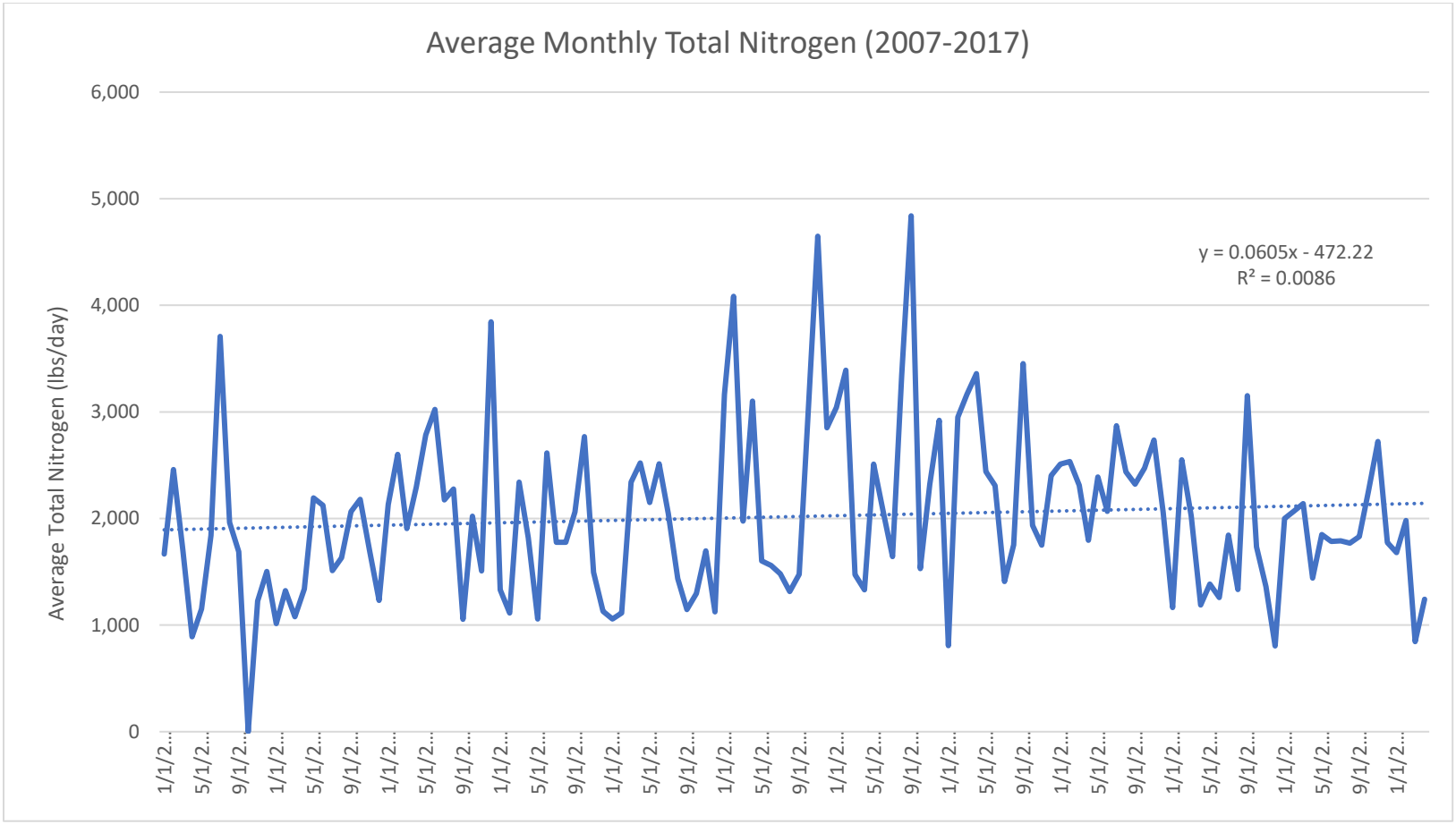

EXHIBIT V

Attachment A

Springfield Regional Waste Water Treatment Facility Annual Average Total Nitrogen (2007-2017)