Nutrient Source Identification Report
Town of Canton

Prepared By: Neponset River Watershed Association
June 10, 2021

This report is being submitted as a final grant deliverable for the MS4 Municipal Assistance Grant Program. This specific submission is not intended for regulatory compliance purposes.

Acknowledgements

This is one among twenty Nutrient Source Identification Reports prepared by the Neponset River Watershed Association (NepRWA) and the Pioneer Valley Planning Commission (PVPC). These reports are meant to provide MS4 permitted municipalities with documents they can finalize and submit to U.S. EPA as part of their Year 4 reporting requirements.

This work is made possible through a grant from the MassDEP Municipal Assistance Program. Project staff from NepRWA and PVPC appreciate the conversation and feedback provided by MassDEP and U.S. EPA staff in working through methodology to prepare these reports. Aside from producing nutrient source identification reports for 20 communities, this project also resulted in the following: lake-pond phosphorous control plan Year 4 submission requirements for two communities; documentation of approach and methods for use by other MS4 permittees across MA in meeting these Year 4 requirements; and setting of the stage for upgrading existing stormwater infrastructure in key high pollutant loading catchments.

NepRWA and PVPC staff are grateful also to the partner communities who joined them in this pilot project. Following is a list of cities and towns who participated in this project:

Agawam
Canton
Dedham
Foxborough
Granby
Longmeadow
Ludlow
Medfield
Milton
Northampton
Quincy
Randolph
Sharon
South Hadley
Southampton
Southwick
Stoughton
Westfield
Westwood
Wilbraham

Background: The Nutrient Pollution Problem

Nitrogen and phosphorous are naturally occurring plant fertilizers or "nutrients." When land is developed, and storm drain systems are installed, the amount of nitrogen and phosphorous discharged to local streams, ponds and wetlands increases significantly relative to natural stream conditions. In the urban environment, nitrogen and phosphorous come from a variety of sources including organic debris such as fallen leaves, animal and pet waste, lawn and agricultural fertilizers, malfunctioning sewers and septic systems, and atmospheric deposition from car exhaust, among other sources.

Some of these sources also occur in the natural environment. However, in the urban environment the prevalence of paved and impervious areas coupled with the availability of storm drain collection systems allows street runoff containing excess nutrient pollution to be very quickly collected and conveyed to the nearest waterbody, generally with little or no treatment—bypassing the natural processes such as soil filtration and infiltration that would capture and recycle nutrients before they reached waterways in an undeveloped landscape.

As a result, nutrient pollution from polluted stormwater runoff has become a major source of pollution across the country. Nutrient pollution increases undesirable plant and algae growth in waterways, which can be highly toxic to humans and wildlife and reduce oxygen levels in the water. This, in turn, impedes recreation and creates chronic challenges for aquatic life, sometimes leading to fish kills. In freshwater waterways phosphorous is generally the primary pollutant of concern, while nitrogen becomes the primary concern once freshwater rivers flow into saltwater estuaries and bays.

Background: Regulatory Context

Under the federal and state clean water acts, the Massachusetts Department of Environmental Protection (MassDEP) is charged with establishing water quality standards and determining whether waterways meet these designated standards. MassDEP publishes its Integrated List of Waters, also referred to at the 303d Impaired Waters List, identifying waters that do not meet standards. These waterways are referred to as being "impaired" or "water quality limited" based on one or more causes which may include nitrogen, phosphorous, "nutrient/eutrophication biological indicators" or in some cases turbidity or transparency. MassDEP is also charged with preparing waterbody-specific cleanup plans for nutrient pollution known as Total Maximum Daily Loads or TMDLs, though these are yet to be prepared for many impaired waterways.

The Town of Canton ("the Town") is subject to the requirements of US Environmental Protection Agency's (EPA's) 2016 Massachusetts Small MS4 General Permit. One of the requirements of this permit is that communities discharging stormwater to waterways that are listed by MassDEP as impaired for phosphorous or nitrogen, or that flow into impaired waterways, and for which a total maximum daily load does not exist, shall prepare a Nutrient Source Identification Report as detailed in Appendix H of the permit. This report has been developed to satisfy this requirement of the permit.

The nutrient source identification report must be submitted with the permit year 4 annual report (year ending June 30, 2022 and report due late September 2022). The requirements include (excerpt from EPA 2016 MS4 Permit Appendix H):

1. Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6;
2. All screening and monitoring results pursuant to part 2.3.4.7.b., targeting the receiving water segment(s);
3. Impervious area and DCIA for the target catchment;
4. Identification, delineation and prioritization of potential catchments with high [*nitrogen and/or phosphorous*] loading;
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment.

MS4 Permit Appendix H Applicability

The Town lies almost entirely within the Neponset River Watershed. Of the 14 receiving waters identified in the Town's Notice of Intent, two have been identified as specifically impaired for phosphorus. In some cases, the Town's receiving waters also flow into another water body that is impaired for phosphorous, or waters that are listed as impaired for a cause in which phosphorous pollution is a factor such as dissolved oxygen, or eutrophication biological indicators.

The saltwater portion of the Neponset River, known as the Neponset River Estuary, is not specifically listed as impaired for nitrogen by MassDEP, but is listed as impaired for several other factors for which nitrogen pollution is a contributing factor. Furthermore, EPA has directed the City of Quincy to prepare a nutrient source identification report for nitrogen based on its stormwater discharges to the Neponset River. While EPA has not provided any clear direction to other communities in the Neponset River Watershed that are upstream of the Neponset Estuary regarding the need for a nitrogen source identification report, the possibility exists that EPA may issue such a requirement in the future. In the interest of efficiency of analysis, this report also includes an analysis of nitrogen pollution loading for all communities in the Neponset River Watershed.

Therefore, this report has been prepared in accordance with the guidelines in sections I.1.b and II.1.b of Appendix H of the 2016 Massachusetts Small MS4 General Permit.

The status of receiving waters in the Town is summarized in Table 1 below.

Table 1. Receiving Waters for the Town of Canton

Receiving Water	Number of Outfalls	Impaired for P?	Impaired for N?	Other Impairments
Massapoag Brook (MA73-21)	29	Yes	No	TSS, Non-Native Aquatic Plants, Aquatic Macroinvertebrate Bioassessments

Neponset River (MA73-01)	37	Yes	No	Dissolved Oxygen, TSS, E. Coli, DDT, Excess Algal Growth, PCB in Fish Tissue, Sedimentation
Steep Hill Brook (MA73-18)	6	No	No	
Pecunit Brook (MA73-25)	19	No	No	E. Coli
Ponkapoag Pond (MA73043)	1	No	No	Eurasian Water Milfoil, Myriophyllum spicatum, Non-Native Aquatic Plants, Mercury in Fish Tissue
Ponkapoag Brook (MA73-27)	54	No	No	E. Coli, Fecal Coliform
Reservoir Pond (MA73048)	16	No	No	Non-Native Aquatic Plants, Mercury in Fish Tissue
Glen Echo Pond (MA73022)	1	No	No	Non-Native Aquatic Plants
Beaver Meadow Brook (MA73-20)	34	No	No	Dissolved Oxygen
Bolivar Pond (MA73005)	13	No	No	TSS, Non-Native Aquatic Plants
East Branch – locally known as Canton River (MA73-05)	62	No	No	Dissolved Oxygen, E. Coli, Low Flow Alterations, Aquatic Macroinvertebrate Bioassessments, DDT, Fecal Coliform, PCB in Fish Tissue, Water Temperature
Forge Pond (MA73020)	12	No	No	TSS
Pequid Brook (MA73-22)	52	No	No	Dissolved Oxygen
York Brook	5	No	No	

Data Sources and Analytical Methods

Several existing datasets were used to complete this work. Table 2 below lists the utilized data sets and their origin.

Table 2. Data Sources

Existing Data Set	Origin	Date Published/Updated	Link
2016 Land Cover/Land Use	MassGIS	May 2019	https://docs.digital.mass.gov/dataset/massgis-data-2016-land-coverland-use
Soil Survey Geographic (SSURGO) Database for Norfolk and Suffolk Counties, Massachusetts	USDA	June 2020	Downloaded through Web Soil Survey (https://websoilsurvey.sc.ego

			v.usda.gov/App/HomePage.htm). Hydrologic soil groups extracted using Soil Data Viewer Version 6.1 (https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcs142p2_053619)
Town Catchments	Town GIS Files	Current as of the publishing of this report	N/A
Massachusetts Land Parcel Database (Metro Boston Region)	MAPC	May 2019	Used to locate SCM opportunities, this shapefile contains the "Parloc_ID" field used to identify parcels. https://datacommon.mapc.org/browser/datasets/360

Impervious area is the portion of the Town that is paved, covered by buildings, or otherwise rendered unable to absorb water naturally due to development. Impervious area for the town was calculated using the MassGIS 2016 Land Cover/Land Use data layer which was published in 2019. This data layer maps impervious and pervious land cover by land use type based on aerial photography and other data sources. This was overlaid with the Town's data layer for outfall catchment areas (the area draining to each town-owned stormwater discharge point) to estimate total areas and total impervious area discharging to or upstream of nutrient-impaired waterways, as well as to estimate impervious area for each stormwater outfall catchment.

Directly connected impervious area (DCIA), also referred to as "effective impervious cover," is the amount of impervious area that is directly connected to the storm drain system. Most land in the Town was developed before the creation of modern requirements to capture, clean, slow down, and recharge stormwater runoff using stormwater control measures (SCMs). However, many new development and redevelopment projects constructed in recent years have required the installation or upgrade of SCMs, such that today some properties have no SCMs, some have SCMs that meet some modern standards, and some have SCMs that are fully compliant with modern standards. Because site-specific information about the existence of specific SCMs is not available at the parcel level, an estimate of DCIA or effective impervious cover is used to approximate the average level of SCMs installed across the watershed. Estimating DCIA can yield a more specific pollutant loading estimate for a given area. DCIA was estimated based on land use categories following EPA guidance.

To estimate the pollutant loads for nitrogen and/or phosphorous in each catchment, estimated pollutant loading rates for different combinations of land use type, land cover type, and soil type were applied in accordance with guidance in the EPA 2016 MS4 Permit. The individual

loading rates for these unique subsections were summed based on catchment, which produced an overall estimated catchment pollutant loading rate.

For a more detailed description of the analytical methods used for this project, please refer to the supplement to this report, entitled "Nutrient Source Identification Report Addendum: Methods."

Total Area Draining to Water Quality Limited Segments (or Tributaries)

The total area of the Town is approximately 12,461 acres. Since the Town is nearly entirely in the Neponset River Watershed and drainage flows either directly to waters that are impaired for phosphorus or waters that are listed as impaired for a cause in which phosphorous pollution is a factor, this report included all areas of the town in the evaluation. There is a small exception for approximately 275 acres of the Town which is in the Weymouth & Weir Watershed, but the Town does not maintain any outfalls in this area. Table 3 below shows how much of the Town is located in each watershed.

Similarly, the entire town is upstream of the Neponset Estuary and therefore drains to a segment that EPA may consider impaired for nitrogen. While EPA has not provided clear guidance indicating that the Town is subject to the requirements of Appendix H of the 2016 MS4 permit for nitrogen, this report includes the analysis for nitrogen so that the relevant data is available should EPA make such a determination in the future. Therefore, catchments located in the Neponset River Watershed were included in the nitrogen loading analysis sections of this report.

Table 3. Summary of Area Draining to Water Quality Limited Segments

Receiving Water Impaired for Phosphorus	Neponset Watershed	Weymouth & Weir	Total
Total Area of Town (Acres)	12,186	275	12,461
Area Draining to Phosphorous Impaired Waters or Potentially Impaired Waters	12,186	0	12,186
Area Draining to Nitrogen Impaired or Potentially Impaired Waters	12,186	0	12,186

Impervious Area and Directly Connected Impervious Area

Table 4 below summarizes the total impervious area (IA) and estimated DCIA in the Town. It is also important to note that most of the impervious area in the Town is not owned or maintained by the Town, but by private parties or other public agencies.

Table 4. Summary of Impervious Area and DCIA

	Acres
Total Impervious Area in Town	2,094
Total Estimated DCIA in Town	232

Table A-1 in Appendix A of this report provides impervious area and estimates of DCIA for all storm drain outfall catchments in the Town. Table 5 below shows the same information for the ten catchments with the most impervious area. The catchments are labeled using the Town's identifier for the outfall to which they drain. The table is sorted in descending order of total impervious area.

Table 5. Total Impervious Area and DCIA for the Ten Most Impervious Catchments

Catchment Identifier	Impervious Area (Acres)	Percent Impervious	DCIA (Acres)	Percent DCIA
OUT_166	33.38	25.94 %	11.10	8.62 %
OUT_197	32.91	77.79 %	19.49	46.06 %
OUT_071	26.17	25.04 %	3.95	3.78 %
OUT_480	21.91	46.81 %	8.22	17.57 %
OUT_243	20.89	47.72 %	7.94	18.14 %
OUT_020	20.54	32.82 %	5.72	9.15 %
OUT_150	20.13	28.70 %	3.75	5.34 %
OUT_026	19.12	24.94 %	5.09	6.63 %
OUT_681	16.69	54.58 %	8.97	29.34 %
OUT_851	15.36	60.97 %	4.87	19.32 %
Top 10 Catchments as a % of Total	41.28 %		44.25 %	

Estimated Nutrient Loading from Catchments

Using the methods described in the addendum to this report, estimates of phosphorus and nitrogen loading potential were created for each of the Town's storm drain outfall catchments.

Tables B-1 in Appendix B and C-1 in Appendix C of this report shows calculated phosphorus and nitrogen loading estimates, respectively, for all catchments in the Town. Tables 6 and 7 below show the five catchments with the highest estimated phosphorus and nitrogen loading, respectively.

Table 6. Estimated Phosphorus Loading for Five Highest-Load Catchments

Catchment Identifier	Estimated P Load (Lbs/Yr)
OUT_166	76.02
OUT_071	65.95
OUT_197	59.98
OUT_026	49.80
OUT_150	49.02
Top 5 as a % of Total Town Load	24.06 %

Table 7. Estimated Nitrogen Loading for Five Highest-Load Catchments

Catchment Identifier	Estimated N Load (Lbs/Yr)
OUT_071	556.69
OUT_166	547.56
OUT_197	480.63
OUT_026	415.49
OUT_150	383.90
Top 5 as a % of Total Town Load	24.08 %

Note these are estimated loadings based on soil type, land use and estimated DCIA (e.g. typical level of SCMs in town). Actual loading may vary considerably from site to site depending on what SCMs are actually present, and regional studies such as the Charles River Phosphorous TMDL have indicated that the default DCIA assumptions used by EPA are somewhat optimistic, such that actual loading rates may be higher. However, these estimates provide a valuable guide to help identify those areas of the Town that should be the highest priorities for interventions to begin reducing pollutant loading.

Outfall Screening Monitoring Results

As of the writing of this report, outfall screening results are not available. Once they become available, they will be discussed in this section and the findings shall be incorporated into the determination of the highest priority catchments with respect to phosphorus and nitrogen loading. When completed, outfall screening data will be added to Appendix F of this report.

Catchment Prioritization

Since no outfall screening data are currently available to improve projections, this report is prioritizing the catchments based solely on the phosphorus and nitrogen loading estimates, in the order shown in Tables B-1 (phosphorus) and C-1 (nitrogen). When outfall screening data become available, the list of catchments should be re-examined and the "Top 5" list should be updated based on these real-world data.

Potential Retrofit Opportunities

Town parcels were examined for potential BMP retrofit opportunities using the Neponset Stormwater Partnership's BMP Tool (NSP BMP Tool). This tool analyzes soil data, estimated pollutant loading, and various limitations of each parcel in Town to determine the locations most suitable for further field assessment of SCM opportunities to reduce chosen pollutants.

The NSP BMP Tool uses slightly different methods to estimate pollutant loading than are utilized in this report so estimated loading rates will differ. However, this does not diminish the utility of the NSP BMP Tool as a means to help identify potential retrofit sites, especially given additional features that are incorporated into the Tool.

After assessing the data, each high-loading catchment was reviewed for potential SCM sites. Five parcels were chosen and are listed in Tables 8 and 9 below. All parcels in these lists are Town-owned, as town-owned properties often present the fewest barriers to SCM development. These sites should be visited first when performing reconnaissance work to locate SCMs that will reduce nutrient loading in the town. Additionally, it should be noted that the NSP BMP Tool does not rank rights-of-way as Town-owned, but they are often highly desirable sites for SCMs. All rights-of-way, particularly in the high-loading catchments, should be considered in addition to individual parcels. Note: "Parloc_ID" is an attribute from the MAPC parcel data set that may be helpful in identifying the indicated parcels.

More extensive lists of Town-owned properties to be considered for SCM development is included in Appendix D and E. In these lists, they are ranked by the BMP Tool's priority score, which projects each parcel's pollutant load and considers how suited that parcel is for SCM's designed to remove the targeted pollutant. Appendix D ranks parcels for phosphorus removal and Appendix E ranks them for nitrogen removal. The larger lists in these appendices should be considered a more comprehensive collection of the parcels that should be considered first for

SCM development. As Town-owned parcels are evaluated, the Town should begin considering privately-owned parcels, as well, using the NSP BMP Tool as a guide.

Table 8. High-Priority Parcels to be Considered for SCM Development for Phosphorus Pollution

Address	Parloc_ID	Catchment	Notes
0 Tilden Rd.	F_758163_2891399	OUT_166	Park area with open space available, potentially along the perimeter of recreational areas.
0-Rear Wampatuck Dr.	F_758311_2884108	OUT_150	Large wooded parcel in residential area.
0 Turnpike St.	F_759512_2891669	OUT_166	Wooded/open space located in high priority catchment.
900 Washington St.	F_752338_2884645	OUT_071	Canton High School. Large amount of space partially in a high-priority catchment.
0 Grand St.	F_748599_2880985	OUT_251	Three adjacent wooded parcels located in a residential area. Catchment is not higher-loading, but parcels are projected as highly desirable for phosphorus-removing SCMs.
All Rights-Of-Way in Priority Catchments	N/A	All	N/A

Table 9. High-Priority Parcels to be Considered for SCM Development for Nitrogen Pollution

Address	Parloc_ID	Catchment	Notes
500 Pleasant St.	F_756324_2883787	OUT_150	Small municipal building with some green space and a large parking area.
0 Tilden Rd.	F_758163_2891399	OUT_166	Park area with open space available, potentially along the perimeter of recreational areas.
900 Washington St.	F_752338_2884645	OUT_071	Canton High School. Large amount of space partially in a high-priority catchment.
0 Turnpike St.	F_759512_2891669	OUT_166	Large wooded parcel in residential area.
0-Rear Wampatuck Dr.	F_758311_2884108	OUT_150	Large wooded parcel in residential area.
All Rights-Of-Way in Priority Catchments	N/A	All	N/A

These results provide a valuable starting point for the next phase of requirements in Appendix H of the 2016 MS4 Permit which are due by the end of permit year 5 (6/30/2023), which include:

- “Evaluate all permittee-owned properties identified as presenting retrofit opportunities”,
- “Provide a listing of planned structural BMPs and a plan and schedule for implementation”, and
- “Any structural BMPs installed…by the permittee…shall be tracked and the permittee shall estimate the phosphorus removal by the BMP.”

Appendix A: Impervious/DCIA Summary by Catchment

Table A-1. Impervious and DCIA Amounts for All Catchments, Sorted by Impervious Area

OUTLET	Impervious Area (Acre)	Percent Impervious	DCIA (Acre)	Percent DCIA
OUT_166	33.38	25.94	11.10	8.62
OUT_197	32.91	77.79	19.49	46.06
OUT_071	26.17	25.04	3.95	3.78
OUT_480	21.91	46.81	8.22	17.57
OUT_243	20.89	47.72	7.94	18.14
OUT_020	20.54	32.82	5.72	9.15
OUT_150	20.13	28.70	3.75	5.34
OUT_026	19.12	24.94	5.09	6.63
OUT_681	16.69	54.58	8.97	29.34
OUT_851	15.36	60.97	4.87	19.32
OUT_249	14.47	29.06	3.16	6.35
OUT_008	12.16	29.89	3.23	7.93
OUT_836	11.80	31.34	3.20	8.49
OUT_110	11.31	38.01	4.33	14.56
OUT_764	11.17	24.11	3.60	7.77
OUT_001	11.15	18.34	1.98	3.25
OUT_168	8.29	16.84	1.39	2.83
OUT_119	7.95	19.32	2.21	5.37
OUT_281	7.18	19.04	1.33	3.53
OUT_822	6.99	26.59	1.58	6.01
OUT_728	6.89	57.13	2.94	24.41
OUT_408	6.23	56.70	2.16	19.62
OUT_746	6.23	56.75	2.16	19.66
OUT_421	6.07	31.10	1.42	7.27
OUT_248	5.73	15.98	0.96	2.68
OUT_460	5.59	52.09	1.48	13.76
OUT_010	5.51	31.80	1.39	8.02
OUT_617	5.40	31.46	1.67	9.76
OUT_118	5.31	27.88	1.82	9.55

OUT_165	5.04	31.33	1.61	9.98
OUT_173	5.03	29.92	1.81	10.78
OUT_474	5.02	65.16	2.44	31.60
OUT_005	4.80	23.96	1.03	5.15
OUT_921	4.79	51.47	2.10	22.57
OUT_250	4.45	19.74	1.38	6.12
OUT_610	4.40	23.61	1.47	7.90
OUT_236	4.14	28.43	1.29	8.89
OUT_087	4.07	25.31	0.99	6.17
OUT_231	4.00	27.91	1.45	10.11
OUT_044	3.88	33.49	1.48	12.73
OUT_855	3.88	33.25	1.35	11.55
OUT_742	3.85	35.57	1.55	14.30
OUT_134	3.80	33.10	1.53	13.30
OUT_089	3.36	17.05	0.63	3.20
OUT_045	3.17	60.27	1.26	23.99
OUT_530	3.04	26.23	1.19	10.23
OUT_048	3.02	40.94	0.93	12.63
OUT_268	2.99	16.23	0.65	3.52
OUT_116	2.98	21.30	0.77	5.48
OUT_113	2.95	29.02	0.90	8.90
OUT_255	2.77	15.89	0.52	2.96
OUT_117	2.63	38.51	1.09	15.89
OUT_251	2.56	4.88	0.30	0.57
OUT_031	2.53	41.67	1.19	19.57
OUT_217	2.38	30.57	0.78	10.05
OUT_247	2.37	70.94	1.16	34.79
OUT_438	2.23	8.93	0.30	1.22
OUT_832	2.20	6.89	0.37	1.15
OUT_014	2.18	61.16	1.15	32.20
OUT_254	2.12	26.69	0.65	8.18
OUT_463	1.97	46.22	0.78	18.40

OUT_280	1.87	19.52	0.35	3.68
OUT_685	1.85	34.60	0.75	13.99
OUT_762	1.83	63.40	0.87	30.18
OUT_814	1.78	65.47	0.89	32.63
OUT_682	1.71	31.20	0.73	13.24
OUT_102	1.67	47.37	0.80	22.55
OUT_123	1.56	9.00	0.25	1.46
OUT_046	1.55	29.41	0.43	8.16
OUT_741	1.48	10.47	0.32	2.24
OUT_418	1.45	17.22	0.36	4.33
OUT_607	1.44	20.18	0.28	3.89
OUT_241	1.44	22.92	0.44	7.02
OUT_520	1.32	16.94	0.24	3.14
OUT_007	1.28	32.89	0.53	13.63
OUT_112	1.28	34.99	0.39	10.69
OUT_901	1.25	18.04	0.37	5.28
OUT_240	1.22	48.83	0.49	19.45
OUT_275	1.22	22.02	0.45	8.10
OUT_723	1.20	38.56	0.32	10.39
OUT_482	1.18	30.63	0.47	12.07
OUT_012	1.09	30.53	0.36	10.17
OUT_300	1.01	93.19	0.90	83.09
OUT_838	0.99	24.06	0.36	8.66
OUT_259	0.99	40.54	0.32	13.11
OUT_769	0.93	47.37	0.45	23.07
OUT_095	0.92	23.76	0.24	6.25
OUT_101	0.91	26.67	0.29	8.38
OUT_710	0.89	29.20	0.24	7.73
OUT_133	0.87	34.88	0.36	14.52
OUT_132	0.86	41.46	0.39	18.68
OUT_121	0.81	34.53	0.26	10.87
OUT_174	0.72	35.09	0.29	13.99

OUT_416	0.72	16.13	0.18	4.07
OUT_668	0.71	8.94	0.11	1.39
OUT_778	0.69	17.77	0.23	5.84
OUT_856	0.68	41.68	0.25	15.15
OUT_522	0.66	55.29	0.42	34.89
OUT_016	0.65	30.39	0.23	10.78
OUT_513	0.63	37.25	0.31	18.63
OUT_733	0.61	17.14	0.11	3.20
OUT_853	0.60	9.59	0.10	1.55
OUT_919	0.59	41.59	0.29	20.55
OUT_232	0.57	40.40	0.26	18.20
OUT_743	0.57	77.67	0.36	49.35
OUT_122	0.56	38.21	0.19	12.89
OUT_729	0.55	27.48	0.20	10.22
OUT_829	0.54	81.04	0.35	51.55
OUT_932	0.54	18.03	0.17	5.65
OUT_745	0.49	45.63	0.22	20.55
OUT_771	0.49	63.99	0.28	36.27
OUT_854	0.47	25.50	0.14	7.50
OUT_233	0.45	22.12	0.17	8.37
OUT_940	0.45	99.81	0.33	72.24
OUT_009	0.45	34.94	0.19	14.50
OUT_419	0.38	21.84	0.11	6.22
OUT_092	0.37	31.61	0.12	10.01
OUT_294	0.37	34.22	0.16	14.92
OUT_304	0.36	23.11	0.12	7.74
OUT_462	0.35	36.76	0.13	13.46
OUT_702	0.34	16.28	0.07	3.56
OUT_088	0.33	17.14	0.09	4.41
OUT_731	0.33	4.03	0.05	0.59
OUT_738	0.31	16.09	0.08	4.30
OUT_054	0.29	30.67	0.11	12.07

OUT_740	0.23	90.55	0.15	62.16
OUT_030	0.21	56.42	0.14	36.30
OUT_755	0.19	53.82	0.13	35.86
OUT_299	0.18	86.82	0.12	55.39
OUT_289	0.17	10.25	0.04	2.38
OUT_701	0.17	96.90	0.11	63.92
OUT_939	0.16	29.70	0.06	11.54
OUT_467	0.15	65.43	0.12	52.70
OUT_686	0.13	25.11	0.04	7.55
OUT_941	0.13	20.93	0.04	6.96
OUT_937	0.12	11.30	0.03	2.34
OUT_857	0.10	95.36	0.08	71.40
OUT_858	0.10	39.96	0.03	13.29
OUT_015	0.09	48.08	0.06	32.27
OUT_060	0.06	47.42	0.03	23.81
OUT_684	0.06	100.00	0.05	75.93
OUT_823	0.05	6.16	0.01	1.48
OUT_029	0.03	90.96	0.03	82.93
OUT_739	0.02	0.42	0.00	0.02
OUT_683	0.01	100.00	0.01	99.82
OUT_035	0.00	10.28	0.00	3.17
OUT_452	0.00	0.00	0.00	0.00
OUT_917	0.00	0.00	0.00	0.00

Appendix B: Estimated Phosphorus Loading Summary by Catchment

Table B-1. Estimated Phosphorus Loading for All Catchments

OUTLET	Estimated P Load (Lbs/Yr)
OUT_166	76.02
OUT_071	65.95
OUT_197	59.98
OUT_026	49.80
OUT_150	49.02
OUT_020	44.31
OUT_480	42.06
OUT_243	40.37
OUT_681	34.82
OUT_249	32.33
OUT_851	31.07
OUT_001	29.16
OUT_764	27.74
OUT_008	26.08
OUT_836	25.43
OUT_110	24.84
OUT_168	23.75
OUT_119	20.88
OUT_248	18.43
OUT_281	17.01
OUT_822	15.16
OUT_728	13.86
OUT_421	13.80
OUT_250	13.14
OUT_408	12.69
OUT_746	12.68
OUT_231	11.52
OUT_005	11.19
OUT_010	11.18
OUT_118	11.03
OUT_617	10.75
OUT_236	10.69
OUT_089	10.57
OUT_460	10.46
OUT_251	10.13
OUT_173	9.91
OUT_165	9.81
OUT_921	9.42
OUT_474	9.26
OUT_610	9.04
OUT_438	9.03
OUT_832	8.88
OUT_087	8.81
OUT_044	8.60
OUT_255	8.54
OUT_116	8.44
OUT_268	8.32
OUT_855	7.95
OUT_742	7.63
OUT_113	7.47
OUT_134	7.34
OUT_530	7.28
OUT_123	6.81
OUT_045	6.48
OUT_048	6.27
OUT_280	5.67
OUT_031	5.55
OUT_117	5.45
OUT_217	4.64
OUT_247	4.54
OUT_014	4.45

OUT_741	4.36
OUT_682	4.33
OUT_254	4.31
OUT_463	4.29
OUT_685	4.12
OUT_275	3.72
OUT_520	3.60
OUT_607	3.54
OUT_762	3.46
OUT_814	3.35
OUT_046	3.35
OUT_241	3.34
OUT_102	3.29
OUT_418	3.08
OUT_112	3.01
OUT_838	2.80
OUT_240	2.75
OUT_901	2.59
OUT_007	2.51
OUT_723	2.50
OUT_482	2.30
OUT_259	2.26
OUT_710	2.23
OUT_095	2.21
OUT_668	2.21
OUT_101	2.20
OUT_012	2.15
OUT_416	2.05
OUT_121	1.94
OUT_300	1.82
OUT_853	1.82
OUT_769	1.76

OUT_733	1.74
OUT_133	1.73
OUT_174	1.72
OUT_016	1.71
OUT_778	1.68
OUT_132	1.67
OUT_739	1.50
OUT_232	1.36
OUT_856	1.36
OUT_122	1.35
OUT_729	1.32
OUT_522	1.26
OUT_932	1.25
OUT_919	1.24
OUT_513	1.20
OUT_854	1.18
OUT_731	1.15
OUT_743	1.07
OUT_702	1.04
OUT_233	1.02
OUT_745	0.99
OUT_092	0.98
OUT_829	0.97
OUT_771	0.93
OUT_304	0.90
OUT_009	0.88
OUT_419	0.83
OUT_940	0.80
OUT_738	0.78
OUT_088	0.73
OUT_462	0.72
OUT_294	0.70

OUT_054	0.54
OUT_289	0.51
OUT_740	0.40
OUT_937	0.39
OUT_030	0.38
OUT_755	0.36
OUT_299	0.33
OUT_686	0.33
OUT_939	0.31
OUT_701	0.30
OUT_941	0.30
OUT_467	0.28

OUT_823	0.22
OUT_452	0.22
OUT_858	0.21
OUT_857	0.18
OUT_015	0.18
OUT_060	0.14
OUT_684	0.11
OUT_029	0.06
OUT_917	0.03
OUT_683	0.02
OUT_035	0.01

Appendix C: Estimated Nitrogen Loading Summary by Catchment

Table C-1. Estimated Nitrogen Loading for All Catchments

OUTLET	Estimated N Load (Lbs/Yr)
OUT_071	556.69
OUT_166	547.56
OUT_197	480.63
OUT_026	415.49
OUT_150	383.90
OUT_020	333.04
OUT_480	329.80
OUT_243	323.88
OUT_249	263.32
OUT_001	250.95
OUT_851	243.52
OUT_681	240.46
OUT_168	221.31
OUT_764	219.75
OUT_110	204.83
OUT_008	203.25
OUT_836	195.12
OUT_119	166.61
OUT_248	160.43
OUT_281	137.42
OUT_250	117.11
OUT_728	110.44
OUT_822	109.85
OUT_421	107.33
OUT_408	104.85
OUT_746	104.76
OUT_251	96.88
OUT_236	89.65
OUT_005	89.20
OUT_231	89.03
OUT_010	85.88
OUT_460	83.05
OUT_118	81.04
OUT_617	79.63
OUT_438	75.55
OUT_165	75.21
OUT_173	74.64
OUT_921	74.61
OUT_474	73.70
OUT_832	72.77
OUT_116	72.37
OUT_268	71.42
OUT_255	70.02
OUT_087	68.91
OUT_610	66.27
OUT_089	61.99
OUT_113	61.94
OUT_044	61.28
OUT_530	59.22
OUT_855	57.32
OUT_742	56.44
OUT_134	55.89
OUT_123	54.59
OUT_048	46.53
OUT_031	46.21
OUT_045	45.50
OUT_117	41.96
OUT_280	40.59
OUT_247	36.42
OUT_682	35.46
OUT_217	35.30
OUT_014	34.78
OUT_685	34.45
OUT_741	33.22
OUT_275	33.07
OUT_254	32.42
OUT_463	32.23
OUT_520	30.58
OUT_762	28.19
OUT_607	28.02
OUT_814	27.24
OUT_241	26.63
OUT_046	25.91
OUT_112	24.59
OUT_838	24.39
OUT_102	24.12
OUT_418	22.51
OUT_240	20.29
OUT_901	19.47
OUT_723	18.78
OUT_007	18.77
OUT_710	18.03
OUT_416	18.03
OUT_259	17.77
OUT_482	17.47
OUT_101	17.23
OUT_733	16.89

OUT_095	16.45
OUT_778	16.41
OUT_012	16.12
OUT_668	15.72
OUT_300	14.47
OUT_174	14.00
OUT_853	13.81
OUT_769	13.50
OUT_121	13.31
OUT_133	12.80
OUT_132	12.47
OUT_739	12.38
OUT_016	12.31
OUT_729	11.15
OUT_919	11.07
OUT_522	10.87
OUT_856	10.77
OUT_232	10.57
OUT_932	10.43
OUT_702	10.28
OUT_731	10.10
OUT_854	10.02
OUT_513	9.14
OUT_122	9.06
OUT_233	8.32
OUT_743	8.30
OUT_829	7.80
OUT_745	7.79
OUT_771	7.52
OUT_419	6.77
OUT_009	6.60

OUT_940	6.37
OUT_738	6.30
OUT_304	6.28
OUT_462	5.77
OUT_092	5.59
OUT_294	5.37
OUT_088	5.32
OUT_054	4.28
OUT_289	4.23
OUT_740	3.18
OUT_755	3.13
OUT_030	3.03
OUT_937	2.81
OUT_686	2.80
OUT_299	2.60
OUT_941	2.46
OUT_701	2.41
OUT_939	2.37
OUT_467	2.20
OUT_823	2.07
OUT_858	1.65
OUT_452	1.47
OUT_857	1.46
OUT_015	1.34
OUT_060	1.10
OUT_684	0.89
OUT_029	0.46
OUT_917	0.34
OUT_683	0.17
OUT_035	0.04

Appendix D: Town-Owned Parcels Sorted by the NSP BMP Tool's Phosphorus Priority Ranking

Table D-1. Town-Owned Parcels Sorted by BMP Tool Priority Score for Phosphorus Removal

Address	Parloc_ID	Use Description	BMP Tool Priority Score (max score = 1)
0-REAR HIGH ST	F_747841_2878185	Municipal Vacant	1.000
100 WINDSOR WOODS LANE	F_761699_2878639	Municipal Vacant	0.985
0-REAR WARD WELL RD	F_760733_2879335	Municipal Vacant	0.981
199 INDIAN LN	F_765664_2879219	Municipal Vacant	0.981
746 TURNPIKE ST	F_762547_2883704	Municipal Vacant	0.981
0-REAR RICHARD RD	F_758283_2881237	Municipal Vacant	0.981
79 PLEASANT ST	F_754847_2886940	No Entry	0.977
0 GRAND ST	F_748809_2880804	Municipal Vacant	0.977
0 GRAND ST	F_748599_2880985	Municipal Vacant	0.977
0 ALBANY ST	F_747340_2881823	Municipal Vacant	0.977
0 REVERE ST	F_750157_2884023	Municipal Vacant	0.977
605 RANDOLPH ST	F_761695_2891422	Two/Three Family Residential	0.977
92 PLEASANT ST	F_755521_2887518	No Entry	0.977
0 FOWL MEADOW	F_745603_2884624	Municipal Vacant	0.948
0 ALBANY ST	F_747000_2882077	Municipal Vacant	0.948
0 WASHINGTON ST	F_754889_2889540	Municipal, Federal, or State	0.948
199 BOLIVAR ST	F_754301_2880147	No Entry	0.942
800 DEDHAM ST	F_749970_2895781	Municipal Vacant	0.942
19 PECUNIT ST	F_754795_2891581	Municipal, Federal, or State	0.942
40 PINE ST	F_757234_2879229	No Entry	0.938
0-REAR WAMPATUCK DR	F_758311_2884108	Municipal Vacant	0.938
5 FOREST AV	F_745735_2883263	Municipal Vacant	0.934
0 BAY ST	F_748750_2880559	Municipal Vacant	0.921
0-REAR TOLMAN ST	F_748995_2877622	Municipal Vacant	0.921
0-REAR TOLMAN ST	F_749169_2876840	Municipal Vacant	0.921
0 FOWL MEADOW	F_745846_2884277	Municipal Vacant	0.921
0 TURNPIKE ST	F_759512_2891669	Municipal Vacant	0.921
0 WATERMAN RD	F_764220_2885723	Municipal Vacant	0.921
0-REAR TOLMAN ST	F_749169_2876840	Municipal Vacant	0.921
314 WASHINGTON ST	F_750774_2878714	Municipal, Federal, or State	0.909
0 BAY ST	F_749054_2880740	Municipal Vacant	0.882
0 WATERMAN RD	F_763776_2887326	Municipal Vacant	0.882
20 INDIAN LN	F_767705_2882921	Municipal Vacant	0.882
99 TOLMAN ST	F_749278_2878502	Municipal Vacant	0.882

0 TRACY WOOD RD	F_763950_2879875	Municipal Vacant	0.882
99 PINE ST	F_756460_2878967	Municipal, Federal, or State	0.882
500 NEPONSET ST	F_747612_2883196	Municipal Vacant	0.882
35 IRVING ST	F_768040_2882870	Municipal Vacant	0.882
0-OFF CEDAR DR	F_757487_2893993	Municipal, Federal, or State	0.882
0 CULLODEN DR	F_749030_2886712	Municipal Vacant	0.882
0 WASHINGTON ST	F_759250_2897458	No Entry	0.882
0 ROUTE 95 HWY	F_750817_2896949	Municipal Vacant	0.882
0-REAR PLEASANT ST	F_757777_2880288	Municipal Vacant	0.882
0 ROUTE 95 HWY	F_750817_2896949	Municipal Vacant	0.882
1600 WASHINGTON ST	F_755977_2890929	No Entry	0.832
0 TILDEN RD	F_758163_2891399	No Entry	0.832
0 BAILEY ST	F_753306_2878407	Municipal Vacant	0.827
0 LUCE CIR REAR	F_755594_2884442	Municipal Vacant	0.827
0 PONKAPOAG AV	F_767935_2883708	Municipal Vacant	0.827
615 RANDOLPH ST	F_761911_2891391	Municipal Vacant	0.827
0-REAR HIGH ST	F_747821_2879941	Municipal Vacant	0.817
18 WILLIAMS ST	F_756007_2887564	Single family residence	0.817
0-REAR WASHINGTON ST	F_750907_2876871	Municipal Vacant	0.817
205 YORK ST	F_765429_2889117	Municipal Vacant	0.817
50 KENNEY ST	F_757347_2891473	Municipal Vacant	0.817
81 PEQUIT ST	F_753593_2883243	Municipal, Federal, or State	0.807
0 INDIAN LN	F_767396_2882957	Municipal Vacant	0.807
68 PEQUIT ST	F_753713_2883678	Municipal, Federal, or State	0.807
45 IRVING ST	F_768096_2882675	Municipal Vacant	0.807
89-R HIGHLAND ST	F_750208_2877167	Municipal Vacant	0.790
0 BARTLETT ST	F_767340_2882183	Municipal Vacant	0.790
84 PEQUIT ST	F_753813_2883273	Municipal, Federal, or State	0.790
0 MESSINGER ST	F_751877_2878235	Municipal Vacant	0.790
0-REAR MESSINGER ST	F_752477_2878773	Municipal Vacant	0.790
0 BAILEY ST	F_752503_2878489	Municipal Vacant	0.790
0 IRVING ST	F_768214_2882396	Municipal Vacant	0.790
0 IRVING ST	F_768323_2882531	Municipal Vacant	0.790
0 RUBIN CT	F_749895_2877607	Municipal, Federal, or State	0.769

1-12 BRAYTON CIR	F_758765_2890281	Municipal, Federal, or State	0.769
0 MASSASOIT ST	F_768060_2882208	Municipal Vacant	0.758
110 WATERMAN RD	F_765036_2887451	Municipal Vacant	0.758
0-REAR TURNPIKE ST	F_762060_2885467	Municipal Vacant	0.706
67-R HIGHLAND ST	F_750012_2878232	Municipal Vacant	0.706
236 WASHINGTON ST	F_751189_2878051	Municipal Vacant	0.706
60 PEQUIT ST	F_753611_2883871	Municipal, Federal, or State	0.706
0 GLEN RD	F_766945_2881626	Municipal Vacant	0.706
0 MANITOU PK	F_768137_2882067	Municipal Vacant	0.706
0 CLIFF RD	F_767528_2881742	Municipal Vacant	0.706
0 LAKE RD	F_767456_2881926	Municipal Vacant	0.706
0 CEDAR DR	F_757616_2894267	Municipal Vacant	0.706
0 CEDAR DR	F_757381_2894460	Municipal Vacant	0.706
0-REAR NEPONSET ST	F_746184_2886113	Municipal Vacant	0.706
0 KING PHILIP ST	F_767630_2882355	Municipal Vacant	0.653
0 MESSINGER ST	F_751930_2878646	Municipal Vacant	0.653
0 MASSASOIT ST	F_767850_2882149	Municipal Vacant	0.653
0 KING PHILIP ST	F_767762_2882133	Municipal Vacant	0.649
0 MESSINGER ST	F_751805_2878331	Municipal Vacant	0.649
0 MESSINGER ST	F_751950_2878550	Municipal Vacant	0.649
0 MANITOU PK	F_768214_2882099	Municipal Vacant	0.649
0-REAR DEDHAM ST	F_750146_2896969	Residential vacant	0.649
0 FOWL MEADOW	F_744034_2885238	Residential vacant	0.643
30 NORTH ST	F_756943_2878018	Commercial	0.643
0 WATERMAN RD	F_763553_2887441	Municipal Vacant	0.643
0 GREENWOOD RD	F_753445_2876968	Municipal Vacant	0.643
0 ANGELA ST	F_757104_2882687	Municipal Vacant	0.643
100 WATERMAN RD	F_764856_2886919	Municipal Vacant	0.643
0 WASHINGTON ST	F_756164_2889579	No Entry	0.643
0 YORK ST	F_765607_2888003	Municipal Vacant	0.643
0 YORK ST	F_763361_2886988	Municipal Vacant	0.643
0 GREENWOOD RD	F_753445_2876968	Municipal Vacant	0.643
72 PEQUIT ST	F_753732_2883577	Municipal, Federal, or State	0.623
80 PEQUIT ST	F_753768_2883381	Municipal, Federal, or State	0.623
64 PEQUIT ST	F_753690_2883786	Municipal, Federal, or State	0.623
76 PEQUIT ST	F_753749_2883479	Municipal, Federal, or State	0.623
73 PEQUIT ST	F_753544_2883440	Municipal, Federal, or State	0.623

77 PEQUIT ST	F_753564_2883343	Municipal, Federal, or State	0.623
0 YORK ST	F_767106_2886904	Municipal Vacant	0.623
0 FOWL MEADOW	F_745321_2883916	Municipal Vacant	0.585
0-REAR EVERETT ST	F_748611_2886165	Municipal Vacant	0.581
0 MASSASOIT ST	F_767733_2882006	Municipal Vacant	0.564
0 MASSASOIT ST	F_767765_2881986	Municipal Vacant	0.564
1492 WASHINGTON ST	F_755195_2889052	Municipal, Federal, or State	0.564
900 WASHINGTON ST	F_752338_2884645	Municipal, Federal, or State	0.564
1699 WASHINGTON ST	F_757282_2891360	Municipal Vacant	0.513
0 MESSINGER ST	F_751717_2878461	Municipal Vacant	0.513
17 ELIZABETH ST	F_756916_2882904	Municipal Vacant	0.513
0 FOWL MEADOW	F_744104_2885256	Municipal Vacant	0.513
15 CONCORD AV	F_750440_2881091	Municipal, Federal, or State	0.509
61 PEQUIT ST	F_753498_2883732	Municipal, Federal, or State	0.509
65 PEQUIT ST	F_753509_2883635	Municipal, Federal, or State	0.509
69 PEQUIT ST	F_753525_2883538	Municipal, Federal, or State	0.509
0 WASHINGTON ST	F_752147_2881541	Municipal Vacant	0.509
0 NEPONSET ST	F_745942_2886801	Residential vacant	0.420
0 GLEN RD	F_766696_2881576	Municipal Vacant	0.420
0 PLEASANT ST	F_757700_2879471	Municipal Vacant	0.420
287 MECHANIC ST	F_753896_2878784	Municipal Vacant	0.420
977 TURNPIKE ST	F_762743_2880050	Municipal Vacant	0.420
0 PINEDALE LN	F_757031_2894842	Municipal Vacant	0.414
0 LAKE RD	F_767237_2881893	Municipal Vacant	0.368
0 FOWL MEADOW	F_744298_2885355	Municipal, Federal, or State	0.368
20 PINE ST	F_756930_2879804	No Entry	0.353
660 WASHINGTON ST	F_752027_2881926	Municipal, Federal, or State	0.351
500 PLEASANT ST	F_756324_2883787	No Entry	0.351
45 INDEPENDENCE ST	F_755622_2883660	Municipal, Federal, or State	0.351
0 RESERVOIR PND	F_758299_2886766	No Entry	0.209
0 NEPONSET ST	F_748993_2884107	Municipal Vacant	0.208
99 REVERE ST	F_751421_2882143	Municipal, Federal, or State	0.195

100 DEDHAM ST	F_752739_2889103	Municipal, Federal, or State	0.195
2438 WASHINGTON ST	F_759254_2897709	No Entry	0.195
No Entry	F_751111_2878250	No Entry	0.195
25 NEPONSET ST	F_751372_2880818	Municipal Vacant	0.171
27 HOWARD ST	F_752044_2880422	Municipal, Federal, or State	0.171
1--10 NEWELL HAGAN CT	F_751633_2877692	Municipal, Federal, or State	0.171
160 BOLIVAR ST	F_753385_2880653	Municipal, Federal, or State	0.171
87 PINE ST	F_756447_2878439	No Entry	0.171
786 WASHINGTON ST	F_752167_2883088	No Entry	0.171
801 WASHINGTON ST	F_752592_2883200	Municipal, Federal, or State	0.171
831 WASHINGTON ST	F_752692_2883412	Municipal, Federal, or State	0.171
7 SASSAMON ST	F_759734_2894432	Municipal, Federal, or State	0.171
25 CEDAR DR	F_757839_2894081	No Entry	0.171
0 WASHINGTON ST	F_752296_2881490	Municipal Vacant	0.029
55 PECUNIT ST	F_756365_2892403	Municipal, Federal, or State	0.027
0-REAR WALPOLE ST	F_747000_2882689	Municipal Vacant	0.012
0-REAR PALMER DR	F_746584_2883263	Municipal Vacant	0.012
No Entry	F_744045_2885119	No Entry	0.011
0 NEPONSET ST	F_746315_2887754	Residential vacant	0.011
0 FOWL MEADOW	F_744787_2885809	Municipal, Federal, or State	0.011
0 NEPONSET ST	F_745835_2886665	Residential vacant	0.011
0 FOWL MEADOW	F_745583_2886237	Municipal, Federal, or State	0.011
0 FOWL MEADOW	F_745419_2886387	Residential vacant	0.011
0 FOWL MEADOW	F_745095_2885951	Municipal, Federal, or State	0.011
0 FOWL MEADOW	F_744675_2886049	Municipal, Federal, or State	0.011
No Entry	F_746460_2887162	No Entry	0.011
No Entry	F_746460_2887162	No Entry	0.011
0 BAILEY ST	F_752570_2878088	Municipal Vacant	0.009
0-REAR PLEASANT ST	F_760169_2877935	Municipal Vacant	0.009
0 YORK ST	F_765966_2890089	Municipal Vacant	0.009
0 LAKE RD	F_767229_2882020	Municipal Vacant	0.009
0 BAILEY ST	F_753044_2877899	Municipal Vacant	0.009

0 PLEASANT ST	F_759268_2883503	Municipal Vacant	0.009
0 ANGELA ST	F_757395_2883123	Municipal Vacant	0.009
0-REAR BROOKSWELD RD	F_756886_2895582	Municipal Vacant	0.009
145 YORK ST	F_764972_2889840	Municipal Vacant	0.009
197 YORK ST	F_766279_2889916	Municipal Vacant	0.009
95-R KENSINGTON DR	F_764333_2888598	Municipal Vacant	0.009
0 FOWL MEADOW	F_744430_2885503	Residential vacant	0.005
0 NEPONSET ST	F_744160_2884944	Municipal Vacant	0.005
0 FOWL MEADOW	F_746474_2883963	Municipal Vacant	0.005
487-R YORK ST	F_768805_2881709	Municipal Vacant	0.005
0 MASSASOIT ST	F_767926_2881951	Municipal Vacant	0.005
No Entry	F_744650_2886224	No Entry	0.005
No Entry	F_752150_2900448	No Entry	0.005
No Entry	F_752150_2900448	No Entry	0.005
0 FOWL MEADOW	F_744712_2885200	Municipal Vacant	0.002
0 FOWL MEADOW	F_744225_2885233	Residential vacant	0.002
0-REAR NEPONSET ST	F_744735_2885463	Municipal, Federal, or State	0.002
0-REAR NEPONSET ST	F_744564_2885330	Municipal, Federal, or State	0.002
0 FOWL MEADOW	F_746517_2883588	Municipal Vacant	0.002
0 FOWL MEADOW	F_744796_2884840	Residential vacant	0.002
0 FOWL MEADOW	F_744655_2885417	Municipal Vacant	0.002
0-REAR NEPONSET ST	F_744990_2885054	Municipal Vacant	0.000

Appendix E: Town-Owned Parcels Sorted by the NSP BMP Tool's Nitrogen Priority Ranking

Table E-1. Town-Owned Parcels Sorted by BMP Tool Priority Score for Nitrogen Removal

Address	Parloc_ID	Use Description	BMP Tool Priority Score (max score = 1)
40 PINE ST	F_757234_2879229	No Entry	0.999
199 BOLIVAR ST	F_754301_2880147	No Entry	0.993
99 PINE ST	F_756460_2878967	Municipal, Federal, or State	0.980
900 WASHINGTON ST	F_752338_2884645	Municipal, Federal, or State	0.980
79 PLEASANT ST	F_754847_2886940	No Entry	0.968
1600 WASHINGTON ST	F_755977_2890929	No Entry	0.967
19 PECUNIT ST	F_754795_2891581	Municipal, Federal, or State	0.967
0 WASHINGTON ST	F_754889_2889540	Municipal, Federal, or State	0.963
0 RUBIN CT	F_749895_2877607	Municipal, Federal, or State	0.955
660 WASHINGTON ST	F_752027_2881926	Municipal, Federal, or State	0.955
500 PLEASANT ST	F_756324_2883787	No Entry	0.955
45 INDEPENDENCE ST	F_755622_2883660	Municipal, Federal, or State	0.955
0 WASHINGTON ST	F_759250_2897458	No Entry	0.955
84 PEQUIT ST	F_753813_2883273	Municipal, Federal, or State	0.871
30 NORTH ST	F_756943_2878018	Commercial	0.859
20 PINE ST	F_756930_2879804	No Entry	0.859
314 WASHINGTON ST	F_750774_2878714	Municipal, Federal, or State	0.859
605 RANDOLPH ST	F_761695_2891422	Two/Three Family Residential	0.859
72 PEQUIT ST	F_753732_2883577	Municipal, Federal, or State	0.770
81 PEQUIT ST	F_753593_2883243	Municipal, Federal, or State	0.770
99 REVERE ST	F_751421_2882143	Municipal, Federal, or State	0.770
80 PEQUIT ST	F_753768_2883381	Municipal, Federal, or State	0.770
64 PEQUIT ST	F_753690_2883786	Municipal, Federal, or State	0.770
68 PEQUIT ST	F_753713_2883678	Municipal, Federal, or State	0.770

76 PEQUIT ST	F_753749_2883479	Municipal, Federal, or State	0.770
73 PEQUIT ST	F_753544_2883440	Municipal, Federal, or State	0.770
77 PEQUIT ST	F_753564_2883343	Municipal, Federal, or State	0.770
100 DEDHAM ST	F_752739_2889103	Municipal, Federal, or State	0.770
2438 WASHINGTON ST	F_759254_2897709	No Entry	0.770
No Entry	F_751111_2878250	No Entry	0.770
1-12 BRAYTON CIR	F_758765_2890281	Municipal, Federal, or State	0.661
1492 WASHINGTON ST	F_755195_2889052	Municipal, Federal, or State	0.661
92 PLEASANT ST	F_755521_2887518	No Entry	0.661
18 WILLIAMS ST	F_756007_2887564	Single family residence	0.531
0 TILDEN RD	F_758163_2891399	No Entry	0.530
15 CONCORD AV	F_750440_2881091	Municipal, Federal, or State	0.518
27 HOWARD ST	F_752044_2880422	Municipal, Federal, or State	0.518
1--10 NEWELL HAGAN CT	F_751633_2877692	Municipal, Federal, or State	0.518
160 BOLIVAR ST	F_753385_2880653	Municipal, Federal, or State	0.518
87 PINE ST	F_756447_2878439	No Entry	0.518
786 WASHINGTON ST	F_752167_2883088	No Entry	0.518
801 WASHINGTON ST	F_752592_2883200	Municipal, Federal, or State	0.518
60 PEQUIT ST	F_753611_2883871	Municipal, Federal, or State	0.518
61 PEQUIT ST	F_753498_2883732	Municipal, Federal, or State	0.518
65 PEQUIT ST	F_753509_2883635	Municipal, Federal, or State	0.518
69 PEQUIT ST	F_753525_2883538	Municipal, Federal, or State	0.518
831 WASHINGTON ST	F_752692_2883412	Municipal, Federal, or State	0.518
7 SASSAMON ST	F_759734_2894432	Municipal, Federal, or State	0.518
25 CEDAR DR	F_757839_2894081	No Entry	0.518
No Entry	F_744650_2886224	No Entry	0.146

55 PECUNIT ST	F_756365_2892403	Municipal, Federal, or State	0.145
0 WASHINGTON ST	F_756164_2889579	No Entry	0.141
0-REAR PLEASANT ST	F_760169_2877935	Municipal Vacant	0.103
0 YORK ST	F_765966_2890089	Municipal Vacant	0.103
0 LAKE RD	F_767229_2882020	Municipal Vacant	0.103
0 BAILEY ST	F_753044_2877899	Municipal Vacant	0.103
0 BAILEY ST	F_752570_2878088	Municipal Vacant	0.103
0 PLEASANT ST	F_759268_2883503	Municipal Vacant	0.103
0 ANGELA ST	F_757395_2883123	Municipal Vacant	0.103
0-REAR BROOKSWELD RD	F_756886_2895582	Municipal Vacant	0.103
145 YORK ST	F_764972_2889840	Municipal Vacant	0.103
197 YORK ST	F_766279_2889916	Municipal Vacant	0.103
95-R KENSINGTON DR	F_764333_2888598	Municipal Vacant	0.103
0 GLEN RD	F_766696_2881576	Municipal Vacant	0.100
0 GREENWOOD RD	F_753445_2876968	Municipal Vacant	0.100
0 PLEASANT ST	F_757700_2879471	Municipal Vacant	0.100
287 MECHANIC ST	F_753896_2878784	Municipal Vacant	0.100
100 WATERMAN RD	F_764856_2886919	Municipal Vacant	0.100
205 YORK ST	F_765429_2889117	Municipal Vacant	0.100
0-OFF CEDAR DR	F_757487_2893993	Municipal, Federal, or State	0.100
977 TURNPIKE ST	F_762743_2880050	Municipal Vacant	0.100
0 YORK ST	F_763361_2886988	Municipal Vacant	0.100
0-REAR PLEASANT ST	F_757777_2880288	Municipal Vacant	0.100
0 GREENWOOD RD	F_753445_2876968	Municipal Vacant	0.100
0-REAR TOLMAN ST	F_748995_2877622	Municipal Vacant	0.097
0-REAR TOLMAN ST	F_749169_2876840	Municipal Vacant	0.097
0 BARTLETT ST	F_767340_2882183	Municipal Vacant	0.097
0 BAILEY ST	F_752503_2878489	Municipal Vacant	0.097
0 ANGELA ST	F_757104_2882687	Municipal Vacant	0.097
0-REAR WAMPATUCK DR	F_758311_2884108	Municipal Vacant	0.097
0 TURNPIKE ST	F_759512_2891669	Municipal Vacant	0.097
0 WATERMAN RD	F_764220_2885723	Municipal Vacant	0.097
0-REAR TOLMAN ST	F_749169_2876840	Municipal Vacant	0.097
0-REAR WARD WELL RD	F_760733_2879335	Municipal Vacant	0.093
0 TRACY WOOD RD	F_763950_2879875	Municipal Vacant	0.093
0 LUCE CIR REAR	F_755594_2884442	Municipal Vacant	0.093
110 WATERMAN RD	F_765036_2887451	Municipal Vacant	0.093
0-REAR RICHARD RD	F_758283_2881237	Municipal Vacant	0.093
0-REAR EVERETT ST	F_748611_2886165	Municipal Vacant	0.089

100 WINDSOR WOODS LANE	F_761699_2878639	Municipal Vacant	0.089
0 FOWL MEADOW	F_744430_2885503	Residential vacant	0.086
0 WATERMAN RD	F_763776_2887326	Municipal Vacant	0.086
20 INDIAN LN	F_767705_2882921	Municipal Vacant	0.086
0-REAR WALPOLE ST	F_747000_2882689	Municipal Vacant	0.086
0-REAR PALMER DR	F_746584_2883263	Municipal Vacant	0.086
0 NEPONSET ST	F_744160_2884944	Municipal Vacant	0.086
0 FOWL MEADOW	F_746474_2883963	Municipal Vacant	0.086
0 IRVING ST	F_768214_2882396	Municipal Vacant	0.086
0 IRVING ST	F_768323_2882531	Municipal Vacant	0.086
No Entry	F_744045_2885119	No Entry	0.086
0 FOWL MEADOW	F_744787_2885809	Municipal, Federal, or State	0.086
0 FOWL MEADOW	F_745419_2886387	Residential vacant	0.086
0 FOWL MEADOW	F_745095_2885951	Municipal, Federal, or State	0.086
No Entry	F_752150_2900448	No Entry	0.086
No Entry	F_752150_2900448	No Entry	0.086
0 WATERMAN RD	F_763553_2887441	Municipal Vacant	0.081
0 FOWL MEADOW	F_745321_2883916	Municipal Vacant	0.081
0 YORK ST	F_765607_2888003	Municipal Vacant	0.081
0 FOWL MEADOW	F_744298_2885355	Municipal, Federal, or State	0.081
89-R HIGHLAND ST	F_750208_2877167	Municipal Vacant	0.078
0 MESSINGER ST	F_751877_2878235	Municipal Vacant	0.078
0 FOWL MEADOW	F_745846_2884277	Municipal Vacant	0.078
0-REAR NEPONSET ST	F_746184_2886113	Municipal Vacant	0.078
0 ROUTE 95 HWY	F_750817_2896949	Municipal Vacant	0.078
0 ROUTE 95 HWY	F_750817_2896949	Municipal Vacant	0.078
0 BAILEY ST	F_753306_2878407	Municipal Vacant	0.076
0 PONKAPOAG AV	F_767935_2883708	Municipal Vacant	0.076
0-REAR DEDHAM ST	F_750146_2896969	Residential vacant	0.076
0 ALBANY ST	F_747000_2882077	Municipal Vacant	0.075
99 TOLMAN ST	F_749278_2878502	Municipal Vacant	0.074
0-REAR HIGH ST	F_747841_2878185	Municipal Vacant	0.074
35 IRVING ST	F_768040_2882870	Municipal Vacant	0.074
0 CULLODEN DR	F_749030_2886712	Municipal Vacant	0.074
0 NEPONSET ST	F_746315_2887754	Residential vacant	0.074
0 NEPONSET ST	F_745835_2886665	Residential vacant	0.074
0 FOWL MEADOW	F_745583_2886237	Municipal, Federal, or State	0.074
0 FOWL MEADOW	F_744675_2886049	Municipal, Federal, or State	0.074

0 RESERVOIR PND	F_758299_2886766	No Entry	0.074
No Entry	F_746460_2887162	No Entry	0.074
No Entry	F_746460_2887162	No Entry	0.074
0-REAR WASHINGTON ST	F_750907_2876871	Municipal Vacant	0.064
0 PINEDALE LN	F_757031_2894842	Municipal Vacant	0.064
0 BAY ST	F_748750_2880559	Municipal Vacant	0.064
0 MESSINGER ST	F_751717_2878461	Municipal Vacant	0.063
17 ELIZABETH ST	F_756916_2882904	Municipal Vacant	0.063
199 INDIAN LN	F_765664_2879219	Municipal Vacant	0.062
0 MANITOU PK	F_768137_2882067	Municipal Vacant	0.062
746 TURNPIKE ST	F_762547_2883704	Municipal Vacant	0.062
800 DEDHAM ST	F_749970_2895781	Municipal Vacant	0.062
0 GRAND ST	F_748809_2880804	Municipal Vacant	0.059
0 GRAND ST	F_748599_2880985	Municipal Vacant	0.059
0 MASSASOIT ST	F_768060_2882208	Municipal Vacant	0.059
0 FOWL MEADOW	F_744712_2885200	Municipal Vacant	0.059
45 IRVING ST	F_768096_2882675	Municipal Vacant	0.059
0 REVERE ST	F_750157_2884023	Municipal Vacant	0.059
0 FOWL MEADOW	F_744225_2885233	Residential vacant	0.059
0 MESSINGER ST	F_751805_2878331	Municipal Vacant	0.053
0-REAR MESSINGER ST	F_752477_2878773	Municipal Vacant	0.053
0 FOWL MEADOW	F_746517_2883588	Municipal Vacant	0.052
0 INDIAN LN	F_767396_2882957	Municipal Vacant	0.052
0 YORK ST	F_767106_2886904	Municipal Vacant	0.052
1699 WASHINGTON ST	F_757282_2891360	Municipal Vacant	0.048
0 FOWL MEADOW	F_744104_2885256	Municipal Vacant	0.048
615 RANDOLPH ST	F_761911_2891391	Municipal Vacant	0.047
0 FOWL MEADOW	F_745603_2884624	Municipal Vacant	0.046
0 BAY ST	F_749054_2880740	Municipal Vacant	0.046
487-R YORK ST	F_768805_2881709	Municipal Vacant	0.046
0 MASSASOIT ST	F_767926_2881951	Municipal Vacant	0.046
0 ALBANY ST	F_747340_2881823	Municipal Vacant	0.046
0 LAKE RD	F_767237_2881893	Municipal Vacant	0.040
5 FOREST AV	F_745735_2883263	Municipal Vacant	0.039
0-REAR HIGH ST	F_747821_2879941	Municipal Vacant	0.039
0 MASSASOIT ST	F_767733_2882006	Municipal Vacant	0.038
0 MASSASOIT ST	F_767765_2881986	Municipal Vacant	0.038
0-REAR NEPONSET ST	F_744990_2885054	Municipal Vacant	0.037
0 KING PHILIP ST	F_767762_2882133	Municipal Vacant	0.037
0 MESSINGER ST	F_751950_2878550	Municipal Vacant	0.037

0 MANITOU PK	F_768214_2882099	Municipal Vacant	0.037
0 WASHINGTON ST	F_752296_2881490	Municipal Vacant	0.037
50 KENNEY ST	F_757347_2891473	Municipal Vacant	0.037
0 KING PHILIP ST	F_767630_2882355	Municipal Vacant	0.034
0 MESSINGER ST	F_751930_2878646	Municipal Vacant	0.034
0 MASSASOIT ST	F_767850_2882149	Municipal Vacant	0.034
0-REAR TURNPIKE ST	F_762060_2885467	Municipal Vacant	0.032
0-REAR NEPONSET ST	F_744735_2885463	Municipal, Federal, or State	0.032
0-REAR NEPONSET ST	F_744564_2885330	Municipal, Federal, or State	0.032
67-R HIGHLAND ST	F_750012_2878232	Municipal Vacant	0.032
25 NEPONSET ST	F_751372_2880818	Municipal Vacant	0.032
236 WASHINGTON ST	F_751189_2878051	Municipal Vacant	0.032
0 FOWL MEADOW	F_744796_2884840	Residential vacant	0.032
0 GLEN RD	F_766945_2881626	Municipal Vacant	0.032
0 CLIFF RD	F_767528_2881742	Municipal Vacant	0.032
0 LAKE RD	F_767456_2881926	Municipal Vacant	0.032
0 WASHINGTON ST	F_752147_2881541	Municipal Vacant	0.032
0 CEDAR DR	F_757616_2894267	Municipal Vacant	0.032
0 CEDAR DR	F_757381_2894460	Municipal Vacant	0.032
0 FOWL MEADOW	F_744655_2885417	Municipal Vacant	0.032
0 NEPONSET ST	F_745942_2886801	Residential vacant	0.003
500 NEPONSET ST	F_747612_2883196	Municipal Vacant	0.003
0 FOWL MEADOW	F_744034_2885238	Residential vacant	0.003
0 NEPONSET ST	F_748993_2884107	Municipal Vacant	0.003

Appendix F: Town Outfall Screening Data