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| <b>Municipality/Organization:</b>                       | Avon, MA                                  |
| <b>EPA NPDES Permit Number:</b>                         | MAR041089                                 |
| <b>MassDEP Transmittal Number:</b>                      | W-044647                                  |
| <b>Annual Report Number<br/>&amp; Reporting Period:</b> | Year 15<br>April 1, 2017 – March 31, 2018 |

**NPDES PII Small MS4 General Permit  
Annual Report  
(Due: May 1, 2018)**

**Part I. General Information**

|                                                            |                                 |
|------------------------------------------------------------|---------------------------------|
| Contact Person: William A. Fitzgerald, Jr.                 | Title: DPW Director             |
| Telephone #: 508-588-1414x1024                             | Email: wfitzgerald@avonmass.org |
| Mailing Address: Town Hall, 65 East Main St, Avon MA 02322 |                                 |

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: William A. Fitzgerald, Jr.

Title: DPW Director

Date: 4/30/18

## Part II. Self-Assessment

In 2017, Avon built on work performed in previous years. Asset management and mapping completed as part of the Water Infrastructure Planning and Technical Assistance (WIPTA) Grant, completed in 2016, informed work for the DPW on the overall condition and life expectancy of their stormwater assets. In addition to the location of these assets, the Town extended their mapping to include attributes related to the condition of the assets which allows the Town to utilize their field based operations and asset management system, Utility Cloud, to produce work flows for these assets. The mapping and asset management work continues to improve the efficiency of the maintenance and repairs of the stormwater system.

Furthermore, Avon was the recipient of a Southeast New England Program (SNEP) Grant from the U.S. Environmental Protection Agency (EPA) and the New England Interstate Water Pollution Control Commission (NEIWPCC) in 2016. This grant, titled “Examining Stormwater Pollution to Trout Brook”, has allowed for the Town to take a comprehensive approach to addressing both stormwater and drinking water concerns. In 2017, the Town made significant progress on the grant. The Quality Assurance Project Plan (QAPP) for the sampling component of the grant was developed in the previous permit year and was used for field sampling as part of the project. The QAPP defined stringent sampling procedures that had to be followed to confirm that the data generated was scientifically valid and describes the quality assurance policy, management, structure, and procedures to implement the requirements necessary to verify, calibrate, and validate the output of the water quality samples and GIS data reviewed as part of this project.

Work completed under the grant in 2017 included:

- Comprehensively summarizing known pollution problems in the watershed based on impairments and TMDLs, drinking water pollutants of concern, and summarizing land use characteristics to evaluate possible sources of pollutants and sediment loads to Trout Brook including septic systems, municipal land and open space, stormwater infrastructure, roadways, overall land use, impervious cover and directly connected impervious cover, and soils.
- Identifying priority catchment areas, by first delineation of catchments using GIS. Initial catchment delineations for outfalls discharging within the Trout Brook Watershed were completed after reviewing and relying on the Metropolitan Planning Commission’s GIS-Based Catchment Delineation and Ranking Methodology available through the Neponset Stormwater Partnership.<sup>1</sup> Delineations were completed using data from the 2011 Northeast LIDAR dataset<sup>2</sup>, hydrology from MassDEP, roadway centerlines from MassDOT, and right-of-way information from the Town’s parcel layer. Catchments were initially delineated using the Neponset methodology but many of the catchments were manually adjusted because of the lack of

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<sup>1</sup> MAPC. February 2015. *Neponset Outfall Catchment Analysis*.

URL: <https://github.com/MAPC/stormwater-toolkit>

<sup>2</sup> LIDAR 2011 Northeast Dataset

connectivity in the Town's stormwater system. Catchment boundary adjustments were made using a desktop assessment after analyzing the nearby topography using a 3 foot contour layer developed in Town and USGS topography. The results of this delineation process produced 24 catchments. Catchment delineation using topography alone is not appropriate and does not correctly represent the drainage area contributing to that outfall. As more of Avon's system is mapped the catchments will need to be further refined.

- Conducting outfall screening during dry and wet weather to characterize the levels of pollutants reaching Trout Brook from the priority catchment areas. Samples were analyzed using field instrumentation and test kits for Temperature, Conductivity, Salinity, Dissolved Oxygen, pH, and Chlorine. Additionally, the samples were analyzed at a laboratory for Ammonia, Surfactants, Total Nitrogen, Total Phosphorus, Total Sodium, Fecal coliform, E. coli, Total Suspended Solids, and BOD5.

Remaining work on the grant, to be completed by June 30, 2018, includes identifying and assessing structural Best Management Practices for selected catchments and preparing conceptual designs for structural BMPs to reduce pollutants of concern. This grant supports and enhances the Town's overall stormwater management program, and is part of the Town's comprehensive approach to water management. Avon recognizes the impact stormwater has not only on the environment but on the Town's drinking water; since almost all stormwater in Avon releases into the drinking water well Zone II's, and much of it flows through Zone I's, maintenance and performance of the stormwater system is as much a drinking water issue as a receiving water concern.

### Part III. Summary of Minimum Control Measures

#### 1. Public Education and Outreach

| BMP ID # | BMP Description                       | Responsible Dept./Person Name | Measurable Goal(s)                        | Progress on Goal(s) – Permit Year 15<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                | Planned Activities Year 16                                            |
|----------|---------------------------------------|-------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 101      | Stormwater Impacts Mailer             | Selectmen                     | 1 Town Wide Mailing                       | The stormwater impacts mailer has been included in town-wide Selectmen's mailing in previous permit years.<br><br>In recent years, Town has provided information on pet waste pickup to dog owners when licenses are renewed. | Continue to include in the Selectmen's mailing as budget allows.      |
| Revised  |                                       |                               |                                           |                                                                                                                                                                                                                               |                                                                       |
| 102      | School Stormwater Science Project     | TA/School Sup't               | 1 Class Science Project                   | Based on discussions with School/Town officials, this BMP is not feasible due to curriculum limitations.                                                                                                                      | No further work planned.                                              |
| Revised  |                                       | DPW                           |                                           |                                                                                                                                                                                                                               |                                                                       |
| 103      | Stormwater on Local Cable Access Show | Town Administrator            | 1 show on environmental/stormwater issues | Showed EPA/DEP stormwater programs on Avon local cable in pervious permit years.                                                                                                                                              | Continue to air EPA/DEP info as budget allows.                        |
| Revised  |                                       | DPW Director, Highway Foreman |                                           |                                                                                                                                                                                                                               |                                                                       |
| 104      | Youth Stream Cleanup                  | Town Administrator            | Annual Clean Up Day                       | Held in May 2017                                                                                                                                                                                                              | Continue to hold Community Cleanup Day as budget and schedule allows. |
| Revised  | Community Cleanup Day                 | Board of Health               |                                           |                                                                                                                                                                                                                               |                                                                       |

**1a. Additions**

|     |                                     |     |     |                                                                                                                                                            |                          |
|-----|-------------------------------------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 105 | Grant funded Public Ed and Outreach | DPW | N/A | This BMP was added in Permit Year 11 in anticipation of obtaining the 319 grant. This grant was not obtained and therefore this BMP is no longer included. | No further work planned. |
|-----|-------------------------------------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|

## 2. Public Involvement and Participation

| BMP ID # | BMP Description                                   | Responsible Dept./Person Name      | Measurable Goal(s)                                       | Progress on Goal(s) – Permit Year 15<br>(Reliance on non-municipal partners indicated, if any)                                                             | Planned Activities Year 16                                                          |
|----------|---------------------------------------------------|------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 201      | Stormwater Management Task Force                  | Town Administrator<br>DPW Director | Establishment of Task Force                              | The implementation of the task force has been delayed and is anticipated to commence once a new permit is finalized.                                       | Implement the working group once new permit is issued.                              |
| 202      | Publicity of Stormwater related articles/hearings | Town Administrator<br>DPW Director | Public Announcements for all stormwater articles/hearing | All information (Conservation Commission/ATM meeting minutes, etc.) pertaining to stormwater and stormwater management are available on the Town's website | Continue to update website with relevant stormwater management information          |
| 203      | Science Contest sponsored by Business Association | Town Administrator<br>DPW Director | Stormwater Science Contest                               | Due to limited interest, the Science Contest was not sponsored during permit year 15.                                                                      | No action planned at this time. The Business Association has other Town priorities. |

## 2a. Additions

|     |                     |              |                                                      |                                                                                                                                                |                                                                                                                              |
|-----|---------------------|--------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 204 | Annual Town Meeting | DPW Director | Discuss Stormwater Management at Annual Town Meeting | DPW Director spoke at the Annual Town Meeting, and discussed the connection and importance of stormwater management and drinking water quality | Continue to speak at Town Meetings as appropriate to support ongoing stormwater and water quality projects and improvements. |
|-----|---------------------|--------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|

### 3. Illicit Discharge Detection and Elimination

| BMP ID # | BMP Description                                         | Responsible Dept./Person Name                     | Measurable Goal(s)               | Progress on Goal(s) – Permit Year 15<br>(Reliance on non-municipal partners indicated, if any)                                                                                                          | Planned Activities Year 16                                                                                                                                   |
|----------|---------------------------------------------------------|---------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 301      | Map Stormwater Sewer Infrastructure                     | Town Administrator and Highway Operations Manager | Completed GIS Map                | The Town continues to update the GIS map as new information becomes available, and incorporate additional attribute data related to condition of assets.                                                | The Town will continue to update the GIS map as new information becomes available, and incorporate additional attribute data related to condition of assets. |
| Revised  |                                                         | DPW Director and Highway Foreman                  |                                  |                                                                                                                                                                                                         |                                                                                                                                                              |
| 302      | Education Flier on Basement Good Housekeeping Practices | Town Administrator and Board of Health            | Town-wide mailing                | During Permit Year 15, the Board of Health did not have the resources to implement this BMP.                                                                                                            | Re-evaluate if the BOH has the resources to implement this BMP in Permit Year 16                                                                             |
| Revised  |                                                         | TBD                                               |                                  |                                                                                                                                                                                                         |                                                                                                                                                              |
| 303      | Illicit Discharge Hotline                               | Town Administrator and Highway Operations Manager | Establish Hotline                | The Town is currently using existing phone lines. Residents call the Town Administrator, Board of Health and/or Conservation Commission regarding pollution, sewage breakouts from septic systems, etc. | Continue to field phone calls using existing Town lines.                                                                                                     |
| Revised  |                                                         |                                                   |                                  |                                                                                                                                                                                                         |                                                                                                                                                              |
| 304      | Illicit Discharge Bylaw                                 | Planning Board                                    | Bring By-Law before Town Meeting | The Fire Department, Board of Health, and Conservation Commission have authority to address illicit discharges.                                                                                         | Revisit authority under next general permit.                                                                                                                 |
| Revised  |                                                         |                                                   |                                  |                                                                                                                                                                                                         |                                                                                                                                                              |

### 3a. Additions

| 305 | Annual Catch Basin<br>Cleaning - IDDE<br>Screening (See also<br>602) | DPW/Contractor | CB's cleaned and<br>screened, obvious<br>irregularities reported<br>to DPW for follow up | Completed | To Complete |
|-----|----------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------|-----------|-------------|
|     |                                                                      |                |                                                                                          |           |             |



#### 4. Construction Site Stormwater Runoff Control

| BMP ID #       | BMP Description                | Responsible Dept./Person Name                 | Measurable Goal(s)                            | Progress on Goal(s) – Permit Year 15<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                       | Planned Activities Year 16                       |
|----------------|--------------------------------|-----------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| 401<br>Revised | Construction Site E & SC Bylaw | Planning Board                                | Bylaw brought before Town Meeting             | The Planning Board has created an Erosion Control plan based on EPA's sample plan. Need to discuss further action with Planning Board<br><br>Planning Board has enacted an in-house erosion control plan to deal with runoff at construction sites. Will continue to work on avenues in which to control runoff from existing sites. | Revisit authority under next MS4 general permit. |
| 402<br>Revised | Site Plan Review Amendment     | Amendment Article brought before Town Meeting | Amendment Article brought before Town Meeting | The Planning Board has created an Erosion Control plan based on EPA's sample plan.                                                                                                                                                                                                                                                   | No further action planned.                       |
| Revised        |                                |                                               |                                               |                                                                                                                                                                                                                                                                                                                                      |                                                  |

#### 4a. Additions

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### 5. Post-Construction Stormwater Management in New Development and Redevelopment

| BMP ID # | BMP Description             | Responsible Dept./Person Name | Measurable Goal(s)                            | Progress on Goal(s) – Permit Year 15<br>(Reliance on non-municipal partners indicated, if any)                              | Planned Activities Year 16                       |
|----------|-----------------------------|-------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| 501      | Stormwater Management Bylaw | Planning Board                | Bylaw brought before Town Meeting             | Erosion Control plan created, based on the EPA's sample control plan<br>Planning Board has stringent recharge requirements. | Revisit authority under next MS4 general permit. |
| Revised  |                             |                               |                                               |                                                                                                                             |                                                  |
| 502      | Site Plan Review Amendment  | Planning Board                | Amendment Article brought before Town Meeting | Erosion Control Plan created, based on EPA's sample control plan                                                            | No further action planned.                       |
| Revised  |                             |                               |                                               |                                                                                                                             |                                                  |
| Revised  |                             |                               |                                               |                                                                                                                             |                                                  |

### 5a. Additions

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## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

| BMP ID #       | BMP Description                                          | Responsible Dept./Person Name                | Measurable Goal(s)                                    | Progress on Goal(s) – Permit Year 15<br>(Reliance on non-municipal partners indicated, if any)                                                                 | Planned Activities Year 16                                                                              |
|----------------|----------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 601<br>Revised | Annual Street Sweeping                                   | Highway Foreman with DPW Director            | Sweep all Town streets once per year                  | Completed- all Town roads were swept at least once during Permit Year 15                                                                                       | Continue renting a broom sweeper and sweep all Town roads at least once during the year.                |
| 602<br>Revised | Annual Catch Basin Cleanout                              | Highway Department                           | Clean all catch basins once per year                  | Completed- all catch basins were cleaned during Permit Year 15                                                                                                 | Continue contracting out yearly catch basin cleanings.                                                  |
| 603<br>Revised | Environmental Assessment of Highway Maintenance Facility | Highway Operations Manager                   | Completed Assessment                                  | Installed properly designed catch basin and oil water separator.                                                                                               | No further action planned. Work was completed to address findings of assessment.                        |
| 604<br>Revised | Highway/Water Depts. Good Housekeeping Education         | Highway Operations Manager and Water Foreman | At least 1 training for all Water/highway Dept. Staff | Consultants were hired to audit the Departments. Containment and other BMPs are in place. The Town is currently addressing other items noted during the audit. | Develop overall DPW staff training plan with good housekeeping component under next MS4 general permit. |
| 605<br>Revised | Environmental Assessment of Municipal Facilities         | Town Administrator<br>DPW Director           | Completed Assessment                                  | No activity completed during this permit year.                                                                                                                 | Determine if additional work is needed and address under new MS4 general permit.                        |

|         |                                            |                           |                                  |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                  |
|---------|--------------------------------------------|---------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 606     | Wastewater Management Plan                 | Board of Selectmen        | Plan complete                    | A comprehensive wastewater management plan was started for Avon numerous years ago.<br><br>Avon continues to participate in regional discussions about wastewater management that are ongoing through OCPC and DEP | Plan still under review by the Massachusetts Department of the Environment. Significant investment was made to develop a long term plan to address present and future wastewater discharges, however, no further action is planned at this time and depends on budgets and political investment. |
| Revised |                                            | Board of Selectmen/TA/DPW |                                  |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                  |
| 607     | Drainage Assessment Brentwood Neighborhood | Board of Selectmen/       | Evaluation of Phase II Continues | Project is two phases phases—Pond St that has been completed. The Brentwood Road portion design is planned for future.                                                                                             | Mapping and condition assessment of existing system planned.                                                                                                                                                                                                                                     |
|         |                                            | Board of Selectmen/TA/DPW |                                  |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                  |

#### 6a. Additions

|     |                                               |                           |                                 |                                                                                                                                                                                                        |                                                                                                                                                      |
|-----|-----------------------------------------------|---------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 608 | Snow Fighting Modifications                   | DPW                       | Operations consistent with plan | See Self-Assessment section for details; the use of sand has been phased out almost entirely.                                                                                                          | Continue to modify and adjust snow operations as needed.                                                                                             |
| 609 | Training and tracking systems, safety Program | DPW                       | Plan implementation             | Modified EMS includes more detail on good housekeeping Safety walkthrough by Workers' Comp group includes assessment of exposure to activities that may impact stormwater runoff and good housekeeping | Continue to implement and evaluate adding additional DPW operation areas<br>Develop overall DPW staff training plan with good housekeeping component |
| 610 | Evaluate Sewering Industrial Park Area        | Board of Selectmen/TA/DPW | Progress on evaluation          | Consultant delineated wetlands in town owned land that is possible site for onsite treatment system for Industrial Park                                                                                | Continue to evaluate if sewerage the Industrial Park Area of Town is feasible                                                                        |

## 7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

Per the 2016 MS4 permit, effective July 1, 2017 as of the date of this annual report, Avon has stormwater discharges that discharge to waterbodies, or their tributaries, that are water quality limited due to nitrogen and/or phosphorus. Although none of these have an EPA approved TMDL, Avon recognizes the importance of addressing these impairments and, as part of the SNEP grant, is reviewing BMPs that could address these water quality limited waterbodies. The Town's water department is currently monitoring subsurface migration of various pollutants in the area of test well sites on the Brockton/Avon Town Line as well. In addition, Trout Brook located in Avon is a tributary of the Taunton River watershed which is subject to a TMDL approved in 2011 for pathogens. The Town has been awarded the SNEP grant to investigate the sources of impairment in Trout Brook and will continue to work towards identifying and eliminating bacteria and pathogen sources into Trout Brook.

The Town continued to work on the components of the SNEP grant during Permit Year 15. The work completed includes the following: identifying priority catchment areas, surveying the land use in priority areas, and conducting outfall screening. For Permit Year 16, the Town will complete work under this grant by June 30, 2018. Remaining work includes identifying and assessing structural Best Management Practices for selected catchments, and preparing conceptual designs for structural BMPs to reduce pollutants of concern. A final report will be prepared and submitted to EPA and MassDEP as required by the grant.

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 15<br>(Reliance on non-municipal partners indicated, if any) | Planned Activities Year 16 |
|----------|-----------------|-------------------------------|--------------------|------------------------------------------------------------------------------------------------|----------------------------|
| Revised  |                 |                               |                    |                                                                                                |                            |
| Revised  |                 |                               |                    |                                                                                                |                            |
| Revised  |                 |                               |                    |                                                                                                |                            |

### 7a. Additions

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### 7b. WLA Assessment