

**Municipality/Organization:** Avon, MA  
**EPA NPDES Permit Number:** MAR041089  
**MassDEP Transmittal Number:** W-044647  
**Annual Report Number & Reporting Period:** Year 14  
April 1, 2016 – March 31, 2017

## **NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2017)**

### **Part I. General Information**

**Contact Person:** William A. Fitzgerald, Jr. **Title:** DPW Director  
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#### 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:**

## **Part II. Self-Assessment**

In 2016, Avon completed work funded partially by a \$10,000 Water Infrastructure Planning and Technical Assistance (WIPTA) Grant by the Massachusetts Department of Environmental Protection (MassDEP) to implement a stormwater operations and asset management system. This work included creating a GIS stormwater layer at a utility scale level of accuracy, and extending the Town's existing asset management tablet-based computer system, Utility Cloud, to include stormwater. Additionally, this project included condition assessment and preliminary Illicit Discharge Detection and Elimination (IDDE) components. The draft report was completed in June 2016 and the final report was completed in November 2016.

As part of the work on the WIPTA Grant, the Town consolidated and enhanced the mapping of the drainage system. At the start of the project, the base information had been improved by an Intern, Dennis Corvi of the Bridgewater State University Geography Program, and the work of Old Colony Planning Council. Data included catch basins, outfalls, some drainage sub-catchments drainage pipes, culverts, drop inlets, swales, and manholes. A very limited amount of the data included various details (i.e. "attributes") related to precision of location, structure type, structure size, invert, structure ID, condition, material, flow direction, image links, etc. Below is a breakdown of the overall mapping as of the beginning of the field work:

- 132 Outfalls
- 978 Catch Basins
- 42 Manholes
- 13 Drop Inlets
- 197 Pipe Segments
- 27 Swales
- 51 Culverts
- 28 Sub-Catchments

Numerous other limited sources were brought into the GIS prior to the start of the project, including:

- GIS mapping by New England Civil Engineering as part of a stormwater catchment study for the Pond Street/Brentwood area;
- GIS mapping of natural and certain manmade drainage (swales, etc.) by Norfolk County Mosquito Control;
- GIS mapping of water resources (streams, lakes, ponds) by Old Colony Planning Council; and
- Preliminary survey by Norfolk County Engineer's Office of the Brentwood area of town.

In addition to improving GIS mapping, 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. Consultants assisted the Town with developing procedures (i.e. workflows in Utility Cloud) for collection of stormwater infrastructure data related to mapping, condition, and illicit discharge detection and elimination (IDDE) in Utility Cloud. Workflows were developed based on EPA guidance documents, EPA's final 2016 MS4 General Permit requirements, and best professional judgement.

Field work was completed using the Utility Cloud table application that allows entry into forms. Veolia staff completed field work during June 2016. During this time, Veolia staff mapped drainage manholes and catch basins and completed inventory, condition assessment, and documented the presence or absence of illicit discharges. Veolia staff utilized the Utility Cloud application to add drainage structures to the map, input details associated with each structure (e.g. depth to sump, depth to pipes in and out, diameters), and identify potential illicit discharge issues (e.g. suds, solids, odor, etc.) and structural/maintenance issues.

During the field work, Veolia staff were able to open 55 manholes and 19 catch basins and input data into them. In 3.5 days of field work, the Veolia staff were able to inspect 7% of the mapped catch basins and 31% of mapped drain manholes. In addition, due to some technical issues with the tablet and internet connectivity, Veolia staff also completed inspections of 5 manholes and 18 catch basins on paper forms that were later input into Utility Cloud.

The mapping and asset management work has improved the efficiency of the maintenance and repairs of the stormwater system.

Furthermore, 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. To further this effort, during 2015 the Town applied for, and was awarded in January 2016, 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). 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 2016, the Town made significant progress on developing the Quality Assurance Project Plan (QAPP) for the sampling component of the grant. Anticipated work in the next permit year includes identifying priority catchment areas, surveying the land use in priority areas, conducting outfall screening, and 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.

### 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 14<br>(Reliance on non-municipal partners indicated, if any)              | Planned Activities Year 15                                       |
|----------|---------------------------------------|-------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 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.  | Continue to include in the Selectmen's mailing as budget allows. |
| Revised  |                                       |                               |                                           | In recent years, Town has provided information on pet waste pickup to dog owners when licenses are renewed. |                                                                  |
| 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 Stream Clean Up Day                | Held in May 2016                                                                                            | Continue to hold Cleanup Day as budget and schedule allows.      |
| Revised  | Community Cleanup Day                 | Board of Health               | Community Cleanup Day                     |                                                                                                             |                                                                  |

#### 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 14<br>(Reliance on non-municipal partners indicated, if any)                                                             | Planned Activities Year 15                                                          |
|----------|---------------------------------------------------|-------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 201      | Stormwater Management Task Force                  | <del>Town Administrator</del> | 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.                              |
| Revised  |                                                   | DPW Director                  |                                                          |                                                                                                                                                            |                                                                                     |
| 202      | Publicity of Stormwater related articles/hearings | <del>Town Administrator</del> | 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          |
| Revised  |                                                   | DPW Director                  |                                                          |                                                                                                                                                            |                                                                                     |
| 203      | Science Contest sponsored by Business Association | <del>Town Administrator</del> | Stormwater Science Contest                               | Due to limited interest, the Science Contest was not sponsored during permit year 14.                                                                      | No action planned at this time. The Business Association has other Town priorities. |
| Revised  |                                                   | DPW Director                  |                                                          |                                                                                                                                                            |                                                                                     |

### 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 14<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                | Planned Activities Year 15                                                                                                                                   |
|----------|---------------------------------------------------------|---------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 301      | Map Stormwater Sewer Infrastructure                     | Town Administrator and Highway Operations Manager | Completed GIS Map                | The Town has completed additional mapping in utility cloud as part of the Water Infrastructure Planning and Technical Assistance Grant with the Old Colony Planning Council and interns from Bridgewater State University. All municipally owned outfalls area mapped in GIS. | 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 14, 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 15                                                                             |
| 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 14<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                              | Planned Activities Year 15                       |
|----------------|--------------------------------|-----------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| 401<br>Revised | Construction Site E & SC Bylaw | Planning Board                                | Bylaw brought before Town Meeting             | <p>The Planning Board has created an Erosion Control plan based on EPA's sample plan. Need to discuss further action with Planning Board</p> <p>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.</p> | 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 14<br>(Reliance on non-municipal partners indicated, if any) | Planned Activities Year 15                       |
|----------|-----------------------------|-------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------|
| 501      | Stormwater Management Bylaw | Planning Board                | Bylaw brought before Town Meeting             | Erosion Control plan created, based on the EPA's sample control plan                           | Revisit authority under next MS4 general permit. |
| Revised  |                             |                               |                                               | Planning Board has stringent recharge requirements.                                            |                                                  |
| 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 14<br>(Reliance on non-municipal partners indicated, if any)                                                                 | Planned Activities Year 15                                                                              |
|----------|----------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 601      | 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 14                                                                                       | Continue renting a broom sweeper and sweep all Town roads at least once during the year.                |
| Revised  |                                                          |                                                 |                                                                |                                                                                                                                                                |                                                                                                         |
| 602      | Annual Catch Basin Cleanout                              | Highway Department                              | Clean all catch basins once per year                           | Completed- all catch basins were cleaned during Permit Year 14. In addition, work under the WIPTA grant improved the efficiency of inspection of these assets. | Continue contracting out yearly catch basin cleanings.                                                  |
| Revised  |                                                          |                                                 |                                                                |                                                                                                                                                                |                                                                                                         |
| 603      | 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.                        |
| Revised  |                                                          |                                                 |                                                                |                                                                                                                                                                |                                                                                                         |
| 604      | Highway/Water Depts. Good Housekeeping Education         | <del>Highway Operations Manager and Water</del> | 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. |
| Revised  |                                                          | DPW Director, Highway and Water Foremen         | Good housekeeping component of overall DPW staff training plan |                                                                                                                                                                |                                                                                                         |
| 605      | Environmental Assessment of Municipal Facilities         | <del>Town Administrator</del>                   | Completed Assessment                                           | No activity completed during this permit year.                                                                                                                 | Determine if additional work is needed and address under new MS4 general permit.                        |
|          |                                                          |                                                 |                                                                |                                                                                                                                                                |                                                                                                         |

|         |                                            |                           |                                  |                                                                                                                         |                                                                                                                                                                                                                                                                                                  |
|---------|--------------------------------------------|---------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Revised |                                            | DPW Director              |                                  |                                                                                                                         |                                                                                                                                                                                                                                                                                                  |
| 606     | Wastewater Management Plan                 | Board of Selectmen        | Plan complete                    | A comprehensive wastewater management plan was started for Avon numerous years ago.                                     | 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 |                                  | Avon continues to participate in regional discussions about wastewater management that are ongoing through OCPC and DEP |                                                                                                                                                                                                                                                                                                  |
| 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 | Continue to implement and evaluate adding additional DPW operation areas Develop overall DPW staff training plan with good housekeeping component |

|     |                                            |                              |                        |                                                                                                                                     |                                                                                     |
|-----|--------------------------------------------|------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|     |                                            |                              |                        | housekeeping                                                                                                                        |                                                                                     |
| 610 | Evaluate Sewering<br>Industrial Park Area` | Board of<br>Selectmen/TA/DPW | Progress on evaluation | Consultant delineated wetlands<br>in town owned land that is<br>possible site for onsite<br>treatment system for Industrial<br>Park | Continue to evaluate if<br>sewering the Industrial Park<br>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.

During Permit Year 14, the QAPP for the sampling component of the grant was developed with the Town's consultant. For Permit Year 15, the Town will continue to execute this grant. The work includes the following: identifying priority catchment areas, surveying the land use in priority areas, conducting outfall screening, and identifying and assessing structural Best Management Practices for selected catchments, and preparing conceptual designs for structural BMPs to reduce pollutants of concern. This work will characterize pollutant sources into Trout Brook and create a template for future work.

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 14<br>(Reliance on non-municipal partners indicated, if any) | Planned Activities Year 15 |
|----------|-----------------|-------------------------------|--------------------|------------------------------------------------------------------------------------------------|----------------------------|
| Revised  |                 |                               |                    |                                                                                                |                            |
| Revised  |                 |                               |                    |                                                                                                |                            |

### 7a. Additions

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### 7b. WLA Assessment