

**Municipality/Organization: Town of Falmouth**

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**EPA NPDES Permit Number: MAR 041114**

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**MADEP Transmittal Number: W- 035626**

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**Annual Report Number  
& Reporting Period: Year 14: May 1<sup>st</sup> 2016-April 30<sup>th</sup> 2017**

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## **NPDES PII Small MS4 General Permit Annual Report**

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

Contact Person: James E. McLoughlin

Title: Town Engineer

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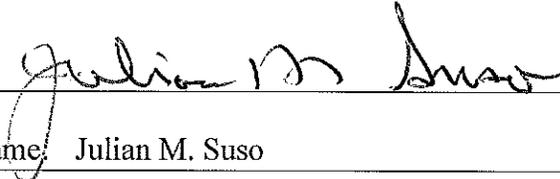
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#### Certification:

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 gathered and evaluated 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: 

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Printed Name: Julian M. Suso

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Title: Town Manager

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Date: April 28, 2017

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

The Engineering Division is the responsible department for oversight of the Phase II requirements and we have been moving forward with compliance. This year we will begin adapting to the new requirements which become effective in July 2017. The Town has engaged an engineering consulting firm to assist in filing the Notice of Intent and compliance with the new permit.

Since 2012, Public Works had the opportunity of working with AmeriCorps Cape Cod on updating the Towns NPDES program requirements. This additional work was highly effective and advantageous for the Town for ensuring NPDES compliance. Groups of AmeriCorps volunteers have been organized to perform the following tasks: Initiate an annual storm drain marker installation program in high profile locations through the town; develop and initiate an annual storm drain stenciling program that is used in the estuaries and tidal pond areas where there are no curbs to install the storm drain markers; design print and distribute door hangers aimed at public education regarding fertilizer, car washing, pet waste and litter control. Unfortunately, the focus of AmeriCorps has changed to emergency preparedness. Our last intern was in 2014 and these programs have slowed down.

The Towns outfall maps are being updated on a continual basis including structure information, connections between structures, and stormwater contribution areas. Field inspections include recording private driveway stormwater runoff and identifying illicit discharges such as basement sump pumps draining to roadways or catch basins. The main focus at this time is identifying outfalls and roadway runoff areas affecting the coastal ponds and estuaries. Falmouth has several working groups and committees researching nitrogen and phosphorous reduction technology and implementation methods that can be used in sensitive areas. These efforts are undertaken by Engineering staff members and the Town's GIS department.

Due to limited equipment and staffing, routine street cleaning has been limited to one street sweeping crew. Street cleaning is performed town wide from March to October. The downtown village area is swept on a weekly basis. Main arteries are also swept on a weekly basis. A catch basin cleaning truck and crew is dedicated to full time basin cleaning from April – October.

The Town purchased a new Elgin Pelican NP Tier 4i mechanical street sweeper which is in regular use as noted above.

Public Works installed a new clamshell on its catch basin cleaning truck. The truck is back in service.

The Town no longer applies sand/ salt mixtures to the roadways during the winter season. The roads are pretreated with a salt brine mixture that is applied prior to inclement weather.

Street sweeping and catch basin sediment removal amounts are tracked on an in-house asset management program. NPDES compliance programs and staff development training are continually being updated. Several key aspects include:

1. An all-inclusive Public Works Stormwater Regulation including NPDES compliance requirements has been developed and is currently under review. This Regulation is being modified to reflect the new NPDES permit.
2. The Town “*Driveway Permit*” forms include NPDES stormwater requirements and will be updated as necessary to meet new NPDES requirements.  
The current “*Driveway Permit*” includes:
  - Statement “No driveway shall be constructed directing stormwater onto roadways”.
  - Bonding of permits ensuring all site work is constructed according to the driveway permit and attachments.
3. The Engineering Division maintains an active list of drainage concerns. Each site is evaluated for repair, including best management practices (BMP’s), water quality, and accessibility for maintenance. Work is ongoing.
4. Evaluation review and update of the current “Public Outreach and Participation Program” is ongoing.
5. Stormdrain markers stating “NO DUMPING, DRAINS TO WATERWAY” have been installed in the downtown and beach areas.
6. AmeriCorps, working with the Beach Superintendent, leads a beach grass planting program along Falmouth’s beaches with the goals of preventing erosion, protecting the adjacent parking lots and preventing stormwater runoff into the beach areas.
7. A new internal policy was added when reviewing plans for other Town Departments or agencies. Projects that include additional impervious surfaces or revisions to rooflines (for example, second story additions), or otherwise could change we add the following language if it appears not all stormwater would remain on site:
  - We recommend adding dry wells, rain garden, or other stormwater measure for the roof because the front yard appears to drain towards (Insert Street, property, or water body).
8. The following Public Works projects including stormwater LID design and best management practices are currently under design or construction:
  - Old Barnstable Road – Approximately 1.2 miles of roadway was reconstructed. The installed drainage system includes 4’ sump solid catch basins piped into 6’ leaching basins. All new catch basins were installed with oil /floating debris traps. The trap will also be an indicator that the structures are in need of cleaning.
  - Walker Street – Approximately 1.5 miles of roadway is under design. Phase I is scheduled for construction in May 2017.

Currently, the roadway drainage consists of shallow drainage structures (due to high groundwater). The roadway continuously floods and becomes a safety issue in the winter months with freezing water. The proposed drainage system will consist of banking the roadway to one side and installing grass swales with raised beehive basin grates along the low edge of the roadway in order to allow stormwater to collect off the asphalt and leach into the ground. Also, 18" perforated pipes will be installed below the grass swales for additional water storage.

- Whites Landing Road – This 600' long road has a boat ramp at the lower end and is heavily used by recreational boaters year round. Stormwater currently flows down the road untreated and enters Childs River. Permitting is complete and includes: deep sump catch basins, propiotor hydrodynamic units, subsurface infiltration and sediment forebays. Phase I construction is underway.
- Surf Drive – Approximately 750 feet of this coastal road is under design and will be scheduled for construction. Currently, the roadway drainage consists of 3 shallow leaching structures. The roadway floods and becomes a safety issue in the winter months with freezing water. The proposed roadway will bank away from the coastline and towards a new sidewalk. A series of shallow leaching basins will be constructed and interconnected with a final connection to the above mentioned Walker Street drainage system.
- Teaticket Path – Approximately 800 feet of roadway runs down ta low point at Perch Pond. During periods of rain and extreme high tide the low area of the road is inundated. A redesign of the roadway that calls for adding stormwater basins for recharge as well as catch basins is in the permitting process. Construction is anticipated for 2018.

### 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 (Reliance on non-municipal partners indicated, if any)	Planned Activities – New MS4 Permit
1-1 Revised	Televised Program for Falmouth Specific.	Engineering D.N.R.	Program airing on local station.	Program was initiated. In 2013, a new annual PSA was created and aired on Falmouth FCTV beginning spring 2013.	Will continue to air annual PSA's and update as necessary.
1-2 Revised	Posting Of Maps	Engineering Engineering and GIS	Map prepared and displayed	Maps are updated on a continuing basis. At this time, the primary focus has been the coastal ponds and estuaries.	Will continue to update the maps on a continuing basis.
1-3 Revised	Annual Public Hearing	Admin.	Meetings held per schedule	Monthly meeting are held regarding the improvement of all coastal ponds and reduction in nitrogen. Several community groups are moving forward with seeking Town Funding and Grants to improve the salt and fresh waters of Falmouth.	Continue with Monthly meetings and providing support for the community interest groups.
1-4 Revised	Educational Flyer	Admin. and DPW	Flyer prepared and distributed	Educational flyers and door hangers have been developed and distributed to Town Hall and public buildings. Flyers can also be picked up at the Engineering Division.	Update and distribute flyers as on a continual basis.
Revised					

#### 1a. Additions

1a-1	Revisions/Updates	Engineering/GIS/ Admin/DPW/DNR	Updated materials		Update public education and outreach materials to reflect new MS4 Permit requirements.
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## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – New MS4 Permit
2-1 Revised	Encourage participation	Admin./DPW	Maintain complaint file	Working with the school department, Dog Park, and local groups/committees on public awareness and involvement.	Continue awareness and education with the various water quality committees and associations.
2-2 Revised	Stormwater Committee	Selectmen/DPW	Update management program	Committee established. Monthly meeting are held regarding improvement of all coastal ponds and reduction in nitrogen. Several community groups are moving forward with seeking Town Funding and Grants to improve the salt and fresh waters of Falmouth.	Continue with Monthly meetings and providing support for the community interest groups.
2-3 Revised	Selectmen's Meeting Review	Selectmen Administrator	Meetings held per schedule	Education and awareness activities were presented.	Continue to update the Selectmen and public on a continuing basis.
2-4 Revised	Storm Drain Stenciling	DPW/ Engineering	Documentation of catch basins stenciled	Stormdrain markers were purchased and installed. Stencils were created and painted near ponds and in high profile areas where curbing is not present.	Continue installing Stormdrain markers and painted Stencils.
2-5 Revised	Hazardous Waste Collection	Board Of Health	Documentation of Collection	Hazardous waste collection was conducted 4 times in conjunction with 3 bordering towns. May thru Oct	Conduct hazardous waste collection days 4 days between May and Oct in conjunction with 3 bordering towns
Revised					

### 2a. Additions

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### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – New MS4 Permit
3-1	Discharge Identification	DPW	Production of maps	Continuing field inventory and updates to the Towns GIS data. Initial focus is the coastal ponds and nitrogen sensitive areas.	Field inventory and locate with GPS to update GIS data. Incorporate all discharges in Asset Management Software program.
Revised		DPW/ Engineering			
3-2	Drainage Network Mapping	DPW/GIS	Production of maps	Continuing field inventory and updates to the Towns GIS data.	Field upkeep and GIS database updated.
Revised		DPW/GIS Engineering			
3-3	Illicit Discharge Identification	DPW/Board Of Health	Quantify Identification	Identified illicit discharges with BMP 3-1 & 3-2.	Identified illicit discharges with BMP 3-1 & 3-2.
Revised					
3-4	Illicit Discharge Enforcement	DPW/Board of Health/Planning	Quantify Identification	Enforcement measures have been incorporated into the stormwater by-law.	Continuing enforcement through inspections and complaint follow-up.
Revised					
3-5	DPW Training	DPW	Meetings held	Trucks have been outfitted with spill containment and prevention equipment. Educational workshops for supervisors.	Continuing education and training for supervisors and crew foremen. Programs sponsored by Barnstable County Board Of Heath.
Revised					
3-6	Public Information on Illicit Connections	DPW/Admin.	Maintain report file	Not implemented.	Implement and incorporate in conjunction with BMP 1-1.
Revised					

#### 3a. Additions

3a-1	Revisions/Updates	Engineering/DPW/ Planning/Board of Health	Revisions and additions to existing practices		Update illicit discharge detection and elimination practices to reflect new MS4 Permit.
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#### 4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – New MS4 Permit
4-1 Revised	Con. Com. Bylaw Review	Con. Com.	Review and/or revise bylaws	A stormwater by-law has been drafted and is currently being reviewed.	Approval of the Stormwater bylaw regulation by the Selectmen and implementation.
4-2 Revised	Planning Board Regulations Review	Planning Board	Review and/or revise regulations	See BMP 4-1.	See BMP 4-1.
4-3 Revised	Zoning Bylaw Review	Planning Board	Review and/or revise regulations.	See BMP 4-1.	See BMP 4-1.
Revised					

#### 4a. Additions

4a-1	Updates and revisions	Con. Com./Planning Board	Updated bylaws, rules, and regulations		Update bylaws, rules, and regulations to reflect New MS4 Permit
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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 (Reliance on non-municipal partners indicated, if any)	Planned Activities – New MS4 Permit
5-1 Revised	Con. Com Bylaw Review	Con. Com.	Review and/or revise bylaws	Review of current regulations and incorporation into the newly created stormwater by-law.	See BMP 4-1.
5-2 Revised	Planning Board Regulations Review	Planning Board	Review and/or revise regulations	Review of current regulations and incorporation into the newly created stormwater by-law.	See BMP 4-1.
5-3 Revised	Zoning Bylaw Review	Planning Board	Review and/or revise regulations.	Review of current regulations and incorporation into the newly created stormwater by-law.	See BMP 4-1.
Revised					
Revised					
Revised					

### 5a. Additions

5a-1	Updates and revisions	Con. Com./Planning Board	Updated bylaws, rules, and regulations		Update bylaws, rules, and regulations to reflect Phase III.
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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 (Reliance on non-municipal partners indicated, if any)	Planned Activities – New MS4 Permit
6-1	DPW Policy Guide	DPW	Preparation of Policy Guide	Catch basin and street sweeping program developed and implemented.	Program is ongoing.
Revised					
6-2	DPW Annual Training	DPW	Complete annual training	Reviewed proprietary education dvds.	Implement and revise schedule to coincide with BMP 3-5.
Revised					
6-3	DPW Permit Filing	DPW	Copies of permits on file	Implemented and on-going.	Continue filing permits and adhere to DEP, and local design standards.
Revised					
Revised					
Revised					

**6a. Additions**

6a-1	Updates and revisions	DPW	Updated municipal operations		Update municipal operations to reflect New MS4 Permit.
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**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – New MS4 Permit
Revised					

**7a. Additions**

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**7b. WLA Assessment**

**Part IV. Summary of Information Collected and Analyzed**

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

Stormwater management position created/staffed (dual position)	(y/n)	Y
Annual program budget/expenditures (Capital Improvement Program)	(\$)	50,000.00 Funded for FY 2017

**Education, Involvement, and Training**

Estimated number of residents reached by education program(s)	(# or %)	New Program Televised 100%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Y 65 +/- Miles
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	4
▪ community participation	(%)	
▪ material collected	(tons or gal)	
School curricula implemented – Elementary & Middle School Grades	(y/n)	Y

## Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination			X	
▪ Erosion & Sediment Control	X			
▪ Post-Development Stormwater Management	X			
Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination			X	
▪ Erosion & Sediment Control	X			
▪ Post-Development Stormwater Management	X			

## Mapping and Illicit Discharges

Outfall mapping complete (known outfalls. Detection is ongoing)	(%)	100
Estimated or actual number of outfalls (known outfalls. Detection is ongoing)	(#)	129
System-Wide mapping complete	(%)	95
Mapping method(s)		
▪ Paper/Mylar	(%)	100
▪ CADD	(%)	
▪ GIS	(%)	100
▪ Asset Management Software program	(%)	100
Outfalls inspected/screened	(# or %)	20
Illicit discharges identified	(#)	Ongoing
Illicit connections removed	(#)(est.gpd)	
% of population on sewer	(%)	3
% of population on septic systems	(%)	97

### Construction

Number of construction starts (>1-acre)	(#)	4
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed	(# or %)	4 ea. project
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	0

### Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100% By design
Site inspections completed	(# or %)	4 ea. project
Estimated volume of stormwater recharged	(gpy)	

### Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	Seasonal
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	Seasonal
Total number of structures cleaned ( 3,600 +/- Total), Clean approx. 30-40 month)	(#)	On-going
Storm drain cleaned (See above)	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	2 C.Y. Each
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Town Owned Compost Facility
Cost of screenings disposal	(\$)	No Cost

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	3 or as needed
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	3 or as needed
Qty. of sand/debris collected by sweeping	(lbs. or tons)	35 C.Y./Day
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Compost Facility
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	N/A
Vacuum street sweepers specified in contracts	(y/n)	N/A

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers                      Reduction from 3 lbs per acre to 2 lbs per acre	(lbs. or %)	2 lbs per Acre
▪ Herbicides	(lbs. or %)	None Used
▪ Pesticides	(lbs. or %)	Minimal Used

Anti-/De-Icing products and ratios	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	Started 2008
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	Y (8)
Estimated net reduction in typical year salt application	(lbs. or %)	125 #/per Lane Mile
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	Complete