

**CONSERVATION  
COMMISSION**

Town Hall  
Room 212  
135 School Street  
Walpole, MA 02081  
Phone (508) 660-7268  
Fax (508) 668-2071

**Town of Walpole  
Commonwealth of Massachusetts**

April 26, 2007

Ann Herrick  
U.S. Environmental Protection Agency  
NPDES Phase II MS4 General Permit Coordinator  
1 Congress Street, suite 1100 (CIP)  
Boston, MA 02114-2023

Fred Civian  
Massachusetts Department of Environmental Protection  
One Winter Street, 5<sup>th</sup> floor  
Boston, MA 02118

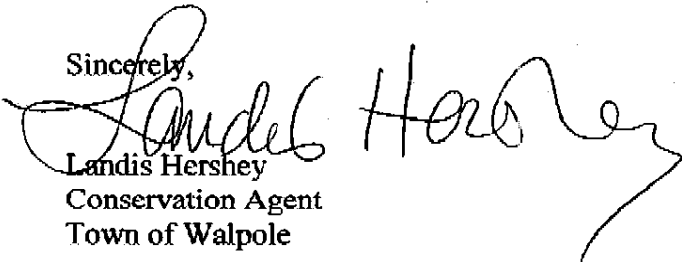
RE: NPDES General Permit Notice of Intent for Discharges from Small Municipal  
Separate Storm Sewer Systems (MS4)  
Town of Walpole

Dear Coordinator,

Enclosed please find the 2007 NPDES Stormwater General Permit Annual Report for the  
Town of Walpole, MA. The Annual Report has also been filed with Frederick Civian,  
DEP Phase II Coordinator.

If you have any questions please call Landis Hershey, Conservation Agent (508 660-  
7253) or Maggie Walker, Town Engineer (508 660-7213).

Sincerely,

  
Landis Hershey  
Conservation Agent  
Town of Walpole

## Part II. Self-Assessment

The Town of Walpole has completed the required self-assessment of the annual compliance review for the Phase II Stormwater Program. In accordance with the NPDES Phase II Stormwater requirements, the following topics were evaluated for the completion of the Annual Report:

1. Compliance with the Phase II Permit Conditions
2. Appropriateness of the Selected BMPs
3. Progress Towards Achieving the Program's Measurable Goals
4. Results of Any Information that has been Collected and Analyzed
5. Activities for the Next Reporting Cycle
6. Changes in Identified BMPs or Measurable Goals

The Town has determined that our municipality is in compliance with all permit conditions.

**Part III. Summary of Minimum Control Measures**

**1. Public Education and Outreach**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)</b>	<b>Planned Activities – Permit Year 5</b>
1A	Develop Stormwater Section of Town Website	IT Department, Engineering Department, and Conservation	Number of hits annually cannot be measured separately because software/IT is not set up for this action.	Notices regarding Mtgs were posted on website.  Page/Link on Town website has been established. Notices regarding meetings, bylaws, and other information is posted by Conservation Agent.	Continue to post information on website
Revised					
1B	Distribute Brochures and Fact Sheets to Businesses and Residents	Conservation Commission,	Goals met as finances allowed for copies.	Conservation Agent has created a Public Outreach Bulletin Board within Town hall for pertinent notices and information.	Distribution of fact sheets to local businesses and residents.
Revised					
1C	Publish Articles on Stormwater Protection in Local Newspaper	Engineering Department, Conservation Commission	Clippings of articles and advertisements printed from the local newspaper.	Town Engineer, ConCom Agent and Health Agent performed a TV Video cable TV production entitled "The ABC's and BMP's of Stormwater management".	Submit articles on stormwater management to local newspaper on a seasonal basis.
Revised			Copy of video production	Stormwater related articles published in local newspaper	

**1a. Additions**


**2. Public Involvement and Participation**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
2A	Establish a Stormwater Telephone Hotline	Conservation Commission and Town Administration	Record number of telephone calls to hotline.	Hotline has been established. ConCom Department receives calls in their office.	ConCom Department takes calls.  Availability of this number and service is published.
Revised					
2B	Conduct River, Stream, and Pond Cleanups	Pond Management Committee	Cleaner streams as documented by before and after photographs.	NOI specified to begin this BMP in Permit Year 2. This was not accomplished again this year due to manpower issues, but it is anticipated that this will be dealt with during year 5, if staffing and funding permits.	Members of the Conservation Commission and Pond Committee work with local volunteers on clean up days.  Tags to be placed at catch basins to inform public regarding illicit discharges. Public will be involved in the installation of tags.
Revised					
2C	Prepare Press Release	Engineering Department, Board of Health, Sewer and Conservation Department.	Copies of press articles.	Selectmen has hearing relative to adoption of Town's Phase II Plan.  Several articles have been printed in the Walpole Times regarding Stormwater Management efforts.	Prepare press release describing any ongoing Phase II program and stormwater related information will be made as they occur.
Revised					

**2a. Additions**


### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
3A	Develop Town Storm Drain Outfall Map	Engineering Department, Department of Public Works, Sewer and Water Department, and Consultant	All outfalls mapped by first year. Copy of storm drain map.	Town storm drain completed in a GIS format with the assistance of a consultant during Year 1.	Update and revise map as needed based on new development or differences observed in the field.  New developments and infrastructure added as they come in.
Revised					
3B	Develop Illicit Discharge Prohibition Bylaw	Conservation Commission, Planning Board, Board of Health, Sewer and Water Department, and Consultant	Illicite Discharge Bylaw was approved at Town meeting Fall 2006	An Illicit Discharge Bylaw was approved at the Fall 06 Town Meeting.	Administer Illicite Discharge Bylaw
Revised					
3C	Develop Illicit Discharge Detection and Elimination Plan and Implement Activities	Engineering Department, Board of Health, Town Administrator.	All outfalls examined by year 2. Sources traced and conclusion documented within one year of discovery.	Examination of 90% of the outfalls has been completed during year 1 with the assistance of a consultant. 5 of the remaining 10% were done in year 2. (22 out of 433)	Site where septic discharge was locate is connecting to the municipal sewer system.

Revised					
3D	Incorporate Information on Illicit Discharges into Public Education and Outreach Topics	Board of Health, Conservation Commission, Town Administrator.	Copies of materials.	Conservation Agent has created a Public Outreach Bulletin Board within Town hall for pertinent notices and information.	Include illicit discharge information with water and sewer bills.
Revised					
3E	Identify Department to Take Stormwater Calls	Conservation Commission	Log of complaints and actions taken.	Hotline has been established. ConCom Secretary receives calls in their office..	ConCom Secretary takes calls.
Revised					Availability of this number and service is published.

**3a. Additions**

**4. Construction Site Stormwater Runoff Control**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
4A	Develop Stormwater Management and Erosion Control Bylaws and Regulation	Conservation Commission	Adopted Bylaw	A Stormwater Management and Erosion Control Bylaw as been drafted with the assistance of a consultant. The draft ordinance is under review by	Bylaw to be presented to various Town Boards before going to Town meeting.

Revised					
4B	Develop Guidance for Erosion Controls	Conservation Commission, Town Engineer.	Inspection checklist and documented inspections.	Guidance materials and a checklist for erosion controls were developed for use With approved bylaws. These can be found in appendix D, Attachment DF of Walpole's Stormwater Management Master Plan.  An Erosion Control Bylaw has been drafted with the aid of a consultant. A consultant is currently working on erosion control guidance materials and an inspection checklist for use with the bylaws.	Bylaw to be presented to various Town Boards before going to Town meeting, planned for Spring 2007  First public mtg. Regarding these documents was held to gather info on September 15,2004, and public meeting sessions are currently ongoing before the Conservation C omission.
Revised					
4C	Identify Department to Take Stormwater Calls	Conservation Commission	Record number of phone calls to hotline, copies of advertisement.	Hotline has been established. ConCom Secretary receives calls in their office..	ConCom Secretary takes calls.  Availability of this number and service is published.
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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year5
5A	Develop Stormwater Management and Erosion Control Bylaw	Conservation Commission	Adopted Bylaw	A Stormwater Management and Erosion Control Bylaw as been drafted with the assistance of a consultant. The	Bylaw to be presented to various Town Boards before going to Town meeting.

Revised					
5B	Develop BMP Design Standards	Engineering Department, and Conservation Commission	Copy of design standards.	A consultant has prepared BMP design standards that supplement the Massachusetts Stormwater Management Policy..	Design standards will be developed and incorporated into proposed bylaw regulations.
Revised					
5C	Develop and Implement Inspection Program	Conservation Commission, Engineering Department, and Highway Department,	Retain copies of maintenance reports received annually, plus records of inspections completed and results.	A Stormwater Management Bylaw has been drafted, with the aid of a consultant, and is currently being reviewed by Conservation Commission and general public for input..	Begin developing an inspection program to ensure maintenance of BMPs, which can be used to implement the proposed bylaw. However, implementation will be guided by available personnel and budget allowances.
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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
6A	Clean Catch Basins	Highway Department	Clean all catch basins.	Catch basin cleaning is an ongoing operation of the Highway Department. Town owned catch basins are cleaned annually, during the Spring season.  Typically, 1/3 of basins per year are cleaned.	Catch basin cleaning operations will continue on an annual basis.
Revised					
6B	Sweep Streets in Town	Highway Department	Priority plan of sweeping based on water quality impact. Volume of sweepings collected.	Street sweeping is an ongoing operation of the Highway Department. Town owned streets are swept annually, during the Spring season.	Street sweeping operations will continue on an annual basis.  Work on prioritizing areas and refining sweeping schedule.



Revised					
6C	Develop and Implement an Inspection and Maintenance Plan	Engineering Department, Conservation Commission, and Highway Department and Consultant	Written schedule. Records of inspections.	Structural BMPs were identified and inspected during outfall mapping activities. Locations of structures have been noted on the storm drain map.	Document inspection results and develop a written inspection schedule.  Again due to budget cuts Engineering GIS operator/field engineering aide position was cut. Town will try to conduct inspections with existing staff.
Revised					
6D	Evaluate Municipal Facilities Throughout Town for Potential Stormwater Impacts and Implement BMPs	Highway Department and Consultant	List of Improvements. Improvements completed by end of year 5.	Evaluations of municipal facilities have been completed. A draft report identifying potential stormwater impacts and BMPs has been completed.	Town parking lot complete.
Revised					
6E	Identify Other Phase II Institutional Entities	Engineering Department and Consultant	List of State and Federal facilities with information on Phase II plans.	Phase II institutional entities have been identified in the Town of Walpole.  The report of Phase II institutional entities' plans was completed.	Completed. Year 2.
Revised					
6F	Ensure Water Quality Improvements are Considered for Flood Projects	Engineering Department	Records of Flood Control Projects.	Continue to ensure that any proposed projects to alleviate flooding will also consider water quality improvements as part of the plan/design.	Continue to ensure that any proposed projects to alleviate flooding will also consider water quality improvements as part of the plan/design.  This is monitored through Engineering Department review of Subdivisions and site plans for conformance with DEP Stormwater guidelines.  Zoning Bylaw re-write committee reviewing bylaw for compliance with DEP Stormwater guidelines.
Revised					

6G	Conduct Town Employee Stormwater Training	Consultant (Town Administrator, Highway Department, and Police and Fire Departments)	Attendance sheet and copy of program.	<p>NOI specified to begin this BMP in Permit Year 2, however, due to reduction in staff and budgets, this goal was not completed.</p> <p>Town will endeavor to complete this item this year.</p>	<p>A Stormwater training program will be developed and implemented to increase Town employees' awareness of stormwater impacts and provide instruction on proper management techniques.</p> <p>It is anticipated that this program may be developed if budgetary constraints allow.</p>
Revised					

**6a. Additions**


**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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
7A	Estimate Pollutant Loadings to Town Waters	Engineering Department and Consultant	Add subwatershed layer to drainage base map. Complete modeling and produce a table of priority water resources.	Pollutant loadings to water bodies throughout the Town have been modeled using PCSWMM. A sub watershed data layer was created and added to the Town's GIS base map. This work was completed with the assistance of a consultant.	Completed year 2.

Revised					
7B	Categorize Drainage System	Engineering Department and Consultant	Table and map of system categorization	Town storm drain systems were categorized, with the assistance of a consultant, based on results of field investigations, existing drainage maps, and subdivision plan reviews.	Completed near 2.
Revised				Completed, and in Stormwater Management Master Plan, Appendix B	
7C	Evaluate Hydraulic Capacity in Areas of Concern	Engineering Department and Consultant	Report of system evaluation and modeling results.	Town storm drain systems experiencing hydraulic capacity issues were identified and modeled where necessary with the assistance of a consultant. Some hydraulic issues were found to be associated with clogged pipes that could be easily remedied.	Completed year 2.
Revised				Completed and in Stormwater management Master Plan, Appendix B.	
7D	Develop Conceptual Stormwater BMPs	Engineering Department and Consultant	Report of drainage system deficiencies.	Deficiencies have been identified and are currently being ranked in order of importance.	Completed year 2.
Revised				Completed and is part of Stormwater Management Master Plan, Appendix D.	
7E	Implement Stormwater BMPs	Engineering Department and Consultant	As-built design plans.	Obtained s. 319 Grant for Clark's Cobbs Pond project.	Obtained funding, for design consultant who is under contract. Implement BMPs starting with priority based on available funding.
Revised					
7F	Construct Structural BMPs at Stormwater Discharges to Memorial Pond	Engineering Department and Consultant	Final design plans.	Construction of stormwater BMP for Memorial Pond has been completed. Final design plans are available through the Town's Engineering Department upon request.	The effectiveness of the BMP will be measured through a sampling effort conducted under the grant received to construct the project.

Revised					
7G	Apply for Grant Funds to Design and Install BMPs at Clarks and Cobbs Ponds	Engineering Department, Pond Management Committee, Town Administration, and Consultant	Copy of grant application and conceptual designs	Grant approval was received for both ponds. Contract has been let, design is ongoing.	Construction of BMPs at both ponds is almost complete as of April 26, 2007.

**7a. Additions**

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**7b. WLA Assessment**

A TMDL report has been completed for fecal coliform bacteria in the Neponset River, which included a WLA for bacteria in Stormwater runoff for all communities within the river's watershed, including Walpole. The TMDL identified several sources of bacteria including illicit discharges to storm drains, leaking sanitary sewers, failing septic systems and Stormwater runoff.

The Town of Walpole's Phase II plan includes structural and non-structural BMPs to identify and address bacteria sources in stormwater. The Town has included public education BMPs, which will provide information to residents to address numerous sources of fecal coliform bacteria. Field investigations and dry weather sampling have also been conducted to identify and eliminate bacteria and other pollutant sources at storm drain outfalls as part of the Town's Illicit Discharge Detection and Elimination program. Field investigation efforts have effectively identified elevated bacteria levels at a storm drain system discharging to the Neponset River. Details for identifying the bacteria source are discussed below.

A Sewer System Evaluation Survey was also completed for Walpole's sewer system to report on any deficiencies. The analysis included inspection of sewer pipes and manholes to identify the worst parts of the system. The goal of the study was to develop a program that the Town could follow to make necessary repairs.

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

High bacteria counts were discovered in a stormwater sample collected from a storm drain system in US Route 1, which discharges to the Neponset River in July 2003. This storm drain system is under the jurisdiction of Massachusetts Highway Department, but partially located within Walpole.

Lab results indicated E. coli (1,800 colonies/100ml) and Fecal Coliform (2,100 colonies/100ml) were present. The initial sample was collected at a culvert crossing Willow Street. Two additional sampling rounds were conducted, with additional locations upstream from Willow Street, in December and January to identify the source of the bacteria. The results of the second and third samples continued to have high bacteria counts, E. coli (280 to 800 colonies/100ml) and Fecal Coliform (90 to 2,400 colonies/100ml). Investigation efforts indicate the source is coming from the neighboring town of Foxboro where a large stormwater detention pond collects runoff from Route 1 and a small brook. This detention pond feeds the stream where the high bacteria counts were discovered.

As stated in Annual report for year 1, further investigation of the Route 1 drainage system was done to identify the source of contamination. Since the above-noted detention basin is located on Route 1, and receives Stormwater discharge from a piping system on that Route located within the adjacent Town of Foxboro, a joint meeting was held with officials from that Town. Foxboro Health Agent was able to bring records dating back almost 20 years that detailed a past very similar problem.

A subsequent meeting was held on site, at which the property owner was present, and was made aware of the problem of contamination. He is required by the Foxboro Board of health to make certain site alterations, leading to abandonment of the septic system on site which is alleged to be causing the downstream contamination. Pumping records are being supplied to both Towns. Developer is exploring installation of new system or connection to Walpole Town Sewer. As of April 2007 the site is in the process of tying into the municipal sewer system.

Several other stormwater samples have been collected throughout the Town at storm drain outfalls experiencing dry weather flows. Lab results from these locations have been evaluated for potential indications of illicit connections. Locations where stormwater samples do indicate a potential illicit connection will receive further attention during the upcoming reporting year.

The Town has been working with the Agricultural School to install gabions to mitigate stormwater flow from animal pastures discharging to municipal waters.

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

**Programmatic**

Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures. No additional [position will be allowed due to tight budget.	(\$)	No

**Education, Involvement, and Training**

Estimated number of residents reached by education program(s)	(# or %) ~ 2-3 dozen	N/A Yes
Stormwater management committee established	(y/n)	No
Stream teams established or supported	(# or y/n)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned		3
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2 (See note)
▪ community participation	(%)	6%
▪ material collected	(tons or gal)	See note
School curricula implemented	(y/n)	No
<i>A six town consortium is used to provide residents with additional hazardous waste days. Residents can participate during hazardous waste days at any participating town.</i>		
<i>Walpole conducted two Hazardous Waste Collection Days, 5-1-04, and 10-2-04. Materials collected during Permit Year 2 include: 440 gal of oil, 95 car batteries, 300 tires, 124 propane tanks, and 253 tvs/monitors.. Approx. 185 cars made deliveries of materials..</i>		

**Legal/Regulatory**

	In Place Prior to Phase II	Under Review	Drafted	Adopted
<b>Regulatory Mechanism Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination			Yes	Fall 2006
▪ Erosion & Sediment Control			yes	
▪ Post-Development Stormwater Management			yes	
<b>Accompanying Regulation Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination				
▪ Erosion & Sediment Control			X	
▪ Post-Development Stormwater Management			X	

**Mapping and Illicit Discharges**

Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	433
System-Wide mapping complete	(%)	100%
<b>Mapping method(s)</b>		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100%
Outfalls inspected/screened	(%)	95%
Illicit discharges identified	(#)	2
Illicit connections removed	(#)	0
<i>Town is working with a consultant to identify and eliminate illicit connections.</i>	(est. gpd)	
% of population on sewer	(%)	70%
% of population on septic systems	(%)	30%

**Construction**

Number of construction starts (>1-acre)	(#)	6
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed <i>2-3 per week</i>	(# or %)	2-3 per week
Tickets/Stop work orders issued	(# or %)	2
Fines collected	(# and \$)	1200
Complaints/concerns received from public	(#)	30
<i>The Town does not have an erosion and sediment control regulation in place yet. A draft Erosion Control Bylaw is under review. Construction projects which fall within a wetland buffer area are required to meet Wetland Protection Act regulations.</i>		

**Post-Development Stormwater Management**

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections completed <i>Inspections ongoing as sites progress.</i>	(# or %)	0
Estimated volume of stormwater recharged Sites comply with DEP Stormwater guidelines	(gpy)	Per DEP Stds.
<i>The Town does not have a Stormwater control regulation in place yet. A draft Stormwater Management Bylaw is under review.</i>		

**Operations and Maintenance**

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	½ CBs/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	2
Total number of structures cleaned	(#)	2400/yr
Storm drain cleaned	(LF or mi.)	1,200 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	60 tons



Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		<i>Off site disposal at an approved facility</i>
Cost of screenings disposal	(\$)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	2-3/mo
Qty. of sand/debris collected by sweeping	(lbs. or tons)	60-70 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) <i>Street sweepings were disposed at the landfill up to last year. Starting in Permit Year 2, street sweepings will be disposed off site at an approved facility.</i>	(location)	See note
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	1
Vacuum street sweepers specified in contracts	(y/n)	Yes

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
<i>Pesticides are applied only when necessary. Six Town employees are licensed to apply pesticides (one commercial licensed) and two arborists. Town continually tries alternatives to reduce the use of chemicals. A written pesticide application policy is in place for the DPW Department throughout the Town. Schools use an IPM plan to reduce the use of pesticide.</i>		

Anti-/De-Icing products and ratios  <i>80:20 sand/salt mixture typically used. Straight salt used as needed.</i>	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	<i>CaCl<sub>2</sub> applied by spray or sand/salt conveyor.</i>
Pre-wetting techniques utilized	(y/n)	no
Manual control spreaders used	(y/n)	yes
Automatic or Zero-velocity spreaders used <i>Adjusts to track speed and roadway characteristics.</i>	(y/n)	
Estimated net reduction in typical year salt application <i>DPW Department conforms to the existing salt reduced routes.</i>	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	yes
Storage shed(s) in design or under construction	(y/n)	N/A