



Department of Public Works  
The Town of Ludlow, Massachusetts

05

April 27, 2005

U. S. Environmental Protection Agency  
Water Technical Unit  
P.O. Box 8127  
Boston, MA 02114

RE: Town of Ludlow – MA041014  
MS4 Phase II Annual Report  
Permit Year II

Dear Sirs/Madams

Enclosed please find a copy of the NPDES Phase II Small MS4 Annual Report for the Town of Ludlow.

Sincerely,

Paul Dzubek, P.E.  
Director of Public Works

Cc: U.S. EPA Water Technical Unit

**Municipality/Organization:** Town of Ludlow

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**EPA NPDES Permit Number:** MA041014

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**MaDEP Transmittal Number:** W-036097

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**Annual Report Number**

**& Reporting Period: No. 2: May 1, 2004 – April 30, 2005.**

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

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

**Contact Person:** Paul Dzubek

**Title:** Director of Public Works

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**Telephone #:** 413-583-5625 x 15

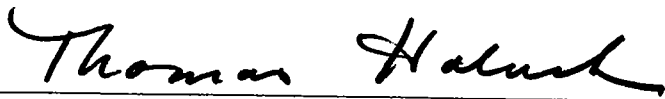
**Email:** pdzubek@ludlow.ma.us

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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:** Thomas Haluch

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**Title:** Chairman, Board of Public Works

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**Date:**

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**Part II. Self-Assessment**

The Town of Ludlow has completed the required self-assessment of compliance with 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

The Town of Ludlow has met the eligibility criteria for “listed species” and critical habitats set forth in the NPDES Small MS4 General Permit. A letter dated March 17, 2005 from the Massachusetts Division of Fisheries and Wildlife, states the Natural Heritage and Endangered Species Program (NHESP) has no record of federally listed species located in the Town of Ludlow.

In addition, the Town identified the location of properties listed in the National Register of Historic Places. It has been determined that one of the two federally listed historic properties is located within the path of the Towns stormwater system (MS4). However, the discharges do not affect the historic property nor is the construction of BMPs being planned to control the discharges. Therefore, the Town has met the eligibility criteria set forth in the NPDES Small MS4 General Permit. In the event that construction activities are planned, care will be taken to limit any adverse effects on the historical site during future activities. A written agreement will be made with the appropriate State Historical Preservation Officer which will outline the measures the applicant will follow to mitigate or prevent adverse effects.

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

**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 2</b><br>(Reliance on non-municipal partners indicated, if any) | <b>Planned Activities – Permit Year 3</b>                                                     |
|-----------------|--------------------------------------------------|--------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1a.             | Create website links.                            | DPW                                  | Post links to EPA & DEP stormwater information.          | <b>Links to DEP and EPA Stormwater information posted on Town of Ludlow website and DPW website.</b> | Update links as necessary and continue EPA and MA DEP stormwater information links.           |
| Revised         |                                                  |                                      |                                                          |                                                                                                      |                                                                                               |
| 1b.             | Make Stormwater Management Plan available.       | DPW                                  | Have Plan copies available at Town Hall, Library, & DPW. | <b>The plan is available.</b>                                                                        | Keep copies of the plan available & update as necessary.                                      |
| Revised         |                                                  |                                      |                                                          |                                                                                                      |                                                                                               |
| 1c.             | Use Arbor Day for publicity.                     | DPW                                  | Distribute stormwater information                        | <b>A proclamation with a stormwater message was published &amp; posted.</b>                          | Use this annual event for distribution of stormwater information. Document # of participants. |
| Revised         |                                                  |                                      |                                                          |                                                                                                      |                                                                                               |
| 1d.             | Hold a household hazardous waste collection day. | DPW                                  | One collection per year.                                 | <b>A household hazardous waste day was held in September 2004.</b>                                   | Hold a household hazardous waste collection in the fall. Document # of participants.          |
| Revised         |                                                  |                                      |                                                          |                                                                                                      |                                                                                               |
| 1e.             | Cable access bulletins.                          | DPW                                  | Air 4 bulletins per year.                                | <b>Bulletins aired April.</b>                                                                        | Continue to run bulletin and update with upcoming stormwater related events                   |
| Revised         |                                                  |                                      |                                                          |                                                                                                      |                                                                                               |
| Revised         |                                                  |                                      |                                                          |                                                                                                      |                                                                                               |

**1a. No additions at this time.**

**2. Public Involvement and Participation**

| <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 2</b><br>(Reliance on non-municipal partners indicated, if any)                          | <b>Planned Activities – Permit Year 3</b>                                                                                      |
|-----------------|-------------------------------------------|--------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 2a.<br>Revised  | Form a stormwater committee.              | Selectmen                            | Begin meeting                     | <b>Stormwater Committee held a meeting in February 2005</b>                                                                   | Continue to hold committee meetings bi-annually. Post meeting minutes on DPW website                                           |
| 2b.<br>Revised  | Develop storm water bylaws.               | Stormwater Committee                 | Public hearing held.              | Draft bylaw developed.                                                                                                        | Public Hearing to be held prior to at October 2005 Town Meeting                                                                |
| 2c.<br>Revised  | Develop a catch basin stenciling program. | DPW                                  | Number of catch basins stenciled. | Stenciling program developed and volunteers recruited to conduct stenciling in May-June 2005, starting at the Chicopee River. | Begin stenciling program and recruit more volunteers. Stencil next highest priority location, Minnehog Pond and Haviland Pond. |
| 2d.<br>Revised  | Town Meeting consideration of bylaws      | Board of Selectman                   | Recorded vote of Town Meeting     | <b>Draft bylaw developed.</b>                                                                                                 | Draft bylaw to be placed on October 2005 Town Meeting warrant                                                                  |
| Revised         |                                           |                                      |                                   |                                                                                                                               |                                                                                                                                |

**2a. Additions**

|    |                |     |                                              |  |                                                                                                         |
|----|----------------|-----|----------------------------------------------|--|---------------------------------------------------------------------------------------------------------|
| 2e | Scout Outreach | DPW | Conduct two Informational Meetings per year. |  | Recruit scout troop(s) to deliver educational materials to community members during scouting activities |
|----|----------------|-----|----------------------------------------------|--|---------------------------------------------------------------------------------------------------------|

**3. Illicit Discharge Detection and Elimination**

| <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 2</b><br>(Reliance on non-municipal partners indicated, if any)                | <b>Planned Activities – Permit Year 3</b>                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 3a.             | Draft a drainage system bylaw                                                                              | Stormwater Committee                 | Draft bylaw ready for Town Meeting in year 2.                                                                        | <b>Draft bylaws developed.</b>                                                                                      | Submit bylaw to October 2005 Town Meeting for consideration.                                     |
| Revised         |                                                                                                            |                                      |                                                                                                                      |                                                                                                                     |                                                                                                  |
| 3b.             | Map the MS4.                                                                                               | DPW                                  | Completed map.                                                                                                       | <b>Continue to update map as additional segments are added. Continue field verification and inspection project.</b> | Continue map updates and outfall and receiving water inspections to identify high priority area. |
| Revised         |                                                                                                            |                                      |                                                                                                                      |                                                                                                                     |                                                                                                  |
| 3c.             | Develop & implement a system to find and remove illicit discharges (Illicit Discharge Elimination Program) | DPW                                  | All outfalls checked by end permit term. Misconnections removed recorded. Ongoing rotation of inspections scheduled. | <b>IDEP in development stage. Outfalls inspected at random.</b>                                                     | Submit draft IDEP to applicable town departments for review. Continue outfall inspections.       |
| Revised         |                                                                                                            |                                      |                                                                                                                      |                                                                                                                     |                                                                                                  |
| Revised         |                                                                                                            |                                      |                                                                                                                      |                                                                                                                     |                                                                                                  |
| Revised         |                                                                                                            |                                      |                                                                                                                      |                                                                                                                     |                                                                                                  |

**3a. Additions**

|    |                                                          |     |                                            |                                             |                                                                                                 |
|----|----------------------------------------------------------|-----|--------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------|
| 3d | Accidental Spill Prevention - Sight Distance Improvement | DPW | Reduce one sight distance hazard per year. | Removed sight distance hazard on Kendall St | Continue sight distance mitigation. Increase sight distance on one vertical curve, if feasible. |
|----|----------------------------------------------------------|-----|--------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------|

**4. Construction Site Stormwater Runoff Control**

| <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 2</b><br>(Reliance on non-municipal partners indicated, if any) | <b>Planned Activities – Permit Year 3</b>                                                                                            |
|-----------------|------------------------------------------------------|--------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 4a              | Develop construction site runoff control regulations | Stormwater Committee                 | Interdepartmental policy in place. | <b>Draft bylaw has been developed.</b>                                                               | Further develop bylaw to include enforcement procedures. Draft bylaw to be submitted to Town Meeting for consideration October 2005. |
| Revised         |                                                      |                                      |                                    |                                                                                                      |                                                                                                                                      |
| Revised         |                                                      |                                      |                                    |                                                                                                      |                                                                                                                                      |
| Revised         |                                                      |                                      |                                    |                                                                                                      |                                                                                                                                      |
| Revised         |                                                      |                                      |                                    |                                                                                                      |                                                                                                                                      |

**4a. Additions**

|    |                                             |                     |                                         |  |                                                                                                    |
|----|---------------------------------------------|---------------------|-----------------------------------------|--|----------------------------------------------------------------------------------------------------|
| 4b | Multi-Departmental Pre-Project Release Form | Building Department | Institute Multi-Department Release Form |  | Develop release form on which all town departments must sign prior to issuance of building permit. |
|----|---------------------------------------------|---------------------|-----------------------------------------|--|----------------------------------------------------------------------------------------------------|

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

| <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 2</b><br>(Reliance on non-municipal partners indicated, if any) | <b>Planned Activities – Permit Year 3</b>                                    |
|-----------------|------------------------|--------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 5a.             | Adopt bylaw.           | Stormwater Committee                 | Prepare for Town Meeting. | <b>The Stormwater Committee has met to develop, discuss, and review draft bylaws in February</b>     | Draft bylaw to be submitted to Town Meeting for consideration, October 2005. |
| Revised         |                        |                                      |                           |                                                                                                      |                                                                              |
| Revised         |                        |                                      |                           |                                                                                                      |                                                                              |
| Revised         |                        |                                      |                           |                                                                                                      |                                                                              |
| Revised         |                        |                                      |                           |                                                                                                      |                                                                              |
| Revised         |                        |                                      |                           |                                                                                                      |                                                                              |
| Revised         |                        |                                      |                           |                                                                                                      |                                                                              |

**5a. Additions**

|    |                                                           |     |                |  |                                                                                                                                        |
|----|-----------------------------------------------------------|-----|----------------|--|----------------------------------------------------------------------------------------------------------------------------------------|
| 5b | Detention/Retention/<br>Infiltration Basin<br>Inspections | DPW | Inspection Log |  | Develop inspection program for all detention, retention, and infiltration basins to ensure proper function during future storm events. |
|----|-----------------------------------------------------------|-----|----------------|--|----------------------------------------------------------------------------------------------------------------------------------------|

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

| <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 2<br/>(Reliance on non-municipal partners indicated, if any)</b> | <b>Planned Activities – Permit Year 3</b>     |
|-----------------|------------------------|--------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 6a.             | Clean catch basins.    | DPW                                  | Clean all catch basins once per year. | <b>All catch basins were cleaned.</b>                                                                 | All catch basins will be cleaned.             |
| Revised         |                        |                                      |                                       |                                                                                                       |                                               |
| 6b.             | Sweep streets          | DPW                                  | Sweep all streets                     | <b>All streets were swept.</b>                                                                        | All streets will be swept subject to funding. |
| Revised         |                        |                                      |                                       |                                                                                                       |                                               |
| Revised         |                        |                                      |                                       |                                                                                                       |                                               |
| Revised         |                        |                                      |                                       |                                                                                                       |                                               |
| Revised         |                        |                                      |                                       |                                                                                                       |                                               |
| Revised         |                        |                                      |                                       |                                                                                                       |                                               |

**6a. Additions**

|     |                                     |     |                                                                                                                            |  |                                                                           |
|-----|-------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------|
| 6b. | Municipal Employee Training Program | DPW | Institute a Stormwater Awareness Program for all Public Works employees                                                    |  | Conduct two stormwater awareness workshop per year for DPW employees      |
| 6c. | Municipal Facility Assessment       | DPW | Develop detailed map of all municipal facilities, identify receiving waters, conduct clean up operations of all facilities |  | Begin mapping program for each municipally owned facility.                |
| 6d. | Management Education                | DPW | Remain up-to-date with current Stormwater policies and regulation                                                          |  | Attend Stormwater management classes and/or seminars, 2 per year minimum. |

**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

| <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 2</b><br>(Reliance on non-municipal partners indicated, if any)                 | <b>Planned Activities – Permit Year 3</b>                                                                                                                     |
|-----------------|------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>7a.</b>      | Map drainage to Minechoag Pond.                                  | DPW                                  | Document drainage to pond & identify all possible sources.                                       | <b>The drainage to Minnechoag Pond has been mapped.</b>                                                              | Investigate potential pollutant sources. Develop BMP once sources are identified.                                                                             |
| Revised         |                                                                  |                                      |                                                                                                  |                                                                                                                      |                                                                                                                                                               |
| <b>7a-1</b>     | Reconstruct drainage system to Minnechoag Pond from East Street. | DPW                                  | Reduce sediment load reaching the pond from a major street via flow from a substantial discharge | <b>Contract awarded to Bryant Associates of Amherst, MA. for design of drainage improvements to Minnechoag Pond.</b> | Work closely with consultant to design the drainage system to remove sediment load to Minnechoag Pond. Secure funding for drainage improvements construction. |
| Revised         |                                                                  |                                      |                                                                                                  |                                                                                                                      |                                                                                                                                                               |
| Revised         |                                                                  |                                      |                                                                                                  |                                                                                                                      |                                                                                                                                                               |
| Revised         |                                                                  |                                      |                                                                                                  |                                                                                                                      |                                                                                                                                                               |
| Revised         |                                                                  |                                      |                                                                                                  |                                                                                                                      |                                                                                                                                                               |

**7a. No additions at this time**

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

No significant amount of information has yet been collected

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

|                                                |           |  |
|------------------------------------------------|-----------|--|
| Stormwater management position created/staffed | No        |  |
| Annual program budget/expenditures             | ~\$40,000 |  |
|                                                |           |  |
|                                                |           |  |

**Education, Involvement, and Training**

|                                                                         |         |  |
|-------------------------------------------------------------------------|---------|--|
| Estimated number of residents reached by education program(s)           | 150     |  |
| Stormwater management committee established                             | Yes     |  |
| Stream teams established or supported                                   | No      |  |
| Shoreline clean-up participation or quantity of shoreline miles cleaned | No      |  |
| Household Hazardous Waste Collection Days                               |         |  |
| ▪ days sponsored                                                        | 1       |  |
| ▪ community participation                                               | 5       |  |
| ▪ material collected                                                    | 800 gal |  |
| School curricula implemented                                            | No      |  |
|                                                                         |         |  |
|                                                                         |         |  |

**Legal/Regulatory**

|                                                    | In Place<br>Prior to<br>Phase II | Under<br>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               | 60%  |  |
| Estimated or actual number of outfalls | ~200 |  |
| System-Wide mapping complete           | 95%  |  |
| Mapping method(s)                      |      |  |
| ▪ Paper/Mylar                          | 100% |  |
| ▪ CADD                                 | 50%  |  |
| ▪ GIS                                  | 50%  |  |
| Outfalls inspected/screened            | ~10  |  |
| Illicit discharges identified          | 0    |  |
| Illicit connections removed            | 0    |  |
| % of population on sewer               | 60%  |  |
| % of population on septic systems      | 40%  |  |
|                                        |      |  |
|                                        |      |  |

**Construction**

|                                                                                                   |      |  |
|---------------------------------------------------------------------------------------------------|------|--|
| Number of construction starts (>1-acre)                                                           | ~13  |  |
| Estimated percentage of construction starts adequately regulated for erosion and sediment control | 100% |  |
| Site inspections completed                                                                        | ~60  |  |
| Tickets/Stop work orders issued                                                                   | 1    |  |
| Fines collected                                                                                   | \$0  |  |
| Complaints/concerns received from public                                                          | ~5   |  |
|                                                                                                   |      |  |
|                                                                                                   |      |  |

**Post-Development Stormwater Management**

|                                                                                                                          |          |  |
|--------------------------------------------------------------------------------------------------------------------------|----------|--|
| Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control |          |  |
| Site inspections completed                                                                                               | (# or %) |  |
| Estimated volume of stormwater recharged                                                                                 | (# or %) |  |
|                                                                                                                          | (gpy)    |  |
|                                                                                                                          |          |  |

**Operations and Maintenance**

|                                                                                                |           |  |
|------------------------------------------------------------------------------------------------|-----------|--|
| Average frequency of catch basin cleaning (non-commercial/non-arterial streets)                | 1 time/yr |  |
| Average frequency of catch basin cleaning (commercial/arterial or other critical streets)      | 1 time/yr |  |
| Total number of structures cleaned                                                             | ~1000     |  |
| Storm drain cleaned                                                                            |           |  |
| Qty. of screenings/debris removed from storm sewer infrastructure                              | ~1200 yd  |  |
| Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.) | Landfill  |  |
| Cost of screenings disposal                                                                    | \$        |  |
|                                                                                                |           |  |
|                                                                                                |           |  |

|                                                                                      |           |  |
|--------------------------------------------------------------------------------------|-----------|--|
| Average frequency of street sweeping (non-commercial/non-arterial streets)           | 1 time/yr |  |
| Average frequency of street sweeping (commercial/arterial or other critical streets) | 1time/yr  |  |
| Qty. of sand/debris collected by sweeping                                            | ~900 yd   |  |
| Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)                | Compost   |  |

|                                               |          |  |
|-----------------------------------------------|----------|--|
| Cost of sweepings disposal                    | \$25,000 |  |
| Vacuum street sweepers purchased/leased       | 1        |  |
| Vacuum street sweepers specified in contracts | Yes      |  |
|                                               |          |  |
|                                               |          |  |

|                                                                                        |             |  |
|----------------------------------------------------------------------------------------|-------------|--|
| Reduction in application on public land of: ("N/A" = never used; "100%" = elimination) |             |  |
| ▪ Fertilizers                                                                          | (lbs. or %) |  |
| ▪ Herbicides                                                                           | (lbs. or %) |  |
| ▪ Pesticides                                                                           | (lbs. or %) |  |
|                                                                                        |             |  |
|                                                                                        |             |  |

|                                                          |                                                                                                    |  |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------|--|
| Anti-/De-Icing products and ratios                       | 45% NaCl<br>5% CaCl <sub>2</sub><br>0% MgCl <sub>2</sub><br>0% CMA<br>0% Kac<br>0% KCl<br>50% Sand |  |
| Pre-wetting techniques utilized                          | Yes                                                                                                |  |
| Manual control spreaders used                            | Yes                                                                                                |  |
| Automatic or Zero-velocity spreaders used                | No                                                                                                 |  |
| Estimated net reduction in typical year salt application | 0                                                                                                  |  |
| Salt pile(s) covered in storage shed(s)                  | Yes                                                                                                |  |
| Storage shed(s) in design or under construction          | No                                                                                                 |  |
|                                                          |                                                                                                    |  |
|                                                          |                                                                                                    |  |