year 3

Municipality/Organization: City of Malden

EPA NPDES Permit Number: MA041046

MaDEP Transmittal Number: W-041088

Annual Report Number & Reporting Period: No. 1: March 05-March 06

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Richard C. Howard Title: Mayor

Telephone #: 781-397-7000 Email:

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: [signature]

Printed Name: RICHARD C HOWARD

Title: mayor

Date: 7-27-07

Part II. Self-Assessment

Significant progress in meeting the conceptual as well as physical goals and objectives of NPDES PII/MS4 BMP implementation was achieved through the completion of a detailed inventory of the City's storm water management system and the acquisition of a Vac Tor sediment removal vehicle to enable the cleaning and repair of storm water appurtenances. During the reporting period of April 30, 2005 through March 1, 2006, an aggressive catch basin cleaning and stenciling program was performed. During this activity, drainage lines were also cleaned and mitigation requirements identified. In December of 2005, the City of Malden was required to respond to an informational request and a specific s. 308 program scope of work Request for Information Pursuant to Section 308 of Clean Water, Docket No. 06-308-052. This document and corresponding responses became the outline for comprehensive efforts performed by the City of Malden to meet the goals and objectives of NDPES PII Small MS4 program.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
1-1	Place Educational Information on City's Web Site	Malden Engineering Dept., Malden Mayor's Office	(1)post stormwater related information on web site (2) update site regularly	Malden's Stormwater Management Plan (SWMP) posted on the City's web site. Hazardous Waste Disposal Events. Street Sweeping info.	Continue posting pertinent info on city web site and as press releases
Revised					
1-2	Conduct Recycling Day Events & Household Hazardous Waste Education	Malden DPW, Malden Mayor's Office	(1) sponsor up to 6 annual recycling events (2) advertise the events on MATV "Talking" Bulletin Board (3) advertise events on city's web site and local papers (4) track amounts and types of waste collected (5) maintain and update City's web site.	DPW held four hazards waste days at DPW facility. They accepted a large amount of household waste.	DPW will continue these events.
Revised					

1-3	Intensify the Existing Pet waste Management Campaign	Malden Animal Control Dept., Malden City Clerk	(1) track number of annual fact sheets (2) track the number of annual violations (3) post pet wastes information on web site (4) track the number of signs posted (5) issue press release to local papers	No activity reported.	The success of public outreach activities will be monitored during Year 4 with the development of appropriate recommendations for any additions or modifications to the current program
Revised					
1-4	Place Educational Information on Malden Access Television	Malden Engineering Dept., Malden Access Television	(1) obtain "Oil Leak" & "Fertilizer" PSAs fro Washington St. Dept. of Ecology Water Quality Consortium (2) track the broadcast of PSAs on MATV (3) track the broadcast of Eagle Scout Catch Basin stenciling video on MATV (4) track frequency of stormwater quality message being shown on "Talking" Bulletin Board (5) track public meeting occurring on proposed Illicit Discharge & Connection Stormwater Ordinance and Sedimentation & Erosion Control Ordinances on MATV	Information is posted regularly on MATV to inform the City's citizens about stormwater and the work of the SW II Committee.	The city will continue to post schedule of storm water related programs. We will seek video programs to air on MATV. During 2005 a cable advisory show was sponsored by MYRA and the City of Malden to discuss water quality issues pertaining to the Malden and Mystic Rivers.

Revised					
1-5	Promote Water Conservation Practices for Homeowners	Malden Waterworks Division	(1) track number of dye tablets given to Engineering Dept. (2) track number of water-efficiency kits issue by Engineering Dept. (3) post water conservation information of Water Dept. web page (4) post water conservation posters at Government Center and library (5) include water conservation inserts in water bill (6) issue annual press release to local newspapers	MWRA brochures made public to Malden's citizens. Malden and the MWRA create and distribute annual Consumer Confidence Report (CCR) dealing with water conservation among other issues.	Informational brochures will be continually updated and made available to Malden City residents.
Revised					
1-6	Develop a Press Release & Flyer Targeting Community Businesses	Malden Engineering Dept., Malden Mayor's Office	(1) Submit the press release to Malden Advocate and other newspapers, (2) submit copies of flyers to local Chamber of Commerce, (3) post flyer on City's website	No activity reported.	This action item to be addressed during Year 5 of the permit.
Revised					

1a. Additions

1-7	Establish a partnership with local schools to educate Malden's students about stormwater	Malden School Department, Stormwater II Committee	(1) enter into discussion with faculty members (2) plan appropriate curriculum (3) plan appropriate field trips/activities (4) plan for various speakers to address the class/classes about stormwater	Malden Engineering Department was invited to a Beebe School teacher planning meeting to lay out curriculum to involve storm water. Beebe School students researched storm water topics via the internet etc. followed by the creation of individual brochures. Classroom workshops were held at the Beebe School to review and discuss storm water management issues and community participation projects. Included amongst these activities were classroom projects directed towards the control of geese population and water quality issues in Fellsmere Pond.	Plan for this partnership to be an ongoing effort in the coming years.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
2-1	Public Access to SWMP & Receipt of Comments	Malden Engineering Department, Malden Mayor's Office	(1) make the Draft SWMP access to public, (2) Draft press release advertising public comment period, (3) make final SWMP accessible to public	The SWMP has been made accessible to the public at the DPW Facility and on the City's web site. Informational press release advertising the public comment period was submitted to the local newspaper and yielded no comments from the public.	The Storm Water Committee will continue to make their activities open to the public.
Revised					
2-2	Establish SWMP Review Committee & Receive Public Comment on SWMP Annual Report	Malden Mayor's Office	(1) establish SWMP Review Committee (2) conduct quarterly meetings of committee (3) prepare annual report for permitting authorities (4) send press release advertising comment period (5) advertise public comment period at City Clerk's office (6) receive public comment on report (7) submit annual report to EPA and MA DEP	SWMP Review Committee has been established with seven members from the following departments: Mayor's Office, Engineering Dept. Conservation Commission, City Council, DPW and Beebe Elementary School. Based upon guidance developed during the implementation of comprehensive measures associated with the Section 308 program, more effective integration of the SWMP Review Committee and a multi-disciplinary team of outside consultants was performed.	The City of Malden has developed a technical compliance team to address the goals and objectives of the Section 308 Program.
Revised					

2-3	Provide Support to Local Cleanup Activities	Malden DPW, Malden Conservation Commission	(1) distribute annual letter offering help with local cleanup activities (2) place letter on City's web site (3) track the number of annual activities DPW helps with (4) track number of participants at cleanup activity (5) track which areas are cleaned by each activity (6) track the quantity of waste collected in cleanup activity	No activity to be reported	The City of Malden will continue to support all local cleanup activities and community participation.
Revised					
2-4	Co-sponsor Storm Drain Stenciling Activities	Malden DPW, Malden Conservation	(1) distribute annual letter offering to cosponsor storm drain stenciling activity (2) identify areas for stenciling and develop a schedule (3) track number of drains stenciled (4) track number of volunteers in stenciling activities (5) summarize condition of inlets surveyed	Catch basin inventory and stenciling was initiated during this reporting period.	This activity will continue in conjunction with the ongoing comprehensive catch basin cleaning program.
Revised					

Revised					
Revised					

2a. Additions

	Educational Brochures	Malden Public Schools	Brochure production	During Year 3 several education pamphlets and brochures pertaining to the management of storm water were produced by students at the Beebe School.	Support for this program will be continued by the City of Malden.
	Citizen Advisory Group sampling programs	MYRA	Targeted sampling of outfalls	Representatives of the City's storm water management team have worked with local advisory groups to identify areas of concern and share environmental data pertaining to storm water quality.	Participation in this regional effort will continue.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
3-1	Field Verify Outfall Locations	Malden Engineering Dept., Malden DPW	(1) develop schedule for outfall verification & identification activities, (2) perform outfall activities as scheduled (3) continuously update storm drainage system map(s)	This work was initiated through the inventory of outfalls for the Malden River, Spot Pond Brook at Oak Grove and Town Line Brook and a detailed summary of the information pertaining to the storm water infrastructure and ongoing mitigation program may be referenced from correspondence to US EPA dated January 31, 2006, a copy of which may be referenced as Attachment A.	This work will continue under the ongoing Section 308 compliance program.
Revised					
3-2	Adopt an Ordinance Governing Discharges to the Municipal Storm Drainage System	Malden Engineering Dept., Malden City Clerk	Draft ordinance for discharges to municipal storm drainage system (2) present ordinance to City Council for acceptance (track number of enforcement actions	No activity to be reported	Draft ordinances and seek comment from appropriate parties.
Revised					

3-3	Implement an Illicit Discharge and Elimination Plan	Malden DPW	(1) Develop an Illicit Discharge Detection and Elimination Plan (2) conduct dry-weather field screening of outfalls & track number of surveys (3) trace source of potential illicit discharges (4) trace number of illicit connection (5) trace number of illicit connection repaired/replaced (6) report on success of obtaining alternative funding in illicit connection removal	This program was implemented in 2005.	To be maintained as part of Section 308 compliance program.
Revised					
3-4	Conduct I/I Removal in the Sanitary Sewer System	Malden Engineering Dept., Roseland Property Company	(1) complete Infiltration & Inflow Identification Program Overlook Ridge Study, (2) Evaluate recommendations made in the I/I program and develop a plan to perform the recommendations (3) track City's sanitary capital improvement projects	The City has completed an I/I study with the combined efforts of FST and CDM. A large percent of City's sewer system was surveyed. In 2005 a contract was issued which resulted in the removal of approximately 790,000 gallons per day of I/I.	Completion of the second phase of the I/I study is to be performed.
Revised					

3a. Additions

	Stormwater Infrastructure Evaluation	City of Malden	Identify any previously unknown illicit connections	Inventory of all available information and field survey of outfalls for the Malden River, Spot Pond Brook at Oak Grove and Town Line Brook was performed.	Continue with Section 308 compliance program according to the schedule outlined to US EPA.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
4-1	Adopt a Stormwater Management & Land Disturbance Ordinance	Malden Engineering Dept., Malden City Clerk	(1) draft Stormwater Management & Land Disturbance Ordinance (2) present ordinance to City Council for acceptance (3) track number of enforcement actions taken	Construction protocols to be maintained in accordance with requirements of the NPDES program for construction activity.	To be addressed in Winter 2005//2006.
Revised					
4-2	Develop a Site Inspection Form and Conduct Site Inspections	Malden Engineering Dept.	(1) develop a Site Inspection Form reflecting ESCP requirements, (2) track the frequency of inspections conducted for each site, (3) track completion of inspection forms (4) track number of failed ESC BMPs at each site	Construction protocols to be maintained in accordance with requirements of the NPDES program for construction activity.	Identified as an action item for 2006.
Revised					

4-3	Develop and Implement a Citizen Complaint Hotline	Malden DPW, Malden Mayor's Office	(1) establish Citizen Complaint Hotline (2) Advertise Citizen Complaint Hotline, (3) track number of complaints, (4) track problem/incidents remedied	The Malden City Council has established a Citizen's Complaint/Hotline for such activities	To be maintained during Year 4.
Revised					

4a. Additions

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
5-1	Revise the Rules & Regulations Governing the Subdivision of Land	Malden Planning Dept., Malden Planning Board	(1) draft amendment to Section V of the Rules & Regulation governing subdivision of land and submit amendment to Planning Board (2) adopt proposed amendment at a Planning Board meeting	No activity to be reported.	The continuing evaluation of the Subdivision Rules and Regulations to meet the objectives of the Section 308 Program will be performed.
Revised					
5-2	Revise the Zoning Ordinance	Malden Planning Dept., Malden Planning Board, Malden City Council	(1) draft amendment to Sections 700 and 800 of Zoning Ordinance and submit to Planning Board (2) hold a public meeting jointly conducted by Planning Board and City Council (3) adopt proposed amendment at a meeting of City Council	A revision to the Zoning Ordinance to ensure the implementation of appropriate storm water controls during and after construction activities was finalized in 2005.	The effectiveness of zoning revisions will be monitoring during Year 4.
Revised					

5a. Additions

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
6-1	Develop a Formal Training Program for DPW Staff	Malden DPW, Malden Human Resources Dept.	(1) develop a DPW employee-training manual (2) conduct training session for current employees (3) train all new DPW employees according to manual (4) track employees trained according to manual (5) conduct employee refresher courses every two years	The DPW trains employees whom receive their tankers license for use of the Vac Tor catch basin cleaning truck. This training consists of complete knowledge of use of this vehicle, reading city drainage plans and repair of catch basins and manholes within the drainage system.	Activity to continue in year 4.
Revised					
6-2	Develop a Formal Catch Basin Cleaning Program	Malden DPW	(1) request funding for catch basin cleaning contract (2) request funding for vactor truck (3) document annual cleaning activities (4) document annual stenciling activities	Since the city purchased the Vac Tor truck an aggressive cleaning schedule has resulted in Catch Basins being cleaned annually with the efforts of a 2 to 3 man crew of DPW personnel. We document the date the basins are cleaned, and any active inverts. We remove all material to the bottom of the sump and store it at the city yard, once tested we truck it to an accepted facility in Haverhill MA	Activity to continue in year 4.
Revised					

6-3	Formalize the Existing Parking Lot and Street Sweeping Program	Malden DPW	(1) conduct inventory of publicly owned parking lots (2)develop a schedule for parking lot cleaning activities (3) track which streets swept monthly (4) track number of inventoried municipal parking lots clean annually (5) maintain accurate log of disposed materials (^) re-evaluate storage make improvement complying with MADEP BWP Reuse & Disposal of Street Sweepings Policy	Our existing street sweeping program is done with DPW personnel and equipment. This program has been ongoing with a plan and schedule that has been in effect for 7 years. Starting in March of each year we sweep six days a week including commercial and non-commercial streets. All material that is swept up is stored at the city yard, tested and disposed of by trucking to a compliance site. The street sweeping schedule issued by the DPW includes all the times that specific streets will be cleaned. The schedule has been printed and extensively distributed; it is also available at the DPW facility on Commercial Street.	The street sweeping schedule issued by the DPW will continue. DPW will review this BMP for additional items that need to be implemented.
Revised					
6-4	Develop a Vehicle & Equipment Maintenance Policy	Malden DPW	(1) develop & implement a vehicle & equipment maintenance policy to be incorporated into DPW training manual	The DPW presently has four equipment maintenance repairmen and one maintenance supervisor to maintain approximately fifty pieces of equipment. Our policy at present is every 4,000 miles a vehicle will be have all fluids changed along with any other necessary repairs at the DPW yard.	The DPW maintenance policy will continue. DPW will review this BMP for additional items that need to be implemented.
Revised					

6-5	Develop a Vehicle & Equipment Cleaning Policy	Malden DPW	(1) develop & implement a vehicle & equipment cleaning policy (2) place policy in DPW training manual and supply City Police Dept, Fire Dept and Parks Dept. with policy	Presently the DPW policy for cleaning vehicles and equipment is as needed using a hose or steam cleaner.	The DPW cleaning policy will continue. DPW will review this BMP for additional items that need to be implemented.
Revised					
6-6	Develop a Landscape and Lawn Care Policy	Malden DPW, Malden School Dept., Malden Cemetery Dept.	(1) develop & implement landscape/lawn care policy (2) place policy in DPW training manual and provide to City's Cemetery Dept. and School Dept.	The DPW maintains City parks, all lawns are mowed weekly. All parks are watered daily through irrigation systems. All irrigation systems are inspected monthly, and repairs are made when necessary to ensure proper operation.	This objective will be targeted for action during year 4.
Revised					

6-7	Develop a SPRP for the Commercial Street Facility	Malden DPW	(1) complete & implement use of Spill Prevention & Response Plan for DPW facility (2) identify and train key individuals in the areas of spill response, prevention and cleanup (3) develop an emergency spill containment and cleanup kit (4) post a summary of the Spill Prevention & Response Plan throughout facility (5) conduct annual review of Spill Prevention & Response Plan (6) track number of spill & leak incidents at facility and actions taken to alleviate them	The DPW's Commercial St facility has an inside maintenance area that has an enclosed oil seperator that gets cleaned annually the liquids and solids are pumped and disposed of properly.	The DPW SPRP policy will continue. DPW will review this BMP for additional items that need to be implemented.

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 3** (Reliance on non-municipal partners indicated, if any)	**Planned Activities – Permit Year 4**
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

During the 2005-2006 reporting period, a comprehensive survey of documentation pertaining to the City of Malden's stormwater sewer infrastructure was provided to US EPA under cover of correspondence dated January 31, 2006 to Mr. Todd Borci. See Attachment A.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	Yes	Interdisplinary Team
Annual program budget/expenditures	($)	See Attachment B

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	4
▪ community participation	(%)	strong
▪ material collected	(tons or gal)	On file
School curricula implemented	(y/n)	YES

Legal/Regulatory

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

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100 %
Estimated or actual number of outfalls	(#)	See Attachment A
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened	(# or %)	
Illicit discharges identified	(#)	

Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	99.9 %
% of population on septic systems	(%)	>.1 %

Construction

Number of construction starts (>1-acre)	(#) ONE	
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	
Site inspections completed	(# or %)	
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	(%)	
Site inspections completed	(# or %)	
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	Annually
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	Annually
Total number of structures cleaned	(#) approx.	745 Note 2
Storm drain cleaned	(LF or mi.)	4000 lf
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	1163 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)	Went To	Landfill Note1

Note 1- Disposal @ Haverhill Landfill Old Groveland Road Note 2- 25 Catch Basins Repair		
Cost of screenings disposal	($) 18 / ton	$ 25,500

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	Annually
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	Annually
Qty. of sand/debris collected by sweeping	(lbs. or tons)	900 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	Went To	Landfill note1
Cost of sweepings disposal	($)	$82,000.
Vacuum street sweepers purchased/leased	(#)	
Vacuum street sweepers specified in contracts	(y/n)	

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

Anti-/De-Icing products and ratios Salt 100 % - Sand 2 % - CaCl2 100 gals/ 30 tons salt	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	100 % 5000 gal tank 2 %

Pre-wetting techniques utilized	(y/n)	Yes
Manual control spreaders used	(y/n)	No
Automatic or Zero-velocity spreaders used	(y/n)	Yes
Estimated net reduction in typical year salt application	(lbs. or %)	10 %
Salt pile(s) covered in storage shed(s)	(y/n)	No - Note 1
Storage shed(s) in design or under construction	(y/n)	No

Note (1) Salt Pile covered, not in shed

Malden Government Center
Two Hundred Pleasant St.
Malden, Massachusetts 02148

Department of Engineering
Planning and Waterworks

City of Malden
Massachusetts

January 31, 2006

Mr. Todd J. Borci, SEW
Unites States Environmental Protection Agency - Region 1
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Mr. Kevin Brander, P.E.
Massachusetts Department of Environmental Protection - NERO
205B Lowell Street
Wilmington, MA 01887

Subject: Response to Request for Information
Pursuant to Section 308 of the Clean Water Act
Docket No. 06-308-009

Dear Messrs. Borci and Brander:

In response to the U.S. Environmental Protection Agency's (EPA's) December 5, 2005 Request for Information Pursuant to Section 308 of the Clean Water Act (Docket No. 06-308-009), the City of Malden, Massachusetts hereby submits the following responses for your consideration. As indicated in the December 5, 2005 letter from EPA, Request for Information letters were submitted to a number of Mystic River Watershed communities (including Malden) in order for EPA and the Massachusetts Department of Environmental Protection (DEP) to ascertain the source of pollutants identified in the Mystic River.

In accordance with the EPA's guidance on how to respond to the Request for Information, the City has prepared the following detailed responses, to the best of our ability, for each of the questions provided in Attachment No. 1 along with the required declaration as presented in Attachment No. 2. The City of Malden has enlisted Camp Dresser & McKee Inc. (CDM) and Nangle Consulting Associates, Inc. (NCA) to assist the City with the preparation and submittal of the required information. In addition to the responses provided below, the City of Malden will provide additional information as it is compiled. The City of Malden is currently cataloging and copying pertinent reports and supporting information for submittal to EPA and DEP under separate cover. Finally, it is our understanding that additional information pertaining to ongoing environmental studies associated with the US EPA Showcase Community Brownfields project referred to as Telecom City/Rivers Edge in Malden/Medford and Everett is being assembled and will be submitted under separate cover.

Question No. 1
Due to the complex nature of the information requested under Question No. 1, the City of Malden respectfully requests additional time to prepare a comprehensive response for EPA and DEP. Efforts are currently underway to summarize the information necessary to respond on or before April 30, 2006.

Question No. 2
Due to the complex nature of the information required for the response to Question No. 1 and Question No. 2, the City of Malden respectfully requests additional time to prepare a comprehensive response for EPA and DEP. Efforts are currently underway to summarize the information necessary to respond on or before April 30, 2006.

Question No. 3
The City of Malden has identified the following reports prepared by and/or for the City to address stormwater and/or wastewater infrastructure in the city.

Stormwater Infrastructure

1.) *Draft Stormwater Management Plan* - (July 2003) by Fay Spofford & Thorndike (FST).

2.) *Final Report Town Line Brook Hydraulics and Hydrology Study* – (September 2002) by GeoSyntec Consultants (GeoSyntec).

3.) *Final Report and Water Quality Mitigation Design for Linden Brook* – (June 2002) by GeoSyntec.

4.) *Drainage Study, Pine Banks Park and Forestdale Cemetery* – (November 2000) by FST.

Additional information regarding the City's efforts to implement recommendations presented in the above noted stormwater infrastructure reports will be provided on or before April 30, 2006.

Wastewater Infrastructure

1.) *Malden Sewer System Survey* (April 2004) by Camp Dresser & McKee Inc. (CDM).

The City of Malden has taken advantage of the Massachusetts Water Resources Authority's Local Financial Assistance Program to perform sewer system improvements to remove I/I. Extensive investigations of the City's wastewater collection system have been undertaken to identify Infiltration/Inflow (I/I) sources within the City as presented in the above noted CDM report.

In conjunction with the Phase 1 study of the Malden wastewater collection system approximately 96,000 linear feet of the system was studied (i.e. flow isolation, smoke testing and cleaning/television inspection). In response to the conditions identified in the Phase 1 sewer system evaluation activities, the City of Malden completed the rehabilitation of approximately 18,800 linear feet (lf) of sewer main in 2004/2005 by cured-in-place pipe lining under Sewer Rehabilitation Contract No. No. 2004-S-1. This work resulted in the removal of an estimated 790,000 gallons per day (gpd) of I/I. In addition, approximately 150 lf of collapsed sewer in Lynn Street was identified and replaced in 2004.

Phase 2 of the sewer system evaluation program is currently underway in Malden; preparation of the draft report documenting conditions identified in the collection system is anticipated to be completed in March 2006. To date the Phase 2 SSES program has included flow isolation/measurement in roughly 105,000 lf of the system. In addition, approximately 29,000 lf of the sanitary sewer system was cleaned and televised to develop the information for the final Phase 2 SSES report. Ultimately over half of the City's wastewater collection system will have been investigated under this program.

Additional information regarding the City's efforts to implement recommendations presented in the above noted wastewater infrastructure reports will be provided on or before April 30, 2006.

Question No. 4
In addition to the reports presented in response to question No. 3 above, the City of Malden has identified the following reports, studies and planning documents related to the sewer and storm drain system produced since January 1, 1980:

1.) *Infiltration Inflow Analysis and Sewer System Evaluation Survey, Broadway II Sump Area* - (March 1996) by FST.

2.) *Flood Damage Reduction, Main Report of Saugus River and Tributaries* – (December 1989) by the U.S. Army Corps of Engineers (ACOE).

3.) *Storm Drainage Study, Main Street at Melrose City Line* - (July 1989) by FST.

4.) *Flood Control Plan, Town Line Brook and Linden Brook* – (October 1985) by Hayden Wegman.

The City is currently going through archived documents to determine what if any additional stormwater and wastewater infrastructure reports exist. Additional information developed by the City will be provided to EPA and DEP on or before April 30, 2006.

Question No. 5
A large scale map of the City of Malden storm water (drainage) system is attached to this response as required. This map provides the size and approximate location of the storm water drainage system. Additional detailed record information regarding the storm water system is maintained by the City of Malden Department of Engineering, Planning and Waterworks. The City of Malden is currently planning to submit an application to the Massachusetts DEP's State Revolving Fund (SRF) program in the fall of 2006. The SRF application will request funding to develop a geographic information system (GIS) for the City's municipal stormwater system.

Question No. 6
A large scale map of the City of Malden wastewater collection system is attached to this response as required. This map provides the size and approximate location of the wastewater collection system. Additional detailed record information regarding the wastewater collection system is maintained by the City of Malden Department of Engineering, Planning and Waterworks. In addition to the City's existing mapping, GIS based mapping of portions of the wastewater collection system has been developed in conjunction with the Phase 1 and Phase 2 SSES programs discussed above, the City of Malden is currently planning to submit an application to the Massachusetts DEP's State Revolving Fund (SRF) program in the fall of 2006. The SRF application will request funding to develop and/or expand the existing GIS data for the City's municipal wastewater collection system.

Question No. 7
Due to the complex nature of the information requested under Question No. 7 and the ownership of some of storm water outfalls in question by the Massachusetts Division of Conservation and Recreation (DCR), the City of Malden respectfully requests additional time to prepare a comprehensive response for EPA and DEP. The City of Malden has unsuccessfully attempted to contact DCR for assistance with the response to Question No. 7. Efforts are currently underway to summarize the information necessary to respond on or before April 30, 2006.

Question No. 8
A comprehensive shoreline survey for the Mystic Alewife and Malden Rivers was completed (July 1997) by the Alewife/Mystic River Advocates (AMRA) and Friends of the Mystic River (FMR) which contains a detailed description of existing land use characteristics and specific environmental concerns. The *Comprehensive Report of the Lower Mystic River Watershed: Shoreline Survey Results and Analysis for Mystic River, Alewife Brook, Malden River*, was prepared by Alewife/Mystic River Advocates in July 1997.

Primary areas of investigation for this study include a general evaluation of surface water quality, riverbank conditions, the logging of discharge connectors/pipes, existing land uses and community related issues.

While the City of Malden has not completed a recent shoreline outfall survey, a further evaluation of watershed characteristics pertaining to this item has been performed as a part of the Telecom City/Rivers Edge project. It is our understanding that this information will be provided under separate cover.

Question No. 9
The City of Malden has not completed end-of-pipe storm water, storm water culvert and storm sewer system sampling since January 1, 2000.

The City of Malden has received copies of environmental data and information from the Mystic Watershed Alliance pertaining to such sampling efforts and additional information regarding storm water sampling has been developed as a part the ongoing TeleCom City/River's Edge project. It is our understanding that this information will be provided by MVDC under separate cover.

In addition, GeoSyntec completed limited water quality sampling within the Linden Brook Watershed in 2002. The City of Malden is currently attempting to identify and summarize the information related to this activity as required to respond to EPA on or before April 30, 2006.

Question No. 10
The City of Malden has not completed ambient water quality monitoring since January 1, 2000. Surface water and sediment quality within the Malden River have been evaluated as a part of the ongoing work at the Telecom City/Rivers Edge project. It is our understanding that this information will be provided by MVDC under separate cover.

Question No. 11
The City of Malden is currently preparing to perform the required dry weather visual observations of all storm water discharge locations as required. Efforts are currently underway to identify the funding and secure the technical assistance necessary to collect the information necessary to respond no later than June 1, 2006 as required. Information associated with this activity will be provided under separate cover.

Question No. 12
The City of Malden is currently preparing to perform the required dry weather sampling of all storm water discharge locations as required. Efforts are currently underway to identify the funding and secure the technical assistance necessary to collect the information necessary to respond no later than June 1, 2006 as required. Information associated with this activity will be provided under separate cover.

Question No. 13
The City of Malden is currently preparing to perform the required wet weather sampling of all storm water discharge locations as required. Efforts are currently underway to identify the

funding and secure the technical assistance necessary to collect the information necessary to respond no later than June 1, 2006 as required. Information associated with this activity will be provided under separate cover.

Question No. 14
The City of Malden will prepare the Stormwater Sampling Report for dry weather and wet weather flows from all storm water discharge locations as required (by Question Nos. 11, 12 & 13) Efforts are currently underway to identify the funding and secure the technical assistance necessary to collect the information necessary to respond no later than June 1, 2006 as required. Information associated with this activity will be provided under separate cover.

Question No. 15
The City of Malden does not currently have an Illicit Discharge Detection and Elimination Program. However, the City's Engineering Department maintains comprehensive records and close oversight of the collection system in order to prohibit illicit connections. As a result it is not believed that the City has an illicit discharge problem.

Efforts are currently underway to identify the funding and secure the technical assistance necessary to develop an Illicit Discharge Detection and Elimination Program based on the results of the proposed water quality monitoring program. It is envisioned that this program would be based on similar programs successfully implemented by the Boston Water and Sewer Commission (BWSC), the Town of Brookline and others as appropriate.

Question No. 16
Due to the complex nature of the information requested under Question No. 16, the City of Malden respectfully requests additional time to prepare a comprehensive response for EPA and DEP. Efforts are currently underway to identify, compile, analyze and summarize the information necessary to respond on or before April 30, 2006.

Question No. 17
Due to the complex nature of the information requested under Question No. 17, the City of Malden respectfully requests additional time to prepare a comprehensive response for EPA and DEP. Efforts are currently underway to identify, compile, analyze and summarize the information necessary to respond on or before April 30, 2006.

Question No. 18
The following is a summary of the wastewater and stormwater collection systems owned by the City of Malden:

a) Sanitary Sewer System – approximately 100 miles

   Combined Sewer System – 0 miles (City maintains separate systems)

Stormwater Collection System - approximately 60 miles

b) Sanitary Sewer System Cleaned - approximately 18,800 lf (3.57 miles) cleaned in 2003 and approximately 29,256 lf (5.54 miles) cleaned in 2005 in conjunction with Phase 1 and 2 SSES program. In addition approximately 24,200 lf (4.26 miles) was cleaned in 2004/2005 in conjunction with the rehabilitation contract.

   Combined Sewer System Cleaned - 0 miles

   Stormwater Collection System Cleaned - approximately 2 miles of piping has been cleaned by DPW crews. In addition, approximately 1477 catch basins and 75 manholes have been cleaned by DPW crews.

c) Sanitary Sewer System Televised - approximately 18,800 lf (3.57 miles) televised in 2003 and approximately 29,256 lf (5.54 miles) televised in 2005 in conjunction with Phase 1 and 2 SSES program.

   Combined Sewer System Televised - 0 miles (City maintains separate systems)

   Stormwater Collection System Televised - approximately 1 mile

d) No dye testing has been completed in conjunction with Phase 1 and 2 of the SSES program.

Question No. 19
Due to the complex nature of the information requested under this question, the City of Malden respectfully requests additional time to prepare a comprehensive response for EPA and DEP. Efforts are currently underway to summarize the information necessary to respond on or before April 30, 2006.

Question No. 20
The City of Malden has participated in the Massachusetts Water Resources Authority's (MWRA's) Local Financial Assistance Program to perform sewer system improvements to remove I/I. Additional information regarding the implementation of the I/I abatement program is provided in the relevant responses above.

Question No. 21
As indicated above, the City of Malden has recognized considerable investment in the City's wastewater collection system in conjunction with the ongoing SSES and I/I removal efforts. Since 2003 the investment in the wastewater collection system investigation and rehabilitation efforts has exceeded $1,000,000. During the period since FY 2000, additional repairs to the wastewater collection system have been completed by the City of Malden. Efforts are currently

underway by the City of Malden to supplement the response provided for Question No. 21 on or before April 30, 2006.

In addition to the monies invested in the City's wastewater system, the City of Malden has invested approximately $514,000 in operation and maintenance activities associated with the stormwater collection system. This investment has included approximately $149,000 in FY 2000 for contract cleaning of 2,045 stormwater structures; $245,000 in the 2004 CIP for purchase of a new Vactor vacuum truck to support the City's stormwater system maintenance activities; along with approximately $120,000 allocated for repairs of catch basins/manholes and for disposal of debris generated during the maintenance activities. The above noted expenditures do no include staff costs for City personnel working on the infrastructure repairs.

Conclusion
The City of Malden has prepared the above noted information based on our current understanding of the City's wastewater and stormwater infrastructure. The City continues to gather and review the additional data required as discussed above with additional information to be submitted under separate cover as discussed above.

If you have any questions or concerns regarding the information contained herein please do not hesitate to contact me at (718) 397-7040.

Declaration
I declare under penalty of perjury that I am John J. Russell, P.E., Director of Engineering, Planning and Waterworks and that I am authorized to respond, on behalf of the City of Malden, Massachusetts and that the foregoing is a complete, true and correct response.

Executed on January 31, 2006.

Very truly yours,

John J. Russell, P.E.
Director of Engineering, Planning and Waterworks

C: The Honorable Richard C. Howard, Mayor
Robert Button, CDM
Jeffery Nangle, NCA