STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
401 Church Street
L&C Annex 6th Floor
Nashville, TN 37243 1534

January 31, 2011

Mr. Sean Flynn
USEPA Region 4
Planning and Environmental Accountability Branch
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960

Re: 4th Quarterly Report, FY 2010
Construction Stormwater Excellence Initiative 2007
EPA Grant # EI-96489108-0

Dear Mr. Flynn:

Please find attached our revised Quarterly Report for the period ending December 31, 2010, for our Construction Stormwater Excellence Initiative Grant.

Sincerely,

Robert Karesh
Statewide Stormwater Coordinator
Department of Environment and Conservation
Division of Water Pollution Control

John C. Chlarson, P.E.
Public Works Consultant
The University of Tennessee
Municipal Technical Advisory Service

Quarterly Project Progress Report

Construction Storm Water Excellence Initiative 2007
EPA Grant# EI-96489108-0

December 2010

U.S. EPA State Innovation Grant Program
National Center for Environmental Innovation

Tennessee Department of Environment and Conservation
University of Tennessee, Municipal Technical Advisory Service

Table of Contents

Project Description

Construction Stormwater Excellence Initiative

(Tennessee's State Innovation Grant Project- 2007)

Grantor:

US EPA State Innovation grant Program, National Center for Environmental Innovation

Grantee:

Tennessee Department of Environment and Conservation (TDEC)
University of Tennessee, Municipal Technical Advisory Service (MTAS)

State Project Manager:

Robert Karesh, Tennessee Department of Environment and Conservation
Division of Water Pollution Control, Statewide Stormwater Coordinator
401 Church Street, L & C Annex, 6th Floor
Nashville, TN 37243-1534
Phone: (615) 253-5402 / Fax (615) 532-0686
Email: Robert.Karesh@tn.gov

Total Project Cost:

The total amount funded was $200,000. The State of Tennessee has committed a minimum of $100,000 of in-kind funding for the same period. There are no other federal contributions to this program.

Project Period:

October 1, 2007 to September 30, 2011 (Extension Requested)

Key Milestones (Including Outputs), Reflecting The Projected Timelines For Completion[1]				
Objectives and Outputs	**Original Start Date (Amended Start Date)**	**Original Completion Date (Amended Completion Date)**	**Complete?**	**Slippage Explanation/Other Comments**
Objective: Stormwater group preliminary organizational meeting (pre-award) ***Output(s):*** *TDEC/MTAS meetings to determine key MS4's for preliminary solicitation, etc.*	September 2007	May 2008	Yes	This objective combined with the 3rd objective while waiting for final signatures.
Objective: Execute contract with the University of Tennessee's Municipal Technical Advisory Service (MTAS) ***Output(s):*** *Due to MTAS's unique status within the State, their ability to deliver training and technical support statewide to local governments and their history as a TDEC partner in the Stormwater program, MTAS will be the sole contractor for the initiative.*	October 2007	Final Signatures May 2008	Yes	Final signatures were received by Contracts Division/TDEC May 2008
Objective: TDEC-MTAS project team meetings ***Output(s):*** *Continuing identification of MS4's for Stormwater group. Identifying specific contacts from various other stake holder organizations. Scheduling venues for organizational meetings. Developing agenda's, informational literature, etc.*	October 2007 (March 2008)	May 2008	Yes	As with Objective #1, TDEC-MTAS continued to work together on project and planning meetings during the delayed pre-award time. The final signatures were received by May 2008.
Objective: Establish stormwater group (Tennessee Stormwater Association) ***Output(s):*** *Organize initial meeting of the state regional group representative at a state level. Formalize the group. Set up a calendar of regional & state meetings, etc.*	December 2007 (March 2008)	June 2008	Yes	Due to delayed signatures for official contract award to MTAS, the development of the statewide Stormwater Association was not begun until March 2008
Objective: Establish stakeholder committee ***Output(s):*** *Identify, contact, and obtain participation from representatives of the stakeholder groups. Set up and formalize the committee. Set mission, agenda, meeting calendar and milestones.*	December 2007 (May 2008)	May 2008	Yes	Due to delayed signatures for official contract award to MTAS, and the delayed establishment of the TNSA, the Stakeholder Committee was not established until May 2008

[1] Please see Revised Timeline Schedule in Appendix B

Key Milestones (Including Outputs), Reflecting The Projected Timelines For Completion[1]				
Objectives and Outputs	**Original Start Date (Amended Start Date)**	**Original Completion Date (Amended Completion Date)**	**Complete?**	**Slippage Explanation/Other Comments**
Objective: Issue new MS4 General Permit ***Output(s):*** *With the new minimum requirements for baseline MS4 programs, develop the additional minimum requirements for QLP. This was not part of Grant.*	Not part of grant	June 2008 (July 2010) (October 1, 2010)	Yes	TDEC worked with EPA to craft a permit that reflected the EPA's desire to see a "Green" permit with more emphasis on infiltration based permanent BMP's.
Objective: Facilitate meetings to establish criteria ***Output(s):*** *Set venue, agenda, etc., and facilitate meetings in order to achieve stakeholder input on the criteria for qualifying a local program.*	January 2008 (June 2008)	June 2010	Complete	Start date amended due to grant development delays but meetings have been held every quarter since the organizational Kickoff meeting held August 15, 2008. Prep work began in June 2008.
Objective: Develop and promote guidelines and incentives ***Output(s):*** *With the information from the stakeholder committee meetings, develop guidance material and an incentive program for qualifying local programs.*	Began in (September 2008)	June 2010	Complete	Start date amended due to grant development delays but meetings to develop incentives/criteria have been held every quarter since the organizational Kickoff meeting held August 15, 2008
Objective: Develop excellence recognition program ***Output(s):*** *With the information from additional stakeholder committee meetings, input from additional groups such as the Tennessee Municipal League, etc., develop excellence recognition program*	October 2009	September 2010 (February 2011)	In process	Began initial discussion October 2009, and after amending the project timeline, we will have two more quarterly meetings to discuss & finalize Excellence Recognition. Permit issuance delays changed this to Feb 2011- On Track.
Objective: MS4's implement new permit ***Output(s):*** *MS4's revise their programs in accordance with new permit*	July 2008 (July 2010)	January2010 (January 2012)	In process	Issuance of permit delayed 2 years as explained.
Objective: Pilot the qualification of a MS4 ***Output(s):*** *Work with select MS4(s) volunteer(s) program(s) to work through guidance materials and document achieving the various elements involved in becoming a qualified program. Monitor the designated Qualified Program.*	June 2010 (June 2012)	June 2011 (June 2013)	No	To provide the MS4s with time to adhere to the new MS4 permit requirements, we requested a grant extension of two years. This projects the QLP Pilot start date for June 2012 and the QLP Program to go live in June 2013. Please see

Key Milestones (Including Outputs), Reflecting The Projected Timelines For Completion[1]				
				Timeline in Appendix B.
Objectives and Outputs	**Original Start Date (Amended Start Date)**	**Original Completion Date (Amended Completion Date)**	**Complete?**	**Slippage Explanation/Other Comments**
Objective: Develop and deliver workshops across the state ***Output(s):*** *Based on the results of the pilot program, update the guidance materials. With the updated guidance materials and pilot program case history/histories, develop workshops lesson plans. Deliver workshops and guidance materials statewide.*	June 2011 (June 2013)	August 2011 (August 2013)	No	The timeline was adjusted by two additional years to provide the MS4s with enough time to adhere to the new MS4 permit requirements; we requested a grant extension of two years. This new timeline projects the QLP Pilot start date for June 2012 and the QLP Program to go live in June 2013. Please see Timeline in Appendix B.
Objective: Deliver a replicable solution to other states ***Output(s):*** *With updates to workshop lesson plans and materials based on participant feedback, develop final guidance materials, workshop lesson plans, case histories etc., for delivery to EPA.*	September 2011 (September 2013)	September 2011 (September 2013)	No	The timeline was adjusted by two additional years to provide the MS4s with enough time to adhere to the new MS4 permit requirements; we requested a grant extension of two years. This new timeline projects the QLP Pilot start date for June 2012 and the QLP Program to go live in June 2013. Please see Timeline in Appendix B.

Part 1 – Synopsis of Accomplishments during the Reporting Period

During the eleventh reporting period (ending December 31, 2010, 4th quarter (calendar year) 2010), several project milestones were accomplished, initiated, or amended:

- The new Small MS4 Permit was issued this period, with an effective date of October 1, 2010 (the start of the 4th quarter).

- We sent out a notice of a change in date for the QLP Stakeholder Committee Meeting to February 17. Work was done by TDEC, MTAS, and the Committee in preparation for the next meeting.

- EPA is holding a revised project timeline and project extension request, taking the issue of a new small MS4 permit and its impact on the project into account.[2]

- TDEC has continued to support the establishment of the Tennessee Stormwater Association (TNSA) with efforts outside the scope and funding of this grant.

    - TNSA provided continuing member representation in commenting on the draft Construction General Permit.
    - TNSA held regional meetings across the state which TDEC and MTAS attended in order to provide QLP and permit updates and obtain input on the QLP process.
    - TNSA held third statewide annual conference.

- The first of the surveys referenced under our approved QAPP was initiated.

[2] Appendix B

Part 2 – Narrative Discussion

A. QLP Stakeholder Committee

We sent out a notice of a change in date for the QLP Stakeholder Committee Meeting to February 17, 2011. The meeting was rescheduled in order to allow for MS4's to concentrate on completing their NOI for the new Small MS4 Permit.

B. Revised Project Timeline and Project Extension

On June 3, 2010, Sean Flynn, with EPA, accepted a formal project time extension request for consideration.

As of this report, no extension has been approved; however we are basing our actions on the assurance that it will be issued.

The driving force justifying the need for the time extension was the delay in the issuance of Tennessee's new General Permit for Small MS4s. TDEC worked with EPA to craft a permit that reflected the EPA's desire to see a "Green" permit with more emphasis on infiltration based permanent BMP's. The MS4s will need time to revise their programs in accordance with the new permit. This unforeseen time adjustment would not leave enough time for a full Pilot Program prior to the original end date of the project.

C. Survey from Quality Assurance Project Plan (QAPP) Initiated

The first of the surveys referenced under our approved QAPP was initiated.

We reviewed our approved QAPP with TDEC and with the designated MTAS survey staff during this report period and issued the first of three rounds of surveys to the MS4's regarding the QLP option.

We intend to conduct three surveys of stormwater programs throughout the State in order to understand:

- The extent to which their attitudes about QLPs have changed over the course of the project.
- The extent to which project participants have changed their stormwater-related policy activities (i.e., behavior) relative to non-participants**.** Example: Increase in number of inspections.

- The extent to which the rate of complaints changes over time for QLP participants (perhaps relative to non-participants), to help judge whether environmental protection is being maintained.

Participation in the pilot program is voluntary. Participation will be limited to MS4's that meet the minimum criteria developed as part of this initiative. Therefore we do not have a pre-determined pilot group size. The participants in the pilot program will be qualified volunteers from the approximately 100 designated MS4's in Tennessee. We will use the information collected to gauge the extent to which the pilot program has been successful, in order to judge whether the QLP elements tested and demonstrated during the pilot warrant using the QLP option in Tennessee, or if these elements need to be adjusted or modified prior to making the QLP option available to the remainder of the qualified MS4 population in Tennessee.

The Quality Assurance Officer conducted a Readiness Review immediately prior to the data collection tasks: identifying targeted recipients, implementation staff training/review, self-certification, targeted follow-up and post-certification inspections. The QA Officer reported findings to the Project Manager, and it was agreed that the data collection task could begin.

This data collection is authorized by EPA ICR 1755.08.

A copy of the approved QAPP is provided under Appendix B.

D. Tennessee Stormwater Association

As provided for in this innovation grant, we have continued to support the TNSA during this reporting period. The following are highlights of relevant TNSA activities:

- TNSA held its third statewide annual conference during this period. TNSA's conference committee met during the period to promote conference improvement. The conference agenda is included in Appendix
- The TNSA website received additional improvements and updates during this period. TNSA's permanent website committee met during the period to promote website improvement. The website is: http://tnstormwater.org/.
- TDEC has also continued to support the establishment of the TNSA with efforts outside the scope and funding of this grant.
  The TNSA education coordinator, Cynthia Allen, attended the following TNSA meetings during the 4th quarter of 2010:

  October
  - 10/12/10- SE MS4 Quarterly meeting, resources delivered

- 10/19/10- Middle MS4 Quarterly meeting, resources delivered
- 10/24-26/10- 3rd TNSA State Annual Conference

November

- 11/15/10- NE MS4 Quarterly meeting, resources delivered

December

- 12/7/10- West MS4 Quarterly meeting, resources delivered

Ms. Allen is continuing to put together a statewide group of MS4s to participate in radio and television stormwater public education and outreach.

Ms. Allen began putting together the second group order for education and outreach print materials to take advantage of a print grant from the Department of Agriculture.

Part 3 – Projection of Activities, Accomplishments, and Major Expenditures for Next Quarterly Report

During the next quarter the first of the surveys referenced under our approved QAPP should be completed.

The next meeting of the QLP Stakeholder Committee will be held.

Part 4 – Financial Report

The project budget is on track for the goals and milestones of this project. Information Technology set up an internal account at MTAS under which project reporting continues to capture the Grant related hours. An invoice for July- September 2010 for $4,078was submitted to TDEC by MTAS on November 2, 2010, of this Quarter. A table based on that invoice is included below. TDEC, likewise, set up an internal tracking mechanism and continues to capture TDEC hours to apply toward the in-kind match. MTAS and TDEC began talks on revising the budget this quarter. Budget amounts were projected. A budget amendment is necessary. This will not impact project results/delivery. MTAS signed a commitment to complete the project as a partner regardless of funding. MTAS and TDEC will be revising the budget for approval during the next period.

Budget Category	Total Approved EPA Project Budget	Current Invoice: July1-Sept 30, 2010	Cumulative to Date
Professional Salaries	$80,000	$2,536.39	$81,826.58
Fringe Benefits/Insurance	$24,000	$831.17	$24,111.72
Travel	$10,000	$179.00	$7,447.19
Printing/Supplies	$15,000	$0	$131.58
Training/Special Services	$15,000	$0	$3,884.43
Fixed and Administrative Costs	$56,000	$531.98	$18,099.83
Totals	**$200,000**	**$4,078.54**	**$138,765.33**

APPENDIX "A"

A-1 Stormwater Workshop Agenda

TNSA Annual Conference 2010
Dates of Conference: October 23-26, 2010
Location: Doubletree Hotel Nashville
315 4th Avenue North
Nashville, TN 37219-1693

10/24 SUNDAY
NIGHT-BEFORE SOCIAL - 8:00 pm
The Bistro Lounge at the Hotel

10/25 MONDAY
DAVIDSON ROOM – 9:00 am to 9:45 am
Michael F. Schmidt, P.E. BCEE, CDM – "Water Quality Modeling for System Analysis and Cost-Effective BMP Implementation"
DAVIDSON ROOM - 10:00 am to 10:45 am
Beth Chesson, CEC – "Effluent Limitations Guidelines and Turbidity Sampling in Tennessee"

MERITAGE DINING ROOM – 11:00 am to 12:00 pm
Lunch
Guest speaker – Paul Sloan, TDEC
Membership Meeting
Entire membership: Annual Meeting & Elect 2010 Board members

EXHIBIT FLOOR – 12:00 pm to 1:00 pm
Flood presentation by APWA speakers

DAVIDSON ROOM – 1:30 pm to 2:15 pm
Curt Jawdy, AMEC – "Continuous Simulation Results for 3 cities in TN"
DAVIDSON ROOM – 2:30 pm to 3:15 pm
Sid Hemsley, MTAS – "What Can Be Done When the Bank Takes Over?"
DAVIDSON ROOM - 3:30 pm to 4:15 pm
Brook Fox & Thomas Cross, Metro Legal – "Bonds and Letters of Credit"
ROBERTSON ROOM – 3:30 pm to 4:15 pm
Bob Sneed, Corps of Engineers – "May 2010 Cumberland River Basin Flood"

Location: TBA – 6:30 pm
Board Meeting
Old and new board members: Elect officers
2009/2010 Award Ceremony

10/26 TUESDAY
TNSA/TDEC Walking tour and workshop – 8:00 am to 2:45 pm
"Green Infrastructure Evaluations & Lessons Learned"
See attached flyer for schedule and details

APPENDIX “B”

B-1 Formal Time Extension Request Letter

B-2 QLP Timeline Proposal and Comparison

B-3 QAPP-Approved version w/ signatures

B-1

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
401 Church Street
L&C Annex 6th Floor
Nashville, TN 37243-1534

March 9, 2010

Mr. Sean Flynn
USEPA Region 4
Planning and Environmental Accountability Branch
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960

Re: ***Grant Extension Request***
Construction Stormwater Excellence Initiative 2007
EPA Grant # EI-96489108-0

Dear Mr. Flynn:

On February 10, 2010, we had a conference call meeting with you and Mr. Gerald Filbin to discuss the possibility of a two-year no additional cost time extension for our grant referenced above. This correspondence serves to document that meeting and to formally request an extension to our existing timeline.

We are requesting a two year extension for the purpose of providing time for MS4s participating in the grant's QLP Pilot Period to accomplish the following two actions:

- Revise their stormwater programs in accordance with new General Permit for small MS4s;
- Enable a full QLP pilot period.

Our General Permit for Small MS4s expired on February 26, 2008. Although we had originally projected the permit would be re-issued in June 2009, due to delays, it is now scheduled to be reissued in July 2010. The development of the permit has been mainly delayed due to the number and complexity of new or revised permit elements. The permit will go through a 60 day formal public comment period and the final issuance of the permit is anticipated in July 2010.

Due to the permit delay, MS4s will not have time to review the new permit and effectively update their programs prior to participating in the grant's Pilot Period, which is currently scheduled for June 2010. Keeping the grant under the current schedule would

result in the MS4s using a portion of the Pilot Period for program update, rather than piloting the QLP program.

We feel it is important to the success of this grant to provide MS4s time to revise their stormwater programs in accordance with new permit requirements, as well as enable a full QLP pilot period. A two year extension would provide this needed additional time. Resultantly, the grant's QLP Pilot start date would be set for June 2012, and the QLP Program to go live in June 2013. This time extension includes no need for additional funds.

Please see the attached timeline document and adjusted grant milestones document. It is requested that our grant project period be extended from September 2011 to September 2013. We believe this extension will allow us to successfully meet the project tasks described in the attachments.

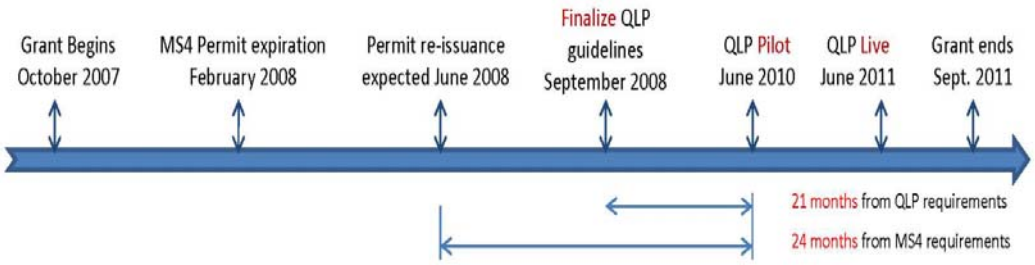
Thank you for your consideration of our grant extension request.

Sincerely,

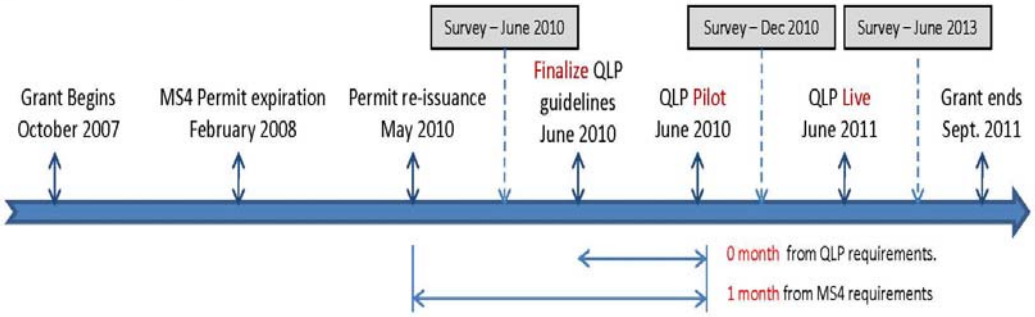
Robert Karesh
Statewide Stormwater Coordinator
Department of Environment and Conservation
Division of Water Pollution Control

In order to provide the MS4s with enough time to adhere to the new MS4 permit requirements, we requested a grant extension of two years. This new timeline projects the QLP Pilot start date for June 2012 and the QLP Program to go live in June 2013.

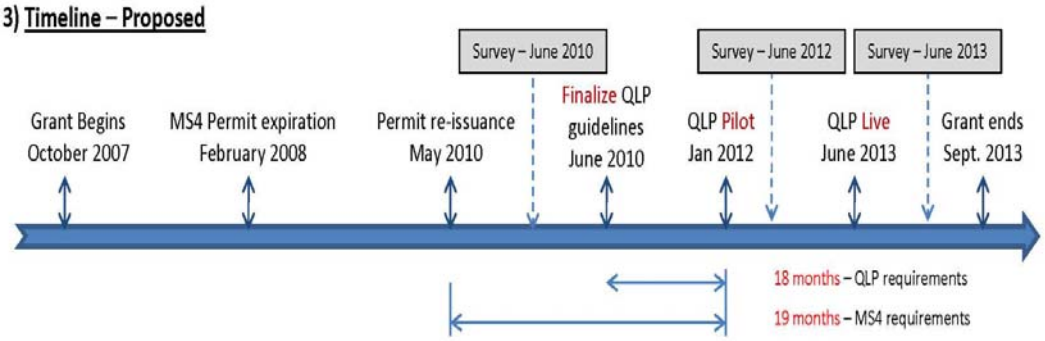
1) Timeline - At time of grant initiation



2) Timeline – Current



3) Timeline – Proposed



Construction Stormwater Excellence Initiative 2007

EPA Grant# EI-96489108-0

Tennessee Department of Environment and Conservation

Division of Water Pollution Control

Quality Assurance Project Plan

(Note: According to EPA's guidance on QMP's and QAPP's, this is a non-conforming, memo-style QAPP; however, it adheres to guidance provided by the social scientists in OPEI.)

Original Draft: October 2009

Revised: November 20, 2009; December 2009; January 2010; February2010; March 2010

Project Lead Contact Information:

Robert Karesh

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
Statewide Stormwater Coordinator
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605 Airways Blvd, Suite 109
Jackson, TN 38301
Phone: 731.425.4785 Fax: 731.425.4771
Email: john.chlarson@tennessee.edu

Approval Sheet

Signature:_____ Date 5-24-10

Robert Karesh

Tennessee Department of Environment and Conservation (TDEC)

Statewide Stormwater Coordinator/Tennessee Grant Project Coordinator

Signature:_____ Date 5-24-10

John C. Chlarson

Univ. of Tennessee – Municipal Technical Advisory Service (UT-MTAS)

Project Survey Quality Assurance Officer

Signature:_____ Date 6-1-2010

Gerald Filbin

U.S. EPA – HQ, National Center for Environmental Innovation (NCEI)

Director – Innovative Pilots Division/NCEI Quality Assurance Officer

Signature:_____ Date 6/3/10

Sean M. Flynn

U.S. EPA – Region 4, Planning and Environmental Accountability Branch

EPA Grant Manager

QAPP DRAFT

1. Project Abstract

The State of Tennessee's 2006 303(d) List identified a number of waterbodies within the boundaries of many of the State's Municipal Separate Storm Sewer Systems (MS4s) as not fully supporting designated use classifications due to siltation and/or habitat alteration associated with urban runoff, land development activities, and streambank modification associated with construction. Siltation (sedimentation) is the most frequently cited cause of waterbody impairment in Tennessee, impacting over 5,800 miles of streams and rivers. Excessive sediment loading from land disturbance and construction activities in MS4s is a major ecosystem stressor and has adversely impacted municipal stream biota, either directly or through changes to physical habitat.

Under CFR 122.44(s), TDEC can formally recognize a MS4 as a Qualified Local Program (QLP) if it has been shown to meet or exceed the provisions of the construction general permit. A QLP would be an MS4 that attains a demonstrated program quality beyond that of the normal, compliant, MS4. Therefore, in a further effort to reduce siltation and improve water quality, TDEC is developing criteria and incentives for MS4s to become QLPs. The goals of this program include:

1. MS4s find the QLP option desirable and apply for and are accepted as QLP's, both in the initial pilot and in the widescale rollout later. In seeking acceptance as a QLP, the MS4s take actions to meet or exceed the provisions of their construction general permit.

2. The QLP option leads to greater efficiency among participants and TDEC

3. Water quality protection under the QLP option is at least as good as non-QLP's under direct TDEC supervision, as demonstrated by maintenance of effective QLPs and by TDEC's ability to allocate resources away from QLP jurisdictions and related construction activities.

2. Definitions

Municipal Separate Storm Sewer System (MS4)- Municipal Separate Storm Sewer (MS4) is defined at 40 CFR §122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i.) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the state;

(ii.) Designed or used for collecting or conveying stormwater;

(iii.) Which is not a combined sewer; and

(iv.) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

A **Designated MS4** is an MS4 whose discharges must be permitted under the State of Tennessee's NPDES Permit.

National Pollutant Discharge Elimination System (NPDES) general permit- for small municipal separate storm sewer systems (MS4s). It authorizes discharges from small MS4s located throughout the State of Tennessee. There are two discrete small MS4 entities: currently permitted MS4s renewing their coverage and newly identified MS4s designated by the director of Division of Water Pollution Control including specific state college and university campuses with on-campus housing.

Participant- for the purposes of this QAPP, a participant is an MS4 that has volunteered and qualified to take part in the QLP Pilot Program.

Non-participant-for the purpose of this QAPP, a non-participant, is an MS4 that either did not volunteer or did not qualify to take part in the QLP Pilot.

Pilot Program- would be a period where TDEC will work with select MS4(s) volunteer(s) program(s)to work through guidance materials and document achieving the various elements involved in becoming a qualified program.

Qualified Local Program (QLP)- is an MS4 stormwater management program for discharges associated with construction activity that has been formally approved by the division as having met specific minimum program requirements, including those identified in 40 CFR 122.44(s). The intent of the QLP is to establish a streamlined and efficient process for managing discharges of stormwater associated with construction activities by eliminating duplication of the effort between the MS4 and the Division.

Quality Assurance Program Plan (QAPP) - This is a guidance document written to assure the quality of the collection of any primary or secondary data related to this project. According to EPA's guidance on QMP's and QAPP's, this is a non-conforming, memo-style QAPP; however, it adheres to guidance provided by the social scientists in OPEI.

Respondent- for the purposes of this QAPP, a respondent is an MS4 that receives and responds to the surveys developed under this QAPP.

Non-respondent- for the purposes of this QAPP, a non respondent is an MS4 that does not responds to the survey developed under this QAPP.

Stormwater Program- refers to the MS4 or the operation and administration of the MS4 by the responsible local government.

3. Measurement Approach Overview and Purpose

We intend to conduct three surveys of stormwater programs throughout the State in order to understand:

- The extent to which their attitudes about QLPs have changed over the course of the project.
- The extent to which project participants have changed their stormwater-related policy activities (i.e., behavior) relative to non-participants. Example: Increase in number of inspections.
- The extent to which the rate of complaints changes over time for QLP participants (perhaps relative to non-participants), to help judge whether environmental protection is being maintained.

Participation in the pilot program will be voluntary. Participation will be limited to MS4's that meet the minimum criteria developed as part of this initiative. Therefore we do not have a pre-determined pilot group size. The participants in the pilot program will be qualified volunteers from the approximately 100 designated MS4's in Tennessee. We will use the information collected to gauge the extent to which the pilot program has been successful, in order to judge whether the QLP elements tested and demonstrated during the pilot warrant using the QLP option in Tennessee, or if these elements need to be adjusted or modified prior to making the QLP option available to the remainder of the qualified MS4 population in Tennessee.

This data collection is authorized by EPA ICR 1755.08.

4. Detailed Description of Measurement Approach (Primary Data)

There is one primary data source: surveys of the designated MS4s throughout the state. We intend to use a web-based survey form:

- Data will be collected three times: prior to the beginning of the pilot period; during the pilot period, shortly after participants begin implementing aspects of being QLPs; and near the conclusion of the project period. The pilot period would be a period where TDEC will work with select MS4(s) volunteer(s) program(s)to work through guidance materials and document achieving the various elements involved in becoming a qualified program. We will monitor the designated Qualified Programs. Surveys will be approximately one year apart from each other. It is expected that the most valuable data with regard to behavior change and environmental outcomes will be collected in the final survey, allowing some time for the potential benefits of QLP participation to take hold.

- Anticipated length of survey response time is less than 30 minutes; respondent should allow additional time to access records in preparation for the survey.
- Since MS4s are familiar with Municipal Technical Advisory Service (MTAS) surveys, MTAS should conduct the survey. The stormwater program contact for each MS4 in Tennessee will receive the survey.
- We do not intend to use statistical analysis to make projections, as we intend to collect data from the entire relevant population of stormwater program contacts in the State.
- Specific measures that we will use the data to support will include percent of facilities achieving a desirable behavior or attitude change, improvement in complaint levels.
- The MTAS document: Surveying Citizens: A Handbook for Municipal Officials Who Want to Know What Their Citizens Think by David Folz will be used as supplemental guidance to conduct the surveys and prepare the reports, with guidance from EPA staff, contractors, and social scientists being primary.

5. Secondary Data Sources

Secondary data sources would include TDEC complaint records and enforcement data. TDEC complaint records are expected to be combined with information from the MS4s about their complaint levels, to get an accurate picture of the complaint rate for each MS4. We define complaint rate as the total number of complaints received by TDEC or the MS4 regarding stormwater-related construction activities in a particular MS4's jurisdiction divided by the total number of stormwater-related construction permits on record, for each fiscal year.

6. Quality Assurance Procedures

Prior to Data Collection:

The following approach will be undertaken to minimize potential bias during survey planning:

The survey methodology has been carefully vetted by TDEC, MTAS, and EPA staff and contractors, including a social scientist, to reduce the possibility of bias in the survey instrument. All questions were carefully examined in this context.

All stormwater programs across the State will be invited to participate in the survey to avoid bias in selecting (or “cherry picking”) respondents.

Additionally, the survey methodology will be reviewed by the QLP Advisory Committee, which is comprised of representatives from various stakeholder groups, including: stormwater programs (MS4s), the Home Builder's Association, the Association of General Contractors, environmental advocacy groups, TDEC, the Tennessee Department of Transportation, the Tennessee Chamber of Commerce, the Tennessee Stormwater Association, and others. We feel that the benefits of getting comments from a small number of MS4 stormwater contacts outweighs any limited, potential bias that might be caused by their reviewing the survey in advance of providing formal responses during the official survey process.

The UT-MTAS Library, the component of MTAS which will administer the surveys, conducts numerous statewide surveys on an ongoing basis. Their experience should help ensure minimal problems in implementation.

The Quality Assurance Officer will conduct a Readiness Review immediately prior to the data collection tasks: identifying targeted recipients, implementation staff training/review, self-certification, targeted follow-up and post-certification inspections. The QA Officer will report findings to the Project Manager, who will take corrective action (if any is necessary) before the data collection task begins. Further, the Project Manager and QA Officer will thoroughly debrief project implementation staff a short time after beginning their respective implementation tasks, to identify emerging/unanticipated problems and take corrective action, if necessary.

During Data Collection:

As stated above, rather than random sampling, we intend to use the entire set of permitted stormwater programs in the State of Tennessee.

MTAS has a standard follow-up protocol for tardy respondents:

- first time: an email reminder
- second time: another email reminder
- third time: a reminder by telephone

Mayors are included in our contact list and will be requested to encourage staff to complete surveys, if needed, as a last resort.

The surveys will be in electronic, interactive format. Data entry will be cross-checked and peer-reviewed for the distillation, summarization, and analysis and reporting. The results will be shared with TDEC and EPA and stored according to EPA policy.

After Data Collection:

We do not need to use inferential statistical techniques because we are conducting a census. Instead, we will be using descriptive statistics to characterize results from the respondents.

We will separately examine the data for the program participants and program non-participants to understand how the metrics are changing for each.

With regard to attitudes, this will help us understand the impact of the project and project-related outreach on both groups.

With regard to behavior changes and efficiency/complaint outcomes, comparing the trends between program participants and program non-participants will help understand if any observed changes among program participants are very different from what's happening among program non-participants. This can help reduce or eliminate potential biases (such as the slowdown in the economy, which might make permits go faster and complaints decrease, just because there are fewer projects).

With regard to checking for data quality, we will attempt to characterize non-respondents in terms of counts of types of non-respondents, looking at typing categorizations such as population size, per capita income, grand division of the State (West, Middle, East), overall program evaluation by their local TDEC field office, etc., and characterizing questions for which there is a poor response rate or data quality is otherwise poor.

7. Impact of Relevant Data Quality Issues

Precision:

For the questions, are they phrased appropriately to be understood well?

The survey methodology has undergone peer review.

Sensitivity:

Are the questions sufficiently detailed enough to be of analytical value?

We have considered sensitivity issues in designing the survey and believe we have an appropriate balance of sensitivity and practicality. For instance, we are collecting complaint data on a fiscal year basis, primarily because it is consistent with state/MS4 records, but it should still be sensitive enough to detect moderate trends. We believe that the vetting process with TDEC, EPA, MTAS, and stakeholder representatives on the QLP Advisory Committee will ensure this.

Representativeness:

Will the survey be conducted within a representative group?

Yes. We are conducting a census of all MS4 stormwater program contacts in the State.

Completeness:

Could a large number of non-respondents to the survey create a lack of representativeness?

Yes.

Is this expected?

No. MTAS follows up with respondents with a progressive level response protocol, as mentioned earlier, and has a very successful track record. If necessary, our primary contacts for each city includes the mayor, who can usually motivate staff the complete the surveys.

Can it be mitigated?

In the event of any non-response, we will characterize the non-respondents according to several different kinds of characteristics and assess the extent to which we believe overall results may be biased. These findings will be provided with any reports of results.

We will use such categorizations as population size, per capita income, grand division of the State (West, Middle, and East), overall program evaluation by their local TDEC field office, etc. These strata will be reviewed for commonalities or patterns.

Further, we have designed the survey checklist to attempt to minimize item non-response, by limiting the amount of time that answering a survey will take and injecting design elements that are intended to engage the survey population. Potentially sensitive questions have also been placed closer to the end of the survey. Upon completion of surveys, we will examine the data for item non-response and characterize questions for which there is a poor response rate or data quality is otherwise poor.

Comparability:

Do you anticipate making comparisons among groups or over time?

Yes.

Will your approach be sufficiently consistent to allow for such comparisons? Will you be tracking factors that might complicate comparison (e.g., changing regulatory or economic factors can influence comparability over time).

Yes. As stated above, with regard to behavior changes and efficiency/complaint outcomes, comparing the trends between QLP participants and non-participants will help understand if any observed changes among QLP participants are very different from what's happening among non-participants. This can help reduce or eliminate potential biases (such as the slowdown in the economy, which might make permits go faster and complaints decrease, just because there are fewer projects). We also intend to share preliminary results with our stakeholders in order to solicit feedback in terms of interpreting the results and understanding potential biases.

Please note that, because some MS4s will transition into QLP status over the course of the project, we will slightly alter the survey checklist for these MS4s to ensure they will interpret it properly. In making these alterations, we will ensure that data will be comparable to prior responses and to MS4s that have not become QLPs. (All versions of the survey are provided as attachments.)

Bias:

Have you addressed potential biases, such as a self-reporting bias?

Because we are largely relying on self-reported information, we cannot substantially remove self-reporting bias. However, we do believe that the survey delivery method and survey design will mitigate self-reporting bias because of the assurances of identity protection. Further, self-reporting is vital for much of the attitudinal information being collected.

Can you mitigate it in some way, such as by promising anonymity or verifying responses?

Yes. We are promising anonymity and conducting the survey through MTAS, which is a third party, non-regulatory agency that *has a pre-existing role as a source of technical support and assistance to the respondents. We will also look to see if there is some sort of self-selection bias. By that, we mean whether the participants, by their nature, are very different than nonparticipants and likely to have different outcomes as a result. This might be more of a qualitative assessment.*

8. Project Management

The Tennessee Grant Project Coordinator will be responsible for overseeing the data collection process and ensuring that consistent practices are implemented. MTAS's QA Officer and the Tennessee Grant Project Coordinator will conduct QA on the data entered prior to any analysis.

Table 1: Project Implementation Personnel

Individual	Role in Project	Organizational Affiliation
Frances Adams-O'Brian	Project Survey Administrator	UT-MTAS
John C. Chlarson, P.E.	Project Survey Quality Assurance Officer	UT-MTAS
Robert Karesh	Tennessee Grant Project Coordinator	TDEC
Sean M. Flynn	EPA Grant Manager	US EPA Region 4
Gerald J. Filbin, Ph.D.	Director, Innovative Pilots Division, NCEI, EPA	US EPA HQ

9. Assessment/Oversight

Assessment and Response Actions

MTAS's Project Survey QA Officer will conduct a readiness review prior to primary data collection. The MTAS Project Survey QA Officer will report findings to the Tennessee Grant Project Coordinator, who will take corrective action, as necessary. Corrective action will be pre-approved by the MTAS Project Survey QA Officer. Collection of primary data will not begin until the MTAS Project Survey QA Officer certifies readiness. The Tennessee Grant Project Coordinator and MTAS Project Survey QA Officer will meet regularly with other project implementation staff to identify emerging/unanticipated problems and take corrective action, if necessary.

Reports to Management

Three kinds of reports will be prepared during the grant period of performance: readiness reviews (described above), regular quarterly progress reports, and a final report. Progress reports will note the status of project activities, identify any QA problems encountered, and explain how they were handled. The final report will analyze and interpret data, present observations, draw conclusions, identify data gaps, and describe any limitations in the way the results should be interpreted.

Table 2: Reporting

Type of Report	Frequency	Preparer	Recipients
Readiness Review	Before each major data collection task (specifically, before each survey)	MTAS Project Survey QA Officer	Tennessee Grant Project Coordinator
Progress Report	Quarterly	Tennessee Grant Project Coordinator	EPA Grant Manager (Copying US EPA OPEI)
Final Project Report	Once	Tennessee Grant Project Coordinator	EPA Grant Manager (Copying US EPA OPEI), QLP Advisory Committee stakeholders

APPENDIX “C”

C-1 MTAS Invoice

Tennessee Department of Environment and Conservation
401 Church Street
L & C Tower, 6th Floor
Nashville, TN 37243

July 1, 2010 through Sept. 30, 2010
Detail for Invoice # 2203
Invoice date: 11/2/10
UTK Fed ID # 62-6001636

		Amount Billed To Date (incl current period)	Current Period 7/1/10 - 9/30/10	Total Amount Due
	Professional Salaries	$81,091.62	$2,233.75	$2,233.75
	Support Salaries	$744.96	$302.64	$302.64
	Benefits	$24,111.72	$831.17	$831.17
	Travel	$7,447.19	$179.00	$179.00
	Printing	$22.25	$0.00	$0.00
	Supplies	$109.33	$0.00	$0.00
	Insurance	$3,264.00	$0.00	$0.00
	Special Services	$3,884.43	$0.00	$0.00
	Program Support	$16,089.83	$531.98	$531.98
	Invoice Total:	**$136,765.33**	**$4,078.54**	**$4,078.54**
Prof. Salaries:	Salaried time spent on Muni. Storm Sewers Systems.	$81,091.62	$2,233.75	$2,233.75
Support Salaries:	Support time spent spent on Muni. Storm Sewers Systems.	$744.96	$302.64	$302.64
		$81,836.58	**$2,536.39**	**$2,536.39**
Benefits:	Benefits associated with above salaried time.	$24,111.72	$831.17	$831.17
		$24,111.72	**$831.17**	**$831.17**
Travel:	John Charlton travel; J. Watson reimbursement for parking	$7,447.19	$179.00	$179.00
		$7,447.19	**$179.00**	**$179.00**
Printing:		$22.25	$0.00	$0.00
		$22.25	**$0.00**	**$0.00**
Supplies:		$109.33	$0.00	$0.00
		$109.33	**$0.00**	**$0.00**
Insurance:		$3,264.00	$0.00	$0.00
		$3,264.00	**$0.00**	**$0.00**
Special Services:	QLP Advisory Stakeholder Meeting (June 9, 2010)	$2,712.18	$0.00	$0.00
	Annual Report filing fee for TDEC/EPA (fee by J. Charlton as sec. of TNSA)	22.25	0.00	$0.00
	Web Hosting/ Maint. 7/1/10-6/30/11	1,150.00	0.00	$0.00
	TDEC Stormwater workshop; 7/28/10, Chattanooga, TN	N/A	N/A	N/A
		$3,884.43	**$0.00**	**$0.00**
Program Support:	Facilities & Admin. Costs (18% of direct costs)	**$16,089.83**	**$531.98**	**$531.98**
	TOTALS	$136,765.33	$4,078.54	$4,078.54