Appendix C
QUALITY ASSURANCE PROJECT PLAN (QAPP)
Guidance for 319(h) Nonpoint Source Projects

A QAPP is a written document that describes the quality assurance procedures, quality control specifications, and other technical activities that must be implemented to ensure that the results of the project or task to be performed will meet project specifications. A QAPP must be submitted by the grantee and approved by the Department prior to any water quality sampling through a 319(h) grant.

> **No water quality monitoring shall begin until the QAPP has been approved by the Department. Any sampling done prior to securing an approved QAPP will not be considered within the project's scope of work and the Grantee will not receive financial reimbursement for such sampling.** Once the Grantee has received comments from the Department, the Grantee shall revise the QAPP to address said comments and submit the final QAPP to the 319(h) Project Manager. The response to comments should be **bolded** in the body of the report and page number correlated to the comment number.

For Grantees unfamiliar with QAPP procedures and protocol, a meeting with Department QAPP staff will be coordinated in order to facilitate this process. Please contact your 319(h) Project Manager to make those arrangements.

The 319(h) QAPP guidance was developed based upon USEPA's document entitled "EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5" (EPA/240/B-01/003). This document, as well as additional information regarding QAPPs, can be found at www.epa.gov/quality/.

QUALITY ASSURANCE PROJECT PLAN (QAPP)
Name of 319(h) Grant
Contract RPF # XXXXXXX

Prepared by: _____ Date: _____

QAPP Preparer

Affiliation

Reviewed by: _____ Date: _____

Preparer's Organization QA/QC Officer (if there is one)

Affiliation

Reviewed by: _____ Date: _____

319(h) Grantee, 319(h) Grantee

Reviewed by: _____ Date: _____

NJDEP Staff, 319(h) Project Manager

Bureau of Watershed Planning

Reviewed by: _____ Date: _____

Beth Torpey, QAPP Coordinator

Bureau of Watershed Planning

Reviewed by: _____ Date: _____

Bob Mancini, Section Chief

Bureau of Watershed Planning

Approved by: _____ Date: _____

Marc Ferko, Quality Assurance Officer

Office of Quality Assurance

Names of other organizations involved in project (such as field operations manager, laboratory managers, State, and Federal agency officials, etc.) should be included on this cover sheet as well as the Distribution List.

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Appendix A – Scope of Work from executed contract (Attachment D)
Appendix B – Map(s) with monitoring locations identified in Section 6
Appendix C – Quality Assurance/Quality Control (QA/QC)

Section 3: Distribution List

Individuals and their organizations that need copies of the approved QAPP and any subsequent revisions.

Table 3.1: Distribution List for QAPP and QAPP Revision

Name	Organization	Address	e-mail
Project Manager			
QA Officer			
Laboratory			
Grantee			
319(h) Project Manager	NJDEP – Division of Watershed Management Bureau of Watershed Planning	401 E. State Street, P.O. Box 418, Trenton, NJ 08625-0418	Fname.Lname@dep.state.nj.us
Beth Torpey	NJDEP – Division of Watershed Management (DWM) Bureau of Watershed Planning	401 E. State Street, P.O. Box 418, Trenton, NJ 08625-0418	Beth.Torpey@dep.state.nj.us
Bob Mancini	NJDEP – DWM Bureau of Watershed Planning	401 E. State Street, P.O. Box 418, Trenton, NJ 08625-0418	Bob.Mancini@dep.state.nj.us
Marc Ferko	NJDEP – Office of Quality Assurance	PO Box 424 9 Ewing Street, 2nd Flr. Trenton, NJ 08625-0424	Marc.Ferko@dep.state.nj.us

Section 4: Project/Task Organization

Identify individuals or organizations involved in the project and discuss their specific roles and responsibilities. Include the principal data users, the decision makers, the project QA manager, and all persons responsible for implementation. Provide a concise organization chart showing the relationships and the lines of communication among all project participants.

Figure 4.1: Organization Chart

Section 5: PROBLEM DEFINITION/BACKGROUND

State the specific problem to be solved, decision to be made, or outcome to be achieved. Include the source and cause of impairments (from 303(d) list), known problems, Total Maximum Daily Loads (TMDLs), conflicts or threats (from experience or other studies), and known efforts to address (from experience or other studies). Describe land use, Category 1 designation, and identify any previous efforts and/or studies and conclusions.

In Appendix A include Scope of Work from executed contract (Attachment D)

Section 6: **PROJECT/TASK DESCRIPTION**

Describe all work to be performed, products to be produced and the schedule for implementation needed to resolve the problem described in Section 5. **Maps and tables that show and state the geographic locations of field tasks must be provided.**

6.1 Sample locations and rationale: Justification for each location. Mark sample locations in the field with stakes and surveying tape for possible field visit

Table 6.1

Location I.D.	Name	Justification

6.2 Temporal and Spatial Aspects:

Frequency: for example, bacteria samples should be collected five times per location within a 30 day period between Memorial Day and Labor Day. Other parameters may be collected eight times per location within a two year period on a quarterly basis. This represents the optimum sampling regime but may be modified based on project goals with DEP approval.

Conditions: include baseline, baseflow, wet weather and first flush. Define the condition and explain the rationale.

6.3 Parameters:

Describe the selected parameters and rationale for the specific parameter at each location. For example: In-situ water quality parameters (Temp, pH, DO, Conductivity, flow, discharge, diurnal DO), Chemical water quality parameters (nitrate, nitrite, TKN, TP, TSS, TDS), Bacterial parameters, physical parameters (flow, bathymetric data etc.) Benthic Macroinvertebrates.

Table 6.2 Summary of Monitoring Design

Type	Baseline	Wet Weather	Dry Weather	Bacteria	Biological
Frequency					
Parameters					
Sample Location					
SW-1					
SW-2					
SW-3					

6.4 Schedule

Table 6.3: Field Sampling Schedule for Data Collection

Section 7: Sampling Procedures

All samples should be collected in conformance with the NJDEP 2005 Field Sampling Procedures Manual and applicable USEPA guidance. All instrumentation for the collection of field data will be properly calibrated in conformance with the manufacturer's instructions and the NJDEP Field Sampling Procedures Manual.

Section 8: Training Requirements and Certification

Identify and describe any specialized training/certifications needed by personnel in order to successfully complete the project. Discuss the training that will be provided and how the necessary skills will be assured and documented. Include any required certification information such and the laboratory certification or the DEP field sampling certification numbers.

Section 9: Sample Handling and Custody Procedures

Describe how samples should be handled, transported, and then received in the laboratory or office. Include how handling and custody is documented--through field notebooks or forms, etc--and identify responsible personnel. For parameters measured in this project, provide information on container, volume, initial preservation, and holding times in the table below. Identify chain of custody procedure. Form may be attached.

Table (9.1) Sample handling and custody

Parameter	Container	Volume	Initial Preservation	Holding Time

Section 10: Sampling Method Requirements

Table 10.1 Sampling locations and sampling methods.

Sampling Location	Location ID Number	Matrix	Depth (units)	Analytical Parameter	# Samples (include field duplicates)	Sampling SOP #	Sample Volume	Container #, size, type	Preservation (chemical, temperature, light protected)	Maximum Holding Time: Preparation/ analysis

Section 11: Analytical Methods Requirements

Provide reference to the analytical procedures, including field measurements and laboratory that will be used in the study.

Table 11.1 Field and Laboratory Analytical Methods

Analyte	*Laboratory / Organization*	*Project Action Limit (units, wet or dry weight)*	*Project Quantitation Limit (units, wet or dry weight)*	*Analytical Method*		*Achievable Laboratory Limits*	
				Analytical Method/ SOP	*Modified for Method yes/no*	*MDLs*	*Method*
e.g. pH	**Field:** monitoring by field staff	6 - 9 pH units	NA	Standard Methods (*) 4500H+B FDCC Field SOP 1	None		
e.g. Total coliform and E. coli	**Lab:** In-house laboratory	< 20 MPN/100mL for E. coliforms	2 MPN/100mL	Standard Methods 9223B Enzyme substrate method	None	Not applicable	2 MPN/100 mL

(*) Standard Methods for the Examination of Water and Wastewater, *20th edition.*

Section 12 Calibration Procedures and Preventative Maintenance

Table 12.1 Instrument calibration table

Equipment / Instrument	*SOP reference*	*Calibration Description and Criteria*	*Frequency of Calibration*	*Responsible Person*

List equipment and provide testing, inspection and maintenance information in narrative form or in table below. Information such as availability/location of spare parts, corrective action should be identified only if these items are not addressed in the SOP.

Table 12.2 Testing, inspection, maintenance of sampling equipment and analytical instruments

Equipment / Instrument	*Maintenance Activity, Testing Activity or Inspection Activity*	*Responsible Person*	*Frequency*	*SOP Reference*

Section 13: Quality Assurance and Quality Control

N.J.A.C. 7:18 and 40 CFR Part 136 should be followed for all quality assurance and quality control (QA/QC) practices including detection limits, quantitation limits**,** precision and accuracy and documentation attached as Appendix C.

Section 14: Documentation and Records

Submit a CD with the approved QAPP, all monitoring data in Excel, including explanations of anomalies and Summary Report. Describe the process and responsibilities for ensuring the appropriate project personnel have the most current approved version of the QAPP, including version control, updates, distribution and disposition.

Itemize the information and records which must be included in the data report package and specify the reporting format for hard copy and any electronic forms. Records can include raw data, data from other sources such as databases or literature, field logs, sample preparation and analysis logs, instrument printouts, model input and output files, and results of calibration and QC checks.

Identify any other records and documents applicable to the project that will be produced, such as audit reports, interim progress reports, and final reports. Specify the level of detail of the field sampling, laboratory analysis, literature or database collection, or modeling documents or records needed to provide a complete description of any difficulties encountered.

Specify or reference all applicable requirements for the final disposition of records and documents, including location and length of retention period.