Clean Water Act, Section 604(b) Instructions and Templates for preparing: State Assistance Contract Appendix D - Project Work Plan

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Preparing the State Assistance Contract Appendix D – Project Work Plan

As a successful applicant for Clean Water Act (CWA), Section 604(b) funding [604(b)], you are required to submit a Project Work Plan for projects that have been awarded funding.

Why is a work plan needed when a project description was already provided in the funding application?

The Project Work Plan requires more detailed information than the project application submitted previously. Its main purposes:

- The work plan forms the basis for a contract between the sub-recipient (regional or interstate commission) and the New York State Department of Environmental Conservation (NYSDEC) that allows for reimbursement of eligible project costs.
- The work plan provides a mechanism for tracking and evaluating progress of project implementation through quarterly reports.
- The Federal Funding Accountability and Transparency Act (FFATA) requires prime grant awardees (e.g., NYSDEC) to report specific sub-award information for grants awarded on or after October 1, 2010. The Clean Water Act, Section 604(b) funding is part of a grant that is governed by FFATA and therefore the NYSDEC is required to report some of the requested sub-award information.

What are the steps in the contract process?

1. The sub-recipient completes a work plan following the instructions and using the template provided in this packet.
2. The sub-recipient submits the completed work plan to NYSDEC central office where it will undergo technical and administrative review.
3. When the work plan is technically and administratively approved by NYSDEC, a proposed contract is prepared and forwarded to the sub-recipient for signature.
4. The contract must be signed by the Regional or Interstate Organization official designated on the Regional or Interstate Organization Resolution and returned to NYSDEC central office.
5. The contract must then be approved by NYSDEC, the Attorney General's office and the Office of the State Comptroller.

It usually takes six to eight weeks from Regional or Interstate Organization signature of the contract (step 4, above) to final approval by the Comptroller's office.

Instructions

Please read through all instructions before starting to prepare the work plan.

Complete the attached templates as instructed below and remove the instruction pages from the completed work plan document. Return ONLY the Project Work Plan that includes the following:

I. Cover Sheet
II. Project Tasks Matrix
III. Project Summary
IV. Key Personnel
V. Budget

I. COVER SHEET

Provide the requested information on the attached Cover Sheet. See specific instructions.

Tracking – Various numbers identify the grant, its source and the funded projects.

- Project ID Number – This is the number assigned by NYSDEC to the project application. It is found on the award letter sent by NYSDEC to the Sub-recipient.
- State Contract Number – NYSDEC has assigned a contract number to the project. It is found on the award letter sent by NYSDEC to the Sub-recipient.

Sub-recipient Information – To expedite communications, always provide a street address for contacts listed below. Express mail cannot be delivered to a post office (P.O.) box.

- Organization Name – List the lead Regional Public Comprehensive Planning Organization or Interstate Organization.
- DUNS # – This number is required by the FFATA Sub-award Reporting System (FSRS). If your organization does not have a DUNS number, see the Dun & Bradstreet web site at http://fedgov.dnb.com/webform to obtain a number.
- Congressional District – List the Congressional District in which the sub-recipient is located, e.g. NY-26. The Congressional District should correspond with your organization's street address.
- Organization Contact – The Contact Person should be the authorized representative named in the Regional or Interstate Organization Resolution.
- Project Manager – Identify the day-to-day program (technical) contact for this project.
- Fiscal Contact – List the person doing the administrative work on the project, preparing reimbursement requests and maintaining fiscal records.

Project Information – Provide the project specific information requested

- Project Type – Enter one of the following project types: County Water Quality Coordinating Committees, Green Infrastructure Planning, TMDL Elements, Phase II Stormwater Planning, or Water Quality Management Planning.
- Regional or Interstate Organization Resolution – The Regional Public Comprehensive Planning Organization or Interstate Organization must pass a resolution naming the individual authorized to act for the organization in matters

relating to this project funding award. See *Resolution by Regional Public Planning Organizations and Appropriate Interstate Organizations* for the proper resolution format.

- Project Location(s) – provide information on each of the locations covered by this project. List the Congressional District **in which the majority of the project occurs** (e.g. NY-30).

Project Timing and Costs – It is very important to fill out this section correctly. Incomplete or incorrect information has delayed many contracts.

- Start and End Dates – The start and end dates on the cover sheet must match those on the Project Tasks Matrix (Part II). Your anticipated project dates may have changed since you submitted your application. Make sure the work plan schedule is realistic, reflects current conditions, and will cover all anticipated expenses. When identifying the proposed start date, make sure it is before work has begun and any costs have been incurred. When identifying the expected completion date, leave yourself enough time to ensure that the project will be completed, final report prepared, and all bills paid within that time period. Give yourself extra time to be sure that all bills will fall within the project schedule. **Do not send any bills or invoices with the work plan.**
- Projects may have a start date as early as April 1, 2011. Projects must be completed and grant funding expended no later than March 31, 2015. All eligible costs must be incurred within the start and end dates of the contract.
- Total Project Cost – The cost on the cover sheet must match the total project cost on the Budget Worksheet (Part V) and include the anticipated funding for each year of the 4 year contract. Your project may not have received all the funding that was applied for. Your reimbursement amount cannot exceed the amount that you have been awarded.

II. PROJECT TASKS MATRIX

The following should be included: specific objectives; associated tasks; project schedule including approximate start and end dates for each task; the party/parties responsible for completing each task; and anticipated deliverables. For TMDL Element projects, use the information in the detailed Statement of Work provided in Attachment A as the basis for the objectives and tasks and augment it as appropriate for your project. See Sample Project Tasks Matrix below for an example.

Objectives and Tasks

Describe the specific objectives of the project and identify the tasks that will be performed to meet those objectives. Include reporting requirements in the list of Objectives and Tasks.

Estimated Start and End Dates

List the estimated start date and end date for each task. Be sure that all listed dates fall within the project start and end dates as listed on the Cover Sheet.

Projects may have a start date as early as April 1, 2011. Projects must be completed and grant funding expended no later than March 31, 2015.

Any invoices to be reimbursed must be for eligible services that fall between the start date and completion date of the project. When identifying the proposed start date, make sure it is before work has begun and costs have been incurred. When identifying the expected completion date, leave yourself enough time to ensure that the project will be completed and all bills paid within that time period. Give yourself extra time to be sure that all bills will fall within the project timeframe!

Responsible Party

List the job titles of those who will be responsible for each project task listed. If the responsible party is a contractual employee, please specify.

Anticipated Deliverables

List and describe anticipated deliverables. Deliverables include:

a) Products or outcomes associated with each listed task.
b) Quarterly Reports.
c) Final Report. The final report presents the results of the project and a discussion of those results.

Deliverables should be physical documents on file with the sub-recipient, or results (outputs) of the listed activities. Actions associated with creation of deliverables should be listed in the Task(s) column.

For TMDL Element projects, use the detailed information in the Statement of Work provided in Attachment A as the basis for the list of deliverables and augment it as appropriate for your project.

Note: Any deviation(s) from the Project Work Plan that significantly affect(s) the outcome of the deliverables will require prior approval from NYSDEC. A change in the contract may be required as well. Therefore, it is important to indicate in quarterly progress reports any anticipated deviation from the original Project Work Plan and to notify the NYSDEC Project Manager before proceeding.

Sample Project Tasks Matrix

Objectives	Tasks*	Estimated Start Date (MM/YY)	Estimated End Date (MM/YY)	Responsible Party	Anticipated Deliverables (products and outcomes)
A. Establish partnerships with key stakeholders	1. Identify individuals, organizations and local government representatives with an interest or stake in the project	05/11	06/11	RPDB Project manager & intern	List of stakeholders
	2. Conduct one-on-one contacts to invite participation	06/11	08/11	RPDB Project manager	List of contacts
	3. Plan, set up and hold initial stakeholder meeting.	08/11	09/11	RPDB Project manager, intern and support staff	List of meeting attendees, meeting notes

III. PROJECT SUMMARY

Provide a description of the overall purpose and nature of the project, with appropriate detail to ensure proper conduct of a project that meets all NYSDEC requirements. Include the items listed below. For TMDL Element projects, use the detailed Statement of Work provided in Attachment A as the basis for the project summary and augment it as appropriate for your project.

NOTE: Clean Water Act (CWA) Section 604(b) funds are *for planning activities only* and the project work plan needs to clearly reflect the planning nature of the work to be done under this grant.

- The planning activities that will be accomplished to improve water quality.
- The location of the project (street address, proximity to the affected waterbody, etc.). For projects involving multiple phases, components and/or locations, briefly describe each.
- The water quality problems that the project will address (e.g., the name and value of the affected waterbody(ies)); the water quality problem; the name of the priority pollutant(s) or disturbance(s) causing the impairments; the source(s) of priority pollutants or disturbances causing the impairment.
- The expected environmental benefit (e.g., the extent to which a water quality problem will be addressed by the project). For pollution prevention projects, describe the anticipated reduction in risk to the public health or environment and explain the type and amount of toxic or hazardous material to be reduced, avoided or eliminated.

IV. KEY PERSONNEL

Brief Professional Bio – For key project personnel, provide their name, agency, qualifications and a brief description of experience with a similar type of project. Include the following positions plus any other key personnel. In some cases, an individual may fill more than one role.

- Organization Contact
- Project Manager
- Fiscal Contact
- Parties responsible for project oversight

Highly Compensated Officers – List the sub-recipient organization's top 5 officers and their compensation if, in the sub-recipient's preceding fiscal year, the sub-recipient received:

a) 80 per cent or more of its annual gross revenues from Federal contracts (and sub-contracts), loans, grants (and sub-grants), and cooperative agreements; *and*
b) $25,000,000 or more in annual gross revenues from Federal contracts (and sub-contracts), loans, grants (and sub-grants), and cooperative agreements; *and*
c) The public does not have access to information about the compensation of the senior executives through periodic reports filed under section 13(a) or 15(d) of the Securities and Exchange Act of 1934 (15 U.S.C. 78m(a)), 78o(d) or section 6104 of the Internal Revenue Code of 1986.

V. BUDGET

Fill in the Budget Worksheet and Detail Sheets using estimated costs or actual costs (where known) for each expenditure category. Please double-check all calculations.

Important Pointers

- When presenting the budget, include the entire project that will be funded using 604(b) reimbursements. This work plan should include all segments and phases of the project, including total cost estimates for each fiscal year's anticipated funding amount. By including all information in this work plan, the Regional or Interstate Organization will avoid having to redo the work plan and contract if activities are shifted between any of the segments or phases.
- The sub-recipient **may** shift up to 10% of budget category costs between expenditure categories. If cumulative changes exceed 10% of the budget category cost, you must first obtain NYSDEC approval and the contract must be formally amended. In **no** event shall changes to the budget cause the aggregate costs to exceed the Contract Amount of the authorized State Assistance as set forth on the Summary Page of this Contract.
- Any invoices to be reimbursed must be for eligible services that fall between the start date and completion date of the project. When identifying the proposed start date, make sure it is before work has begun and costs have been incurred. When identifying the expected completion date, leave yourself enough time to ensure that the project will be completed and all bills paid within that time period. Give yourself extra time to be sure that all bills will fall within the project timeframe!
- Make sure the costs on the cover sheet match those on the Budget Worksheet.

Personal Services Category – Include Payroll, Fringe Benefits and Indirect costs in this expenditure category of the Budget Worksheet. Also include the sum of these costs.

- Personal Services Detail – Provide a list of titles, salaries, estimated hours and tasks on the Budget Detail Sheets for the total personal services cost listed on the Budget Worksheet. If requesting reimbursement for Fringe or Indirect costs, list the totals on the lines provided, then add to the total personal services cost.
- *Note: In most cases, time spent on the project by elected officials is not eligible for reimbursement. However, when prior approval is received by the project manager, time spent by an elected official in lieu of hiring additional staff may be reimbursable. Even when approved by the project manager, the cost will only be reimbursed at the local prevailing wage rate of the routine title used to perform the task, not at their official salary.*

Non-personal Services Category – Enter a total amount for non-personal services on this line. Enter the amount for each of the subcategories on lines a., b., c., d. and e. Provide detail for each sub category, as follows, in the budget detail sheets below.

a. Travel – If the total line item is greater than $5000, provide a list of destinations, type of expenditures, and anticipated costs on the Budget Detail Sheets.

b. Equipment – If the total line item is greater than $5,000 *and* one or more individual items exceeds $5,000, provide a list of *all* items and the cost of each on the Budget Detail Sheets.

c. Supplies and Materials – If the total line item is greater than $5,000 *and* one or more individual items exceeds $5,000, provide a list of *all* items and the cost of each on the Budget Detail Sheets.

d. Consulting and Other Contractual Services – If the contract line is over $25,000 *and* one or more individual contracts exceed $25,000, provide a list of all awardees' names, type of work and the amounts on the Budget Detail Sheets.

e. Other – Enter costs not covered on the other lines of the Budget Worksheet. Provide a detailed breakdown of all costs included in this category on the Budget Detail Sheets.

How to Submit the Completed Work Plan to NYSDEC

Completed work plans should be e-mailed to wqipuser@gw.dec.state.ny.us.

To assure delivery of the work plan to the proper NYSDEC staff, include the following subject line (replacing *C######* with the project's NYSDEC assigned State Contract Number):

Submit 604(b) Work plan – C######

Appendix D of State Assistance Contract

Project Work Plan – Clean Water Act, Section 604(b)

I. COVER SHEET

Tracking	
Project ID Number[1]	
State Contract Number[2]	

[1] Assigned by NYSDEC; listed on award letter.
[2] Assigned by NYSDEC; listed on award letter.

Sub-recipient Regional Public Comprehensive Planning Organization or Interstate Organization			
Organization Name			
Street Address			
City, State			
Zip Code +4			
Federal (IRS) ID#			
DUNS #[3]			
Congressional District[4]			
	Organization Contact	Project Manager	Fiscal Contact
Name			
Street Address			
City, State			
Zip Code +4			
Telephone			
Fax			
E-mail			

[3] A DUNS number is required by the FFATA Sub-award Reporting System (FSRS). If your organization does not have a DUNS number, see Dun & Bradstreet website at http://fedgov.dnb.com/webform.
[4] List the Congressional District in which the sub-recipient is located, e.g. NY-26. The Congressional District should correspond with your organization's street address.

Project Information			
Project Name			
Project Type[5]			
Has a current Regional or Interstate Organization Resolution been submitted? ☐Yes ☐No			
	Project Location(s)		
Street Address			
Municipality[6]			
Zip Code +4			
County			
Congressional District			
Waterbody/Watershed			
Latitude & Longitude			
Hydrologic Unit Code (HUC)			

[5] Enter one: County Water Quality Coordinating Committees, Green Infrastructure Planning, TMDL Elements, Phase II Stormwater Planning, or Water Quality Management Planning.
[6] Indicate Town = T, City = C, Village = V, plus the name of the municipality.

Project Timing and Costs[7]	
Start Date	
End Date	
604(b) Total Award Amount[8]	
Total Project Cost	

[7] Any invoices to be reimbursed must be for eligible services that fall between the start date and completion date of the project. When identifying the proposed start date, make sure it is before work has begun and any costs have been incurred. When identifying the expected completion date, leave yourself enough time to ensure that the project will be completed, final report prepared, and all bills paid within that time period. Give yourself extra time to be sure that all bills will fall within the project schedule to avoid the need for a contract amendment before reimbursement of costs can occur. **Do not send any bills or invoices with the work plan.**
[8] This amount should match the four-year cap amount listed on the award letter. It should include the sum of the initial award amount and the anticipated total award amount for each additional year of the contract.

II. PROJECT TASKS MATRIX

Describe the specific objectives of the project and identify the tasks that will be performed to meet those objectives. Follow the example in the instructions. All segments and/or phases of the project should be included here. For TMDL Element projects, use the information in the detailed Statement of Work provided in Attachment A as the basis for the objectives and tasks, and augment it as appropriate for your project.
(Add rows as necessary)

Objectives	Tasks*	Estimated Start Date (MM/YY)	Estimated End Date (MM/YY)	Responsible Party	Anticipated Deliverables (products and outcomes)
A.	1.				
	2.				
	3.				
B.	4.				
	5.				
	6.				
C.	7.				
	8.				
	9.				
D. Complete Reporting as Required	10. Prepare Quarterly Reports and submit them to NYSDEC by the deadline in the contract.				
	11. Prepare reimbursement requests using the correct forms and documentation.				
	12. Prepare Final Report at end of project and submit by project end date.				

* NOTE: Clean Water Act (CWA) Section 604(b) funds are for planning activities only and the project work plan needs to clearly reflect the planning nature of the work to be done under this grant.

III. PROJECT SUMMARY

For each of the headings below, provide narrative description or list with appropriate detail to ensure proper conduct of a project that meets all NYSDEC requirements. See instructions for more information about the details that should be included. For TMDL Element projects, use the detailed Statement of Work provided in Attachment A as the basis for the project summary and augment it as appropriate for your project. All segments and/or phases of the project should be included here. Attach additional pages as necessary.

A. Planning Activities to be Accomplished

B. Location (s) of the Project

C. Water Quality Problems to Be Addressed

D. Value of the Affected Waterbody(ies)

E. Priority Pollutants/Disturbances to be Addressed and their Sources

F. Expected Environmental Benefit or Risk Reduction

IV. KEY PERSONNEL

Provide information on the key personnel for the project. Add rows if necessary. Please DO NOT attach resumes.

Brief Professional Bio

Project Role	Name	Agency	Qualifications	Experience
Organization Contact				
Project Manager				
Fiscal Contact				
Project Oversight				

Highly Compensated Officers

Provide information on top five officers *only if* Sub-recipient Organization meets threshold described in the instructions.

Does Sub-recipient Organization meet the threshold described in the instructions? ☐Yes ☐No

Officer Name	Title	Compensation
1.		
2.		
3.		
4.		
5.		

V. BUDGET

Fill in the Budget Worksheet. Provide a breakdown for each category's **total** cost estimate on the Budget Detail Sheets as directed in the instructions.

Budget Worksheet

Expenditure Category[9]	604(b) Funds				
	Year 1	Year 2	Year 3	Year 4	Total
1. Personal Services Category[9] *(Provide detail on personnel on Budget Detail Sheets.)*					
a. Salaries and wages					
b. Fringe benefits					
c. Indirect and overhead					
Total *(a+b+c)*					
2. Non-personal Services Category[9]					
a. Travel[10]					
b. Equipment[10]					
c. Supplies and Materials[10]					
d. Consulting and Other Contractual Services[10]					
e. Other[10]					
Total *(a+b+c+d+e)*					
604(b) Total Award Amount[11] *(Total Personal Services + Total Non-personal Services)*					

[9] The sub-recipient MAY shift UP TO 10% of budget category costs between expenditure categories. If cumulative changes exceed 10% of the budget category cost, you must first obtain NYSDEC approval and the contract must be formally amended. In NO event shall changes to the budget cause the aggregate costs to exceed the contract amount of the authorized State Assistance as set forth on the Summary Page of this Contract.

[10] Complete detail sheets on these categories as indicated below:

i. Travel – If the total line item is greater than $5000, provide a list of destinations, type of expenditures, and anticipated costs on the Budget Detail Sheets.

ii. Equipment – If the total line item is greater than $5,000 *and* one or more individual items exceeds $5,000, provide a list of *all* items and the cost of each on the Budget Detail Sheets.

iii. Supplies and Materials – If the total line item is greater than $5,000 *and* one or more individual items exceeds $5,000, provide a list of *all* items and the cost of each on the Budget Detail Sheets.

iv. Consulting and Other Contractual Services – If the contract line is over $25,000 *and* one or more individual contracts exceed $25,000, provide a list of all awardees' names, type of work and the amounts on the Budget Detail Sheets.

v. Other – Provide detail for all items on the Budget Detail Sheets.

[11] Your project may not have received all the funding that was applied for. The total should be the amount of your award. Your reimbursement amount cannot exceed the amount that you have been awarded.

Budget Detail Sheets

Use these sheets to provide detail for expenditure categories as described in the instructions.
(Add rows as necessary)

1. Personal Services Category

Work Plan Tasks[12]	Position Title	Salary	Estimated Hours	Estimated Cost (Salary x Hours)
a. Salaries and wages Total				
b. Fringe benefits Total				
c. Indirect and overhead costs Total				
Total Personal Services Cost[13]				

[12] List Task numbers from Project Tasks Matrix above (section II).
[13] Enter Total Personal Services Costs into Budget Worksheet on the line for the same category.

2. Non-personal Services Category

a. Travel

Destination	Type of Expenditure	Anticipated Cost
	Lodging	
	Meals	
	Mileage	
	Tolls	
	Other *(specify)*	
	Lodging	
	Meals	
	Mileage	
	Tolls	
	Other *(specify)*	
	Lodging	
	Meals	
	Mileage	
	Tolls	
	Other *(specify)*	
	Lodging	
	Meals	
	Mileage	
	Tolls	
	Other *(specify)*	
	a. Total Travel Costs[14]	

[14] Enter Total Travel Costs into Budget Worksheet on the line for the same category.

b. Equipment

Item Description	Cost	
b. Total Equipment Cost[15]		

c. Supplies and Materials

Item Description	Cost	
c. Total Supplies and Materials Costs[16]		

d. Consulting and Other Contractual Services

Contractor Name	Type of Work	Amount of Contract
	d. Total Contract Costs[17]	

e. Other

Item Description	Cost	
e. Total Other Costs[18]		

[15] Enter Total Equipment Costs into Budget Worksheet on the line for the same category.
[16] Enter Total Supplies and Materials Costs into Budget Worksheet on the line for the same category.
[17] Enter Total Consulting and Other Contractual Services Costs into Budget Worksheet on the line for the same category.
[18] Enter Total Other Costs into Budget Worksheet on the line for the same category.

Attachment A

604(b) Work Plan Template
TMDL ELEMENTS – STATEMENT OF WORK

The *Awardee* (sub-recipient) will provide watershed planning that supports NYS DEC development of TMDLs (or other restoration plans) for waters impaired by pollutants as listed on the 2010 303 (d) list. Such planning must conform to USEPA guidance[19], and can be informed by referring to the Water Environment Federation, Third-Party TMDL Development Tool Kit.[20]

TMDLs should be developed in the context of watershed planning to achieve comprehensive ecosystem management and ensure public participation and review.

Eligible funding elements include planning activities, such as:

a. Description of the impaired waterbody, including analysis of water quality data documenting the impaired designated use, and identifying characteristics of the waterbody, such as morphology, which relate the pollutant of concern to water quality standards.
b. Characterization of the watershed and pollutant sources by delineating the watershed; quantifying land use and land management practices (e. g. GIS mapping of impervious cover); describing hydrologic characteristics; and identifying and locating or modeling3 loads from all pollutant sources (point and nonpoint).
c. Description of applicable water quality standards and development of models3 to tie watershed loads to water quality objectives and targets.
d. Development of a pollutant allocation scenario for load attributed to current and future nonpoint (non regulated sources), including natural background sources, identified through reasonably accurate estimates via data analysis or water quality simulation modeling3.
e. Support for Department allocation of waste loads to permitted sources.
f. Assessment of seasonal variation of pollutant loads in meeting water quality objectives.
g. Monitoring of source loads, and waterbody concentrations, if information is needed, and preparation of a plan for post-TMDL monitoring to show load reduction and attainment of water quality standards.
h. Development of a TMDL implementation plan, incorporating stakeholder input on the use of green projects and other management practices to reduce loads, achieve water quality standards and meet other natural resource objectives.

The *Awardee* will work closely with the NYS Department of Environmental Conservation (DEC) on the development of these TMDLs so as to ensure the delivery of a final product of the highest quality which meets the expectations of NYS DEC. Because the U.S. Environmental Protection Agency (EPA) Region 2 has final approval authority for TMDLs, their comments and expectations must also be incorporated

[19] USEPA, 1991, *Guidance for Water Quality-Based Decisions: The TMDL Process* (EPA 440/4-91-001) and subsequent guidance (http://www.epa.gov/owow/tmdl/guidance html#tmdl)
[20] http://www.wef.org/ThirdPartyTMDL
[3] The model or models must be open source. Data produced from the model should be delivered for statewide or regional use.

into the final product, and NYSDEC will consult with EPA at the inception and key points in the TMDL development process.

TECHNICAL APPROACH

In completing this work plan, *Awardee* will work closely with NYS DEC on the following tasks.

Task 1 - Modeling Quality Assurance Project Plan

The *Awardee* will **prepare a Modeling Quality Assurance Project Plan** (QAPP) that describes the technical work to be performed to develop the TMDLs, including the procedures that will be used to ensure that model results used in the TMDL analysis are scientifically valid and defensible while minimizing uncertainty. The QAPP will be developed using a number of EPA guidance documents, including, but not limited to: 1) Guidance for Quality Assurance Project Plans for Modeling (G-5M); 2) Guidance for the Data Quality Objectives Process (QA/G-4); 3) Guidance on Quality Assurance Project Plans for Secondary Research Data; and 4) EPA Quality Manual for Environmental Programs and Requirements for Quality Assurance Project Plans (QA/R-5).

The QAPP will be largely based on the data report and model evaluation report (see Tasks 2a and 2b) and will describe the steps to be followed to achieve the objectives of the modeling analysis and TMDL development. The QAPP will summarize the model selection process, as well as the methods for data compilation and synthesis, model development and calibration, and TMDL development. The measures required to maintain quality assurance (e.g. data entry checking, model review, model testing) will also be outlined.

The draft Modeling QAPP will be submitted to for review within three months of the award of the work plan. NYS DEC will provide comments on the draft QAPP within thirty-five days of receipt. The final QAPP will be submitted within fifteen days of receiving NYS DEC's comments.

Task 2 – Evaluate All Available Data and Prepare Technical Approach

Within one month of the award of the work plan, the *Awardee* will participate in a project coordination and kick-off meeting with EPA Region 2 and NYS DEC to discuss current data availability and additional data needs. *Awardee* will assist NYS DEC with the identification of agenda items for the meeting. The deliverables produced under Task 2a will be distributed prior to the meeting and used as the basis for discussion. At the meeting, *Awardee* will also discuss preliminary modeling approaches to conducting the TMDL analyses and obtain initial feedback from EPA Region 2 and NYS DEC on the potential modeling approaches and their overall goal(s) for a model(s) for the TMDLs.

Task 2a – Compile and Format Data

Five types of data are needed for TMDL development: 1) Flow, 2) Meteorological, 3) Water quality, 4) Watershed and waterbody physical parameters, and 5) Pollutant source characteristics. The *Awardee*

will gather all available data and information from previous studies for use in developing TMDLs for the impaired waterbody segments utilizing all of the sources identified through consultation with NYS DEC, as well as additional creditable sources of data (e.g., watershed groups); *Awardee* will obtain approval from NYS DEC before contacting any data sources not identified in consultation with NYS DEC.

The *Awardee* will perform a thorough review of all of the water quality and physical data gathered for the impaired stream segments. All of the data will be organized into one Microsoft Excel workbook. The *Awardee* will utilize an in-house data storage protocol that ensures original data files are preserved. When adding data to the database, *Awardee* will use a standardized screening process that ensures data integrity during the formatting process and **prevents the** inclusion of poor quality data in the database. The *Awardee* will also generate watershed map(s) for the impaired stream segments.

The *Awardee* will prepare a data report to accompany the database and watershed map(s), which will be submitted to NYS DEC within one month of the award of the work plan. The report will identify all data sources, describe the data contained within the database, discuss the quality and quantity of the data (including period of coverage), and identify additional data needs. The report will discuss sufficiency of data for supporting the establishment of TMDLs for each of the impaired waterbody segments. Within one month after receipt of the data report, NYS DEC will provide comments on the report and provide additional data and/or recommend sources of additional data.

Task 2b – Evaluate Models and Determine Best Model to Use

A critical component of this project is the proper selection of water quality modeling tools to develop TMDLs for *pollutants* for the impaired waterbody segments. The technical modeling approach for TMDL development for the listed waterbodies will be based on the data review and take into account any priority technical, regulatory, and/or site specific conditions identified at the project kick-off meeting.

The data review conducted under Task 2a will aid in the assessment of modeling options. It is important to maintain a proper compatibility between model complexity and data availability and knowledge. For example, a more complex watershed model, with a distributed spatial resolution and mechanistic representation of hydrological processes, would likely require more detailed data on flow, land use, topography, and physical characteristics of the sub-basins compared to a simpler, lumped model. Similarly, a receiving water model with a high level of mechanistic complexity should be supported by adequate spatial and temporal water quality, flow, and loading data to allow for defensible model parameterization. In the absence of comprehensive data, a simpler, or less mechanistic, model may be more appropriate. This type of model would focus on the known processes and make use of available data and local knowledge to the fullest extent possible.

Establishing the relationship between watershed source loading and water quality is a critical component of TMDL development. It allows for the evaluation of management options that will achieve the desired source load reductions. This link can be established through a range of techniques, from qualitative assumptions based on sound scientific principles to sophisticated modeling techniques. This project will likely use a linked watershed-water quality model. The final proposed modeling strategies will meet all

of the objectives identified in the SOW, as well as additional objectives identified during the project kick-off meeting. *Awardee* will use the following criteria for model selection:

• Level of complexity and compatibility with available data;

• Ability to meet all modeling objectives;

• User-friendliness;

• Track record and acceptance in the scientific and engineering communities; and

• Availability of model(s) and model source code.

For the **watershed runoff model**, the model must be able to simulate the loading and delivery of pollutants from the target watersheds. Watershed loadings are closely tied to hydrology and land use practices, therefore, adequate hydrological representation must be included in the model. Explicit assessment of watershed pollutant sources will also be required. The ability to adequately delineate the watersheds spatially will be an important screening criterion. A model that can incorporate the impacts of urban, rural, and agricultural practices in the watershed is also desirable.

Ease of use of the model(s) will be an important screening criterion. Since the models will be used for TMDL analyses that will be presented to the public (for comment), a model with easily edited inputs and illustrative output capabilities is preferable. Compatibility with GIS software is also desired. The selected model(s) will need a proven track record and be accepted by EPA and the scientific community. Public domain models with open source code are required as models. Finally, NYS DEC's comfort level with the model(s) will also be considered.

The *Awardee* shall become familiar with the modeling options identified in initial discussion with NYSDEC and conduct a limited review of the models.
The *Awardee* will conduct a thorough review of all modeling options, by comparing the advantages and disadvantages of each model. The A*wardee* will evaluate all modeling options and propose the best model(s) based on a number of pre-established criteria (taken from the SOW and established through discussion with EPA and NYS DEC), including the models' appropriateness for the TMDL given the amount and type of available data. *Awardee* will prepare a model evaluation report and make recommendations for the most appropriate modeling approach. The report will include summary tables and examples of graphical output for the recommended model(s).

The selection of suitable TMDL endpoints is another important factor that will be addressed in the model evaluation report. In the report, *Awardee* will recommend the TMDL endpoints or suggest methods for developing endpoints. The endpoints will be quantifiable (daily, and other appropriate timeframe) targets for the pollutants that relate to the waterbody impairments. The model evaluation report will also discuss plans for addressing data gaps. Some of the data gaps may not require sampling; instead, coordination with local governments, agencies, and watershed groups may help with the gathering of the missing data. Also, the models will likely serve as a tool for estimating data where gaps exist.

The model evaluation report will be submitted to NYS DEC within six weeks of the award of the work plan. The report will include: a summary of modeling options (including advantages/disadvantages), model recommendations, proposed TMDL targets, and plans for addressing data gaps. Within two weeks after receipt, NYS DEC will provide comments on the report and approval of the recommended modeling approach (or identify additional approaches) and TMDL targets.

Task 2c – Provide TMDL Development Schedule and Determine Current and Future and Monitoring Needs for Impaired Stream Segments

Based on information obtained during the data review, *Awardee* will prepare a technical brief to accompany the data report (see Task 2a) that outlines a plan and schedule for completing the impaired stream segment TMDLs. The technical brief will be distributed prior to the project kick-off meeting. The schedule will be discussed at the meeting and adjusted as necessary. *Awardee* will compare data availability against required modeling input data needs and group the impaired stream segments based on the sufficiency of data to support TMDL development for each impaired stream segment. The technical brief will identify the impaired stream segment groupings, as follows:

1. **Group 1: Sufficient Data for TMDL** – Waterbody segments for which sufficient physical characteristics and water quality data are available and TMDL development can commence immediately. Draft TMDLs will be submitted by no later than *insert date*.

2. **Group 2: Insufficient Data for TMDL** – Stream segments for which additional stream and/or water quality data are needed in order to develop TMDLs. Under the direction of NYS DEC, single-site samples will be collected for up to ## of these stream segments (see Task 2d). Should there happen to be more than ## streams in this group, *Awardee* will prioritize stream segments for sampling according to those for which data collection would more likely result in the development of a TMDL. Partial Draft TMDLs for these stream segments will be submitted by no later than *insert date*.

3. **Group 3: Substantially Incomplete Data for TMDL** – Stream Segments that require significant additional monitoring in order to proceed with TMDL development. Even though monitoring for these streams will not be a part of the scope of this work plan, the *Awardee* will prepare a monitoring plan to collect the data necessary to complete the TMDLs for these stream segments. The monitoring plan will be a standalone document, which will be submitted to NYS DEC within three months from the start of the work plan.

Task 2d – Sampling Plan and Monitoring Quality Assurance Project Plans for Group 2 Stream Segments

The *Awardee* will prepare a sampling plan and monitoring QAPP for up to ## of the stream segments in Group 2 (see Task 2c). The plan will include a monitoring schedule that will allow for the completion of TMDLs for the Group 2 stream segments by no later than , building in extra time to deal with delays in sampling on account of weather or laboratory processing of samples. The QAPP will be based on EPA

guidance documents for monitoring QAPPs and will describe the steps and techniques to be followed, both in the field and in the laboratory, to achieve the objectives of the monitoring plan.

The **monitoring plan and QAPP will be submitted** to EPA and NYS DEC for review within three months of the award of the work plan. EPA and NYS DEC will provide comments on the plan and QAPP within 45 days after receipt. The final monitoring plan and QAPP will be submitted within fifteen days of receiving NYS DEC's comments.

Task 3 – Limited Water Quality Measurements

Awardee will carry out the monitoring plan. The detailed monitoring plan will be submitted as part of Task 2d; however, preliminary plans for sampling and measurement include:

1. Number of waterbody segments - maximum of *insert* ##.
2. Number of visits per segment *insert* ##.
3. Field measurements
    - Combined GPS and depth sounding for stream morphology.
4. Samples and laboratory analyses
    - Locations *insert* ##
    - Parameters - total phosphorus, nitrate nitrogen, ammonia nitrogen, chlorophyll **a,** total suspended solids, and turbidity.
5. Schedule - as necessary to meet overall project timeline goals.
6. QAPPs - prepared for laboratory and sampling activities, prior to initiation of sampling.

The *Awardee* will implement the monitoring plan to collect data necessary to complete TMDLs for Group 2 segments. However, should it be decided that NYS DEC will collect the additional sampling data (instead of the *Awardee*), *Awardee* is prepared to work with NYS DEC to ensure all necessary data are collected as outlined in the monitoring plan.

Task 4 – Prepare TMDL Reports and Administrative Record

The *Awardee* will adhere to all EPA and NYS DEC guidance, policies, and methodologies for developing the TMDL reports. *Awardee* will develop the TMDL reports in a manner consistent with NYS DEC's existing Small Lakes TMDLs. TMDL reports will include color maps that depict a delineation of each impaired waterbody segment's contributing watershed and associated land uses. The

maps will also show monitoring station locations and any significant discrete sources of pollutant loading.

Task 4a – Grouping of waterbody segments and pollutant sources

Following selection of the appropriate modeling approach and approval of the modeling QAPP, the *Awardee* will initiate TMDL development for the impaired water segments. As a first step in developing the TMDLs, the *Awardee* will identify the major sources of pollutan**ts** for each of the impaired segments. This process relies on available data, previous studies of the watershed, and published literature values. Potential point sources include permitted facilities that discharge effluent directly into the waterbodies, as well as urban stormwater runoff. Nonpoint sources can be characterized as either direct or indirect sources based on how the phosphorus and/or sediment are delivered to the lake. Potential indirect sources include phosphorus deposited on the land surfaces in the watershed and available for transport to the lakes in runoff, while potential direct sources include failing septic systems.

Following the source identification, *Awardee* will organize the waterbody segments into groups for the TMDL report, with groupings based on watershed, geography, or parameter(s) of concern. The final decision on groups will be made prior to commencement of modeling. *Awardee* will prepare a technical memo with the recommended TMDL groupings and summaries of identified sources of pollutants, along with the rationale for the groupings. The memo will be submitted to NYS DEC by no later than five months from the start of the work plan.

Task 4b – Partial Draft TMDL Reports

The *Awardee* will apply the selected modeling methodology and calculate existing loadings, TMDLs, and margins of safety (MOS) for each waterbody segment. The *Awardee* will characterize current conditions in the systems, quantify point and nonpoint source loadings, and determine the reductions necessary to meet the water quality targets. Draft TMDLs will be submitted to NYS DEC by no later than 10 months from the start of the work plan (Group 1 stream segments), and no later than 14 months from the start of the work plan (Group 2 stream segments).

The partial draft TMDL reports will document and present: existing loadings; the proposed TMDL, and MOS (in a summary table with WLA and LA left blank); and TMDL allocation options and scenarios. In addition, the reports will include descriptions of the watersheds, water quality problems, potential pollutant sources (including sources which were evaluated and not found to be significant contributors), water quality standards/endpoints, data (including sources) used in the analyses, and loading patterns. The reports will summarize the technical approach and clearly document all modeling assumptions, calculations, and limitations. Graphical summaries will supplement the narrative where appropriate. NYS DEC will provide comments within 45 days of receiving the partial draft, incorporating public review of the partial draft.

Task 4c –Draft TMDL Reports

The *Awardee* will apply the NYS DEC comments on partial draft to the selected modeling methodology and calculate existing loadings, TMDLs, wasteload allocations (WLAs), load allocations (LAs), and margins of safety (MOS) for each waterbody segment. TMDL allocations will likely be developed under the critical conditions specified for the impaired segments (e.g., following rainfall events). The *Awardee* will characterize current conditions in the systems, quantify point and nonpoint source loadings, and determine the reductions necessary to meet the water quality targets.

The draft TMDL reports will include all TMDL elements outlined in a format that follows the NYSDEC TMDLs for Small Lakes. The reports will document and present: existing loadings; the proposed TMDL, WLA, LA, and MOS (in a summary table); and TMDL allocation options and scenarios. In addition, the reports will include descriptions of the watersheds, water quality problems, potential pollutant sources (including sources which were evaluated and not found to be significant contributors), water quality standards/endpoints, data (including sources) used in the analyses, and loading patterns. The reports will summarize the technical approach and clearly document all modeling assumptions, calculations, and limitations. Graphical summaries will supplement the narrative where appropriate. The *Awardee* will also describe, in the TMDL reports, how the minimum requirements of an approvable TMDL were addressed and met (e.g., consideration of MOS, consideration of seasonality and critical conditions, total loading capacity of the system, and load allocations to point and nonpoint sources in such a way to achieve water quality standards) and why the allocations to point and nonpoint sources are reasonable and defensible. Finally, all appropriate references will be included in the TMDL reports.

Draft TMDLs will be submitted to NYS DEC by no later than 14months from the start of the work plan (Group 1 stream segments), and no later than 18 months from the start of the work plan (Group 2 stream segments). The draft TMDL reports will be provided in multiple electronic forms. (Microsoft Word and Adobe Acrobat PDF, the latter broken in segments no larger than 1 MB for webposting); NYS DEC will provide comments on the draft TMDLs within 4 weeks of receipt. *Awardee* will revise the TMDLs and submit them to NYS DEC by no later than 4 weeks after receiving comments. If upon review, EPA Region 2 and/or NYS DEC require additional modifications, *Awardee* will address those issues prior to public notice. **The final (ready for public notice) TMDLs** will be submitted to NYS DEC by no later than 16 months from the (Group 1 stream segments) and no later than 20 months from the start of the work plan (Group 2 steam segments).

The *Awardee* will provide NYS DEC with all computer programs used for TMDL development and data analysis, along with user's manuals and program documentation. The *Awardee* will also provide (in electronic format if possible) all references used as part of the development of the TMDLs, including: scientific articles, reports, text books; data collected and used; e-mail, letters, faxes, and other correspondence related to the TMDLs; and modeling tools and modeling input and output data sets. The *Awardee* will also prepare and submit to NYS DEC**,** an electronic library of the administrative record for each TMDL. The electronic library of the administrative record will include all materials used and relied upon to prepare the TMDLs, including all applicable data files, model input files, a working version of any model(s) used, and copies of all references used in developing the TMDLs.

Task 4d –Complete TMDL Reports

Following the public comment period, *Awardee* will work with NYS DEC to prepare a response to summary, and upon NYS DEC direction, revise the TMDL analysis and document, if necessary to accommodate the response to public comment.

Task 5 – Provide Training to NYS DEC (Technology Transfer)

The *Awardee* will develop and conduct a hands-on model training work**shop** for approximately 25 attendees at the NYS DEC office, in Albany, NY. The *awardee* will submit a detailed agenda for the training to the NYS DEC Work plan Manager (TOM) for review at least 1 month prior to the workshop. The final agenda will be provided to all attendees two weeks prior to the workshop.

The training will be conducted at least two weeks prior to the end of this work plan (tentatively during the month of). The workshop will extend 2 full days. *Awardee* will work with NYS DEC to secure meeting space and computers and coordinate for any further services needed (e.g., internet access). *Awardee* will prepare a training handbook for all participants, which will include presentations, related handouts, case study examples, and all other awardee-developed material. A copy of the models will be included (on CD-ROMs) in the handbook.

Task 6 – Support Public Involvement and Comment on Proposed TMDLs

Under the direction of NYS DEC, the *Awardee* will assist NYS DEC in conducting two public meetings on the TMDL. The first will be when the source assessment and estimation of target and required load reductions have been completed and the TMDL document has been partially drafted, and will be aimed at confirming the analysis and receiving input on the load allocations and implementation plan. The second meeting will be held when a complete draft of the TMDL has been prepared, during the public comment period.

Under the direction of NYS DEC, the *Awardee* will assist NYS DEC in the preparation of the response to comments document for the TMDLs. Upon receipt of comments (and instructions from EPA for response), *Awardee* will complete the responses and return them to NYS DEC within two weeks of their receipt.

Task 7 – Manage and Report Task and Financial Progress

Awardee will attend a one-day kick-off meeting at the start of this project. From there on, *Awardee* will communicate regularly with NYS DEC throughout the period of this project, primarily by e-mail and telephone conversations. *Awardee* will organize conference calls with EPA Region 2 and NYS DEC (as needed) to discuss the status of the project. Within five days of any conference calls, *Awardee* will prepare and submit to 2 and NYS DEC, a written summary of the call.

Awardee will submit (as a PDF attached to an email) written monthly progress reports to the NYS DEC by the 20th of each month. Progress reports will identify activities performed for the reporting month and their associated costs organized according to the tasks and cost categories established in the final technical approach. Progress reports will identify key milestones achieved and deliverables completed during the reporting period. Progress reports will also discuss progress in meeting modeling quality assurance targets, adherence to the schedule, highlight problems encountered or items which need attention (including information on events that may affect the project schedule and progress towards meeting deadlines), and identify the next month's tasks. The reports will also include descriptions of data needs required to perform all necessary TMDL analyses (as outlined in the technical approach) and deadlines associated with receiving those data.

Awardee will not conduct work on any of the tasks until written approval is received from the NYS DEC. If *Awardee* anticipates a delay in submission of deliverables or delay in meeting milestone, *Awardee* will contact the NYS DEC immediately and at least two data prior to the planned delivery date or milestone.