Request for Qualifications

Support of Long-Term Monitoring and Laboratory Services

Date of Issue: March 15, 2013

Upper Neuse River Basin Association
Post Office Box 12276
Research Triangle Park, NC 27709

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REQUEST FOR QUALIFICATIONS

Project Purpose

The Upper Neuse River Basin Association (UNRBA) is soliciting submittals and qualifications for the monitoring, sample collection, laboratory services, data management support, and sub-consultant acquisition/oversight from one *Service Provider* to support the UNRBA in acquiring the data and information needed to assess water quality in the Lake and watershed and perform a reevaluation of Stage II of the Falls Lake Nutrient Management Strategy (see NCAC 15A 02B.0275 (5)). The Falls Rules, as promulgated, involve significant costs and require actions on the part of UNRBA member governments and other regulated parties that are unprecedented. In light of the potential financial impact of these rules and importance of the resource, the UNRBA secured assistance in evaluating the technical bases and regulatory framework for the Falls Rules, particularly the more costly Stage II. The selected consultant, Cardno-ENTRIX, recommended a series of sampling programs and future studies to fill data gaps and provide the basis for future additional modeling and potential regulatory action. The UNRBA has taken these recommendations under advisement, and will select the appropriate sampling programs and future studies for its objectives. Using these recommendations and other information the selected *Service Provider* will work in cooperation with the UNRBA to develop and administer a multi-year monitoring program to accomplish its goals.

Submittal Instructions

Offerors must submit all submittal components in Portable Document Format (PDF) on a compact disc. Paper copies will not be accepted. PDF files should include bookmarks that separate sections to allow easy document navigation. Address the Submittal disc to:

Upper Neuse River Basin Association (UNRBA)
Attention: Forrest Westall, Executive Director
Post Office Box 270
Butner, NC 27509

The UNRBA discourages overly lengthy and costly submittals; please limit submittals to 20 pages single sided or less. In order for the UNRBA to evaluate qualifications fairly and completely, Offerors should clearly follow the format set out herein and provide all of the information requested.

Submittals must include the complete name and address of the firm, corporation, center or other legal entity applying as the *Service Provider* and the name, mailing address, email address, and telephone number of the person the UNRBA should contact regarding the submittal. Submittals must be received no later than 3:00 pm on April 3, 2013. Fax and oral submittals are not acceptable. E-mail submittals are accepted but the UNRBA is not responsible for submittals rejected because of size. See the section "Submittal Content and Format" for additional details on submittal requirements.

Submittal Review Schedule

A mandatory pre-submittal conference call will be held for all Offerers to answer questions about the project on March 27th, 2013. Potential Offerers should notify the UNRBA via e-mail to the Executive Director of their interest in participating in the pre-submittal conference call. All submittal questions must be provided to the Executive Director, via email to forrest.westall@unrba.org at least two days prior to call time. Questions will be addressed in the conference call.

The submittal and contract schedule represents the UNRBA's best estimate of the schedule that will be followed. If a component of this schedule, such as the evaluation date, is delayed, the rest of the schedule may be shifted accordingly. The approximate schedule is as follows:

- Request for Qualification issued for consideration: March 15th, 2013
- Pre-submittal conference call for Q&A with UNRBA regarding submittals: March 27th, 2013 at 11 am (call 919-857-4311) a conferencing room number or password is not required
- Submittals due: April 03, 2013
- Selection for interviews: April 10, 2013
- Submittal presentations and interviews: 1-4 pm, April 17, 2013 [alternate date of April 19, 2013 for unforeseen circumstances]
- Contract work shall begin as specified in the contract to be executed by the parties.

The UNRBA will make every effort to adhere to this schedule. Firms, corporations, centers or other legal entities representing themselves as *Service Providers* submitting in response to this RFQ should make arrangements to provide the UNRBA with appropriate staff for the submittal presentations and interviews.

Conditions

The UNRBA reserves the right to reject any or all submittals. The UNRBA will not pay any cost associated with the preparation, submittal, presentation, or evaluation of any statement of qualifications. All submittals and other materials submitted become the property of the UNRBA. Thereafter, submittals become public information.

The UNRBA will issue one contract for this RFQ to the primary contractor. The selected contractor may use sub-contractors to perform work on this contract. If an Offeror intends to use a sub-contractor(s), the Offeror must identify in their submittals the names of the sub-contractor(s), personnel to be used and the portions of the work the sub-contractor(s) will perform. The selected Service Provider may, with the UNRBA's approval, add or delete sub-contractor(s) as necessary during contract services period.

The UNRBA is a non-profit organization composed of local governments located in the Upper Neuse River Basin. By signature on their Statement of Qualifications, Offerors certify that their business practices comply with:

a. The laws of the State of North Carolina
b. The applicable portion of the Federal Civil Rights Act of 1964,

c. The applicable portions of the Americans with Disabilities Act of 1990,

d. The Equal Employment Opportunity Act and the regulations issued there under by the federal government

e. The Americans with Disabilities Act of 1990, and the regulations issued there under by the federal government, and

f. All terms and conditions set out in this RFQ.

Each submittal shall include a statement indicating whether or not the firm or any individuals that may work under contract has a possible conflict of interest (e.g., anyone working for or on behalf of the State of North Carolina, the Upper Neuse River Basin Association, or one of the UNRBA's member governments) and, if so, the nature of that potential conflict. The UNRBA Board of Directors reserves the right to use this information as selection criteria, if any interest disclosed from any source could either give the appearance of a conflict or cause speculation as to the objectivity of the potential service provider in performing the work required under the final monitoring. The Board's determination regarding any questions of conflict of interest shall be final.

The UNRBA opposes discrimination on the basis of race and sex and urges all of its contractors to provide a fair opportunity for minorities, women, and other socially and economically disadvantaged individuals as defined in 15 U.S.C. 637 to participate in their work force and as sub-contractors and vendors under UNRBA contracts.

Successful completion of any contracted scope of work may be a prerequisite to future contracts.

This RFQ seeks to secure a single contractor to assist with the development of a specific monitoring plan to accomplish the long-term monitoring goals of the Association and to execute the plan. Because the monitoring effort is specifically linked to the regulatory framework in place for Falls Lake and the plan will have to meet all of the requirements of an approved monitoring program under the Falls Lake Rules, an Offerer's familiarity and understanding of the background and basis of the development of the Falls Rules and the provisions of those Rules will be an important factor in evaluating each potential contractor.

Background

The waters of the Upper Neuse River Basin in North Carolina have many challenges meeting the demands of society and the environmental standards in place for those waters. Falls Lake is the primary source of drinking water for the City of Raleigh and its 450,000 customers and is immediately downstream of several urban centers, including the City of Durham. Constructed in the early 1980's, Falls Lake, like Jordan Lake, is a shallow Piedmont lake with inherent difficulty meeting water quality standards for chlorophyll-*a* because of its geology and its topographic location below pre-existing and established land use.

A complex set of rules, guidance, and policies governs activities in the Falls Lake watershed. The Falls Nutrient Strategy Rules overlay several previous regulations, including the Neuse River Nutrient Strategy, NPDES Phase I and Phase II of the 1972 Clean Water Act, and state Water Supply Watershed Protection regulations.

In 2008, the North Carolina Division of Water Quality (NC DWQ) and US Environmental Protection Agency (USEPA) placed Falls Lake on the Section 303(d) list of impaired waters because of violations of the State's water quality standards for chlorophyll-a, a proxy for algae. DWQ and EPA also listed Falls Lake above I-85 as impaired for turbidity in 2008.

In 2005, the North Carolina General Assembly enacted SL 2005-190 (SB 981, Clean Lakes Act), which directed the North Carolina Environmental Management Commission (EMC) to develop and adopt a nutrient management strategy to reduce nitrogen and phosphorus pollution in Falls Lake by July 1, 2008 (later extended to July 1, 2009). In 2009, the General Assembly enacted SL 2009-486 (SB 1020, Improve Upper Neuse River Water Quality), which extended the deadline again until January 15, 2011 and also allowed for a system crediting early adoption of nutrient reductions and required stricter sedimentation and erosion control measures in the watershed.

In 2010, recognizing that major political disagreements over water quality in Falls Lake would affect their ability to solve other critical regional problems, many impacted local governments developed a set of "Consensus Principles" to help shape the proposed rules. The principles included three fundamental agreements: (1) that any rules would need to protect Falls Lake for the purpose of water supply, (2) that additional water quality monitoring would provide useful information, and (3) that North Carolina should consider that new information before going beyond those actions necessary to protect Falls Lake for the purpose of water supply. The City of Durham, Durham County, Granville County, City of Raleigh, Wake County, Orange County, Person County, Butner, Creedmoor, and the South Granville Water and Sewer Authority adopted the Consensus Principles in their comments on the rules. Section Nine of the Consensus Principles, which is most relevant to this RFQ, states the following:

> "The process by which the proposed regulatory scheme has been developed relied on a limited data base which will be substantially enhanced by a more rigorous program of sampling, monitoring and analysis. In addition, it may not be feasible to attain all currently designated uses in the Upper Lake and attempting to do so may result in substantial and widespread economic and social impact. The EMC should therefore begin a re-examination of its nutrient management strategy for Falls Lake by January 1, 2018 [*later changed by rule to 2021*]. **The re-examination should consider, among other things, (i) the physical, chemical, and biological conditions of the Lake with a focus on nutrient loading impacts and the potential for achieving the Stage I goal by 2021** [*later changed in the final rule to 2024*] **as well as the feasibility of both achieving the Stage II reduction goals and meeting the water quality standard for chlorophyll-a in the Upper Lake, (ii) the cost of achieving, or attempting to achieve, the Stage II reduction goals and the water quality standard in the Upper Lake, (iii) the existing uses in the Upper Lake and whether alternative water quality standards would be sufficient to protect those existing uses, and (iv) the impact of the management of Falls Lake on water quality in the Upper Lake.** As the first step in the re-examination, a Scientific Advisory Board should analyze and review the information identified above along with the additional monitoring and modeling data compiled since the model was approved and should present its recommendations for changes in the Nutrient Management Strategy and its implementing rules to DWQ and the EMC by January 1, 2019 [*later changed in the final rule to 2024*]. In light of the report from the Science Advisory Board, the EMC should direct the DWQ to prepare proposed rule revisions, if any, and an updated fiscal note on Stage II by August 1, 2019 [*later changed in the final*

rule to 2025]. In its development of any proposed rule revisions, DWQ shall consult with the local governments and other interested parties. Except to the extent that management measures identified as a part of Stage II are required to achieve the Stage I goal, local governments should not be required to begin implementing Stage II management measures without **a determination by the EMC of whether alternative goals and/or standards should be established for the Upper Lake**." [emphases added]

On November 18, 2010, the EMC adopted the nutrient management rules for Falls Lake, with an effective date of January 15, 2011. The North Carolina Rules Review Commission approved the rules with minor technical language changes and the rules took permanent effect on January 15, 2011. The rules address the re-examination prior to implementing Stage II in section 15A NCAC 02B.0275. Section (5)(f) describes specific requirements of any stakeholder desiring to submit data or modeling to the NCDWQ regarding Falls Lake and the requirement to re-examine the Stage II goals. This section of the rule follows:

(f) Recognizing the uncertainty associated with model-based load reduction targets, to ensure that allowable loads to Falls Reservoir remain appropriate as implementation proceeds, a person may at any time during implementation of the Falls nutrient strategy develop and submit for Commission approval supplemental nutrient response modeling of Falls Reservoir based on additional data collected after a period of implementation. The Commission may consider revisions to the requirements of Stage II based on the results of such modeling as follows:

(i) A person shall obtain Division review and approval of any monitoring study plan and description of the modeling framework to be used prior to commencement of such a study. The study plan and modeling framework shall meet any division requirements for data quality and model support or design in place at that time. Within 180 days of receipt, the division shall either approve the plan and modeling framework or notify the person seeking to perform the supplemental modeling of changes to the plan and modeling framework required by the Division;

(ii) Supplemental modeling shall include a minimum of three years of lake water quality data unless the person performing the modeling can provide information to the Division demonstrating that a shorter time span is sufficient;

(iii) The Commission may accept modeling products and results that estimate a range of combinations of nitrogen and phosphorus percentage load reductions needed to meet the goal of the Falls nutrient strategy, along with associated allowable loads to Falls Reservoir, from the watersheds of Ellerbe Creek, Eno River, Little River, Flat River, and Knap of Reeds Creek and that otherwise comply with the requirements of this Item. Such modeling may incorporate the results of studies that provide new data on various nutrient sources such as atmospheric deposition, internal loading, and loading from tributaries other than those identified in this Sub-item. The Division shall assure that the supplemental modeling is conducted in accordance with the quality assurance requirements of the Division;

(iv) The Commission shall review Stage II requirements if a party submits supplemental modeling data, products and results acceptable to the

> Commission for this purpose. Where supplemental modeling is accepted by the Commission, and results indicate allowable loads of nitrogen and phosphorus to Falls Reservoir from the watersheds of Ellerbe Creek, Eno River, Little River, Flat River, and Knap of Reeds Creek that are substantially different than those identified in Item (3), then the Commission may initiate rulemaking to establish those allowable loads as the revised objective of Stage II relative to their associated baseline values;

The full text of NCAC 02B.0275 (5) also provides requirements for data development related to assessing Lake condition and providing reporting to the EMC on progress in improving water quality under these rules. It is the UNRBA's objective with this monitoring program to see that all data collected can and will be used under the full provisions of the Falls Lake Rules and for all State activities related to assessment of Falls Lake.

Cardno-ENTRIX recommended a series of sampling programs and future studies to fill data gaps and provide the basis for future additional modeling and potential regulatory action. The recommendations where presented in a series of Technical Memorandums (TM) tied to detailed tasks. The objectives of the Task 2 TM were to compile, assess, and summarize the existing data and knowledge regarding Falls Lake and its watershed to support the UNRBA in identifying strategies for re-examining Stage II of the Falls Lake Rules. The objective of the Task 3 TM was to review the methods for delivered and jurisdictional nutrient loads. The objective of Task 3 also required a review of methods to estimate loads on a jurisdictional basis; comparing the theoretical basis, application, constraints, and past regulatory use of commonly used watershed loading models. Finally, the Task 4 TM provided recommendations for future monitoring and modeling

SCOPE OF WORK

Due to the exact timeframes and requirements provided in the Falls Lake rules regarding monitoring data, models, and the re-examination, there is a need to begin the appropriate field studies in an expeditious manner. The UNRBA requires assistance from a qualified and experienced *Service Provider* to implement a monitoring program that effectively supports the UNRBA's goal of providing a successful re-examination of the Stage II requirements under the Falls Lake Rules. The data and information collected under this scope of work must be developed following all requirements for use by the State in assessing water quality in the watershed, be acceptable to DWQ and other DENR divisions, and as support and input to a successful submittal under the provisions of the re-examination process.

Task 1: Develop the Monitoring Plan

The *Service Provider*, in coordination with the UNRBA and its consultants, will develop a monitoring plan. The provisions of this plan will implement the monitoring objectives determined and selected by the UNRBA based on Technical Memo #4 developed under the UNRBA's contract with Cardno ENTRIX. These objectives include multi-media monitoring in surface water, sediment, groundwater, and biota. Monitoring may occur in Falls Lake or the Falls Lake Watershed. Ultimately, surface water, sediment and soil data will be used in water quality models of the watershed, tributary streams, and Falls Lake. A three-dimensional Environmental Fluid Dynamics model framework has been applied to Falls Lake, and is likely to continue to be updated for this project. A process-based watershed modeling framework, the Watershed Analysis and Risk Management Framework, has been applied to the Falls Lake Watershed. Either this model framework or the Hydrologic Simulation Program – Fortran framework, will be used for the re-examination. Knowledge of the inputs required of the models, and studies needed to obtain those inputs, is an important consideration in the selection of a Service Provider. Empirical models are also planned to accomplish the re-examination, particularly related to the response of biota in the ecosystem. An understanding of the data needs related to the empirical models, as described in the Task 4 Technical Memorandum, is also an important consideration in the selection of a Service Provider. The development of the comprehensive monitoring plan will include integration of existing monitoring programs in the lake and watershed. In particular, the comprehensive monitoring plan will include lake monitoring currently conducted by the City of Raleigh and DWQ, and watershed monitoring by the City of Durham and DWQ. Each of these communities has indicated a willingness to operate under a comprehensive monitoring plan and quality assurance program for the duration of this project. Thus, integration in the conceptual sense, as well as cross-training and coordination of the disparate existing teams, will be required.

The comprehensive monitoring plan will also include a comprehensive schedule of monitoring studies. Several of the studies identified in the Task 4 Technical Memorandum are one-time studies or short-term studies. The Service Provider will schedule the short-term studies in the context of the overall project goals, continuous monitoring programs, and the annual budget provided by the UNRBA.

The comprehensive monitoring plan and schedule will be reviewed by the UNRBA and the appropriate divisions of DENR. At this time, the UNRBA expects the Division of Water Quality

and the Wildlife Resources Commission will provide review of the comprehensive monitoring plan. The comprehensive monitoring plan and schedule are subject to approval by both DWQ and the UNRBA.

Following the approval of the comprehensive monitoring plan and schedule, the Service Provider will develop the necessary Quality Assurance Project Plans (QAPPs) that describe the details of data collection. Multiple QAPPs are likely to be required due to the multimedia nature of this project. QAPPs may need approval by multiple divisions of DENR, as well as cooperating partners (i.e., the cities of Raleigh and Durham). QAPPs shall follow US EPA guidelines, including the Guidance for Quality Assurance Project Plans, EPA QA/G-5, Guidance on Choosing a Sampling Design for Environmental Data Collection, EPA/G-5S, and Guidance for Geospatial Data Quality Assurance Project Plans, EPA/G-5G.

Additionally, following the approval of the comprehensive monitoring plan and schedule, the UNRBA will negotiate specific terms and contract language with the Service Provider for the services described in the comprehensive monitoring plan. At this time, the UNRBA expects to develop a one-year contract, renewable annually, to complete the comprehensive monitoring plan. The UNRBA reserves the right to directly negotiate discharge monitoring with the United States Geological Survey (USGS) in deference to their acknowledged expertise in the field.

The UNRBA reserves the right to directly negotiate flow data monitoring with the United States Geological Survey (USGS) in deference to their acknowledged expertize in the field and in support of possible partnership opportunities with USGS to defray costs. In any event, the final monitoring plan must include an effective flow and hydrology component provided by USGS to support the use of the collected data in performing any modeling and evaluations for the development of a re-examination of Stage II.

The Service Provider should be aware that sampling may be continuous, weekly or monthly and may include sampling during high flow (storm) events and low flow (drought) periods to capture extreme flow regimes and related concentrations. Field parameters may include monitoring of temperature, dissolved oxygen, pH, conductivity, turbidity and secchi depth determination in impoundments. Service Provider or sub-contractors may also obtain measurements of instantaneous flow with water quality sampling at un-gauged locations as part of field collection activities.

Services may also include coordination and oversight of installation of additional flow gauges at representative un-gauged tributaries by the USGS. Water quality parameters that may be monitored may include, but are not limited to total organic carbon, ammonia, nitrate plus nitrite, total kjeldahl nitrogen, ortho-phosphorus, total phosphorus, total suspended solids, total organic carbon, chlorophyll a, fecal coliform and BOD5. Data collection methods may include grab and composite samples at streamside, thalweg and depth-integrated lake samples sites. The Service Provider will also propose a reporting format and reporting schedule to ensure regular updates to the UNRBA

Deliverables: Comprehensive monitoring plan and schedule, QAPPs

Task 2: Refine the Project Team to accomplish the Monitoring Plan

Upon submittal of the draft Monitoring Plan, the *Service Provider* will refine the Project Team to accomplish the comprehensive monitoring plan. The *Service Provider will* identify any additional sub-contractors or resources to accomplish the monitoring plan and will submit for

approval to the UNRBA a revised list of Project Team members and sub-contractors. The UNRBA reserves the right of final approval of Project Team members and sub-contractors. Following approval by the UNRBA, the *Service Provider will* establish contractual agreements necessary to implement the Monitoring Plan.

Deliverables: Agreements with project team members

Task 3: Implement the Monitoring Plan

Upon approval the final Monitoring Plan, refinement of Project Team and sub-consultants, and the finalization of contractual provisions, the *Service Provider* will implement the Monitoring Plan, contract and manage all sub-consultants, contract laboratories and data service providers. The *Service Provider* will be expected to provide regular updates to the UNRBA. The *Service Provider* will also be required to file written reports of progress to the UNRBA and the Division of Water Quality as detailed in the Monitoring Plan.

Deliverables: Regular data updates to the data management system

Task 4: Develop and manage a data management system for the storage, access and use of the data developed under the plan

The *Service Provider* will develop and administer, directly or through a sub-contractor, a web-based data management system acceptable to the UNRBA for information collected under the comprehensive monitoring plan. The *Service Provider* will review and evaluate existing systems, report on the feasibility of using a readily available platform and make recommendation on final system configuration. Existing systems to be considered include the EPA Storage and Retrieval System (STORET), the Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), and the Cape Fear River Basin Association on-line data retrieval system. (A modified version of the Cape Fear River Basin system is used by the City of Durham.)

Upon selection, modification and/or development of the web-based data management system, the procedures for tabulating and uploading monitoring data to this system will be documented and referenced in all QAPPs developed under Task 1. The *Service Provider* will also train the project team, including cooperating agencies, on the proper methods of tabulating and uploading data to the project data management system.

The *Service Provider* will be responsible for all coordination of data sharing internal to the Project Team and external to parties approved by the UNRBA, for the purpose of ongoing or future evaluation of data.

Deliverables: Data Management System, Procedures for Tabulating and Uploading Data, Project Team Training

SUBMITTAL CONTENT AND FORMAT

Submittals must document that the firm will comply with all of the provisions and conditions in this RFQ. Submittals must be signed by a company officer empowered to bind the firm, company, center or legal entity submitting as a *Service Provider*. An Offeror's failure to include the following items in their submittals may cause their submittal to be determined non-responsive and removed from consideration.

Cover Letter

The submittals should contain a cover letter, signed by a principal in the *Service Provider*, indicating his or her title that he or she has authority to submit the Statement of Qualifications on behalf of the *Service Provider*, including the cover letter. The cover letter should contain the following statement:

> *"The undersigned has the authority to submit this submittal on behalf of the name of company in response to the Upper Neuse River Basin Association RFQ for "Support of Long-Term Monitoring and Laboratory Services".*

Project Team

The submittal should provide a description of the project team structure and qualifications. Clearly identify the prime contractor and any sub-contractors, and the general roles on the project.

Understanding and Approach

The submittal should include a description of the issues associated with the comprehensive monitoring required by the UNRBA. This should include descriptions of the scope of monitoring needed, how coordination of various teams may be accomplished, data storage and retrieval issues, and integration into the re-examination. . The submittal should demonstrate the consultant's knowledge of multimedia monitoring, QAPP development, laboratory analyses, and data management.

Project Tasks

The submittal should include a list of the tasks described in the Scope of Work and sub-tasks by which the contractor proposes to complete the project. Task and sub-task descriptions should be concise and directly relevant to achieving the UNRBA's goals for each task. A project schedule should be provided in this section. Dates for both draft and final deliverables should be specified on the project schedule.

Qualifications

The submittal should include the firm, entity or center's experience in managing and performing multimedia monitoring, laboratory services, management of sub-consultants and oversight of data management systems. Each project description will include the cost of the project, duration of the project, a short project description, key project personnel, and the outcome of the project. Each project description should be no longer than one page; however, URLs may be provided for additional relevant project summaries. Relevant project experience of sub-contractors shall also be included.

Project Team Résumés

One-page resumes of all senior and key personnel should be provided. A quality assurance officer shall be included on the project team. The office locations of each team member should be specified on the résumés. URLs may be provided for additional relevant information on project team members. The submittal should list any potential sub-contractors by name, location, and general role in the project. An organization chart describing senior and key members of the project team as well as any sub-contractors should be included.

Non-Collusion Certification

The Upper Neuse River Basin Association prohibits collusion, which is defined as a secret agreement for a deceitful or fraudulent purpose. Include and sign the following with your submittal:

> The Upper Neuse River Basin Association prohibits collusion, which is defined as a secret agreement for a deceitful or fraudulent purpose.
>
> *I, _____ affirm that I have not engaged in collusion with any UNRBA employee(s), other person, corporations or firms relating to this submittal. I understand collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards.*
>
> *Signature: _____*

Exceptions

Any and all exceptions to the RFQ must be listed on an item-by-item basis and cross-referenced with the RFQ document. If there are no exceptions, Offerors must expressly state that no exceptions are taken.