PIEDMONT TRIAD REGIONAL COUNCIL

PLANNING DEPARTMENT

WATER RESOURCES PROGRAM

REQUEST FOR PROPOSALS

NORTH CAROLINA PIEDMONT

NUTRIENT LOAD REDUCING MEASURES

TECHNICAL REPORT

OFFEROR: _____

BID: _____

DATE: _____

SIGNATURE BY PRINCIPAL:

_____

PRINTED NAME: _____

TITLE: _____

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SECTION 1.0: SUMMARY

1.1 REQUEST FOR PROPOSALS

The Piedmont Triad Regional Council (PTRC), Planning Department, Water Resources Program, is hereby seeking qualified Offerors with proven expertise and experience to submit cost proposals by **Friday April 19, 2013** for development of a technical report addressing certain nutrient load reduction measures by September 20, 2013. The report will assemble available data to characterize nutrient load reduction performance and associated design specifications for these measures, and shall recommend methods for estimating load reduction values associated with specific designs across a range of likely field conditions.

1.2 CONTACT FOR MORE INFORMATION

All communications regarding this Request for Proposals may be addressed to the PTRC Water Resources Manager, Cy Stober, at cstober@ptrc.org, or 919-475-7302. Technical questions may in turn be referred to NC Division of Water Quality staff. Prospective offerors are encouraged to submit written questions **by 12:00pm on Monday, April 8, 2013,** to cstober@ptrc.org. A summary of all questions and answers will be distributed to all offerors by **Thursday April 11th,** via e-mail. The identity of questioners will not be revealed in the summary. **Offerors are responsible for reviewing this addendum to inform their proposals.**

1.3 PERIOD & TERMS OF CONTRACTUAL AGREEMENT

The proposed project must be delivered to the PTRC in draft form by Friday August 9, 2013. A final draft that responds to, and incorporates, comments from PTRC and the NC Division of Water Quality (DWQ), must be delivered to the PTRC by September 20, 2013.

1.4 CONSULTANT SELECTION

Interviews may be held on **April 24th and 25th, 2013.** Prospective offerors are encouraged to reserve these dates pending contact from PTRC staff. PTRC expects to notify all offerors of its selection during the first week of May 2013.

The Contractor will be selected based upon relevant experience, knowledge, and measurable qualification relevant to the requested deliverable. See Section 7 for criteria and weighting.

1.5 PROPOSALS DUE DATE

Proposals in response to this Request are due to the PTRC **no later than 4:00 p.m., Friday, April 19, 2013.** Earlier responses are welcome and appreciated.

SECTION 2.0: PROJECT DESCRIPTION

2.1 SUMMARY

The PTRC requests a Contractor to deliver a technical report on certain nutrient load-reduction measures. The report shall assemble available data to characterize nutrient load reduction performance and associated design variations for these measures, and shall recommend methods for estimating load reduction values associated with specific designs across a range of likely field conditions. A draft report will be delivered to PTRC by Friday August 9, 2013. The final report will be delivered to the PTRC by September 20, 2013.

2.2 BACKGROUND

The Jordan and adjacent Falls Lake Reservoirs are eutrophic nutrient sensitive waters in Piedmont North Carolina. Jordan Lake was addressed with a nutrient management strategy developed by the NC Division of Water Quality that became effective in August 2009. The Jordan Lake Rules are designed to reduce nitrogen and phosphorous loadings to the 1,800-square mile watershed to their 2001 levels. In 2011 a parallel set of rules was enacted for the Falls Lake watershed.

Both strategies require local governments to reduce nutrient loading from existing developed lands. Among other things, the Jordan Lake Rules require that a NC Nutrient Scientific Advisory Board (NSAB) be established to guide the state's communities on how they can most effectively reduce nutrient loadings to receiving waters from lands that are already developed. This includes identifying load-reducing measures, evaluating the feasibility and benefits of those measures, and developing accounting for those measures. The NSAB has identified an initial set of load-reducing measures.

2.3 MEASURES TO BE ADDRESSED

The DWQ has contracted PTRC to administer a project to develop nutrient accounting and design specifications for a subset of the measures identified by the NSAB. The measures that must be reported on are listed in Table 1 below. The contractor may also propose to report on one or both of the measures in Table 2.

TABLE 1: REQUIRED MEASURES

Measures	Minimum Specific Interests	Leads on Current Work (not a comprehensive listing)
Remedy Malfunctioning Septic System	• Nitrogen & phosphorus annual mass load reduced to intermittent or perennial stream via remediation of in situ malfunctioning, surfacing septic system • Method to address variables: o Degree of surfacing, composition of effluent, magnitude of nutrient flux o Soil Type and HSG o Distance to Stream o Land slope	• *A Review of Onsite Wastewater Systems Performance and Nutrient Trading Policy to Support the Falls Lake Nutrient Strategy Development*, City of Raleigh Public Utilities Department, Hazen & Sawyer – January 2013 • Chesapeake Bay Program Onsite Systems Technology panel developing a report projected for May 2013.
Remedy Discharging Sand Filter	• Nitrogen and phosphorous annual mass load reduced to intermittent or perennial stream via removal of discharge. • Method to address variables: o Composition of effluent, magnitude of nutrient flux o Soil type, HSG; o Slope; o Distance to receiving water.	Same as above
Volume Pond Retrofits	• For volume ponds retrofitted into non-standard constructed wetland or wet detention ponds, annual mass load reductions via over- and undersizing of various features: Water quality volume • Littoral shelf • Forebay • Internal flowpath	
Improved Street Sweeping	• Frequency • Type of Sweeper • Particle characteristics • Intervening features to stream	Chesapeake Stormwater Network expert panel released memo in March 2011 and will reconvene in 2013: http://chesapeakestormwater.net/bay-stormwater/baywide-stormwater-policy/urban-stormwater-workgroup/urban-street-sweeping/

TABLE 2: OPTIONAL MEASURES

Stream Restoration / Enhancements	• Bank stabilization and erosion prevention • Nutrient absorption in the floodplain via re-connection and/or restoration. • Instream Nutrient Processing • Dry Channel Regenerative Stormwater conveyance (these are nutrient removal methods laid-out in the Chesapeake Stormwater report)	Chesapeake Stormwater Network expert panel produced final report on December 17, 2012 (report not yet available on web): http://chesapeakestormwater.net/bay-stormwater/baywide-stormwater-policy/urban-stormwater-workgroup/urban-stream-restoration/
Divert Impervious Runoff to Pervious Areas / Impervious Disconnection	• Design parameter minimums and ranges tied to assumed reductions: o Impervious to pervious ratios o Dimensions o Soil type, HSG o Slope o Landscape position • Issues: o "Available" infiltration capacity o Infiltration load reduction assumptions	• Annette Lucas of DWQ in early stages of drafting LID Chapter • Withers & Ravenel's LID-EZ Tool • Durham's Raincatchers grant with NCSU BAE

2.4 REPORT ELEMENTS

The technical report will evaluate the availability of data applicable to Piedmont North Carolina, including Triassic Basin soils that can support development of nutrient crediting for these measures. The evaluation will characterize available information on design features that influence nutrient removal performance, and will recommend methods for estimating nutrient annual mass load reduction values associated with designs and design variations across a range of expected field conditions. Recommended methods will be sufficient to allow local planners and engineers to estimate load reduction benefits using readily available site data. Reports for one or both of the measures in Table 2 are also welcomed, and will be considered when reviewing offers.

All "Leads on Current Work" listed in the table above should be considered. The Contractor is expected to complete a reasonably full search for other resources and references relevant to this project in developing the technical report.

2.5 PARTIES AND ROLES

Three (3) entities will have roles in the project. The roles of these three parties are briefly described here:

Piedmont Triad Regional Council (PTRC): The contract administrator for this project. The subcontractor will report directly to the PTRC and invoice them for all approved expenses on

behalf of this project. PTRC will coordinate the technical input and review activities of DWQ and NSAB subcommittees that will be engaged with the project.

Division of Water Quality: Division Planning staff are the content lead for the project and will have final determination on any content issues. The Division holds the grant contract with PTRC of which this proposal will be a subcontract. Division Planning staff are responsible for using the products of the proposed project to meet regulatory requirements, specifically to provide nutrient credit accounting tools to the NC Environmental Management Commission for approval and subsequent use by entities subject to the Jordan and Falls existing development regulatory requirements. The Division however wants to ensure that tools are supported by external subject matter experts and meet the needs of affected parties, and will utilize NSAB subcommittee(s) to provide input and reviews to the contractor for this project.

Nutrient Scientific Advisory Board (NSAB) BMP Subcommittee: The NSAB is providing the NC DWQ with support and input on behalf of nutrient management stakeholders. The NSAB is made up of the stormwater staff from several local governments, the NCDOT, a scientist, a professional engineer, and an environmentalist. Some of the members will be using the tools to meet Nutrient Strategy requirements. The subcommittee will provide the Contractor with feedback and guidance in order to ensure usability by and compatibility of the tool with other development concerns of end-users. To the extent that the subcommittee lacks expertise on a given measure, e.g. the septic system measures, it will recruit external subject matter experts to participate in providing feedback and reviews. For the septic elements, it is expected that Division of Public Health staff and local health department staff will participate.

SECTION 3.0: SCOPE OF CONSULTANT SERVICES

The Scope of services for this project, as currently envisioned by the PTRC, shall generally follow the tasks outlined below. The final scope of services may be negotiated with the selected Contractor.

3.1 SELECTION OF MEASURES

The Contractor shall report on all four measures listed in Table 1. The contractor may propose to report on one or both of the measures listed in Table 2.

3.2 DATA SOURCES

All methodologies and bases for final values ascribed to the selected measures shall be documented and meet with the approval of NC DWQ, and the NSAB. The Contractor shall seek to collect and draw information from all applicable peer-reviewed literature related to the selected measures, and shall evaluate other sources as needed to adequately address the requested elements. The contractor shall evaluate the applicability of all candidate data sources to the climatic, soils and geologic conditions found in the Jordan and Falls watersheds, including Triassic Basin soils, shall report their findings and shall to the greatest extent possible use only data applicable to these watersheds or to the Piedmont ecoregion. Two sources to be utilized are research, reviews, and recommendations developed by the Chesapeake Bay Program and NC State University's Biological and Agricultural Engineering department. All materials listed in the "Leads on Current Work" column in the Tables should also be considered. Prospective offerors may wish to take advantage of the Center for Watershed Protection's April 3rd "Urban BMPS and the Bay TMDL: A Users Guide" webcast, which will cover relevant subject matter.

3.3 TECHNICAL REPORT

The Contractor shall submit a report that evaluates the availability of applicable data as described above that can support development of nutrient crediting for the selected measures. The evaluation will characterize associated information on design features that influence nutrient removal performance. Finally the evaluation will recommend methods for estimating nutrient annual mass load reduction values associated with designs and design variations across a range of expected field conditions.

The report will provide the following, at a minimum, for each measure:

- Spreadsheet or database that compiles available data contributing to or estimating total nitrogen (TN), total phosphorus (TP), and if available, total suspended solids (TSS) load reduction performance, with appropriate references and citations;
- Statistics characterizing as supportable the central tendency, range and variability of applicable data;
- Identification of design variables significantly influencing measure nutrient performance, recommended useful ranges for these variables, and associated design specifications for these measures,
- Methods:
    - Characterization of potential methods (or parameters for incorporation into existing methods as applicable) for estimating unit-annual TN, TP and TSS mass load reductions obtained by use of a selected measure;
    - Recommendations for most appropriate method (or parameters) given available data and the intended regulatory application;
    - Depiction of the chosen method (or parameters) in sufficient detail to allow its application by affected parties using readily available site data (or incorporation by DWQ into existing methods, e.g. the Jordan/Falls Lake Stormwater Nutrient Load Accounting Tool);
    - Identification and discussion of measure design variables and method parameters that influence load reduction performance, recommended values for formula

constants or ranges for formula variables, characterization of uncertainties associated with values, recommended ranges for design variables, as appropriate provision for determination of intermediate lb/unit-area treated/yr results in addition to final measure unit-annual mass reductions; and

- Results of method validation testing with a range of likely user-input values against appropriate known nutrient reduction or receiving water values; and method sensitivity testing to the range of likely input values.

The final report shall be submitted in editable form using Microsoft software products. .

SECTION 4.0: SCHEDULE OF PERFORMANCE

The schedule will be negotiable between the PTRC and the Contractor, especially as it relates to meetings with the PTRC to determine project progress. However, the Contractor shall be required to:

- Attend the May 3, 2013, and September 6, 2013, Nutrient Scientific Advisory Board meetings;
- Frequent informal updates and conversations with NC DWQ and the NSAB's Subcommittees, especially regarding the measures "Remedy Malfunctioning Septic System" and "Remedy Discharging Sand Filter;"
- Deliver a draft technical report to the PTRC by August 9, 2013; and
- Deliver a final draft technical report to the PTRC by September 20, 2013, that incorporates responses to comments from the PTRC, NC DWQ, and NSAB.

SECTION 5.0: INSURANCE

During the term of the contract, the contractor at its sole cost and expense shall provide commercial insurance of such type and with such terms and limits as may be reasonably associated with the contract. As a minimum, the contractor shall provide and maintain the following coverage and limits:

a. Worker's Compensation - The contractor shall provide and maintain Worker's Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of $150,000.00, covering all of Contractor's employees who are engaged in any work under the contract. If any work is subcontracted, the contractor shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.

b. Commercial General Liability - General Liability Coverage on a Comprehensive Broad Form on an occurrence basis in the minimum amount of $500,000.00 Combined Single Limit. (Defense cost shall be in excess of the limit of liability;

c. Automobile - Automobile Liability Insurance, to include liability coverage, covering all owned, hired and non-owned vehicles, used in connection with the contract. The minimum combined single limit shall be $150,000.00 bodily injury and property damage; $150,000.00 uninsured/under insured motorist, and $1,000.00 medical payment.

Providing and maintaining adequate insurance coverage is a material obligation of the contractor and is of the essence of this contract. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized by the Commissioner of Insurance to do business in North Carolina. The contractor shall at all times comply with the terms of such insurance policies, and all requirements of the insurer under any such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the contractor shall not be interpreted as limiting the contractor's liability and obligations under the contract. The Department may require a copy of a current insurance certificate at any time during the contract period.

SECTION 6.0: PROPOSAL REQUIREMENTS

6.1 GENERAL

Please submit one original and three copies of your Proposal in a sealed envelope or package, to be received by the PTRC **no later than 4:00 PM, Friday, April 19, 2013,** to the attention of:

Cy Stober
Water Resources Manager
Piedmont Triad Regional Council
2216 West Meadowview Road
Suite 201
Greensboro, NC 27407

Electronic submissions in .pdf format may be submitted to cstober@ptrc.org. Early submission of Proposals is welcome and appreciated.

In the interest of fairness to all the Offerors submitting Proposals and to allow for the PTRC's timely review, Proposals received after the scheduled receipt time stated above will not be accepted and will be marked "LATE". All Proposals received become the property of the PTRC and will not be returned.

6.2 PROPOSAL ORGANIZATION

To facilitate the City's objective review of the Proposals from different Offerors, Proposals are requested to organize the main document using a standardized format containing the following:

- A cover letter on company letterhead signed by a Principal or other member of the firm authorized to commit the firm to contract for professional services.
- Table of Contents, with page numbers
- Information on the following topics:

  Executive Summary: Should address the highlights of the proposal, along with the strengths and special expertise of the firm and the associated team to successfully accomplish the objectives of the PTRC. Please limit the Executive Summary to one page.

  Statement of Qualifications: Identify and describe the qualifications of the firm and professional services that may be provided by the Offeror and its team in response to this Request. Also include information on any proposed sub-consultants. Please note which team members were involved in referenced projects. Please include an approximate dollar amount (professional service fee and construction cost, if applicable) and time period involved in referenced completed or current projects. Also highlight any projects performed during the past 3 years that directly relate to the proposed project.

  Project Team & Project Management: Please identify the proposed project team (including any subconsultants) and key personnel for the successful completion of projects relevant to this technical report. Please include brief resumes of the project team members. Also, please identify the project manager or project managers and any other team leaders proposed, and briefly describe how projects will be successfully managed. It is expected that the team members identified in the Proposal will be the ones that will actually work on projects for the PTRC. Describe the planned and envisioned workload of the proposed team members for the timeframe of this contract, and verify that proposed staff will be prepared for timely completion of projects under a potential contractual agreement with the PTRC. Also describe your quality control methods.

Proposed Approach: Describe the proposed logistical and content development approach that will be the basis for delivering the proposed report, and provide the proposed cost for these services.

References: Please provide the name, telephone number, and address of at least three references in organizations for whom your firm provided professional services on projects similar to this Request and whom the PTRC may contact regarding your firm's performance on their projects.

If the Offeror wishes to submit additional information in support of or to strengthen the Proposal, such information may be submitted separately in Appendices. **Proposals must be limited to no more than 25 pages, excluding the cover page, cover letter, table of contents, resumes, and section dividers.**

SECTION 7.0: SELECTION OF CONSULTANT/CONTRACTOR

7.1 GENERAL

This Request does not commit the PTRC to enter into agreement, to pay any costs incurred in the preparation and submittal of a proposal in response to this request or in subsequent interviews and negotiations, or to procure a contract for the project. The PTRC will require the selected Contractor, if any, to participate in negotiations of the fees for the project and to submit such scope, technical and/or other revisions to the proposals as may result from negotiations. The PTRC reserves the right to perform all or some of the services described in this document with its own work force. The PTRC also reserves the right to issue future Request For Proposal (RFP) and solicit responses from firms not selected as part of this process.

7.2 CONSULTANT SELECTION CRITERIA

Reviewers will use the following selection criteria and associated weightings to rate candidates' proposals:

- Cost (25%);
- Project management and content approach (20%);
- Experience, specifically relevant to the requested work and the field of applied research on which the project will be based (15%);
- Team member(s) qualifications (15%);
- Ability to address one or both practices described in Table 2 (10%);
- Past performance, with references (10%);
- Other determinants selected by the review panel (5%).

7.3 POSSIBLE POST-PROPOSAL INTERVIEW

An interview may be offered to select offerors upon the review and opinion of the review panel. Interviews may be held on **April 24th and 25th**. Offerors are encouraged to reserve these dates pending notification from PTRC. Notification will be provided as early as possible. In-person attendance is preferred to a teleconference, but both methods are permissible Interview findings will be considered when reviewing an offeror's proposal. Failure to interview for the proposed project may eliminate consideration of an offeror's proposal for the request.

7.5 SCHEDULE FOR SELECTION

All firms submitting proposals will be notified in writing as to the outcome of the process. Selections will likely be made by **Wednesday, May 1, 2013**.