

## CONTRACT FOR SMALL SCALE RESIDENTIAL STORMWATER CONTROL MEASURES IN DURHAM

This contract is dated, made, and entered into as of the \_\_\_\_ day of \_\_\_\_\_, 2016, by the City of Durham ("City"), a N. C. municipal corporation, and Biohabitats, Inc. ("Contractor"), a corporation organized and existing under the laws of Maryland and authorized to do business in the State of North Carolina.

### Sec. 1. Background and Purpose.

The Stormwater and GIS Services Division is responsible for ensuring that the City of Durham is meeting water quality regulations and helping to improve the health of local waterways. Many of Durham's waterways have issues with pollutants such as bacteria, sediment, nutrient enrichment and biological diversity. Part of the City's approach to addressing water quality regulations and improving the health of local waterways includes retrofitting existing development using a variety of methods including stormwater control measures (SCMs), innovative approaches, programmatic measures, and green infrastructure. The Strategic Plan of the Department of Public Works recognizes that these environmental services, along with green infrastructure, are crucial elements for building and maintaining a sustainable stormwater system that is able to meet federal, state, and local regulatory requirements into the future.

The services in this Contract will serve to support the City's Stormwater and GIS Services Division of the Public Works Department in its ongoing efforts to meet the requirement of the Falls and Jordan Lake Nutrient Reduction requirements, the City's stormwater National Pollutant Discharge Elimination System (NPDES) permit, Total Maximum Daily Load (TMDL) response, implementation of watershed management plans, and other stormwater quality and quantity improvement projects. The intent of this project is to build upon the success of previous efforts to install small-scale, green infrastructure-type, stormwater control measures at the residential level. Information from past projects will be used to develop a sustainable, systematic approach to identify residential locations throughout the City to install rain gardens, cisterns, and downspout disconnections.

Sec. 2. Services and Scope to be Performed. Presumption that Duty is Contractor's. The Contractor shall provide services described in the Scope of Work, attached hereto as "Exhibit A". These services include development of program components, site selection criteria, and inspection and maintenance strategy, GIS analysis services, public outreach support, construction management services, construction oversight, bid administration support, attend and document meetings, prepare documents, meet deadlines for all tasks, and communicate regularly with the City. The Contractor shall deliver the Scope of Work consistent with the schedule depicted in Exhibit B, Project Schedule. In this contract, "Work" means the services that the Contractor is required to perform pursuant to this contract and all of the Contractor's duties to the City that arise out of this contract. Unless the context requires otherwise, if this contract states that a task is to be performed or that a duty is owed, it shall be presumed that the task or duty is the obligation of the Contractor.

### Sec. 3. Reserved.

Sec. 4. Complete Work without Extra Cost. Except to the extent otherwise specifically stated in this contract, the Contractor shall obtain and provide, without additional cost to the City, all labor, materials, equipment, transportation, facilities, services, permits, and licenses necessary to perform the Work.

Sec. 5. Contractor's Billings to City. Compensation. The Contractor shall send invoices to the City on a monthly basis for the amounts to be paid pursuant to this contract. Each invoice shall document, to the reasonable satisfaction of the City, the percent completion of work performed under each task described in Exhibit A and listed under the table provided in Exhibit C, "Guide for Payment Schedule for Tasks". A monthly status report shall accompany each invoice, which summarizes the work progress, updated schedule, and a description of any contract issues and their resolution. Within twenty days after the City receives an invoice, the City shall send the Contractor a check in payment for all undisputed amounts contained in the invoice.

The City shall pay the Contractor for the Work in accordance with Exhibit C. The compensation for satisfactory performance of the Work shall not exceed the total amount of \$132,882.00. The City shall not be obligated to pay the Contractor any payments, fees, expenses, or compensation other than those authorized by this section.

Sec. 6. Prompt Payment to Subcontractors. (a) Within 7 days of receipt by the Contractor of each payment from the City under this contract, the Contractor shall pay all Subcontractors (which term includes subconsultants and suppliers) based on work completed or service provided under the subcontract. Should any payment to the Subcontractor be delayed by more than 7 days after receipt of payment by the Contractor from the City under this contract, the Contractor shall pay the Subcontractor interest, beginning on the 8<sup>th</sup> day, at the rate of 1% per month or fraction thereof on such unpaid balance as may be due. By appropriate litigation, Subcontractors shall have the right to enforce this subsection (a) directly against the Contractor, but not against the City of Durham.

(b) If the individual assigned to administer this contract for the City (in this section, titled "Prompt Payment

to Subcontractors,” he or she will be referred to as the “Project Manager”) determines that it is appropriate to enforce subsection (a) in this manner, the City may withhold from progress or final payments to the Contractor the sums estimated by the Project Manager to be

- (i) the amount of interest due to the Subcontractor under subsection (a), and/or
- (ii) the amounts past-due under subsection (a) to the Subcontractor but not exceeding 5% of the payment(s) due from the City to the Contractor.

This subsection (b) does not limit any other rights to withhold payments that the City may have.

(c) Nothing in this section (titled “Prompt Payment to Subcontractors”) shall prevent the Contractor at the time of invoicing, application, and certification to the City from withholding invoicing, application, and certification to the City for payment to the Subcontractor for unsatisfactory job progress; defective goods, services, or construction not remedied; disputed work; third-party claims filed or reasonable evidence that such a claim will be filed; failure of the subcontractor to make timely payments for labor, equipment, and materials; damage to the Contractor or another subcontractor; reasonable evidence that the subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed 10%.

(d) The Project Manager may require, as a prerequisite to making progress or final payments, that the Contractor provide statements from any Subcontractors designated by the Project Manager regarding the status of their accounts with the Contractor. The statements shall be in such format as the Project Manager reasonably requires, including notarization if so specified.

#### Sec. 7. Insurance.

Contractor agrees to maintain, on a primary basis and at its sole expense, at all times during the life of this Contract the following applicable coverage’s and limits. The requirements contained herein, as well as City’s review or acceptance of insurance maintained by Contractor is not intended to and shall not in any manner limit or qualify the liabilities or obligations assumed by Contractor under this Contract.

Commercial General Liability – Combined single limit of no less than \$1,000,000 each occurrence and \$2,000,000 aggregate. Coverage shall not contain any endorsement(s) excluding nor limiting Product/Completed Operations, Contractual Liability or Cross Liability.

Automobile Liability – Limits of no less than \$1,000,000 Combined Single Limit. Coverage shall include liability for Owned, Non-Owned and Hired automobiles. In the event Contractor does not own automobiles, Contractor agrees to maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Auto Liability policy. Automobile coverage is only necessary if vehicles are used in the provision of services under this Contract and/or are brought on a City of Durham site.

Umbrella or Excess Liability – Contractor may satisfy the minimum liability limits required above under an Umbrella or Excess Liability policy. There is no minimum Per Occurrence limit of liability under the Umbrella or Excess Liability, however, the Annual Aggregate limits shall not be less than the highest ‘Each Occurrence’ limit for required policies. Contractor agrees to endorse City of Durham as an ‘Additional Insured’ on the Umbrella or Excess Liability, unless the Certificate of Insurance states the Umbrella or Excess Liability provides coverage on a ‘Follow-Form’ basis.

Worker’s Compensation & Employers Liability – Contractor agrees to maintain Worker’s Compensation Insurance in accordance with North Carolina General Statute Chapter 97 and with Employer Liability limits of no less than \$1,000,000 each accident, each employee and policy limit. This policy must include a Waiver of Subrogation.

Professional Liability- Contractor agrees to maintain Professional Liability Insurance with limits no less than \$1,000,000, covering claims arising out of professional architect, engineers and surveyors services performed in connection with this contract.

Environmental/Pollution- Contractor agrees to maintain Environmental/Pollution Liability Insurance with limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate, covering claims arising out of the use or application of chemicals/herbicides as well as the negligent release of hazardous materials. Coverage may also be satisfied by endorsement to the Commercial General Liability policy with minimum limits of \$1,000,000/\$2,000,000.

Additional Insured – Contractor agrees to endorse the City as an Additional Insured on the Commercial General Liability. The Additional Insured shall read ‘City of Durham as its interest may appear’.

Certificate of Insurance – Contractor agrees to provide City of Durham a Certificate of Insurance evidencing that all coverage’s, limits and endorsements required herein are maintained and in full force and effect, and Certificates of Insurance shall provide a minimum thirty (30) day endeavor to notify, when available, by Contractor’s insurer. If Contractor receives a non-renewal or cancellation notice from an insurance carrier affording

coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify the City within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance. The Certificate Holder address should read:

Attn: Lance P. Fontaine, Ph.D.  
Stormwater and GIS Services Division  
Public Works Department  
101 City Hall Plaza, Third Floor  
Durham, NC 27701-3329

All insurance companies must be authorized to do business in North Carolina and be acceptable to the City of Durham's Risk Manager.

Sec. 8. Performance of Work by City. If the Contractor fails to perform the Work in accordance with the requirements of Exhibit A or within the schedule shown in Exhibit B Project Schedule, as required by this contract, the City may, in its discretion, in order to bring the project closer to the schedule, perform or cause to be performed some or all of the Work, and doing so shall not waive any of the City's rights and remedies. Before doing so, the City shall give the Contractor notice of its intention. The Contractor shall reimburse the City for additional costs incurred by the City in exercising its right to perform or cause to be performed some or all of the Work pursuant to this section.

Sec. 9. Exhibits. The following exhibits are made a part of this contract:

Exhibit A - Scope of Work, containing 10 page(s);  
Exhibit B – Project Schedule, containing 1 page;  
Exhibit C – Guide for Payment Schedule for Tasks, containing 1 page.

In case of conflict between an exhibit and the text of this contract excluding the exhibit, the text of this contract shall control.

Sec. 10. Notice. (a) This subsection (a) pertains to all notices related to or asserting default, breach of contract, claim for damages, suspension or termination of performance, suspension or termination of contract, and extension or renewal of the term. All such notices shall be given by personal delivery, fax, UPS, Federal Express, a designated delivery service authorized pursuant to 26 U.S.C. 7502(f)(2), or certified United States mail, return receipt requested, addressed as follows. The parties are requested to send a copy by email.

To the City:

Attn: Lance P. Fontaine, Ph.D.  
Stormwater and GIS Services Division  
Public Works Department  
101 City Hall Plaza, Third Floor  
Durham, NC 27701-3329  
Phone: (919) 560-4326  
Fax: (919) 560-4316.  
Email: Lance.Fontaine@DurhamNC.Gov

To the Contractor:

Kevin Nunnery, Ph.D.  
Biohabitats, Inc.  
Southeast Atlantic Bioregion  
7904 Hilburn Drive  
Raleigh, NC 27613  
Phone: (919)815-2309  
Fax: (919) 78-1653  
Email: knunnery@biohabitats.com

(b) Change of Address. Date Notice Deemed Given. A change of address, email address, fax number, or person to receive notices under subsection (a) shall be made by notice given pursuant to subsection (a). All notices and other communications related to or under this contract shall be deemed given and sent at the time of actual delivery, if personally delivered or sent by fax, personal delivery, UPS, Federal Express, or a designated delivery service. If the notice or other communication is sent by United States mail, it shall be deemed given upon the third calendar day following the day on which such notice or other communication is deposited with the United States

Postal Service or upon actual delivery, whichever first occurs.

Sec. 11. Indemnification. (a) To the maximum extent allowed by law, the Contractor shall defend, indemnify, and save harmless Indemnitees from and against all Charges that arise in any manner from, in connection with, or out of this contract as a result of acts or omissions of the Contractor or subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. In performing its duties under this subsection "a," the Contractor shall at its sole expense defend Indemnitees with legal counsel reasonably acceptable to City. (b) Definitions. As used in subsections "a" above and "c" below -- "Charges" means claims, judgments, costs, damages, losses, demands, liabilities, duties, obligations, fines, penalties, royalties, settlements, and expenses (included without limitation within "Charges" are (1) interest and reasonable attorneys' fees assessed as part of any such item, and (2) amounts for alleged violations of sedimentation pollution, erosion control, pollution, or other environmental laws, regulations, ordinances, rules, or orders -- including but not limited to any such alleged violation that arises out of the handling, transportation, deposit, or delivery of the items that are the subject of this contract). "Indemnitees" means City and its officers, officials, independent contractors, agents, and employees, excluding the Contractor. (c) Other Provisions Separate. Nothing in this section shall affect any warranties in favor of the City that are otherwise provided in or arise out of this contract. This section is in addition to and shall be construed separately from any other indemnification provisions that may be in this contract. (d) Survival. This section shall remain in force despite termination of this contract (whether by expiration of the term or otherwise) and termination of the services of the Contractor under this contract. (e) Limitations of the Contractor's Obligation. If this section is in, or is in connection with, a contract relative to the design, planning, construction, alteration, repair or maintenance of a building, structure, highway, road, appurtenance or appliance, including moving, demolition and excavating connected therewith, then subsection "a" above shall not require the Contractor to indemnify or hold harmless Indemnitees against liability for damages arising out of bodily injury to persons or damage to property proximately caused by or resulting from the negligence, in whole or in part, of Indemnitees.

Sec. 12. Trade Secrets; Confidentiality. The request for proposals (RFP) section titled "Trade Secrets and Confidentiality" shall apply to any Trade Secrets disclosed to the City during the process leading to the parties' entering into this Contract (including all of the Contractor's responses to the RFP). This section (titled "Trade Secrets; Confidentiality") shall remain in force despite termination of this contract (whether by expiration of the term or otherwise) and termination of the services of the Contractor under this contract. For purposes of this contract, the word "candidate" in the RFP section just cited shall mean the "Contractor."

Sec. 13. E-Verify Requirements. (a) If this contract is awarded pursuant to North Carolina General Statutes (NCGS) 143-129 – (i) the contractor represents and covenants that the contractor and its subcontractors comply with the requirements of Article 2 of Chapter 64 of the NCGS; (ii) the words "contractor," "contractor's subcontractors," and "comply" as used in this subsection (a) shall have the meanings intended by NCGS 143-129(j); and (iii) the City is relying on this subsection (a) in entering into this contract. (b) If this contract is subject to NCGS 143-133.3, the contractor and its subcontractors shall comply with the requirements of Article 2 of Chapter 64 of the NCGS.

Sec. 14. Termination for Convenience ("TFC"). (a) *Procedure.* Without limiting any party's right to terminate for breach, the parties agree that the City may, without cause, and in its discretion, terminate this contract for convenience by giving the Contractor written notice that refers to this section. TFC shall be effective at the time indicated in the notice. (b) *Obligations.* Upon TFC, all obligations that are still executory on both sides are discharged except that any right based on prior breach or performance survives, and the indemnification provisions and the section of this contract titled Trade Secrets and Confidentiality, if any, shall remain in force. At the time of TFC or as soon afterwards as is practical, the Contractor shall give the City all Work, including partly completed Work. In case of TFC, the Contractor shall follow the City's instructions as to which subcontracts to terminate. (c) *Payment.* The City shall pay the Contractor an equitable amount for the costs and charges that accrue because of the City's decisions with respect to the subcontracts, but excluding profit for the Contractor. Within 20 days after TFC, the City shall pay the Contractor one hundred dollars as a TFC fee and shall pay the Contractor for all Work performed except to the extent previously paid for. Work shall be paid for in accordance with the method (unit prices, hourly fees, etc.) to be used for payment had the Work been completed except to the extent it would be inequitable to either party, and if Work was to be paid for on a lump-sum basis, the City shall pay the part of the lump sum that reflects the percentage of completion attained for that Work. The Contractor shall not be entitled to any payment because of TFC except as stated in this section, whether on the basis of overhead, profit, damages, other economic loss, or otherwise.

Sec. 15. Miscellaneous

(a) Choice of Law and Forum; Service of Process. (i) This contract shall be deemed made in Durham County, North Carolina. This contract shall be governed by and construed in accordance with the law of North Carolina. The exclusive forum and venue for all actions arising out of this contract shall be the North Carolina

General Court of Justice, in Durham County. Such actions shall neither be commenced in nor removed to federal court. This subsection (a) shall not apply to subsequent actions to enforce a judgment entered in actions heard pursuant to this subsection. (ii) If the Contractor is not a natural person (for instance, the Contractor is a corporation or limited liability company), this subsection (ii) applies. "Agent for Service of Process" means every person now or hereafter appointed by the Contractor to be served or to accept service of process in any State of the United States. Without excluding any other method of service authorized by law, the Contractor agrees that every Agent for Service of Process is designated as its non-exclusive agent for service of process, summons, and complaint. The Contractor will instruct each Agent for Service of Process that after such agent receives the process, summons, or complaint, such agent shall promptly send it to the Contractor. This subsection (ii) does not apply while the Contractor maintains a registered agent in North Carolina with the office of the N. C. Secretary of State and such registered agent can be found with due diligence at the registered office.

(b) Waiver. No action or failure to act by the City shall constitute a waiver of any of its rights or remedies that arise out of this contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

(c) Performance of Government Functions. Nothing contained in this contract shall be deemed or construed so as to in any way estop, limit, or impair the City from exercising or performing any regulatory, policing, legislative, governmental, or other powers or functions.

(d) Severability. If any provision of this contract shall be unenforceable, the remainder of this contract shall be enforceable to the extent permitted by law.

(e) Assignment, Successors and Assigns. Without the City's written consent, the Contractor shall not assign (which includes to delegate) any of its rights (including the right to payment) or duties that arise out of this contract. The City Manager may consent to an assignment without action by the City Council. Unless the City otherwise agrees in writing, the Contractor and all assignees shall be subject to all of the City's defenses and shall be liable for all of the Contractor's duties that arise out of this contract and all of the City's claims that arise out of this contract. Without granting the Contractor the right to assign, it is agreed that the duties of the Contractor that arise out of this contract shall be binding upon it and its heirs, personal representatives, successors, and assigns.

(f) Compliance with Law. In performing all of the Work, the Contractor shall comply with all applicable law.

(g) Notice of City Policy. THE CITY OPPOSES DISCRIMINATION ON THE BASIS OF RACE AND SEX AND URGES ALL OF ITS CONTRACTORS TO PROVIDE A FAIR OPPORTUNITY FOR MINORITIES AND WOMEN TO PARTICIPATE IN THEIR WORK FORCE AND AS SUBCONTRACTORS AND VENDORS UNDER CITY CONTRACTS.

(h) SDBE. The Contractor shall comply with all applicable provisions of Article III of Chapter 18 of the Durham City Code (Equal Business Opportunities Ordinance), as amended from time to time. The failure of the Contractor to comply with that article shall be a material breach of contract which may result in the rescission or termination of this contract and/or other appropriate remedies in accordance with the provisions of that article, this contract, and State law. The Participation Plan submitted in accordance with that article is binding on the Contractor. Section 18-59(f) of that article provides, in part, "If the City Manager determines that the Contractor has failed to comply with the provisions of the Contract, the City Manager shall notify the Contractor in writing of the deficiencies. The Contractor shall have 14 days, or such time as specified in the Contract, to cure the deficiencies or establish that there are no deficiencies." It is stipulated and agreed that those two quoted sentences apply only to the Contractor's alleged violations of its obligations under Article III of Chapter 18 and not to the Contractor's alleged violations of other obligations.

(i) No Third Party Rights Created. This contract is intended for the benefit of the City and the Contractor and not any other person.

(j) Principles of Interpretation and Definitions. (1) The singular includes the plural and the plural the singular. The pronouns "it" and "its" include the masculine and feminine. References to statutes or regulations include all statutory or regulatory provisions consolidating, amending, or replacing the statute or regulation. References to contracts and agreements shall be deemed to include all amendments to them. The words "include," "including," etc. mean include, including, etc. without limitation. (2) References to a "Section" or "section" shall mean a section of this contract. (3) "Contract" and "Agreement," whether or not capitalized, refer to this instrument. (4) "Duties" includes obligations. (5) The word "person" includes natural persons, firms, companies, associations, partnerships, trusts, corporations, governmental agencies and units, and other legal entities. (6) The word "shall" is mandatory. (7) The word "day" means calendar day. (8) The word "Work" is defined in Section 2. (9) A definition in this contract will not apply to the extent the context requires otherwise.

(k) Modifications. Entire Agreement. A modification of this contract is not valid unless signed by both

parties and otherwise in accordance with requirements of law. Further, a modification is not enforceable against the City unless it is signed by the City Manager, a deputy or assistant City Manager, or, in limited circumstances, a City department director. This contract contains the entire agreement between the parties pertaining to the subject matter of this contract. With respect to that subject matter, there are no promises, agreements, conditions, inducements, warranties, or understandings, written or oral, expressed or implied, between the parties, other than as set forth or referenced in this contract.

(I) City's Manager's Authority. To the extent, if any, the City has the power to suspend or terminate this contract or the Contractor's services under this contract, that power may be exercised by City Manager or a deputy or assistant City Manager without City Council action.

IN WITNESS WHEREOF, the City and the Contractor have caused this contract to be executed under seal themselves or by their respective duly authorized agents or officers.

ATTEST:

CITY OF DURHAM

\_\_\_\_\_

By: \_\_\_\_\_

preaudit certificate, if applicable \_\_\_\_\_

Biohabitats, Inc.

(Affix corporate seal)

By: \_\_\_\_\_

Title of officer: \_\_\_\_\_

ACKNOWLEDGEMENT BY CORPORATION

State of \_\_\_\_\_

County of \_\_\_\_\_

I, a notary public in and for the aforesaid county and state, certify that

\_\_\_\_\_ personally appeared before me this day and stated that he or she is (~~strike through the inapplicable:~~) chairperson/ president/ chief executive officer/ vice-president/ assistant vice-president/ treasurer/ chief financial officer of **Biohabitats, Inc.**, a corporation registered to do business in North Carolina, and that by authority duly given and as the act of the corporation, he or she signed the foregoing contract with the City of Durham and the corporate seal was affixed to said instrument(s). This the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

My commission expires: \_\_\_\_\_  
Notary Public

**EXHIBIT A – SCOPE OF WORK**  
**FOR SMALL SCALE RESIDENTIAL STORMWATER CONTROL**  
**MEASURES IN DURHAM**

1. The project Team consists of Biohabitats as the prime consultant, along with Rummel, Klepper and Kahl (RKK), and the Ellerbe Creek Watershed Association (ECWA) as the subconsultants. Biohabitats will manage the implementation of residential stormwater control measures in the City of Durham city limits. This includes:
  - a. Development of site selection criteria,
  - b. GIS analysis based on those criteria to identify potential site clusters,
  - c. Development of a long term monitoring framework for rain gardens, cisterns, downspout disconnections,
  - d. Development of site screening criteria,
  - e. ID'ed cluster site screening in the field,
  - f. Public outreach,
  - g. Generation of construction documents,
  - h. Administration of the bidding process,
  - i. And construction oversight, punch list, closeout of items on punch list.
  
2. The Client shall provide the following information or services as required for performance of its services outlined herein:
  - a. background program administration documents related to the project, specifically,
    - i. Inspection and Monitoring Forms
    - ii. Site Evaluation Forms
    - iii. Homeowner Maintenance Agreement Forms
  - b. GIS files, database information, lists of past projects and locations,
  - c. provide the fees associated with any information used that has a financial fee associated with it,
  - d. guidance on socio-economic site selection criteria developed by the Team,
  - e. previously used brochures, mailers, community listservs,
  - f. examples of construction document formatting desired,
  - g. examples of progress reports.
  
3. The scope of work does not include identification or remediation of hazardous, toxic or radioactive waste.
  
4. All deliverables will be provided in the native file format (Word, Excel, ESRI, etc.) and in PDF, where appropriate.

# **WORK PLAN**

## **TASK 1—CLUSTER SELECTION, PROGRAM RECOMMENDATIONS, & GIS ANALYSIS**

### **Task 1.1 Cluster Selection - Criteria Development**

The Team will adapt criteria from Center for Water Protection Urban Stormwater Restoration Manuals to develop draft site selection criteria specific to Durham. The Unified Subwatershed and Site Reconnaissance, Neighborhood Source Assessment, and other applicable analysis methods will be reviewed to determine relevant parameters such as slope, lot size, accessibility, land use, etc. Also, based on available GIS data, draft socio-economic criteria will also be assembled, to be reviewed and finalized by the City and the team in the Review Meeting. This task assumes use of available GIS information from the City, and readily available US Census data. The draft criteria will be submitted to the City for discussion in the meeting scheduled in Task 1.2 below.

### **Task 1.2 Program Recommendations & Agreement Form Development**

Using internet searches, email requests for information, and phone interviews, gather and review other programs' information on incentives, maintenance agreements, and cost-sharing strategies. Examples of other programs include, previous City projects, NC Agricultural Extension programs, the University of Connecticut program, programs from the Chesapeake Bay area, and others recommended by the team based on their experience and knowledge. Recommendations will be submitted to the City. A draft homeowner maintenance agreement form and incentive or cost sharing recommendation will be developed and submitted to the City for review and finalization.

A 2-hour Review Meeting will be scheduled to discuss Task 1.1 and 1.2 information submitted to the City to this point. In this meeting the draft site selection criteria, the Team's opinions and recommendations for incentives, cost-sharing and the agreement form will be reviewed with the City. After City's review, the details of the site selection criteria, incentives, cost-sharing and the agreement form will be finalized for utilization in the project.

### **Task 1.3 Desktop GIS Retrofit Analysis**

Led by RKK, the GIS analysis will use the criteria developed in Task 1.1, along with GIS files provided by the City to apply the criteria to clusters (subwatersheds) throughout the search area within the City. The result of the analysis will yield a dataset of qualifying parcels within a cluster as well as subwatershed and neighborhood datasets with the overall count of qualifying parcels in each. Six to eight clusters will be identified. Mapping will be produced with the analysis results to provide a visual assessment of the candidate clusters. Mapping will contain sufficient information and data to convey qualified parcels, neighborhoods, watersheds, utilities, etc. The project Team will participate in a 1-hour conference call with the City to discuss their recommendations and the City will decide which 2 clusters will be selected for targeting under Task 3.

## **Task 1.4 Technical Memorandum on Cluster Criteria, Program Recommendations, and GIS Analysis**

The Team will produce a concise technical memo that describes the cluster selection criteria, GIS Analysis, and program recommendations on incentives, cost sharing and agreement forms. The format for this document will be Word document text, and tables and figures necessary to convey the information. The final deliverable of this document will be provided in PDF format and the native file format(s).

### **DELIVERABLES**

- 1.1 Draft and Final Cluster Selection Criteria Development Recommendations
- 1.2 Draft and Final Program Recommendations and Homeowner Maintenance Agreement
- 1.3 (1) Draft and Final Maps from Desktop GIS Retrofit analysis
- 1.3 (2) GIS files and datasets generated from analysis
- 1.4 Draft and Final Technical Memorandum on Cluster Selection Criteria, Program recommendations, and GIS analysis

### **TASK 1 MEETINGS**

- Task 1.1/1.2 (2 h) – Review meeting for program recommendations, cluster selection criteria, Provide brief summary notes from meeting.
- Task 1.3 (1 h) – Conference call for Task 1.3

## **TASK 2—LONG TERM MONITORING & INSPECTION**

### **Task 2.1 Develop Long Term Monitoring & Inspection Strategy & Forms for SCM's**

Based on past project implementation information and past monitoring and inspection methods provided to the Team by the City and additional information provided by the team from their experience and knowledge, the Team will research and develop a field monitoring technique that will unify past project data, data to be generated with this project, and future monitoring and inspection data needs.

The goal will be to create a system where geographic site locations, monitoring and maintenance forms, and feature-linked photos, (based on the capabilities of Adobe fillable forms software), can all reside in a relational database that provides flexible access for the current scope of work as well as future efforts.

The team will use the Adobe Acrobat Forms tool to create electronic monitoring and inspection forms. These forms will be based on monitoring forms previously used and provided by the City. Data considered for inclusion on the forms will be determined by the team in conjunction with the City for rain gardens, cisterns and downspout disconnects. Draft monitoring and inspection forms will be developed and submitted to the City for review before the long term strategy in-

person meeting. Adobe Forms is capable of transferring data to .CSV format, which will be the output data format submitted to the City for all Adobe format forms. The original Adobe Forms in their native format that are used to generate the output data will be provided as well.

The Team will develop and submit to the City recommendations for monitoring and inspection frequency for each of the SCM types which will be included in the Long Term Monitoring and Inspection Memo.

After the City's review of the draft methodology, monitoring and inspection forms and frequency recommendations, the Team will meet with the City in person for a 1.5-hour meeting to discuss and revise the field methodology, finalize the attributes to be recorded, and the most appropriate methods for data capture and storage, which are sufficiently comprehensive and economically and programmatically feasible for the City.

### **Task 2.2 Perform First Year Monitoring & Inspection**

Using the strategy developed in Task 2.1, the Team will monitor each of the stormwater control measures listed in Table 1 during 2016. It is assumed, based on discussions with the City, that the Northeast Creek and Third Fork Creek sites, and the Ellerbe Creek Green Infrastructure sites may have limited access. The Team will prepare a letter requesting temporary access to the property for the purpose of inspecting any installed devices. The Team will prepare the letter, prepare and apply address labels to envelopes, and stuff City of Durham envelopes with the letters. The City will mail the letters to the property owner on record. If access is not granted to a property, the device will be evaluated via a 'windshield survey', if visible from public ROW. Devices noted as non-functioning or inactive will be noted and reported to the City for further follow-up. The Raincatchers measures have documented access for monitoring and a proper inspection will be completed.

Project	# raingardens	#cisterns
Northeast and Third Fork Creek	35	0
Ellerbe Creek Green Infrastructure	35	11
Raincatchers	41	108
Totals	111	119

The protocol for data collection, download and post processing will be based on the methodology developed in Task 2.1. The Team will perform QA/QC on the data collected during maintenance and inspection surveys. It is assumed that no additional post-processing will be required of the Team. It is assumed that site locations of projects to be monitored will be provided by the City, for the Team to use.

As the methodology developed in Task 2.1 is used in Task 2.2, the Team will QA/QC the process and make recommendations for any revisions needed.

### **Task 2.3 Perform 2<sup>nd</sup> Year Monitoring-All Sites**

In project year 2, the team will again monitor all the sites listed in Table 1, in addition to all sites constructed by this project. Sites will be physically inspected using the adopted Long Term monitoring and Inspection methodology developed under Task 2 of this scope. For the purposes of scoping, it is assumed that 25 rain gardens, 10 cisterns, and 15 downspout disconnections are to be installed under this project. Therefore, this scope is based on the following distribution of devices: 136 rain gardens, 129 cisterns, and 15 downspout disconnections. The Team will attempt to contact (emails or phone calls) property owners who granted access during year 1 to provide a courtesy reminder that the year 2 inspection will be forthcoming. Devices noted as non-functioning or inactive will be noted and reported to the City for further follow-up.

### **Task 2.4 Technical Memorandum on Long Term Monitoring & Inspection**

The Team will produce a concise technical memo in year 1 that describes the long term monitoring and inspection strategy, methods, and forms developed and finalized in Task 2. The TM will also contain a summary of results of monitoring and inspection data collected to-date. It is assumed that the City will provide the Team with any additional information that may have been obtained for specific projects. The data will be provided in Adobe Forms or in a format conducive to evaluation. The format for this document will be Word document text, and tables and figures necessary to convey the information. The final deliverable of this document will be provided in PDF format and the native file format(s).

#### **DELIVERABLES**

- 2.1 (1) Draft and Final PDF monitoring and inspection forms
- 2.1 (2) Draft and Final temporary access agreement letter
  
- 2.2 (1) Address labels
- 2.2 (2) Prepared envelopes for temporary access agreement letter
- 2.2 (3) Data collected from first year monitoring
  
- 2.3 Data collected from second year monitoring
  
- 2.4 Draft and Final Long Term Monitoring Technical Memorandum

#### **TASK 2 MEETINGS**

Task 2.1 (1.5 h) – Long Term Inspection and Maintenance Strategy

### **TASK 3— PUBLIC OUTREACH & SITE EVALUATION**

#### **Task 3.1 Develop & Execute Outreach Strategy**

The Team will develop an outreach strategy that promotes the small scale program appropriately and conveys the value of these SCM retrofit practices for water quality improvement and stormwater management. The strategy will focus outreach to the 2 geographic clusters selected in Task 1.3. Qualified properties within certain geographic areas will be considered for an SCM retrofit. Interested homeowners will be engaged with informal,

encouraging, and helpful approaches so that they may feel comfortable with the proposed practices. The Team will work to ensure all interested members of the community in the geographic area selected are engaged in outreach efforts. ECWA will engage other local watershed groups in outreach efforts to the extent possible.

Initial communications will be intended to make homeowners within each cluster aware of the City's intent to install SCM's on qualified properties within a geographic area. This phase of outreach is likely to involve mailers, listserv postings, a project website hosted by the City of Durham, and social media posts, e.g. Facebook, Twitter, etc. Project partners, led by ECWA, will work with community leaders to promote the program. Once interest is generated, ECWA will conduct two (2) neighborhood meetings to educate and engage interested homeowners. The Project Team, led by ECWA, will plan and host these meetings. The format and location of the meetings will be driven by the type and level of interest from a neighborhood. Meetings may include opportunities to tour existing residential practices and events held at meeting facilities or local establishments. The Team will be responsible for arranging and reserving the location for meetings, including associated fees. Individuals interested in obtaining a device for their property will be encouraged to submit a simple 'Interest Application Form' to capture basic information about their property. Property and contact information compiled from the Interest Application Form will be provided to the City. The forms will output data into the Site Evaluation and Prioritization database using Adobe software, or equivalent, for manipulation and QA/QC or as.CSV file format for use in other programs. This will be the initial data point for a potential project and will be updated with data on the criteria and prioritization score if a site is surveyed under Task 3.3. The resulting prioritization score will be used to inform the selection of projects to be implemented under Task 4. The City will provide the Team with updates to the database, as needed, to ensure that the most recent dataset is available for each task.

### **Task 3.2 Develop Site Evaluation & Prioritization Criteria**

The Team will adapt site-level evaluation criteria from other programs to develop a Durham-specific evaluation and prioritization regime. Programs that were reviewed for Task 1.2 and recommendations by the team based on their experience and knowledge will be considered. Criteria may include characteristics such as slope, number of trees, site accessibility, presence of gutters, etc. The owner's willingness to sign the homeowner maintenance agreement will be incorporated into the evaluation and prioritization criteria. The Team, led by RK&K, will incorporate the site evaluation and prioritization criteria into Adobe Forms to allow for electronic data collection from tablets/smartphones deployed in the field. Work flow and data collection procedures will be established and included in the TM for Task 3. The forms will output data into a Site Evaluation and Prioritization database using Adobe software for manipulation and QA/QC or as.CSV file format for use in other programs. The Team will submit draft criteria for the City's review and participate in a 1-hour conference call to discuss and finalize the evaluation and prioritization criteria.

### **Task 3.3 Perform Site Evaluations**

Site evaluations will be conducted by field staff on 80 sites across the 2 clusters (40 properties per cluster or as equal a distribution as possible). Potential properties will be assessed using the

site evaluation and prioritization criteria, electronic forms, and field methodology developed under Task 3.2. A multiple step process will be used to choose sites for field evaluation: Initially, properties submitted for consideration under an Interest Application will be cross-referenced with data from the GIS Analysis performed under Task 1.3 in order to exclude sites based on a desktop assessment. A subset of 'provisionally qualified' sites is assumed to be generated by this preliminary exercise. The Team, led by ECWA, will conduct site visits of provisionally qualified sites. Homeowners will be contacted and site visits arranged to address questions and concerns, and to fill out the site evaluation field form. Homeowner willingness to sign the Homeowner Maintenance Agreement will be documented as part of the evaluation. Soils tests will be performed on sites where rain gardens are being considered. For the purpose of scoping, it is assumed that 30 infiltration soils tests will be conducted. The Team, led by ECWA, will prepare and send letters to interested parties whose properties did not qualify for a device or those not prioritized for this bid cycle. For the purposes of scoping, it is assumed that 25 rain gardens, 10 cisterns, and 15 downspout disconnections are to be installed under this project. As part of the site evaluation process the Team will determine the most appropriate device (or devices) that are to be located on a single property. If appropriate, several devices may be located on a single property.

The Team will QA/QC the work flow, electronic forms, and data collection procedures developed in Task 3.2 as they are used in Tasks 3.3. Process improvement recommendations will be made as appropriate.

#### **Task 3.4 Agreement Execution & Signature Meeting**

As part of the Site Evaluation in Task 3.3, the Team will work with property owners on qualified sites to secure the preliminary acceptance of the Homeowner Maintenance Agreement. Under Task 3.4, the Team will assist the City in coordinating 1 meeting with homeowners to obtain signatures and notarization of the agreements so that they may be executed. The City will provide agenda guidance, meeting space, and the services of a notary public at this meeting. Representatives of the team will attend the meeting to ensure that remaining questions from participants are addressed and to provide a consistent point of contact between the City and homeowners. Homeowners who do not attend the City-sponsored signing meeting will be responsible for obtaining notarization of the agreement by other means.

#### **Task 3.5 Falls/Jordan Nutrient Accounting Tool Calculations**

The SCMs implemented under the bid cycle of this project will be input into the Falls/Jordan Lake Nutrient Accounting Tool. As-built land use data and SCM size will be aggregated for devices installed within each cluster such that individual practices will not be modeled. The intent will be to perform a minimal amount of runs of the Falls/Jordan Tool by grouping projects by SCM type, geographic area, etc. In this manner, the small-scale residential retrofits will be modeled as larger devices to improve the scale and resolution by which load reductions are calculated. The exact procedure for aggregation and the number of Falls/Jordan Tool runs will be determined by the distribution and type of projects that are implemented but is expected to be between 3 – 5. A summary of the nutrient loads and reductions resulting from the implemented devices will be created and included in the Task 3 Technical Memo.

### **Task 3.6 Public Outreach & Site Evaluation Technical Memorandum**

The Team will produce a concise Technical Memorandum that describes the outreach strategy, notes from the neighborhood meeting, Interest Application, site evaluation and prioritization criteria, rejection letters, copy of homeowner maintenance agreement forms, and list of devices, properties, and contacts for proposed devices (this could be output from Site Evaluation and Prioritization Database). The format for this document will be Word document text, and tables, figures, and appendices necessary to convey the information. The final deliverable of this document will be provided in PDF format and the native file format(s).

#### **DELIVERABLES**

- 3.1 (1) Outreach materials developed, such as mailings, pamphlets, social media postings, etc.
- 3.1 (2) Draft and Final Interest Application Form in electronic form format to be used as basis for Site Evaluation and Prioritization Database, which will also use Adobe Forms or equivalent software
- 3.1 (3) Public meeting attendance list
  
- 3.2 Draft and Final Site Evaluation and Prioritization Database and electronic forms in Adobe Forms
  
- 3.3 (1) Draft and Final letter of rejection for unqualified property (to be included in TM)
- 3.3 (2) Draft and Final letter of rejection for property not selected during this bid cycle (to be included in TM)
- 3.3 (3) Populated Database with list of interested homeowners, devices, contact info, etc. including qualified/unqualified status, site evaluation data, field notes, etc.
  
- 3.5 Falls and Jordan Nutrient Accounting Tool files and summary report (to be included in TM)
  
- 3.6 Draft and Final Public Outreach & Site Evaluation Technical Memorandum including work flow and field data collection procedures

#### **TASK 3 MEETINGS**

Task 3.1 (2 h) – Neighborhood interest meeting #1

Task 3.1 (2 h) – Neighborhood interest meeting #2

Task 3.2 (1 h) – Conference Call about Site Evaluation and Prioritization Criteria

Task 3.4 (2 h) – Agreement Execution Meeting

### **TASK 4—BIDDING PROCESS ADMINISTRATION**

#### **Task 4.1 Project Manual Development**

Led by RKK, the Team will review the SCM designs used for Raincatchers and update with minor revisions. Specifications for downspout disconnection will be developed based on the

State's Minimum Design Criteria. Drawings will not be developed for cisterns. The specifications for cisterns outlined in the RFP will be used and placed in the project specifications. The team will update the Raincatchers project manual with minor edits including cistern/downspout disconnection specifications, updated rain garden design drawings, project name, bid date, etc. It is assumed that no permit reviews or review fees are needed (e.g. erosion control, 401/404, etc.).

#### **Task 4.2 Advertisement, Pre-bid, Addenda and Bid Opening Administration**

Led by RKK, the Team will provide the following services to ensure a successful bid process:

- Attend pre-bid meeting and record minutes
- Provide the City with Addenda and respond to contractor questions

It is assumed that the City will:

- Advertise the project to potential bidders via the City website, email, etc.
- Make plans available electronically via the City's website
- Conduct bid opening
- Evaluate bids
- Verify SDBE/EOEA documentation

#### **DELIVERABLES**

4.1 (1) Review and update rain garden design drawings

4.1 (2) Specifications for Downspout Disconnection

4.1 (3) Draft and Final Project Manual/Bid Documents

4.2 Notes from pre-bid meeting, including sign in sheet, question and answer summary

#### **TASK 4 MEETINGS**

Task 4.2 (1 h) – Pre-Bid meeting

### **TASK 5—CONSTRUCTION MANAGEMENT**

#### **Task 5.1 Construction Oversight and Documentation**

The Team will be on site during construction to provide construction oversight and document that the Contractor's work is being done according to the plans and specifications. An electronic Construction Inspection form will be created and used to monitor construction activities in the field. For the purposes of scoping, it is assumed that 25 rain gardens, 10 cisterns, and 15 downspout disconnections are to be installed under this project.

#### **Task 5.2 Post-Construction As-Built Review**

After construction, the Team will review each site to conduct a post-construction as-built review. Each device will be inspected to ensure contractor's work was completed per plans and specifications. The electronic Construction Inspection form will be updated with 'punch list' items that remain incomplete. The Team will follow-up with the contractor to ensure satisfactory

completion of punch list items. The database project will be reviewed and updated to ensure that each site and device is accurately captured.

#### **DELIVERABLES**

- 5.1 (1) Draft and Final Electronic Construction Inspection form used to document installation of devices according to plans and specifications.
- 5.1 (2) Construction oversight for 25 rain gardens, 10 cisterns, and 15 downspout disconnections  
using Construction Inspection Form
  
- 5.2 (1) Post-Construction Inspection and As-Built review
- 5.2 (2) Punch list for each site where a device is installed
- 5.2 (3) Review and update project database with as-built information from each device

### **TASK 6—PROJECT MANAGEMENT COORDINATION**

#### **Task 6.1 Monthly Reports**

Biohabitats will produce monthly project progress reports to be included in invoices. Progress reports will contain: a brief summary of the work completed over the preceding monthly billing period on each task; deliverables completed during this time; the percentage of completion for each task; and a section for tasks or items that have budget or time issues.

#### **Task 6.2 Meetings**

Meetings to discuss project status, deliverables, and other project management issues will be held In addition to the task-specific meetings and conference calls. The Team will participate in a 1.5 h meeting each quarter (4 meetings per year) for a total of 8 meetings over the course of the entire project.

## EXHIBIT B

### Project Schedule

Project Schedule			2016												2017												2018	
Task	Task Name	Duration	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb		
1.1	Cluster Selection-Criteria Development	1 wk	█																									
1.2	Program Recommendations & Agreement Form Develop	1 wk	█																									
1.3	Desktop GIS Retrofit Analysis	2 wks	█	█																								
1.4	Technical Memorandum on Cluster Criteria, Program Rec	2 wks		█																								
2.1	Develop Long Term Monitoring & Inspection Strategy & Fo	3 wks	█	█	█																							
2.2	Perform First Year Monitoring & Inspection	6 wks									█	█	█	█	█	█												
2.3	Perform Second Year Monitoring-All Sites	8 wks																					█	█	█	█		
2.4	Technical Memorandum on Long Term Monitoring & Insp	2 wks									█	█																
3.1	Develop & Execute Outreach Strategy	6 wks	█	█	█	█	█	█	█																			
3.2	Develop Site Evaluation & Prioritization Criteria	6 wks		█	█	█	█	█	█																			
3.3	Perform Site Evaluations	4 wks			█	█	█	█																				
3.4	Agreement Execution & Signature Meeting	4 wks			█	█	█	█																				
3.5	Falls/Jordan Nutrient Accounting Tool Calculations	4 wks			█	█	█	█																				
3.6	Public Outreach & Site Evaluation Technical Memorandum	4 wks			█	█	█	█																				
4.1	Project Manual Development	8 wks	█	█	█	█	█	█	█	█	█	█																
4.2	Advertisement, Pre-bid, Addenda and Bid Opening Admini	12 wks			█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█		
5.1	Construction Oversight and Documentation	8 wks						█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█			
5.2	Post-Construction As-Built Review	6 wks								█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█			
6.1	Monthly Reports	24 mos	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█			
6.2	Meetings	Quarterly			█																							

## EXHIBIT C

### GUIDE FOR PAYMENT SCHEDULE FOR TASKS

Fee Summary-Durham Small Scale Stormwater Control Measures								
Task	Description	Labor	RKK HRS	ECWA HRS	BIO HRS	Total HRS	Reimburs	Total
1.1	Cluster Selection - Criteria Development	\$ 3,955.00	16	14	9	39	\$ -	\$ 3,955.00
1.2	Program Recommendations and Agreement Form Development	\$ 2,970.00	4	16	9	29	\$ 67.85	\$ 3,037.85
1.3	Desktop GIS Retrofit Analysis	\$ 6,840.00	44	6	10	60	\$ -	\$ 6,840.00
1.4	Technical Memorandum on Cluster Criteria Program Recommendation	\$ 4,830.00	16	6	18	40	\$ -	\$ 4,830.00
2.1	Develop Long Term Monitoring & Inspection Strategy and Forms for SC	\$ 5,215.00	23	16	12	51	\$ -	\$ 5,215.00
2.2	Perform First Year Monitoring and Inspection	\$ 6,400.00	8	56	34	100	\$ 147.50	\$ 6,577.50
2.3	Perform Second Year Monitoring- All Sites	\$ 9,130.00	8	64	38	110	\$ 206.50	\$ 9,336.50
2.4	Technical Memorandum on Long Term Monitoring and Inspection	\$ 4,340.00	4	16	20	40	\$ -	\$ 4,340.00
3.1	Develop and Execute Outreach Strategy	\$ 14,430.00	4	114	48	166	\$ 150.00	\$ 14,430.00
3.2	Develop Site Evaluation and Prioritization Criteria	\$ 6,483.50	23	12	15	51	\$ 588.50	\$ 6,483.50
3.3	Perform Site Evaluations	\$ 17,300.00	8	272	36	316	\$ -	\$ 17,300.00
3.4	Agreement execution and signature meeting	\$ 4,800.00	0	30	20	50	\$ 354.00	\$ 5,154.00
3.5	Falls/Jordan Nutrient Accounting Tool Calculations	\$ 6,920.00	00	4	0	64	\$ 256.50	\$ 7,176.50
3.6	Public Outreach and Site Evaluation Technical Memorandum	\$ 6,420.00	0	40	18	58	\$ -	\$ 6,420.00
4.1	Project Manual Development	\$ 6,277.00	28	2	20	50	\$ -	\$ 6,277.00
4.2	Advertisement Pre-bid, Addenda and Bid Opening Administration	\$ 1,370.00	6	0	4	10	\$ 141.60	\$ 1,511.60
5.1	Construction Oversight and Documentation	\$ 5,300.00	0	40	20	60	\$ 132.75	\$ 5,432.75
5.2	Pos: Construction As-Built Review	\$ 6,620.00	0	33	26	61	\$ 93.50	\$ 6,613.50
6.1	Monthly Reports	\$ 7,750.00	4	24	36	64	\$ -	\$ 7,750.00
6.2	Meetings	\$ 4,208.10	12	12	12	36	\$ 53.10	\$ 4,208.10
	<b>TOTAL \$</b>	<b>\$ 130,650.00</b>	<b>268</b>	<b>779</b>	<b>408</b>	<b>1455</b>	<b>\$2,191.80</b>	<b>\$ 132,881.80</b>