Application for Section 319
Non Point Source Pollution Control Grant---FY2013

Division of Water Quality
North Carolina Department of Environment and Natural Resources

1. Project Title	Stormwater BMPs in the Town of Pittsboro and Robeson Creek Watershed

2a. Grantee Primary Contact or Project Manager[1]				
Name	Fred Royal			
Title	Town Engineer			
Organization Name	Town of Pittsboro			
E-mail address	froyal@pittsboronc.gov			
Mailing Address	PO Box 759			
City	Pittsboro	State	NC	Zip 27312
Telephone	(919) 542-2063	Fax Number		(919) 542-2310

[1] **A one-page Statement of Qualifications must be provided in Section 3 of the application form to confirm that anyone designing, installing, or monitoring the proposed project is qualified to do so. Include in the statement any past and/or ongoing 319 grant funded projects.**

2b. Grantee Execution Address (where contract will be mailed for signature)				
Name	Bryan Gruesbeck			
Title	Town Manager			
Organization Name	Town of Pittsboro			
E-mail Address	bgruesbeck@pittsboronc.gov			
Mailing Address	PO Box 759			
City	Pittsboro	State	NC	Zip 27312
Telephone	(919) 542-4621	Fax Number	(919) 542-7109	
Federal Tax ID Number	56-6001311			

2c. Grantee Payment Address (where invoice payments will be mailed)				
Name	Mandy Cartrette			
Title	Finance Director			
Organization Name	Town of Pittsboro			
E-mail Address	ajcartrette@pittsboronc.gov			
Mailing Address	PO Box 759			
City	Pittsboro	State	NC	Zip 27312
Telephone (919) 542-4621		Fax Number	(919) 542-7109	

3. Required Statement of Qualifications (to confirm that anyone designing, installing, or monitoring the proposed project is qualified to do so. Include in the statement any past and/or ongoing 319 grant funded projects.)

The following project team members have extensive experience with design, installation, maintenance, and monitoring of best management practices, including BMPs for construction site erosion and sediment control, urban stormwater control, agricultural and forestry runoff, and stream and wetland restoration:

Fred Royal, P.E., Town Engineer, Town of Pittsboro
Karen Hall, Ph.D., Extension Associate, Environmental Science
William F. Hunt, III, Ph.D., PE, Associate Professor and Extension Specialist
Ryan Winston, PE, Extension Associate, Water Resources Engineering
Dan Line, PE, Extension Specialist, Water Resources Engineering
Jean Spooner, PhD, Professor and Extension Specialist
Jamie Blackwell, Extension Assistant, Environmental Science

Current and Recent Past 319-Funded Projects (NCSU):

1. Robeson Creek Watershed Restoration 2007-2010
2. Town Lake Weed Control 2009-2012
3. Level Spreader– Vegetated Filter Strip Demonstration and Evaluation in Chatham County. 2010.
4. Revising the Tar-Pamlico BMP Selection Worksheets for Jordan Lake and Conducting Field Surveys to Assess Bioretention Design, Construction, and Maintenance. 2009.
5. Demonstration and Evaluation of Floating Wetland Islands.2009.
6. Watershed Retrofit and Management Evaluation for Urban Stormwater Management Systems in North Carolina, Including Projected Costs and Benefits. 2008.
7. Demonstration & Monitoring of Rainwater Harvesting/ Cistern Technology in NC. 2008.
8. Putting LID on the 'Big Box': Integrating LID Technology on a Commercial Site. 2007.
9. Monitoring of Nutrient and Sediment Loading from Construction Sites. 2005-2007.
10. NPS Pollution Control Implementation for Water Quality. 2005.
11. Horse Manure and Pasture Management Education. 2003-2005.
12. Stormwater Wetlands in Asheville. 2004-2007.
13. Asheville Low Impact Development (LID) & Stormwater BMP Demonstrations. 2004-2007.
14. Designing BMPs to Comply with Phase II Stormwater Regulations. 2003-2005.
15. Bent Creek Stream Restoration and Stormwater Best Management Practices. 2003-2006.
16. Sediment Removal Demonstration and Evaluation for Mountain Streams. 2003-2004.
17. Robeson Creek Watershed Assessment and TMDL Implementation Plan. 2002-2006.
18. Demonstration of BMPs for Restoration of Coastal Plain Stream Systems. 2002-2005.
19. Restoration of Mountain Wetlands and Upper Yadkin Training Center. 2002-2005.
20. Minimizing Water Quality Impacts of Mountain Construction Projects. 2002-2004.
21. Comprehensive NPS Pollution Control Training Center. 2001-2004.
22. French Broad River Watershed Education Training Center. 2001-2004.
23. Watauga River Streambank and Riparian BMP Demonstration. 1998-2000.
24. South Fork Mitchell River Streambank and Pasture Management. 1998-2000.
25. Upper Neuse Urban Watersheds. 1997-2000.
26. Coastal Urban and Recreation BMP Demonstration Project. 1996-1999.
27. Long Creek National Monitoring Project. 1996-2001.

319(h) Grant Funds Requested	$150,000
Match funds or in-kind Match Services	$100,000 (in-kind)
4. Total Project Cost	$250,000

5. Project Start Date	January 1, 2014	***Project End Date***	December 31, 2016

6. Project Location – REQUIREMENT: Important to submit as completely as possible, especially the Lat/Long coordinates and NC Impaired Waters List Assessment Unit Number. (NOTE: Payment of 319 Invoices will be held if all required information is not submitted in quarterly reports and the final reports, AU numbers, Lat/Long, and coordinates for all installed BMP practices)	
River Basin	Cape Fear
Watershed(s)	Robeson Creek
Watershed size	18240 acres
Impaired Waters Listed Stream	Yes **x** No
Impaired Waters List Assessment Unit Number	16-38-(3)b
HUC(s) (12 digit USGS Hydrologic Unit Codes)	03030002060030
County	Chatham
USGS. 7.5 minute topographic quadrangle map(s) in project area	Pittsboro
Position coordinates of project location	Latitude 35°43’17” ºN Longitude 79°10’50” ºW

7. NPS Pollution Sources to be addressed (Check all that apply)			
	Agriculture		Waste Disposal (includes onsite systems)
	Construction	x	Hydrologic Modification
	Silviculture		Marina and Recreational Boating
x	Urban runoff/Stormwater		Groundwater Loading
	Resource Extraction	x	Natural Sources
	Habitat Modification (drainage/filling wetlands, streambank destabilization)		Other:

8. NPS Pollutants to be addressed (check all that apply)			
x	Excess Nitrogen		Pesticides
x	Excess Phosphorus	x	Oil and grease
	Sedimentation		Temperature
	Pathogens/Bacteria	x	pH
	Metals		Alterations
	Low dissolved oxygen		Other:

9. *Estimate Load Reduction, if checked for excess nitrogen, excess phosphorus and/or sedimentation*[2]	
# pounds of nitrogen saved from project implementation	Reference:
# pounds of phosphorus saved from project implementation	Reference:
# tons of soil saved from project implementation	Reference:
Load Reduction Model Used: STEPL, Region 5, L-THIA, Other	

[2] **Providing a load reduction estimate is required for all BMP implementation projects, including demonstrations.**

10. *Do you intend for collected data to be used by DWQ for Use Support decisions?*	
no	**Explanation:** These are best management practices to capture and treat urban stormwater in an impaired watershed that is already being monitored by NC State University.

11. ***Do you propose to install BMPs or other ag management measures that would be eligible for NC Agricultural Cost Share Program (ACSP) funding? If Yes, please document that the demand for ACSP funding in your county exceeds the supply, prompting your application for a 319(h) grant.***	
Yes	No X

12. ***Does this proposal address needs that were identified in a DWQ basin plan? If yes, please identify the specific need and the basin in which the need is outlined.***	
x	**Explanation: Yes. Recommendations were to "protect streams in urbanizing areas". Cape Fear River Subbasin 03-06-04 These BMPs will treat polluted water before it reaches tributaries of Robeson Creek.**

13. Project Abstract (short concise summary of the project – DO NOT EXPAND SPACE PROVIDED)

The Robeson Creek Watershed is impaired for Total Phosphorus and Habitat Degradation. This project will implement stormwater BMPs recommended by both the 2003 TMDL implementation plan and the 2010 Robeson Creek Watershed Restoration Plan to help meet goals of reducing peak stormwater flows, Total Phosphorus (TP), Total Nitrogen (TN), total suspended solids (TSS), and improve and maintain aquatic habitat. Focus will be primarily on the Little Creek subwatershed with additional BMPs implemented in an unnamed tributary to Robeson Creek. A cluster of three bioretention areas will be installed in a parking lot in the center of downtown Pittsboro as well as an bioretention area behind the downtown buildings. An additional cistern will be placed at a downtown building adjacent to the cluster raingardens. Currently rooftop, parking lot, and street runoff from this heavily urbanized and impervious area flow directly to Little Creek, one of the most impaired Robeson Creek tributaries in the watershed. These BMPs will add to the ongoing pollution reduction efforts in this subwatershed that NCSU and the Robeson Creek Watershed Council have been implementing over the past 12 years. Additionally, two bioretention areas will be installed around Pittsboro Town Hall to capture and treat parking lot and roof runoff that currently flows to a Robeson Creek tributary.

As recommended in the restoration plan, the ongoing educational campaign of the Robeson Creek Watershed council will be continued with quarterly stakeholder meetings, tours, and informational signs at BMP locations.

14. Funding Requested										
Budget Categories (itemize all categories)	Section 319				Non-Federal Match *****				Total	Justification (Include detailed explanation for each budget line item)
	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4		
Personnel/Salary										
Fringe Benefits										
Supplies										
Equipment										
Travel										
Contractual										
Other										
Total Direct										
Indirect (max. 10% of direct costs, per 40 CFR 35.268)										
Annual Totals										
Grand Total										
% of Total Budget	%				%				100%	
*****Note: Non-Federal match must be a minimum of 40% of the total project budget										

Year 1: January 1 - June 30, 2014 (6 months) – Total MUST equal sum of quarters 1-2 in Milestone Table #18
Year 2: July 1, 2014-June 30, 2015 (12 months) – Total MUST equal sum of quarters 3-6 in Milestone Table #18
Year 3: July 1, 2015-June 30, 2016 (12 months) – Total MUST equal sum of quarters 7-10 in Milestone Table #18
Year 4: July 1 - December 31, 2016 (6 months) – Total MUST equal sum of quarters 11-12 in Milestone Table #18

15. Budget Summary (Combined federal and match funds)							
	BMP Implementation	Project Management	Education Training or Outreach	Monitoring	Technical Assistance	Other	Total
Personnel							
Fringe Benefits							
Supplies							
Equipment							
Travel							
Contractual							
Operating Costs							
Other							
Total							

16. Local and State Match (non-federal) Summary	
Total Match amount	$
Cash Match	$
In-kind Match	$
Source(s) of Cash Match	
Source(s) of In-kind Match	

17. Project Partners (may add more, if needed)[3]			
Agency Name	NC Cooperative Extension Service-NCSU		
Agency Address	Campus Box 7637 Raleigh NC 27695		
Role/contribution to Project	Design and construction oversight with technical expertise from Karen Hall, Bill Hunt, Ryan Winston, Dan Line Jean Spooner, and Jamie Blackwell		
Contact Person	Karen Hall	Phone No.	919-515-8242
E-mail address	karen_hall@ncsu.edu		
Agency Name	NC Cooperative Extension Service-Chatham County		
Agency Address	45 South Street Pittsboro NC 27312		
Role/contribution to Project	County support in implementation and education,		
Contact Person	Sam Groce	Phone No.	919-542-8202
E-mail address	Sam_groce@ncsu.edu		
Agency Name	NRCS		
Agency Address	P.O. Box 309, Pittsboro 27312		
Role/contribution to Project	County support in implementation and education		
Contact Person	Mike Sturdivant	Mike Sturdivant	Mike Sturdivant
E-mail address	mike.sturdivant@nc.usda.gov		
Agency Name	Chatham County Soil and Water Conservation District		
Agency Address	P.O. Box 309, Pittsboro 27312		
Role/contribution to Project	County support in implementation and education		
Contact Person	Brenda Williams	Phone No.	919-542-8240
E-mail address	brenda.williams@ncmail.net		

[3] A one-page Statement of Qualifications must be included in Section 3 of the application to confirm that anyone designing, installing, or monitoring the proposed project is qualified to do so. Include in the statement any past and/or ongoing 319 grant funded projects.

18. Project Milestone Schedule		
Time Period/Date	Activities (List specific quantifiable outputs or activities that will be achieved during each quarter)	Anticipated % of Requested Funding Spent[1]
First Quarter Jan-Mar 2014	TBA… complete quality assurance plan, hold stakeholder meeting; quarterly report	$-- 8.9% 8.9%
Second Quarter Apr-June 2014	TBA….. hold stakeholder meeting; quarterly report.	$-- 8.9% 17.8%
Third Quarter July-Sept 2014	TBA… hold stakeholder meeting; quarterly report	$-- 8.2% 26.0%
Fourth Quarter Oct-Dec 2014	TBA….. hold stakeholder meeting; quarterly report.	$-- 8.2% 34.2%
Fifth Quarter Jan-Mar 2015	Begin implementation of BMPs, hold stakeholder meeting; quarterly report.	$-- 8.2% 42.4%
Sixth Quarter Apr-Jun 2015	Continue implementation of BMPs, hold stakeholder meeting; quarterly report.	$-- 8.2% 50.6%
Seventh Quarter July-Sept 2015	Continue implementation of BMPs, hold stakeholder meeting; quarterly report.	$-- 8.2% 58.8%
Eighth Quarter Oct-Dec 2015	Continue implementation of BMPs, hold stakeholder meeting; quarterly report.	$-- 8.2% 67.0%
Ninth Quarter Jan-Mar 2016	TBA….. hold stakeholder meeting; hold workshop, quarterly report.	$-- 8.2% 75.2%
Tenth Quarter Apr-June 2016	TBA…, install educational signs, hold stakeholder meeting; quarterly report.	$-- 8.2% 83.4%
Eleventh Quarter[2] July-Sept 2016	TBA…., hold stakeholder meeting; quarterly report.	$-- 8.3% 91.7%
Twelfth Quarter Oct-Dec 2016	TBA…., hold stakeholder meeting; final report.	$-- 8.3% 100%

[1] Please show anticipated dollar amount, percent of grant spent that quarter, and cumulative percent of grant spent for project. Quarterly invoices will only be reimbursed up to percent indicated. Unused funds will carry forward to next quarter.

[2] 10% of grant will be held until receipt of Final Project Report

Note: Sum of funds spent in quarters 1-2 MUST equal year 1 total in Budget Table #14
Sum of funds spent in quarters 3-6 MUST equal year 2 total in Budget Table #14
Sum of funds spent in quarters 7-10 MUST equal year 3 total in Budget Table #14
Sum of funds spent in quarters 11-12 MUST equal year 4 total (min. 10% of 319 funds)

19. Background and goals of the project. Expand space, if necessary.

Background

The Robeson Creek watershed, located within the lower Haw River watershed (Cape Fear Subbasin 030604; HUC 03030002060030), lies within Chatham County and encompasses 28.6 square miles. The Robeson Creek watershed is both rural and urban and is located mostly within the Town of Pittsboro Planning District. Much of the land use is forest with pasture, cultivated crops and urban land, though the watershed is currently experiencing the beginnings of suburban housing development.

According to the Cape Fear River Basinwide Water Quality Plan (October 2005), the Robeson Creek watershed classified as water supply IV (WS-IV), Nutrient Sensitive Waters (NSW) and drains into the Haw River arm of Jordan Lake. Impaired ratings are listed for two bodies of water in the Haw River watershed: Robeson Creek and Pittsboro Lake. A TMDL for total phosphorus was developed for Robeson Creek in 2003 as a result of chlorophyll *a* violations in the Robeson Creek Cove of Jordan Lake. The TMDL calls for a 71 percent reduction from urban runoff as well as from the Pittsboro Waste Water Treatment Plant (WWTP). The NCSU Water Quality Group assisted NC DWQ by writing a TMDL Implementation Plan for Robeson Creek which was submitted in draft form to the EPA in 2003. Currently, a total of 3.3 miles of segments of Robeson Creek ([16-38-(3)a] and [16-38-(3)c]) remain on the 303(d) list for impairment of aquatic life (NC 303 (d) List, 2008 and draft 2010). Habitat degradation was cited in the basinwide plan as a result of urban runoff and nutrient enrichment from a poultry processing plant sprayfield. A TMDL for habitat degradation is pending. Segment [16-38-(5)] is part of the Robeson Creek Cove of Jordan Lake and is 303(d) listed for chlorophyll *a*.

In August 2009, the NC General Assembly enacted the Jordan Lake Nutrient Management Strategy to address a chlorophyll *a* impairment caused by high levels of nitrogen and phosphorus in the lake. One of the specific issues addressed by the rules includes reducing pollution from wastewater discharges, stormwater runoff, and agriculture and fertilizer application from new and existing development. The Robeson Creek watershed falls under the Haw River Arm of the Jordan Lake rules that requires an 8 percent reduction in nitrogen and a 5 percent reduction in phosphorus (Jordan Lake Nutrient Strategy, 2009).

Numerous water quality initiatives have taken place in the Robeson Creek Watershed since 2000. The Robeson Creek Watershed Council (RCWC), which includes members of federal, state, and local agencies as well as local businesses, landowners, and non-profit groups, meets quarterly to discuss issues in the watershed and ways to address them. The local Cooperative Extension office offers workshops on water quality topics in the watershed such as proper use of backyard fertilizer, streambank maintenance, and BMP installations such as raingardens in individual yards. The Chatham Soil and Water Conservation District is using some of its funding from the Community Assistance Programs to put in raingardens at local schools in the Robeson Creek Watershed. NCSU holds technical trainings for environmental professionals annually at BMP sites in Pittsboro. HRA actively monitors benthic macroinvertebrates in tributaries to Robeson Creek as well as holds annual stream cleanup events. The Haw River Assembly (HRA) was granted Section 319 funding for its Stream Steward Campaign in this watershed. HRA developed a stream stewardship guidebook for landowners, performed stream assessments within the watershed, surveyed local business and gave awards for good stream stewardship, and have hosted several workshops for landowner education regarding water quality. This watershed has active and dedicated stakeholders committed to improving water quality in their community.

The NCSU Water Quality Group obtained funding from the Clean Water Management Trust Fund (CWMTF) to perform a restoration feasibility study of Pittsboro Lake which is an impoundment of Robeson Creek. On-going water quality studies have indicated that Town Lake is impacted by urban and

rural nonpoint source pollution. The lake experiences algal blooms stimulated by excessive nutrient input from the watershed. DWQ sampling in 1993 identified significant macrophyte infestation problems in the lake. The study, completed in 2007, suggested six restoration alternatives with the preferred alternative being a passive stream and wetland restoration approach. NCSU was awarded a CWMTF grant in 2009 to restore Town Lake using the preferred alternative approach as approved by the Pittsboro Board of Commissioners. The wetland restoration, completed in 2012, involved conversion of the lake to a more natural ecosystem with a channel, associated wetland floodplain, and diverse native vegetative community. The wetland area also has a built-in storage component for water quality improvement purposes. NCSU is used 319 funds awarded in 2008 to address the invasive exotic vegetation infestation in the lake by employing seasonal control measures.

In 2009, NCSU was awarded a USDA National Integrated Water Quality Program grant to assist the Town of Pittsboro strengthen its stormwater ordinances, educate local youth on water quality issues in the watershed, and implement an educational raingarden for youth programs. The stormwater ordinance revisions will follow up on the riparian buffer and sub-division ordinance revisions completed in 2010 under the NCSU 2007 EPA Section 319 grant. The Town is a dedicated partner in helping facilitate water quality improvements at a policy level.

In 2010, NCSU is completed the Robeson Creek Watershed Restoration Plan based on the TMDL implementation plan, field studies, and EPA's 9-key elements for a watershed restoration plan. This plan lists BMPs installed throughout the watershed including cost, total nitrogen reduction, and total phosphorus reduction. The plan also recommends a series of nonpoint source management measures including the proposed BMPs included in this grant request.

In 2012, NCSU was awarded a Section 319 grant to implement stormwater BMPs along a tributary that flows to Little Creek. This work has commenced.

Project Objective

Through this proposed project, specific BMPs targeted at stormwater pollution will implemented at targeted locations to address nutrient impairments. Community involvement and education as well as technical guidance from the RCWC are paramount in removing this watershed from the 303(d) list, which is the ultimate objective.

The goals of this project are:

1. Implement three bioretention areas/raingardens in a parking lot adjacent to the courthouse circle (northwest quadrant) of Pittsboro within the Little Creek subwatershed to capture stormwater from the parking lot, adjacent road, and rooftops of two separate buildings in an effort to target nonpoint source TN, TP, TKN, and TSS loading, stormwater abatement, and habitat degradation.

2. Implement one bioretention area/raingarden in a parking lot behind downtown buildings of Pittsboro within the Little Creek subwatershed to capture stormwater from the parking lot, adjacent road, and rooftops of two separate buildings in an effort to target nonpoint source TN, TP, TKN, and TSS loading, stormwater abatement, and habitat degradation.

3. Implement two bioretention areas/raingardens beside two parking lots adjacent to the Town of Pittsboro Town Hall to capture stormwater from the parking lot and rooftop in an effort to target nonpoint source TN, TP, TKN, and TSS loading, stormwater abatement, and habitat degradation.

4. Install one cistern in the downtown area to capture stormwater from the rooftop in an effort to target nonpoint source TN, TP, TKN, and TSS loading, stormwater abatement, and habitat degradation.

5. Continue outreach and educational efforts regarding water quality through the Robeson Creek Watershed Council including a newsletter, a BMP tour, and educational signs.

20. A detailed description of the project. Expand space, if necessary.

The primary focus of this project will be on BMP installations to reduce total non-point phosphorus loading, address aquatic habitat degradation, and abate peak stormwater flows as recommended in the 2003 Robeson Creek TMDL Implementation Plan and the 2010 Robeson Creek Watershed Restoration Plan.

Downtown Pittsboro BMPs

The downtown area of Pittsboro, which drains to Little Creek, will be a main focus of nutrient removal. NCSU monitoring data has shown high levels of phosphorus in this creek. The Town of Pittsboro and additional landowners have been contacted and are willing to have BMPs installed. Further siting work is required and will include verification of property ownership and boundary lines, establishment of preliminary and final access and maintenance easements and Operations and Maintenance Agreements. The following is a list of proposed BMPs for this area:

Bioretentions/raingardens

A cluster of bioretention areas/raingardens will be installed between a parking lot and the existing sidewalk and buildings in the downtown area within the northwest area of the courthouse circle. This area currently has brick planter boxes, which would be removed and replaced. These BMPs will capture stormwater flow from the adjacent parking lot, roof runoff, and the parallel road. The BMP will filter pollutants prior to entry into stream channel. Re-vegetation will be included in the design.

A larger bioretention area/raingarden will be installed directly behind the downtown buildings to capture stormwater from multiple rooftops, multiple parking lots, and an adjacent road. The BMP will filter pollutants prior to entry into stream channel.

Cistern

A cistern will be added to the building on the aforementioned cluster BMP site. Reuse water will be used for landscaping and other purposes

.

Downtown Pittsboro Town Hall BMPs

The building which is Pittsboro Town Hall drains to an unnamed tributary of Robeson Creek. The Town of Pittsboro plans to have the BMPs installed. The following is a list of proposed BMPs for this area:

Bioretentions/raingardens

A bioretention area/raingarden will be installed between a parking lot and Town Hall behind the building. These BMPs will capture stormwater flow from the adjacent parking lot and roof runoff. The BMP will filter pollutants prior to entry into stream channel. A small existing retention facility will be retrofitted to cause pollutant removal and remove standing water.

A bioretention area/raingarden will be installed between a parking lot and Town Hall in front of the building. These BMPs will capture stormwater flow from the adjacent parking lot and roof runoff. The BMP will filter pollutants prior to entry into stream channel. A small existing retention facility will be retrofitted to cause pollutant removal and remove standing water.

21. Monitoring/Environmental Data Collection. Describe in the section below how project data will be used (i.e. demonstrate effectiveness of BMPs installed, calculate load reductions, data to be used for State use support purposes, etc.). If monitoring is needed to document the water quality improvement from a project, a Quality Assurance Project Plan (QAPP) will be required (reviewed and approved by DWQ). For a QAPP template, visit the 319 Program website at http://portal.ncdenr.org/web/wq/ps/nps/319program/applyfor319

These sites will demonstrate effectiveness of the BMPs installed. Monitoring will not occur on these specific BMPs. However, NCSU is currently monitoring water quality upstream and downstream along Little Creek.

22. Public Involvement

Because this is a watershed restoration, public involvement is crucial to success. Cooperation with many individual landowners and businesses is necessary not only to implement BMPs throughout the watershed, but also to disseminate information about the importance of water quality.

The Robeson Creek Watershed Council meets quarterly and brings together stakeholders from all aspects of the community and watershed. Current events, project proposals, partnership opportunities and funding proposals are discussed during these meetings. These meetings are advertised to the public through newsletters and emails.

The Town of Pittsboro will take the lead role in this grant to demonstrate a public commitment to improving water quality and to providing further public education and involvement in the Robeson Creek Watershed. The Jordan Lake Existing Development Rules are under review and consideration and may require nutrient removal from existing development. This project, along with the others previously constructed, could be used as a means to achieve certain regulatory credits for nitrogen and phosphorous removal.

BMP installation is public involvement. Site tours of BMPs will be held to educate the public on the importance of BMPs to water quality. The Town website and local media coverage will highlight projects and encourage additional public involvement in water quality issues. Interpretive educational signs will be installed at each BMP.

23. List Project Outputs and Products (All 319 funded projects are <u>required</u> to submit <u>Quarterly Progress Reports</u> and a detailed <u>Final Project Report</u>, due by the end of the contract for DWQ review and approval.)

1. Implementation of three bioretention areas/raingardens adjacent to a parking lot in the northwest quadrant of the courthouse circle.
2. Implementation of one bioretention area/raingarden in a parking lot behind downtown businesses.
3. Implementation of two bioretention areas/raingardens adjacent to parking lot at Town Hall
4. One cistern placed on a downtown building adjacent to the parking lot in the courthouse circle area
5. One BMP tour
6. Educational signs at BMPs
7. Quarterly stakeholder meetings
8. Quarterly reports
9. Final report

24. Projects Developing or Implementing a Watershed Restoration Plan must include <u>EPA's 9 Key Elements</u> for Watershed Restoration Plans. Draft Plans must be submitted to DWQ for review and approval at least *60 days before* end of the project/contract period (use additional pages if necessary).	
1	An **identification of the causes and sources** or groups of similar sources that will need to be controlled to achieve the load reductions estimated in the watershed
2	A **description of the NPS management measures** that will need to be implemented to achieve load reductions as well as to achieve other watershed goals identified in the watershed based plan
3	An **estimate of the load reductions** expected for the management measures
4	An **estimate of the amount of technical and financial assistance needed** associated costs and or sources and authorities that will be relied upon, to implement the plan
5	An **information/education component** that will be used to enhance public understanding of the project
6	A **schedule for implementing the NPS management measures** identified in this plan that is reasonably expeditious
7	A description of interim, **measurable milestones for determining whether NPS management measures** or other control actions are being implemented
8	A set of **criteria that can be used to determine whether loading reductions are being achieved** overtime and substantial progress is being made towards attaining water quality standards
9	A **monitoring component** to evaluate the effectiveness of the implementation efforts over time measured against the criteria established under item 8.

A watershed plan has already been developed for the Robeson Creek watershed.

25. References and Literature Cited