

Town of Butner

Stormwater Management Program

2015 Annual Report



In Support of the Town's NPDES Phase II MS4 Permit Application

Contents

1	Storm Sewer System Information.....	4
1.1	Population Served	4
1.2	Growth Rate	4
1.3	Jurisdictional and MS4 Service Areas.....	4
1.4	MS4 Conveyance System	4
1.5	Land Use Composition Estimates.....	4
1.6	Estimate Methodology.....	5
1.7	TMDL Identification.....	5
2	Receiving Streams.....	5
3	Existing Water Quality Programs	6
3.1	Local Programs	6
3.2	State Programs	6
4	Permitting Information	6
4.1	Responsible Party Contact List.....	6
4.2	Organizational Chart	20
4.3	Signing Official.....	20
4.4	Duly Authorized Representative	21
5	Co-Permitting Information (if applicable).....	21
5.1	Co-Permittees.....	21
5.2	Legal Agreements.....	21
5.3	Responsible Parties	21
6	Reliance on Other Government Entity.....	22
6.1	Name of Entity.....	22
6.2	Measure Implemented.....	22
6.3	Contact Information	22
6.4	Legal Agreements.....	22
7	Stormwater Management Program.....	22
7.1	Public Education and Outreach on Stormwater Impacts.....	22
7.1.1	Target Pollutants.....	22
7.1.2	Target Audiences	23
7.1.3	Outreach Program	23

7.2	Public Involvement and Participation	29
7.3	Illicit Discharge Detection and Elimination	30
7.3.1	Storm Sewer System Map.....	31
7.3.2	Regulatory Mechanism	31
7.3.3	Enforcement	31
7.3.4	Detection and Elimination	31
7.3.5	Procedures for Locating Priority Areas.....	31
7.3.6	Procedures for Tracing the Source	32
7.3.7	Procedures for Removing the Source	32
7.3.8	Procedures for IDDE Evaluation.....	32
7.3.9	IDDE Outreach.....	32
7.3.1	Staff Training.....	32
7.3.2	Evaluation	32
7.4	Construction Site Stormwater Runoff Control.....	34
7.5	Post-Construction Stormwater Management: New Development, Redevelopment....	34
7.5.1	Regulatory Mechanism	34
7.5.2	Operation and Maintenance.....	34
7.5.3	Fecal Coliform	35
7.5.4	Nutrient Sensitive Waters.....	35
7.5.5	Non-Structural BMPs	35
7.5.6	Structural BMPs	35
7.5.7	Natural Resource Protection	35
7.5.8	Open Space Protection	35
7.5.9	Tree Preservation.....	36
7.5.10	Street Design.....	36
7.5.11	Reduced Parking Requirements.....	36
7.5.12	Transportation Demand Management Alternatives	36
7.5.13	Green Infrastructure	36
7.5.14	Minimizing Stormwater from Parking Lots.....	36
7.5.15	Maintenance/Enforcement	37
7.5.16	Evaluation	37
7.6	Pollution Prevention/Good Housekeeping for Municipal Operations.....	39
7.6.1	Affected Operations.....	39

7.6.2	Training	39
7.6.3	Maintenance and Inspections.....	39
7.6.4	Vehicular Operations	40
7.6.5	Waste Disposal.....	Error! Bookmark not defined.
7.6.6	Evaluation	41

Tables

Table 1.	Land Use Composition Estimates.....	4
Table 2.	Neuse River Basin	5
Table 3	Responsible Party Contact List.....	7
Table 4.	BMPS for Public Education and Outreach.....	28
Table 5.	BMPS for Public Involvement and Participation	30
Table 6.	BMPs for Illicit Discharge Detection and Elimination	33
Table 7	BMP for Construction Site Stormwater Runoff Control.....	34
Table 8.	BMPs for Post Construction Stormwater Management	38
Table 9.	BMPs for Pollution Prevention and Good housekeeping	42

Figures

Figure 1.	Town of Butner Organizational Chart	20
-----------	---	----

1 Storm Sewer System Information

1.1 Population Served

The Town of Butner has a permanent population, according to the 2010 Census, of 7,591. The permanent population according to the 2000 Census was 5,792. In 2000 the Town was not yet incorporated. The area does not experience a significant seasonal fluctuation in population.

1.2 Growth Rate

The population growth rate is estimated to be 2.38% annually. The population grew from 4,679 in 1990 to 5,792 in 2000, based on Census figures, giving a 23.79% change over 10 years, which annualizes to 2.38%. The population grew from 5,992 in 2000 to 7,591 in 2010, based on Census figures, giving a 31.06% change of the next 10 years, which annualizes to 3.11%. The Town was incorporated in 2007 and as a part of that incorporation acquired significant new land area and population. Thus, the annualized growth rate is probably closer to the 2.38% annual estimate based on growth from 1990-2000 rather than the change shown between the 2000 to 2010 Census figures.

1.3 Jurisdictional and MS4 Service Areas

The jurisdictional area of the Town of Butner is 13.79 square miles. The MS4 service area is 13.79 square miles.

1.4 MS4 Conveyance System

The storm sewer system for which the Town is responsible primarily comprises roadside ditches along the 14.9 miles of streets that the Town maintains. Less than one mile of the Town's system is piped conveyance. Stormwater is conveyed to receiving streams mainly through ditches. The system's overall condition can be characterized as fair to good. Maintenance is performed primarily on a complaint basis, and no major problems have been identified.

1.5 Land Use Composition Estimates

The following table lists the current land use composition estimates for the Town:

Table 1 Land Use Composition Estimates

Land use Type	% of Town Area	Parcels
Commercial	2.2	116
Industrial	7.6	57
Residential	16.9	1,585
Open Space	73.2	703

1.6 Estimate Methodology

Land use classification was initially based on detailed tax assessor data. This was done by applying the following criteria to the tax data:

- residential – parcels that included at least one bedroom or bathroom and where owner information did not readily indicate that the parcel was a commercial/industrial business;
- open space – parcels that had a “building value” of zero;
- industrial – parcels that indicated an industrial land use through examination of ownership and parcel description;
- commercial – parcels identified by the tax database as “commercial” properties.

These classifications were verified in two ways. First, the land use classification for each parcel was compared against 2008 aerial imagery of the Town. Changes were made to land use classification where the imagery indicated that the initial classification was incorrect. Next, the resulting land use estimates were checked against the estimate used for the Town’s Comprehensive Plan. Note that public roads are excluded from the estimate.

1.7 TMDL Identification

There are no TMDLs for receiving waters.

2 Receiving Streams

The following receiving streams were identified in accordance with the process and criteria stipulated in the instructions for preparing the Stormwater Management Program Report. The Town falls entirely within the Neuse River basin. At the time of this report the 2014 303(d) list was still in draft form so no changes are reported.

Table 2 Neuse River Basin

Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues	303(d) List
Knap of Reeds Creek	27-4-(6)	WS_IV NSW	PS	Zinc	27-4-(6)_1998
Knap of Reeds Creek (Butner Lake)	27-4-(2)	WS-II HQW NSW CA	FS		
Ledge Creek	27-10-(0.5)	WS-II HQW NSW	FS		
Ledge Creek (Lake Rogers)	27-10-(1)	WS-II HQW NSW CA	FS		
Little Ledge Creek	27-10-3-(1)	WS-IV NSW	FS		
Picture Creek	27-4-7-(2)	WS-IV NSW	NR		
Unnamed Tributary to Knap of Reeds Creek	27-4-5-(1)	WS-II HQW NSW	FS		
Unnamed Tributary to Knap of Reeds Creek (Lighting Lake)	27-4-5-(2)	WS-II HQW NSW CA	FS		

3 Existing Water Quality Programs

3.1 Local Programs

Butner has implemented the Universal Stormwater Management Program, which encompasses compliance with NPDES Phase II rules and with the Neuse Nutrient Sensitive Waters requirements. Water Supply Watershed Protection rules are in effect for the Falls Reservoir, a WSW-IV class waterbody. Neuse buffers are also required.

3.2 State Programs

In Butner, the State erosion and sediment control program is in effect and, for local or state construction, the State stormwater program is implemented.

4 Permitting Information

4.1 Responsible Party Contact List

The following table gives the parties responsible for each of the Measurable Goals found in section 7.

Table 3 Responsible Party Contact List

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.1 BMP a)	Establish Goals and Objectives	Define the goals and objectives of the Public Education and Outreach program based upon at least three high priority community-wide issues	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP b)	Identify target pollutants and target pollutant sources	Identify the target pollutant and target pollutant sources the permittee’s public education program is designed to address and why they are an issue.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP c)	Identify target audiences	Identify the target audiences likely to have significant stormwater impacts and why they were selected. Update as needed.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP d)	Identify residential and commercial / industrial issues	Identify and describe a minimum of three residential and three industrial/commercial water quality issues such as pollutants, sources of pollutants, and impacts on water quality.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.1 BMP e)	Identify and describe watershed in need of protection and issues that threaten water quality of this watershed	Describe Butner's watershed and the issues that threaten the quality of these waters	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP f)	Informational Web Site	Promote and maintain Internet web site. Examples include, but are not limited, to: Post newsletter articles on stormwater, information on water quality, stormwater projects and activities, and ways to contact stormwater management program staff.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP g)	Develop and distribute public education materials to identified user groups. For example, schools, homeowners, and/or businesses.	Develop general stormwater educational material to appropriate target groups as likely to have a significant stormwater impact. Instead of developing its own materials, the permittee may rely on state-supplied Public Education and Outreach materials, as available, when implementing its own program.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP h)	Media Campaign	Document campaign reach and frequency to public for each broadcast media like radio and TV, (including those elements implemented locally or through a cooperative agreement).	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.1 BMP i)	Establish Hotline/Helpline	Establish and maintain a stormwater hotline/helpline.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP j)	Establish and implement public outreach program	Include at least two of required elements	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.1 BMP k)	Evaluate Program effectiveness	Assess the stormwater education and outreach program and update as necessary. Adjust materials and distribution of materials to address shortcomings identified during assessment. By the end of the permit term, assess changes in public awareness resulting from education and outreach program implementation	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.2 BMP a)	Administer a Public Involvement Program	Develop and implement a Public Involvement and Participation Program, as outlined in b) through e) below.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.2 BMP b)	Allow the public an opportunity to review and comment on the Stormwater Plan	Conduct at least one public meeting in year 2 to allow the public an opportunity to review and comment on the Stormwater Plan.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.2 BMP c)	Organize a volunteer community involvement program	Organize and implement a volunteer stormwater related program, locally or through a cooperative agreement, to promote ongoing citizen participation. An example is stream cleanups.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.2 BMP d)	Establish a mechanism for public involvement	Established mechanism for public involvement, for example, a citizens' or stakeholders' group(s) that provides input on stormwater issues and the stormwater program.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.2 BMP e)	Establish Hotline/Helpline	Maintain a stormwater hotline/helpline.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.3 BMP a)	Develop / Implement Illicit Discharge Detection and Elimination Program	Develop and implement an Illicit Discharge Detection and Elimination Program including provisions for program assessment and evaluation.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.3 BMP b)	Establish and maintain appropriate legal authorities	Establish and maintain adequate ordinances or other legal authorities to prohibit illicit discharges and enforce the approved Illicit Discharge Detection and Elimination Program.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.3 BMP c)	Develop a Storm Sewer System Base Map and Inventory of Major Outfall.	Map identifying major outfalls and stormwater drainage system components. At a minimum, components include major outfalls and receiving streams. Establish procedures to continue to identify, locate, and update map of drainage system.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.3 BMP d)	Inspection / detection and elimination program to detect dry weather flows at MS4 outfalls	Establish written procedures for detecting and tracing the sources of illicit discharges and for removing the sources or reporting the sources to the State to be properly permitted. Establish and implement tracking of investigations and document observed discharges, results of investigation, follow up, and case closure dates.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.3 BMP e)	Employee training	Implement training program for appropriate municipal staff, who, as part of their normal job responsibilities, may come into contact with or observe an illicit discharge or illicit connection to the storm sewer system. The training program shall identify appropriate staff, the schedule for conducting the training and the proper procedures for reporting and responding to an illicit discharge or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing. Document and maintain records of the training provided and the staff trained.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.3 BMP f)	Provide public education	Inform public employees, businesses, and general public of hazards associated with illegal discharges and improper disposal of waste.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.3 BMP g)	Illicit Discharge reporting mechanism	Promote, publicize, and facilitate a reporting mechanism for the public and staff to report illicit discharges and establish and implement citizen request response procedures. Conduct reactive inspections in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party to achieve and maintain compliance.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.3 BMP h)	Procedures to identify and report failed septic system	The permittee shall establish and implement, assess annually and update as necessary written procedures to identify and report to the County health department failed septic systems located within the permittee's planning jurisdiction.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.3 BMP i)	Procedures to identify and report sanitary sewer overflows	The permittee shall establish and implement, assess annually and update as necessary written procedures to identify and report sanitary sewer overflows and sewer leaks to SGWASA.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.3 BMP j)	Enforcement	The permittee shall implement a mechanism to track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.3 BMP k)	Establish and maintain spill response procedures	The permittee shall establish maintain, assess annually and update as necessary written spill/dumping response procedures.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.4 BMP a)	Promote reporting of erosion and sedimentation problems	Promote a means for the public to notify the appropriate authorities of observed erosion and sedimentation problems by promoting the existence of the NCDENR, Division of Land Resources "Stop Mud" hotline.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.5 BMP a)	Establish a Post-Construction Stormwater Management Program, including legal authorities	Develop and adopt by ordinance (or similar regulatory mechanism) a program to address stormwater runoff from new development and redevelopment. Implement and enforce the program within 24 months of the permit issue date. Annually review and revise/update as necessary.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.5 BMP b)	Establish strategies which include BMPs appropriate for the MS4	Develop strategies that include a combination of structural and/or non-structural BMPs. Provide a mechanism to require long-term operation and maintenance of structural BMPs. Require annual inspection reports of permitted structural BMPs performed by a qualified professional (i.e., someone trained and certified by NC State for BMP Inspection & Maintenance).	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.5 BMP c)	Establish nutrient sensitive waters (NSW) protection measures (for programs with development or redevelopment draining to NSW waters)	Develop, adopt, and implement an ordinance (or similar regulatory mechanism) to ensure that the best management practices reduce nutrient loading to the maximum extent practicable. Develop and include a nutrient application (fertilizer and organic nutrients) management program in the Post-Construction Stormwater Management Program. In areas where the Environmental Management Commission has approved a Nutrient Sensitive Water Urban Stormwater Management Program, the provisions of that program fulfill the nutrient loading reduction requirement.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.5 BMP d)	Plan reviews	Conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre and discharge to the MS ₄ (including sites that disturb less than one acre that are part of a larger common plan of development or sale). The site plan review shall specifically address how the project applicant meets the performance standards and how the project will ensure long-term maintenance.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.5 BMP e)	Town Code, Permitting Regulations, Easement, and/or Deed Restrictions and Protective Covenants	Ensure development activities will maintain the project consistent with approved plans.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.5 BMP f)	Operation and Maintenance Plan	Implement or require an operation and maintenance plan that ensures the adequate long-term operation of the structural BMPs required by the program. The operation and maintenance plan may require the owner of each structural BMP to submit a maintenance inspection report on each structural BMP annually to the local program.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.5 BMP g)	Setbacks for Built-upon Areas	Require built-upon areas to be located at least 30 feet landward of all perennial and intermittent surface waters except as provided for in the permittee's approved Post-Construction Stormwater Ordinance. For purposes of this section, a surface water shall be present if the feature is shown on either the most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture or the most recent version of the 1:24,000 scale (7.5	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
		minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS). Relief from this requirement may be allowed when surface waters are not present in accordance with the provisions of 15A NCAC 02B .0233(3)(a).				
7.5 BMP h)	Inventory of projects with post-construction structural stormwater control measures	Maintain an inventory of projects with post-construction structural stormwater control measures installed and implemented at new development and redeveloped sites, including both public and private sector sites located within the permittee's jurisdiction area that are covered by its post-construction ordinance requirements.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.5 BMP i)	Inspections of stormwater control measures	Conduct and document inspections of each project site covered under performance standards, at least one time during the permit term. Before issuing a certificate of occupancy, the permittee shall conduct a post-construction inspection to verify the permittee's performance standards have been met. The permittee shall document and maintain records of inspection findings and enforcement actions and make them available for review by the	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
		permitting authority.				
7.5 BMP j)	Educational materials and training for developers	Make available through paper or electronic means, ordinances, post-construction requirements, design standards checklist, and other materials appropriate for developers. New materials may be developed by the permittee, or the permittee may use materials adopted from other programs and adapted to the permittee's new development and redevelopment program.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.5 BMP k)	Enforcement	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.6 BMP a)	Establish Pollution Prevention and Good Housekeeping for Municipal Operations Program	Develop an operation and maintenance program for structural stormwater BMPs and for municipal operations including vehicle maintenance, stormwater system maintenance, parking lot maintenance, parks and open space maintenance, inspections to reduce floatables and pollutants, municipal construction, and waste disposal. The program will include standard operating procedures, activities, and schedules, structural BMPs as applicable and training as described in (b) below.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org

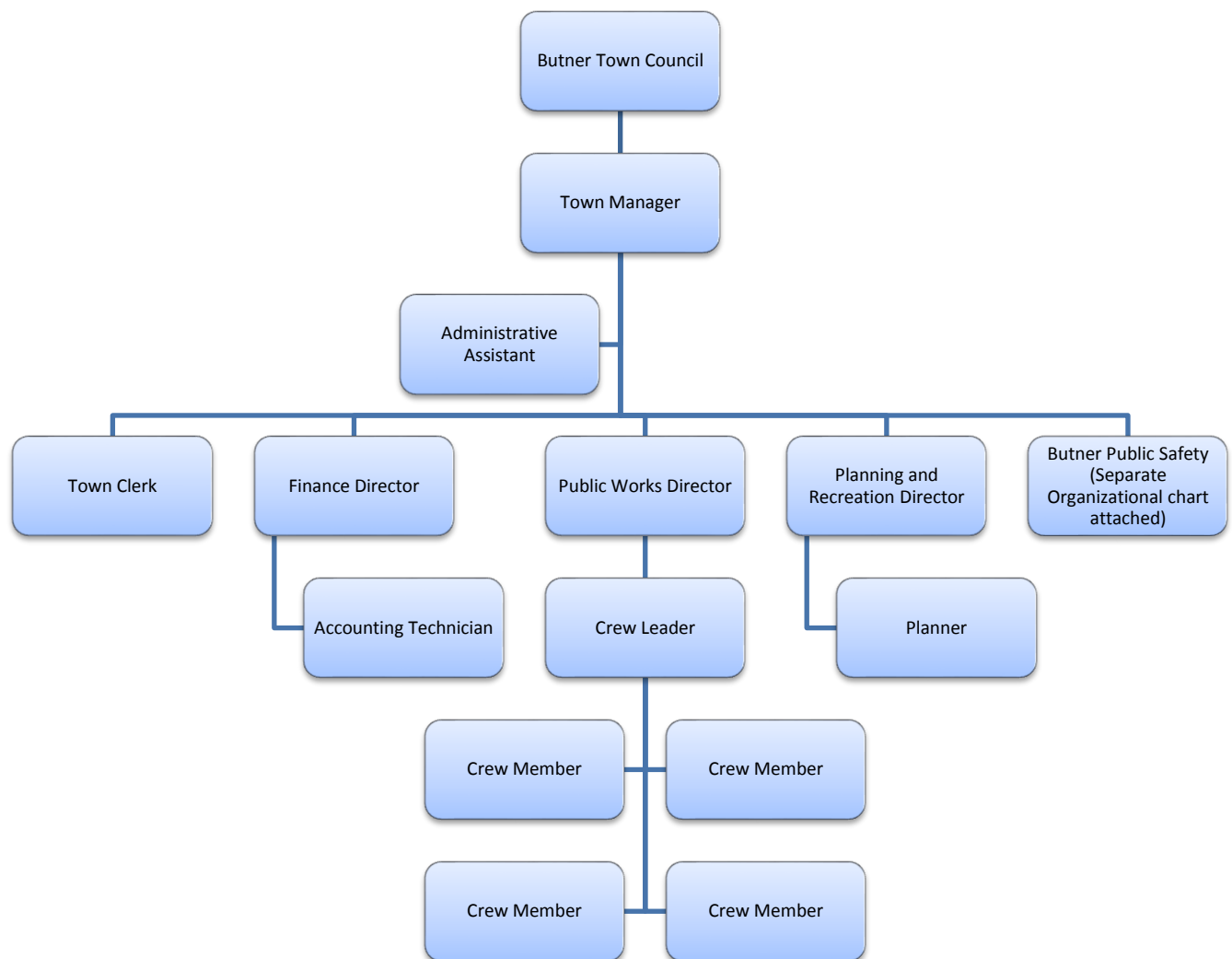
Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
7.6 BMP b)	Conduct staff training	Conduct staff training on pollution prevention and good housekeeping practices, including general information on stormwater pollution prevention and general information on illicit discharge detection and elimination, to aid staff in educating the public and answering public inquiries.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.6 BMP c)	Inventory and map municipally-owned facilities and structural controls	Identify and map municipally-owned or operated facilities and structural controls. The map shall identify the stormwater outfalls corresponding to each of the facilities and structural controls and the receiving waters to which these facilities and structural controls discharge. The map shall be maintained and updated regularly and be available for review by the permitting authority	Melissa Hodges	Planning and Recreation Director	ph: (919) 575-3031 fax: (919) 575 3034	mhodges@butnenc.org
7.6 BMP d)	Pesticide, Herbicide and Fertilizer Application Management	Ensure municipal employees and contractors are properly trained with required permits and certifications. Establish written procedures for proper application.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.6 BMP e)	Prevent or Minimize Contamination of Stormwater Runoff from all areas used for vehicle and equipment	The Town shall describe measures that prevent or minimize contamination of the stormwater runoff from all areas used for vehicle and equipment cleaning.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org

Application Section	BMP	Measurable Goals	Responsible Party	Position	Phone and Fax Numbers	Email
	cleaning					
7.6 BMP f)	Review municipal operations for pollution prevention and good housekeeping.	Review municipal operation and maintenance program. Document areas of compliance and any deficiencies as well as subsequent follow-up actions to correct deficiencies.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.6 BMP g)	Streets, roads, and public parking lots maintenance	Evaluate BMPs to reduce polluted stormwater runoff from municipally-owned streets, roads, and public parking lots within the Town. Street sweeping and seasonal leaf pick-up will be included in this evaluation. Select appropriate BMPs for the Town.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org
7.6 BMP h)	Streets, roads, and public parking lots maintenance	Implement BMPs selected to reduce polluted stormwater runoff from municipally-owned streets, roads, and public parking lots within the Town.	Reid Daniel	Public Works Director	ph: (919) 575-3368 fax: (919) 575 3034	rdaniel@butnenc.org

4.2 Organizational Chart

The following figure shows the organizational structure for the Town of Butner

Figure 1 Town of Butner Organizational Chart



4.3 Signing Official

This document is signed by Tommy Marrow, Town Manager for the Town of Butner. Mr. Marrow was chosen because he is the principal executive officer for the Town and has oversight of all functions related to stormwater.

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature	
Name	Tommy Marrow
Title	Town Manager
Street Address	415 Central Avenue
PO Box	
City	Butner
State	NC
Zip	27509
Telephone	(919) 575-3032
Fax	(919) 575-3034
E-Mail	tmarrow@butnenc.org

4.4 Duly Authorized Representative

This section is not applicable.

5 Co-Permitting Information (if applicable)

The Town is not co-permitting with any other entity. The Town is responsible for the development and implementation of its Phase II stormwater program within its jurisdictional area.

5.1 Co-Permittees

This section is not applicable.

5.2 Legal Agreements

This section is not applicable.

5.3 Responsible Parties

This section is not applicable.

6 Reliance on Other Government Entity

The Town's erosion prevention and sedimentation control is managed by the state's Erosion and Sedimentation Program under the North Carolina Sedimentation Pollution Control Act of 1973.

6.1 Name of Entity

North Carolina Division of Land Resources and Division of Water Resources administer and enforce construction permits.

6.2 Measure Implemented

Construction Site Stormwater Runoff Control

6.3 Contact Information

Gabi Jones NCDENR Raleigh Regional Office, 3800 Barrett Drive Raleigh, NC 27609, phone (919) 791-4200, fax (919) 571-4718, gabi.jones@ncdenr.gov

6.4 Legal Agreements

This section is not applicable.

7 Stormwater Management Program

7.1 Public Education and Outreach on Stormwater Impacts

7.1.1 Target Pollutants

The target pollutants for the Town of Butner are nitrogen, phosphorus, and sediment. Nitrogen and phosphorus are targets for the Town because stormwater runoff in Butner eventually drains to Falls Lake, a drinking water source for the City of Raleigh. The State Division of Water Quality has listed Falls Lake on the Clean Water Act 303(d) list of impaired waters due to chlorophyll-a, a measure of the algal productivity, which is an indicator of nutrient loading. The Falls Water Supply Nutrient Strategy rules (15A NCAC 02B .0275) require Butner to reduce its nitrogen loading to Falls Lake by 40% and phosphorus loading by 77% from a 2006 baseline condition. The goal of these reductions is to improve water quality in the watershed as a whole and to improve water quality in Falls Lake.

Sediment is the number one water pollutant, by volume, in North Carolina. Sediment degrades the quality of water for drinking, wildlife, plants, and land by carrying attached pollutants into receiving waters, increasing the turbidity of waters, affecting the habitats of aquatic life, and disrupting the natural hydrology of landscapes, among other effects. Runoff from construction sites has a particularly high concentration of sediment, thus construction site runoff within the Town is of concern.

7.1.2 Target Audiences

The target audiences for nutrients are the general public, property owners, developers, and construction site operators. Residential property owners will be educated on lawn maintenance encouraging leaf mulching, keeping leaf litter and grass clippings out of ditches, streams and stream buffers and best practices for car washing. Commercial property owners and managers will be educated on dumpster and dumpster enclosure maintenance and the impact that has on water quality. Education on the effects of fertilizers, pesticides and herbicides and keeping grass clippings off the streets and sidewalks used to encourage homeowners and property managers to use these products according to package instructions and to limit their use. The public will also be encouraged to limit energy consumption and vehicle use and will be advised of benefits of servicing and maintaining their on-site wastewater systems.

In response to the Falls rules, the general public, property owners, developers and construction site operators will also be targeted. In addition to providing education about the requirements of the new rules and the effects of excess nutrients on water quality, the Town will provide education about how nutrient load reductions will be accomplished. The specifics of the Town's load reduction program for existing development are yet to be determined, but could include physical changes to developed sites, such as removing impervious surfaces or constructing bioretention areas. Property owners and the general public will be informed of the need for such measures. Developers and construction site operators will face new requirements for new developments, such as meeting nitrogen and phosphorus loading requirements, and they will need information about why the new requirements exist and how they can meet those requirements.

Because of their relationships to erosion and sedimentation control, the target audiences for sediment are construction site operators, construction workers, and the general public. Construction site operators and construction workers have opportunities to alter erosion prevention and sediment control practices on their sites, which may lead to a reduction in, or elimination of, sediment releases. The general public may notice releases of sediment and notify the Town by calling a hotline. Providing education to the public and to young people, specifically, on the effects of sedimentation on water quality may increase awareness of the need to protect habitats by preventing sediment contamination.

7.1.3 Outreach Program

The Town's outreach program informs the target audiences about stormwater through a number of mechanisms, including a website, a stormwater hotline, a bill insert to water customers, a brochure for construction workers and construction site operators, a workshop for developers and construction site operators, public meetings, and community events. Using a variety of these mechanisms, the Town will attempt to target all Butner residents through the course of the permit term. The Town also joined the Clean Water Education Partnership (CWEP) in 2010 for their outreach and education work in this area of the state.

Measurable Goal

Develop a stormwater page on the Town website, with information about stormwater in general, stormwater pollution, and ways that individuals can prevent stormwater pollution, information about the Falls Water Supply Nutrient Strategy and contact/hotline information for the Town.

Accomplishments

A stormwater page has been added to the Town website. Currently the page focuses primarily on the Town's stormwater utility with FAQ's and explanation of recent changes in stormwater regulations. The site also advertises the town stormwater hotline. Going forward this site will be updated to include images that better explain how to reduce pollutants in stormwater, links to electronic copies of brochures, a stormwater newsletter and other helpful information.

Measurable Goal

A stormwater hotline will be created for the public to inform staff about stormwater pollution issues.

Accomplishments

The Town's main phone number has been designated as a stormwater hotline that is an advertised phone number on the Town website that the public can use to inform Town staff about stormwater pollution issues.

Measurable Goal

Develop educational material or modify/utilize existing materials from other agencies. Distribute educational materials, and place informational flyers at Town Hall and the Granville County South Branch library.

Accomplishments

The Town is a member of the Clean Water Education Partnership and distributes their educational materials at Town Hall. For this year a stream buffer post card, General CWEP information brochure, and an English and Spanish litter brochure were available in the lobby of Town Hall. Of those available, 2 stream buffer post cards, 5 CWEP brochures, 7 Litter brochures in English and 2 litter brochures in Spanish were taken. General stormwater education and outreach will be provided through the partnership.

Measurable Goal

The Town will develop a bill insert to provide information to the general public about stormwater. The insert will describe the Falls rules for citizens, the impact individuals can have on stormwater pollution, and ways citizens can become involved in stormwater programs. The Town will work with the South Granville Water and Sewer Authority to distribute this bill insert to water customers.

Accomplishments

Town staff designed a bill insert about litter and its impact on stormwater that was distributed to all customers of South Granville Water and Sewer Authority in their water bill. Town staff plans to continue to create one bill insert annually to educate homeowners about a specific

stormwater related issue such as low impact lawn care. This insert is distributed to all the water and sewer customers for South Granville Water and Sewer Authority, x,xxx customers in total all living in southern Granville County.

Measurable Goal

The Town will develop two brochures: one directed at developers, construction workers, and construction site operators and one directed at the general public. Each brochure will provide information about the Falls rules and stormwater pollution. In addition, the brochure for developers and construction workers will discuss how requirements have changed for new development.

Accomplishments

This goal has not been accomplished yet. The Town has made a handout about stormwater with frequently asked questions regarding the stormwater utility and fees available at Town Hall.

Measurable Goal

Periodically, Town Council meetings and Town Council workshops will be held in which stormwater is discussed for at least a portion of the meeting. These meetings are open to the public and are advertised as required by public notice requirements.

Accomplishments

At their March 2014 public meeting, the Town Council reviewed and approved updates to the Stormwater Management Program. The program was included in the agenda packet, was available to the public upon request and the public had opportunity to ask questions or make comments during the meeting. No special advertising was required. Town Council meetings include an agenda available in advance on the Town website and are advertised as required by public notice requirements. There was also an update from staff about stormwater activities.

At their December 2015 meeting Town Council is considering a text amendment about nonstormwater discharges. Discussion about stormwater regulations and the NPDES permit will be part of that public hearing.

Measurable Goal

The Town will periodically organize and/or participate in community events relevant to stormwater or water quality, such as stream cleanups. Volunteers will be encouraged to participate.

Accomplishments

The Town has purchased an enviroscape to use at public events to educate kids about stormwater. Town staff set up a booth and distributed educational materials at the annual Chicken Pickin' festival held on June 6, 2015. At this event staff spoke to and answered questions from 8 adults, 3 children, demonstrated stormwater with the new enviroscape to 13 kids and 10 adults, and had 18 additional people stop just to look at the information. Materials

and brochures created by CWEP and the Piedmont Triad Water Quality Partnership (PTWQ) were also available. The following items were handed out:

CWEP Litter brochure (English)	0
CWEP Litter brochure (Spanish)	0
CWEP General information	1
PTWQ Coloring sheet	2
CWEP Grease caps (English)	15
CWEP Grease caps (Spanish)	11
CWEP Magnets about motor oil (Spanish)	11
CWEP Litter bags	12
CWEP Litter tattoo	5
CWEP Litter sticker	7
CWEP stream buffer post card	1

Measurable Goal

Town staff will work with Granville County Schools recycling and sustainability coordinator Teresa Baker to find ways to educate students at Butner-Stem Elementary School and Butner-Creedmoor Middle School about stormwater. Town staff will also look for opportunities to work with Falls Lake Academy and the Early College High School for ways to educate students about stormwater.

Accomplishments

A possible avenue is to take the Enviroscope watershed model to the local schools for them and present it to students to help them to understand what stormwater is and how we need to protect water quality. This must be done with small groups of students so coordination with the schools is necessary.

Measurable Goal

Participate in the Clean Water Education Partnership (CWEP) for media campaigns to educate the general public about stormwater and ways to keep rivers, streams and lakes clean. CWEP is a cooperative effort between local governments, state agencies, and nonprofit organizations to protect water quality in the Tar-Pamlico, Neuse, and Cape Fear River Basins. CWEP conducts education and outreach programs geared toward reducing stormwater runoff pollution and clean water. CWEP's programs include mass media campaigns such as television, radio, internet, and printed materials.

Accomplishments

Butner joined CWEP in 2010. As a member the Town paid \$2,316 toward the costs of the programs for the 2014-2015 fiscal year. Town of Butner staff participates in CWEP steering

committee meetings to contribute in making decisions about future programs to include the needs of the Butner area.

For the 2014-2015 fiscal year CWEP's television outreach for the Triangle Area, which includes Butner, there were 360 spots run with 2,100,113 total impressions or number of times the spot was seen. It is estimated that of those 2,100,113 impressions, 13,270 of those were in Butner. In the same year there CWEP also had two Cinema Pre-Show ads that ran in movie theaters near Butner. There are not any movie theaters in Granville County so there is no way to determine how many Butner area residents viewed those ads. CWEP also has an informative website, to which Butner's stormwater page provides a link. CWEP also has an enviroscape and has a booth about stormwater at local events such as the Eno River Festival.

7.1.4 Evaluation

The Town's Public Education and Outreach Program reached

Table 4 BMPS for Public Education and Outreach

BMP		Measurable Goals	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
a)	Establish Goals and Objectives	Define the goals and objectives of the Public Education and Outreach program based upon at least three high priority community wide issues	X				
b)	Identify target pollutants and target pollutant sources	Identify the target pollutant and target pollutant sources the permittee's public education program is designed to address and why they are an issue.	X				
c)	Identify target audiences	Identify the target audiences likely to have significant stormwater impacts and why they were selected. Update as needed.	X	X	X	X	X
d)	Identify residential and commercial/industrial issues	Identify and describe a minimum of three residential and three industrial/commercial water quality issues such as pollutants, sources of pollutants, and impacts on water quality.	X				
e)	Identify and describe watershed in need of protection and issues that threaten water quality of this watershed	Describe Butner's watershed and the issues that threaten the quality of these waters	X				
f)	Informational Web Site	Promote and maintain Internet web site. Examples include, but are not limited, to: Post newsletter articles on stormwater, information on water quality, stormwater projects and activities, and ways to contact stormwater management program staff.	X				
g)	Develop and distribute public education materials to identified user groups. For example, schools, homeowners, and/or businesses.	Develop general stormwater educational material to appropriate target groups as likely to have a significant stormwater impact. Instead of developing its own materials, the permittee may rely on state-supplied Public Education and Outreach materials, as available, when implementing its own program.		X			
h)	Media Campaign	Document campaign reach and frequency to public for each broadcast media like radio and TV, (including those elements implemented locally or through a cooperative agreement).				X	
i)	Establish Hotline/Help line	Establish and maintain a stormwater hotline/helpline.			X		
j)	Establish and Implement a Public Education and Outreach Program	The permittee's outreach program, including those elements implemented locally or through a cooperative agreement, including two of the following: Newspaper articles, press releases, and/or inserts Kiosks and signage Targeted direct mail Displays at the point-of-purchase Utility bill inserts	X	X	X	X	X
		The permittee's outreach program, including those elements implemented locally or through a cooperative agreement, must include at least two of the following: Public meetings Community events Contest Storm drain marking Stream and Litter cleanups Group presentation and/or speeches					
		The permittee's outreach program, including those elements News coverage Workshops and classroom outreach Distributing promotional giveaways and specialty items Brochures, displays, signs, welcome packets, and pamphlets Local cable access Newsletters					
		For each media, event or activity, including those elements implemented locally or through a cooperative agreement, measure and record the extent of exposure.					
k)	Evaluate Program effectiveness	Assess the stormwater education and outreach program and update as necessary. Adjust materials and distribution of materials to address shortcomings identified during assessment. By the end of the permit term, assess changes in public awareness resulting from education and outreach program implementation		X	X		X

7.2 Public Involvement and Participation

In the third year the Town began implementation of the public involvement and participation goals, except for the Clean Water Education Partnership. The Town joined CWEP in 2010 and continues to participate financially and in setting goals for that organization and disseminating their educational materials.

Measurable Goal

The Town will initiate a citizen's stormwater advisory committee to provide input on stormwater issues and the Town's policies for stormwater management. The public will be welcome to attend any of the stormwater advisory committee. However the Town will also conduct at least one meeting annually expressly for the public to allow attendees to discuss and ask questions about the stormwater program plan. Attendees will be invited to ask questions or make comments about stormwater and the Town's policies for stormwater management. Citizens will be invited to participate in stormwater program development and implementation by providing comments at the public meeting or calling or emailing Melissa Hodges with feedback. The plan will be posted on the Town's website with links to an email address for providing feedback. The plan will be advertised on the Town's website.

Accomplishments

Seven members were appointed to the Stormwater Advisory Committee. The Committee met on January 12, 2015 and October 6, 2015.

Measurable Goal

Town staff will attend at least 1 meeting of local groups to make presentations related to the stormwater program, accept and address comments on the program, and invite volunteer participation.

Accomplishments

Town staff will make presentations related to the stormwater program to the Exchange Club and Rotary Club.

Measurable Goal

The Town will initiate at least one stormwater volunteer program event. Volunteers will be invited to assist Town staff in performing stream monitoring, and a stream cleanup, or roadside trash pick up events.

Accomplishments

The Stormwater Advisory Committee will give recommendations on what type of activity is most needed and/or most likely to get citizen participation. Once the activity is chosen the event will be planned for year four of the permit.

Measurable Goal

The Town will periodically organize and/or participate in community events relevant to stormwater or water quality, such as stream cleanups. Volunteers will be encouraged to participate.

Accomplishments

Town staff set up a booth and distributed educational materials at the annual Chicken Pickin’ festival held on June 6, 2015. At this event staff spoke to and answered questions from 8 adults, 3 children, demonstrated stormwater with the new enviroscape to 13 kids and 10 adults, and had 18 additional people stop just to look at the information. Materials and brochures created by CWEP and the Piedmont Triad Water Quality Partnership (PTWQ) were also available. The following items were handed out:

CWEP Litter brochure (English)	0
CWEP Litter brochure (Spanish)	0
CWEP General information	1
PTWQ Coloring sheet	2
CWEP Grease caps (English)	15
CWEP Grease caps (Spanish)	11
CWEP Magnets about motor oil (Spanish)	11
CWEP Litter bags	12
CWEP Litter tattoo	5
CWEP Litter sticker	7
CWEP stream buffer post card	1

Evaluation

The public involvement and participation program will be evaluated based on the number of participants and their exposure to public involvement and participation programs. Ideally, this number will increase from year to year.

Table 5 BMPS for Public Involvement and Participation

	BMP	Measurable Goals	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
a)	Administer a Public Involvement Program	Develop and implement a Public Involvement and Participation Program, as outlined in b) through e) below.	X	X			
b)	Allow the public an opportunity to review and comment on the Stormwater Plan	Conduct at least one public meeting in year 2 to allow the public an opportunity to review and comment on the Stormwater Plan.		X			
c)	Organize a volunteer community involvement program	Organize and implement a volunteer stormwater related program, locally or through a cooperative agreement, to promote ongoing citizen participation. Examples include stream cleanups.					
d)	Establish a mechanism for public involvement	Established mechanism for public involvement, for example, a citizens’ or stakeholders’ group(s) that provide input on stormwater issues and the stormwater program	X				
e)	Establish Hotline/Help line	Maintain a stormwater hotline/helpline.			X		

7.3 Illicit Discharge Detection and Elimination

The items in this section are not required in year one of the permit, so Town staff is still planning and working on these BMP’s.

7.3.1 Storm Sewer System Map

The Town will create a storm sewer system map marking the major outfall locations and the names and locations of receiving waters. The map will be added to the Town's existing GIS database. Data on receiving waters has already been obtained through NCOneMap and will be updated periodically. The storm sewer system map data will be collected in the field using handheld GPS or GPS-enabled laptops.

7.3.2 Regulatory Mechanism

The Butner Town Council will consider an ordinance that addresses illicit discharges at their December 3, 2015 meeting. The Planning Board unanimously recommended approval of this ordinance and it is expected to be adopted by Town Council. Currently, the Town is able to achieve elimination of some illegal discharges through cooperation with South Granville Water and Sewer Authority. Discharges that are identified through complaints or through the Authority's regular inspections programs can be eliminated through the Authority, as it already regulates illicit discharges related to the potable water and wastewater system.

7.3.3 Enforcement

The Town has not enforced actions related to illicit discharges in the past because there was no regulatory mechanism in place. Enforcement related to illicit discharges from the potable water system and wastewater system serving the Town will be enforced as a zoning issue according to the Land Development Ordinance, because illicit discharges are part of the Land Development Ordinance. Zoning issues are enforced according to Article 4 of the Butner Land Development Ordinance, including an official Notice of Violation (NOV) that notifies the property owner of the illicit discharge and outlines a timeline for eliminating the illicit discharge and potential penalties if it is not eliminated in that timeframe. Town staff will follow up with another inspection and take action as needed.

7.3.4 Detection and Elimination

The Town established written procedures for detecting and tracing the sources of illicit discharges and for removing the sources or reporting the sources to the State to be properly permitted this year. Staff was trained this year on how to detect illicit discharges through regular surveillance of outfalls. A dry weather screening to check for illicit discharges is being planned. Additionally, an illicit discharge record will be initiated when citizens, police, or Town staff calls to report a suspicious looking spill. A member of the Public Works staff will follow up on the call in accordance with written procedures. Procedures to identify and report failed septic systems and sanitary sewer overflows will also be developed during the permit term.

7.3.5 Procedures for Locating Priority Areas

In the course of staff's regular surveillance of outfalls, staff members will look for outfalls and illegal connections that they have not seen previously, and trace them to their sources. In addition, staff will prioritize older subdivisions for inspections.

7.3.6 Procedures for Tracing the Source

To remove the source of an illicit discharge, the staff member will notify the suspected discharger via the NOV process developed indicated in section 7.3.3.

7.3.7 Procedures for Removing the Source

To remove the source of an illicit discharge, the staff member will notify the suspected discharger via the NOV process developed indicated in section 7.3.3.

7.3.8 Procedures for IDDE Evaluation

In the future, staff plans to collect location data on suspected, identified and/or eliminated illicit discharges using parcel addressing and a Global Positioning System (GPS) device. The data will be kept on the Town's GIS database and examined periodically. This will allow staff to identify any patterns that may be occurring.

7.3.9 IDDE Outreach

The stormwater hotline will be the primary method used by the Town for the receipt of illicit discharge complaints. The hotline will advertised on the Town website and in the water bill insert described in section 7.1.3. Other mechanisms through which the Town can receive illicit discharge information from citizens include the Town's general information number or email to the appropriate Public Works staff.

Public Works staff members will attempt to respond to non-anonymous citizen complaints with one-on-one contact (call, meeting, email, etc.) with the complainant. This is recognized as an opportunity to both gather further information about the suspected discharge, and to educate the complainant about illicit discharge detection and elimination.

The hazards of illicit discharges and illegal waste disposal will be addressed in both brochures the Town develops as part of its Public Outreach program and on the Town's stormwater website.

7.3.1 Staff Training

The Planning and Recreation and Public Works staff have been trained in the identification of and response to illicit discharges.

7.3.2 Evaluation

The illicit discharge detection and elimination program will be evaluated by the number of illicit discharges and the number of repeated illicit discharges found at the same location.

Table 6 BMPs for Illicit Discharge Detection and Elimination

	BMP	Measurable Goals	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
a)	Develop/Implement Illicit Discharge Detection and Elimination Program	Develop and implement an Illicit Discharge Detection and Elimination Program including provisions for program assessment and evaluation.			X	X	X
b)	Establish and maintain appropriate legal authorities	Establish and maintain adequate ordinances or other legal authorities to prohibit illicit discharges and enforce the approved Illicit Discharge Detection and Elimination Program.			X		
c)	Develop a Storm Sewer System Base Map and Inventory of Major Outfalls.	Map identifying major outfalls and stormwater drainage system components. At a minimum, components include major outfalls and receiving streams. Establish procedures to continue to identify, locate, and update map of drainage system.				X	
d)	Inspection/detection and elimination program to detect dry weather flows at MS4 outfalls	Establish written procedures for detecting and tracing the sources of illicit discharges and for removing the sources or reporting the sources to the State to be properly permitted. Establish and implement tracking of investigations and document observed discharges, results of investigation, follow up, and case closure dates.					X
e)	Employee training	Implement training program for appropriate municipal staff, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system. The training program shall identify appropriate staff, the schedule for conducting the training and the proper procedures for reporting and responding to an illicit discharge or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing. Document and maintain records of the training provided and the staff trained.			X		
f)	Provide public education	Inform public employees, businesses, and general public of hazards associated with illegal discharges and improper disposal of waste.				X	
g)	Illicit Discharge reporting mechanism	Promote, publicize, and facilitate a reporting mechanism for the public and staff to report illicit discharges and establish and implement citizen request response procedures. Conduct reactive inspections in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party to achieve and maintain compliance.			X		
h)	Procedures to identify and report failed septic system	The permittee shall establish and implement, assess annually and update as necessary written procedures to identify and report to the County health department failed septic systems located within the permittee's planning jurisdiction.					X
i)	Procedures to identify and report sanitary sewer overflows	The permittee shall establish and implement, assess annually and update as necessary written procedures to identify and report sanitary sewer overflows and sewer leaks to SGWASA.					X
j)	Enforcement	The permittee shall implement a mechanism to track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.			X		
k)	Establish and maintain spill response procedures	The permittee shall establish maintain, assess annually and update as necessary written spill/dumping response procedures.					X

7.4 Construction Site Stormwater Runoff Control

The Town’s erosion prevention and sedimentation control is managed by the state’s Erosion and Sedimentation Program under the North Carolina Sedimentation Pollution Control Act of 1973. Requirements for erosion and sediment controls are codified in 15A NCAC Chapter 4. The State also provides the North Carolina Erosion and Sediment Control Planning and Design annual, which offers details and procedures for developing site-specific erosion and sedimentation control plans in accordance with the Sedimentation Pollution Control Act and the administrative rules.

The Town has added information on its website for the public to notify the appropriate authorities of observed erosion and sedimentation problems by promoting the existence of the NCDENR, Division of Land Resources “Stop Mud” hotline. The hotline will be promoted via the Town’s public education program activities described in the Public Education and Outreach section.

Table 7 BMP for Construction Site Stormwater Runoff Control

BMP		Measurable Goals	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
a)	Promote reporting of erosion and sedimentation problems	Promote a means for the public to notify the appropriate authorities of observed erosion and sedimentation problems by promoting the existence of the NCDENR, Division of Land Resources “Stop Mud” hotline.		X			

7.5 Post-Construction Stormwater Management: New Development, Redevelopment

The Town has adopted North Carolina’s Universal Stormwater Management Program (USMP). As such, the Town has adopted the USMP requirements for stormwater design. As such, the Town adopted the USMP requirements for stormwater design in 2008 and updated our stormwater requirements in May of 2012 to include the Falls Nutrient Management Strategy requirements.

7.5.1 Regulatory Mechanism

The Town’s Land Development Ordinance is in compliance with the USMP. The Town’s Design Manual provides policy, criteria and technical specifications and standards for stormwater permits and the design, implementation and performance of post-construction management structural and non-structural controls.

7.5.2 Operation and Maintenance

The Town’s Land Development Ordinance requires that each structural BMP be maintained and operated so as “to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which the structural BMP was designed” The person responsible for maintenance of the BMP must submit an annual inspection report to the Town. This inspection report is completed by a professional engineer, surveyor, landscape architect, soil scientist, aquatic biologist, or person certified by the North Carolina Cooperative Extension Service for stormwater treatment practice inspection and maintenance. Prior to issuing a permit for development or redevelopment that requires a structural BMP, the applicant or owner must execute an operation and maintenance agreement that is binding on

all subsequent owners of the site. This requires the owner to maintain, repair and, if necessary, reconstruct the BMP and states maintenance terms and a schedule.

7.5.3 Fecal Coliform

The Town will coordinate with the Granville-Vance District Health Department to control known sources of fecal coliform to the maximum extent practicable. Onsite wastewater systems are permitted by the Granville-Vance District Health Department based on site evaluations performed by the Health Department, which also investigates complaints regarding malfunctioning onsite wastewater systems. If the Health Department finds a problem, recommendations are made for corrective action.

7.5.4 Nutrient Sensitive Waters

The Town's participation in the USMP and stormwater management and water quality protection promulgated in the Falls Nutrient Management Strategy (Rules 15A NCAC 02B .0275, .0276, .0277, .0278, and .0282) effectively meets the Post Construction Stormwater Runoff control requirements within the Falls Lake Watershed.

7.5.5 Non-Structural BMPs

As part of the USMP program, the Town has a setback requirement that prohibits new impervious surfaces within 30 feet of all perennial and intermittent surface waters. No new impervious or partially pervious surfaces, except for roads, paths and water dependent structures, are allowed in the floodplain. The Town is in the process of updating the Land Development Ordinance to prohibit any land disturbing activity within 50 feet of all perennial and intermittent surface waters.

In addition, the Town's Land Development Ordinance requires that planned unit developments (PUDs) preserve environmentally sensitive areas, including all wetlands, steep slopes, and floodways, as open space. A minimum of 20% of the gross area of a PUD must be open space, and no more than 50% of the dedicated open space can be used for active recreation purposes.

7.5.6 Structural BMPs

The Town requires structural BMPs for stormwater treatment in accordance with the adopted USMP and Falls Rules. In year two of the permit period there were four BMPs that were completed and certified, and two BMP's under construction with a third being reconstructed to correct failure to drain appropriately.

7.5.7 Natural Resource Protection

As described in the previous section, the Town has a setback requirement that prohibits new impervious surfaces within 30 feet of all perennial and intermittent surface waters. No new impervious or partially pervious surfaces, except for roads, paths and water dependent structures, are allowed in the floodplain.

7.5.8 Open Space Protection

The Town has not implemented open space protection.

7.5.9 Tree Preservation

Article 11 of the Town’s Land Development Ordinance provides incentives for developers to preserve and protect existing mature trees in conjunction with new development. Developers receive credit of 1.5 times the number of preserved trees to be used towards the tree planting requirements for landscaping and buffering for each tree preserved and protected in accordance with the standards of the article. Approved tree preservation credits may be applied to the tree planting requirements for streetyard landscaping, motor vehicle use area landscaping, street trees, or perimeter buffers. However, tree preservation credits cannot be used to offset more than 50% of the required number of trees in the area to which they are applied.

Street trees are required to be planted on both sides of new public or private streets established through the major subdivision process. These trees must have a minimum mature height of 20 feet and must be a minimum of eight feet high and two inches in diameter (at six inches above the ground) at the time of planting.

The Town’s Land Development Ordinance allows for Mixed Residential Districts, which are a combination of residential development and “complimentary public and institutional uses which would not detract from the residential character of the district.”

7.5.10 Street Design

The Town’s Land Development Ordinance requires streets to be built to North Carolina Department of Transportation standards. The Town has not adopted green infrastructure street design elements to date.

7.5.11 Reduced Parking Requirements

The Town has not implemented these elements to date.

7.5.12 Transportation Demand Management Alternatives

The Town has not implemented Transportation Demand Management Alternatives to date.

7.5.13 Green Infrastructure

The Town has not implemented Green Infrastructure requirements to date.

7.5.14 Minimizing Stormwater from Parking Lots

Landscaped planting areas are required for all motor vehicle use areas developed in accordance with the Land Development Ordinance. One landscaped planting area is required for every 2,500 square feet of motor vehicle use area. Each planting area must contain at least one tree with a minimum height of eight feet and a minimum diameter of two inches, as measured six inches above the ground. Each parking space within a motor vehicle use area must be within at least 60 feet of the trunk of a required tree. These trees may be clustered around loading docks or other maneuvering areas.

7.5.15 Maintenance/Enforcement

Stormwater BMPs are maintained and enforced through the mechanisms described in section 7.5.2. Annual reporting is required for BMPs on private land. Development of structural BMPs will be tracked using a database, which will also track annual reporting.

7.5.16 Evaluation

Post-construction stormwater management will be evaluated by the number of BMPs that are evaluated annually and found to be in good working condition and the number of annual reports received.

Table 8 BMPs for Post Construction Stormwater Management

	BMP	Measurable Goals	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
a)	Establish a Post-Construction Stormwater Management Program, including legal authorities	Develop and adopt by ordinance (or similar regulatory mechanism) a program to address stormwater runoff from new development and redevelopment. Implement and enforce the program within 24 months of the permit issue date. Annually review and revise/update as necessary.	X				
b)	Establish strategies which include BMPs appropriate for the MS4	Develop strategies that include a combination of structural and/or non-structural BMPs. Provide a mechanism to require long-term operation and maintenance of structural BMPs. Require annual inspection reports of permitted structural BMPs performed by a qualified professional (i.e., someone trained and certified by NC State for BMP Inspection & Maintenance).		X			
c)	Establish nutrient sensitive waters (NSW) protection measures (for programs with development or redevelopment draining to NSW waters)	Develop, adopt, and implement an ordinance (or similar regulatory mechanism) to ensure that the best management practices reduce nutrient loading to the maximum extent practicable. Develop and include a nutrient application (fertilizer and organic nutrients) management program in the Post-Construction Stormwater Management Program. In areas where the Environmental Management Commission has approved a Nutrient Sensitive Water Urban Stormwater Management Program, the provisions of that program fulfill the nutrient loading reduction requirement.		X			
d)	Plan reviews	Conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre and discharge to the MS4 (including sites that disturb less than one acre that are part of a larger common plan of development or sale). The site plan review shall specifically address how the project applicant meets the performance standards and how the project will		X			
e)	Town Code, Permitting Regulations, Easement, and/or Deed Restrictions and Protective Covenants	Ensure development activities will maintain the project consistent with approved plans.	X				
f)	Operation and Maintenance Plan	Implement or require an operation and maintenance plan that ensures the adequate long-term operation of the structural BMPs required by the program. The operation and maintenance plan may require the owner of each structural BMP to submit a maintenance inspection report on each structural BMP annually to the local program.					X
g)	Setbacks for Built-upon Areas	Require built-upon areas to be located at least 30 feet landward of all perennial and intermittent surface waters except as provided for in the Permittee's approved Post-Construction Stormwater Ordinance. For purposes of this section, a surface water shall be present if the feature is shown on either the most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture or the most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS). Relief from this requirement may be allowed when surface waters are not present in accordance with the provisions of 15A NCAC 02B .0233(3)(a).	X				
h)	Inventory of projects with post-construction structural stormwater control measures	Maintain an inventory of projects with post-construction structural stormwater control measures installed and implemented at new development and redeveloped sites, including both public and private sector sites located within the permittee's jurisdiction area that are covered by its post-construction ordinance requirements.					X
i)	Inspections of stormwater control measures	Conduct and document inspections of each project site covered under performance standards, at least one time during the permit term. Before issuing a certificate of occupancy, the permittee shall conduct a post-construction inspection to verify that the permittee's performance standards have been met. The permittee shall document and maintain records of inspection findings and enforcement actions and make them available for review by the permitting authority		X	X	X	X
j)	Educational materials and training for developers	Make available through paper or electronic means, ordinances, post-construction requirements, design standards checklist, and other materials appropriate for developers. New materials may be developed by the permittee, or the permittee may use materials adopted from other programs and adapted to the permittee's new development and redevelopment program.			X		
k)	Enforcement	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.			X		

7.6 Pollution Prevention/Good Housekeeping for Municipal Operations

The Town has begun implementing its operations and maintenance program with the goal of preventing or reducing pollutant runoff from municipal operations. This program will include staff training and now includes documentation of procedures and activities.

7.6.1 Affected Operations

The Town currently operates a public works facility where routine maintenance to vehicles is conducted. The Town maintains the stormwater drainage system, including ditch cleaning and repair. The Town maintains parking lots at Town Hall, Sports Arena, Butner Athletic Park, former Town Hall Public Works Maintenance shop, Butner Public Safety, and storage building sites, as well as gravel lots adjacent to a ball field for the Butner-Stem Middle School, and Lake Holt Marina. As part of parks and open space maintenance, the Town operates the Sports Arena, D Street Ball Fields, Butner Athletic Park, Marina at Lake Holt and Gazebo Park. The Town has established procedures for pollution prevention and good housekeeping for these operations.

The Town's sole industrial-type facility is the Public Works facility.

Operation and Maintenance for municipally owned or operated facilities

The Town will conduct an annual training for staff involved in municipal operations and maintenance activities beginning in 2014, which will be in year two of the NPDES Phase II permit. The training will cover both basic stormwater education and specific pollution prevention practice information pertaining to the Town's operations. The program will convey the same information as the public education outreach efforts, including illicit discharge detection and elimination-specific outreach, with the goal of contextualizing inquiries and questions that staff may receive from citizens. The illicit discharge detection and elimination portion of the training will also focus on enabling staff to spot potential illicit discharges and, when IDDE standard operating procedures are complete, to familiarize staff with the Town's SOPs for discharge elimination.

7.6.2 Spill Response Procedures

Measurable Goal

The Town will adopt a spill response procedure for various hazardous and non-hazardous waste

Accomplishments

The Town has adopted a basic spill response procedure for various hazardous and non-hazardous waste and is posted at Town facilities where heavy equipment is stored and repaired. Town staff is in the process of conducting an inventory of additional spill containment products and signage for those products and where they are stored.

Measurable Goal

Town staff that handles potentially hazardous materials will be trained on spill prevention and proper response with regular reviews of the information. New employees will be trained on spill prevention and proper response procedures.

Accomplishments

Training for spill prevention and proper spill response procedures in addition to other good housekeeping measures for Public Works was done in November of 2014, with a refresher in November 2015. Training for spill prevention and proper spill response procedures in addition to other good housekeeping measures for Butner Public Safety was done in November of 2015.

7.6.3 Streets, Roads and Public Parking Lots Maintenance

Measurable Goal

Evaluate BMP's to reduce polluted stormwater runoff from municipally-owned streets, roads, and public parking lots within the corporate limits.

Accomplishments

Currently public works staff maintains municipally-owned streets, roads and public parking lots within the corporate limits. We already do X and Y in our parking lots. We looked at the following BMPS: A, B, and C. Of those, C is practical and cost effective. In the future we will implement C.

Measurable Goal

Include a section for streets, road and public parking lots in a good housekeeping manual to guide staff on best management practices to reduce stormwater pollution for infrequent activities such as street repair. Stipulate that any contractor doing work on Town owned streets, roads and parking lots follow these guidelines.

Accomplishments

The Good Housekeeping manual includes a section for street, road and public parking lot maintenance for municipally-owned facilities.

7.6.4 Operation and Maintenance for municipally owned or maintained catch basins and conveyance systems

The Town of Butner maintains 32 miles of storm drainage infrastructure, mostly made up of open channel ditches on either side of 15.9 miles of Town-maintained streets.

Practices

Reclamation of ditches

Since the Town's incorporation in 2007, the Public Works Department has been making progress on its program to reclaim the Town's conveyance system of ditches. Most were overgrown and did not function well as a result of the State's low level of service in the many years preceding incorporation. The first round of reclamation work has been completed. Ditch

reclamation involves removing large overgrown vegetation and sediment deposits that are impeding the flow of stormwater and causing standing water or erosion.

Ditch Maintenance/Repair

Maintenance of these open channel ditches is primarily reactive. Butner's Public Works Department receives complaints regarding poor drainage, standing water, or flooding. The town receives frequent drainage complaints. Response to drainage complaints is prioritized: issues that cause street drainage problems are resolved first, then ones that cause private property damage or issues. The Town works only in its own rights of way, except for some exceptional circumstances requiring work in North Carolina Department of Transportation rights of way. The Town does not work in private drainage ways or in streams. To resolve drainage issues, the Town completes a number of driveway culvert replacement projects every year. The Town's driveway culvert replacement projects are funded with Powell Bill funds.

Leaf Collection

The Town does not have a leaf collection program. Leaf burning is allowed, but items intentionally cut from trees or shrubs, and any fallen limbs over 4" in diameter must be hauled to the dump.

Catchments

The Town will conduct monthly inspections of catchments and clear any debris in the catchment.

7.6.5 Waste Disposal

The Town will formalize procedures for waste disposal as part of its program development, including pollution prevention for stockpiled materials. Used motor oil, antifreeze, filters and vehicle fluids used in routine maintenance are disposed at the County landfill's used oil recycling collection point.

7.6.6 Evaluation

The pollution prevention and good housekeeping program will be evaluated according to pollution prevention standard operating procedures created and implemented and staff training completed.

Table 9 BMPs for Pollution Prevention and Good housekeeping

	BMP	Measurable Goals	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
a)	Develop and Implement Pollution Prevention and Good Housekeeping for Municipal Operations Program	Develop an operation and maintenance program for structural stormwater BMPs and for municipal operations and facilities including vehicle maintenance, stormwater system maintenance, parking lot maintenance, parks and open space maintenance, inspections to reduce flotables and pollutants, municipal construction, and waste disposal. The program will include standard operating procedures, activities, and schedules, structural BMPs as applicable, documentation of activities, and staff training as described in (b) below.		X	X	X	X
b)	Conduct staff training	Conduct staff training on pollution prevention and good housekeeping practices. Including general information on stormwater pollution prevention and general information on illicit discharge detection and elimination, to aid staff in educating the public and answering public inquiries.		X	X	X	X
c)	Inventory and map municipally-owned facilities and structural controls	Identify and map municipally-owned or operated facilities and structural controls. The map shall identify the stormwater outfalls corresponding to each of the facilities and structural controls and the receiving waters to which these facilities and structural controls discharge. The map shall be maintained and updated regularly and be available for review by the permitting authority				X	
d)	Pesticide, Herbicide and Fertilizer Application Management.	Ensure municipal employees and contractors are properly trained with required permits and certifications. . Establish written procedures for proper application.			X		
e)	Prevent or Minimize Contamination of Stormwater Runoff from all areas used for Vehicle and Equipment Cleaning	The Town shall describe measures that prevent or minimize contamination of the stormwater runoff from all areas used for vehicle and equipment cleaning.			X		
f)	Review municipal operations for pollution prevention and good housekeeping.	Review municipal operation and maintenance program. Document areas of compliance and any deficiencies as well as subsequent follow-up actions to correct deficiencies.					x
g)	Streets, roads, and public parking lots maintenance	Evaluate BMPs to reduce polluted stormwater runoff from municipally-owned streets, roads, and public parking lots within the Town. Street sweeping and seasonal leaf pick-up will be included in this evaluation. Select appropriate BMPs for the Town.		X			
h)	Streets, roads, and public parking lots maintenance	Implement BMPs selected to reduce polluted stormwater runoff from municipally-owned streets, roads, and public parking lots within the Town.				X	