

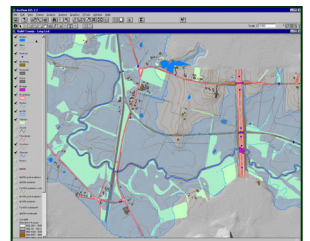
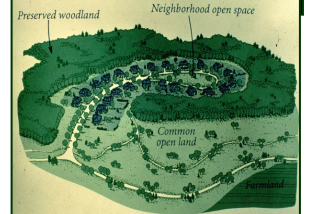


# ***Town of Chapel Hill North Carolina***

## **Pro Forma Business Plan Utility-based Stormwater Management Program**

***Presented by:  
AMEC Earth & Environmental  
1 Centerview Drive  
Greensboro, NC 27405***

***June 24, 2002***





# Town of Chapel Hill

*Pro Forma Business Plan –  
Utility-Based Stormwater Management Program*

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# Town of Chapel Hill

*Pro Forma Business Plan –  
Utility-Based Stormwater Management Program*

## **Acknowledgments**

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During the course of developing this business plan, Mr. Fred Royal, Mr. George Small, and Mr. James Baker provided general guidance and assistance. We extend our thanks for their efforts in helping us be more effective. We would like to also express our appreciation to the following individuals for their input and contribution to this report: Ms. Deborah Squires, GIS; and Mr. Richard Terrell.

This report was prepared by AMEC Earth & Environmental, Inc. Maureen Hartigan was project manager, with Elizabeth Treadway, John Styron, and Keith Reading providing specialized guidance to the project.

Data was developed using the following materials from the Town of Chapel Hill:

- ◆ 2000 Comprehensive Plan
- ◆ Stormwater Management Committee Final Report, Nov. 1994
- ◆ Stormwater Management Alternatives report May 2001
- ◆ Stormwater Utility Technical Review Committee Report January 1999
- ◆ Stormwater Utility Development and Implementation Commission, Nov. 2001
- ◆ Town of Chapel Hill web page
- ◆ Annual Budget 2001-2002
- ◆ Manager's Recommended Budget 2002-2003
- ◆ Manager's Recommended Capital Improvements Program 2001-2017
- ◆ Various papers and reports supplied by Town of Chapel Hill staff

We thank the Town of Chapel Hill for giving us the opportunity to serve you. We appreciate being able to explore ways to improve the service provided to its citizens, and help in being good stewards of the public trust. We hope that our efforts will be beneficial.



# Town of Chapel Hill

## *Pro Forma Business Plan – Utility-Based Stormwater Management Program Summary*

### Introduction

The Town of Chapel Hill requested a pro forma Business Plan for a Utility-Based Stormwater Management Program. This business plan contains a brief assessment of the Town's stormwater management program, and summarizes potential improvements and stormwater funding methods.

Assumptions include:

- ◆ The Town of Chapel Hill wishes to have a stormwater utility as a means of funding its stormwater program;
- ◆ The Town will have a moderate implementation of all regulatory programs required;
- ◆ The Town wishes to accomplish this task to citizens' satisfaction with a minimum increase in personnel and costs.

Since 1992, efforts have been extended to develop a more comprehensive stormwater management program. This document includes a brief analysis of current operations, anticipated requirements, and a list of recommended changes. These proposed program changes will require additional resources to implement. To assist in establishing funding sources for these changes, a recommended funding approach is also included.

### Areas of Consideration

Five primary areas were investigated as being essential to the formation of a comprehensive stormwater management program. They were: Program and Issues Assessment; Funding Feasibility, Database Development; Recommended Approach and Public Involvement. Each of these is presented in separate sections of this business plan and contains information on the issues and challenges facing the Town of Chapel Hill.

#### **1. PROGRAM and ISSUES ASSESSMENT**

The Town of Chapel Hill's stormwater system has evolved over the course of many years – with portions of the system being more than 60 years old, well beyond its anticipated design life. Due primarily to a lack of available resources, this system needs capital improvements and improved maintenance. Currently the Town spends about \$950,000 per year on stormwater

#### **What is a Stormwater Utility?**

- **A FUNDING METHOD**  
*A method or mix of methods for providing adequate, stable, and equitable funding for the comprehensive stormwater program.*
- **A PROGRAM CONCEPT**  
*A comprehensive stormwater quantity and quality program with an effective balance of: capital, operational, regulatory, engineering, planning and administrative activities.*
- **AN ORGANIZATIONAL ENTITY**  
*A legal entity with the authority to regulate stormwater management, operate stormwater management systems, and assess fees and charges.*

management. Other municipal stormwater programs in the Southeast devote substantially greater monies to stormwater infrastructure construction and maintenance than Chapel Hill. Municipalities that have essentially solved the major problems facing Chapel Hill spend annually about twice what Chapel Hill spends, and have done so for many years.

To better address stormwater issues and problems, we recommend that the Town should budget approximately \$2,000,000 per year for the stormwater management program. Elements of this program should include: master planning, infrastructure inventory and management, better response to complaints (minor construction and maintenance), remedial maintenance (replacement of aging infrastructure), and proactive maintenance.

The Town receives approximately 50 stormwater-related complaints per year. Complaint response is difficult because the Town lacks accurate maps of the system. There is no master plan to fix problems, and the Town does not have policies in place to obtain and maintain access to all parts of the system or to provide routine and remedial maintenance at a level commensurate with the need. Work is therefore done in reactive manner, resulting in lack of efficiency and coordination.

Portions of Chapel Hill, which has three watersheds within its town limits, drain into Jordan Lake, a drinking water supply. To protect water quality, improvements in stormwater management are becoming mandatory. In compliance with the Federal Clean Water Act, Chapel Hill will be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for stormwater runoff under the new NPDES Phase II rules that are going into effect in 2003. Currently, the Town has public drainage projects pending that will require difficult funding decisions. This fiscal crisis, however unexpected, could be dampened in these areas with an adequate stormwater utility in place.

Depending on the policy decisions, a stormwater utility could provide resources for many programs. These could include resources to sustain additional environmental measures currently under consideration in the Development Ordinance such as the Resource Conservation District Ordinance and Stormwater Management and Impervious Area provisions. The Town has adopted a Hazard Mitigation Plan, as required by the State of North Carolina for disaster funding eligibility. All of the mitigation measures in the plan could utilize resources provided by a stormwater utility. A utility could build up and sustain a "rainy day" fund for emergency projects associated with unexpected flood damages to streets and drainage infrastructure.

## **2 FUNDING**

Ten funding mechanisms were examined that might partially or wholly fund stormwater management in Chapel Hill. The first two, a stormwater service fee and the Town's General Fund support, offer sufficient potential revenue capacity to support the projected funding needs. The other eight funding mechanisms considered in this analysis would be insufficient to fully fund program needs, but might be desirable as "secondary" funding methods. These include special assessments, special service fees, bonding, in-lieu-of-construction fees, system development charges, impact fees, and federal and state grants and loans. A stormwater service fee is the most viable long-term funding method for the proposed program. A stormwater service fee offers stable and adequate revenue to meet the system service requirements and offers the opportunity to design a rate methodology that results in an equitable distribution of the cost of services and facilities.

Stormwater service fee programs typically generate most of their revenue through "user" fees. "Use" of the stormwater system is defined as the demand a property places on that system and the stormwater services and facilities provided which protect the property, downstream properties, and the receiving waters. Each property generates stormwater runoff that flows into the drainage system and from stormwater management each property owner benefits, in some way, from safer streets, cleaner water, etc. The demand a property places on a system is traditionally measured in terms of the peak flow of stormwater runoff generated by the property. The greater the flow the greater the use, and thus, the greater the user fee. Two major parameters that most significantly influence the demand that a property places on the stormwater system are total property area and total impervious area within a property.

### **3. DATA**

In order to implement a stormwater user fee system, there are data needs that must be met. A stormwater service charge rate methodology (See I-3 Basic Data Feasibility) is applied to individual properties and bills must be generated and delivered to each customer. This process requires reliable data to support the rate structure development. The first step requires a master account file. Existing databases, such as property tax rolls and water/wastewater account files, are typically used as the foundation for a stormwater service fee master account file. Information from individual residential and non-residential properties is examined, usually through the use of GIS maps, land use information, and aerial photography. This allows a rate to be determined based on a property's contribution to stormwater runoff as it relates to impervious surfaces on each parcel.

The most important and the most difficult part of the process requires high-quality, current original data. The Town's current photography is almost five years old. This is of particular concern considering the growth and change in the area in recent years. Before the aerial photography is undertaken, it is highly recommended that building the utility database be considered in determining the kind and form of data to be captured.

Depending upon which policy decisions are made during the rate study, the data needs will vary. For example, if a flat fee is proposed for all single-family residential parcels, then it is critical that the tax database has a reliable indicator concerning the improvements on a parcel to allow updates to the billing database. If the rate structure is based on calculating the impervious features by using aerial photographs, the database/GIS layers must clearly delineate the impervious area on each property.

### **4. RECOMMENDED APPROACH**

Chapel Hill faces a steep "program development curve" in the next few years as administrative, operational, capital investment, and regulatory elements of stormwater management are formulated and carried out. It will take five to ten years before a comprehensive program is fully attained. Funding should be expected to evolve along with the program.

A stormwater service fee is the most viable long-term funding method for the proposed program. A stormwater service fee offers stable and adequate revenue to meet the system service requirements and the opportunity to design a rate methodology that results in an equitable distribution of the cost of services and facilities.

A series of policy issues needs to be addressed if the Town of Chapel Hill decides to establish a stormwater service fee. The issues should be carefully documented since they directly impact the validity of Town Council actions related to the establishment of the service fee and adoption of rates and other funding methods that might be associated with it. The following recommendations on specific funding issues are based on the experiences of other cities that have implemented service fees. They are the minimum that should be examined and documented. These issues will dictate to some degree how the implementation process will proceed if the Town pursues a service fee approach.

- 1) The Town should establish a stormwater service fee as a separate cost center encompassing the full range of services and facilities associated with stormwater quantity and quality management.
- 2) A stormwater management program should be funded primarily from service fees. The stormwater service fee should be on the same bill as the water and wastewater charges if possible, and should appear as a separate line item.
- 3) The rate methodology for stormwater service fees should be fair and reasonable and result in charges that bear a substantial relationship to the cost of services and facilities.
- 4) Bonds should be used to pay for major capital improvements to the stormwater systems, but should be limited to projects that are beyond the capacity of the service fee's annual revenue stream.
- 5) Service fee credits should be provided for properties that reduce their stormwater management demand, or where distinctly lower levels of service are to be provided as a matter of policy.
- 6) The Town should seek and accept state and federal funding in support of the stormwater management program only in instances where such funding is consistent with local objectives and practices and offers appropriate latitude to the Town in using such funds and its own resources.
- 7) The Town should determine if a service fee rate increase is desired after the initial two-year period or, alternatively, if a higher initial rate should be adopted that would cover a longer period.

It is imperative that the correct steps be taken if a service fee is established. Shown below are some of the critical tasks and actions which, when timed correctly, will result in the formation of a stormwater service fee program. This report does not contain sufficient details and staff input to form the stormwater service fee program without additional, detailed analyses.

We recommend a two-phase approach be taken – the first phase is the development of the stormwater management program and the enterprise fund (program service ordinance). The second phase is to carry out the associated rate study (rate ordinance) and to develop the master account file (billing system). This approach offers several advantages. First, it allows several opportunities for the general public to provide input as the Town Council considers the new stormwater management program changes. Secondly, it separates the revenue generation consideration from the program/service development consideration. If this process is begun soon, the Town is approximately 20 to 24 months away from implementing a stormwater user fee.

#### **4 PUBLIC EDUCATION**

Public awareness and education are carried out in stormwater management programs in two ways: specific public education campaigns and ongoing "baseline" public information programs and activities. These differ in that a campaign has a beginning and an end while the ongoing program goes through transformations but does not have a planned ending. The messages should stress:

- There are needs in the community that are currently not being met;
- We have a plan to meet these needs that is well thought out, effective and not extravagant;
- Government must take the lead in this;
- This plan costs more money, but this additional investment is well worth it in terms of benefits;
- The method to generate this new revenue is fair, adequate and stable, and is fairer than a tax increase;
- The method is not a tax but a user fee and is very practical in its approach;
- The cost to each homeowner is minimal; and
- Citizens will see results.

The reconstituted use of a citizens' advisory group, perhaps termed the Stormwater Policy Review Committee, in the next phase of the project will help in communicating these messages. Their meetings will generate additional public and media interest in improving the stormwater management program. Information and handouts can be presented to the stakeholders and made available to the media. Individual stakeholders might even be interviewed by the press; special efforts to prepare stakeholders for this can keep the message consistent. We anticipate that the stakeholder group will have representatives from the general public, residents, business and industry leaders, environmental awareness groups, and other community special interest groups -- in addition to the Town staff and political leadership. Plans should be made to educate the general public and to create opportunities for them to get involved in the stormwater management program. They represent a diverse group, which will require several methods to reach. Planned activities include: General Information Brochures, Press Packages, Public Information Meetings, Bill Stuffers, and possibly a video.





# Town of Chapel Hill

## *Pro Forma Business Plan – Utility-Based Stormwater Management Program I-1 Program and Issues Assessment*

### Introduction

The Town of Chapel Hill is located primarily in Orange County and slightly in Durham County in the north central portion of North Carolina in the Piedmont Plateau, approximately equidistant between Washington, D.C. and Atlanta, Georgia. As of July 2001, the Town's population is 51,600. Chapel Hill is the largest town in Orange County, which has an estimated population of a little more than 118,000 and a projected population of 147,800 by the year 2020.

#### Land Use

- Chapel Hill is nestled in the rolling, wooded hills of North Carolina. The town is ideally situated in the state, three hours from the coast and three hours from the mountains, allowing residents to enjoy a variety of recreational activities.
- Chapel Hill, along with Raleigh and Durham continually receive accolades for being a top location to live and do business. Most recently the A & E television channel recognized Chapel Hill as the #2 city in their "Top Ten Cities to Have it All." Previous accolades have included *Money* magazine's selection of the Triangle as the "#1 Best Place to Live in America," *Fortune* magazine's rating of the Triangle as #1 for "The Best Cities For Knowledge Workers," and *Sports Illustrated's* nod as the "number one college town in the United States."
- The Town is the home of the University of North Carolina at Chapel Hill, the nation's oldest public university, established in 1789. Today, the University enjoys a reputation as one of the best public universities in the United States.
- The area of the Town is 20.16 square miles.

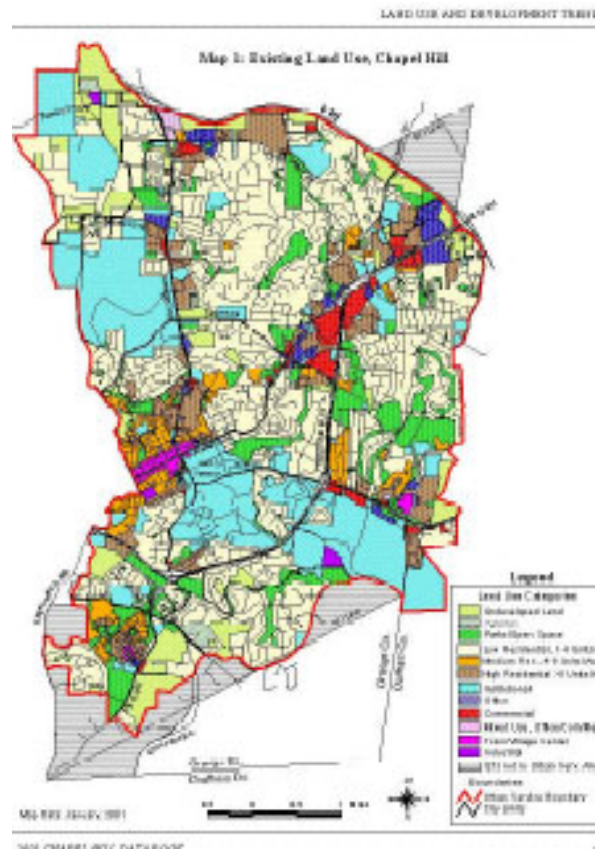


Figure 1 Map of Chapel Hill

- Chapel Hill's land use patterns are profoundly influenced by a policy enacted in 1986. This policy established an Urban Services Area, the area within which growth is expected to occur at urban intensities using Town standards. The Town has extended urban services within this area, and is annexing all land within the area as it develops and qualifies for annexation. The eventual ultimate boundary of Chapel Hill shall be identical with the established Urban Services Area boundary. The Town will not extend any urban services beyond this boundary; will not annex beyond this boundary; and plans to maintain very low densities of development in a Rural Buffer that surrounds the Urban Services Area. This is a fundamental Town policy to which the Town has strictly adhered since it was enacted.



Figure 2 Downtown Chapel Hill

The Existing Land Use Map, Figure 1, shows current land uses in the Town's Urban Service Area and Transition Area. There are approximately 12,900 acres within the Town limits. The Urban Services Area includes about 16,000 acres.

The Town maintains a small-town feel with the downtown the center of activity. The presence of the University of North Carolina lends a distinguishing quality to the Town in keeping with its history.

The predominant land use is low to medium density residential use, comprising nearly half the Town. The second largest category is institutional use, which includes the university and includes almost 20 percent of the Town's land. Privately owned commercial, office, mixed-use, and industrial areas combined, total approximately 5 percent of the Town's land. The amount of commercial space (office, retail and warehouse), measured in terms of square footage, has increased by about 18.5 percent in Chapel Hill since 1992.

### **Planning**

The Town conducts an ongoing planning and programming process through which it implements orderly expansion and management of the growth and development of the community. At present, the Town exercises zoning and building controls over a 27.5 square mile area that includes the corporate limits and a 7.36 square mile planning jurisdiction.

The growth of the Town has been directly related to the expansion of the University of North Carolina at Chapel Hill. Enrollment at the University has risen from 8,791 in 1960 to 24,872 in 2000. It is anticipated that expansion will continue to occur in University-related health facilities such as the University of North Carolina Hospitals. The University and its hospital continue to be the town's largest employer.

### **Government**

Incorporated in 1819, the Town has a Council-Manager form of government. The Town Council is comprised of a Mayor and eight-member Council. All Council Members serve four-year terms. The Mayor and four Council Members are elected every two years. All elections are on a non-partisan basis and at large. The Council appoints the Town Manager and Town Attorney. The Mayor presides over the Council meetings and has full voting privileges. The Town Manager is the chief administrative officer of the Town. Town departments are responsible to

the Town Manager for the provision of public services. The Town is governed by a Code of Ordinances that contains the Charter of the Town of Chapel Hill, and lists the duties and responsibilities of its elected officials, Town officials, Town departments, and advisory boards. Town Council meetings are normally broadcast live over the Time-Warner Cable channel 18.

**Financial**

The financial condition of the Town is solid. It has a Triple A rating from Moody’s, a Double A rating from Standard & Poors, and debt obligation under 1%.

- Currently, general fund revenue comes from the following sources:

Table 1. Sources of Current General Fund Revenue (2000-01)

<u>Source</u>	<u>Amount</u> <u>(\$ millions)</u>	<u>% Of</u> <u>Revenues</u>
Property Taxes	16.1	48.3
Other Taxes	0.9	2.6
Licenses, Permits, Fines	1.4	4.2
State-Shared Revenues	10.9	32.8
Grants	0.5	1.4
Service Charges	1.0	3.0
Interest on Investments	0.6	1.8
Other	0.2	0.7
Interfund Transfers	0.9	2.7
Appropriated Fund Balance	<u>0.8</u>	<u>2.4</u>
Total Revenues	<u>33.3</u>	<u>100.0</u>

Source: Town of Chapel Hill

- Nearly half the land in Chapel Hill is devoted to low to medium density residential use. This will have a positive impact on the revenue-generating potential for stormwater user fees although it is clear that there will be concern as well about a new fee, in light of a 6.6 cent proposed tax increase from the Town for the next year as well as a tax increase from Orange County.
- About 20% of the land use base is non-profit organizations, in particular UNC-Chapel Hill and the University Hospital. Since the University may be reluctant to participate in the program, this issue must be handled carefully if a user fee based on impervious area is to be established. It will be important to ensure it is clear that this is not a tax but a user fee. Since the University has been involved in several of the stormwater advisory committees over the past several years, past knowledge of the potential for a user fee will be beneficial.
- A substantial increase in multi-family units over the recent past presents a separate challenge, as these units are either condominiums in which the separate owners must share a fee, or rental units in which a commercial owner will carry the user fee.

**Current Stormwater Program**

The current stormwater program can be categorized as a “minimal” program, as compared to other communities of similar size. Due to resource constraints, the Town is often in a reactive

mode in terms of system maintenance. Current work programs include routine drainage system inspection and maintenance, street sweeping, removal of debris from three major waterways within Town, small drainage improvement projects, drainage assistance to private property owners, and inclement weather flooding response and recovery. The Drainage Assistance Program is the one program that exists to address issues on private property. However, there is no clear policy in place about how maintenance will be performed, or who will maintain or pay for continuing maintenance.

Currently (2000-01) the Town allocates about \$950,000 in operating funds (including some salary costs) to stormwater management divided into the following categories:

- Engineering \$250,000
- Drainage, maintenance and sweeping \$700,000

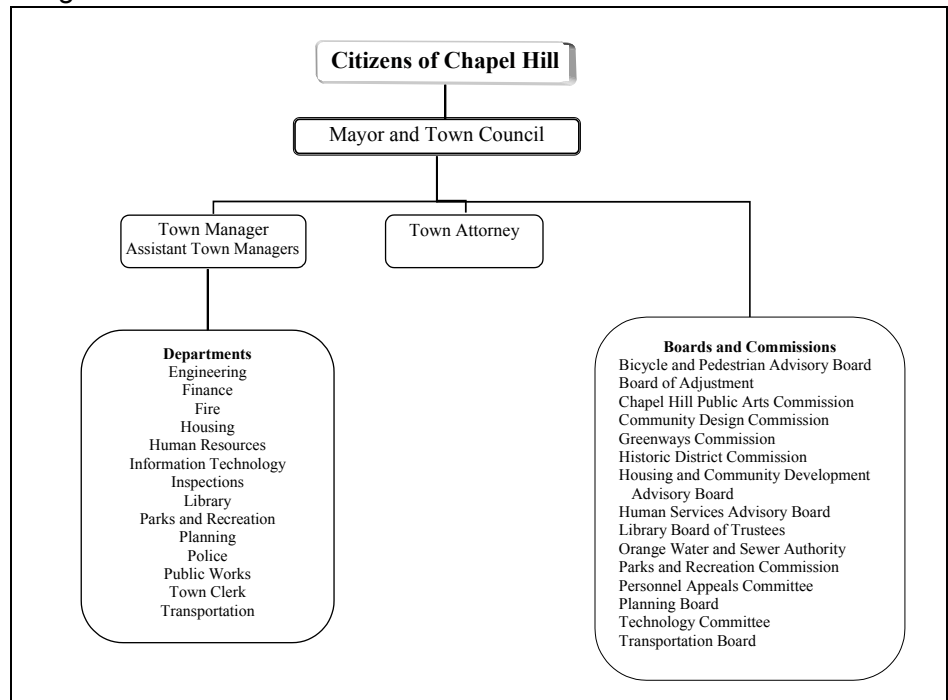
The current stormwater management program is handled between two Departments, Engineering and Public Works.

**Engineering**

The Town Engineering Department's principle role in stormwater is responsible plan review, including stormwater infrastructure associated with development activities. For projects funded directly by the Town, they will conduct field reviews of small projects to assist with the decision to undertake in-house design activities. In some cases, they may be called upon to go with the Public Works personnel to diagnose a problem. They are staffed with a Stormwater Engineer, and a part-time, temporary position entitled Engineer Intern. The Intern has served many roles, including performing water quality monitoring, miscellaneous GIS database work, elementary school education, North Carolina Big Sweep (annual stream cleanup) coordinator, general assistant to the Stormwater Engineer with projects. In addition, the Department has had two technicians who have assisted during the summers with the completion of the storm sewer inventory program and gathering GIS data.

**Public Works**

The Right-of-Way/ Drainage section of the Field Operations Division within Public Works primarily performs Stormwater maintenance. Some assistance is also provided by the Construction and Streets sections within the Field Operations Division. The Public Works Department sets priorities and provides the maintenance and operations resources to the stormwater



management program. Section managers have a list of guidelines and standards on maintenance of drainage and right-of-way areas, and keep records of daily activities.

### **Maintenance**

There is one work crew that is designated to focus on stormwater and drainage. Due to the limited staff and other pressing needs, the crew currently does not spend 100% of its time doing stormwater type activities. The crew is made up of three individuals, who have several pieces of equipment available to them. Crew cost is estimated to be approximately \$140,000 per year; equipment cost is approximately \$40,000. Total crew cost is \$180,000 annually.

### **Capital Construction**

In 1996 the Town issued Street Improvement Bonds allocated for drainage projects of \$500,000; \$453,491 of the bonds have been spent, leaving a balance of \$46,409. In addition, the Town has identified more than \$252,000 in unmet drainage improvement capital projects and a second list of drainage assistance capital projects where the dollar values have not been determined. For reference, just two of the major current needs (assistance to Eastgate Shopping Center and Burning Tree Drive) require funding of more than double the funds available from the bonds. There do not appear to be any other funds earmarked to handle another emergency if it arises.

## **Stormwater Problems and Issues**

### **Overview**

City staff has described the current approach being taken to address stormwater management as often reactive. The stormwater system has evolved over the course of many years – well beyond the anticipated useful life. The aging drainage infrastructure, some of it over 60 years old, may require significant maintenance, replacement and/or improvement in coming years to comply with water quality requirements, to mitigate flooding problems, and to safely convey increasing quantities of stormwater runoff.

The system has not received the resources it has needed, both in terms of capital construction and maintenance. Thus, collapsing pipes, nuisance flooding, erosion, gullies, broken headwalls, clogged systems, undersized systems, etc. are likely to occur within the drainage network. Without additional attention and investment, the system will become more antiquated every day.

Additional resources become even more necessary as Chapel Hill and other local governments are facing increasing stormwater quality requirements due to NPDES (National Pollutant Discharge Elimination System) regulations as well as other State and local regulations regarding soil erosion and sedimentation standards.

### **Complaints**

Chapel Hill has a serious commitment to citizen satisfaction. At the same time, there is considerable anecdotal evidence that stormwater is a serious issue for the citizens of the Town. Until the Stormwater Management Engineer was hired in March 2000, there was no long-term tracking of complaints, thus trends and repeat calls are not recorded and cannot be analyzed to obtain a comprehensive picture of conditions within the Town. The Town estimates they currently receive approximately 50 stormwater related complaints a year, mostly about drainage

water (quantity). In addition, the Town receives approximately four formal petitions from neighborhood groups or associations with requests for larger projects each year. These have included a request for assistance for stream bank erosion and flood mitigation assistance, assistance with funding the replacement of obsolete major infrastructure draining public property runoff through private property, assessment of the watershed above a man-made impoundment to determine how to reduce severe deposition of sediment in a lake and ways to improve the lake, and assistance with on-going flooding problems at an apartment complex. Also, citizens raise drainage issues with Town Council at many of their meetings.

It appears that both Engineering and Public Works are strongly aware of the issues existing around drainage issues. Public Works has segregated types of complaints into: public infrastructure, public maintained streams, high water problems, North Carolina Department of Transportation (NCDOT) public infrastructure, and private property.

The complaints are tracked by Engineering and most are re-directed to Public Works. The issue is reviewed and a decision is made if maintenance crews can address it. If so they schedule the work. If not, the *Citizen Request for Assistance* is forwarded to the Town Engineer with a recommendation.

Complaints that are easy or relatively inexpensive to fix or where timeliness is important to prevent a bigger problem have a better chance of being addressed than problems whose solutions are complex. It should be noted that, while issues revolving around NCDOT public infrastructure are referred to the Town by a citizen and relayed to NCDOT for them to handle, the public typically does not understand the differences between Town and NCDOT roadways and recognize only that their complaint has not been handled in a satisfactory way.

It is likely that many property owners may simply have given up calling due to the inability of the Town to address their problems under current policy and resource allocations. A new stormwater fee would likely stimulate them to try again to obtain relief from the Town.

### ***Stormwater Management Tools***

The Town lacks up-to-date maps of the drainage system, and thus does not know the current condition of the system or its adequacy for managing future growth and demands. Master plans have not been completed for each watershed, limiting the Town's ability to be proactive in addressing both water quality and water quantity issues. Regulation of the system is a key role for the Town and currently there are not appropriate policies in place to obtain access to all parts of the system and to provide routine and remedial maintenance at a level commensurate with the need. In many areas, drainage easements do not exist, or if they do, are not identified to allow for access to off street right-of-way portions of the drainage system that cause many problems. There is no clear policy regarding who is responsible for maintenance of easements.

## **Program Priorities and Planned Program Changes**

### ***Program Priorities***

To date (from 1992 through 2001) there have been three separate Stormwater Advisory Committees looking at the Town's stormwater management program. Each established a set of goals for the stormwater program. The issues raised above and at the Committee level show that the primary program priorities fall into six key areas:

Table 2. Stormwater Program Priorities

Program Area	Program Priorities
Administration and Finance	<ul style="list-style-type: none"> <li>• Develop stable, adequate and fair funding for the stormwater program</li> <li>• Establish additional policies regarding the maintenance of 'private' drainage systems</li> <li>• Improve public education / information about stormwater</li> <li>• Develop cost allocation system for the stormwater program</li> </ul>
Planning and Engineering	<ul style="list-style-type: none"> <li>• Develop an accurate physical inventory of the drainage system</li> <li>• Identify and prioritize key problem areas</li> <li>• Master plan systems, areas of new development, significant redevelopment, and "problem" areas</li> <li>• Develop a prioritized capital improvement program</li> <li>• Upgrade design standards and development guidelines</li> <li>• Integrate stormwater master planning with urban greenway planning</li> <li>• Seek to coordinate standards with the County.</li> <li>• Develop standard for proper catch basin covers and replace</li> </ul>
Operations and Maintenance	<ul style="list-style-type: none"> <li>• Develop a systematic drainage system rehabilitation program</li> <li>• Implement an effective preventive maintenance program</li> <li>• Be more responsive to drainage complaints</li> <li>• Extend maintenance to off right-of-way areas</li> <li>• Be more proactive in generating Work Orders by inventory information and field inspectors</li> <li>• Perform maintenance on a proactive watershed basis</li> </ul>
Regulation and Enforcement	<ul style="list-style-type: none"> <li>• Plan for and execute compliance with State and Federal regulations (sediment and erosion control / NPDES)</li> <li>• Improve maintenance of private systems (on site detention) through increased enforcement</li> </ul>
Water Quality	<ul style="list-style-type: none"> <li>• Track impacts of NPDES stormwater permit</li> <li>• Develop and implement water quality strategies as appropriate</li> </ul>
Capital Construction	<ul style="list-style-type: none"> <li>• Resolve backlog of capital construction needs</li> </ul>

**Comprehensive Program and Cost Estimates**

It is clear that there will need to be a "ramping up" period in the development of the comprehensive stormwater program for Chapel Hill. One-time activities (which may require lesser ongoing activity) such as conducting a system inventory, performing master planning, and developing a capital construction prioritization methodology will be performed on the front end of the proposed management program, and then used and maintained as tools throughout the life of the program. Caution is advised that the program concentrate on a balance of fixing

and planning. If all the initial funds go toward planning and inventory activities without a demonstrated improvement in the service, the program and staff will fight an uphill public perception battle. At the inception of the expanded program, long standing drainage problems should be targeted for repair – even the very day the first bills go out, if a utility is implemented. Initial impressions are lasting.

**Stormwater Utility Implementation**

Among the first activities that should be undertaken would be reconstitution of the Stormwater Advisory Committee. This Committee would now be charged with going past the theoretical discussions that previously took place and provide input on the Town’s specific policies on the mission of the program, short term and long-term program priorities, level and extent of service, rate methodology, and cost of service. They would be asked to voice their opinions and come to consensus on the balance of cost versus services on behalf of the citizens of Chapel Hill.

Full consideration needs to be given to the structure of the stormwater utility, including a consideration of the additional services and structure associated with running a stormwater utility. Although the impact to the existing structure of starting a utility will be significant, it is common to find that even without that change, the organizational responsibility for stormwater management is too diffuse in its current form. With or without a utility, it is important that one person has responsibility and accountability to manage the stormwater program, to marshal resources, and to set its priorities.

Based on the stormwater program priorities developed above, a stormwater program budget was estimated to address key issues. The estimate is in very broad terms for the purpose of establishing the potential feasibility of stormwater user fee funding for a viable program. It is for a period out several years after one-time activities have taken place. It is in addition to the current \$950,000 spent on the program and includes building an appropriate NPDES compliance program. The following table lists the major cost items:

Table 3. Proposed Program Costs (New Funds)

<b>Program Area</b>	<b>Program Cost (Low)</b>	<b>Program Cost (High)</b>
Administration and Finance	\$200,000	\$200,000
- Indirect allocations and billing costs		
Engineering		
- Master planning and system inventory	\$250,000	\$500,000
- Inspection/Regulation and enforcement	\$50,000	\$50,000
- Water Quality	\$187,500	\$187,500
Operations and Maintenance	\$250,000	\$250,000
Capital Construction	\$200,000	\$400,000
Totals	<u>\$937,500</u>	<u>\$1,387,500</u>
Current Budget	<u>\$950,000</u>	<u>\$950,000</u>
Projected Total Annual Spending	<u>\$1,887,500</u>	<u>\$2,337,500</u>

This amounts to at least doubling of the stormwater resources in Chapel Hill. Highlights include:



- Adding \$187,500 annually to meet NPDES Phase II water quality and other regulatory program needs. This number is based on previous experience with municipalities of approximately the size of Chapel Hill, and does not differ substantially from the numbers presented February 11, 2002 to Town Council in the *Manager's Follow-up Report on Recommendations of the Stormwater Utility Development and Implementation Study Committee*.
- Adding to the annual capital improvement budget with a goal of working off the major capital and remedial needs until the backlog is worked down to a more manageable project list. This amount would change as Master Planning is completed and better information becomes available on the actual needs and the effectiveness of the program.
- Adding at least one totally dedicated maintenance crew along with equipment. It will take a year or so to create this resource, based on acquisition of equipment and hiring activities. There is a concern that the current assets dedicated to stormwater management will be pulled off for other duties when another fully dedicated stormwater crew is formed. Resources provided through a dedicated funding process will ensure that the drainage issues are addressed and that the other maintenance priorities will be covered through currently budgeted General Fund revenues. This must be accomplished or else the level of service will remain the same as prior to an identified stormwater charge, but the level of public demand for stormwater services will be significantly higher. This will result in a public dissatisfaction with the program.

## Program Related Issues

Development of a stormwater management program funded through a dedicated user fee presents several issues:

- The need to educate the public about the needs and to gain their support
- The need to identify and gain the support of key stakeholder groups
- Handling and gaining the support of tax exempt property owners
- Convincing non-residential property owners that a stormwater user fee is fair and logical
- Determining internal organization and accounting changes to handle the new approach to stormwater management
- Addressing issues such as ability to pay

Each of these issues is commonplace in the development of stormwater management user-fee programs. The way these have been successfully dealt with in other communities is through a combination of:

- Effective public education and awareness
- Special efforts toward specific stakeholder groups

- Consensus building with a representative citizens group
- A well-thought-out logic as to why the user fee is the best way to go
- A fair and generous credit program
- A technically sound rate structure and approach
- A legally sound approach
- An approach that political leadership can buy into with minimized risk

Each of these points will be dealt with if, and when, the user fee-based program proceeds beyond the feasibility stage. The logic for setting up a stormwater management user fee can follow along the following line:

1. The stormwater related problems are real, under-funded, and generally unresolved.
2. We can develop and implement a plan to resolve them.
3. Government must take the lead.
4. Benefits will result.
5. It will cost more to do this for the community.
6. A stable, adequate and fair funding method is necessary.



# Town of Chapel Hill

*Pro Forma Business Plan –*

*Utility-Based Stormwater Management Program*

## I-2 Basic Funding Feasibility

### Purpose

This section presents a recognizance-level assessment of the feasibility of funding Chapel Hill's stormwater program through an enterprise fund supported primarily by service fees. Many other North Carolina municipalities including Greenville, Rocky Mount, and Gastonia have initiated similar actions within the past few years, building on the experiences of hundreds of communities nationwide that have established such programs since 1974. The feasibility of other funding methods that might be an alternative to or complement service fees is also examined.

### Conclusions on Funding Feasibility

Given the basic status of Chapel Hill's current stormwater management program, the Town clearly faces a significant "program development curve" in the next few years as administrative, operational, capital investment, and regulatory elements of stormwater management are formulated and carried out. It will take five to ten years before a comprehensive program is fully attained, and perhaps twenty years or more to plan, design, and build major capital improvements.

Funding should be expected to evolve along with the program. Throughout that time frame there may be several funding methods both primary and secondary to support various aspects of the stormwater program. Full implementation of secondary funding mechanisms associated with a stormwater enterprise fund may therefore require ten years or more.

#### ***Advantages of a Service Fee.***

This feasibility assessment concludes that a comprehensive stormwater management program funded primarily by service fees offers more flexible, stable, and equitable long-term stormwater management funding for Chapel Hill than any other option. It is clear that a service fee has several significant advantages over other funding options. It is highly flexible, offers the prospect of stable funding over time, allows restrictive dedication of the revenues to stormwater management only, and enables elected officials to craft an equitable distribution of costs through a service fee rate design. A service fee rate structure can allocate costs based on the demands placed on the systems instead of property value or other factors unrelated to stormwater service needs.

A stormwater service fee has sufficient revenue potential to assure consistent funding at a level that would support development of a comprehensive program. State statute provides a mechanism to the Town authority to raise revenues in this manner. However, the Town must also support numerous other municipal services that do not lend themselves to user fee funding (such as public safety, street maintenance and fire protection). Stormwater service fee funding could relieve, partially or wholly, the demands that stormwater management now

places on the General Fund. Moving the stormwater management to a different revenue arena would alleviate some of the conflicting priorities now placed upon the budget.

Stormwater management service fee revenues can be used for any activity or improvement related to stormwater management, including revenue bond service debt for major capital investments. The use of revenue bonds could enable Chapel Hill to expedite major improvements to the stormwater systems without reducing its general obligation bonding capacity for other purposes.

Priorities change over time, and the ability for funding to change in concert with needs is critically important. A service fee rate methodology can be periodically adjusted along with major transitions in programs and priorities, especially in terms of system improvements. Other funding methods differ in their suitability for capital, operating, regulatory, and other types of costs.

### ***Disadvantages of a Service Fee.***

The major disadvantages of a service fee are that it costs money to implement and new fees might be politically unpopular. The cost of implementing a service fee is expected to be \$340,000 (excluding \$150,000 in new photography), depending on many decisions yet to be made by the Town. To put this cost in context, this represents less than six months of service fee revenue, depending on the ultimate rate structure.

Political acceptance is more difficult to forecast than implementation costs. Public reaction to stormwater service fees elsewhere has ranged from very positive to very negative. Given the extent of local drainage problems and need for drinking water quality, one might conclude that the community would be receptive to a workable long-term solution. A program and funding strategy that offers a realistic prospect of solutions will have to be communicated convincingly to gain public support for the approach.

### ***Issues***

If the Town Council chooses to establish a stormwater service fee it will have to address both institutional and funding issues. These include whether to establish a separate stormwater organization or integrate a stormwater management service fee funding to support the existing organization structure using separate cost centers to preserve the segregation of the revenues.

The Town Council will also have to decide how to structure stormwater service fees. One or more ordinances will have to be drafted and adopted. The experiences of other cities and counties suggest that an intensive public information effort should be conducted to explain the stormwater service fee concept to the community.

### ***Institutional Arrangements***

While this business plan is for only the Town of Chapel Hill, it is possible that other communities such as Orange County or Carrboro may want to consider joining with Chapel Hill in the utility. In that eventuality, a service fee could be applied, enabling more effective management of the many drainage systems that flow into and out of the Town.

### ***Process and Schedule***

A dedicated stormwater enterprise fund could be in place (as an accounting entity) as early as January 1, 2003. However, the work required to design a suitable service fee rate methodology, prepare a master account file, and adjust the existing billing systems or develop

a new system could require at least another nine to 18 months (see *I-3 Basic Data Feasibility* section). The actual schedule would depend on many decisions yet to be made, such as the service fee rate design. Additional information concerning implementation steps and schedule are contained in the *I-4 – Approach Development* report.

While the program can be planned to be in place at the beginning of 2004 or sometime during calendar year 2004 a stormwater enterprise fund could assume some stormwater management costs beginning in fiscal year 2003. The Town would have to find other revenues to pay for costs prior to the initial service fee billing. This could possibly include General Fund appropriations or interfund loans from other funds (General Fund balance).

## What is a Stormwater Utility?

A stormwater utility can be seen as an umbrella under which individual communities address their own specific needs in a manner consistent with local problems, priorities and practices. With the expected needs for increased stormwater management programs, the stability, flexibility, and adequacy of a utility provides a great advantage over other financing methods.

### **Program Driven Structure**

Stormwater utilities are comparable in many ways to more traditional municipal water supply and wastewater treatment utilities. Nearly all involve management of a complex system of natural and man-made physical structures, and demand continuing operational and regulatory programs as well as capital investment in the systems. Because of previous and recent federal and state mandates, most provide a comprehensive program that addresses water quality as well as quantity (flood) control. The programmatic needs eventually dictate the utility structure and function.

A stormwater utility can provide a vehicle for:

- consolidating or coordinating activities and responsibilities that were previously dispersed among several departments and divisions;
- generating funding that is adequate, stable and equitable, and dedicated solely to stormwater management ; and
- developing programs that are comprehensive, cohesive, and consistent year-to-year.

A stormwater utility provides an organizational focus for a comprehensive program such as that projected for Chapel Hill. The utility approach also offers a means to properly fund such a program through service fees. However, a utility service fee is not necessarily the only funding solution available to the Town. Many cities implementing stormwater utilities in recent years have discovered that it is desirable and/or necessary to use more than one funding source to generate sufficient revenue in a way that is equitable and publicly acceptable. Thus, the source or sources of funding to be used is a core issue to be resolved in assessing feasibility and formulating a strategy.

### **What is a Stormwater Utility?**

- **A FUNDING METHOD**  
*A method or mix of methods for providing adequate, stable, and equitable funding for the comprehensive stormwater program.*
- **A PROGRAM CONCEPT**  
*A comprehensive stormwater quantity and quality program with an effective balance of: capital, operational, regulatory, engineering, planning and administrative activities.*
- **AN ORGANIZATIONAL ENTITY**  
*A legal entity with the authority to regulate stormwater management, operate stormwater management systems, and assess fees and charges.*

A stormwater utility user fee methodology is **equitable** because the cost is borne by the user on the basis of the user's demand placed on the drainage system. A stormwater utility is **stable** because it is not as dependent on the whims of the annual budgetary process as taxes. A stormwater utility is **adequate** because a typical stormwater program can be financed with payments below what the normal customer is willing to pay.

Most communities find that their particular problems and needs demand a stormwater rate methodology that is tailored specifically to the local situation. No standard definition is adequate and no "cookbook" approach to funding stormwater utilities exists. Thus, the descriptions of stormwater utility funding concepts in this report should be viewed as general guidance only. The details of the funding strategy and the rate structure that best fits Chapel Hill's needs will require a more detailed analysis if the Town decides to proceed with implementation.

### ***Basis for a Stormwater User Fee***

Stormwater utilities typically generate most of their revenue through "user" fees. "Use" of the stormwater system is defined as the demand a property places on that system and the stormwater services and facilities provided which protect the property, downstream properties, and the receiving waters. Each property generates stormwater runoff that requires action by the community to provide services to ensure safer streets, cleaner water, etc. Demand is traditionally measured in terms of the peak flow of stormwater runoff generated by the property. The greater the flow, the greater the demand, and thus the greater the user fee. Sometimes the volume of runoff and runoff pollution are also included in the rationale for the user fee structure.

Two major parameters that most significantly influence the demand that a property places on the stormwater system are total property area and total impervious area within a property. A shopping mall or a University campus has a larger impact than a single-family residence, and consequently, should pay a larger amount than the residence. Many stormwater user fees do not consider total area since undeveloped property may presently have no more impact than it had before the municipality was established. Others choose to include undeveloped area, reasoning that most drainage systems are designed and built with future as well as current service demands in mind.

The financing approach developed for a particular utility is called the "rate methodology". The rate methodology is divided into three modules:

1. the basic rate methodology;
2. modification factors which can be applied to any of the rate concepts to enhance equity, reduce costs, and meet other objectives; and
3. the secondary funding methods that can be adopted in concert with the service charges.

The basic rate methodology serves as the technical foundation for the user fee charge, and different approaches have advantages and disadvantages. Basically, the user fee reflects the amount of stormwater runoff discharged from a property, as influenced by the conditions on each property or class of properties. It may also reflect the "service" rendered to a property as a result of adequate control of upstream runoff and assurance of mobility and accessibility during and after storm events. Typical methods for calculating demand on the system and the associated fee typically consist of the following:

- impervious area;

- impervious area and gross area;
- impervious area and impervious percentage;
- gross area and an intensity-of-development factor; or
- gross area with modifying factors.

Secondary funding methods (discussed in the next section) and modification factors are used to enhance equity or improve ease of utility implementation and management without unduly sacrificing equity.

Typical modification factors might include:

- a flat rate single-family residential charge;
- a base rate for certain costs which are fixed per account;
- basin-specific surcharges for major capital improvements; or
- credits against the monthly service charge for properties that have on-site detention/retention systems or best management practices.

## Feasibility Assessment of Funding Options

Eleven funding mechanisms were examined during the assessment that might partially or wholly fund stormwater management in Chapel Hill. The first two, the stormwater service fee and the Town's General Fund are recommended as ways that offer revenue generation capability to support the projected program needs. Other "secondary" funding sources considered in this analysis are not recommended as funding methods. These include special assessments, special service fees, bonding, in-lieu-of-construction fees, system development charges, impact fee, and federal and state grants and loans. Although some of these might offer suitable and sufficient funding for specific elements of the stormwater program (e.g., bonding for capital projects), none has the capability of being the primary funding source for the long-term program. Thus, this report focuses on the stormwater service fee and General Fund options.

### 1. General Fund Appropriations

The stormwater management program in Chapel Hill has been funded from Town's General Fund. The General Fund clearly has sufficient revenue to support an increase in stormwater management funding either through a reallocation of current resources or tax increases, though neither option is likely to be popular.

The greatest inequity in using General Fund appropriations for stormwater management in Chapel Hill is that many properties that place demands on the stormwater systems are exempt from general taxes. For example, the University, government agencies, churches, and others do not generate property tax revenue. As a result they do not participate in funding stormwater management through the General Fund. Even some private properties, for example parking lots and storage warehouses that have large expanses of impervious coverage, do not pay taxes commensurate with the demands they impose on the stormwater systems. Conversely, some properties have little impact on stormwater runoff but pay substantial property taxes. They are paying proportionately more for stormwater management through the General Fund than they would through funding methods based on the demands placed on the stormwater program and systems.

General Fund appropriations are uncertain from year to year. Revenues within the General Fund are not dedicated to any specific purpose, and allocations shift with perceived priorities. Stormwater management needs are likely to receive better treatment in the budget in a year following severe storms and drainage problems than in a year following a drought. This makes it difficult to plan and consistently carry out a long-term program plan that depends on reliable funding year after year.

## **2. Stormwater Service Fees**

Under North Carolina General Statutes Chapter 160-A municipalities are enabled to conduct stormwater management as a utility function. Specific methods of funding stormwater management are not mandated. Stormwater service fees are within Chapel Hill's authority, and could distribute the cost of stormwater management across the community as deemed appropriate by the Town Council.

The Town Council has broad latitude to structure the institutional arrangement underlying a stormwater service fee as it sees fit. It would appear that a service fee could be established either independently under a stormwater utility or within OWASA's existing utility structure. If stormwater were incorporated into the OWASA operation it would be appropriate to have a separate fee based on a stormwater rate methodology supporting a separate cost center. It is almost certain that the covenants associated with OWASA's operation presently in force would dictate that an "arm's length relationship" be established and maintained between stormwater and their services. The other North Carolina cities that have established stormwater utilities have kept them separate from other entities.

Simplified residential rates are common, with many stormwater service fee methodologies having a flat-rate charge for all single-family residential properties. Service fee charges to non-residential properties are normally higher than residential charges, reflecting the greater runoff they typically generate. An "equivalent unit" approach is often used to equate service fees on non-residential properties to the rate applied to residences. Monthly residential rates typically range between \$2.50 and \$4.50, although a few very advanced programs charge more than \$15.00.

The revenue generated by a stormwater service fee is a function of the design of the rate structure and the make-up of the community. Based on the experiences of comparable communities, a typical rate structure might be expected to generate between \$20 and \$40 per gross acre annually for each \$1 per month billed to residential properties.

A stormwater service fee established under a stormwater utility could be coordinated with other funding methods. Revenue from service fees and other types of fees examined in this report (and even allocations of General Fund resources) can be melded to tailor the distribution of costs as the Town Council sees fit. North Carolina law does require, however, that the rate methodology be applied to all properties within the Town, so it is not possible to selectively use the utility approach in a limited area. In other words, all properties of a type must be treated equally.

Equity of funding can be enhanced through the service fee rate design process. For example, stormwater service fees may be applied to non-taxable (public) as well as privately owned properties. Taxable (private) properties are thus relieved of a portion of the cost of stormwater management. Credits can be given against stormwater service fees to encourage and reward responsible stormwater management such on-site detention of runoff, and to compensate for



activities performed by the property owners, which are beneficial to the stormwater management program.

The stability of revenue from a stormwater service fee ensures that long-range scheduling of capital improvements and operations can be done with reasonable assurance that funding will be available. This would overcome one major problem that currently exists. Dedicated funding that cannot be diverted to other uses also encourages stewardship of the resources.

Another advantage of a stormwater service fee would be to free up General Fund resources for other purposes. Shifting financial responsibility for stormwater management to a stormwater utility and instituting a stormwater service fee to fund all or a portion of the stormwater management costs would make more General Fund resources available for other needs.

The biggest potential disadvantages of a stormwater service fee are its high visibility and the cost of development and implementation. Regardless of technical distinctions between "taxes", "extractions", "assessments", and "service charges", any form of government funding will be viewed by a majority of citizens and property owners as a "tax" and will thus be potentially unpopular. In Chapel Hill's case, because of the work that's already been done with public groups on stormwater issues, the higher degree of visibility associated with a separate fee might actually be a plus. The community already sees stormwater as an issue and this is a serious effort to fix long-standing flooding problems and reduce stormwater pollution.

### **3. Special Assessments**

For many decades capital improvements to stormwater drainage systems were commonly funded through special assessments upon benefited properties. This approach evolved from historic English ditch law concepts originally conceived to pay for drainage of farmlands. The assessment concept was predicated on allocating drainage costs to the farmers in proportion to the direct and special benefits they individually derived in the form of increased crop yields and grazing use. This led to methodologies that were associated with the value of the enhanced use of the land rather than the demands placed on the drainage systems. The ditch law assessment concept was transferred to the United States from England along with many other local government-funding practices. In time it was translated into "special assessment district" funding, and was eventually applied to many other capital improvements needs in addition to drainage.

The inherent shortcomings of special assessment funding as applied to stormwater drainage systems in an urban setting have become increasingly evident in recent years. The chief drawback of the traditional special assessment methodology is that the distribution of costs must be proportionate with the direct and special benefit accruing to each property being assessed. The benefit must be definable, measurable in some economic manner, and available to the property being assessed within a practical timeframe. General benefits accruing to all properties as a result of a stormwater improvement cannot be used to justify a special assessment, for example better traffic movement along roads that are not frequently flooded.

The courts have established substantially different standards for service fees versus special assessments. Great latitude is given to local elected officials in setting service fee rates, but special assessments must comply with more restrictive technical standards based on

individual benefit. Fully complying with the standards the courts have set for special assessments requires more precise and costly data than is needed to support a service fee, which must simply be fair and reasonable in its general application.

As a result special assessments for drainage are most workable in a very localized application. For example, improving a ditch or channel that directly serves a few properties or a relatively small area is an appropriate project for special assessment funding. A special assessment is less suitable for capital projects that serve a wide area, and wholly unsuited to facilities providing a general service (or benefit) to the community at large as compared to specific individual properties. Because so much of what must be done to effectively manage stormwater quantity and quality in Chapel Hill is not directly and specially beneficial to individual properties, assessments are not workable as the prime source of funding for the stormwater management program strategies described in this report.

The pressure to identify new funding methods has increased as assessments have become less and less suitable for stormwater management programs and projects in recent years. The emerging “watershed” orientation of stormwater master planning and improvements accentuates the limitations associated with special assessments. Advent of an increasing local government role in stormwater quality management has further eroded the usefulness of special assessment funding, since it is extremely difficult to demonstrate the direct and special benefit of stormwater quality management to individual properties.

Under a utility a special service fee can be used instead of a special assessment to isolate certain costs to a limited number of properties or persons served by a specific capital improvement or program activity. A special service fee is much more flexible than an assessment, can be applied to large areas as well as small, and does not have to meet the more rigorous tests applicable to direct and special benefit allocations. Instead, a special service fee adopted under the umbrella of general ratemaking practices must adhere to the standards generally applied to service fees. The rate methodology for a special service fee must be fair and reasonable, and the resulting fees to individual persons or properties must bear a substantial relationship to the cost of the facilities or services, but it need not consider direct and special benefit.

When employing special service fees in situations where special assessments might have been used in the past, it is vitally important that a consistent approach be applied. A level of service provided to one portion of the service area and funded through the normal service fee should not be subject to a special service fee in another portion of the service area unless the long-term cost for that comparable level of service is clearly so different that a special fee can be justified. Just as wastewater utilities do not charge customers located farther from a wastewater treatment plant a premium over those located nearby, special service fees are rare except in cases when significant differences in the cost of providing a comparable level of service exist. The other circumstance in which special fees are sometimes used is when a capital improvement is expedited apart from normal priorities or is designed and built to a higher level of service than normal. The departure from normal priorities or service level can be translated into a special service fee. The drawback to such practices is that the public may perceive it as an elitist policy enabling more affluent customers to “buy their way up” the priority list or obtain more service regardless of what objective program priorities may be.

#### **4. Bonding for Capital Improvements**

The North Carolina General Statutes authorize the use of bonding for capital improvements to local infrastructure, including stormwater systems. A State commission vigorously oversees municipal bonding in North Carolina, ensuring that proper diligence is exercised. Bonds are not a revenue source, but simply a method of borrowing, dependent for debt service on other revenue sources. They are most commonly used to pay for major capital improvements and acquisition of other costly capital assets such as land and major equipment. Capital improvements can be funded through annual budget appropriations, but annual revenues are sometimes insufficient to pay for major capital investments.

The chief advantage of bonding is that it allows construction of major improvements to be expedited in advance of what could be funded from annual budget resources. This is accomplished by spreading the costs over time; much like home mortgage or automobile loan enables a buyer to acquire assets they could not buy for cash. In the case of stormwater management, expediting a capital project by several years through bonding may result in significant public and private savings if flooding, other damaging impacts, and inflation of land acquisition and construction costs are avoided. The major disadvantage of bonding is that it is essentially a loan that incurs an interest expense, which increases the cost of capital projects, land acquisition, etc.

Two types of bonding are typically available to cities and counties in North Carolina, revenue bonding and general obligation bonding. General obligation bonding incurs a debt that has first standing with regard to public assets and is backed by the "full faith and credit" of the issuing agency. All revenues, including various taxes, may be used to service a general obligation debt. Revenue bonding is supported and ensured only by revenues such as service fees. Creation of a separate source of revenue that is earmarked specifically for stormwater management (e.g., a stormwater service fee) would allow the Town to sell revenue bonds to pay for stormwater capital improvements if feasibility is determined. However, revenue bonding issued by Chapel Hill would not be backed by the full faith and credit of the Town, and would likely incur a slightly higher interest rate in the bond market.

It is also possible to issue general obligation debt that is backed by the full faith and credit of the issuer but has debt service funded from a designate revenue source like service fees. This is commonly referred to as "double-barreling" of bonds. It typically attains the same bond rating and interest rate as general obligation debt without requiring a general tax increase, although the fallback position for the bondholders is a covenant by the issuer that its full faith and credit is ultimately behind the bond.

It is not intended that bonds be used as a funding mechanism for day-to-day operations, but some costs can be viewed either as a capital or operating expense. The lack of a clear distinction between remedial repairs and new construction projects can result in bonding being used for major repairs, which might also be considered an operating expense. Given the stormwater priorities facing Chapel Hill, the most appropriate use of revenue bonding would be for capital construction and acquisition of land and easements for maintenance access to creeks and ditches. The deteriorated condition of many local creeks, ditches, storm sewers and structures suggests bonding might be justified for stopgap remedial work, even if it technically is not a capital improvement to the system.

## 5. In-lieu-of-Construction Fees

In-lieu-of-construction fees are not specifically authorized by the North Carolina General Statutes, but could conceivably be adopted as one element of a comprehensive stormwater service fee rate methodology. In-lieu-of-construction fees are sometime confused with impact fees. However, in-lieu-of-construction fees are usually a substitute for requiring on-site solutions even though an on-site system would work. Impact fees are generally used to pay for off-site measures to compensate for the service-demand effects of development that are not solvable on-site.

The need for in-lieu-of-construction fees stems from problems associated with requiring on-site detention systems on numerous residential subdivisions and commercial properties. Detention systems store stormwater runoff during the peak of a storm event and slowly release it afterward, and have been shown to reduce the discharge of pollutants by allowing some settling to take place. However, on-site detention requirements result in small and relatively inefficient systems on private properties, which often are not properly maintained, tend to deteriorate rather quickly, and can be easily modified or even eliminated. A proliferation of small detention facilities quickly creates an inspection and enforcement problem for local government. Fewer large systems serving many properties would be more reliable and efficient, but on-site detention involves a private developer paying for the facility while the general public usually pays for regional systems. An in-lieu-of-construction fee may offer a practical option that would be preferable to both developers and the Town of Chapel Hill if widespread use of on-site detention systems becomes an element of the long-term stormwater management plan. Developers would simply pay a fee in-lieu of building an on-site system if off-site impacts on properties immediately downstream could be avoided.

The major advantage of in-lieu-of-construction fees is that the Town of Chapel Hill (and thus the taxpayers or ratepayers) would not solely bear the capital expense for regional detention and other systems to mitigate the runoff impact created by private development projects. Developers would be required to financially participate in solutions to the impact of their projects, and the long-term regulatory problems of numerous on-site detention systems would be avoided.

The most important disadvantage of in-lieu-of-construction fees is that they rarely generate sufficient revenue to fund construction of regional detention facilities or to enlarge conveyance systems. This dictates that other revenues be used to supplement the fees in order to build regional facilities, so the taxpayers or ratepayers are burdened with the up-front cost. It is also necessary that well-refined capital improvement plans be available from which the cost of the necessary regional improvements can be determined as the basis for setting in-lieu-of-construction fees. The Town is several years away from having complete and adopted master plans.

Immediate implementation of an in-lieu-of-construction fee is not practical. Further consideration of an in-lieu-of-construction fee should be deferred until a capital improvement strategy has been adopted based on planning studies that identify opportunities for substituting regional facilities for on-site detention requirements and detail their anticipated cost.

## **6. Credits and Offsets against Service Fees**

There is no specific legislative authority for credits and offsets as an element of a stormwater service fee rate methodology. The authority to adopt credits and offsets is generally encompassed by the basic ratemaking powers provided to locally elected officials. That authority includes the latitude to establish a variety of stormwater utility service fees and appurtenant rate modifiers such as credits and offsets to achieve what they believe is an equitable allocation of costs.

Credits are frequently included as part of a stormwater service fee rate methodology. Offsets are not. The courts have generally given great deference to locally elected officials in deciding what is appropriate for their communities. Courts in several states have also cited the existence of credits as a characteristic of service charges (as distinguished from taxes) in cases where a county or city stormwater service fee has been challenged.

Credits against stormwater service charges are designed to account for the mitigation of on-site controls and activities, and are usually predicated on a property owner's continuing compliance with an approved design and operating standards established by the stormwater management agency. Credits may also be given for activities or functions performed by individual property owners that reduce the demands borne by the public entity. Credits usually continue as long as the applicable standards are met or the activities are provided.

In comparison, offsets are one-time, dollar-for-dollar allowances for extraordinary expenses that produce a public benefit. For example, if a developer has installed a stormwater detention system that provides storage capacity in excess of that normally required (and thereby reduces the cost of upstream regional detention or downstream public stormwater conveyance systems), a one-time offset against a service fee might be granted for the additional incremental capital expense of providing excess capacity. Another, perhaps simpler way to accomplish the same objective is for the local government to buy excess detention capacity from developers by the cubic foot. Once on-site detention is required and a given amount of detention must be built for a given site, the incremental cost of each additional cubic foot of capacity is often relatively low.

Offsets should be a matter of consistent policy and not special case. They are not normally conditional or based on continuing compliance with operating standards. As stated above, however, stormwater service fee rate methodologies rarely provide for offsets.

Credits are commonly provided in stormwater service fee rate methodologies to appropriately recognize on-site measures that reduce peak stormwater runoff, total volume, and pollutant loadings. In that sense, they are like industrial pre-treatment credits for industrial wastewater dischargers. The courts also view credits as evidence that a stormwater service fee is a properly designed service fee and not a tax in disguise, making them a good policy even when their practical use is minimal.

## **7. System Development Charges**

System development charges are also known as capital recovery charges, capital facilities fees, utility expansion charges, and by other titles. They are not specifically provided for by authorizing legislation in the North Carolina General Statutes, but are frequently be incorporated into stormwater and other utility service fee rate structures.

These capitalization charges differ from impact fees. They are usually designed to recover a fair share of the previous public investment in excess infrastructure capacity from a developer who makes use of the additional system capacity. In most cases that excess capacity has been provided in anticipation of development projects subject to the capitalization charge. This is usually a more economical and prudent long-term system development policy than attempting to increase service capacity to meet the demands of growth on a case-by-case basis as it occurs.

There are several ways of structuring and calculating capitalization charges, including the growth-related cost allocation method, the system buy-in approach, the marginal incremental cost approach, and the value of service methodology. They differ from in-lieu-of-construction fees and impact fees primarily in terms of: 1) the fundamental purpose of the charges; 2) their relationship to the point in time when improvements are made versus when the charges are collected; and 3) their relationship to specific facilities which are funded through service charges. In most cases, system development charges are related solely to capital costs, as opposed to operating expenses. However, some justification may exist in certain circumstances for incorporating long-term operating expense associated with system capacity into a capitalization charge.

System development charges basically provide a mechanism whereby developers participate in paying for excess capacity that was previously built into a public system in anticipation of their needs. In effect, a system development charge allows a deferral of participation in the capital cost of a facility until a property is developed and makes use of the provisional capacity. The use of such fees for stormwater management capital costs is clearly appropriate since most drainage systems are consciously designed to provide excess capacity to accommodate future development in an economical manner.

The need for a stormwater capitalization charge is related to basic rate methodology employed. Most stormwater service fees are based on impervious area. The obvious result is that only developed properties are charged a service fee. Undeveloped properties do have impervious area and therefore are not charged. However, capital facilities being funded by the service fee will normally be designed with future conditions in mind, including the impact of growth. This results in excess capacity being incorporated into the system and being paid for solely by currently developed properties under an impervious area methodology. A capitalization charge may therefore be adopted as a recapture mechanism to ensure a fair and reasonable allocation of the capital costs among all properties using the facilities over time. The calculation of a capitalization charge may also include a system depreciation factor so that a development built near the end of the useful life of a facility pays only for the portion of the life cycle when it is using the capacity provided.

Some communities have adopted service fee rate methodologies which bill undeveloped as well as developed properties. This is most common when extensive major capital improvements to the systems are being funded and built and it is desirable to spread the cost as widely as possible to keep rates low. If designed to properly allocate capital costs this type of rate methodology can obviate the need for a capitalization charge to recapture deferred financial participation. However, this approach also poses a potential inequity. It is based on speculation that all undeveloped properties will be developed to the design condition within the life cycle of the facilities and make use of them, which may or may not be reasonable in different settings.

## **8. Plan Review, Development Inspection, and Special Inspection Fees**

Chapel Hill has been reviewing stormwater plans in conjunction with development approvals for several years. Although there is no specific statutory authority for special service fees for stormwater management plan review and inspections, they could reasonably be included under the scope of a stormwater service fee rate methodology since they are clearly fees for special services.

The rationale for including such fees in a rate methodology is based on the “origin of demand for service” concept, in which costs are apportioned only among those whose needs require the service. Not all “service” provided by a stormwater management program is uniform throughout a community. Some services, such as plan reviews and inspections, are provided only to a specific clientele. Instead of distributing the cost of such services among all service fee ratepayers, special service fees can be adopted which apply only to the parties who are served.

Fees of this type are often incidental to the performance of specific regulatory activities by the local jurisdiction that are intended to protect the public health, safety, and welfare. Some of the regulatory activities may be mandated by federal and/or state requirements. In other cases they are simply intended as a cost recovery mechanism that assigns the expense to a specific clientele that is served. For example, experience has demonstrated that on-site detention systems tend to deteriorate rapidly after about five years. Maintenance is sometimes deferred, or alterations may be intentionally or unintentionally made to the facilities that compromise their functionality. Annual or biannual inspections may be required to ensure that on-site systems are properly cared for and not altered from their approved design. It would seem appropriate that the cost of such inspections be assigned to the specific property owners through special inspection fees, thus relieving the general service fee ratepayers of that cost of service.

In the case of Chapel Hill, separate fees for stormwater system plan review and inspection would provide only a small additional amount of revenue, but would enhance the equity of the cost distribution by removing the costs from service charge ratepayers and isolating them to those who require these services if such costs were borne by stormwater service fee rates. Adoption of special fees to recover the costs of such functions would also require that other Town fees associated with the same reviews or inspections be evaluated to ensure that the developer is not being charged twice for the same services. This could require adjustments in other fee schedules, and accounting changes to ensure that the special fees for stormwater plan review, inspections, etc. are allocated to a stormwater enterprise or special revenue fund if one exists.

## **9. Impact Fees**

Impact fees have been associated with a variety of public infrastructure components across the United States. They are often popular with existing residents who wish to see developers pay the entire cost of new capital facilities. Naturally, they are just as often highly unpopular with developers. Specific applications of this type of funding method have been the subject of a great deal of litigation nationally. An unusual aspect of impact fees is that state courts around the country have been notably inconsistent in their definition of them and decisions on their application.

Standards have evolved for adopting and applying such fees and been institutionalized in legislation in several states, though not yet as general legislation in North Carolina. In North Carolina the limited instances of impact fees are the subject of exclusive legislation that typically applies only to a single jurisdiction. Lacking any general legislation, the Town of Chapel Hill would most likely have to seek exclusive legislation to authorize it to use impact fees for stormwater management. Development sector interests, particularly home builders, have taken the offensive and gained adoption of impact fee laws in several states that impose so many administrative burdens and limitations on use of impact fees that they are essentially impractical as a funding source for stormwater system improvements.

Impact fees are typically limited to situations in which the impact of new development on existing infrastructure systems is: 1) measurable and certain; 2) of definable geographic or systemic extent; and 3) quantifiable in terms of the incremental capital investment that will be required to maintain (not attain) an adequate service level. The final point is critically important in terms of stormwater management systems. Impact fees cannot be used to bring an inadequate existing system up to an adequate service level, and thus are not useful in correcting the many problems that currently exist in the stormwater systems in Chapel Hill. Impact fee revenues must also be earmarked for specific projects or uses, must be expended relatively quickly, and, if not spent for the stated purpose, must be returned to the developer, often with interest.

All of this makes impact fees impractical for stormwater management in most situations and almost certainly so in Chapel Hill. The crux of the problem is that few of the local stormwater systems that have problems could be described as providing an adequate level of service at the present time. It is likely that the Town would have to bring a system up to an adequate level of service before applying an impact fee to a development or spending impact fee revenues on a project that would maintain adequacy in the face of growth.

Even though there is a good deal of new development and redevelopment taking place in Chapel Hill, most of it cannot be reliably shown to demand additional service capacity exceeding what would be provided by an adequate system (if one was in place). The Town of Chapel Hill simply does not have the engineering analyses and master plans to support such a position. An impact fee would therefore generate little revenue and place burdensome administrative demands on Chapel Hill to manage and track the use of the funds. A stormwater service fee rate structure offers better opportunities to ensure that new development participates fairly in the cost of facilities through system development charges, which differ from impact fees in several important ways (see System Development Charges, above).

## **10. Developer Extension/Latecomer Fees**

Developer extension/latecomer fees are not specifically provided for funding extensions of stormwater systems, but might be within the authority contained in Chapter 160A of the N.C.G.S. if adopted as part of a comprehensive stormwater service fee rate structure. They are not a revenue mechanism, but rather a means of properly distributing capital investment costs among several properties when one developer builds a facility with excess capacity to accommodate adjacent or nearby properties that are to be developed subsequently. The most common use of this type of fee around the country is for water and sanitary sewer system extensions.



A developer extension/latecomer fee works in the following way. Developer "A" proposes a project that requires a stormwater (or water, or sewer) system with "x" capacity. Practical design considerations indicate that a larger system should be installed to properly serve other nearby properties that are currently undeveloped but likely to use the system when they are developed in the future. Developer "A" therefore is required to build a larger system than necessary simply to serve his or her property, and incurs an additional cost. Property owners subsequently tapping into the improved system when their development occurs are charged a one-time fee by the administering agency for connecting to it, and the fee is then transferred to Developer "A".

This type of fee is supposed to be structured so that Developer "A" and all other property owners ultimately bear a fair proportion of the additional capital cost when all properties are finally built out. The administering agency typically receives no revenue from the fee, although some do charge administrative expenses on top of the capital cost that is being distributed by this funding mechanism. This type of fee appears to be practical and feasible for Chapel Hill, but only in the future when the capital improvement needs have been fully defined for local areas and development standards are adopted requiring provision of excess service capacity as a condition of development approvals.

## **11. Federal and State Funding**

Chapel Hill has all necessary authority to make use of Federal and State government grants and loans that might be available to help support its stormwater management program. The only action needed is for the Town Council to apply for and accept various grants and loans. However, with the exception of the funding that might possibly be available in the future from Clean Water Management Trust Funds or the State of North Carolina's revolving loan fund, there are few federal and state funding mechanisms for local stormwater management programs. Federal involvement in stormwater management (other than regulatory programs) is typically limited to advisory assistance, cooperative programs like those provided by the United States Geological Survey and the United States Army Corps of Engineers, and emergency response following devastating floods.

## **Conclusions**

This assessment concludes that a stormwater service fee offers more flexible, stable, and equitable long-term stormwater management funding for Chapel Hill than any other option. While most cities and counties establishing stormwater service fees have done so through a "stormwater utility", it must be stressed that service fee funding does not necessarily dictate that a stormwater utility organization be established. A wastewater or water supply utility or authority in North Carolina may be able to establish stormwater service fees subject to the same limitations as a city or county. In fact the South Brunswick Water and Sewer Authority (Southport, North Carolina) has adopted stormwater service fees as part of its funding package.

Regardless of the institutional mechanism employed, only a service fee approach appears to be capable of generating sufficient revenue to meet the program needs identified in Chapel Hill. However, whether a service fee is feasible involves other considerations. This assessment concludes that a stormwater service fee will be feasible in Chapel Hill only if it: 1) results in a technically equitable allocation of costs that is understandable to the general

public; 2) ensures that the revenue is dedicated solely and specifically to stormwater management; and, 3) is packaged and presented in a way that makes sense.

It is clear that a service fee has several significant advantages over other funding options. It is highly flexible, offers the prospect of stable funding over time, allows restrictive dedication of the revenues to stormwater management only, and enables elected officials to craft an equitable distribution of costs through a service fee rate design. A service fee rate structure can allocate costs based on the demands placed on the systems instead of property value or other factors unrelated to stormwater service needs.

Needs change, and the ability for funding to change with needs is critically important. A service fee rate methodology can be periodically adjusted in concert with major transitions in programs and priorities, especially in terms of system improvements. Other funding methods can be integrated with a service fee, either as part of a rate structure or independently. Funding methods differ in their suitability for capital, operating, regulatory, and other types of costs. At this time, stormwater service fees appear to be viable only for operating and capital expenses associated with "systems". The revenue stream created by a service fee may also allow revenue bonding for major capital investments, enabling Chapel Hill to expedite major improvements to the stormwater systems without limiting its general obligation bonding capacity for other purposes.

A stormwater service fee has sufficient revenue potential to assure consistent funding at a level that would support an aggressive program. The Town's General Fund, with revenue generated by a variety of taxes and other mechanisms, has sufficient total revenue capacity. However, it must also support numerous other municipal services that do not lend themselves to utility funding (such as police and fire services and street maintenance). Stormwater service fee funding could relieve, partially or wholly, the demands stormwater management now places on the General Fund.

Under an enterprise or special revenue fund, a service fee also allows earmarking of revenues strictly for stormwater management, thus improving accountability. Money not spent in one fiscal year carries over into the following year and cannot be diverted to other uses. This encourages stewardship of the financial resources.

The major disadvantages of a service fee are that it costs money to implement and new fees might be politically unpopular. Political acceptance is more difficult to forecast. Public reaction to stormwater service fees elsewhere has ranged from very positive to very negative. Given the extent of local drainage problems and the amount of work that has been done with citizen groups, it is probable that the community would be receptive to a workable long-term solution. In fact the various stormwater advisory and technical groups have said this was an appropriate alternative and that it was time to get on with it. The program and funding strategy that offers a realistic prospect of solutions will still have to be communicated convincingly to gain public support.

If the Town Council chooses to establish a stormwater service fee it will have to address both institutional and funding issues. One or more ordinances will have to be drafted and adopted. The experiences of other cities and counties suggest that an intensive public information effort should be conducted to explain a stormwater service fee concept to the community.



# Town of Chapel Hill

*Pro Forma Business Plan –*

*Utility-Based Stormwater Management Program*

## **I-3 Basic Database Feasibility**

### **Introduction**

At the most basic level, the rate structure for a stormwater utility can be built upon assigning rates based on contribution of stormwater runoff for a given property. Stormwater runoff can be related directly to the amount of impervious area that is built upon a property. This is a brief assessment of the data needed to support the creation of a user-fee-based stormwater management program for the Town of Chapel Hill.

In assessing GIS data for a potential stormwater utility, there are four key data components that are used to develop a stormwater utility billing database: tax parcels, the attributes describing these parcels, planimetric data, and aerial orthophotography. These form the basis for developing a stormwater management service charge rate methodology that can be applied to individual properties. The rate methodology is then applied to individual properties and bills are generated and delivered to each customer.

A key step in setting up a utility is development of a Master Account File. The Master Account file will include information on the customer, the property type, the amount of impervious area, and the rate to be billed. This account file is then integrated into the utility billing system to generate actual bills. Existing databases, such as property tax rolls and water/wastewater account files, are typically used as the foundation for building the Master Account File. Customer data contained in the Master Account File will depend on the source data used to create the file. For example, if tax rolls are used in developing the Master Account File, then the file will likely be based on parcel ownership rather than on water or wastewater customer.

### **Basic Database Feasibility**

For stormwater service charges to be implemented, a means of billing, collecting, and accounting for the service charge revenues must be identified and instituted. Experience has been that the requirements of a stormwater management service charge billing often challenge the capacity of existing systems and can pose a potential major obstacle to timely implementation. In order to implement and properly bill, collect, and account for stormwater service charges, two main systems are required. These are:

- 1. A system to generate and manage a list of charges and related data for each stormwater customer.**

Assuming the basis for charges is impervious area, this method will require that parcel lines and impervious features be established for some ratepayers. Parcel-based charges can be developed using this method. Typically, single family residences (SFR) are billed one or a series of flat rates, such that actual computed impervious areas are only required for non-residential customers. We estimate that there will be fewer than 3,000 non-residential

customers (NSFR) in Chapel Hill. From the data we've evaluated to date, our experience tells us the tax-billing database will need to be expanded to include classification fields to support the additional data needs.

## **2. A method to deliver bills to customers and account for payments, credits, etc.**

The easiest way to satisfy this requirement is to add stormwater service charges (as a separate item) to an existing service billing system, such as a water and sewer billing system. Since the relationship between Chapel Hill and Orange Water & Sewer Authority (OWASA) is supportive and since water and sewer bills for Chapel Hill are already initiated at OWASA, the most effective and efficient way to provide stormwater user fee billing will likely be through OWASA. In this scenario, parcel-based charges must be converted to account-based bills before billing can be accomplished. Another method that might be used is to add stormwater service charges to the annual tax bill. This however will blur the line in perception between this being a user fee and being a tax.

### **Existing Data**

The Town of Chapel Hill has access to or possesses several systems and data sets that can be used in implementing stormwater service charges. The latest aerial photographs were taken of the Town in 1998. The photographs are black & white orthophotography developed with a resolution of 0.5' pixels. The photography that was reviewed appears to be somewhat grainy, but the high resolution allows for an adequate source for generating the impervious features coverage.

However, to ensure that the billing file is as accurate as possible and to establish the Master Account File from the same source data, it is recommended that the Town be re-photographed in late fall 2002 or early winter 2003 when the trees have lost their leaves. It will then be possible to manually digitize impervious surfaces in a drafting or GIS program. It will not be possible to use the power of a GIS software package to perform the calculations by parcel until the planimetric and cadastral mapping is completed.

GIS Planimetric Layers - The Town has limited GIS data relating to impervious features, as this is information that has not been previously needed for Town purposes. There is a background coverage containing building footprints. It appears that some of these features appear sporadically and are often not as spatially accurate as the utility would demand. Figures 1 and 2 on the next page show some of the difficulty that will be encountered if the Town chooses to use only existing data.

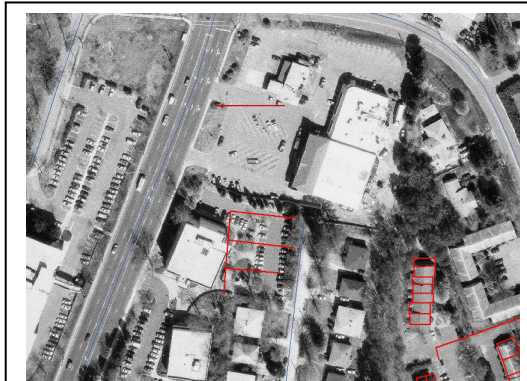


FIGURE 1 - Limited available building footprints.



FIGURE 2 - Many building footprints are not 100% accurate

## Evaluation Criteria

Imperviousness is the single greatest factor in estimating runoff volumes from individual land parcels. Although the final decision on a rate structure might require that other factors be considered in determining stormwater charges for each land parcel, for this analysis it is assumed that impervious area will be the major factor in computing rates. Given this assumption, parcel lines and impervious features are required inputs into database development. Given the available data and systems, a stepwise process and set of evaluation criteria for implementing stormwater service charges is provided below. If Orange County and/or Carrboro decide to join the Town of Chapel Hill in improving the stormwater management program in the near future or at a delayed date, the following process can be modified to accommodate the change. **Based on existing data tools, the process for development of the Master Account File is:**

1. Acquire a digital copy of the Orange County tax database and GIS parcels coverage (coverage is a data model form shown within ARC/Info), identify parcels inside the Town limits of Chapel Hill, and identify which of these parcels are single-family residential. Set aside the single-family residential parcels to be billed by flat rate (if applicable). Set aside the non-single family parcel list for other uses. This data set must have accurate identifiers, such as parcel numbers, physical parcel addresses, and owner names. Using the non-single-family parcel list, find each of these parcels in the GIS parcels coverage. The GIS parcels coverage must have current parcels, accurate parcel numbers, and be on a coordinate grid system that is positionally accurate to within 10-15 feet.

The physical parcel addresses from the tax database will need to be verified if addresses are used. The residential addresses tend to be less accurate than the commercial addresses. Public Utilities' site address data should be a valuable resource in verifying and updating the tax data. Even then, it will be necessary to field check some streets. Finally, there will be the need to digitally overlay these non-single family parcels on the new ortho-rectified photographs, move the parcel lines as necessary to align them with visible cues from the photographs, digitize the visible impervious features on the photographs which fall under each non-single family parcel, and compute the impervious area of each of the non-single family parcels.

2. Create a GIS coverage (polygon-based) of impervious features based on the 1998 photography for NSFR parcels only. This coverage should include building footprints, parking lots, sidewalks, patios, miscellaneous concrete/hardened surfaces, etc. This initial impervious features coverage will represent the state of imperviousness through 1998.
- | 3. Update the initial impervious features coverage using the ongoing work performed by Deborah Squires that utilizes building plans/permits. In addition, develop methods to incorporate other impervious features not captured by Deborah Squires. Additional actions might require field visits and GPS data collection on NSFR parcels containing new impervious features. Establish the “cut-off” date for the impervious features coverage.
4. Make a decision about how roads will be addressed in the utility. This decision will affect how roads will be dealt with when creating the impervious features coverage.
5. Create a separate impervious coverage (or an additional component of the main impervious features coverage) for SFR sample parcels.
6. Intersect NSFR parcels and impervious features to determine amount of impervious area (IA) per NSFR parcel. Develop strategies for managing complex many:1 tenant-to-parcel issues.
7. Establish the initial billing file.
- | 8. Match each parcel in this initial billing file to the parcels, accounts and addresses found in the water and sewer billing system, creating “stormwater only” accounts where necessary.
- | 9. Adjust the water and sewer billing system to handle the additional line item charge and associated accounting needs. The water and sewer billing system must be designed such that an additional service charge line item can be added.
- | 10. Establish data management and maintenance procedures to allow for accurate accounting, collection, and continuous updating of stormwater data. These processes can be GIS-based or manual.

## Approach for Data Management and Development

Other existing data that needs to be closely examined includes:

1. The existing water and sewer billing system (OWASA), which may already have parcel numbers associated with the account number. Past experience has shown us that this is not always the case, as the billing system is account-based and not parcel-based.
2. The existing tax billing system. Orange County does all billing under contract to Chapel Hill, collects the taxes and forwards monies to the Town daily. The initial tax billing is in July, and the tax digest is set final in October of each year.

The impervious features information currently available to the City is limited. Much of the effort and cost of building the stormwater utility will go to building and refining this data component. Once complete and current, strategies will have to be developed and implemented to maintain the accuracy and completeness of this critical GIS layer.

The most important and the most difficult part of the process requires high-quality, current original data. The Town's current photography is almost five years old. This is of particular concern considering the growth and change in the area in recent years.

The decision about how to proceed is a balance between accuracy versus time and expense. Re-flying the area (a flight of approximately 20 square miles of digital imagery) could not be done effectively until late winter when all the trees are bare. We would suggest that the entire Town be flown at 1:1200 scale in order to get very high resolution photography. (Other sources of photography may be possible to find and should be considered as a first step). It is recommended that the Town team with Orange County and other incorporated jurisdictions for new photography. The flight to obtain the photography would probably cost between \$20-30,000. The greater costs involve processing the imagery and the ortho-rectification (processing image to match real-world terrain, etc.) process. The total cost of re-flying and processing the data is estimated at \$150,000. Digitizing the impervious coverage will cost an additional \$120,000 and \$175,000, to capture all features within the Town limits including residential units and public roads.

Before the aerial photography is undertaken, it is highly recommended that building the utility database be considered in determining the kind and form of data to be captured. Coordination with the consultant will considerably enhance the usability of the data. AMEC would work with the Town to determine the best alternatives for planning the mapping portion of the project, and as part of an agreement could be made responsible to oversee the work and the timeliness of the mapping company. This is the most efficient methodology for completing the work. The cost can be folded into the utility start-up costs.

Once the flight is complete, it takes approximately six months before data is available from the mapping company for use in building the Master Account File. This may impact the start-up date for the utility.

On the plus side, once new data is available, the Town would have more accurate information to start the utility and can then be more confident in initial billing accuracy and the ability to keep up with changes and additions.

## **Possible Problems and Data Gaps**

It may be difficult to match existing water and sewer account numbers with parcel numbers for some accounts. Once digital methods are exhausted, hand matching using addresses and names can be used to finish the task.

The tools used in the computation of impervious area for non-single family parcels are imperfect, due to parcel line and photograph inaccuracies. This is addressed by use of a standard billing unit, usually 1,000 square feet or greater.

For seamless operations in the future, a linkage will be required between the OWASA system and a system for computing impervious areas for non-single family residential parcels. The details of this linkage cannot be known at this time.

## Schedule

In order to perform the process detailed above, and to allow for some extra effort to overcome the possible problems and data gaps mentioned, a time period of eight to nine months should be allowed, *once all source data has been assembled*. To match the 20-24 month schedule for developing the utility, the Town must re-fly the area by February 2003; impervious coverage data would then be available in approximately October 2003. It frequently takes two months to acquire all digital source data in a useable format. If the Town plans to utilize a GIS for data management, appropriate coordination with Orange County should be undertaken immediately. This coordination will add some time to the schedule but likely result in a more integrated system.

Given all timing and schedule issues, 20 to 24 months should be allowed from notice to proceed on the Master Account File portion until an integrated system is completed. This would integrate with the Town's wish to have the utility in place in 2004, but might push the January 31, 2004 date back to second quarter 2004.





# Town of Chapel Hill

## *Pro Forma Business Plan – Utility-Based Stormwater Management Program*

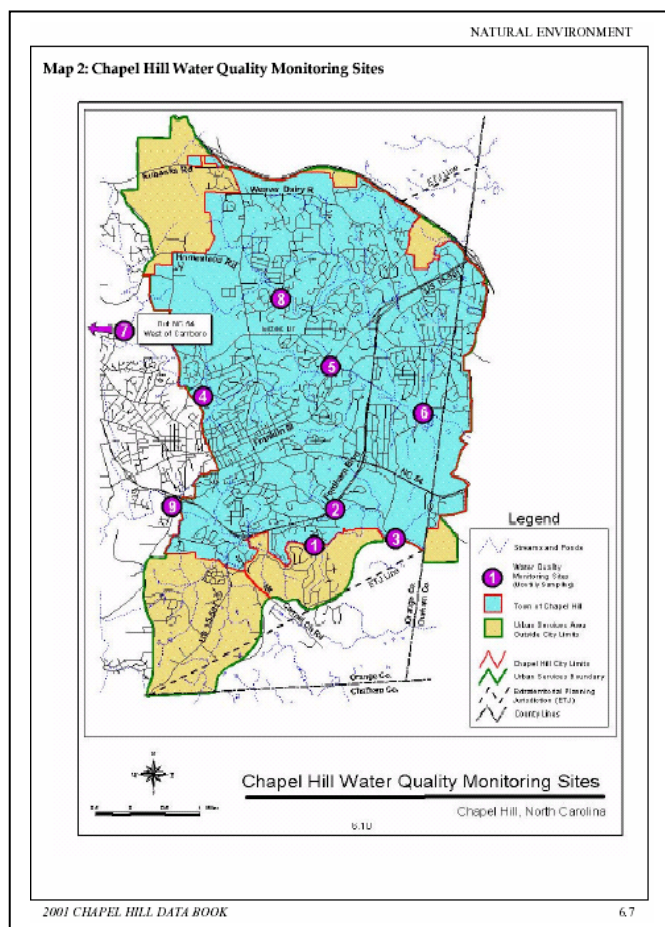
### I-4 – Recommended Approach

Stormwater programs are comparable in many ways to more traditional municipal water supply and wastewater treatment utilities. Nearly all involve management of a complex system of natural and man-made physical structures, and demand continuing operational and regulatory programs as well as capital investment in the systems. Most provide a comprehensive program that addresses water quality as well as quantity (flood) control. However, no standard definition is adequate and no “cookbook” approach to funding stormwater programs exists.

Chapel Hill faces a “program development curve” in the next few years as administrative, operational, capital investment, and regulatory elements of stormwater management are formulated and carried out. It will take five to ten years before a comprehensive program is fully attained. Funding should be expected to evolve along with the program. Full implementation of the funding program associated with a comprehensive stormwater management program may therefore require ten years or more.

Based on our findings and validating the work of several Committees appointed by the Town of Chapel Hill over the past 10 years, it appears that a stormwater service fee is the most viable long-term funding method for the proposed program. A stormwater service fee offers stable and adequate revenue to meet the system service requirements and the opportunity to design a rate methodology that results in an equitable distribution of the cost of services and facilities.

Service fee rate structures typically are designed to distribute costs based on the demands placed on the stormwater systems and programs. There are several ways of augmenting a standard stormwater service fee that offer opportunities to enhance both equity and revenue sufficiency under the enterprise fund approach. Some are consistent with the “service demand” philosophy that prevails for fees, while others are more in tune with “direct and



special benefit” concepts associated with assessments or with the “tax” philosophy that is strictly related to revenue generation without concern for service demand or benefit.

## **Influence of Policy Recommendations on Implementation**

A series of policy issues needs to be addressed if the Town of Chapel Hill decides to establish a stormwater management enterprise fund. The issues should be carefully documented since they directly impact the validity of Town Council actions related to the establishment of the enterprise fund and adoption of rates and other funding methods that might be associated with it. The following recommendations on specific funding issues are based on the experiences of other cities that have implemented stormwater management enterprise funds. They are the minimum that should be examined and documented. These issues will dictate to some degree how the implementation process will proceed if the enterprise fund approach is selected by Chapel Hill.

- 1) The Town should establish a stormwater management fund as a separate cost center encompassing the full range of services and facilities associated with stormwater quantity and quality management, ranging from flood control to water quality management. This cost center should be accounted for as either an enterprise or special revenue fund apart from the General Fund.
- 2) A stormwater management program should be funded primarily from service fees. The stormwater service fee should be on the same bill as the water and wastewater charges if possible, with the assistance of the Orange County Water and Sewer Authority (OWASA), and should appear as a separate line item.
- 3) The rate methodology for stormwater service fees should be fair and reasonable and result in charges that bear a substantial relationship to the cost of services and facilities.
- 4) Bonds should be used to pay for major capital improvements to the stormwater systems, but should be limited to projects and acquisitions that are beyond the capacity of the service fee to fund through its annual revenue stream.
- 5) Service fee credits should be provided for properties that have on-site stormwater management facilities, where practices are conducted that mitigate peak flow, total volume, and pollutant loading impacts on the public drainage systems, or where distinctly lower levels of service are to be provided as a matter of policy.
- 6) The Town should seek and accept state and federal funding in support of the stormwater management program only in instances where such funding is consistent with local objectives and practices and offers appropriate latitude to the Town in using such funds and its own resources.
- 7) The Town should determine if a service fee rate increase is desired after the initial start-up of the expanded program or if a higher initial rate should be adopted that would cover a longer period.

A stormwater management enterprise fund can be established even before the Town is ready to bill and collect stormwater service fees. By establishing a stormwater management program as an independent enterprise fund, before the extensive work of developing a master

account file and building the service fee calculation database, those and other costs can be shifted ultimately to the “ratepayers”, who in some cases will be different than the City’s “taxpayers”. Initial funding could be provided by an interfund loan to a stormwater management enterprise or special revenue fund from the General Fund or reserves in other funds, with repayment to be made from future stormwater service fee revenues. Several other cities have used this approach to meet the front-end expense of developing a master account file and other related systems.

The other stormwater management costs that might be funded initially through interfund loans could also include the acquisition of key pieces of operational equipment. This would “jump-start” the operating and capital improvement programs so they could be on-line by the time that service fee billings begin. Expediting correction of some of the more highly visible drainage problems around the Town in this way will demonstrate the value of the program to ratepayers even as the first billings are being sent out.

### **Expeditious and Efficient Implementation**

The transition to a stormwater program funded primarily through service fees typically involves highly visible changes in the operating and capital investment programs and budgets. The experiences of other jurisdictions indicate that the implementation of a stormwater program service fee can be a costly and time-consuming process unless care is exercised in the approach selected. Key policy decisions made in formulating the funding and program concept dictate what must be done to implement the service fee funding mechanism, thus driving the expense and time required for implementation.

Because of the large revenue amount involved, time is potentially more costly than the added cost of expediting the work that must be done to implement a stormwater service fee. Until the potential revenue stream is actually realized there is an opportunity cost of lost revenue each day that service fees are not being billed. This tends to create an atmosphere of urgency once the decision to establish a funding program is reached. In some cases the daily cost of unrealized revenue has driven municipalities to employ fast, but very expensive, implementation options or to accept a lower level of quality and accuracy that portends higher future costs to resolve problems. Recognizing this, it is possible to take measures to spend the appropriate amount of time to ensure the utility goes on-line correctly and with a high level of quality.

### **Implementation Plan**

It is imperative that the correct steps be taken if a utility is established. Shown below are some of the critical tasks and actions which, when timed correctly, will result in the formation of a comprehensive stormwater management program. This report does not contain sufficient details and staff input to form the enterprise fund without additional, detailed analyses. However, it does provide sufficient information to determine the merit in pursuing this approach to funding the stormwater management program.

The key steps in the process are:

1. Form a Stormwater Policy Review Committee to review the program and to provide feedback on program and policy issues



2. At the same time, develop a Program Strategy, make policy decisions, with the Stormwater Policy Review Committee input
3. Develop data for establishment of a rate structure, including new aerial photography
4. Perform a Cost of Services Analysis
5. Establish Enterprise Fund and separate Cost Code Centers
6. Perform a Preliminary Rate Study
7. Implement Customer Service Programs, Public Information Program
8. Create the Comprehensive Stormwater Management Program (passage of program service ordinance)
9. Create Master Account File
10. Determine Credit Program
11. Revise Rate Study to match Account File and Credit Programs
12. Continue Implementation of Public Information Program
13. Create Billing Process
14. Create Rate-based Program (passage of rate ordinance)

We recommend a two-phase approach be taken. Phase I includes steps #1 through 7 above – the development of the program and the enterprise fund (program service ordinance). After being legally established, Phase II (Steps 8 through 13) includes undertaking the associated rate study (rate ordinance) and master account file development (billing system).

This approach offers several advantages. First, it allows several opportunities for the general public to provide input as the Town Council considers the new stormwater management program changes. Secondly, it separates the revenue generation consideration from the program/service development consideration.

Based on our experience, the Town is approximately 20-24 months away from implementing a user-fee based, comprehensive stormwater management program that would result in a bill being issued. The process can be shortened, but it will increase the risk that the establishment of the enterprise fund may not be on firm legal ground– increasing the overall problems, rather than helping to solve them. The above steps are translated into 15 tasks associated with formation of a stormwater enterprise fund user-fee. Shown below are the tasks, and a potential schedule.

	2 0 0 2					2 0 0 3					2 0 0 4									
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Stormwater Policy Review Committee	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
Policy Issues & Identification	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
Rate Structure Analysis						■	■	■	■	■										
Cost of Services Analysis			■	■	■	■	■	■	■	■										
Data Updates and New Aerial Photography						■	■	■	■	■	■	■	■	■	■					
Budget & Cash Flow Analysis											■	■	■	■	■					
Rate Study																■	■	■	■	■
Ordinances																■	■	■	■	■
Public Information & Education	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Base Master Account File																■	■	■	■	■
Dates for Initial Billing & Errors Checking																■	■	■	■	■
Inquiry & Complaints Response Measures																			■	■
Billing System Maintenance Procedure																			■	■
Credit Manual																■	■	■	■	■
Program Implementation Assistance																				■

Based on the above layout of tasks, it will take at least 20 months to complete the necessary actions to form a stormwater enterprise fund and send a bill. If started in Fall 2002, we would anticipate that the program could be established and a bill could be sent in accordance with the Town's anticipated schedule of January 31, 2004. Depending on the implementation of the re-mapping strategy, it may be more realistic to anticipate a second quarter 2004 billing date.



# Town of Chapel Hill

## *Pro Forma Business Plan –*

### *Utility-Based Stormwater Management Program*

## **I-5 Public Involvement Plan**

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### **Introduction**

The Town of Chapel Hill has had three separate Advisory Committees over the course of the past 10 years to review and develop recommendations regarding stormwater management. In each case, public information and education was recommended. For example, the *Recommendations of the Stormwater Utility Development and Implementation Study Committee* November 26, 2001 urges the Town “to undertake a comprehensive and coordinated public education program to consistently inform citizens of stormwater, water quality and floodplain management issues, to enable them to take mitigation actions and to provide a simple mechanism to alert officials of observed problems”. Based on a public charette, previous committee recommendations and review of the Comprehensive Plan and other relevant policy documents, the same committee listed “effectively educating and incorporating citizens, businesses and institutions in stormwater management issues and programs” as a goal for comprehensive stormwater management.

Regulations impacting water quality require the Town to address public education and involvement in their programs, recognizing the importance of empowering the public to participate in protecting waters of the State.

Public awareness and education are carried out in stormwater management programs in two ways: specific public education campaigns and ongoing "baseline" public information programs and activities. These differ in that a campaign has a beginning and an end while the ongoing program goes through transformations but does not envision an ending.

In order to develop a plan for the public information and education (PI&E) program we must first identify: (1) the phases of the project, (2) the “public”, (3) the message(s), and (4) the different possible ways to communicate the message to the public (the media).

### **Phases of the Project**

The development of a user-fee for stormwater is expected, in terms of public information, to have three phases: buildup, billing day, and the post-billing period.

The buildup is the period of developing and implementing the stormwater management program and funding program. The buildup starts immediately and progresses to within a few weeks of the first bill going out. This period is one of gathering and disseminating data and information, identifying and meeting with different key public sectors, educating the press, and forming policy.

Billing day starts about three weeks out before the first bill goes out and lasts through the first month of billing. It focuses on broad coverage of the reasons for the billing, examples of the effectiveness of the stormwater program and customer service responses to those with inquiries and complaints.

The post billing period begins after the first month of billing and then blends into the long term PI&E program about the stormwater program.

## The Messages

What is it that makes a stormwater enterprise fund and user fee desirable in the first place? It provides a stable and adequate source of revenue to allow the Town to fix and avoid flooding (and other stormwater) problems and it does so in a way that is fairer than property tax based methods.

The best way to “sell” a stormwater user fee is to stress the goals of the expanded stormwater program...and to demonstrate those service changes in the first few weeks of the program’s life. Care should be taken not to try to sell the program “because EPA is making us do it”, “to get more money”, or “because the general fund will get a windfall”, etc. It is also important not to raise expectations above what can be delivered. More money is NOT the solution if the program itself is not more effective. And, if there will be no property tax rebate; the Town needs to have a good explanation why in case the question is asked.

So, in summary the messages should stress:

- there are needs in the community that are currently not being met;
- we have a plan to meet these needs that is well thought out, effective and not extravagant;
- government must take the lead in this;
- this plan costs some more money, but this additional investment is well worth it in terms of benefits;
- the method to generate this new revenue is fair, adequate and stable, and is fairer than a tax increase;
- the method is not a tax but a user fee and is very practical in its approach;
- the cost to each homeowner is minimal; and
- you will see results.

Specific program-related messages concerning stormwater credits, a potential cost savings for detention with new master plans and models, a more effective maintenance program, etc. can also be effective.

## Message Goals

In terms of the phases of the project the messages should reflect what is happening or about to happen as:

- **Buildup** - The goal of the message during this phase of the project is to educate and build support among the various stakeholder groups. Therefore the message highlights, dramatically if possible, the current problems experienced by Town residents; that all properties generate runoff; it stresses the benefits of the planned stormwater program; it introduces the concept of a fairer and more stable way to pay for the program, and it gives basic information on rates and credits. Part of the goal also is to educate ratepayers about the bill they will get in order to minimize the multitude of questions and concerns. It may give special attention to specific ratepayers to avoid pressures on the Council Members from special interest groups or powerful individuals.
- **Billing Day** - The message goal here is to educate ratepayers about the bill they just received. The message must be communicated rapidly, often one-on-one, and consistently. There must be a phone line for the public staffed by people who can answer basic questions. There also must be technical personnel who can handle questions about credits and the bill amount. Another goal at this time, to help blunt any criticism, is to demonstrate that the program is active and effective. One way to accomplish this is by having construction begin on projects the day of first billing... and in advertising that fact.
- **Post Billing Period** - The post billing period goal is to initiate a longer term public education and response program. Some policies will be made "on the fly" as a more effective capital program begins and people become more aware of the stormwater services. There should be consistent information on policies, a customer service attitude to the responses, and satisfying answers to most questions. At this point a consistent way of making policies is as important as the policies themselves.

## Menu of Activities

Examples of some of the more common public awareness tactics are described below. During development of the Public Involvement and Education plan those items selected by the Town will be refined.

- **Identity Creation** - This involves the actions necessary to differentiate the stormwater service from other services. The actual actions taken in this regard depend on the Town's decisions on how far they want to take this differentiation. It may involve letterhead, vehicle decals and uniforms, department status, etc.
- **Informational Brochure(s)** - These brochures are designed to give a simple explanation of the program, why it is necessary, and what it will accomplish. It should be developed to answer the most common questions asked by a large number of people yet kept non-technical. There may be several brochures that target different information (one general one, one to answer questions on billing, one on how to get a complaint fixed, maintenance policies and responsibilities, etc.)



- **Fact Sheet** - This can be a more technical but still abbreviated way to communicate information on specific topics (e.g. how to calculate your bill, what brought about the fee, what will the money be spent on, etc.). They are useful as leave behind information for certain groups (e.g. how will credits be calculated, impact on landlords, etc.).
- **White Papers** - A White paper is an in-depth discussion of topics of interest to the newspapers. They are designed to provide information that gives all necessary background for an article (or series of articles) that a paper may write. It can then serve as a reference document for the newspaper to check facts and get additional filler information to back up, for example, reporting on a public meeting.
- **News Articles** - This may be part of the white paper or another press packet. Some news organizations allow, and even appreciate, the Town providing newsy pieces about the program. They are not normally accounts of events but rather interesting stories about flooding, the funding method, etc.
- **Informational Meetings** - These meetings are designed to convey the information found in one or more fact sheets to a select or targeted group. The informational meeting is not as formal as a presentation, and allows for more give and take. This type of meeting can be effective if the speaker can give convincing reasons for the program and demonstrate that the audience concerns have been fully considered. They can be less than effective if the speaker cannot give good answers to questions and cannot demonstrate understanding of and empathy for the audience concerns.
- **Testimonials** - Testimonials work well in conjunction with presentations and within news articles and white papers. They are most effective when the audience can identify with the speaker in some way. A good testimonial involves someone who is perceived to be honest and appropriately emotional, who is articulate when giving the story clearly and cogently, and who can demonstrate the value of the program in fixing their particular flooding problem. The “articulate housewife” is the secret weapon when standing before a recalcitrant developer group, commission or other homeowner group.
- **Individual Meetings** - There are some individuals often called opinion leaders who, when convinced, have significant authority and influence over others. And when unconvinced they can hinder progress. In individual meetings it is important to demonstrate a recognition of opinion leaders’ positions and influence, listen very carefully to their concerns, if possible solicit their support, and respond quickly to questions that cannot be answered on the spot.
- **Video** - Many cities, namely Greensboro and Charlotte in North Carolina, have produced some excellent videos that run for about 5-10 minutes. They have used them as public information spots on local access cable channels, and for showing at public gatherings and civic association meetings. The first video talks about the need for the program, how the program can be solved, what is constraining the Town from making progress, how the program is the solution. The second video would focus on the creation of the enterprise fund, how the rate was determined, and answer some of the more common questions regarding the user fee.
- **Bill Stuffer** - The first bill stuffer is to communicate the overall change in the stormwater management, what programs are being initiated, and the priority of the effort. It will tell people that a bill will be sent in the future to pay for the program, and will provide a point of

contact for additional information. The second bill stuffer's purpose is to explain the residential rate structure, calling attention to specific planned projects and announcing that next month's bill will include the stormwater management user fee.

- **Customer Service** - The mailing of a stormwater bill will generate a lot of complaints and inquiries to the sender of the bill and to the Town. Having a well-conceived and responsive customer service capability, which rapidly and effectively responds to these calls, is perhaps one of the best public relations options available. There will be a number of complaints that can be handled relatively easily by a trained customer service representative (even a temporary position for a few months of billing). But many of the calls will need to be handled by Town personnel either due to the complexity of the call or the importance of the caller.
- **Project Booklets** - A list of planned capital improvements along with a projected schedule for construction has proven to be very successful. Such a booklet would also be helpful for Chapel Hill given the focus of the program on the construction of numerous smaller capital and remedial maintenance projects. But the booklet should be matched with a planned and prepared set of capital improvements which would be previously contracted and ready to construct the day the first bills go out. These projects should become media events so that media's coverage of the program is about progress in fixing long-standing problems and not about a new "rain tax".

## Involvement

Chapel Hill has already used stakeholder groups, sometimes referred to as the Stormwater Advisory Committee and the Technical Advisory Committee, very effectively to develop an "appetite" for improvements in stormwater programs. Advisory groups can also be used in the next phase of the project to help in communicating the message(s) about importance of various program issues. We recommend instituting a Stormwater Policy Review Committee (see also I-4 Recommended Approach). Their meetings will generate additional public and media interest in the comprehensive stormwater management program. Information and handouts will be presented to the stakeholders and made available to the media. The press might interview individual stakeholders; special efforts to prepare them have helped keep the message consistent. We anticipate that the stakeholder group will have representatives from the general public, residents, business and industry leaders, environmental awareness groups, and other community special interest groups, in addition to the Town staff and political leadership.

As policy decisions are made, the Stormwater Policy Review Committee will need to be informed and involved with the associated implementation programs. As residents of the Town, their ability to be informed and knowledgeable will enhance their neighbor's respect for the Town. Town Staff should offer strong coordination with the group so they are knowledgeable about the implications of the policies, data collection and developments in the program.

The elected political leadership constitutes a specific group of stakeholders – perhaps the most important group in terms of approval of the comprehensive stormwater management program. The Council Members must be treated with special attention during the development of the program and its policies.

Plans should be made to educate the general public and to create opportunities for them to get involved in the stormwater management program. They represent a diverse group, which will require several methods to reach. There is an old and true adage in the public awareness business: "bring me in early I'm your partner; bring me in late, I'm your judge." It often takes longer on the front end to do this, but it helps ensure success in the end.

The news media can be a great ally in Chapel Hill. When the media are educated and informed early, they are generally supportive of stormwater agencies and the utilization of user fees. The news media should be notified of important meetings and granted interviews when requested. White papers and other information are also helpful to insure they understand the concept and can portray it properly.

## **Other Public Information Needs**

Whether or not Chapel Hill determines it will proceed with a utility implementation, the Town will be required to provide some baseline public information and education as well as public involvement and participation as part of the NPDES Phase II water quality regulations. The requirement for a standing long-term public involvement approach to water quantity and quality issues will continue for the foreseeable future. This could best be accomplished through an interjurisdictional stormwater work group which- could develop a program to share costs and at the same time reach a larger audience.

## **Implementation**

It must be remembered that the public information program is to support and follow the stormwater management program, not lead and shape it. The program drives the public information campaign not vice versa. There is often a tendency for the Public Information and Education program to take on a life of its own, losing sight of the 'real world' objectives of the stormwater management program.

Once a decision has been reached on whether to proceed with the utility, a detailed public information plan needs to be developed. Elements in that plan would include: definition of public interest groups, identification of specific stakeholders, matching the correct communication medium with the groups, planned schedule of public information events and activities, and specific activities to be undertaken.

Current efforts like stenciling drains and providing information on the Town website should be considered for appropriateness and as elements of the program. A minimal public information program to introduce the stormwater utility will cost between \$50,000-\$75,000 (development of some combination of appropriate brochure, video, slide presentation and/or flyers or envelop stuffers). In addition, a baseline public information program will be needed for the foreseeable future to meet regulatory guidelines for NPDES and other water resources issues. Spending for this purpose is estimated at \$.50 to \$1.50 per year per capita, which would put the Town's spending at \$25,000 to \$75,000 per year.



# Town of Chapel Hill

## *Pro Forma Business Plan – Utility-Based Stormwater Management Program*

### I-6 Projected Schedule and Costs

#### Introduction

Developing a comprehensive stormwater management program requires an in-depth analysis of the Town of Chapel Hill's organization, structure, infrastructure, programs and staffing. It also requires a considerable public information and education effort to ensure that citizens will understand and support the program. Finally, it requires specialized expertise in data gathering and manipulation and in understanding the legal and financial aspects of developing the funding mechanism for the program. For these reasons, many municipalities choose to partner with a consultant who has the expertise to support the municipality's implementation of a utility.

#### Projected Schedule

The Town of Chapel Hill can expect to spend 20 to 24 months developing a utility and in organizing the funding, structure and priorities of a comprehensive stormwater management program. The following is an overview look at the approximate timing of these efforts:

Table 1. Projected Schedule – Stormwater Utility Implementation

	2 0 0 2					2 0 0 3					2 0 0 4									
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Stormwater Policy Review Committee	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
Policy Issues & Identification	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
Rate Structure Analysis						■	■	■	■	■	■	■	■	■						
Cost of Services Analysis				■	■	■	■	■	■	■	■	■	■	■						
Data Updates and New Aerial Photography						■	■	■	■	■	■	■	■	■	■					
Budget & Cash Flow Analysis											■	■	■	■						
Rate Study																■	■	■	■	
Ordinances																				■
Public Information & Education	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Base Master Account File																				■
Dates for Initial Billing & Errors Checking																				■
Inquiry & Complaints Response Measures																				■
Billing System Maintenance Procedure																				■
Credit Manual																				■
Program Implementation Assistance																				■

Given the complexities of the project and without the benefit of initial decisions that could clarify some of the pricing for this project, Table 2 shows an estimated investment cost on the part of Chapel Hill to hire AMEC to support the Town in the development of its utility.

Table 2. Proposed Investment Cost – Stormwater Utility Development And Implementation

<b>Task</b>	<b>Task Budget</b>
Administration and Management	\$ 10,000
Policy Issues	20,000
Stormwater Advisory Committee	5,000
Program Issues and Priorities	15,000
Organization and Staffing	5,000
Public Involvement Program	50,000
Financial Analysis and Rate Determination	25,000
Data Update, Analysis, Master Account File	
-new photography	150,000
-digitize impervious areas, refine data conflicts, rate analysis	140,000
-master account file	40,000
Credit Mechanism	15,000
Program Implementation Assistance	<u>15,000</u>
Total Budget	<u>\$490,000</u>