



**City of O'Fallon
Storm Water Advisory Committee**

Summary of Recommendations Report

January 26, 2006

Prepared with:

AMEC Earth & Environmental, Inc

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Executive Summary

The City of O'Fallon is a growing, high quality community. That growth carries a set of problems and issues along with the obvious benefits. Stormwater is a public service area that has not been able to match program enhancement with urban growth, nor to maintain its growing backlog of aging infrastructure. The capital construction backlog is estimated to be well over \$12M. In addition, new unfunded mandates to clean up polluted urban runoff will stretch the small budget currently available to support stormwater management activities.

City Council tasked a group of citizens (the Stormwater Advisory Committee – SWAC) to: (1) understand and seek to quantify the current problems and issues facing the City, (2) recommend program changes to address the problems, and (3) to explore and recommend a funding approach to resource the recommended program.

Based on the needs, the committee set out the following seven key priorities for the stormwater program:

1. Insure new development does not cause problems when it is built and in the future
2. Master plan for the City's growth and annexation
3. Run stormwater as a recognized and adequately funded public enterprise
4. Repair and maintain the stormwater infrastructure
5. Solve flooding problems
6. Consider the environment and aesthetics in all efforts
7. Work multi-jurisdictionally where appropriate

When compared to what other communities spend to meet similar needs O'Fallon currently spends a minimal amount – about \$470,000 per year. The SWAC made program recommendations in line with its priorities to:

1. provide one full-time dedicated maintenance crew;
2. establish a moderate but proactive master planning capability;
3. add two staff to guide and regulate new development;
4. meet the minimum requirements of the federal water quality mandates; and
5. provide maximum funding to meet the growing capital construction backlog.

These recommendations raised the total recommended expenditure on stormwater to \$1.2M annually – placing it in the moderate range when compared to stormwater expenditures in other communities across the nation. The committee recommended the institution of a stormwater user fee (called a stormwater utility) as the primary method to fund new, and some old, stormwater program needs. A user fee has unique advantages including:

1. Equity – payment is directly related to the amount of excess stormwater a property puts into the public stormwater system, regardless of tax status.
2. Stability – the funds are dedicated to stormwater management.
3. Adequacy – depending on the retention of current funding a \$3.50 to \$5.50 fee per month per household would handle all the program needs, with corresponding charges on a per impervious area basis, for non-residential properties.
4. Flexible – the fee structure can include credits, variation by watershed or area, and other fees or charges to enhance equity.

Acknowledgements

The City of O'Fallon would like to express its appreciation to the Committee for their time and efforts over these past few months. The Committee has provided valuable input to elected officials and staff that will result in improvements to the City's stormwater program and quality of life for our residents. We look forward to continued participation of the committee members in shaping the future of the stormwater program in O'Fallon.

The committee members included:

Scott Atkins
Linda Cowden
Michael Cozort
Ken Diehl
Ed Grimmer
Ed Harris
Gary Hoelscher
Ray Kirkman
Dave Pfeifer
Dave Prouhet
Jacqueline True
Ron Van Horn

1. Background Information

Stormwater Management

Stormwater occurs when precipitation from rainfall or snow-melt flows over ground surfaces that have become impervious or “hardened” due to the influence of urban development. Land development creates impervious surfaces like roadways, sidewalks, parking lots, and building roof-tops that impede the natural percolation of water into the ground. That runoff must go somewhere, so the City of O’Fallon has a system of structures and pipes, called a Municipal Separate Storm Sewer System (MS4 by environmental regulators), to collect that runoff and transport it away from homes and businesses. Ultimately, that discharge is into Illinois’s natural waterways; Silver, Ogles, and Richland Creeks and on to the Kaskaskia River.

On an annual basis in Illinois, runoff from natural forested and vegetated areas can be expected to contribute less than 1% to the total volume of water draining into our lakes and streams. It naturally percolates into the ground. But after development, that total volume from runoff from rainfall can be as much as 50%-80% of the rainfall total. This increased runoff volume can exceed the capacity of natural and public stormwater drainage systems and is discharged into our streams, untreated with no removal of pollutants. As a result, natural drainage-ways are impacted by stream bank erosion and channel deposition that can damage private and public property. Public stormwater drainage systems may become undersized because of unchecked runoff from development due to urban growth, or from blockages in pipes from commercial debris and residential landscape materials placed in streets. In both cases, street or property flooding can result because the stormwater drainage system is not capable of carrying the runoff away as quickly or to the extent that is needed.

Unlike drinking water or wastewater, stormwater is not treated to improve its quality before it is discharged into Illinois’s waterways. As it courses its way across urban land surfaces, it picks up pollutants from roadways, parking areas, commercial and industrial sites, and construction sites, transporting those pollutants into our natural streams and lakes. Examples of pollutants can be silt, fertilizers, fuel from spills and leaks, herbicides and pesticides, detergents, metals, floatable debris, and bacteria from animal droppings. Untreated, stormwater discharges carry contaminants that can harm fish and wildlife, and ultimately pollute the very same waterways and lakes that we enjoy using for fishing, swimming, and other forms of recreation. Because Illinois uses surface water as a drinking water source, the added pollutants from stormwater also contribute to the added cost of potable water treatment.

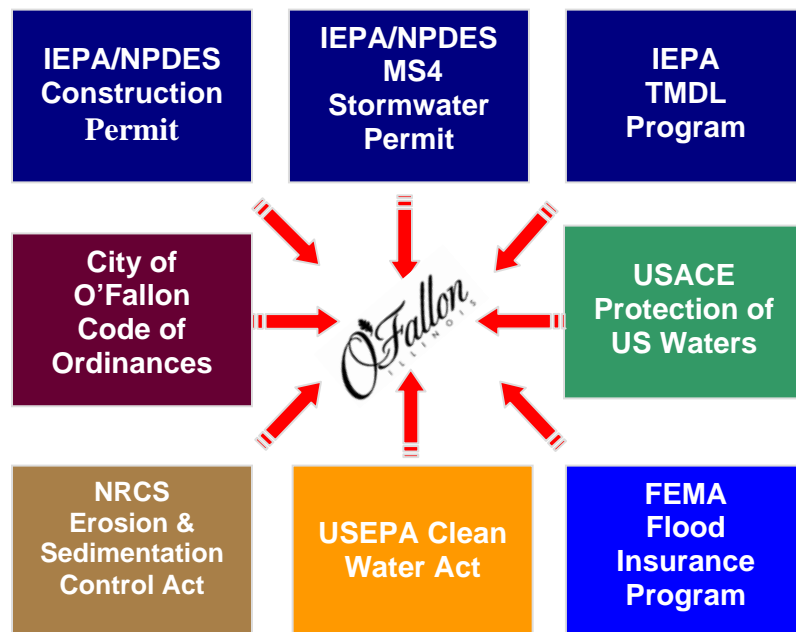
The City of O’Fallon has a duty to do its part in maintaining an adequate drainage system and minimizing the impact of rainwater runoff. In accordance with the Illinois Compiled Statutes (65 ILCS 5/11-139-1), the City is authorized to own, construct, operate, distribute and maintain public utilities and services needed for the operation and maintenance of sewers and drains, and any other public improvements subject to the provisions of applicable general laws to promote or protect the safety, health, security, good order, and general welfare of the city and its inhabitants. For all sewerage and sanitary services rendered, the City may also prescribe the charges, rates, fares, fees, rules, regulations and standards and conditions of the service to be provided.

There are three public water-related systems that serve every property in O’Fallon: drinking water, wastewater and stormwater. All three involve a complex public system to convey those waters and to appropriately handle them. While the drinking and wastewater systems have large storage and treatment facilities, the stormwater system needs to look at treatment at the headwaters (point of first raindrop) for both flood control and, increasingly due to mandates, for

water pollution reduction. The first two of these public systems have been managed in a focused business-like way for many years. Stormwater has not had the benefit of such funded and focused management. However, the time has come to provide appropriate focus on this important system. It is the “input” of water for use by the other two systems and is of significant importance for O’Fallon’s health, welfare, and maintenance of safety and property values.

The management of stormwater in O’Fallon is a public mandate to achieving a safe and healthy environment for the citizens and businesses that live, work, and play in O’Fallon. This environment, when managed appropriately, encourages economic development and a quality of life that enhances value for all citizens. If we do nothing, the system will continue to deteriorate, adversely affecting homeowners, businesses, public safety, and maintenance costs will burden us all, excessively.

There are many federal, state and regional agencies that are exerting either direct or indirect regulatory controls on the City of O’Fallon. With the growing regulatory focus on stormwater pollution control, the City will eventually face imposed regulatory control if stormwater management is not addressed. The list of agencies having stormwater management influence or regulatory control are shown in the diagram below. Most importantly, though, City residents have expressed the desire to improve the quality of our streams, to correct drainage deficiencies, and to solve erosion problems. If nothing is done, flooding and drainage problems will persist or become worse, the quality of our streams and lakes will continue to decline, and the general quality of life in O’Fallon will suffer. Planning now to address stormwater management represents an investment in the health, safety, and quality of life for the City of O’Fallon’s citizens, now and into the future.



The Current Project

The purpose of this project is to assess the City of O’Fallon’s stormwater management, make recommendations for future directions and changes, and assess the feasibility of funding the water resources program with a stormwater utility (user fee) and other methods. Figure 1 illustrates the “roadmap” used to guide this project. A group of citizens and staff were taken through three meetings and a consideration of the following questions and answers

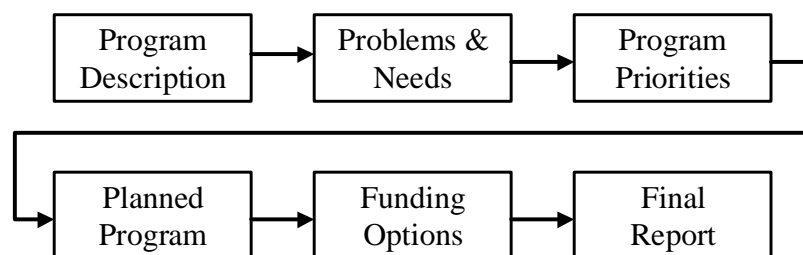


Figure 1. Project Roadmap

leading to program and funding directions:

1. What is the City currently doing in terms of stormwater management?
2. What are the stormwater related problems, issues, needs, and opportunities currently faced by the City? How have other cities solved similar problems?
3. What stormwater program priorities should guide the City in the next three to five years?
4. What specific program improvements should the City make and what will the costs be?
5. What is (are) the best way(s) to pay for these program improvements?
6. How should the funding method(s) be implemented?

This report summarizes the answers to these questions.

2. Current O’Fallon Stormwater Management Program

Stormwater Functions

Table 1 lists, the major program areas found in comprehensive stormwater quantity and quality programs. Few cities and counties need or have all of these functions. Even those that do, rarely have all of them well developed. This is a checklist against which we can compare O’Fallon’s current level of effort and identify components that may be missing. Some program elements may not need to be done in O’Fallon, even if they are done elsewhere.

Table 1. Major Stormwater Management Functional Cost Centers	
<p>1. Administration and Finance General Administration Gen Prog Planning and Development Billing Operations Customer Service Financial Management Capital Outlay Overhead Costs Cost Control Support Services</p> <p>2. Special Programs Public Awareness and Involvement GIS and Database Management Spec Prog Planning and Dev</p> <p>3. Stormwater Quality Mgmt Industrial Program Public Education/Involvement Illicit Discharge Elimination Illegal Dumping Monitoring Program Construction Runoff Post-construction Runoff Quality Master Planning Municipal Housekeeping Retrofitting Program Spill Response and Clean Up Street Maint Prog</p>	<p>4. Engineering and Planning Des Criteria, Stds and Guidance Field Data Collection Quantity Master Planning Design, Field and Ops Engineering Hazard Mitigation Zoning support Multi-objective Planning Support</p> <p>5. Operations and Maintenance General Maintenance Management General Routine Maintenance General Remedial Maintenance Emergency Response Maintenance Infrastructure Management Public Assistance</p> <p>6. Regulation and Enforcement Gen Code Dev and Enforcement General Permit Administration Gen Drainage Sys Insp & Reg Flood Insurance Program Multi-Obj Floodplain Management Erosion Control Program</p> <p>7. Capital Improvements Major Capital Improvements Minor Capital Improvements Land, Easement, and Right-of-Way</p>

Current Program Summary

Currently the City of O’Fallon has what would be considered a reactive stormwater management program in comparison to other communities across the nation. Only emergency or minimal maintenance and system upgrades are performed. The current annual expenditures are approximately \$470,000. This includes \$250,000 in capital planning and construction using Proposition S (Prop S) funds. Table 2 depicts the City’s budget for its stormwater program. The paragraphs following the table provide a description of each program area.

Table 2. City of O'Fallon Stormwater Management Program Budget

Function	Description	FTE	Annual Cost
Administration & Finance			
Engineering	Supervision, administration	0.05	\$5,000
Special Programs			
	Minor GIS activity	-0-	-0-
Stormwater Quality			
NPDES Permit	Implementation of new ordinance,/policies	-0-	\$10,000
Engineering & Planning			
Planning and Design Sppt.	Engineering administration of system	0.1	\$10,000
Consulting services	Support of planning	N/A	\$50,000
Operations & Maintenance			
Codes Enforcement	Administration of codes and inspections	0.1	\$5,000
Engineering Complaint Response	Engineering analysis of complaints	0.1	\$10,000
Work Orders	Cleaning of system	1.5	\$80,000
Regulation & Enforcement			
Plans Review	Stormwater related review aspects of new plans	0.5	\$25,000
Site Inspection	Stormwater related aspects of new construction	0.5	\$25,000
Capital Construction			
Prop S (sales tax funding)	Remedial and Major Capital - contracted	N/A	\$250,000
TOTALS		2.85	\$470,000

ADMINISTRATION AND FINANCE

Administrative costs include portions of the City Engineer and the Public Works Manager's time to manage the program as well as more minor involvement of Code Enforcement administration of the FEMA floodplain program. Time for the City Engineer and his staff to respond to citizen complaints or issues that cannot be satisfied by the Engineering and Public Works Department are included elsewhere. It is estimated that it takes about 5% of a full-time equivalent to handle these pure administrative activities presently.

SPECIAL PROGRAMS

There are only minor current special programs at this time in the City of O'Fallon. The city is working on updating its GIS capabilities, work order scheduling, system understanding, and tracking through City Works software. Inventorying of stormwater assets or the system has not begun.

STORMWATER QUALITY MANAGEMENT

Currently, the City has no activities specifically directed at maintenance or enhancement of stormwater or stream water quality. The City is, however, required to maintain a National Pollutant Discharge Elimination System (NPDES) permit that is managed by the Illinois Environmental Protection Agency (IEPA). It is currently minimally fulfilling its mandated requirements through its updated Subdivision and Development Control ordinance and inspections of new developments.

ENGINEERING AND PLANNING

The Engineering & Public Works and Planning & Zoning Departments are responsible for many direct stormwater and stormwater related activities, including:

- Land disturbance/building permit application review;
- Review of rezoning requests and variance requests;
- Engineering design of medium sized road and drainage projects;
- Creating and implementing drainage regulations;
- Feasibility and drainage studies;
- Capital Improvement Project (CIP) planning and development;
- Street construction and maintenance planning;
- Drainage system planning;
- ROW and easement acquisition;
- Erosion & Sedimentation Control

The Engineering & Public Works Department is responsible for implementing the stormwater program, and in the administration of the City's Erosion and Sedimentation Control Program under the new Subdivision and Development Control Ordinance. They are also responsible for the planning and direction for streets, sewer lines, construction and maintenance, drainage systems, right-of-way and easement acquisition.

OPERATIONS AND MAINTENANCE

A portion of the Department of Engineering & Public Works is the Public Works Group, lead by the Public Works Manager. The Public Works Group has two divisions that work part-time on stormwater related responsibilities that include:

- Some minor construction of drainage system headwalls and storm drains
- Clearing of rights-of-ways and drainage obstructions
- Public complaint response and coordination

Although exact estimates are difficult to obtain, it is estimated that \$100,000 is spent annually on stormwater-related activities using current personnel – about ½ a crew non-dedicated to stormwater. There are no dedicated resources to stormwater, so stormwater work is done either because it becomes serious enough to attract attention or through street improvements that include street drainage.

CAPITAL IMPROVEMENTS

City Capital Improvement projects include enhancements to the existing drainage system by increasing the systems ability to manage the quantity and/or quality of stormwater discharged through the system. This typically results in larger, more efficient structural system components than what might currently exist or even new system components where none exist today (e.g. culvert, storm sewer and/or catch basin replacements, placing rip-rap along eroding stream banks, drainage improvements) on City property or within drainage easements, and creek cleanouts when necessary. Capital Improvement Program (CIP) projects are currently funded in O'Fallon by Proposition S – a ½ cent sales tax assessment on general merchandise. This tax is active through 2010. Stormwater cannot compete for adequate funding for its needs against street paving and improvements and other pressing needs. Currently about \$250,000 is spent annually on stormwater capital projects, which include minor remedial maintenance fixes.

Comparison With Others

Comparison of O'Fallon's stormwater program with other communities is difficult because no two cities have the same needs, organization, and setting. However, one way of comparing is on the basis of expenditures per developed acre. Figure 2 shows the O'Fallon expenditure level compared with that of many local communities, and especially compared to what it would take to achieve the level of stormwater program framed by the one word descriptors.

From this Figure we can see that O'Fallon's stormwater program would be termed "minimal." By this we mean that the level of focus and investment is set at a level that will just meet the minimum critical needs of the system but will in no sense "manage" the system or be able to take advantage of potential revenue opportunities either with private or public sources.

The figure below was developed from AMEC's past experience with other communities across the country.

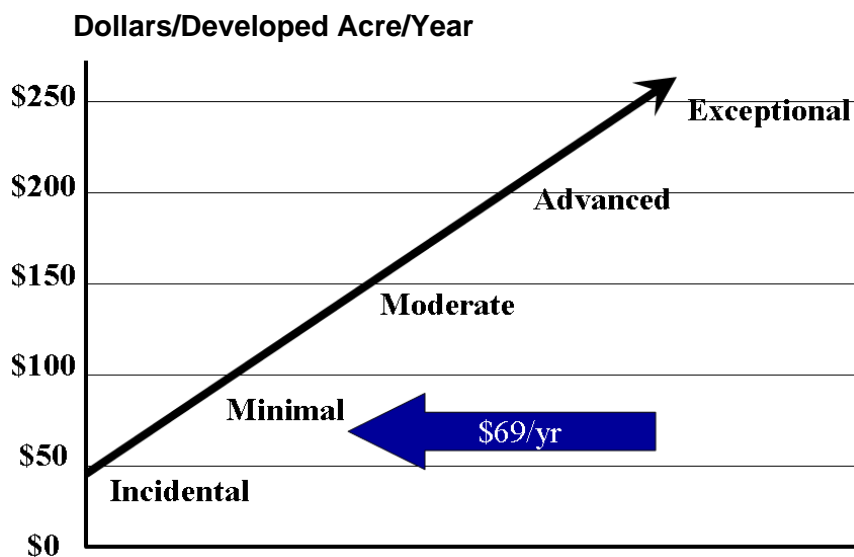


Figure 2. O'Fallon Stormwater Program Expenditure Comparison

3. Problems, Needs, and Issues

Background

Changes happen to stormwater programs when people, citizens, key stakeholders and leaders, begin to recognize that the stormwater system is not, or will not, perform as needed. Unlike water and wastewater, stormwater system failure is not readily apparent. Systems work flawlessly when it is not raining! Also, unlike the other two water utilities, we only notice them when they fail to perform, not when they are delivering water to us or taking sewage from us on a regular and daily basis.

Experience has shown that key drivers for change and improvement in stormwater systems and programs fall into seven key areas:

- Flooding problems
- Aging infrastructure issues
- Development pressures
- Regulatory mandates
- Endangered species issues
- Lawsuits
- Quality of life/Property values

The SWAC and staff were asked to explore, and to quantify as possible, the key issues facing the City – its “compelling case for change.”

SWAC Voting

The committee members were given the opportunity to voice their personal opinions and identify critical issues related to stormwater management. At the end, staff also had a chance to add their opinions. Each mentioned issue was put on a list, then members each multi-voted for their top 10 stormwater management program issues. The results of the voting can be seen in Table 3, which shows both the raw voting and a post-meeting general grouping of issues by category.

The top 4 individual items each had 11 votes:

- Lack of proper enforcement of ordinances/accountability during development
- Lack of a stormwater master plan to determine impacts of new development and to plan systems accordingly
- Lack of funding to support an effective stormwater program
- Capital improvements projects are not being prioritized and constructed

Grouping the items shows that dealing effectively with new development, both in the regulation and planning, should be the most important facet of stormwater management for the City of O’Fallon. Those categories had a total of 47 votes in 9 topical areas. The next highest priorities are:

- Business Management - the need to operate the overall program with a strong business and fiscal focus – planning the program (18 votes)
- Funding/Resources - generating sufficient revenue to manage the program effectively (18 votes)
- Capital Construction - managing capital construction effectively (12 votes)

Table 3. Advisory Committee Voting on Program Priorities

Specific Topic	Votes	Category	Total/ Category
Enforcement of ordinances/accountability during development	11	regulation of development	26
Managing development for both residential and commercial	8	regulation of development	
Requirements on developers	3	regulation of development	
Increase financial requirements on developers	2	regulation of development	
Fair development standards, evenly applied	2	regulation of development	
Develop a stormwater masterplan to determine impacts	11	planning/development	21
Future consideration/proactive	8	planning/development	
Accelerate modeling of storm system	2	planning/development	
Cost sharing of implementation of plan and whole program	0	planning/development	
Manage stormwater as a utility (business)	7	business mgmt	18
Checks and balances for integrity	6	business mgmt	
Business plan	2	business mgmt	
Legal consideration on no action (risks and liabilities)	2	business mgmt	
Feasibility of and commitment to policies	1	business mgmt	
HOA Requirements going to City. How?	0	business mgmt	18
Lack of funding	11	funding/resources	
Staffing	3	funding/resources	
Stormwater has been a low priority/reevaluate	3	funding/resources	
Special taxing districts for funding solutions	1	funding/resources	
Capital improvements projects prioritization	11	capital construction	12
Look at fixing major systems first	1	capital construction	
Inform public of SWAC process and decisions	2	public	9
Universal, public acceptance of problems as a whole	7	public	
Proactive stormwater maintenance	4	infrastructure	8
Long term maintenance of private infrastructure	3	infrastructure	
Inflow and infiltration problems	1	infrastructure	
Consider greenway, aesthetics and environmental benefits	5	environment	7
NPDES and its impacts	2	environment	
Flooding (streets, basement)	3	flooding	6
Reduce water from Engle Creek watershed	3	flooding	
Downstream impacts/multi jurisdictional issues	2	multi-jurisdictional	4
Coordinated plan/ multi jurisdictional/Comp Plan	2	multi-jurisdictional	

Program Priorities

From this voting and subsequent staff and SWAC conversations it became clear that the priorities for the stormwater program for the next five to ten years should revolve around the following seven items:

1. Insure new development does not cause problems when it is built and in the future
2. Master plan for the City's growth and annexation
3. Run stormwater as a recognized and adequately funded public enterprise
4. Repair and maintain the stormwater infrastructure
5. Solve flooding problems
6. Consider the environment and aesthetics in all efforts
7. Work multi-jurisdictionally where appropriate

Compelling Case for Change

It was clear from the SWAC discussion that there were four key drivers which were foundational to much of the future change in the stormwater program. All of these are related to the overwhelming desire of the SWAC to improve and maintain the high quality of life in O'Fallon. O'Fallon is seen as a high quality place to live, raise a family and retire. Part of that quality is the willingness of the citizens to steward their public infrastructure.

These four foundational drivers are:

1. Development Pressures
2. Non-Existent or Aging Infrastructure (older parts of town)
3. Large Capital Backlog
4. Regulatory Mandates

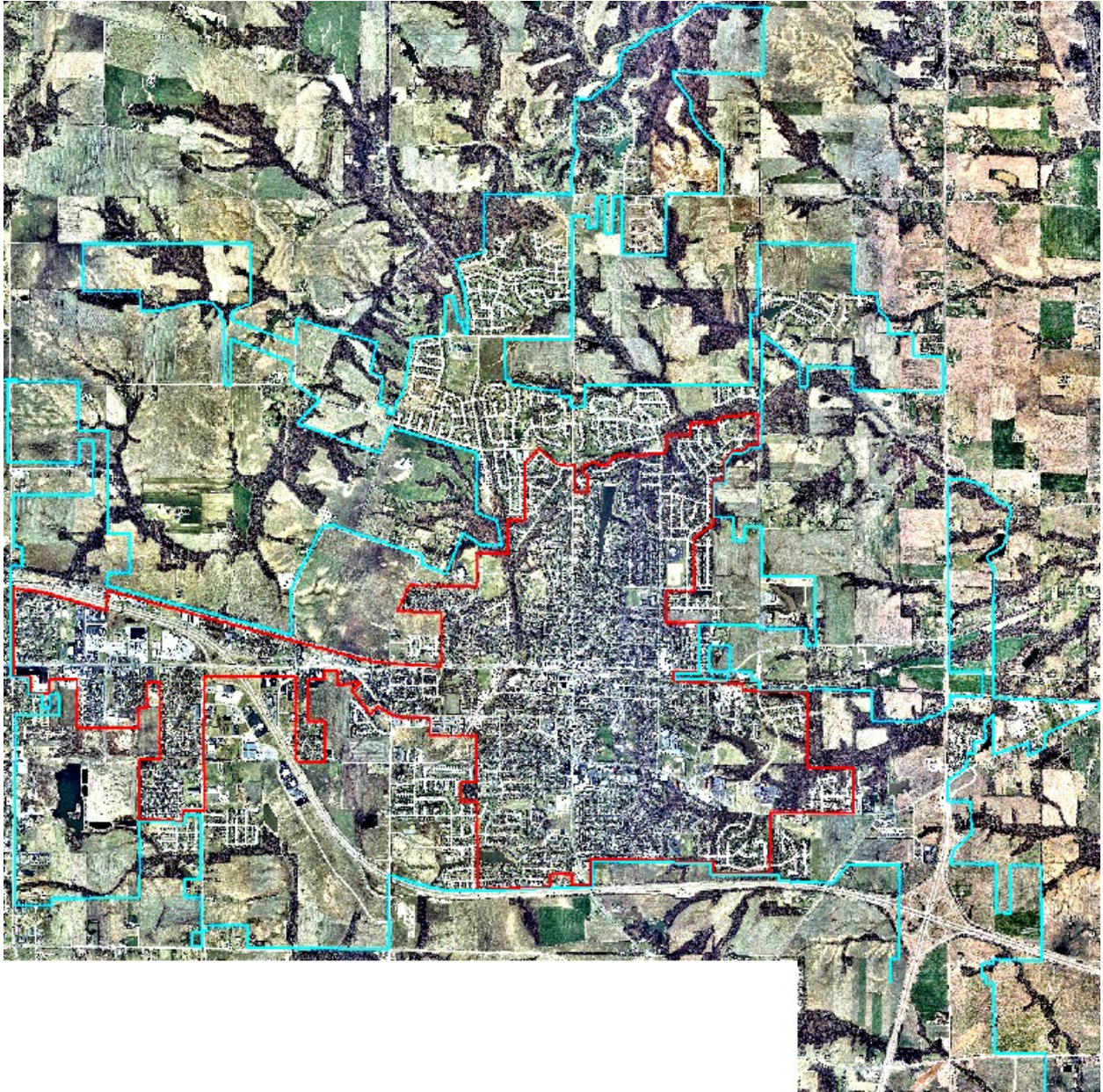
The City of O'Fallon is challenged in its endeavors to maintain stormwater. The City must balance the needs of the existing community and residents while not hindering growth and new development. The challenge with not hindering new development is controlling it so as to not endanger existing development.

Geographically the City of O'Fallon has grown significantly and is continuing to grow. Figure 3 shows the City boundary in 1988 (red line) and 2003 (blue line) on top of 2003 aerial photography. In addition to this the City maintains a 1 mile buffer outside the City limits on which it has developmental review rights for all developments that are submitted in those areas. As the City grows, that puts additional responsibilities on existing staff that are already over extended.

In addition to growth, problems are prevalent in the older parts of the City where developments did not consider stormwater needs and did not build those at the time the subdivisions were being built. Some of those areas are seeing added flooding from upstream developments and changes as well as silted existing infrastructure. Providing facilities in these parts of town will require extensive capital and right of way reconstruction. This contributes to a portion of the estimated \$12M in capital construction backlog that was identified in the recent draft stormwater master plan. At the current level of funding it would take almost 50 years to complete the identified list of projects, that is not a complete listing. This is clearly not a workable solution for the City's infrastructure needs.

Notwithstanding the capital outlay needed to handle stormwater projects, the City is also faced with a unfunded federal mandate to comply with water quality criteria for stormwater. This puts requirements on the City to reduce pollutants to the streams and creeks of Illinois. This is accomplished through stricter development standards and increased inspection of new development and redevelopment. This also requires the City to review its own practices as they relate to stormwater. All of these add to the ever increasing requirements on the City's Public Works staff and funding.

Figure 3 – 2003 Aerial Photography with 1988 and 2003 City Limits



4. Program Analysis

Alternatives Development

Using the priorities from the last section, AMEC discussed with staff optional program activities that could be used to meet these needs. It was explained, by City staff, that a drainage master plan had been prepared recently that covered portions of the older areas of the City and identified approximately \$12M in needed capital projects. This master planning process did not provide guidance for the developing areas that are near or outside the city's corporate limits.

In addition to capital needs, the maintenance needs and administrative requirements of the stormwater management program were discussed with staff. Based on this discussion both a moderate and an advanced level program were outlined.

The moderate program as defined would include a dedicated crew to perform stormwater system maintenance, dedicated plan review and inspection staff, and \$500,000 funding per year dedicated for capital projects.

The advanced level program included 2 crews dedicated solely to stormwater system maintenance, two and a half staff dedicated to plan review and inspection, and \$1,000,000 per year dedicated to capital construction. Table 4 provides a summary of the large pieces related to the current, moderate and advanced level programs discussed. The big ticket items in the budget, termed "Big Rocks," provided the basis for a macro-program analysis.

Table 4. Big Rocks Analysis and Cost of Alternatives

Big Rock	Existing	Moderate	Advanced
Maintenance	\$ 135,000	\$ 320,000	\$ 615,000
	1/2 crew	1/2 crew - 1 total	1.5 new crews - 2 total
Capital Construction	\$ 250,000	\$ 500,000	\$ 1,000,000
	Proposition S Funding	Proposition S Funding plus funding from new source	Proposition S Funding plus funding from new source
Master Planning	\$ -	\$ 60,000	\$ 100,000
	none scheduled	3 to 4 year stormwater modeling effort	2 year stormwater modeling effort
Regulatory Compliance	\$ -	\$ 20,000	\$ 40,000
Regulation of New Development	\$ 50,000	\$ 210,000	\$ 250,000
	1 FTE*	2 FTE (field/engr)	2 1/2 FTE's
Totals	\$ 435,000	\$ 1,110,000	\$ 2,005,000

Note: FTE = Full Time Employee or Equivalent

A detailed breakdown of each of the categories for the "Big Rocks" can be found in Table 5.

Table 5. – Big Rocks Category Breakdown

<p>Maintenance</p>	<p>Definition</p> <p>Cleaning out the system that is already there to allow it to flow and function as designed.</p> <p>One additional item of interest is the potential need for an inventory of the location and condition of the existing stormwater system. Such an inventory would provide baseline data and information on needs, locations, and allow for better scheduling, planning and work order processing. An inventory of the system using GPS methods and GIS recording might cost in the range of \$75,000 annually if managed using in-house resources and summer hire personnel.</p>
<p>\$135,000</p>	<p>Existing</p> <p>The current program could be called “reactive” in that it reacts to drainage complaints (about 10 processed per month – more received than that). There is little knowledge of the system and little ability to inspect and generate work orders through inspection.</p> <p>About ½ of a maintenance crew (2 to 3 personnel & supply costs) is dedicated to stormwater.</p>
<p>\$320,000</p>	<p>Moderate</p> <p>A moderate level would dedicate one crew totally to stormwater system maintenance. This level of service would allow for more proactive complaint response and a limited ability to move slowly through the drainage system correcting deficiencies within the rights-of-way.</p> <p>One full-time crew.</p>
<p>\$615,000</p>	<p>Advanced</p> <p>The advanced level would allow for an additional full crew. This level would allow for a more rapid ability to respond to complaints and also would open the door to the City moving off the right-of-way solve the worst problems from runoff coming from roads across private property. It may also allow for limited maintenance, on a cost reimbursable basis, of residential detention facilities considered critical for the system.</p> <p>Two full-time crews.</p>

<p>Capital Construction</p>	<p>Definition</p> <p>Replacing deteriorated drainage systems, or building new systems in areas facing new development.</p> <p>A recent master plan which covered a significant part of the older portions of the City (not areas facing new development) identified \$12 M in projects. While these projects were ranked in terms of severity of the need there was no attempt made to determine which of those ranked projects were “critical” in nature and which were of lesser importance. Experience elsewhere might indicate that, perhaps, \$5 M of the projects are of a nature that construction is strongly recommended due to nature of the damage should these areas be subjected to heavy rains.</p>
<p>\$250,000</p>	<p>Existing</p> <p>Currently the City spends about \$250,000 per year in Proposition S funds on stormwater construction. Proposition S will continue through 2010.</p>
<p>\$500,000</p>	<p>Moderate</p> <p>At the moderate level an additional \$250,000 is added to the program from sources other than Prop S. This brings the total to \$500,000 annually.</p>
<p>\$1,000,000</p>	<p>Advanced</p> <p>At the advanced level an additional \$750,000 is added to the program from sources other than Prop S. This brings the total to \$1,000,000 annually.</p>
<p>Master Planning</p>	<p>Definition</p> <p>The development of computer models of the stormwater system to be able to predict the impacts of new development and large storms.</p> <p>There are currently no master plans of areas facing new development (about 20 square miles). Cost to provide basic models and tools is expected to be about \$200,000. Further analysis for design would double that cost.</p> <p>These are one-time costs. When the plan is completed, only minimal update costs will be required.</p>
<p>-\$0-</p>	<p>Existing</p> <p>There are no existing master plans for these areas.</p>

<p>\$60,000 for 3-6 years</p>	<p>Moderate</p> <p>At this level about three square miles per year could be modeled and tools developed. More advanced design planning would double the time commitment.</p> <p>Would complete basic modeling within 3.5 years. Could complete more advanced planning in seven years.</p>
<p>\$100,000 for 2-4 years</p>	<p>Advanced</p> <p>At this level about half the area facing new development would be modeled per year. More advanced design planning would double the time commitment.</p> <p>Will complete basic modeling in two years. Could complete more advanced planning in four years.</p>
<p>Regulatory Compliance</p>	<p>Definition</p> <p>Complying with the unfunded Federal mandates requiring certain activities to clean the stormwater runoff including public education, elimination of non-stormwater pollution, erosion control, and changes in site design practices.</p>
<p>-\$0-</p>	<p>Existing</p> <p>Currently the City has minimal programmed activities (e.g. - subdivision inspections). It is unclear what level of activity may be required by the state, which currently is understaffed and has poor enforcement and communication capabilities.</p>
<p>\$20,000</p>	<p>Moderate</p> <p>Provide minimal compliance actions designed to show only the most basic and minimal compliance including basic public education information support for the mandated activities.</p>
<p>\$40,000</p>	<p>Advanced</p> <p>Provide public education in water quality, a more advanced ability to detect and eliminate non-stormwater from getting into streams, and a better ability to require stormwater quality-based designs for new development.</p>

<p align="center">Regulation of New Development</p>	<p>Definition Providing plan review, site inspection, and enforcement capabilities for new development.</p>
<p align="center">\$50,000</p>	<p>Existing There is currently less than one full time person equivalent for these duties. This is considered inadequate by the staff, especially in the face of development pressures. Less than one full time person.</p>
<p align="center">\$210,000</p>	<p>Moderate At the moderate level two new personnel are added at a cost of \$80,000 each (includes benefits, overhead, and vehicles as appropriate). One of the two will be an engineering technician working in plan review while the other will be a field inspector. Three full time personnel.</p>
<p align="center">\$250,000</p>	<p>Advanced At the advanced level an additional half-time person is added for field inspections. This would allow for more effective erosion control inspections and enforcement of construction standards. Three and a half personnel.</p>

Recommended Program

After listening to a discussion of the “Big Rocks,” the committee was divided into three teams and each team was given an annual budget of \$1,200,000 to commit to a proposed five year stormwater program. This level was set based on balancing reasonable expenses with what might be the public’s willingness to pay for an improved stormwater program. Referring to Figure 2, this would place the program at about \$144 dollars per developed acre per year.

The three teams were required to stay at or below the \$1,200,000 budget and provide funding for each of the Big Rocks categories. They utilized basic building blocks for master planning, construction, and staff requirements to create a five year budget for stormwater management program. Based on the programs that the teams developed, the following priorities for each surfaced:

1. provide one full-time dedicated maintenance crew;
2. establish a moderate but proactive master planning capability;
3. add two staff to guide and regulate new development;
4. meet the minimum requirements of the federal water quality mandates; and
5. provide maximum funding to meet the growing capital construction backlog.

The staff and consultant team considered the recommendations of the SWAC as well as their knowledge of coming events, city growth, problem areas, and program specifics. They worked

together to develop a five-year \$1.2M/year program to cover the Big Rocks areas that would gain consensus amongst committee members. That resultant program is presented in Table 6.

Key program area information used in development of the overall program costs is:

- **Routine Maintenance** – One new crew is added bringing the program to a “moderate” level with an expectation that this level of service will be able to provide an adequate response to complaints and will occasionally get ahead of complaints. This level was obviously a compromise given the levels of the other needs. Each of the groups expressed an interest in funding at the maximum level, but realized that the cost was too high. They preferred to spend the funds in capital construction.
- **Major Capital Construction** – Currently stormwater receives \$250k in funding for stormwater projects. The ability of stormwater to compete with other needs (e.g. roads) for Prop S money is problematic. A good plan with compelling projects might draw potential funds from state or federal agencies bolstering this level of funding. Whatever, each group agreed that all remaining funds not spent for maintenance, master planning, compliance and enforcement should be spent on capital construction. The teams uniformly set a minimum level at \$500k per year and wanted an escalation of amounts when available.
- **Master Planning** – The citizen groups recommended master planning the remaining undeveloped areas as early in the 5 year period as possible. Although each group set different levels, it was apparent that identifying the issues in the growth areas early was important to all groups. This will allow the City to get ahead of the development curve and provide regulatory options for managing new development. The level is set to do about 8-10 square miles per year. Once the growth areas are completed, maintaining a nominal amount in the budget will allow the City to maintain the master plans and update as needed.
- **Regulatory Compliance** – The level is set at about \$20,000 per year with reference to the known needs projected for implementation of the mandatory ordinances for floodplain management, erosion control, illicit connections control, and post construction controls. Each group identified a different level of effort for this program area. Staff felt that the current level was not adequate to meet the needs of the existing permit, but the advanced level was not practical at this point in the permit life.
- **Regulation and Enforcement** – The level for this element of the overall program is set at a moderate level over the five years to meet the needs as the city grows and new demands are placed on staff. This level reflects the majority of the citizen committee’s wishes. One group was interested in heavy enforcement up front, as an “attention gainer” for the development and regulatory community. While heavy enforcement upfront can alleviate some long term issues, abandonment of regulation and enforcement down the line would not be practical. As areas continue to develop, staff will need to continue ongoing inspection services on a larger scale. It is not guaranteed that only the developers doing construction during the initial 2 years of the program will be the same developers during the remaining life of the program. Staff felt that appropriate inspection staff and funding at the moderate level was most cost effective.

Trying to ensure consensus amongst SWAC members, the following program, depicted in Table 6, was recommended to the committee.

Table 6. Recommended Stormwater Program

Recommended Program						
Stormwater Function	Existing	Year 1	Year 2	Year 3	Year 4	Year 5
Maintenance	\$135,000	\$320,000	\$320,000	\$320,000	\$320,000	\$320,000
Capital Construction	\$250,000	\$560,000	\$560,000	\$640,000	\$640,000	\$640,000
Master Planning	\$0	\$100,000	\$100,000	\$20,000	\$20,000	\$20,000
Regulatory Compliance	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Regulation of New Development	\$50,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Totals	\$435,000	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000

The committee agreed that this composite program provided a good summary of their recommendations on a moderate program. The 5 year budget is consistent with and supports the priorities stated earlier. It was explained that this is a macro-program analysis and that as the program goes forward, a more detailed cost of service analysis will need to be performed that addresses inflation, yearly fluctuations and other factors affecting the stormwater program.