

## CHAPTER 14

### IMPLEMENTATION PLAN

This chapter describes the City's plan for implementing the improvements recommended by this Stormwater Master Plan (SWMP). The total program, excluding land acquisition, includes approximately \$11,000,000 in capital improvements and over \$340,000 in annual operation and maintenance (O&M) costs. Implementation of the projects is subject to funding limitations and to existing and future state and federal regulations. The timing of future development also influences implementation.

#### 14.1 RECOMMENDED CITYWIDE IMPROVEMENTS

The SWMP outlines projects to improve the quality of stormwater and stream flow, protect property from flooding, protect the natural resources of upland areas, maintain natural flooding in the floodplain, and protect natural stream systems. The Stormwater Planning Committee (SWPC) developed evaluation criteria that were used in the development of the projects to help ensure that the overall objectives of the community were being met. A description of the evaluation criteria is in Chapter 2.

For purposes of implementation, the recommended projects were categorized into short-term and long-term programs. The short-term program identifies the immediate needs of the stormwater system within each watershed and implements improvements over an approximate 10-year period. The long-term program represents projects to further protect and restore the health of the watershed that would be implemented over a longer time frame, generally upon complete implementation of the short-term program. In some cases, long-term programs may be implemented concurrent with the short-term program, especially when the implementation is staged over a long period of time. This categorization provides guidance to the City for funding and implementing the recommendations. City staff may move projects between the short- and long-term programs and modify the implementation priority within each of the programs as required to meet the specific and changing needs of the community and to take advantage of funding opportunities that may become available.

Table 14-1 summarizes the estimated costs of recommended improvements for the eight watersheds. In addition, the estimated cost to provide end-of-pipe water quality treatment for direct stormwater discharges to City streams has been included. This capital improvement was prioritized by citizens during the review of the draft SWMP. For the purpose of estimating the cost of end-of-pipe water quality treatment, it was assumed that stormwater quality manholes would be installed. The cost for each installed unit is approximately \$10,500. It is estimated that the City maintains approximately 270 outfall structures with a total cost to retrofit of about \$2.8 million.

The costs summarized in Table 14-1 are planning level or order-of-magnitude estimates as defined in Chapter 3. Capital costs and O&M costs are shown. The cost of land acquisition or easements is not included in the estimates and should be determined during pre-design activities.

**Table 14-1. Recommended Capital and O&M Improvements<sup>1</sup>**

Watershed	Short-Term Program		Long-Term Program		Total Program	
	Capital, \$	O&M, \$	Capital, \$	O&M, \$	Capital, \$	O&M, \$
Dixon Creek	2,507,000	81,600	450,000	17,000	2,957,000	98,600
Squaw Creek	155,000	7,900	2,299,000	95,300	2,454,000	103,200
Jackson/Frazier/Village Green Creeks	192,000	3,800	208,000	9,000	400,000	12,800
Sequoia Creek	202,000	23,400	461,000	13,500	663,000	36,900
Garfield Basin	232,000	4,400	0	0	232,000	4,400
Oak Creek	435,000	800	799,000	20,900	1,234,000	21,700
Marys River	32,000	1,800	0	0	32,000	1,800
South Corvallis	54,000	2,400	199,000	8,300	253,000	10,700
End-of-Pipe Treatment	2,835,000	54,000	0	0	2,835,000	54,000
Total	6,644,000	180,100	4,416,000	164,000	11,060,000	344,100

<sup>1</sup> See Table 14-4 for the total cost of SWMP recommendations.

The total costs of capital improvements for the two programs are roughly equal in magnitude. However, the distribution of costs between the two programs varies considerably by watershed. For example, in the Dixon Creek watershed, the higher costs associated with the short-term program are the result of numerous undersized pipes along Buchanan Avenue, Kings Boulevard, and Grant Avenue, and from recommendations to regrade and stabilize the streambanks at several locations. As part of the short-term program, these projects will provide great benefit to the community and should be implemented as soon as possible within the constraints previously described. By contrast, most of the capital costs associated with the Squaw Creek watershed are in the long-term program. The long-term recommendations include several stream channel and bank improvements that will provide benefit to the community, but have a lower priority than projects in the short-term program.

There are multiple projects recommended within both the short- and long-term programs. Within each program, the priority ranking of projects for implementation depends on the needs of the City and community:

- Protects human health, safety, and property
- Protects existing City capital investments/system reliability
- Satisfies regulatory or contractual requirements
- Enhances or protects the environment
- Provides for growth and economic development
- Reduces long-term City costs

Once prioritized, a tentative schedule can be developed for the implementation of each project. The schedule will rely on the community's willingness to support stormwater utility rates and system development charges. A rate study should follow the adoption of this SWMP to establish charges that will be acceptable to the community. Once fees have been established, the City can determine the size of the capital program that can be completed in any given year and establish a multiple-year implementation schedule.

## 14.2 NEW POLICIES

New development and re-development within the Corvallis urban growth boundary consist of public and private construction activities. The City defines where and how construction activities and growth occur through the development and enforcement of public policies, standards, and codes. To be more responsive to the community's objectives for stormwater management, the SWPC and the City have developed a number of new policies to augment the current City Comprehensive Plan. The new policies identified in Chapter 5 apply to municipal, residential, industrial, and commercial development. Along with the City's other suite of planning documents, the new policies provide the framework to encourage appropriate development that will preserve or enhance flow and quality characteristics of stormwater runoff, and help protect natural riparian areas within local watersheds.

### 14.2.1 New Policy Purpose and Adoption

New policies were developed to address specific issues identified by the City and the SWPC. The issues covered a range of stormwater-related management topics, including water quality, water quantity, uplands natural resources, floodplains, and stream systems. The City's adoption of this SWMP includes the adoption of the enclosed policies. The policies will augment the existing Comprehensive Plan as well as all other City planning documents.

### 14.2.2 Policy Implementation Costs

Implementation of new policies includes the expense of establishing the initial inventory or criteria, implementing the action, and the long-term management costs. Policy recommendations from other efforts, such as the City's Natural Resource Scoping Project, may also impact implementation costs. For instance, a policy that requires the protection of existing stream shading presumes that areas have already been identified. To implement this policy, an inventory is required of existing shaded areas and of areas where shade restoration opportunities exist. Some policies have long-term financial impacts, both to the City's operating budget and to citizens.

The City's response to the Endangered Species Act (ESA) will influence requirements for stream buffers or setbacks and will affect the cost of land acquisition. The City will need to identify and plan for these additional costs. Using the same example as above, easements or land acquisitions may be required to support the stream shading policy and other policies defined in Chapter 5. As areas to be protected or enhanced are identified, the cost of acquiring these properties must be determined and added to the City's capital improvement program (CIP) budget. The cost to implement the new policy recommendations will be evaluated at the time they are considered for implementation.

### 14.3 OTHER NON-CAPITAL RECOMMENDATIONS

In addition to policies, Chapter 5 includes two other non-capital recommendations for protecting and enhancing the City's streams and riparian areas. The recommendations are to (1) develop a public involvement and information program that includes a citizen-implemented stream watch or stream stewardship program (using City funds and other resources), and (2) to develop cross-jurisdictional agreements with Benton County and other major stakeholders to provide a true watershed approach to managing local streams. The implementation of the recommendations requires the active participation and leadership of the City to establish, manage, and fund them. The funding cost is included in Table 14-4 as part of policy implementation.

The need for a public involvement and information program lies with how city stormwater programs have traditionally been managed. In many cities, money for operating the stormwater system and improving the conveyance system has been of lower importance than sewage treatment/conveyance, water treatment/conveyance, and street improvements. While the community and public officials would respond with a temporary interest in stormwater management after flood events, that interest would evaporate with drier weather.

Today, stormwater management requires heightened awareness by the community and City staff to address the suite of regulations that impacts stormwater management in Corvallis, including the ESA, National Pollution Discharge Elimination System (NPDES) Phase II, Total Maximum Daily Loads (TMDL), and National Flood Insurance Program (NFIP). These regulations require more focus on stormwater system management than the City has historically provided. Failure to provide appropriate attention and financial support for managing stormwater has consequences, such as fines. Funding must be provided by a dedicated, permanent source of revenue supported by the community.

Public support can be developed through a public involvement and educational program. The program will help foster community support for funding necessary improvements, making the necessary code modifications, and keeping stormwater management at the forefront. Community support is required for stormwater management activities to be effective and to comply with the regulations. Fortunately, Corvallis already has a raised level of consciousness for stormwater management as evidenced by the City's annual Flood Mitigation and Stream Restoration projects, the interest of the community, and the dedication of the SWPC.

In addition to developing a public involvement program, Chapter 5 recommends that the City develop partnerships with other public entities, such as Benton County, the State of Oregon, and Oregon State University. Interagency agreements encourage public entities to act with the City to develop responsible guidelines for construction, operation, and maintenance activities. More detail on the need for these agreements is provided in Chapter 5.

## 14.4 STORMWATER FUNDING

This section summarizes the existing funding program for the City's stormwater management activities and presents the funding needs recommended by this SWMP.

### 14.4.1 Existing Proforma

The City's stormwater utility is a dedicated funding source for stormwater activities. Operating revenues generated for fiscal year 99-00 are listed in Table 14-2. Charges for service are primarily from stormwater monthly rates and include approximately \$77,000 from miscellaneous sources. Total stormwater resources are \$2,733,548 including carryover funds not spent from previous years.

Rate-based revenues are generated from a base of 13,562 customers as of July 2000. The rates are based on equivalent surface units (ESUs) with a tiered rate structure to account for differences in the quantity of stormwater runoff between residential and commercial development. The monthly rate for one ESU in fiscal year 99-00 was \$4.23. Other revenues are generated by System Development Charges (SDCs). In fiscal year 99-00, SDC revenues were almost \$44,000. The monthly rates and SDCs will be updated to include the funding recommendations of the SWMP. The new SDC rate structure may include new elements such as drainageway dedications, stream enhancement, and extra capacity infrastructure not currently included in the rate structure.

**Table 14-2. Stormwater Resources**

Operating Revenue	FY 99-00 \$
Charges for Service	1,482,858
Miscellaneous	76,846
Total Revenue	1,559,704
Other and Carry-over Resources	1,173,844
Total Resources	2,733,548

Total stormwater expenses include operating costs, special projects, and capital improvement projects. The City's expenses for fiscal year 99-00 are listed in Table 14-3.

**Table 14-3. Stormwater Expenses**

Expenses	FY 99-00 Budgetary Basis, \$
Operating Expenses	871,913
Special Projects	93,123
Total Operating Expenses	964,442
Capital Expenses	311,480
Total Expenses	1,275,922

The City's resources exceed expenses for fiscal year 99-00. This difference would carry-over in the fund balance to future years, providing a reserve to be used for one-time projects or emergencies. The City's five-year plan predicts a stormwater carry-over fund balance through fiscal year 04-05.

#### 14.4.2 New Funding Requirements

The SWMP's recommendations for improving stormwater management throughout the City will impact the capital and operating budgets. A rate analysis is required to determine how user fees and system development charges will be affected by these additional projects. The rate analysis will also help the City determine the time period over which to complete the short- and long-term programs as influenced by the public's willingness to support the SWMP recommendations. Table 14-4 summarizes the costs of all recommendations provided by this SWMP, but does not include the cost of land.

**Table 14-4. Total Cost of SWMP Recommendations**

Activity	Short-Term Program	Long-Term Program	Total
Capital Fund:			
Capital projects	\$6,644,000	\$4,416,000	\$11,060,000
Operating Fund:			
Operating projects	\$180,100/year	\$164,000/year	\$344,100/year

#### 14.5 ADDITIONAL REQUIREMENTS

In addition to capital and operating budget recommendations, the SWMP makes policy recommendations as discussed earlier and presented in Chapter 5. To achieve the objectives established for the policies, modifications will be required to other elements of the City's planning framework. Changes will be required in the Municipal Code, Land Development Code, Design Criteria Manual, and Standard Construction Specifications.

Each of the City's planning documents must be reviewed to determine the modifications required to support stormwater management activities and, specifically, to comply with regulations faced by the City: ESA, NPDES Phase II, TMDL, and NFIP. A systematic review of the City's documents at the time they are due for revision will reduce the administrative burden of reviewing and updating these documents now. However, complying with ESA may require that the City focus on updating some of these documents earlier.

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