

CHAPTER 8: IMPLEMENTATION COSTS

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The management approaches presented in the Recommended Plan and the Minimum Service Alternative, in conjunction with the regional management program, provide the county with the ability to correct existing and prevent future flooding problems and protect the McAllister/Eaton Creek system from additional degradation. These alternatives represent a marked improvement in the way the county manages surface water resources.

Because the Recommended Plan and the Minimum Service Alternative offer a proactive approach to problem solving, the public costs associated with the implementation of these alternatives are higher than the current funding levels can provide. Many of these costs are associated with capital improvements and increased maintenance aimed at correcting historical problems. Unfortunately, the construction of stormwater facilities is usually land-intensive, and rapid development in the McAllister/Eaton Creek basin continually reduces the availability of affordable land. Escalating land values will dramatically increase the cost of capital facilities in the future, so quick action on facilities proposals will be most cost-effective. The plan's emphasis on problem prevention and nonstructural solutions maximizes least-cost measures wherever possible.

The nonstructural recommendations include improved maintenance, increased enforcement and complaint response, cluster development zoning, creek monitoring, and public involvement and education. In addition to the nonstructural recommendations for the basin, the plan also supports implementation of the regional program described in Appendix K. Because the Recommended Plan and the Minimum Service Alternative assume that the regional plan will be implemented, the cost analysis presents the county's funding needs for the regional recommendations in addition to the basin-specific needs.

8.1 EXISTING BASIN REVENUES

The stormwater utility rate revenues from within the basin totalled approximately \$85,000 in 1992, calculated from the Thurston County Storm and Surface Water Utility's billing records. The table below breaks out the amounts collected by type of property. In addition, the city of Lacey collects a small amount of stormwater utility fees from a few parcels on the northwest fringe of the basin.

A combination of utility revenues and grants fund the existing level of management within the basin described in Chapter 5 under No Action. Several capital improvement pilot projects completed in the basin during 1992 were paid for by utility revenues, in order to develop more accurate cost estimates and improve the county's knowledge of local soil and flooding conditions. Grant and utility rate funds spent directly in the basin in 1992 totalled \$51,265.

Table 8-1: 1993 Stormwater utility rate revenues from McAllister/Eaton basin

Type	# of Parcels	Average Bill	Total
Single Family Residential	2,994	\$20.87	\$62,509
Du-, Tri-, 4-plex	42	\$27.29	\$1,146
Multifamily Residential	19	\$49.05	\$932
Timber	46	\$15.48	\$712
Vacant	1032	\$13.38	\$13,805
Commercial	31	\$196.58	\$6,094
TOTALS:	4,164	\$20.46	\$85,198

8.2 RATE OF GROWTH IN BASIN REVENUES

Assuming the future development growth rates predicted by Thurston Regional Planning Council (described in Chapter 2), new development in the basin will provide a 7.8 % average yearly revenue increase through the year 2015. Annual utility revenues from basin residential property owners are projected to increase sharply by up to \$6,000/year for the next two years, driven primarily by rapid growth in the Hawks Prairie area from personnel increases at Fort Lewis. After 1995, the residential revenue growth is projected to average \$1,600/year through 2015. By 2015, total revenues from residential properties in the basin under the existing utility structure are expected to total \$107,520/year in 1992 dollars. Currently, residential rates constitute 76% of the total rate base, but most development in the basin is expected to be residential so that residential rates will constitute 98% of the rate base by 2015. Inflation will probably negate about half the growth in rate revenues.

8.3 BASIN PLAN IMPLEMENTATION COSTS

Table 8-2 categorizes the basin plan implementation costs as capital facilities or nonstructural recommendations. Table 8-3 summarizes the county's share of the regional nonstructural management plan (Appendix K), which the basin plan supports. Basin-specific and regional projects require different funding mechanisms, described in section 8.4.

8.3.1 Basin Plan Costs

Recommended Plan Based on the recommendations presented in Chapter 6, the estimated

public capital costs for the Recommended Plan exceed the current level of basin-generated funding by \$700,000/year over the next 7 years. This represents a total of \$4.9 million in additional funds, some of which grants could probably provide. The cost to home buyers associated with increased stormwater system design standards in the Recommended Plan would be an estimated \$850 per lot.

Minimum Service Alternative The estimated public capital costs of the Minimum Service Alternative exceed the current level of basin-generated funding by \$322,000/year over the next 7 years, or a total of \$2.25 million in additional funds. The cost to home buyers associated with increased system design requirements in the regional plan supported by this alternative would be an estimated \$640 per lot.

Table 8-2: Cost comparison of basin-specific recommendations

	RECOMMENDED PLAN	MINIMUM SERVICE ALTERNATIVE	NO ACTION
Capital Facilities	4,828,300	2,734,900	0
Nonstructural Recommendations	702,530	149,280	261,840
TOTAL:	\$5,530,830	\$2,884,180	\$261,840

8.3.2 Regional Nonstructural Management Program Costs

The regional nonstructural management program (Appendix K) supported by the basin plan would increase regulatory oversight, improve maintenance and enforcement, and enhance public involvement and education. The county's share of the program's estimated annual cost is approximately \$772,000, and the maintenance program represents 68% of the total. Table 8-3 on the following page has a cost breakdown according to type of recommendation.

8.4 COST SHARE APPROACHES

All of the proposed projects are within unincorporated Thurston County. However, the city of Lacey has annexed portions of the northwest basin in recent years, and more annexations have been proposed for the near future. Also, many of the proposed projects are designed to protect the city of Olympia's drinking water source. Regardless of the funding mechanisms implemented by the jurisdictions, costs for capital and non-capital activities would have to be allocated between the jurisdictions. The four local jurisdictions agreed to a cost sharing allocation system based on the acreage in each jurisdiction served by a project, in a general Interlocal Cooperation Agreement adopted in April, 1990. This system was also adopted for capital facilities in the Percival Creek and Indian/Moxlie Creek basin plans.

Regional nonstructural projects do not fall easily within the geographically-defined jurisdictional boundaries on which capital project cost allocation is based. Therefore, the local jurisdictions developed a separate system for allocating those costs in the Indian/Moxlie Creek and Percival Creek basin plans. Under this system, jurisdictional responsibilities have been estimated based on the level of funding needed for each jurisdiction to serve its population. The county share is based on serving the Stormwater Utility area within north Thurston County only, where land owners pay an annual stormwater fee. This system is a more regional approach to programming nonstructural surface water management activities.

Table 8-3: Thurston County's share of the cost for the proposed regional nonstructural management program

CATEGORY	COST
Facilities (R-1,2)	\$525,000
Habitat Enhancement (R-3 to 6)	\$1,600
Regulation/Controls (R-7 to 14)	\$57,000
Enforcement/Assistance (R-15)	\$25,000
Pollution Source Control (R-16)	None
System Monitoring (R-17, 18)	\$45,450
Public Education (R-19 to 33)	\$98,550
Program Mgmt (R-34 to 36)	\$20,000
TOTAL:	\$772,600

CHAPTER 9: FUNDING ALTERNATIVES

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The Recommended Plan or the Minimum Service Alternative will require increased revenues for basin-specific capital projects and nonstructural programs. This chapter describes potential funding sources to meet that need.

This funding analysis is intended primarily to identify equitable funding approaches that allocate costs fairly between all who benefit from the recommendations. Funding options range from simple changes in the existing utility rate structure to the adoption of a fundamentally new approach. Each option has associated administrative costs, and limitations on how the money may be spent. Several of these options could be combined, or they can be considered separately to provide a basis for comparison and further evaluation.

9.1 EXISTING FUNDING MECHANISMS

The county has several existing mechanisms for funding stormwater projects and programs, including historical methods as well as the more recently established stormwater utility.

9.1.1 Stormwater Utility Fees

The Thurston County Storm and Surface Water Utility began collecting county commission-approved rates from property owners in the northern part of the county in 1990. The charges are based on the amount of impervious area and the type of property use. Residential rates are based on an average impervious area for all residences, but the fees for other land uses are charged on actual impervious area measurements. Rates are collected once a year with property taxes, which substantially reduces the administrative billing costs, compared to other billing systems. Table 9-1, on the next page, compares the county's utility rates with other local jurisdictions' rates.

One possible source for meeting the funding needs of the Recommended Plan or the Minimum Service Alternative would be increasing the county stormwater utility rates. Table 9-2 projects potential rate revenues from the basin resulting from various rate increases. These are not intended as recommendations, but simply as a basis for comparing stormwater fees with other funding options.

9.1.2 Road Funds

Funding for drainage improvement and maintenance in Thurston County is largely the responsibility of the Roads and Transportation Services Department. Road drainage improvements such as culverts and ditches are constructed as a part of road projects because they are necessary to accommodate transportation needs. Road funds currently support only

Table 9-1: Local Stormwater Utility Annualized Rates¹

Land Use	Olympia	Tumwater	Lacey	Thurston County
Single-Family Residential	\$72.00/60.00 ²	\$54.00	\$54.00	\$20.00 + 1.00 per acre ⁴
Duplex	\$144.00/60.00 ²	\$108.00	\$108.00	\$13.00 per unit + 1.00 per acre ⁴
Multi-Family Residential	\$102 + 28.80/53.28/79.20 ²	9.00 + (45.00 per gross impervious area ÷ 3250 sq.ft.)	\$22.68 to \$530.04 per gross acre ³	\$6.00 per unit
Commercial, Industrial, and Schools	Same as multi-family	Same as multi-family	Same as multi-family	\$5.56 per 1,000 sq ft impervious area
Streets, Roads, and State Government	30% of commercial charge	30% of commercial charge	No charge	30% of commercial charge

Notes: ¹Olympia, Lacey and Tumwater charge monthly rates and offer various incentives for improved facilities. Contact the local Public Works Department for complete details.

²Olympia's surcharges vary according to the date of development, in order to reduce rates for developments which meet higher standards. The higher rate is the base rate which most parcels pay.

³Lacey sets 7 nonresidential rates on a scale according to the % of impervious area. Parcels which mitigate their stormwater impacts receive a one-step rate reduction.

⁴Thurston County surcharges residential parcels \$1.00/acre for each additional acre over one-half acre. The duplex rate also applies to triplex and fourplex.

Table 9-2: Estimated basin revenues from stormwater utility rate increases for current development

PROPERTY TYPE	TOTAL RATE REVENUES FROM THE BASIN - 1993				
	Current Rate Structure	25% Increase	50% Increase	75% Increase	100% Increase
Single Family Residential	\$62,509	\$78,136	\$93,763	\$109,391	\$125,018
Du-, tri-, and 4-plex	\$1,146	\$1,432	\$1,747	\$2,005	\$2,292
Multi Family Residential	\$932	\$1,165	\$1,398	\$1,631	\$1,846
Commercial	\$6,094	\$7,617	\$9,141	\$10,664	\$12,188
Timber	\$712	\$890	\$1,068	\$1,246	\$1,424
Vacant	\$13,805	\$17,256	\$20,707	\$24,159	\$27,610
TOTALS:	\$85,198	\$106,406	\$127,824	\$149,096	\$170,396

minor capital improvements. Thurston County's stormwater system is largely comprised of ditches and culverts. Minimal additional funds can be expected from this source.

9.1.3 General Funds

The county's general funds can be used for a variety of projects and programs including stormwater management. Historically, these funds have paid for a variety of capital improvements. However, the stormwater utility was created at least partially with the expectation of eliminating the reliance on general funds to pay for stormwater projects. Currently, increasing demands on general funds have compounded revenue shortfalls, so general funds are not likely to be available for stormwater management.

9.1.4 Plan Review and Inspection Fees

The county currently charges customers for some of the costs of plan review and building inspection to enforce codes, regulations, and policies. All aspects of stormwater and environmental design are subject to review and inspection. Some of the costs for the Regional Nonstructural Management Program would fall in this category. These fees vary from fixed rates for small developments to variable rates for larger developments, but they do not usually cover the entire cost of review and inspection. Potential increase in the fee structure would generate minimal additional revenues.

9.1.5 State and Federal Grants

Adopting the basin plan will greatly improve the county's ability to compete for increasingly limited grants. The county has been highly successful in obtaining state and federal grants in the past. State-administered grants target existing water quality and flooding problems, and problems which cause property damage or present public health or safety hazards usually rate highly for grant eligibility. Public involvement and education programs are also eligible for limited grant funding. Funds targeted at historical problems may also address potential future problems, or they may free up other funds for the prevention of potential problems.

Most grants require some amount of local matching funds, which may sometimes take the form of services-in-kind. Grant sources have been drying up in recent years as government spending has been reduced at all levels. Grants help bolster finite local funds, but they involve a high level of uncertainty and are difficult to utilize in planning for long-term needs.

The major grant funding sources applicable to surface water management are:

- **Centennial Clean Water Fund** The Centennial Clean Water Fund is administered through the Washington Department of Ecology Water Quality Financial Assistance

Program. The fund was established in 1986 to provide a source of financial assistance for the funding of planning, design, acquisition, construction, and improvement of water pollution control facilities including nonpoint source control projects. The fund supports these projects in order to meet state and federal pollution control requirements. Grant recipients are required to provide a local match of 25 to 50 percent. The fund has \$45 million available per year through 1995. This amount is allocated by jurisdiction, so all county projects must compete for a limited share of the fund. Implementation projects such as capital facilities are generally eligible for 50% funding.

- **Flood Control Assistance Account Program** The Floodplain Management Section of the Department of Ecology administers the Flood Control Assistance Account Program (FCAAP). FCAAP is a grant program that assists cities, counties and local districts with flood control emergency and non-emergency maintenance and capital improvement projects. The maximum funding available per county each biennium is \$500,000 for non-emergency grants and \$150,000 for emergency grants, and counties must provide matching funds of 50% and 20%, respectively.
- **Puget Sound Water Quality Authority Public Involvement and Education Fund** Grants are periodically available to local governments and other organizations to initiate and continue public involvement and education activities in the Puget Sound region. The grants can potentially fund a wide variety of public education projects. The funding for these grants originates from the Washington State Centennial Clean Water Fund. Approximately \$500,000 will be available in 1993. Grants are limited to \$40,000 per project, but projects rarely receive more than \$20,000. PSWQA may announce grant caps for each jurisdiction in 1993.
- **Washington State Ecosystems Conservation Project** The Washington Department of Wildlife in cooperation with the U.S. Fish and Wildlife Service, has established two programs aimed at the protection of valuable upland, riparian, and wetland habitats within the state. Approximately \$300,000 annually has been allocated to support the programs.

One of these program, the Washington State Upland Wildlife Program addresses the loss of upland habitat and associated decreasing wildlife diversity. The current focus of the program is on the acquisition of upland habitat in eastern Washington. The second program is the Washington Wetlands and Riparian Initiative. The goal of this program is to protect wetlands and riparian resources. Public ownership, incentives, easements, cooperative agreements, land trusts, and other innovative approaches are encouraged.

- **Washington State Jobs For Environmental Restoration Grants** The 1993 Legislature appropriated \$6.5 million for a new environmental restoration grants program in Fiscal Year 1994, split evenly between the Departments of Ecology and

Natural Resources. The grants are intended to fund local governments and other entities conducting labor-intensive environmental restoration activities, in order to create jobs. The details of this new grant program have not yet been announced.

9.2 POTENTIAL FUNDING MECHANISMS

The existing funding source described above are not likely to provide all of the funding needed to implement either the Recommended Plan or the Minimum Service Alternative, so this section investigates other potential sources.

9.2.1 Shellfish Protection Districts

The 1992 Washington State legislature substantially expanded counties' authority to establish and fund Shellfish Protection Districts. Shellfish Protection Districts can be established county-wide or watershed by watershed, and they can be funded through a variety of mechanisms, but they cannot charge property owners who already pay a stormwater fee. Shellfish Protection Districts have the spending authority to finance a wide variety of projects and activities so long as they ultimately benefit water quality. However, projects in closed basins which do not drain to salt water may not be eligible for funding.

9.2.2 Aquifer Protection Areas

State legislation amended in 1990 gives counties the authority to form Aquifer Protection Areas and assess rates, upon the approval of the voters. Aquifer Protection Areas must be delineated according to aquifer boundaries, and rates must reflect ground water usage and impacts. The authorizing legislation allows a broad range of activities, including stormwater facilities. Vacant land cannot be assessed under an Aquifer Protection Area. A proposal to place an APA measure on the fall 1993 ballot has been postponed until at least spring, 1994, to allow the county and cities more time to work out the details of the proposal.

9.2.3 Connection Fees

Thurston County does not charge a hook-up or connection fee for stormwater facilities, but all the other local jurisdictions charge such a fee. The city of Olympia has a "general facilities charge" which is deposited into the stormwater utility's capital facilities account. The amount varies with the date of development. The city of Lacey charges a connection fee for residential hook-ups of \$60.90, and commercial hook-ups pay \$609.00. This money goes into the stormwater utility fund. The city of Tumwater also charges connection fees.

9.2.4 Development Impact Fees

The State Growth Management Act gives local jurisdictions the authority to charge impact fees to new developments in order to fund infrastructure improvements required by the developments. These fees are charged to offset the public costs associated with growth. In 1991, Thurston County chose not to charge interim impact fees prior to finalizing the county Capital Facilities Plan.

Current law does not allow collection of impact fees for stormwater capital facilities. However, road improvements, parks and open space preservation may be funded by impact fees, and those fees could assist with upgrading culverts, constructing stormwater facilities for roads, purchasing multiple-use lands, and preserving streamside habitat.

9.2.5 Street Utility

Local jurisdictions have the authority to impose street utilities to pay for streets and related improvements. Street utilities can assess \$2/month to single family residences and \$2/month/employee to employers. State offices are exempt from paying the utility assessment on their employees. In the north Thurston County area the state employs approximately 35 percent of the work force. Projects associated with street improvements would be the only stormwater projects eligible for street utility funding, but many such projects exist within the basin and region.

9.2.6 Fee-in-Lieu of Construction

The county has the authority to allow developers to pay into the stormwater fund instead of constructing required stormwater facilities. This approach would encourage developers to contribute funds toward building regional stormwater facilities rather than construct on-site stormwater facilities. Currently, the county's preferred management method is on-site infiltration, but regional facilities might be cost effective, environmentally beneficial alternatives in certain situations. Costs to both private and public entities might be reduced for some projects.

9.2.7 Local Improvement Districts (LIDs)

Local improvement districts (LIDs) are a common funding source for infrastructure installation or improvement where the beneficiaries of the project can be readily identified. These districts are established by residents for the purpose of funding neighborhood improvements. Local jurisdictions may sell bonds to finance projects, and supervise project construction, for established LIDs. The LID residents pay monthly or annual rates to the local jurisdiction to pay off the project costs. LIDs have not been used to fund stormwater

improvements in Thurston County, because the project beneficiaries are often difficult to specify, and the administrative costs are often high.

9.2.8 Flood Control Zone Districts

Counties may establish areas for the purpose of managing stormwater projects which reduce flood hazards in a specific area or watershed. Funds to support the districts can be obtained by tax levies, special assessments, and LIDs.

9.3 DEBT FINANCING

Major capital improvement projects often require large sums of capital for construction, but their operating costs are relatively low and their life spans are long. Debt financing offers a method for spreading out the impact of high-cost construction over a long period of time. Mechanisms such as bonds and low-interest loans have long been used to ease the burden of financing capital construction. Debt financing mechanisms are not funding sources themselves, because the jurisdictions must commit funds to pay off the debts.

9.3.1 Loans

- **The State of Washington Public Works Trust Fund** The Department of Community Development offers \$2.5 million per jurisdiction per year in Public Works Trust Fund low-interest loans to repair, replace, rehabilitate, reconstruct, or improve existing public works facilities. Many drainage facilities are eligible, as well as projects to enhance or protect wetlands from stormwater impacts. The fund covers up to 90% of the project cost and charges interest of 1-3%, depending on the amount of local match. The program is not intended to finance growth-related projects, but it does include emergency loans.
- **Department of Ecology Centennial Clean Water Fund Loans** In addition to the grants described previously in this chapter, the Centennial Clean Water Fund offers loans to local governments for activities and facilities that protect and enhance water quality. Loans are available for up to 100% of the total eligible project costs. Loans for 0-5 years are interest-free, 6-14 year loans cost 4% per year, and 15-20 year loans cost 5% per year. Funds are available for planning, design, construction, or implementation of water related projects.
- **Washington State Revolving Fund for Water Pollution Control** The State Revolving Fund (SRF) was established in 1988 to provide low-interest loans to public bodies for high priority water quality needs, including nonpoint source pollution control projects, and conservation and management projects in estuaries. The fund is self-sustaining through capitalization by federal grants. Project costs may be 100%

eligible and repayable over 20 years. Interest rates beginning in 1994 will be 60% of market rate for 6-14 year loans and 75% of market rate for 15-20 year loans. Shorter term loan rates have not been determined yet. The fund is expected to contain \$12 million in fiscal year 1994.

Eighty percent of the SRF is directed towards the planning, design, and construction of water pollution control facilities. The remainder is targeted towards nonpoint source pollution projects and estuary conservation and management.

9.3.2 Bonds

Municipal bonds are financial notes which obligate the seller to pay specified sums of money to the buyer in the future, in return for use of the capital now. Utility bond sales can raise capital to fund the construction of needed projects, with the costs repaid over time. Two basic types of bonds are general obligation bonds and revenue bonds. Stormwater utility revenues can only be used to pay off revenue bonds. State law does not limit the amount of revenue debt for local jurisdictions, but requires assurances that the utility revenues are sufficient to repay the bonds.

Local jurisdictions have historically sold bonds to finance major improvements such as new schools or bridges. The county has never sold bonds to finance stormwater projects because past projects have been relatively small. However, as the county proceeds with comprehensive facilities planning for stormwater and other infrastructure projects, bonds have become a more realistic approach.

9.4 COMBINED FUNDING APPROACHES

The sources described above could be combined in a variety of ways to provide a more comprehensive approach to managing water resources. Each mechanism has its own advantages and disadvantages. The county has formed an interdepartmental committee with participation from various citizen groups to investigate these mechanisms and report to the County Commissioners.

The combined authority of shellfish protection districts and stormwater utilities might provide the broadest range of activities and revenues. Questions remain about the county's ability to collect revenues under both of these authorities. It may be possible to define specific activities under each authority, and collect rates under both authorities to fund only those authorized activities. If the services were not duplicated, then both funding mechanisms might be able to coexist.

Combined Aquifer Protection Districts and Stormwater utilities may also provide comprehensive funding and programming. However, Aquifer Protection Districts must be

delineated differently from the stormwater utility, which could cause some problems along the edges of the districts. Also, Aquifer Protection Districts may have limited ability to address problems along marine shorelines.

Teaming up with other departments to plan multiple-use projects offers another potentially cost-effective approach. Some obvious partnerships could be formed between the Stormwater Utility and the Parks Department, for example. Three-way arrangements including the Roads Department may also be possible. Interdepartment arrangements could improve efficiency by pooling resources in program areas such as maintenance, acquisition, and engineering design. These collaborations do not offer new funding sources, but they make maximum use of existing sources.

9.5 REGIONAL FUNDING APPROACHES

Regional or interjurisdictional management of water resources may present cost savings to the local jurisdictions similar to the potential savings described in the combined funding approaches above. The potential savings include reduced staffing needs and reduced capital equipment costs. For instance, stormwater facilities maintenance programs require a major investment in capital equipment and permanent maintenance staff. The required staff and equipment could be reduced substantially if all stormwater facilities in the region were part of one maintenance program instead of four. Interjurisdictional stormwater management offers the added benefit of improving consistency between local areas. Such an approach would require a major reform of the existing stormwater management programs, with numerous complex issues to resolve. The regional process for managing ground water initiated in 1992 by the North Thurston Ground Water Management Plan could serve as a model for this process. The basin plan has not quantified the potential savings, but recognizes the likelihood of increased efficiencies.

9.6 OVERALL FUNDING CONSIDERATIONS

The funding mechanism for stormwater programs should be fair and equitable to the county's residents, and efficient to administer. Equitable funding systems should allocate the costs of solving stormwater problems to those who contribute to the problems as well as those who benefit from the solutions. Sometimes a stormwater problem can be traced to a specific contributor such as runoff from a development, but many stormwater problems stem from multiple causes. Nonpoint source pollution in particular often results from the actions of hundreds or thousands of individuals. A flexible funding system which provides a variety of options, incentives, and disincentives will offer the most equity, but complex rate structures cost much more to administer and can be difficult to understand. The funding system should balance these concerns. State grants should also be utilized to the maximum possible extent for capital projects.

All problems and solutions are not equal. Some projects address historical problems, others prevent potential future problems, and still others deal with on-going operations. Funding mechanisms may be appropriate for some programs but not others. Maintenance and operations, for instance, should not rely on unpredictable grants or long-term loans for daily costs. Debt financing, however, could be appropriate for purchasing expensive equipment which could then be repaid over the life of the equipment. Debt financing is an attractive option for expensive capital facilities, but it raises the question of the fairness of borrowing from the future to solve historical problems. Conversely, supporters of impact fees often express the sentiment, "make developers pay the future costs of development", which begs the question of how growth-related costs should be allocated between current residents and future generations. A major portion of Thurston County's growth comes from natural population growth of the residents, not migration from out-of-state.

Funding mechanisms should also address consistency between the local jurisdictions. Uncoordinated basin plan implementation and funding could create major cost and service inequities between the local areas. Table 9-1, which outlines the current stormwater rates, already shows a broad range of fees and rate structures.

The adopted basin plans (Percival Creek, Indian/Moxlie Creek) consistently indicate that additional public funds will be necessary for effective surface water management throughout the north Thurston County region. A Thurston County citizens task force is currently developing a long-term strategy for funding all the county's capital needs for the next six years, and projecting costs for the next 20 years. The results of that effort will include recommendations for stormwater projects. Funding alternatives for projects and programs in the McAllister/Eaton Creek basin will continue to be developed and refined through that process and through the basin plan adoption process.

CHAPTER 10: IMPLEMENTATION STRATEGY

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The basin plan implementation would follow the strategy of first addressing new construction, then addressing existing, known problems, and finally addressing other areas of concern.

10.1 PLAN APPROVAL PROCESS

The basin plan may be adopted in its entirety as an amendment to the County Comprehensive Plan, thereby becoming official long-term policy, or it may be approved separately by the Board of County Commissioners, with the relevant sections subsequently incorporated into the Comprehensive Plan. Comprehensive Plan amendments require Planning Commission review prior to consideration by the County Commissioners. The recommendations dealing with land use must be submitted for the Comprehensive Plan amendment process, but other recommendations can be implemented separately. All of these procedures will include opportunities for further public review.

Adoption by the county does not commit actual dollars to specific recommendations. Each recommendation must then go through a separate implementation process, depending on the nature of the recommendation. The cost estimates will be refined and the details of each recommendation will be fleshed out at that time. Each recommendation will be subject to further public review through the implementation processes. For instance, the recommended Drainage Manual revisions would be implemented by drafting ordinance revision language for adoption by the County Commission, following public hearings. The Storm and Surface Water Advisory Board would review the capital facilities projects and make recommendations to the Board of County Commissioners. The Board of County Commissioners would review and approve the final projects for inclusion in the county's Capital Facilities Plan, and funds would be requested through the annual budgeting process.

Regardless of the details of each recommendation, adopting the basin plan would set overall policy and would help direct the Stormwater Utility's annual work program. Implementation of basin plans adopted in 1992 has already begun. Projected capital facilities needs for all the basin plans have been included in the current capital facilities planning process, which will enable the county to evaluate stormwater projects in the context of all the county's infrastructure needs.

The planning process will continue to incorporate opportunities for public comment and consideration of the basin plan.

10.2 ROLES AND RESPONSIBILITIES

The Thurston County Storm and Surface Water Utility would be the lead agency for implementing the basin plan. However, plan implementation will demand close collaboration

with numerous other local and state departments. As lead agency, the Stormwater Utility would probably contract with other departments to implement specific recommendations. For example, the Stormwater Utility might contract with the County Health Department to conduct water quality monitoring, land use recommendations would probably be developed with the Thurston Regional Planning Council, and culvert replacements would be designed by the Thurston County Roads and Transportation Services Department.

The Regional Nonstructural Management Program will require a different implementation approach which emphasizes interjurisdictional coordination. The recommendations in Appendix K identify two basic implementation strategies. Some recommendations would be implemented separately by each jurisdiction and coordinated through existing groups such as the Stormwater Technical Advisory Committee. Other recommendations would be implemented by an existing lead agency identified in the recommendation, and all the jurisdictions would contribute financially, similar to numerous current programs such as the basin plans and Operation Water Works.

10.3 SCHEDULE FOR IMPLEMENTING RECOMMENDATIONS

Implementation of most basin-specific recommendations will require additional source of funding, which must be developed concurrently with the county's budgeting process. The 1994 budget is already under development, and identification of new revenue sources would have needed to occur by the end of September, 1993, for inclusion in the 1994 budget. Therefore, the earliest these recommendations could begin to be implemented is in 1995. The recommendations would be scheduled with other county capital facilities improvements to take advantage of cost-efficiencies by combining, for instance, culvert work with road improvements.

The capital facilities projects would be constructed and paid for over a long time period, to reflect the project priorities and coordinate with other construction projects. Table 10-1 shows one possible 7-year schedule for implementing the projects, based on these considerations.

The county has already begun to implement many of the nonstructural recommendations which were adopted in other basin plans in 1992. Full implementation of those recommendations will also depend somewhat on additional funding.

10.3.1 Project Evaluation Criteria

The Recommended Plan contains specific project recommendations described in Chapters 6, each of which offer a unique set of costs and benefits. In order to prioritize the project recommendations, each project was evaluated according to the following criteria:

- Protection of property, natural resources, structures, and public health and safety

- Frequency of the problem addressed by the project
- Effectiveness of the project at solving the problem
- Number of people who benefit from the project
- Impact of the project on drainage, county liability, fish habitat, and water quality

This ranking process was used to develop the seven-year implementation timeline for each recommendation contained in Table 10-1, below. The top-ranked projects were scheduled first and lower-ranked projects were postponed until high priorities have been addressed. The timeline was then revised to take advantage of previously scheduled road improvements, and to reflect the relationships between certain specific projects. For example, fish passage projects were scheduled to progress upstream from the mouth. Appendix I contains a copy of the project ranking worksheet.

Table 10-1: Cost and Schedule of Implementing the Recommended Plan, 1995-2001

BASIN-SPECIFIC RECOMMENDATIONS							
Rec. #	1995	1996	1997	1998	1999	2000	2001
6.1.1					15,000	235,000	
6.1.2			35,000				
6.1.3	50,000	750,000	699,750				
6.1.4				25,000	164,000		
6.1.5						15,000	185,000
6.1.6	7,900	7,900					
6.1.7	38,800	38,800	38,800	38,800	38,800	38,800	38,850
6.1.8						13,650	
6.1.9	2,500	2,500					
6.1.10	1,100	1,100	1,100	1,100	1,100	1,100	1,100
6.2.1	38,500	38,500					
6.2.2	30,600	30,600	30,650	30,650	30,700	30,700	30,700
6.2.3					35,000		
6.2.4						5,000	
6.2.5		20,000					
6.2.6				15,000			
6.3.1	251,250	256,250					
6.3.2			5,000				

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BASIN-SPECIFIC RECOMMENDATIONS							
Rec. #	1995	1996	1997	1998	1999	2000	2001
6.3.3	20,000	20,000	20,000	20,000	20,000	20,000	20,000
6.3.4	1,100	1,100	1,100	1,100	1,100	1,100	1,100
6.3.5	Done						
6.4.1			44,880	44,880	44,880	44,880	44,880
6.4.2	201,300	201,300	201,450	201,450	201,450	201,450	201,600
6.4.3		100,000	100,000	100,000	80,000	79,000	
6.4.4	Cost included in Regional Nonstructural Management Plan						
6.4.5	No cost						
6.4.6	5,000						
6.4.7	1,800						
6.4.8	1,800						
6.4.9		3,680					
6.4.10	Cost included in Department of Health budget						
6.4.11	24,000					24,000	
6.4.12	10,000	2,000	2,000	2,000	2,000	2,000	2,000
6.4.13	Cost included in Regional Nonstructural Management Plan						
6.4.14	Cost included in project costs						
6.4.15	10,000						
TOTALS	695,650	1,473,730	1,179,730	479,980	634,030	711,680	525,230

REGIONAL NONSTRUCTURAL RECOMMENDATIONS							
Rec. #	1995	1996	1997	1998	1999	2000	2001
R-1	525,000	550,000	575,000	600,000	650,000	700,000	750,000
R-2	Included in basin-specific recommendations						
R-3	Included in basin-specific recommendations						
R-4		2,600	1,700	1,750	1,800	2,000	2,200
R-5	1,600	1,700	1,800	1,900	2,00	2,100	2,200
R-6	Accomplished in draft Critical Areas Ordinance						
R-7	Accomplished in draft Drainage Manual revisions						
R-8	Accomplished in draft Drainage Manual revisions						
R-9	Accomplished in draft Drainage Manual revisions						
R-10	10,000	7,500	8,000	8,500	9,000	9,500	10,000
R-11	2,000						
R-12							
R-13	Accomplished in draft Rural Zoning Ordinance						
R-14	45,000	35,000	35,875	36,772	37,691	38,300	38,900
R-15	25,000	26,500	28,000	30,000	32,000	34,000	36,500
R-16	Done						
R-17	45,450	47,750	50,150	52,660	55,290	58,050	60,950
R-18	Included in basin-specific costs						
R-19	3,000	3,500	3,500	3,500	4,000	4,000	4,000
R-20,22,26,29	37,450	38,950	40,450	42,450	44,500	46,650	48,800
R-21	9,900	10,400	10,920	11,470	12,050	12,650	13,280
R-23	18,000	18,900	19,850	20,800	21,850	22,900	24,000
R-24,28	3,000	3,150	3,350	3,600	3,780	3,960	4,200
R-25	3,500						
R-27,30,31	20,000	21,000	23,000	23,000	24,000	24,000	25,000
R-32	600	630	660	700	735	770	810
R-33	3,100	1,850	1,940	2,030	2,120	2,210	2,300
R-34,35,36	20,000	15,000	15,750	16,500	17,500	18,250	19,200
TOTALS	772,600	784,430	819,945	855,632	916,516	979,340	1,042,340

10.4 EVALUATION OF PLAN EFFECTIVENESS

The Recommended Plan and the Minimum Service Alternative include recommendations for monitoring the plan's effectiveness by including a monitoring element in each project or activity. For example, peak stream flows on Little McAllister Creek would be measured before and after constructing the proposed regional detention facility. Stormwater retention pond water levels would be measured before and after remedial maintenance. Water quality at facility outfalls would be checked before and after constructing treatment improvements. Parameters for measuring the success of the plan include:

- Water quality, stream flow, and habitat conditions
- Erosion and sediment deposition
- Compliance with state and potential federal water quality regulations.
- Fish population counts
- Area of established conservation easements and open space
- Level of public participation in basin events
- Increase in public knowledge and awareness of water resources
- Reduction of citizen complaints
- Number of remedial and emergency responses necessary

Most of the objectives listed in Section 1.2.2 are intended to be measurable, realistic goals which will help to assess the plan's effectiveness. For instance, the effectiveness of the maintenance program will be evaluated by reviewing the annual facilities inspection reports. Riparian revegetation will be evaluated by measuring vegetative cover and plant survival. Erosion control measures will be evaluated by measuring turbidity and suspended solids in receiving waters.

Other objectives, such as increasing residents' awareness, will be more difficult to measure. The county is currently working on methods to evaluate public education programs. The evaluation tools will be built into the individual projects, just as capital facilities will include project-specific monitoring. Tools under consideration include pre- and post- surveys, as well as more traditional tracking of such parameters as number of participants, and volunteer hours.

In general, despite our best efforts to protect resources, development tends to cumulatively degrade water quality and habitat. Preventing further short-term degradation as the basin population grows and the land becomes more developed may be considered a sign of success; actual improvements in existing conditions could take decades or even centuries to become evident. Contaminated ground water will take many years to flush out of the aquifers, even after the sources have been eliminated. Anadromous fish populations which have steadily deteriorated for the past 100 years will still be subject to the pressures of over-fishing. The impacts originating outside the basin will be difficult to control or measure. Good documentation and monitoring of the existing conditions now will help with long-term evaluation many years into the future.