



# City of Pullman Stormwater Planning and Funding Project

## Final Stormwater Program Implementation Plan



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## Acknowledgements

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## **Final Stormwater Program Implementation Plan**

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## Section I—Background

As the City of Pullman (City) addresses the requirements and deadlines of a NPDES Phase II Permit, it will be important that tools be available to help the City know what needs to be done each year and track the status of what is being successfully implemented. A detailed breakdown (matrices) of required annual NPDES activities has been prepared for the City. The detailed annual listing of required activities, combined with estimates of needed equipment, staffing, and funding, represents an “Implementation Plan” that the City can use to track what needs to be done in any given year and make judgments about the resources needed to meet the requirements. The Implementation Plan matrices will also aid in: (1) tracking program implementation, (2) preparing the City’s required NPDES Phase II Stormwater Management Program, and (3) preparing and submitting required annual NPDES Phase II reports to the Washington State Department of Ecology (Ecology).

Along with the detailed description of annual activities, the Implementation Plan also discusses the annual funding and staffing needed to achieve regulatory compliance for the next five years (the term of the NPDES Phase II Permit). The activities described in the Implementation Plan address Ecology’s final NPDES Phase II General Permit for Eastern Washington, effective February 16, 2007.

The Implementation Plan developed for the City represents the culmination of various work and related analyses performed to date. The work conducted as part of this process included: (1) documentation of the City’s existing stormwater program activities, services, and levels of funding; (2) a review of current stormwater requirements through a regulatory assessment; (3) performing a regulatory “gap analysis” to identify enhanced or new activities required for compliance; (4) development of cost estimates for enhanced or new activities, equipment, and projects; and (5) an evaluation of resource allocation, including staffing. The process is described further in Section 2.

## Section 2—Summary of Stormwater Program Definition Process

The City's existing stormwater program has been documented based on various sources of data and information provided by the City. Information provided by the City included organizational structure, staff responsibilities matrices, annual budgets, staff salaries and benefits, stormwater related ordinances, drainage design standards, maps, inventories of existing storm system facilities and infrastructure, and other related information. A "stormwater program self-assessment questionnaire form" was also developed and used to establish a baseline understanding of the City's existing stormwater management activities and priorities. The questionnaire sought information about existing City activities related to the regulatory requirements, as well as existing equipment, capital project needs, and estimates of current expenditures. The questionnaire also asked whether or not the City believes that a new funding source is needed to pay for existing and new stormwater activities. City staff completed and returned the questionnaire form on April 16, 2007. A copy of the stormwater questionnaire with responses provided by City staff is attached (Appendix A). Note that more detail on existing stormwater program activities and costs was provided after completion of the questionnaire and that the City believes that new funding will be needed. This additional detail is shown in the City's stormwater program gap analysis (Appendix B).

Local receiving water issues (303(d) listings, TMDLs, etc.) and other issues that may affect stormwater management requirements were downloaded from various agency sources and reviewed. When necessary, additional City of Pullman stormwater program components were recommended to comply with TMDLs or participate in local water quality activities (water quality monitoring).

## Section 3—Summary of Regulatory Gap Analysis Process and Results

The stormwater regulatory assessment was conducted based on review of the final version of the NPDES Phase II Permit, along with guidance provided in the Model Municipal Program for Eastern Washington. Information about the City's existing stormwater program activities, equipment, capital improvement projects, and funding levels were compared to the regulatory requirements to identify the "gap" between what is currently being done and what will need to be done each year to ensure compliance. The gap analysis and cost estimating process also considered additional activities and resources that will be needed to comply with the NPDES Phase II requirements, including funding program establishment and management and build-up of an operating reserve fund.

The detailed results of the Gap Analysis process are provided in Appendix B, and a brief summary is presented below for each major regulatory requirement.

### Public Education and Outreach

#### Regulatory Requirements

The City must develop and implement a formal Public Education and Outreach (PE&O) Program aimed at distributing educational materials to the community about the impacts of stormwater discharges to water bodies and the steps that can be taken to reduce pollutants in stormwater. The City's outreach and educational efforts must be targeted and presented to specific audiences within the community, including the general public, businesses, design professionals, contractors, developers, and City staff.

#### Status of Existing Activities and Needs

The City currently does not distribute stormwater educational materials to the community as part of a formal PE&O Program. The City will need to develop a PE&O strategy, identify target audiences within the community, and begin implementing the program. Education and outreach efforts recommended include distribution of stormwater brochures, storm drain stenciling with local volunteer groups, classroom education, presentations to local civic groups, and development of a stormwater webpage. City staff, local contractors, and design professionals will need to be educated on new ordinances, technical design standards, requirements for stormwater site plans and sediment and erosion control plans, stormwater Best Management Practices (BMPs), etc. It is expected that the City will coordinate with others as it implements the PE&O Program.

## Section 3—Summary of Regulatory Gap Analysis Process and Results

Continued

### Public Involvement and Participation

#### Regulatory Requirements

The City must adopt a program or policy directive to create opportunities for the public to participate in the decision making process involving the development, implementation, and update of the City's Stormwater Management Program. The Public Involvement and Participation (PI&P) Program implemented by the City must comply with applicable state and local public notice requirements, and must also include provisions for consideration of public comments.

#### Status of Existing Activities and Needs

The City has not adopted an official public involvement program or policy specifically for stormwater. Opportunities for public and stakeholder participation in the development and implementation of the SWM Program may include attending public hearings, participation in the development and adoption of regulatory ordinances and other required program elements, participation in volunteer opportunities, or other similar activities. The City may want to initiate public/stakeholder involvement early in the program development process to coincide with the development of ordinances and other related activities such as the development of a dedicated funding mechanism. Additional information and involvement efforts to be developed by the City include distributing news releases to local papers and posting an updated version of the SWM Program on the City's stormwater webpage. The City has the flexibility to choose from an array of PI&P approaches based on what is expected to work in the community.

### Illicit Discharge Detection and Elimination

#### Regulatory Requirements

The City must develop, implement, and enforce a program to detect and eliminate illicit discharges into its municipal separate storm sewer system (MS4). This element of the SWM Program requires that the City: (1) develop and adopt an ordinance that prohibits non-stormwater (illicit) discharges and authorizes enforcement actions; (2) develop a map of the MS4, showing the location of all known connections to the MS4 and outfalls to receiving waters; (3) prioritize receiving waters and conduct field assessments; (4) develop procedures for characterizing illicit discharges, spills, or illegal dumping, and procedures for tracing and removing sources of illicit discharges; (5) establish a hotline for public reporting of spills and other illicit discharges and maintain records of calls and follow-up actions taken; (6) provide adequate training to municipal staff; and (7) implement procedures for program evaluation and assessment.

## Section 3—Summary of Regulatory Gap Analysis Process and Results

Continued

### **Status of Existing Activities and Needs**

The City does have some existing regulatory language that regulates stormwater and other discharges to the sanitary sewer. The City does have a fairly complete map of its MS4, including an inventory of existing storm system facilities and infrastructure. The City is in the process of updating the existing maps to digital format and anticipates completing this work by early 2008. The City dye tests all new sanitary sewer service lines to ensure proper connection to the sanitary sewer system and to prevent unintentional cross-connections to the storm sewer system. The City does respond to and investigate reports of spills and illicit connections from outside sources, however no formal process exists for documenting findings, ensuring follow-up activities, enforcement, or record keeping. The City currently does not conduct routine visual inspections of outfalls to local receiving waters. Source tracing and removal activities are limited and conducted on an as-needed basis. The City needs to adopt and enforce an ordinance specifically prohibiting non-stormwater (illicit) discharges to its MS4. A written Illicit Discharge Detection and Elimination (IDDE) Program plan needs to be developed and implemented to address the requirements stated above.

### **Construction Site Stormwater Runoff Control**

#### **Regulatory Requirements**

The City must develop, implement, and enforce a program to reduce pollutants in stormwater runoff to its MS4 from construction activities, including private and public projects. This element of the SWM Program requires that the City: (1) develop and adopt an ordinance that requires erosion and sediment controls during construction-phase work, including sanctions to ensure compliance; (2) implement procedures for site plan review, including review of Stormwater Pollution Prevention Plans (SWPPPs) prior to construction; (3) implement procedures for site inspection and enforcement of construction stormwater pollution control measures; (4) provide adequate training for all permitting, planning, review, inspection, and enforcement staff; and (5) maintain records of activities related to site plan review, inspection, and enforcement.

#### **Status of Existing Activities and Needs**

Storm drainage plans and calculations are required by the City as part of their review and approval process. More specifically, an erosion and sediment control (ESC) plan must be submitted, approved, and implemented prior to beginning any land altering activities (e.g., clearing, grubbing, grading, etc.). Stormwater pollution prevention plans (SWPPPs) plans are not specifically required or reviewed at this time. In addition, ESC BMPs installed at construction sites are infrequently inspected. The City's existing ordinance relating to

## Section 3—Summary of Regulatory Gap Analysis Process and Results

Continued

construction stormwater pollution control measures (Section E, Erosion/Sedimentation Control, 2001 Design Standards) needs to be updated and the standards enhanced to ensure consistency with (1) the minimum technical requirements for development and redevelopment specified in the NPDES Phase II Permit and (2) Ecology’s Stormwater Management Manual for Eastern Washington (SMMEW). Enhanced training will be needed to educate staff on the new ordinances, design standards, BMPs, inspection and enforcement procedures, record keeping, etc.

### Post-Construction Stormwater Management for New Development and Redevelopment

#### Regulatory Requirements

The City must develop, implement, and enforce a program to address post-construction stormwater runoff to its MS4 from both private and public new development and redevelopment projects. This element of the SWM Program requires that the City: (1) develop and adopt an ordinance that requires post-construction stormwater controls, including requirements for runoff treatment, flow control, source control, and on-going long-term operation and maintenance of approved BMPs; (2) implement procedures for site plan review, including review of stormwater site plans prior to construction to ensure that plans include stormwater pollution prevention measures; (3) implement procedures for site inspection and enforcement of post-construction stormwater control measures; (4) provide adequate training for staff; and (5) maintain records.

#### Status of Existing Activities and Needs

The City’s existing ordinance relating to storm drainage standards (Section F, Storm and Surface Water Drainage, 2001 Design Standards) does address post-construction stormwater management. However, the ordinance and existing standards need to be updated to meet NPDES Phase II requirements. Storm drainage plans are currently reviewed as part of the site plan review and approval process. The City inspects post-construction stormwater runoff controls at the time of installation, however follow-up inspections are infrequently conducted to ensure compliance with standards. Inspections will need to be extended to both public and private projects, including inspection of stormwater controls both during and after construction. Required new and on-going staff training will be needed but is assumed to be integrated with the enhanced construction stormwater management training.

### Pollution Prevention and Good Housekeeping for Municipal Operations

## Section 3—Summary of Regulatory Gap Analysis Process and Results

Continued

### Regulatory Requirements

The City must develop and implement an Operation and Maintenance Program (O&M Plan) aimed at preventing or reducing pollutant runoff from municipal facilities and/or activities. The O&M Plan shall include appropriate pollution prevention/good housekeeping (PP&GH) practices for various municipal operations (e.g., storm system maintenance, municipal building maintenance, parks and open space maintenance, etc.), and shall include a schedule of inspections and record keeping requirements. In addition, the City must develop and implement a formal training program for all staff whose job functions may impact stormwater quality.

### Status of Existing Activities and Needs

The City has an established street sweeping program in place. Maintenance of the storm sewer system is currently performed on an as-needed basis and consists primarily of catch basin and system line cleaning. The City has been working towards annually inspecting all municipally owned and operated stormwater treatment and flow control facilities (e.g., detention ponds), including necessary maintenance such as the removal of accumulated sediment. Existing inspection and O&M activities will need to be enhanced to meet the regulatory requirements and will need to be documented in a formal O&M Plan. In addition, numerous other City operation and maintenance activities (e.g., parks, municipal buildings, material and heavy equipment storage and maintenance areas, etc.) need to be examined, and modified as needed, to protect water quality. A documented training program needs to be established.

## Compliance with Total Maximum Daily Load Allocations

### Regulatory Requirements

Ecology conducted a review of all TMDLs approved by EPA at the time of the final permit issuance (January 17, 2007) to determine whether stormwater, including municipal stormwater sources, were identified in any of the TMDLs. Ecology did not identify any TMDLs with established load or waste load allocations for municipal stormwater discharges covered under the permit. Since Ecology has not identified any TMDLs with more specific requirements than those found in the NPDES Phase II Permit, compliance with the permit constitutes compliance with applicable TMDLs. However, the City is encouraged to participate in the development of local TMDLs to ensure that stormwater impacts are responsibly addressed and help control potential future costs.

### Monitoring and Program Evaluation Requirements

### Regulatory Requirements

## Section 3—Summary of Regulatory Gap Analysis Process and Results

Continued

Although water sampling or other testing is not specifically required during the first permit term, the City must annually report any stormwater monitoring or studies and investigations conducted by, on behalf of, or reported to the City. The City must also perform an annual assessment of the appropriateness of the BMPs identified for each SWM Program component. Further, the City must prepare and plan to implement a future comprehensive long-term monitoring program consisting of the following three components: (1) stormwater outfall monitoring, (2) targeted SWM Program effectiveness monitoring, and (3) runoff treatment BMP effectiveness monitoring.

### **Status of Existing Activities and Needs**

These requirements will be fulfilled as the SWM Program is further developed and implemented. The City is encouraged to sponsor or participate with local agencies conducting routine or special water-quality studies (e.g., local conservation district). The City will need to develop, implement, and document a stormwater program monitoring and evaluation system.

## **Reporting and Record Keeping Requirements**

### **Regulatory Requirements**

The City is required to prepare and submit annual reports to Ecology. The reports must include the most current version of the City's SWM Program and status of compliance with the various conditions outlined in the permit. The annual reports must include: (1) the status of implementation of each SWM Program component; (2) an assessment of the City's progress in meeting the minimum performance standards; (3) a description of activities implemented, including the number and type of inspections, enforcement actions, PE&O activities, and illicit discharges detected and eliminated; and (4) other reporting requirements.

### **Status of Existing Activities and Needs**

The City will need to develop and implement a formal on-going process for gathering, recording, maintaining, and using information to track the development and implementation of their SWM Program. Designated staff will need to itemize the types of record keeping needed for the various program components, meet with various departments/divisions to assess needs for new or enhanced processes, create record keeping forms and protocols, and work with staff at various levels to implement the process.

## Section 4—Detailed Annual Stormwater Program Implementation Matrices

The City’s stormwater program activities can be divided into the following major categories: (1) NPDES Phase II requirements, (2) NPDES Equipment, (3) Capital Projects, and (4) Stormwater Program Funding Activities.

A detailed matrix of required annual stormwater activities is presented in Appendix B as part of the Gap Analysis. For convenience, a summary table has been provided for each of the requirements and the City’s expected activities over the 5-year permit term (Appendix C). Appendix C is in a check list format to assist the City in determining what needs to be done for a particular activity in a given year and to track the status of program implementation over time. The check list is meant to be used by City staff to help develop the program and track what needs to be done by when on an annual basis.

As discussed earlier, the annual matrices are based primarily upon the final NPDES Phase II General Permit for Eastern Washington. However, professional judgment and experience with similar projects has been used to “fill in the blanks” when necessary, such as describing the intermediate steps necessary to develop a potentially controversial stormwater ordinance in time to meet regulatory deadlines. The activities in the matrices reflect what NPDES Phase II requires and when, not what the City may already be doing. In some cases, the City has already at least partially met NPDES requirements. It should also be pointed out that the schedule developed for the required activities generally reflects the minimum required timeframes (deadlines) for implementation over the 5-year term of the permit. However, some activities, such as ordinance development and adoption, will be started in earlier years based on anticipated level-of-effort, expected timeframes, and local preferences.

## Section 5—Summary of Resources Needed for Pullman’s Updated Stormwater Program

### Annual Revenue Needs

The estimated annual revenue for implementing the City of Pullman’s stormwater program over the 5-year term of the permit (2007-2011) is summarized in Table 5.1. The table includes a summary of estimated annual cost for each program area category, total annual program cost, and total 5-year program cost. Table 5.1 also includes a breakdown in revenue needed for the following major areas: (1) equipment; (2) capital projects; (3) staff, fees, overhead, and services; (4) reserve fund buildup; and (5) revenue from development review fees versus other sources. A detailed listing of the estimated annual costs for each of the required activities is presented in the Implementation Plan matrices in Appendix B.

NPDES equipment and funding needs have been identified and are included in Appendix B for the following categories: (1) IDDE; (2) construction and post construction; (3) good housekeeping (O&M); and (4) TMDL compliance. Table 5.2 summarizes the equipment and funding needs for the City of Pullman’s stormwater program over the 5-year term of the permit. The table includes a summary of estimated annual and 5-year cost for each equipment category, the total 5-year cost, and the types of equipment to be purchased with each of the recommended funds.

A list of capital drainage projects has been developed and is presented in Appendix D along with estimated projects costs. The list of projects and costs will serve as the City’s Stormwater Capital Improvement Plan. The list has been compiled based on review of known drainage/flooding problem areas and projects identified in the City’s 2003 Comprehensive Flood Hazard Management Plan (CFHMP) and potential drainage-related projects identified by City staff. Capital projects and estimated costs identified in Appendix B and C represent a subset of the projects presented in Appendix D.

The following list of assumptions was used in developing costs:

- A stormwater utility will be established in Permit Year 2; the effort to establish and administer a utility is included in the annual Implementation Plan matrices.
- The development of required ordinances is initiated early in Permit Year 1 based on local input. It is assumed to take at least two years to develop ordinances, involve the public/stakeholders, complete legal review, coordinate internally, complete adoption, and revise local codes.
- Currently funded activities, such as storm system mapping, street sweeping, and stormwater control facility inspection and maintenance, will be rolled into the stormwater program and fully funded during Permit Year 2.
- Additional revenues from development review fees do not begin until Permit Year 3. The City has an established permit structure and fee schedule; however, fees are

## Section 5—Summary of Resources Needed for Pullman’s Updated Stormwater Program

Continued

Table 5.1						
Summary of Estimated Annual Program Revenue Needs and Sources						
Program Area	Year 1 Cost	Year 2 Cost	Year 3 Cost	Year 4 Cost	Year 5 Cost	5 Year Total
<b>1. NPDES</b>						
A. General NPDES Requirements	\$5,000	\$5,500	\$5,800	\$6,200	\$6,700	\$29,200
B. Public Education and Outreach	\$0	\$0	\$7,000	\$40,000	\$26,500	\$73,500
C. Public Involvement	\$3,500	\$25,500	\$25,500	\$25,500	\$25,500	\$105,500
D. Illicit Discharge Detection & Elimin	\$15,000	\$43,000	\$47,000	\$122,000	\$66,000	\$293,000
E. Construction Site Stormwater Runoff	\$15,500	\$28,000	\$72,500	\$80,500	\$90,500	\$287,000
F. Post Construction Stormwater Mng	\$15,500	\$20,500	\$46,500	\$55,500	\$65,500	\$203,500
G. Pollution Prevent/Good Housekeeping	\$7,000	\$72,000	\$175,500	\$197,000	\$216,500	\$668,000
H. Compliance With Clean-up Plans	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$7,500
I. Monitoring and Program Evaluation	\$1,000	\$2,000	\$6,500	\$6,500	\$2,000	\$18,000
J. Reporting and Record Keeping	\$40,000	\$50,000	\$48,000	\$52,000	\$55,000	\$245,000
K. NPDES Equipment Funds	\$0	\$190,000	\$280,000	\$280,000	\$360,000	\$1,110,000
L. NPDES Capital Project Funds	\$0	\$0	\$91,000	\$225,000	\$315,000	\$631,000
<b>2. STORMWATER PROGRAM FUNDING</b>						
A. Implement Stormwater Utility	\$24,000	\$30,000	\$30,000	\$30,000	\$30,000	\$144,000
B. Implement SW Develop Permit Fees	\$0	\$19,000	\$11,000	\$11,000	\$21,000	\$62,000
C. Stormwater Program Reserve Fund	\$0	\$222,000	\$167,000	\$110,000	\$56,000	\$555,000
<b>Annual Total</b>	<b>\$128,000</b>	<b>\$709,000</b>	<b>\$1,014,800</b>	<b>\$1,242,700</b>	<b>\$1,337,700</b>	<b>\$4,432,200</b>
Equipment	\$0	\$190,000	\$280,000	\$280,000	\$360,000	\$1,110,000
Capital	\$0	\$0	\$91,000	\$225,000	\$315,000	\$631,000
Staff, Fees, Overhead, Services	\$128,000	\$297,000	\$476,800	\$627,700	\$606,700	\$2,136,200
Reserve	\$0	\$222,000	\$167,000	\$110,000	\$56,000	\$555,000
Funding from Development Fees	\$0	\$0	\$124,000	\$141,000	\$171,000	\$436,000
Funding from Utility/Other Source	\$128,000	\$709,000	\$890,800	\$1,101,700	\$1,166,700	\$3,996,200

## Section 5—Summary of Resources Needed for Pullman’s Updated Stormwater Program

Continued

Table 5.2 Summary of NPDES Equipment and Funding Needs							
NPDES Equipment Fund	Year 1 Cost	Year 2 Cost	Year 3 Cost	Year 4 Cost	Year 5 Cost	5 Year Total	Equipment Types Purchased with this Fund
<b>IDDE</b>	\$0	\$10,000	\$10,000	\$10,000	\$10,000	\$40,000	Vehicle Purchase/Rental Field Equipment <ul style="list-style-type: none"> <li>• <i>Field computer (laptop)</i></li> <li>• <i>Digital Cameras</i></li> <li>• <i>Survey and GPS equipment</i></li> <li>• <i>Safety equipment</i></li> <li>• <i>Spill Response Equipment</i></li> </ul> WQ Monitoring Equipment <ul style="list-style-type: none"> <li>• <i>Sampling equip. and supplies</i></li> <li>• <i>Stream gaging and flow measurement equipment</i></li> <li>• <i>Monitoring instrumentation</i></li> <li>• <i>Field testing kits and supplies</i></li> </ul>
<b>Construction/ Post-Construction</b>	\$0	\$10,000	\$10,000	\$10,000	\$10,000	\$40,000	Vehicle Purchase/Rental Field Equipment <ul style="list-style-type: none"> <li>• <i>Digital Cameras</i></li> <li>• <i>Survey and GPS equipment</i></li> <li>• <i>Safety equipment</i></li> <li>• <i>Misc. supplies</i></li> </ul>
<b>Good Housekeeping</b> Existing O&M Equip. Expenditures	\$0	\$90,000	\$180,000	\$180,000	\$180,000	\$630,000	Existing O&M Equipment Expenditures <ul style="list-style-type: none"> <li>• <i>Fuel, operation and maintenance costs, etc.</i></li> </ul> Existing equip: 2 mech. sweepers, 1 vactor truck, 1 self-propelled trailer-mount unit, 5 dump trucks.
Identified O&M Equip. Needs	\$0	\$80,000	\$80,000	\$80,000	\$160,000	\$400,000	Additional Equipment <ul style="list-style-type: none"> <li>• <i>Vactor Truck (\$300K)</i></li> <li>• <i>Small trackhoe (\$85K)</i></li> <li>• <i>Sweeper unit rental (\$15K)</i></li> </ul>
<b>TMDL Compliance</b>	\$0	\$0	\$0	\$0	\$0	\$0	<i>Not Applicable</i>
<b>Annual Total</b>	<b>\$0</b>	<b>\$190,000</b>	<b>\$280,000</b>	<b>\$280,000</b>	<b>\$360,000</b>	<b>\$1,110,000</b>	

## Section 5—Summary of Resources Needed for Pullman’s Updated Stormwater Program

Continued

- currently not collected for activities related to stormwater plan review, inspection, and enforcement. The effort to update, implement, and administer a development permit fee system is included in the annual Implementation Plan matrices. NPDES equipment funds will not be needed until Permit Year 2. The majority of the funds appropriated will be associated with the Good Housekeeping Equipment Fund. Existing O&M equipment expenditures are approximated at \$180,000 annually. These costs will be phased-in to the stormwater program during Permit Years 2 and 3 and will be fully funded by Permit Year 3. Additional major equipment needs identified by the City are estimated at \$400,000. Funds will be appropriated in Permit Years 2-5 to cover these costs (Table 5.2).
- A capital improvement project fund of \$631,000 will be appropriated in Permit Years 3-5 to cover planned and unforeseen projects. Funds will be allocated to cover costs associated with engineering design, permitting, and construction for planned projects not requiring long-term financing. However, for some projects, long-term financing will be secured to cover construction costs with funds used to cover annual loan repayment obligations. Planned capital drainage projects include those identified by the City in the self-assessment questionnaire (Appendix A).
  - A reserve fund of approximately \$555,000 will be built up in Permit Years 2-5, which is equal to 50% of the fully implemented program cost estimate.

### Staffing Needs

#### Development Review Staff

Assuming that Development Review Staff with benefits and overhead cost about \$100,000 per FTE (base salary of about \$60,000 per year), then approximately 1.5 FTE above current development review/inspection staffing will be needed to enhance efforts such as: (1) providing development customer service and stormwater technical assistance; (2) reviewing stormwater site plans and SWPPPs; (3) visiting and inspecting construction sites; (4) conducting enforcement actions; (5) attending periodic training; (6) maintaining records; and (7) administering the development permit fee finances and accounting (pay for City financial and accounting division support). This FTE estimate may also include higher level staff that manage other staff or become involved in stormwater development review issues, as needed. “Overhead” refers to the cost of providing an employee with things like space, electricity, heat, water, janitorial services, minor office supplies, human resources support, technology support, administrative support, safety supplies and programs, and so on (everything other than direct benefits such as health insurance, sick and annual leave, and retirement). The cost per FTE loaded with overhead and benefits was calculated by multiplying the base salary by an assumed factor of 1.65.

#### Non Development Review Staff

## Section 5—Summary of Resources Needed for Pullman’s Updated Stormwater Program

Continued

Non Development Review Staff includes those involved in: (1) storm system inspection, maintenance, and source control functions; (2) illicit discharge detection and elimination activities and complaint response; (3) oversight of good housekeeping training and program implementation by various City departments; (4) stormwater public involvement processes; (5) stormwater public education and outreach efforts; (6) stormwater studies, engineering, design, and construction oversight; (7) record keeping and reporting; (8) funding mechanism customer service, administration, and finances; and (9) program planning and management. Given the wide array of activities, it is difficult to accurately estimate FTEs for the individual categories listed above. It is not reasonable to expect individual staff to be functional across so many types of work, therefore it is expected that several types of staff will be needed. However, for illustrative purposes, if we again assume that (1) staff with benefits and overhead have an average cost of about \$100,000 per FTE, (2) that miscellaneous services and fees (e.g., taxes, insurance, NPDES permit fee, legal services, consultant service agreements, etc.) consume about 20% of the “*Staff, Fees, Overhead, and Services*” budget listed in Table 5.1, and (3) the cost for additional development review staff are removed from budget figures, then approximately 3.60 FTE would be required for the above stated activities.

A very rough breakdown of additional FTEs needed by Permit Year 5 might include the following:

- Plan review, construction site inspection and enforcement—1.5 FTE
- Storm system inspection, maintenance, and source control—1.0 FTE
- IDDE activities and complaint response—0.5 FTE
- Good housekeeping training and programs and support for program implementation—0.5 FTE
- Stormwater public involvement processes—0.25 FTE
- Stormwater public education and outreach efforts—0.25 FTE
- Stormwater studies, engineering, design, and construction oversight—0.20 FTE
- Administrative support and NPDES record keeping and reporting—0.20 FTE
- Funding mechanism customer service, administration, and finances—0.20 FTE
- Program planning and management—0.5 FTE

### **Total additional staff—5.10 FTE**

Note that this breakdown in FTEs is only for planning purposes. It will be important for the City program to adapt to conditions as they arise and to respond to how City leaders want implementation to occur as the process moves forward.

Appendix A—Existing City Stormwater  
Program Questionnaire

## City of Pullman Existing Stormwater Program Activity Information

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<b>NPDES</b>					
<b>Start-Up:</b>					
<b>BMP S1 - Self Analysis of Existing SWM Program, Identify Local Compliance Needs, Priorities, Costs, Space, Staffing, Equipment, and Funding Needs</b>		To be developed as part of the Pullman Stormwater Planning and Funding Project.			
<b>BMP S2 - Develop Local SWM Action Plan/Schedule</b>		To be developed as part of the Pullman Stormwater Planning and Funding Project.			
<b>BMP S3 - Adopt Needed Interlocal Agreements</b>		To be developed as part of the Pullman Stormwater Planning and Funding Project. Agreements with WSU and/or County may be necessary as stormwater program is developed and implemented.			
<b>BMP S4 - Create Local Funding</b> Develop an acceptable response to NPDES permit requirements by creating adequate staffing & funding needed for implementation of regulatory compliance activities.		To be developed as part of the Pullman Stormwater Planning and Funding Project.			
<b>Permit Compliance:</b>					
<b>1. Public Education and Outreach</b>					
<b>Required BMP 1.1 - Public Education and Outreach Program:</b> Develop and implement a public education and outreach program to distribute educational materials to the community about the impacts of stormwater discharges and the steps the public can take to reduce pollutants in stormwater. Program shall include a multimedia approach and be targeted and presented to specific audiences. Includes specific educational and outreach activities required in other permit sections.  <b>Measurable Goals:</b> By the end of Permit Year 3, identify and characterize target audiences within jurisdiction to meet the education and outreach goals. No later than 180 days prior to the expiration of permit, develop and fully implement a public education and outreach strategy that is designed to reach all of the target audiences identified and to meet required education and outreach goals. (One time cost for strategy; ongoing program needed)	Has the City developed and implemented a stormwater education and outreach strategy and distributed or presented materials, in any form, to target audiences within the community?  Typical target audiences and subject areas include the following: i. General public - importance of improving water quality, impacts from stormwater discharges, source control BMPs, and environmental stewardship actions and opportunities. ii. Businesses and general public - illicit discharge impacts and prevention, proper management and disposal of toxic/hazardous materials. iii. Engineers, construction contractors, developers, review staff, land use planners - technical standards, development of stormwater site and erosion control plans, stormwater treatment and control BMPs.	No	\$0	Yes	Could use generic type Otak brochures or purchase from professional organization?
<b>BMP 1.1.1 - Stormwater Brochure:</b> Develop and distribute a brochure for the general public about stormwater issues and of the hazards associated with illicit discharges and improper disposal or waste. <b>Measurable Goal:</b> Distribute the brochure to 90% of the residences and businesses served by the storm drain system. (Per Model Muni SW Program for E WA)	Has the City developed and distributed a stormwater brochure to the general public?	No	\$0	Yes	Could use generic type Otak brochures or purchase from professional organization?

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<b>BMP 1.1.2 - Targeted Stormwater Brochures:</b> Develop and distribute stormwater brochures that address a variety of different target audiences. <b>Measurable Goal:</b> Distribute targeted brochures according to the education and outreach strategy for each target audience identified in BMP 1.1. (Per Model Muni SW Program for E WA)	Has the City developed and distributed a stormwater brochure to different target audiences within the community?	No	\$0	Yes	Could use generic type Otak brochures or purchase from professional organization?
<b>BMP 1.1.3 - Storm Drain Stenciling:</b> Plan and conduct storm drain stenciling projects on storm drain inlets draining to the system. <b>Measurable Goal:</b> Stencil 20% of all storm drain inlets within the storm drain system boundary during each Permit Year. (Per Model Muni SW Program for E WA)	Has the City or any local schools, community groups, or agencies conducted storm drain stenciling?	No	\$0	Yes	Could utilize Boy/Girl Scouts or other community organization?
<b>BMP 1.1.4 - Classroom Education:</b> Contact school districts to discuss opportunities to integrate water quality educational materials into the classroom and provide materials when requested. <b>Measurable Goal:</b> Contact all school districts within the storm drain system boundary to discuss water quality educational opportunities in the classroom. (Per Model Muni SW Program for E WA)	Has the City provided or been asked to provide stormwater educational materials for school classrooms?	No	\$0	Yes	Could possibly use the Palouse Clearwater Environmental Institute (PCEI) for this work as they do classroom education related to water conservation now on behalf of the city.
<b>BMP 1.1.5 - Volunteer Group Stormwater Education Projects:</b> Contact volunteer organizations to discuss opportunities to integrate stormwater into existing educational projects. <b>Measurable Goal:</b> Contact at least 5 volunteer organizations to discuss and promote stormwater education. (Per Model Muni SW Program for E WA)	Has the City worked with local volunteer groups conducting educational programs to incorporate stormwater issues into their existing programs?	No	\$0	Yes	
<b>BMP 1.1.6 - Public Service Announcements:</b> Broadcast stormwater public service announcements (PSAs) through the media at appropriate frequency intervals to ensure target audiences are exposed to the message. <b>Measurable Goal:</b> Create a stormwater PSA and run this PSA on average 3 times per year. (Per Model Muni SW Program for E WA)	Does the City broadcast stormwater public service announcements through the media (e.g., local newspapers, television, or radio)?	No	\$0	Yes	
<b>BMP 1.1.7 - Stormwater Website:</b> Create a stormwater website that contains educational information for a variety of target audiences. <b>Measurable Goal:</b> Complete a stormwater website section on an existing web page or independently; update monthly. (Per Model Muni SW Program for E WA)	Does the City currently maintain a stormwater website (section within City website or independent site) that contains educational information for a variety of target audiences?	No	\$0	Yes	Could add to the city's existing website

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<b>2. Public Involvement and Participation</b>					
<p><b>Required BMP 2.1 - Public Involvement &amp; Participation Program:</b> Adopt a program or policy directive to create opportunities for public participation in the decision making process involving the development, implementation, and update of the SWMP, including the development and adoption of all required ordinances and regulatory mechanisms. Develop and implement a process for considering public comments on the SWMP. Make available to the public the most current version of the SWMP.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 1, adopt a program or policy directive. By May 31 each year beginning in 2008, make the latest updated version of SWMP available to the public (post on website if available).</p>	Does the City currently have a program that provides opportunities for the public to participate in the development and implementation of the proposed stormwater management program?	Not Really	\$0	Maybe	Phase II has been discussed at numerous city council meetings. The Council has discussed forming an ad hoc committee that would potentially function to act as a liason between the city and public during utility development and when updates are performed - at this point it hasn't been created.
<p><b>BMP 2.1.1 - Public Review/Public Meetings:</b> Hold public meetings and solicit public input on the SWMP.</p> <p><b>Measurable Goal:</b> During Permit Year 1, publish two public notices and hold two public meetings. (Per Model Muni SW Program for E WA)</p>	Has the City recently conducted public meetings to solicit public and stakeholder input on the proposed stormwater management program?	No	\$0	Maybe	Funding needed would probably only be for hiring a facilitator to conduct the meeting(s)
<p><b>BMP 2.1.2 - News Releases:</b> Develop and distribute news releases.</p> <p><b>Measurable Goal:</b> Starting in Permit Year 2, annually distribute one news release story on the City's SWMP to local papers. (Per Model Muni SW Program for E WA)</p>	Has the City developed and distributed news releases to the local newspapers in order to solicit interest to cover the new stormwater management program as a feature story?	Not Really	\$0	No	Some newspaper articles have been generated, mostly related to inclusion in Phase II.
<p><b>BMP 2.1.3 - Stakeholder Advisory Panel:</b> Hold and solicit input from a stakeholder advisory panel.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 1, organize and convene a stakeholder advisory panel; hold meetings quarterly. (Per Model Muni SW Program for E WA)</p>	Has the City established a stakeholder advisory panel to solicit input on the development and implementation of the proposed stormwater management program?	No	\$0	Maybe	

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<b>3. Illicit Discharge Detection and Elimination</b>					
<p><b>Required BMP 3.1 - Develop Map of MS4:</b> Develop and maintain a map showing the location of the following: all known and new connections to the MS4; all known outfalls; the names and locations of all receiving waters; and areas served by discharges to ground. Conduct field surveys to verify outfall locations and identify previously unknown outfalls on priority water bodies. Provide maps and mapping information to Ecology and/or other entities covered under the permit (upon request). Maintain documentation of map information; update periodically.</p> <p><b>Measurable Goals:</b> During Permit Years 3-5, complete 1/3 of total mapping per year. No later than 180 days prior to the expiration of permit, conduct field surveys to verify outfall locations and identify location of new outfalls. (One time cost to develop map and conduct field surveys; ongoing activities to update and maintain map)</p>	Does the City maintain a map of their storm drainage system (MS4) showing the location of all connections, known outfalls, the names and locations of all receiving waters, and any areas that discharge to ground?	Yes, though it is in the process of being updated to digital format and is not completely finished.	\$2,500/yr	Maybe	Will likely be updated to digital format by end of 2007. Will need to be updated in the future with new development, etc., probably won't be that much time/expense to update. Could potentially use this line item to set aside money to start GIS sometime in the future. Does not show service connections.
<p><b>Required BMP 3.2 - Ordinance:</b> Develop and adopt an ordinance that prohibits non-stormwater (illicit) discharges into the MS4 and authorizes escalating enforcement procedures and actions, including on private property. Develop an enforcement strategy and implement the enforcement provisions of the ordinance.</p> <p><b>Measurable Goal:</b> No later than 30 months from the effective date of the permit, adopt ordinance and develop enforcement strategy. (One time cost for ordinance and enforcement strategy; ongoing enforcement needed)</p>	Does the City currently have regulatory language that prohibits non-stormwater discharges from entering the storm drainage system and authorizes enforcement actions? If so, has an enforcement strategy been developed, which sets goals and courses of action that are carried out to meet the regulatory provisions?	We have the basic language in the city code, but not an active program.	\$0	Yes, for personnel	Will need to find ordinance(s) and probably update them if they exist.
<p><b>Required BMP 3.3 - Illicit Discharge Detection and Elimination (IDDE) Program:</b> Develop and implement an ongoing program to detect and address non-stormwater discharges to the MS4, including spills, illicit connections, and illegal dumping. The plan shall include the following elements: procedures for locating priority areas likely to have illicit discharges; field assessment activities; procedures for characterizing the nature of, and potential threat posed by, illicit discharges reported or found; procedures for source tracing; and termination procedures.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, develop and fully implement an IDDE program. (One time cost for plan; ongoing program needed)</p>	Does the City currently have a program in place that actively seeks to detect and eliminate non-stormwater discharges to the storm drainage system, including spills, illegal dumping, and illicit connections?	We dye test all new sanitary sewer service lines to make sure they are connected to the sanitary sewer system. We investigate reports from outside sources and very occasionally check outfalls visually	\$5,000/yr Assumed Sanitary Sewer costs	Yes	We started dye testing new services lines approximately two years ago.

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<p><b>Required BMP 3.3.1 - Field Assessments:</b> During dry weather, visually inspect/screen outfalls to prioritized receiving waters or facilities serving priority areas likely to have illicit discharges.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 3, prioritize receiving waters for visual inspection and to identify previously unknown outfalls. By the end of Permit Year 4, conduct field assessments of three high priority water bodies or other priority areas to verify outfall locations and detect illicit discharges. Conduct field assessments on at least one high priority water body or other priority area each year thereafter.</p>	<p>Does the City conduct routine visual inspections of outfalls during dry weather conditions? If so, were areas likely to have illicit discharges (based on land use and associated business/industrial activities, previous complaints, storage of large quantities of materials) prioritized for field inspections/assessments?</p>	<p>No</p>	<p>\$0</p>	<p>Yes</p>	
<p><b>Required BMP 3.3.2 - Illicit Discharge/Spill Response Plan</b> Develop and implement a response plan to characterize the nature of, and potential public or environmental threat posed by, illicit discharges, spills, and illegal dumping found by or reported to the jurisdiction. The plan shall include procedures for evaluating whether the discharge should be immediately contained and steps to be taken for containment.</p> <p><b>Measurable Goal:</b> Once IDDE program is fully implemented, investigate or refer to appropriate agency within 7 days any complaints, reports, or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping. Immediately investigate problems or violations determined to be emergencies.</p> <p>(One time cost for plan; ongoing activities needed)</p>	<p>Does the City currently respond to and investigate complaints or reports of spills, illegal dumping, or illicit connections within its municipal boundaries? If so, does the City have a formal spill response plan (or does the City rely on outside agencies)?</p>	<p>Yes, but we do not have a formal illicit discharge and detection plan.</p>	<p>\$3,000/yr</p>	<p>Yes</p>	<p>Fire Department deals with hazardous material spill response.</p>
<p><b>Required BMP 3.3.3 - Source Tracing and Removal:</b> Develop and implement detailed inspection procedures for tracing sources of illicit discharges, including visual inspections, collecting and analyzing water samples, etc. Develop and implement procedures for terminating discharges, including notification of appropriate authorities and property owners, technical assistance for removing/eliminating the discharge, follow-up inspections, and escalating enforcement and legal actions if needed.</p> <p><b>Measurable Goal:</b> Once IDDE program is fully implemented, initiate investigation within 21 days of report or discovery of a suspected illicit connection or illicit discharge of hazardous materials to determine source, the nature and volume of discharge through the connection, and party responsible. For all other illicit discharges, implement appropriate enforcement provisions according to the strategy developed in BMP 3.2. Ensure termination of connection within 180 days, using enforcement authority as needed. (One time cost for plan; ongoing activities and enforcement needed)</p>	<p>Does the City currently trace sources of illicit discharges using detailed inspection procedures (visual inspections, opening manholes, using mobile cameras, analyzing water samples, etc.)? If so, are procedures in place for actively removing/terminating such discharges, including the use of enforcement authority?</p>	<p>Yes, but we don not have a written procedure.</p>	<p>\$2,000/yr</p>	<p>Yes</p>	<p>We may need to further detail enforcement ability.</p>

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<p><b>Required BMP 3.4 - Public Reporting:</b> Publicly list and publicize a hotline or other local phone number for public reporting of spills and other illicit discharges. Keep records of all calls received and of all follow-up actions taken. Include a summary in the annual report to Ecology.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 2, publish a phone number for public reporting. Include a summary in the annual report.</p>	Does the City currently have a published phone number for the public to report spills and illicit discharges? If so, does the City also maintain records of calls received and any follow-up actions taken to resolve reported problems?	No	\$0	Yes	
<p><b>Required BMP 3.5 - Program Evaluation and Assessment:</b> Adopt and implement procedures for SWMP program evaluation and assessment. Includes tracking the number and type of spills or illicit discharges identified; inspections made; and feedback received from public education efforts. Include a summary in the annual report to Ecology.</p> <p><b>Measurable Goal:</b> Include a summary in the annual report.</p>	Does the City currently have a mechanism in place to track the number and type of spills or illicit discharges identified, inspections made, and other related activities?	No	\$0	Yes	
<p><b>Required BMP 3.6 - Training:</b> Provide training to the following staff: staff responsible for the identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, illegal dumping, and illicit connections; municipal staff that may come in contact/observe illicit discharges/connections as part of their normal job duties; and office staff that may receive initial reports of illicit discharges.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to expiration of permit, train relevant staff; recommend retraining staff on an annual basis.</p>	Does the City currently provide or receive training on the identification of spills, improper disposal, or illicit connections; investigation methods; cleanup and termination procedures/options; and proper procedure for reporting?	No	\$0	Yes	
<b>4. Construction Site Stormwater Runoff Control</b>					
<p><b>Required BMP 4.1 - Ordinance:</b> Develop and adopt an ordinance that requires erosion and sediment controls and other construction-phase SW pollution controls at new development and redevelopment projects that disturb one acre or more. The ordinance shall include the following: minimum requirements equivalent to Ecology's Stormwater Management Manual for Eastern Washington; escalating enforcement procedures and actions to ensure compliance; and provisions for inspections of construction-phase stormwater BMPs by qualified personnel on private property. Develop an enforcement strategy and implement the enforcement provisions of the ordinance.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 3, adopt ordinance and develop strategy. (One time cost for ordinance and enforcement strategy; ongoing enforcement needed)</p>	Does the City currently have regulatory language or permitting requirements for erosion and sediment control BMPs at construction sites, including authority for enforcement actions? If so, has an enforcement strategy been developed, which sets goals and courses of action that are carried out to meet the regulatory provisions?	In the city's Design Standards we require that an erosion/sedimentation plan be prepared for any land altering activity. We really haven't developed a well-defined enforcement strategy.	Unknown	Yes	We refer developers/engineers to DOE's Stormwater Management manual for Eastern Washington for technical guidance on BMPs.

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<p><b>Required BMP 4.2 - Site Plan Review:</b> Adopt and implement procedures for site plan review prior to construction to ensure compliance with local ordinance. Includes review of construction SWPPPs for all construction sites that disturb one or more acres, unless the jurisdiction allows individual sites to apply the "Erosivity Waiver" consistent with the local ordinance. Keep records of all construction sites that disturb one or more acres. <b>Measurable Goal:</b> By the end of Permit Year 4, adopt and implement procedures for site plan review prior to construction.</p>	Does the City currently review construction site plans (SWPPPs) prior to construction?	No, we do not currently review SWPPPs, but we have a site plan review process in which we address erosion & sediment control.	\$0	Maybe	
<p><b>Required BMP 4.2.1 - Staff Training:</b> Provide adequate training for all staff involved in permitting, planning, and site plan review with an emphasis on erosion and sediment control BMPs. Keep records of training provided and staff trained. <b>Measurable Goal:</b> By the end of Permit Year 4, train relevant staff; recommend retraining staff on an annual basis.</p>	Does the City currently have qualified/trained personnel to perform site plan review? Does the City provide on-going training for staff on erosion and sediment control BMPs and other related training?	Yes, we have qualified/trained personnel and provide on-going training.	\$10,000/yr	Yes	
<p><b>Required BMP 4.3 - Site Inspection:</b> Adopt and implement procedures for site inspection and enforcement of construction stormwater pollution control measures to ensure compliance with local ordinance. Inspect all new construction sites that disturb one or more acres at least once. Compliance with inspection requirement includes presence and records of an established inspection program designed to inspect all sites and achieving at least 95% of scheduled inspections. Keep records of all inspections and enforcement actions by staff. <b>Measurable Goal:</b> By the end of Permit Year 4, adopt and implement procedures for construction site inspection and enforcement. Inspect all sites at least once during construction with target inspection rate of at least 95%.</p>	Does the City currently conduct site inspections and enforcement of construction stormwater pollution control measures (e.g., erosion and sediment control BMPs)?	Sometimes	Unknown	Yes	We don't keep detailed records.
<p><b>Required BMP 4.3.1 - Staff Training:</b> Provide adequate training for all staff involved in plan review, field inspections, and enforcement. Keep records of training provided and staff trained. <b>Measurable Goal:</b> By the end of Permit Year 4, train relevant staff; recommend retraining staff on an annual basis.</p>	Does the City currently have qualified/trained personnel to perform site plan review, inspection, and enforcement? Does the City provide on-going training for staff on erosion and sediment control BMPs and other related training?	Yes	See 4.2.1	Yes	No records kept.

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<p><b>Required BMP 4.4 - Operator Training:</b> Provide information to local construction site operators on erosion and sediment control BMP training opportunities, how to apply the BMPs contained in the SWMMEW, and compliance with other permit requirements. Keep copies of information provided to construction site operators or design professionals, including mailing dates and recipients if part of larger mailing.</p> <p><b>Measurable Goal:</b> By the effective date of the Permit, provide information to local construction site operators, upon request.</p>	Does the City currently provide information to local construction site operators on training opportunities, including sediment and erosion control BMPs and their application?	No	\$0	Yes	
<p><b>Required BMP 4.5 - Public Reporting:</b> Adopt and implement procedures for receipt and consideration of information submitted by the public. Includes publicly listing and publicizing a hotline or other local telephone number for reporting of construction site runoff issues, including spills and other illicit discharges. Keep records of all calls received and of all follow-up actions taken. Include a summary in the annual report to Ecology. Recommend developing a process to convey information to field inspectors and enforcement staff.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 2, publish a phone number for public reporting. Include a summary in the annual report.</p>	Does the City currently have a published phone number for the public to report construction site runoff issues, spills, illicit discharges, and other stormwater related issues? If so, does the City also maintain records of calls received and any follow-up actions taken to resolve reported problems?	No	\$0	Yes	
<b>5. Post-Construction Stormwater Management for New Development and Redevelopment</b>					
<p><b>Required BMP 5.1 - Ordinance:</b> Develop and adopt an ordinance that requires post-construction stormwater controls at new development and redevelopment projects that disturb one acre or more and discharge to the MS4. The ordinance shall include the following: minimum technical requirements equivalent to Ecology's SWMMEW for stormwater treatment and flow control BMP selection, design, installation, and O&amp;M standards; escalating enforcement procedures and actions to ensure compliance; and provisions for both construction-phase and post-construction access for inspection of BMPs by qualified personnel on private property. Develop an enforcement strategy and implement the enforcement provisions of the ordinance.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 3, adopt ordinance and develop strategy. (One time cost for ordinance and enforcement strategy; ongoing enforcement needed)</p>	Does the City currently have regulatory language or permitting requirements for post-construction stormwater control measures (runoff treatment, flow control, source control, ongoing long-term BMP O&M, etc.) at new development and redevelopment projects, including authority for enforcement actions? If so, has an enforcement strategy been developed, which sets goals and courses of action that are carried out to meet the regulatory provisions?	We do require detention & biofiltration in our Design Standards but not maintenance. Inspection and no enforcement.	\$0	Yes	

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<p><b>Required BMP 5.2 - Site Plan Review:</b> Adopt and implement procedures for site plan review prior to construction to ensure compliance with local ordinance. Includes review of stormwater site plans for post-construction stormwater control measures for new development and redevelopment sites that discharge to the MS4. Coordinate with review of construction SWPPPs (BMP 4.2). Keep records of all construction sites that disturb one or more acres.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 4, adopt and implement procedures for site plan review prior to construction; coordinate with BMP 4.2.</p>	<p>Does the City currently review construction stormwater site plans to ensure that the plans include post-construction stormwater control BMPs? If so, do standards exist for BMP selection, design, installation, and ongoing long-term O&amp;M of facilities.</p>	<p>Sort of, we refer people to the Stormwater Management Manual for Eastern Washington. During our review of site plans or construction plans we require stabilizing BMPs such as vegetation, etc. but do not have a program for long-term O&amp;M.</p>	<p>Unknown</p>	<p>Yes</p>	
<p><b>Required BMP 5.3 - Site Inspection:</b> Adopt and implement procedures for site inspection and enforcement of post-construction stormwater control measures to ensure compliance with local ordinance. Inspect structural BMPs at least once during installation and at least once every five years after final installation to ensure that adequate long-term O&amp;M is being performed. Keep records of all inspections and enforcement actions by staff.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 4, adopt and implement procedures for site inspection and enforcement. Inspect structural BMPs at least once during installation and at least once every five years after final installation.</p>	<p>Does the City currently conduct site inspections and enforcement of post-construction control measures (structural BMPs) during and after installation?</p>	<p>Not really. We inspect the post construction BMPs at installation, but do not usually monitor them after that.</p>	<p>\$0</p>	<p>Yes</p>	<p>No records kept.</p>
<p><b>Required BMP 5.4 - Staff Training:</b> Provide adequate training for all staff involved in permitting, planning, review, inspection, and enforcement. Keep records of training provided and staff trained.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 4, train relevant staff; recommend retraining staff on an annual basis.</p>	<p>Does the City currently have qualified/trained personnel to perform site plan review, inspection, and enforcement? Does the City provide on-going training for staff on post-construction stormwater control BMPs and other related training?</p>	<p>Yes</p>	<p>\$5,000/yr</p>	<p>Yes</p>	<p>We do not keep centralized records of training right now.</p>
<p><b>Required BMP 5.5 - Design Professional Training:</b> Provide information to design professionals on post-construction stormwater control BMP training opportunities, how to apply the BMPs contained in the SWMMEW, and compliance with other permit requirements. Keep copies of information provided to design professionals, including mailing dates and recipients if part of larger mailing effort.</p> <p><b>Measurable Goal:</b> By the effective date of Permit, provide information to design professionals, upon request.</p>	<p>Does the City currently provide information to design professionals on training opportunities, including post-construction stormwater control BMPs and their application?</p>	<p>No</p>	<p>\$0</p>	<p>Yes</p>	

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<b>6. Pollution Prevention and Good Housekeeping for Municipal Operations</b>					
<p><b>Required BMP 6.1 - Municipal O&amp;M Plan:</b> Develop and implement a schedule of municipal operations and maintenance activities (O&amp;M Plan) that includes the following: -BMPs or pollution prevention and good housekeeping (PPGH) procedures that are to be applied for each of the various types of municipal activities and/or facilities described below; -A schedule of inspections; -Procedures for record keeping; -The department and/or staff responsible for performing each activity.</p> <p><b>Measurable Goal:</b> By the end of Permit Year 3, develop and implement an O&amp;M Plan. (One time cost for plan; ongoing program needed)</p>	<p>Has the City developed and implemented a municipal O&amp;M Plan that includes the application of specific BMPs for various municipal activities or facilities that are protective of water quality?</p>	<p>No</p>	<p>\$0</p>	<p>Yes</p>	
<p><b>Required BMP 6.1.1 - Stormwater Collection &amp; Conveyance System:</b> Per the O&amp;M Plan, implement catch basin and other system cleaning, stormwater system maintenance, scheduled structural BMP inspections and maintenance, and other PPGH practices.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, implement required cleaning, inspection, and maintenance activities.</p>	<p>Does the City currently perform routine inspections, cleaning, and maintenance of the stormwater collection and conveyance system? Are specific pollution prevention practices or BMPs employed to minimize impacts to water quality? Are wastes removed from the system properly disposed? Are records of such activities maintained by the City?</p>	<p>Sort of. With limited resources we are reactive, not proactive. We clean catch basins and some lines as time allows.</p>	<p>Unknown</p>	<p>Yes</p>	
<p><b>Required BMP 6.1.2 - Roads, Highways, and Parking Lots:</b> Per the O&amp;M Plan, implement PPGH practices for all municipal roads, highway, and parking lots with more than 5,000 square feet of pollutant generating impervious surface (PSIG). Address de-icing, anti-icing, and snow removal practices; snow disposal areas; material storage areas; and all-season BMPs to reduce road/parking lot debris and other pollutants.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, implement all required PPGH practices established in the O&amp;M Plan.</p>	<p>Does the City currently employ pollution prevention and good housekeeping practices for O&amp;M activities related to roads, highways, and parking lots? Does the City currently have a road and parking lot sweeping program?</p>	<p>We have a road sweeping program.</p>	<p>Unknown Follow-up Response: \$25,000/yr</p>	<p>Maybe</p>	
<p><b>Required BMP 6.1.3 - Vehicle Fleets:</b> Per the O&amp;M Plan, implement PPGH practices for storage, washing, and maintenance of municipal vehicle fleets. Includes conducting all vehicle and equipment washing and maintenance in a self-contained covered building or other designated area.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, implement all required PPGH practices established in the O&amp;M Plan.</p>	<p>Does the City conduct vehicle and equipment washing and maintenance in a self-contained covered building?</p>	<p>Yes and No. Maintenance is normally done inside a building, but washing is not.</p>	<p>\$0</p>	<p>Maybe</p>	
<p><b>Required BMP 6.1.4 - Municipal Buildings:</b> Per the O&amp;M Plan, implement PPGH practices for municipal building cleaning, washing, painting, and other maintenance activities.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, implement all required PPGH practices established in the O&amp;M Plan.</p>	<p>Does the City currently employ pollution prevention and good housekeeping practices for O&amp;M activities related to municipal building cleaning, washing, painting, and other related maintenance?</p>	<p>Probably not in any official way.</p>	<p>Unknown</p>	<p>Unknown</p>	

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<p><b>Required BMP 6.1.5 - Parks and Open Space:</b> Per the O&amp;M Plan, implement maintenance PPGH practices at all municipally owned park areas and other open spaces. Address proper application of fertilizers, pesticides, and herbicides; sediment and erosion controls; BMPs for landscape maintenance and vegetation disposal; trash management; etc.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, implement all required maintenance PPGH practices established in the O&amp;M Plan.</p>	Does the City currently employ maintenance practices or BMPs at all park areas and open spaces? Includes proper application of fertilizers, pesticides, and herbicides; sediment and erosion control; BMPs for landscape maintenance and vegetation disposal; etc.	Think so, would have to confirm with Parks Dept.	Unknown	Unknown	
<p><b>Required BMP 6.1.6 - Construction Projects:</b> Implement construction and post-construction stormwater controls at all public projects that require coverage under the NPDES Construction Stormwater General Permit.</p> <p><b>Measurable Goal:</b> By the effective date of the Permit, select and implement stormwater controls at all public construction projects.</p>	Does the City employ construction and post-construction stormwater controls during and after public construction projects?	Yes	Unknown	Maybe	
<p><b>Required BMP 6.1.7 - Industrial Activities:</b> Obtain coverage under NPDES Industrial Stormwater General Permit at all designated public facilities.</p> <p><b>Measurable Goal:</b> By the effective date of Permit, obtain permit coverage. (One time cost to obtain permit coverage; ongoing program needed)</p>	Does the City currently operate industrial facilities that discharge stormwater runoff to surface water and/or the storm drainage system? Are these facilities covered under Ecology's Industrial Stormwater General Permit?	Yes	\$10,000/tr	Yes	STP and Transit (and Airport?)
<p><b>Required BMP 6.1.8 - Material &amp; Heavy Equipment Storage and Maintenance Areas:</b> Develop and implement Stormwater Pollution Prevention Plans (SWPPPs) for select municipal facilities <u>not</u> covered under an NPDES Industrial Stormwater General Permit.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, develop and implement SWPPPs for select facilities or generic SWPPP applied to multiple facilities.</p>	Has the City developed stormwater plans for select municipal facilities (e.g., material and heavy equipment storage areas and maintenance areas) that would reasonably be expected to discharge contaminated runoff and are also not covered under Ecology's Industrial Stormwater General Permit?	No	\$0	Yes	We added a Vortechmics unit at M & O site.
<p><b>Required BMP 6.1.9 - Flood Management Projects:</b> Develop and implement provisions to assess water quality and controls to minimize site hydrology impacts in the design of all new flood management projects that are associated with or discharge to the MS4.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, implement provisions to assess impacts of new flood management projects. Prioritize existing flood management projects and review and evaluate at least five projects to determine whether changes/additions should be made to improve water quality.</p>	Does the City incorporate water quality and/or site hydrology considerations in the review and evaluation of new flood management projects?	Flood projects don't come along often, but we would incorporate hydrology and water quality considerations.	\$0	Maybe	

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<p><b>Required BMP 6.1.10 - Other Facilities:</b> Per the O&amp;M Plan, implement BMPs at facilities that would reasonably be expected to discharge contaminated runoff. <b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, implement BMPs established in O&amp;M Plan at identified facilities.</p>	Does the City have additional facilities, not covered in BMPs 6.1.1 through 6.1.8, that are likely to discharge contaminated runoff?	Not sure	\$0		Park's Shop?
<p><b>Required BMP 6.2 - Stormwater Control Facility Inspection</b> Per the O&amp;M Plan, develop and implement a schedule of inspections for all known stormwater treatment and flow control facilities owned or operated by the City, including spot checks after all major storm events. Keep records of all inspections, spot checks, and repairs or maintenance performed. <b>Measurable Goal:</b> By the end of Permit Year 5, inspect a minimum of 95% of all known stormwater treatment and flow control facilities at least twice: once by the end of Permit Year 3 and again by the end of Permit Year 5. Conduct spot checks of facilities after all major storm events (&gt;10-year recurrence interval).</p>	Does the City currently perform routine inspections of municipally owned and operated stormwater treatment and flow control facilities? Are spot checks conducted after major storm events to assess potential damage to facilities?	Not after storms, trying to clean out/inspect detention ponds yearly	\$20,000/yr	Yes	Have to rent equipment now (smaller, more maneuverable equipment needed for this type of work)
<p><b>Required BMP 6.3 - Staff Training:</b> Provide adequate training for all construction, operations, and maintenance staff who perform required O&amp;M Plan and related activities. Includes identification of target employees with training on the following: importance of protecting water quality, requirements of the permit, O&amp;M requirements; inspection procedures; procedures for reporting illicit discharges; etc. Keep records of training provided and staff trained. <b>Measurable Goal:</b> By the end of Permit Year 3, train relevant staff. Follow-up training to be provided as needed (recommend annually) to address changes in procedures, methods, or staffing.</p>	Has the City provided training for relevant staff on operation and maintenance requirements, inspection procedures, ways to perform duties while minimizing impacts to water quality, and other relevant training?	No	\$0	Yes	

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<b>7. Compliance with Total Maximum Daily Load Requirements</b>					
<b>Required BMP 7.1 - Compliance with TMDLs:</b> Comply with the requirements of all applicable TMDLs approved by EPA, on or before the effective date of the permit, for stormwater discharges from the MS4. Keep records of all TMDL related actions required of the permit, including water quality monitoring, if required. Include a summary in the annual report to Ecology. <b>Measurable Goals:</b> Include the status of TMDL implementation in the annual report.	Has the City initiated any activities towards implementation of local TMDLs?	A TMDL is currently being developed on the S. Fork Palouse River - the city is actively participating	\$0	Unknown	
<b>Recommended: Monitor Outfall Quality for Discharges to Impaired Waters [303(d) listed waters]</b>	Has the City (or other local agency) conducted water quality monitoring of impaired water bodies within the city limits, including stormwater outfalls?	A limited amount			DOE has done some during TMDL development and the city has done some WQ testing on the S. Fork of the Palouse River related to another project.
<b>Recommended: Actively Participate in Development of TMDLs for Receiving Waters within Jurisdiction</b>	Has the City participated or plan to participate in the development of local TMDLs?	Yes			
<b>Recommended: Establish Monitoring Program to Assess Baseline Conditions and Evaluate Program Effectiveness</b>	Does the City (or other local agency) currently have an established water quality monitoring program to assess baseline conditions?	We don't have an official program. We've done some WQ monitoring for another project. And some Temperature background testing.	\$4,000	Unknown	
<b>8. Monitoring and Program Evaluation</b>					
<b>Required BMP 8.1 - Monitoring</b> Provide a description of stormwater monitoring, studies, or investigations conducted by, on behalf of, or reported to the City during the reporting period in the annual report. Provide an assessment of the appropriateness of the BMPs selected for each SWMP component, along with rationale for changes or proposed changes to selected BMPs. Provide information in annual report to Ecology. <b>Measurable Goal:</b> Include a summary in the annual report.		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<b>Required BMP 8.2 - Future Long Term Monitoring - Stormwater</b> Prepare for future long-term stormwater monitoring. Identify two outfall or conveyances where stormwater sampling could be conducted. One outfall shall represent commercial land use and the other high density residential land use. Adequate sites will be those completely mapped per BMP 3.1 and be suitable for permanent installation and operation of flow-weighted composite sampling equipment. Document site selection and justify basin size based on the times of concentration for typical seasonal storms. <b>Measurable Goal:</b> No later than December 31, 2010, identify two outfalls or conveyances where stormwater sampling could occur.		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<p><b>Required BMP 8.3 - Future Long Term Monitoring - Targeted SWMP Effectiveness</b> Prepare for future long-term SWMP effectiveness monitoring. Identify at least two suitable questions (e.g., how effective is a targeted action and/or is the SWMP achieving targeted outcome?) and select sites where future monitoring would be conducted. Develop a monitoring plan for each questions, including: statement of the problem and why it is significant; specific hypothesis about the problem; specific parameters/attributes to be measured; and expected modifications based on outcome of the monitoring.</p> <p><b>Measurable Goal:</b> No later than December 31, 2010, identify two suitable questions, select sites for monitoring, and develop a monitoring plan for each question.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<p><b>Required BMP 8.4 - Future Long Term Monitoring - Runoff Treatment BMP Effectiveness</b> Prepare for future long-term runoff treatment BMP effectiveness monitoring. Identify at least one BMP to monitor at no fewer than two sites per BMP. Suitable BMPs include those for basic, metals, or oil treatment.</p> <p><b>Measurable Goal:</b> No later than December 31, 2010, identify one suitable treatment BMP and select two sites per BMP to conduct monitoring.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<p><b>Required BMP 8.5 - Future Long Term Monitoring - Annual Reporting</b> Describe the status of the following: identification of sites for stormwater monitoring; posed sites and questions for SWMP effectiveness monitoring; and selected runoff treatment BMPs and sites for effectiveness monitoring. Include summary in annual report to Ecology.</p> <p><b>Measurable Goal:</b> Include in fourth annual report to Ecology (March 31, 2011).</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<b>9. Reporting</b>					
<p><b>Required BMP 9.1 - Reporting Requirements</b> Submit annual reports each year on the previous year's NPDES Phase II activities. Include two printed copies and one electronic copy (PDF).</p> <p><b>Measurable Goal:</b> No later than March 31, submit an annual report to Ecology for activities during the previous year.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<p><b>Required BMP 9.2 - Annual Report</b> Each annual report shall include a copy of the City's current SWMP and submittal of Annual Report Forms (Appendix 3) summarizing compliance with permit conditions, including: implementation status of SWMP components; assessment of progress toward meeting minimum performance measures; description of activities implemented to comply with each component; implementation schedule and plans for meeting future permit deadlines; and summary of SWMP evaluation.</p> <p><b>Measurable Goal:</b> No later than March 31, submit current SWMP and annual reporting forms to Ecology for previous year.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<p><b>Required BMP 9.3 - Maintaining Records</b> Maintain all records related to the NPDES Phase II permit and the SWMP for at least five years.</p> <p><b>Measurable Goal:</b> Ongoing activity.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<p><b>Required BMP 9.4 - Public Access</b> Make all records related to the NPDES Phase II permit and the SWMP available to the public at reasonable times during business hours.</p> <p><b>Measurable Goal:</b> Ongoing activity.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<b>10. Program Implementation</b>					
<p><b>Required BMP 10.1 - SWMP Implementation</b> Develop and implement a SWMP that is designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable and to protect water quality. Compliance is achieved by conducting activities outlined in Elements 1-8 in accordance with permit schedules.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, fully develop and implement SWMP.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<p><b>Required BMP 10.2 - SWMP Documentation</b> Prepare written documentation of the SWMP and maintain annual updates for submittal with annual reports to Ecology. SWMP document shall include: a description of each of the program components; any additional activities necessary to meet the requirements of applicable TMDLs; and any existing activities implemented.</p> <p><b>Measurable Goal:</b> No later than March 31, submit current SWMP with annual report.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<p><b>Required BMP 10.3 - Program Tracking</b> Develop an ongoing program for gathering, maintaining, and using information to conduct planning, set priorities, evaluate permit compliance, evaluate effectiveness of SWMP implementation, and track SWMP development and implementation.</p> <p><b>Measurable Goal:</b> No later than 90 days from the effective date of the permit, develop a program to gather, track, maintain, and use information. Include a summary of tracking activities in annual report, includes the number of inspections, enforcement, and education activities. No later than January 1, 2009, track or estimate the cost to develop and implement each SWMP component (provide to Ecology upon request). Beginning with the third annual report (March 31, 2010), include an evaluation of SWMP implementation effectiveness.</p>		To be developed during the first Permit cycle as part of the Pullman Stormwater Management Program.			
<p><b>Required BMP 10.4 - Coordination Among Permittees</b> Recommended that SWMP include coordination mechanisms between: permittees to encourage coordinated stormwater-related policies, programs, and projects within adjoining or shared areas; and among departments within each jurisdiction to eliminate compliance barriers.</p> <p><b>Measurable Goal:</b> No later than 180 days prior to the expiration of the permit, identify potential coordination mechanisms for inclusion in the SWMP.</p>	Do you currently (or expect to) expend staff time for initial and ongoing coordination and possibly agreements with other entities (e.g., secondary NPDES II permittee such as WSU) related to stormwater program implementation? Please explain.	Yes, we will coordinate with WSU.			
<b>Stormwater Program Equipment</b>					
<p><b>Office Equipment:</b> <u>Per each new employee:</u> ~ Desk and chairs ~ Computer ~ Software ~ Supplies ~ Bookshelf ~ Files ~ Telephone ~ Office space and utilities</p>	List any "spare" office equipment available for potential future new staff.	We don't have much in the way of spare office equipment or office space.		Yes	Add a printer to the list
<p><b>Field and Monitoring Equipment:</b> ~ Vehicle ~ Water quality sensors/probes (pH, DO., temp) ~ Water quality equipment such as a turbidimeter ~ Flow measurement equipment ~ Gaging station instrumentation ~ Sediment sieves ~ Spill response equipment ~ Safety equipment ~ Survey and GPS equipment</p>	List any current monitoring and related equipment.	Need new equipment for stormwater program		Yes	Add bailers and other appropriate sampling type equipment to the list.

Description of BMP/Activity Required for Permit Compliance	BMP/Activity Information Requested	Provide Information on Existing Activities that Meet BMP, Direction, and Assumptions <i>(include as much information as possible, such as responsible division, staff, estimated FTE, equipment used, etc.)</i>	Estimate of Current Expenditure	New Funding Source Needed (Yes or No)	Notes and Additional Information
<b>Operations and Maintenance Equipment:</b> ~ Vactor trucks ~ Dump trucks ~ Street vacuum sweeper ~ Back hoes ~ Front-end loaders ~ Decant facility ~ Drying beds ~ Disposal site	List current major O&M equipment and any known needs.	We have 2 mechanical sweepers, 1 vactor truck, 1 self-propelled trailer mounted unit and 5 dump trucks.	Annual O&M Expenditure: \$180,000/yr	Yes	We need a decant facility or drying bed(s). We would likely need a new Vactor truck and personnel to do maintenance on storm sewer infrastructure. Add \$14,000 for sweeper rental. Need small trackhoe for detention basin maintenance.
<b>Stormwater Capital Projects</b>					
<b>Identify Known Stormwater Capital Improvement Projects (CIP)</b>	List any known drainage or water quality CIPs and approximate costs. It is expected that additional CIP needs will arise as the NPDES Phase II program is implemented.	Stadium Way/Valley Road storm drain replacement, Missouri Flat Creek flood control projects.	\$0	Yes	

Appendix B—Stormwater Program Gap  
Analysis and Costs

**YEAR 1**

Summary of Regulatory Requirements	Notes & Assumptions	Summary of Existing Municipal Activities Aiding Compliance	Current Average Annual Expenditures	New Funding Method Needed?	Assessment of New Activities Needed for Compliance	Estimated Annual Cost to Comply
<b>1. NPDES</b>						
<b>A. General NPDES Requirements</b>						
A1. Prepare Notice of Intent (NOI).	Assume that City has prepared and submitted NOI.	None	None	N	NOI prepared and submitted.	\$0
A2. Pay Annual Permit Fee.	City of Pullman - \$5,000	None	None	Y	Pay fee.	\$5,000
<b>B. Public Education and Outreach: General public, builders, businesses, engineers, developers, plan reviewers, etc.</b>						
<b>C. Public Involvement: Allow public and stakeholder involvement in program development and funding via committees, hearings, advisory panels, etc.</b>						
C1. Adopt a program or policy directive to allow the public to participate in the process of developing and implementing the Stormwater Management Program (SWMP), including all ordinances. Must include consideration of public comments.	Note that it may be desirable for actual public/stakeholder involvement to begin in year 1 depending on preferences of local leaders. A formal policy must be developed and adopted by elected leaders by end of permit year 1.	None	None	Y	Develop and adopt official public involvement policy for stormwater. Assume involves staff time, discussions with leaders, approval at formal agenda.	\$3,500
<b>D. Illicit Discharge Detection and Elimination: Develop, implement, and enforce program to detect and eliminate polluted non-stormwater discharges into the MS4.</b>						
D1. City to continue mapping remaining 1/3 of MS4, showing connections to MS4, known outfalls, and receiving waters. Include field surveys to verify locations of outfalls and identify previously unknown outfalls on priority water bodies.	Note that minimum requirements do not begin until Yr 3 and will require that City map 1/3 of system per year through Yr 5. However, City has committed to completing mapping of system by end of 2008 as stated in Draft Palouse River Chlorinated Pesticides and PCB TMDL (May 2007). City has already initiated digital conversion of existing storm drainage system maps. Assume that City has completed 2/3 of MS4 mapping and some field survey work. Costs for continued mapping activities will be covered by existing funding in Yr 1. Costs to complete mapping activities and additional field-related activities will be carried out under direction of permit compliance staff using program funding in Yr 2.	City is in the process of updating their storm drainage mapping system to digital format. Digital conversion of existing maps expected by 2008. Existing mapping fairly complete, but may need to be reviewed, updated, and field checked. City also considering conversion of maps to GIS format.	Mapping Activities: \$2,500/yr	Y	City to continue mapping effort of system. Costs for existing activities rolled-in during Yr 2 and assumed by SW Utility.	\$0
D2. Begin developing an ordinance that prohibits illicit discharges and authorizes enforcement actions (involve the public as required). Ordinance must be completed and adopted by permit year 2.5.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review.	Some overlap with City Code exists, however a discrete IDDE ordinance is required to comply with requirements of NPDES	None	Y	Begin IDDE Ordinance involving public and stakeholders, legal support.	\$15,000
<b>E. Construction Site Stormwater Runoff: Develop, implement, and enforce program to reduce pollutants in runoff to the MS4 from construction sites one or more acres in size.</b>						
E1. Begin developing an ordinance for Construction Stormwater Management that requires erosion and sediment controls and regulates sites at least 1+ acre in size (involve the public as required). Ordinance must be completed and adopted by permit year 3. Must include construction stormwater pollution prevention activities that are equivalent to the minimum technical requirements contained in E. WA SW Manual and consistent with the statewide NPDES Construction SW General Permit, including use of approved BMPs, chemical monitoring, certified professionals, and so on. Must allow access by Permittee staff to inspect site for compliance. May allow Erosivity Waiver to be used, at the discretion of the local agency.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop an ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local construction stormwater permit or approval to be obtained.	The City's Design Standards (2001) require that erosion and sedimentation control (ESC) plans be prepared for any land altering activity. ESC plans are reviewed as part of the City's site plan review process. No enforcement strategy/plan has been developed to date. A discrete ordinance is required to comply with requirements of NPDES.	None	Y	Begin developing/updating Construction Stormwater Management ordinance involving the public, stakeholders, and legal support. Includes development of an ordinance enforcement strategy.	\$15,000

E6. Provide information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	None	None	Y	Inform construction operators about available training on stormwater pollution prevention for construction sites.	\$500
<b>F. Post Construction Stormwater Management: Develop, implement, and enforce program to address post construction stormwater runoff to the MS4 from sites one or more acres in size.</b>						
F1. Begin developing an ordinance for Post Construction Stormwater Management that requires stormwater controls and regulates sites at least 1+ acre in size (involve the public as required). Ordinance must be completed and adopted by permit year 3. Must allow access by Permittee staff to inspect site during and after construction to ensure compliance with BMP selection, design, installation, and O&M standards consistent with E. WA Stormwater Manual. Encourage preservation of natural drainages and reductions in impervious surfaces. Must require source control BMPs. Include mechanism requiring owners to ensure long-term proper O&M of BMPs.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop an ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local post-construction stormwater permit or approval to be obtained.	The City's Design Standards (2001) require that storm drainage plans be prepared for all property improvements. Included are recommended stormwater analysis and design procedures (basin specific) and required stormwater control measures (e.g., detention, biofiltration, etc.). No program exists to ensure and/or enforce on-going inspection and long-term O&M of facilities. A discrete ordinance is required to comply with requirements of NPDES.	None	Y	Begin developing/updating Post Construction Stormwater Management ordinance involving the public, stakeholders, and legal support. Includes development of ordinance enforcement strategy.	\$15,000
F6. Provide information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	City currently directs design professional to the E. WA SW Manual to comply with technical stormwater requirements consistent with NPDES permit.	None	Y	Obtain and provide information during normal development permitting and review process.	\$500
<b>G. Pollution Prevention and Good Housekeeping for Municipal Operations: Develop and implement an on-going O&amp;M program, including a staff training program, aimed at preventing or reducing pollutant runoff from municipal operations.</b>						
G3. City to continue performing existing storm system maintenance activities. Includes on-going inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facility (BMP) maintenance, and proper waste disposal.	Per the direction provided by the City, the costs for existing storm system maintenance activities will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance will be included in years 3-5.	City currently performs limited storm system maintenance, primarily catch basin and system line cleaning. SW treatment and flow control facilities (e.g., detention ponds) inspected and cleaned on an annual basis or as needed. No formal documentation or record keeping.	SW Control Facility Inspect/Maint: \$20,000	Y	City to continue existing storm system inspection and maintenance activities. Costs for existing activities rolled-in during permit year 2 and assumed by SW Utility.	\$0
G4. City to continue existing street sweeping program and other all season BMPs to reduce pollution into the MS4.	Per the direction provided by the City, the costs for the existing street sweeping program will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in enhanced/changed practices, improved materials, and for stormwater compliance staff to review and record practices and provide technical assistance will be included in years 3-5.	City currently performs street sweeping. Snow removal and ice control activities employed during winter months. Will need to review existing and additional practices required to ensure WQ is protected.	Sweeping Program: Avg 05-06: \$25,000	Y	City to continue existing street sweeping program. Costs for existing program rolled-in during permit year 2 and assumed by SW Utility.	\$0
G8. As of the effective date of the permit, have reviewed existing and near-term municipal construction projects and sought coverage under statewide NPDES Construction SW General Permit for any projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects after the effective date of the permit.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	City currently seeks NPDES permit coverage and employs appropriate construction and post construction controls for public projects. Compliance with the new construction permit itself will be a cost borne by the project proponent.	N/A	Y	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	\$2,000

G9. As of the effective date of the permit, have reviewed all municipal "industrial" facilities/sites and sought coverage under statewide NPDES Industrial SW General Permit for municipal sites meeting criteria for coverage.	Assume that some work still needs to be accomplished and is conducted in year 1. Cost will be for NPDES MS4 Permit compliance staff to review facilities and recommend that the facilities seek coverage. Records of the process must be developed. Cost of seeking and compliance with permits will be borne by Department/Division being covered.	City Transit facility and most likely the Pullman-Moscow Regional Airport are covered under an existing Industrial SW General Permit. City Maintenance Shop facility identified as possibly needing to seek permit coverage. Other facilities/sites to be assessed for possible coverage.	Permit Coverage: Dept/Div specific \$10,000	Y	Need money and staff to review facilities, assess need for permit, create and maintain records of seeking and complying with industrial stormwater permits for municipal facilities/sites.	\$5,000
<b>H. Compliance with Total Maximum Daily Load Allocations: WRIA 34 - South Fork Palouse River.</b>						
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	The City is actively participating in TMDLs being developed for the South Fork Palouse River.	Unknown	Y	Participation in TMDL development may be desirable.	\$1,000
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.	None	None	N	None	\$0
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	None	None	Y	Track status of TMDL implementation and keep records.	\$500
<b>I. Monitoring and Program Evaluation Requirements</b>						
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	City does not have an established water quality monitoring program. However, limited WQ monitoring of outfalls and the S. Fork Palouse River has been conducted in the past for other related projects.	None	Y	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	\$1,000
<b>J. Reporting and Record Keeping Requirements</b>						
J1. Develop written Stormwater Management Program (SWMP) for submittal in permit year 2 with annual report, follow program component format established by Ecology.	Must submit a copy of SWMP to Ecology with the annual report beginning no later than March 31, 2008. Assume that development of the SWMP begins during permit year 1.	Assume some overlap with ongoing stormwater planning.	None	Y	Prepare SWMP according to Ecology format. Assume a significant effort by multiple staff, public and stakeholder involvement per C1, review/approval by elected leaders.	\$25,000
J2. Develop and implement an ongoing process for gathering, recording, maintaining, and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves lead permit compliance staff: (1) itemizing the types of recordkeeping needed for each category of permit requirement; (2) meeting with various department/divisions to learn about current record keeping activities; (3) assessing the need for new processes or changes or enhancements to existing processes; (4) creating or modifying record keeping forms as needed; (5) and working with various directors/managers/staff to ensure implementation of the new processes.	None	None	Y	Itemize the types of recordkeeping needed for permit; meet with various department/divisions; assess need for new or changed processes; create record keeping forms/protocols; work with directors/managers/staff to implement. Significant effort by staff at multiple levels.	\$15,000
<b>K. NPDES Equipment Funds</b>						
<b>L. NPDES Capital Project Funds</b>						

2. Stormwater Program Funding - Utility Assumed						
<b>A. Stormwater Utility Implementation</b>						
A1. Review available City data and information (aerial topographic maps, address maps, municipal boundaries, land use data, etc.) and convert to GIS-format. Perform GIS analysis to measure impervious surface area on representative sample of residential properties within the City to establish the Equivalent Residential Unit (ERU). Perform GIS analysis to assign impervious surface coverage and ERUs for non-residential customers. Coordinate with Financial Department (utility billing staff) in the development of a SW Utility customer database to ensure consistency with existing utility billing system. Develop preliminary SW Utility customer database, process draft billing rolls, and conduct necessary quality control to finalize billing rolls.	Assume that initial work will be completed in permit year 1 to develop preliminary SW Utility customer database. Assume some activities and costs overlap with City and consultant work and products.	None	None	Y	Review City data and information; perform GIS analysis; develop preliminary customer database and billing rolls; coordinate with Financial Department staff.	\$20,000
A2. General Financial Department services.	Payment to Financial Department staff for services rendered in the coordination and development of the SW Utility customer database.	None	None	Y	Pay Financial Department staff for general services rendered to the SW Utility.	\$4,000
<b>B. Stormwater Development Permit Fees</b>						
<b>C. Stormwater Program Reserve Fund</b>						
					<b>SUM =</b>	<b>\$128,000</b>
					Equipment	\$0
					Capital	\$0
					Staff, Fees, Overhead, Services	\$128,000
					Reserve	\$0
					Funding from Development Fees	\$0
					Funding from Utility/Other Source	\$128,000
						<b>\$128,000</b>

**YEAR 2**

Summary of Regulatory Requirements	Notes & Assumptions	Summary of Existing Municipal Activities Aiding Compliance	Current Average Annual Expenditures	New Funding Method Needed?	Assessment of New Activities Needed for Compliance	Estimated Annual Cost to Comply
<b>1. NPDES</b>						
<b>A. General NPDES Requirements</b>						
A2. Pay Annual Permit Fee.	City of Pullman - \$5,500	None	None	Y	Pay fee.	\$5,500
<b>B. Public Education and Outreach: General public, builders, businesses, engineers, developers, plan reviewers, etc.</b>						
<b>C. Public Involvement: Allow public and stakeholder involvement in program development and funding via committees, hearings, advisory panels, etc.</b>						
C2. Implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the SWMP, including all ordinances. Assume this involves an advisory body, open house, and news release.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	None	None	Y	News release (one), open house (one), advisory body meetings (three).	\$20,000
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.).	None	None	Y	Respond to public calls received.	\$5,000
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	None	None	Y	Post updated SWMP on website.	\$500
<b>D. Illicit Discharge Detection and Elimination: Develop, implement, and enforce program to detect and eliminate polluted non-stormwater discharges into the MS4.</b>						
D1. City to complete mapping of remaining 1/3 of MS4, showing connections to MS4, known outfalls, and receiving waters. Include field surveys to verify locations of outfalls and identify previously unknown outfalls on priority water bodies.	Note that minimum requirements do not begin until Yr 3 and will require that City map 1/3 of system per year through Yr 5. However, City has committed to completing mapping of system by end of 2008 as stated in Draft Palouse River Chlorinated Pesticides and PCB TMDL (May 2007). City has already initiated digital conversion of existing storm drainage system maps. Assume that City has completed 2/3 of MS4 mapping and some field survey work. Costs for continued mapping activities will be covered by existing funding in Yr 1. Costs to complete mapping activities and additional field-related activities will be carried out under direction of permit compliance staff using program funding in Yr 2.	City is in the process of updating their storm drainage mapping system to digital format. Digital conversion of existing maps expected by 2008. Existing mapping fairly complete, but may need to be reviewed, updated, and field checked. City also considering conversion of maps to GIS format.	Mapping Activities: \$2,500/yr	Y Roll-in costs \$2,500 Additional activities \$5,000	Finalize mapping effort of system. Includes needed system surveying and inspection.	\$7,500
D2. Complete and adopt an ordinance that prohibits illicit discharges and authorizes enforcement actions (involve the public as required). Ordinance must be completed and adopted by permit year 2.5.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review.	Some overlap with City Code exists, however a discrete IDDE ordinance is required to comply with requirements of NPDES	None	Y	Complete IDDE Ordinance involving public and stakeholders, legal review, hearing comments and responses, revisions, formal adoption, placement in code.	\$20,000
D3. Begin developing written IDDE Program Plan that addresses ordinance enforcement, staff training needs, priority areas & businesses, field assessments, complaint handling, discharge characterization methods, hazard assessment, spill response and containment, tracing methods, sampling/analyzing techniques, removal methods, interface with other agencies, program evaluation methods.	Assume that once ordinance is on the books, enforcement activities are phased-in starting in Yr 3. Assume that written guidance is needed for orderly implementation. Assume preparation involves multiple divisions and takes a significant amount of staff time for most of a year. Funding estimate is only for lead compliance staff.	The City does not have a formal IDDE Plan. However, the City does conduct related activities on a limited basis.	None	Y	Develop IDDE Plan using guidance documents from Center for Watershed Protection, Ecology, and other jurisdictions as an aid. Ordinance Enforcement and Spill Response plans included with IDDE Plan. Involve multiple staff as needed.	\$15,000
D6. Publicize a hotline or other local phone number for public reporting of spills and illicit discharges.	Assume that hotline or other local phone number is publicly listed and publicized by end of year. Assume calls are received from public in the following year and require follow-up activities (inspection; source tracing, identification, removal; enforcement activities; and response to public). Assume costs for follow-up activities covered in D7. Records of all calls and follow-up activities must be maintained.	None	None	Y	Publish hotline for pollution reporting in subsequent years.	\$500

<b>E. Construction Site Stormwater Runoff: Develop, implement, and enforce program to reduce pollutants in runoff to the MS4 from construction sites one or more acres in size.</b>						
E1. Complete and adopt an ordinance for Construction Stormwater Management (involve the public as required). Ordinance must be completed and adopted by permit year 3	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop an ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local construction stormwater permit or approval to be obtained.	The City's Design Standards (2001) require that erosion and sedimentation control (ESC) plans be prepared for any land altering activity. ESC plans are reviewed as part of the City's site plan review process. No enforcement strategy/plan has been developed to date. A discrete ordinance is required to comply with requirements of NPDES.	None	Y	Complete Construction Stormwater Management ordinance involving the public, stakeholders, legal review, hearing comments and responses, revisions, formal adoption, and placement in code.	\$20,000
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.		None	Y	Inform construction operators about available training on stormwater pollution prevention for construction sites.	\$500
E7. Adopt procedures for receipt and consideration of construction site problems reported by the public, including publicizing a hot line phone number.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.		None	Y	Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	\$7,500
<b>F. Post Construction Stormwater Management: Develop, implement, and enforce program to address post construction stormwater runoff to the MS4 from sites one or more acres in size.</b>						
F1. Complete and adopt an ordinance for Post Construction Stormwater Management (involve the public as required). Ordinance must be completed and adopted by permit year 3.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop and ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local codes. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local post-construction stormwater permit or approval to be obtained.	The City's Design Standards (2001) require that storm drainage plans be prepared for all property improvements. Included are recommended stormwater analysis and design procedures (basin specific) and required stormwater control measures (e.g., detention, biofiltration, etc.). No program exists to ensure and/or enforce on-going inspection and long-term O&M of facilities. A discrete ordinance is required to comply with requirements of NPDES.	None	Y	Complete Post Construction Stormwater Management ordinance involving the public, stakeholders, legal review, hearing comments and responses, revisions, formal adoption, and placement in code.	\$20,000
F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	City currently directs design professional to the E. WA SW Manual to comply with technical stormwater requirements consistent with NPDES permit.	None	Y	Obtain and provide information during normal development permitting and review process.	\$500

<b>G. Pollution Prevention and Good Housekeeping for Municipal Operations: Develop and implement an on-going O&amp;M program, including a staff training program, aimed at preventing or reducing pollutant runoff from municipal operations.</b>						
G1. Begin developing a good housekeeping plan and schedule (O&M Plan) for municipal operation and maintenance activities aimed at preventing and reducing water quality impacts. Must be at least as protective as relevant chapters of the E. WA Stormwater Manual and must include provisions for record keeping. The O&M Plan must address the following types of facilities or activities that are present within the permittee's boundaries: stormwater collection and conveyance system O&M; road, highway, and parking lot O&M; vehicle fleet storage, washing, and maintenance; municipal building cleaning, washing, painting and other O&M activities; park and open space O&M activities; municipal construction projects (all types); municipal industrial sites and activities; material and equipment storage areas and maintenance areas; flood management projects; and all other facilities that can reasonably be expected to discharge contaminated runoff. The O&M Plan must include a schedule of inspections and requirements for record keeping, and identify the department (and as appropriate, specific staff) responsible for performing each activity. Must be completed by end of permit year 3.	Assume that it takes two years to fully develop the O&M Plan and that appropriate staff from the various Departments/Divisions are involved (this is a large effort and could easily take longer).	Many activities currently performed but not formally documented in a standalone O&M Plan.	None	Y	Begin developing a good housekeeping plan and schedule (O&M Plan) for municipal operation and maintenance activities aimed at preventing and reducing water quality impacts. Must include schedule for inspections and address methods of record keeping.	\$25,000
G3. City to continue performing existing storm system maintenance activities. Includes on-going inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facility (BMP) maintenance, and proper waste disposal.	Per the direction provided by the City, the costs for existing storm system maintenance activities will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance will be included in years 3-5.	City currently performs limited storm system maintenance, primarily catch basin and system line cleaning. SW treatment and flow control facilities (e.g., detention ponds) inspected and cleaned on an annual basis or as needed. No formal documentation or record keeping.	SW Control Facility Inspect/Maint: \$20,000	Y Roll-in costs \$20,000	City to continue existing storm system inspection and maintenance activities. Costs for existing activities rolled-in during permit year 2 and assumed by SW Utility.	\$20,000
G4. City to continue existing street sweeping program and other all season BMPs to reduce pollution into the MS4.	Per the direction provided by the City, the costs for the existing street sweeping program will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in enhanced/changed practices, improved materials, and for stormwater compliance staff to review and record practices and provide technical assistance will be included in years 3-5.	City currently performs street sweeping. Snow removal and ice control activities employed during winter months. Will need to review existing and additional practices required to ensure WQ is protected.	Sweeping Program: Avg 05-06: \$25,000	Y Roll-in costs \$25,000	City to continue existing street sweeping program. Costs for existing program rolled-in during permit year 2 and assumed by SW Utility.	\$25,000
G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	City currently seeks NPDES permit coverage and employs appropriate construction and post construction controls for public projects. Compliance with the new construction permit itself will be a cost borne by the project proponent.	N/A	Y	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	\$2,000
<b>H. Compliance with Total Maximum Daily Load Allocations: WRIA 34 - South Fork Palouse River.</b>						
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	The City is actively participating in TMDLs being developed for the South Fork Palouse River.	Unknown	Y	Continued participation in TMDL development may be desirable.	\$1,000
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs. However, as stated in the Draft Palouse River Chlorinated Pesticide and PCB TMDL (May 2007), the City has committed to the following by December 2008: (1) update the 2001 Design Standards to reference the E. WA Stormwater Manual as the technical reference for best available practices and (2) complete storm drain mapping. Updates to the City's Design Standards assumed under E.1 and F.1. Mapping assumed to be completed under D.1.	City is in the process of updating their storm drainage mapping system to digital format with digital conversion of existing maps expected by 2008. City to update 2001 Design Standards.	None	N	No applicable TMDL provisions to comply with. Completion of storm system mapping and update to City's Design Standards covered elsewhere.	\$0
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	None	None	Y	Track status of TMDL implementation and keep records.	\$500

I. Monitoring and Program Evaluation Requirements						
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	City does not have an established water quality monitoring program. However, limited WQ monitoring of outfalls and the S. Fork Palouse River has been conducted in the past for other related projects.	None	Y	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	\$2,000
J. Reporting and Record Keeping Requirements						
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 3 with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.		None	Y	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	\$15,000
J2. Continue ongoing process for gathering, recording, maintaining, and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.		None	Y	Complete development of record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	\$10,000
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume this is a relatively simple process that considers the activities detailed for each SWMP component and cross-check them against records (e.g., reaching target audiences, site plan review and inspection program goals, storm system maintenance inspection goals, and other measurable goals established). Also cross-check activities against established literature, studies, and accepted BMP manuals to assess impact to water quality. Assume that this analysis is presented/discussed in a narrative portion of the annual report.		None	Y	Develop evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	\$5,000
J4. Develop and implement a process to track the cost of development and implementation of the SWMP.	Assume this involves lead permit compliance staff: (1) estimating which departments/divisions will need to begin tracking costs, for what, and when; (2) learning about cost tracking methods and options within each affected department or division (prioritized based on when they need to start); (3) checking with each department/division to ensure implementation of cost tracking methods; and (4) obtaining cost tracking information in a timely manner so that the annual report can include it.	City's Financial Department may have established accounting procedures.	None	Y	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	\$2,000
J5. Prepare and submit year 1 annual report and SWMP to Ecology. Use annual report form established by Ecology. The annual report must describe the status of compliance with permit conditions, including: (1) the status of implementation of each component of the SWMP; (2) an assessment of progress towards meeting the minimum performance standards (measurable goals) established for each minimum control measure of the SWMP; (3) a description of activities being implemented to comply with each component of the SWMP (including number of inspections, site plans reviewed, illegal connection removed, enforcement actions, educational activities, etc.); (4) proposed SWMP implementation schedule and status (plus comparison with schedule in the permit, discussion of missed deadlines and why, when missed deadline activities will be implemented); and (5) summary of SWMP evaluation (including evaluation of effectiveness of SWMP and appropriateness of BMPs selected). Note annexations during the reporting period and their influence on permit coverage areas. Note if relying upon another entity for implementation of any BMPs or other permit obligations.	Reports are due no later than March 31 each year beginning in 2008. Assume that in later years, it takes a fairly senior staff person working half time from January 1 to March 31 to prepare the report - including gathering all of the records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.		None	Y	Prepare and submit annual report.	\$18,000
K. NPDES Equipment Funds						
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds begin to be set aside in year 2 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.		None	Y	Build-up equipment fund.	\$10,000
K2. Construction & Post Construction Equipment Fund.	Assume that funds begin to be set aside in year 2 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.		None	Y	Build-up equipment fund.	\$10,000

K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City currently has 2 mechanical sweepers, 1 vactor truck, 1 self-propelled trailer mounted unit, and 5 dump trucks. Additional equipment needs include a vactor truck (\$300K), small trackhoe (\$85K), and additional money for rental of a sweeper unit (\$14K/yr).	Existing O&M Equip Expenditure: \$180,000/yr Additional Equip: \$400,000	Y Ramp-up costs 50% \$90,000 New equip fund (20%) \$80,000	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	\$170,000
K4. TMDL Compliance Equipment Fund.	Assume that some funds begin to be set aside in year 2 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K.1).	None	None	N	Fund not needed presently.	\$0
<b>L. NPDES Capital Project Funds</b>						

2. Stormwater Program Funding - Utility Assumed						
<b>A. Stormwater Utility Implementation</b>						
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Develop public information material for utility billing staff and train appropriate staff on customer response.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	None	None	Y	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, develop public information materials, and train staff on customer response.	\$10,000
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	None	None	Y	Pay Financial Department staff for accounting services rendered to the SW Utility.	\$7,500
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	None	None	Y	SW Utility customer service.	\$7,500
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume that rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate or (2) includes a set schedule for rate increases over the first five years.	None	None	Y	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	\$5,000
<b>B. Stormwater Development Permit Fees</b>						
B1. Estimate the full annual cost of service for conducting stormwater plan review, site inspection, enforcement of standards, and providing technical assistance to developers, contractors, and engineers. Consider the cost of serving different types/classes of development customers.	Assume that a formal cost of service analysis will be conducted by the City as part of an overall update to the City's permitting process, and will include an evaluation of enhanced stormwater/drainage/development review activities and costs.	The City has an established permit structure and fee schedule. However, the City currently does not collect revenue for stormwater site plan review, site inspection, and enforcement of standards.	None	Y	Complete cost of service for stormwater/drainage/development review.	\$10,000
B2. Work with Directors and Elected Leaders to determine what portion of stormwater development review costs will be funded using permit fees, and how any remaining portions will be funded.	Assume that after cost of service analysis is conducted, elected leaders will determine if the full cost of stormwater development review will be funded by permit fees or whether a portion will be funded in other ways.		None	Y	Cost of service report presentation, alternatives, meetings with staff and elected leaders, approval to proceed.	\$2,500
B3. Update or prepare local codes establishing stormwater permit fees, conduct any needed legal reviews, prepare informational material, hold at least one public hearing, adopt new or updated stormwater development permit fees.			None	Y	Draft new or updated codes for stormwater development review fees, public process, hearing adoption, implementation.	\$2,500
B4. Train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.			None	Y	Develop training materials, FAQs, etc. for front-line staff dealing with customers.	\$1,500
B5. Implement methods (or use existing mechanisms as developed in J.4) to track stormwater development review costs.			None	Y	Implement methods to track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	\$2,500
<b>C. Stormwater Program Reserve Fund</b>						
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.		None	Y	Build reserve fund to ensure financial stability and financing capacity.	\$222,000
					<b>SUM =</b>	<b>\$709,000</b>
					Equipment	\$190,000
					Capital	\$0
					Staff, Fees, Overhead, Services	\$297,000
					Reserve	\$222,000
					Funding from Development Fees	\$0
					Funding from Utility/Other Source	\$709,000
						<b>\$709,000</b>

**YEAR 3**

Summary of Regulatory Requirements	Notes & Assumptions	Summary of Existing Municipal Activities Aiding Compliance	Current Average Annual Expenditures	New Funding Method Needed?	Assessment of New Activities Needed for Compliance	Estimated Annual Cost to Comply
<b>1. NPDES</b>						
<b>A. General NPDES Requirements</b>						
A2. Pay Annual Permit Fee.	City of Pullman - \$5,800	None	None	Y	Pay fee.	\$5,800
<b>B. Public Education and Outreach: General public, builders, businesses, engineers, developers, plan reviewers, etc.</b>						
B1. Begin development and documentation of public education and outreach strategy. Includes conducting analysis to identify and characterize target audiences within jurisdiction.	Target audiences may include types of commercial businesses, owners of multi-family units, residential home owners, organizations that hold charity car washes, educational institutions, etc.	None	None	Y	Conduct analysis and develop a document that identifies and characterizes target audiences and defines a strategy and process for reaching them.	\$7,000
<b>C. Public Involvement: Allow public and stakeholder involvement in program development and funding via committees, hearings, advisory panels, etc.</b>						
C2. Continue to implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the Program, including all ordinances. Assume this involves an advisory body, open houses, and news releases.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	None	None	Y	News release (one), open house (one), advisory body meetings (three).	\$20,000
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.)	None	None	Y	Respond to public calls received.	\$5,000
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	None	None	Y	Post updated SWMP on website.	\$500
<b>D. Illicit Discharge Detection and Elimination: Develop, implement, and enforce program to detect and eliminate polluted non-stormwater discharges into the MS4.</b>						
D1. Update completed map of agency MS4, including new and removed connections, updates to system characteristic data and information, location of previously unknown outfalls and connections, etc.	Assume that City has completed MS4 mapping and field survey work by end of Year 2. Assume minimal work needed for annual updates to map by permit compliance staff.	None	None	Y	Annually update MS4 mapping.	\$1,000
D3. Complete written IDDE Program Plan started in Year 2. Execute training for staff involved.	Assume that once ordinance is on the books, enforcement activities are phased-in starting in Yr 3. Assume that written guidance is needed for orderly implementation. Initial training course is needed for staff involved in the IDDE Program.	The City does not have a formal IDDE Plan or staff training program.	None	Y	Complete IDDE Plan using guidance documents from Center for Watershed Protection, Ecology, and other jurisdictions as an aid. Provide training to staff involved in IDDE program and related activities.	\$15,000
D4. Begin implementation of the IDDE Program and regulatory ordinance.	Assume some IDDE work begins this year. Based on areas likely to have illicit discharges staff will prioritize receiving waters and outfalls for visual inspection during field assessments in subsequent years.	The City currently conducts limited IDDE-related activities. City does not conduct routine visual inspection of outfalls, however, most stormwater outfalls have been located and mapped. Areas likely to have illicit discharges have not been prioritized for field assessments.	None	Y	Develop a list of prioritized receiving waters within City for visual inspection of outfalls.	\$5,000

D7. Respond to spills and illicit discharge hotline phone calls, address reported problems, keep records.	Assume that some calls require significant staff time to address, possibly also involving enforcement procedures, interface with other agencies, and legal support. Assume some overlap with D4. Costs for existing activities assumed by SW Utility.	The City does not have a formal IDDE Plan or a published phone number for public reporting. However, the City does respond to and investigates complaints or reports of spills, illegal dumping, or illicit connections on a limited basis from outside sources. Source tracing and removal of illicit discharges occurs on a limited basis. The Pullman Fire Department responds to hazardous material spill reportings.	Illicit Discharge/Spill Response, Source Tracing & Removal: \$5,000	Y Roll-in costs \$5,000 Additional activities \$15,000	Respond to pollution reporting hotline, address reported problems, trace and resolve problems, and conduct enforcement as needed to eliminate any illicit discharges.	\$20,000
D8. Implement procedures, records, and tracking needed to evaluate program effectiveness versus criteria established in the IDDE Program Plan.	Assume IDDE records and monitoring activities begin following implementation plan this year under guidance of staff involved in the IDDE Program.	None	None	Y	Develop criteria and procedures to evaluate the effectiveness of the IDDE Program, implement the process and evaluate the program at the end of the year .	\$6,000
<b>E. Construction Site Stormwater Runoff: Develop, implement, and enforce program to reduce pollutants in runoff to the MS4 from construction sites one or more acres in size.</b>						
E2. Begin phasing-in enforcement of the Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of stormwater pollution prevention plans (SWPPPs).	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and that site plan and SWPPP review is more time consuming. Costs included here are for enhanced review activities.	The City's Design Standards (2001) require that erosion and sedimentation control (ESC) plans be prepared for any land altering activity. ESC plans are reviewed as part of the City's site plan review process, however, SWPPPs are currently not reviewed.	Unknown	Y Development fees	Continue reviewing construction site plans with emphasis placed on ensuring that proper ESC BMPs are selected and used. Review Construction SWPPPs. Assume significant interactions with project engineers/contractors.	\$35,000
E3. Develop training materials and program for proper training of staff reviewing construction erosion and sediment control site plans and SWPPPs. Include training on stormwater manual, hydrologic methods, sediment control BMP O&M, etc.	Assume that a formal on-going training program for site plan reviewers needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (E3) and site inspection (E5).	Site Plan Review: \$5,000/yr Site Inspection: \$5,000/yr	Y Development fees	Continue to provide in-house training or send plan review staff to external training on proper ESC BMPs and SWPPP preparation and review.	\$6,000
E4. Begin phasing-in enforcement of the Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions, verify SWPPPs being followed.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Site inspection and enforcement of construction stormwater pollution control measures (ESC BMPs) occurs on a very limited basis.	Unknown	Y Development fees	Begin inspecting construction sites to ensure that proper ESC BMPs are selected, used, and maintained and SWPPP is being adhered to. Conduct enforcement as needed.	\$20,000
E5. Develop training materials and program for proper training of site inspection and enforcement staff. Include training on sediment control BMP designs, reading engineering drawings, sediment control BMP O&M, identifying problems, enforcement procedures, etc.	Assume that a formal on-going training program for site inspectors and enforcement needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (E3) and site inspection (E5).	Site Plan Review: \$5,000/yr Site Inspection: \$5,000/yr	Y Development fees	Continue to provide in-house training or send inspection/enforcement staff to external training on proper ESC BMPs, SWPPP requirements, local enforcement procedures.	\$6,000
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	None	None	Y	Inform construction operators about available training on stormwater pollution prevention for construction sites.	\$500
E7. Continue procedures for receipt and consideration of construction site problems reported by the public.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.	None	None	Y	Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	\$5,000

<b>F. Post Construction Stormwater Management: Develop, implement, and enforce program to address post construction stormwater runoff to the MS4 from sites one or more acres in size.</b>							
F2. Begin phasing-in enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of selected structural BMPs, stormwater calculations, O&M proposals, etc.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and site plan review is more time consuming. Cost included here are for enhanced review activities.	The City's Design Standards (2001) require that storm drainage plans be prepared for all property improvements, however, limited review is currently performed. No program exists to ensure and/or enforce on-going inspection and long-term O&M of facilities.	Unknown	Y	Development fees	Begin reviewing construction site plans, drainage reports, calculations, and O&M plans to ensure that proper long-term stormwater runoff controls are being used and properly maintained. Assume significant interactions with project engineers/ contractors.	\$25,000
F3. Develop training materials and program for proper training of staff reviewing post construction stormwater site plans and BMPs. Include training on stormwater manual; hydrologic methods; treatment, detention, retention BMP designs; O&M, etc.	Assume that a formal on-going training program for site plan reviewers needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post construction training is integrated together.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (F3) and site inspection (F5) and post-construction SW control BMPs.	Site Plan Review: \$2,500/yr Site Inspection: \$2,500/yr	Y	Development fees	Continue to provide in-house training or send plan review staff to external training on proper post construction BMPs, design, selection, operation, maintenance, E. WA Stormwater Manual requirements, etc.	\$3,000
F4. Begin phasing-in enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions. Conduct follow-up inspections to ensure adequate maintenance performed for all structural BMPs.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Site inspection and enforcement of post construction stormwater treatment and flow control BMPs occurs on a limited basis and primarily only during installation.	None	Y	Development fees	Begin inspecting construction sites, including private, to ensure that proper post construction BMPs are selected, used, and maintained. Conduct enforcement as needed.	\$15,000
F5. Develop training materials and program for proper training of site inspection and enforcement staff. Include training on treatment, detention, retention BMP designs; reading engineering drawings; long-term BMP O&M; identifying problems; enforcement procedures; etc.	Assume that a formal on-going training program for site inspectors and enforcement needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (F3) and site inspection (F5) and post-construction SW control BMPs.	Site Plan Review: \$2,500/yr Site Inspection: \$2,500/yr	Y	Development fees	Continue to provide in-house training or send inspection/enforcement staff to external training on proper post construction BMPs, stormwater manual requirements, local enforcement procedures, etc.	\$3,000
F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	City currently directs design professional to the E. WA SW Manual to comply with technical stormwater requirements consistent with NPDES permit.	None	Y		Obtain and provide information during normal development permitting and review process.	\$500
<b>G. Pollution Prevention and Good Housekeeping for Municipal Operations: Develop and implement an on-going O&amp;M program, including a staff training program, aimed at preventing or reducing pollutant runoff from municipal operations.</b>							
G1. Complete development and begin implementation of the good housekeeping plan and schedule (O&M Plan) started in year 2.	Cost presented here assume that leadership, technical support, advice, and record keeping is provided by stormwater compliance staff who work to complete the plan, and that some costs to carry out the new procedures is borne by the department/division responsible for a given activity (e.g., cost of changing road maintenance practices/procedures is paid by Road Maintenance Div).	Many activities currently performed but not formally documented in a standalone O&M Plan.	None	Y		Complete development of good housekeeping plan and schedule (O&M Plan) for municipal operation and maintenance activities. Begin implementation of the plan working with affected departments and divisions. Maintain records.	\$15,000
G2. Begin developing a municipal good housekeeping staff training program (materials, schedules, who gets what training, etc. ) to meet the needs of the O&M Plan completed in G1. Training must include all employees whose construction, operations, and maintenance job functions may impact storm water quality. Training shall address the importance of protecting water quality, the requirements of the NPDES permit, proper O&M requirements, inspection procedures, ways to perform their job while protecting water quality, procedures for reporting water quality concerns and suspected illicit discharges.	Assume that it takes at least one year to develop the good housekeeping training program and that appropriate staff from the various departments/divisions are involved (this is a large effort and could easily take longer). Assume program development is lead by stormwater compliance staff and is a direct stormwater program cost.	No training currently provided.	None	Y		Develop good housekeeping training materials and program, involve various affected departments/divisions and associated staff.	\$5,000

G3. Begin implementing storm system maintenance activities in accordance with appropriate schedules. Includes inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facilities (BMP) maintenance, and proper waste disposal.	Assume that it takes 2 years to fully phase-in enhanced activities. Assume that facilities exist for proper waste disposal (modification of existing "vactor" waste dewatering/decant facility may be required). Assume that most necessary heavy equipment is available, however some specialized equipment may continue to be rented. Costs here are for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance.	City currently performs limited storm system maintenance, primarily catch basin and system line cleaning. SW treatment and flow control facilities (e.g., detention ponds) inspected and cleaned on an annual basis or as needed. No formal documentation or record keeping.	SW Control Facility Inspect/Maint: \$20,000	Y Roll-in costs \$20,000 Additional activities \$50,000	Estimated costs for enhanced maintenance program with stormwater compliance staff to provide oversight and technical assistance during implementation of new/changed practices, assure record as kept. Work closely with responsible departments/divisions.	\$70,000
G4. Begin implementing enhanced pollution prevention and good housekeeping practices established in the O&M plan for roads, highways, parking lots. Need to address snow removal, de-icing, snow disposal, material storage & application, and all season BMPs to reduce pollution into the MS4.	Assume that it takes 2 years to fully phase-in activities. Assume that street sweeping continues to be one of the preferred all season BMPs employed by City with additional water quality oriented weather report based sweeping in some areas on a seasonal basis. Assume that snow removal and ice control activities continue at current level of effort and that waste and snow disposal areas are available. Costs here are for improved materials and for stormwater compliance staff to review and record practices and provide technical assistance.	City currently performs street sweeping. Snow removal and ice control activities employed during winter months. Will need to review existing and additional practices required to ensure WQ is protected.	Sweeping Program: Avg 05-06: \$25,000	Y Roll-in costs \$25,000 Additional activities \$25,000	Estimated costs for enhanced practices with stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible departments/divisions.	\$50,000
G5. Begin conducting all vehicle and equipment washing and maintenance in self-contained building or wash area and/or maintenance areas where all wash water is kept out of the MS4.	Assume that physical facilities are readily available for washing and maintenance work. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Some costs for changed practices may have to be borne by the department/division conducting the work.	City conducts vehicle maintenance inside existing facilities (Transit or Maintenance and Operation). Vehicle washing currently performed outdoors on uncovered wash pad, equipped with O/W separator.	None	Y	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$2,000
G6. Begin implementing pollution prevention and good housekeeping practices established in the O&M Plan for maintenance activities at all municipally owned buildings.	Cost can vary substantially (e.g., transit areas, airport, etc.). Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Not formally	Unknown	Y	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$2,000
G7. Begin implementing pollution prevention and good housekeeping practices established in the O&M Plan at all municipally owned parks and open spaces.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Unsure, need to confirm with Parks.	Unknown	Y	Park storm system, park/open space O&M activities, and changed practices. Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$2,000
G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by department/division executing project.	City currently seeks NPDES permit coverage and employs appropriate construction and post construction controls for public projects. Compliance with the new construction permit itself will be a cost borne by the project proponent.	N/A	Y	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	\$2,000
G10. Begin developing Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit.	Assume that it takes at least one year to identify/screen all known facilities, evaluate practices, develop SWPPPs, and identify training needs. Assume cost estimate only involves NPDES permit compliance official leading development of the SWPPP and training materials, and conducting training, not the cost of implementing the SWPPP on site, which will be borne by the department/division operating the site.	Assume a minimum of 3 sites are identified and require the preparation of SWPPPs.	None	Y	Develop Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit.	\$10,000
G11. Begin implementing provisions to address water quality considerations in the design of all new flood management projects, including minimization of site hydrology impacts where possible.	Assume that normal SEPA, HPA, Critical Areas, Shorelines, and other permitting processes adequately consider and address water quantity and quality for new flood protection projects.	Assume existing permitting/review processes are adequate, however records need to be kept for NPDES purposes.	None	Y	Permit compliance staff interface with development review processes to obtain and keep records per NPDES requirements.	\$500

G14. Locate and map all stormwater treatment and flow control facilities owned or operated by the permittee. Inspect each facility, making notes of conditions, maintenance needs, or other related concerns. Track all new systems coming into public ownership as development occurs.	Assume that locating and mapping these systems begins in the year that inspections have to be performed and that required mapping overlaps with illicit discharge program (D.1). City must inspect municipally owned and operated stormwater treatment and control facilities at least once by end of Yr 3 and again by end of Yr 5. Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide training and data forms, provide technical assistance, and ensure that records are kept. Costs to rectify problems will be covered by other stormwater budget categories.	Existing mapping fairly complete, but may need to be reviewed, updated, and field checked. Muni-owned SW facilities to be added to existing maps. Location of facilities known since currently inspected and cleaned.	None	Y	Verify location and map all stormwater treatment and flow control facilities owned or operated by the permittee. Inspect SW treatment and flow control facilities. Identify repair or maintenance needs, resolve concerns, and maintain records.	\$10,000
G15. Begin conducting spot checks at muni-owned and operated stormwater treatment and flow control facilities after major rainfall events (greater than 10 year recurrence interval).	Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide technical assistance, and ensure that records are kept.		None	Y	Conduct spot checks of stormwater treatment and flow control facilities after major rainfall events. Identify repair or maintenance needs, resolve concerns, and maintain records.	\$2,000
G16. As soon as practicable, execute any repair and/or maintenance projects needed based on observations made during regular inspections or spot checks of muni-owned or operated stormwater treatment and flow control facilities.	Could involve anything from light maintenance to major reconstruction. Cost estimate here will generally assume that few major construction or reconstruction projects are needed (or will help be paid for by multiple departments/divisions). Cost here is for stormwater compliance staff to provide technical support and approval of needed repairs, ensure that records are kept, and provide some funding for the project (overlap with NPDES CIP Fund).		None	Y	Fix or repair observed problems at muni-owned and operated stormwater treatment and flow control facilities after major storm events. Keep records of repairs and costs.	\$5,000
<b>H. Compliance with Total Maximum Daily Load Allocations: WRIA 34 - South Fork Palouse River.</b>						
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	The City is actively participating in TMDLs being developed for the South Fork Palouse River.	Unknown	Y	Continued participation in TMDL development may be desirable.	\$1,000
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.		None	N	None	\$0
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.		None	Y	Track status of TMDL implementation and keep records.	\$500
<b>I. Monitoring and Program Evaluation Requirements</b>						
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	City does not have an established water quality monitoring program. However, limited WQ monitoring of outfalls and the S. Fork Palouse River has been conducted in the past for other related projects.	None	Y	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	\$2,000
I2. Begin preparing for participation and implementation of a future comprehensive long-term stormwater monitoring program. Includes identification and mapping of two outfalls or conveyances where stormwater sampling will be conducted.	Actual stormwater monitoring to occur in 2nd permit term. Assume outfalls or conveyances identified and mapped as part of activities in D.1. Includes one site to represent commercial land use and the other site to represent high-density residential.		None	Y	Evaluate, identify, and map suitable outfalls and/or conveyances for planned future stormwater monitoring.	\$1,000
I3. Begin preparing for participation and implementation of a future comprehensive long-term Stormwater Management Program (SWMP) effectiveness monitoring program. Includes identification of at least two suitable questions and the selection of sites where future monitoring will be conducted. Monitoring will include stormwater/receiving water monitoring and/or program activity evaluation monitoring. A specific monitoring plan must be developed for each questioned posed.	Actual Stormwater Management Program effectiveness monitoring to occur in 2nd permit term. Assume that this involves staff time to develop suitable questions to assess program effectiveness, sites where monitoring will be conducted, and development of a monitoring plan for each question posed, which includes proposed purpose, design, and methods.		None	Y	Develop suitable questions, select monitoring sites or targeted activities for evaluation, and develop specific monitoring plan for each question posed to evaluate effectiveness of SWM Program.	\$2,500
I4. Begin preparing for participation and implementation of a future comprehensive long-term runoff treatment BMP effectiveness monitoring program. Includes identification of at least one runoff treatment BMP (Basic, Enhanced, or Oil Treatment) at no fewer than two sites per BMP where future monitoring will be conducted.	Actual BMP effectiveness monitoring to occur in 2nd permit term. Assume treatments BMPs to be monitored identified and mapped as part of activities in D.1.		None	Y	Identify and map suitable stormwater treatment BMPs for planned future BMP effectiveness monitoring.	\$1,000
<b>J. Reporting and Record Keeping Requirements</b>						
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 4 with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.		None	Y	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	\$15,000

J2. Continue ongoing process for gathering, recording, maintaining and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.	None	None	Y	Enact record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	\$10,000
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume that this involves reviewing the evaluation/analysis conducted in permit year 2 and updating it as needed.	None	None	Y	Review/update evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	\$3,000
J4. Continue process to track the cost of development and implementation of the SWMP.	Assume that this involves reviewing and modifying the process developed as needed.	City's Financial Department may have established accounting procedures.	None	Y	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	\$2,000
J5. Prepare and submit year 2 annual report and updated SWMP to Ecology. Update prior year annual report and address the same considerations as described in permit year 2.	Reports are due no later than March 31 each year. Assume that in later years, it takes a fairly senior staff person working half time from Jan 1 to March 31 to prepare the report - including gathering all records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.	None	None	Y	Prepare and submit annual report.	\$18,000
<b>K. NPDES Equipment Funds</b>						
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds continue to be set aside in year 3 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.	None	None	Y	Build-up equipment fund.	\$10,000
K2. Construction & Post Construction Equipment Fund.	Assume that funds continue to be set aside in year 3 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.	None	None	Y	Build-up equipment fund.	\$10,000
K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City currently has 2 mechanical sweepers, 1 vactor truck, 1 self-propelled trailer mounted unit, and 5 dump trucks. Additional equipment needs include a vactor truck (\$300K), small trackhoe (\$85K), and additional money for rental of a sweeper unit (\$14K/yr).	Existing O&M Equip Expenditure: \$180,000/yr Additional Equip: \$400,000	Y Ramp-up costs 100% \$180,000 New equip fund (20%) \$80,000	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	\$260,000
K4. TMDL Compliance Equipment Fund.	Assume that some funds continue to be set aside in year 3 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K1).	None	None	N	Fund not needed presently.	\$0
<b>L. NPDES Capital Project Funds</b>						
L1. Known or planned stormwater project needs.	Annual appropriation beginning in year 3 for known or planned drainage/flooding projects. Assume funds appropriated for engineering design and permitting associated with Missouri Flat Creek channel improvement project (Proj No. 8 - City of Pullman Stormwater Capital Improvement Plan, Otak, 2007). Assume engineering design and permitting costs at 25% of total project cost. Assumes that project will not require long-term financing to cover construction costs.	None	None	Y Project No. 8: Miss. Flat Cr. Eng Design/Permit \$66,000 (25%)	Build-up to support fund for known or planned CIPs. Fund to contribute to division responsible for bulk of CIP costs.	\$66,000
L2. Fund to cover needs of projects discovered as SWM Program is implemented.	Annual appropriation beginning year 3 for projects that will inevitably be discovered during SWM Program implementation that must be addressed. It is not possible to know the magnitude of these project costs, however the estimate will be kept low and it will be assumed that: (1) some are financed over the long term; and (2) large projects will require modification of the annual budget in subsequent years.	None	None	Y	Build-up fund for discovered CIP needs.	\$25,000

2. Stormwater Program Funding - Utility Assumed						
<b>A. Stormwater Utility Implementation</b>						
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Update public information material for utility billing staff as needed and provide refresher training for staff on customer responses as needed.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	None	None	Y	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, update public information materials, and re-train staff on customer response.	\$10,000
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	None	None	Y	Pay Financial Department staff for accounting services rendered to the SW Utility.	\$7,500
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	None	None	Y	SW Utility customer service.	\$7,500
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate, or (2) includes a set schedule for rate increases over the first five years.	None	None	Y	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	\$5,000
<b>B. Stormwater Development Permit Fees</b>						
B4. Re-train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.	Assume minor training updates as needed.	None	None	Y Development fees	Develop training materials, FAQs, etc. for front-line staff dealing with customers.	\$1,500
B5. Continue methods to track stormwater development review costs.		None	None	Y Development fees	Track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	\$1,500
B6. Implement stormwater development permit fee process and collect revenue.		None	None	Y Development fees	Implement collection of fees by development review staff.	\$3,500
B7. General Financial Department accounting services.	Payment to Financial Department accounting staff for services rendered to the SW Utility to manage permit fee finances and books. However, if stormwater development fees included as part of overall permit structure, then management of permit fee finances and books by Financial Department accounting staff would result in no additional costs.	None	None	Y Development fees	Pay accounting staff for services supporting stormwater development permit fees, unless stormwater permit fees included as part of overall permit structure.	\$4,500
<b>C. Stormwater Program Reserve Fund</b>						
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.	None	None	Y \$167,000 (30%) SW Utility fees	Build reserve fund to ensure financial stability and financing capacity.	\$167,000
					<b>SUM =</b>	<b>\$1,014,800</b>
					Equipment	\$280,000
					Capital	\$91,000
					Staff, Fees, Overhead, Services	\$476,800
					Reserve	\$167,000
					Funding from Development Fees	\$124,000
					Funding from Utility/Other Source	\$890,800
						<b>\$1,014,800</b>

**YEAR 4**

Summary of Regulatory Requirements	Notes & Assumptions	Summary of Existing Municipal Activities Aiding Compliance	Current Average Annual Expenditures	New Funding Method Needed?	Assessment of New Activities Needed for Compliance	Estimated Annual Cost to Comply
<b>1. NPDES</b>						
<b>A. General NPDES Requirements</b>						
A2. Pay Annual Permit Fee.	City of Pullman - \$6,200	None	None	Y	Pay fee.	\$6,200
<b>B. Public Education and Outreach: General public, builders, businesses, engineers, developers, plan reviewers, etc.</b>						
B2. Develop a formal written public education and outreach strategy designed to reach the target audiences identified in B1.	Assume that this is fairly straightforward document to prepare and that strategy requires elected leader review and approval.	None	None	Y	Prepare a formal written education and outreach strategy, present to elected leaders for review and approval.	\$5,000
B3. Implement the public education and outreach strategy developed in B2.	Assume this includes: stormwater brochures (general), work anticipated from public responses to brochure mailing (inspection, rectifying problems reported, equipment costs), storm drain stenciling with volunteers, minor classroom education coordinated with schools, and development of stormwater website (page within City's existing site).	None	None	Y	Begin public education and outreach activities.	\$35,000
<b>C. Public Involvement: Allow public and stakeholder involvement in program development and funding via committees, hearings, advisory panels, etc.</b>						
C2. Continue to implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the Program, including all ordinances. Assume this involves an advisory body, open houses, and news releases.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	None	None	Y	News release (one), open house (one), advisory body meetings (three).	\$20,000
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.).	None	None	Y	Respond to public calls received.	\$5,000
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	None	None	Y	Post updated SWMP on website.	\$500
<b>D. Illicit Discharge Detection and Elimination: Develop, implement, and enforce program to detect and eliminate polluted non-stormwater discharges into the MS4.</b>						
D1. Update completed map of agency MS4, including new and removed connections, updates to system characteristic data and information, location of previously unknown outfalls and connections, etc.	Assume that City has completed MS4 mapping and field survey work by end of Year 2. Assume minimal work needed for annual updates to map by permit compliance staff.	None	None	Y	Annually update MS4 mapping.	\$1,000
D3. Repeat or update IDDE staff training as needed.	Assume that IDDE training is repeated or updated annually as needed based on staffing changes and updated methods.	None	None	Y	Evaluate need for training update. Update and repeat training as needed.	\$3,000

D4. Continue and fully implement the IDDE Program and regulatory ordinance.	IDDE work begins in earnest this year with a fully implemented IDDE Program by mid-year. Staff will conduct field assessments on three high-priority water bodies within the City. Field assessments include visual inspection of outfalls during dry weather and documentation of observations and findings. Assume that some screened outfalls appear suspicious and require follow-up work including the collection of samples, source tracing and removal activities, and possibly enforcement actions.	The City currently conducts limited IDDE-related activities. City does not conduct routine visual inspection of outfalls, however, most stormwater outfalls have been located and mapped. Areas likely to have illicit discharges have not been prioritized for field assessments. Limited source tracing and removal activities occur but no formal enforcement procedures are in place to ensure that such discharges are removed and/or terminated.	None	Y	Conduct field assessments on three high-priority water bodies within the City and conduct necessary follow-up activities to ensure termination of illicit discharges identified.	\$90,000
D5. Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Develop and distribute information to target audiences identified in B1 and B2.	Some overlap with B3 - implementation of public education and outreach strategy. Likely need to begin this activity in earlier years. Cost reflects overlap with B3.		None	Y	Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Provide information on proper disposal, etc.	\$4,000
D7. Respond to spills and illicit discharge hotline phone calls, address reported problems, keep records.	Assume that some calls require significant staff time to address, possibly also involving enforcement procedures, interface with other agencies, and legal support. Assume some overlap with D4. Costs for existing activities assumed by SW Utility.	The City does not have a formal IDDE Plan or a published phone number for public reporting. However, the City does respond to and investigates complaints or reports of spills, illegal dumping, or illicit connections on a limited basis from outside sources. Source tracing and removal of illicit discharges occurs on a limited basis. The Pullman Fire Department responds to hazardous material spill reportings.	Illicit Discharge/Spill Response, Source Tracing & Removal: \$5,000/yr	Y Roll-in costs \$5,000 Additional activities \$15,000	Respond to pollution reporting hotline, address reported problems, trace and resolve problems, and conduct enforcement as needed to eliminate any illicit discharges.	\$20,000
D8. Implement procedures, records, and tracking needed to evaluate program effectiveness versus criteria established in the IDDE Program Plan.	Assume IDDE records and monitoring activities continue following implementation plan this year under guidance of staff involved in the IDDE Program.		None	Y	Review, update, and use criteria and procedures to evaluate the effectiveness of the IDDE Program, implement the process and evaluate the program at the end of the year .	\$4,000
<b>E. Construction Site Stormwater Runoff: Develop, implement, and enforce program to reduce pollutants in runoff to the MS4 from construction sites one or more acres in size.</b>						
E2. Continue and ensure full enforcement of the Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of stormwater pollution prevention plans (SWPPPs).	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and that site plan and SWPPP review is more time consuming. Costs included here are for enhanced review activities.	The City's Design Standards (2001) require that erosion and sedimentation control (ESC) plans be prepared for any land altering activity. ESC plans are reviewed as part of the City's site plan review process, however, SWPPPs are currently not reviewed.	Unknown	Y Development fees	Continue reviewing construction site plans with emphasis placed on ensuring that proper ESC BMPs are selected and used. Review Construction SWPPPs. Assume significant interactions with project engineers/contractors.	\$40,000
E3. Execute proper training for staff reviewing construction erosion and sediment control site plans and SWPPPs: Include training on stormwater manual, hydrologic methods, sediment control BMP O&M, etc.	Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (E3) and site inspection (E5).	Site Plan Review: \$5,000/yr Site Inspection: \$5,000/yr	Y Development fees	Continue to provide in-house training or send plan review staff to external training on proper ESC BMPs and SWPPP preparation and review.	\$5,000

E4. Continue and ensure full enforcement of the Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions, verify SWPPPs being followed.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Site inspection and enforcement of construction stormwater pollution control measures (ESC BMPs) occurs on a very limited basis.	Unknown	Y	Development fees	Continue inspecting construction sites to ensure that proper ESC BMPs are selected, used, and maintained and SWPPP is being adhered to. Conduct enforcement as needed.	\$25,000
E5. Execute proper training for site inspection and enforcement staff. Include training on sediment control BMP designs, reading engineering drawings, sediment control BMP O&M, identifying problems, enforcement procedures, etc.	Assume that a formal on-going training program for site inspectors and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (E3) and site inspection (E5).	Site Plan Review: \$5,000/yr Site Inspection: \$5,000/yr	Y	Development fees	Continue to provide in-house training or send inspection/enforcement staff to external training on proper ESC BMPs, SWPPP requirements, local enforcement procedures.	\$5,000
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	None	None	Y		Inform construction operators about available training on stormwater pollution prevention for construction sites.	\$500
E7. Continue procedures for receipt and consideration of construction site problems reported by the public, including publicizing a hot line phone number.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.	None	None	Y		Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	\$5,000
<b>F. Post Construction Stormwater Management: Develop, implement, and enforce program to address post construction stormwater runoff to the MS4 from sites one or more acres in size.</b>							
F2. Continue and ensure full enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of selected structural BMPs, stormwater calculations, O&M proposals, etc.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and site plan review is more time consuming. Cost included here are for enhanced review activities.	The City's Design Standards (2001) require that storm drainage plans be prepared for all property improvements, however, limited review is currently performed. No program exists to ensure and/or enforce on-going inspection and long-term O&M of facilities.	Unknown	Y	Development fees	Continue reviewing construction site plans, drainage reports, calculations, and O&M plans to ensure that proper long-term stormwater runoff controls are being used and properly maintained. Assume significant interactions with project engineers/ contractors.	\$30,000
F3. Execute proper training for staff reviewing post construction stormwater site plans and BMPs. Include training on stormwater manual; hydrologic methods; treatment, detention, retention BMP designs; O&M, etc.	Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (F3) and site inspection (F5) and post-construction SW control BMPs.	Site Plan Review: \$2,500/yr Site Inspection: \$2,500/yr	Y	Development fees	Continue to provide in-house training or send plan review staff to external training on proper post construction BMPs, design, selection, operation, maintenance, E. WA Stormwater Manual requirements, etc.	\$2,500
F4. Continue and ensure full enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions. Conduct follow-up inspections to ensure adequate maintenance performed for all structural BMPs.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Site inspection and enforcement of post construction stormwater treatment and flow control BMPs occurs on a limited basis and primarily only during installation.	None	Y	Development fees	Continue inspecting construction sites, including private, to ensure that proper post construction BMPs are selected, used, and maintained. Conduct enforcement as needed.	\$20,000
F5. Execute proper training for site inspection and enforcement staff. Include training on treatment, detention, retention BMP designs; reading engineering drawings; long-term BMP O&M; identifying problems; enforcement procedures; etc.	Assume that a formal on-going training program for site inspection and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (F3) and site inspection (F5) and post-construction SW control BMPs.	Site Plan Review: \$2,500/yr Site Inspection: \$2,500/yr	Y	Development fees	Continue to provide in-house training or send inspection/enforcement staff to external training on proper post construction BMPs, stormwater manual requirements, local enforcement procedures, etc.	\$2,500
F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	City currently directs design professional to the E. WA SW Manual to comply with technical stormwater requirements consistent with NPDES permit.	None	Y		Obtain and provide information during normal development permitting and review process.	\$500

<b>G. Pollution Prevention and Good Housekeeping for Municipal Operations: Develop and implement an on-going O&amp;M program, including a staff training program, aimed at preventing or reducing pollutant runoff from municipal operations.</b>						
G2. Finish developing and execute a municipal good housekeeping training program for the various staff groups.	Assume that it takes 2 years to develop the O&M Plan and that appropriate staff from the various Departments/Divisions are involved. Assume training is provided to approximately 5 groups, including streets, shop, engineering, inspection/enforcement, etc - this is a large effort including formal day of training in-house and full day in field. Assume training is lead by stormwater compliance staff and is a direct stormwater program cost. Costs to send staff to training is borne by Department/Division that staff represent.	No training currently provided.	None	Y	Conduct good housekeeping training program for various affected Departments/Divisions and associated staff.	\$15,000
G3. Continue phasing-in and implementing enhanced storm system maintenance activities in accordance with appropriate schedules. Includes inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facilities (BMP) maintenance, and proper waste disposal.	Assume that it takes 2 years to fully phase-in enhanced activities. Assume that facilities exist for proper waste disposal (modification of existing "vactor" waste dewatering/decant facility may be required). Assume that most necessary heavy equipment is available, however some specialized equipment may continue to be rented. Costs here are for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance.	City currently performs limited storm system maintenance, primarily catch basin and system line cleaning. SW treatment and flow control facilities (e.g., detention ponds) inspected and cleaned on an annual basis or as needed. No formal documentation or record keeping.	SW Control Facility Inspect/Maint: \$20,000	Y Roll-in costs \$20,000 Additional activities \$70,000	Estimated costs for enhanced maintenance program with stormwater compliance staff to provide oversight and technical assistance during implementation of new/changed practices, assure record as kept. Work closely with responsible Departments/Divisions.	\$90,000
G4. Continue phasing-in and implementing enhanced pollution prevention and good housekeeping practices established in the O&M plan for roads, highways, parking lots. Need to address snow removal, de-icing, snow disposal, material storage & application, and all season BMPs to reduce pollution into the MS4.	Assume that it takes 2 years to fully phase-in activities. Assume that street sweeping continues to be one of the preferred all season BMPs employed by City with additional water quality oriented weather report based sweeping in some areas on a seasonal basis. Assume that snow removal and ice control activities continue at current level of effort and that waste and snow disposal areas are available. Costs here are for improved materials and for stormwater compliance staff to review and record practices and provide technical assistance.	City currently performs street sweeping. Snow removal and ice control activities employed during winter months. Will need to review existing and additional practices required to ensure WQ is protected.	Sweeping Program: Avg 05-06: \$25,000	Y Roll-in costs \$25,000 Additional activities \$35,000	Estimated costs for enhanced practices with stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Departments/Divisions.	\$60,000
G5. Continue conducting all vehicle and equipment washing and maintenance in self-contained building or wash area and/or maintenance areas where all wash water is kept out of the MS4.	Assume that physical facilities are readily available for washing and maintenance work. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Some costs for changed practices may have to be borne by the Department/Division conducting the work.	City conducts vehicle maintenance inside existing facilities (Transit or Maintenance and Operation). Vehicle washing currently performed outdoors on uncovered wash pad, equipped with O/W separator.	Unknown	Y	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Department/Division.	\$2,000
G6. Continue phasing-in and implementing pollution prevention and good housekeeping practices established in the O&M Plan for maintenance activities at all municipally owned buildings.	Cost can vary substantially (e.g., transit areas, airport, etc.). Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Not formally	None	Y	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$2,000
G7. Continue phasing-in and implementing pollution prevention and good housekeeping practices established in the O&M Plan at all municipally owned parks and open spaces.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Unsure, need to confirm with Parks.	Unknown	Y	Park storm system, park/open space O&M activities, and changed practices. Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$2,000
G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	City currently seeks NPDES permit coverage and employs appropriate construction and post construction controls for public projects. Compliance with the new construction permit itself will be a cost borne by the project proponent.	N/A	Y	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	\$2,000

G10. Finish developing and begin implementing Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit. Develop training materials and execute training as needed.	Assume cost estimate only involves NPDES permit compliance official leading development of the SWPPP and training materials, and conducting training, not the cost of implementing the SWPPP on site, which will be borne by the department/division operating the site. Assume that level of effort drops in years 4-5 because training materials, training program, and procedures have already been established.	Assume a minimum of 3 sites are identified and require the preparation of SWPPPs.	None	Y	Complete Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas, conduct training, implement SWPPPs.	\$8,000
G11. Continue implementing provisions to address water quality considerations in the design of all new flood management projects, including minimization of site hydrology impacts where possible.	Assume that normal SEPA, HPA, Critical Areas, Shorelines, and other permitting processes adequately consider and address water quantity and quality for new flood protection projects.	Assume existing permitting/review processes are adequate, however records need to be kept for NPDES purposes.	None	Y	Permit compliance staff interface with development review processes to obtain and keep records per NPDES requirements.	\$1,000
G12. Review existing flood management projects, prioritize them based on water quality concerns, and select at least five to review and evaluate whether or not changes or additions should be made to improve water quality.	General language, could result in projects of significant costs depending on how interpreted. Not clear what intention is: is this a review of existing stormwater detention facilities or a review of levee/berm systems? Assume cost is for review process, not improvement projects. Evaluation process and definition of desired improvements occurs in year 5.		None	Y	Develop criteria and protocol for review, conduct review of existing flood management projects for water quality concerns, select five to evaluate if changes or additions should be made to improve water quality.	\$1,000
G13. Begin using source control and good housekeeping BMPs during other municipal activities and at other municipal sites that would reasonably be expected to discharge contaminated runoff.	Assume that it takes at least one year to identify all other municipal facilities, evaluate practices, identify appropriate BMPs to be implemented to protect water quality, and provide necessary training. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work. Assume that there are several facilities meeting criteria.	City Park's Department shop. Other possible site not identified by City include cemeteries, substations, pump stations, swimming pool, animal shelters, etc.	None	Y	Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$3,000
G14. Continue to inspect stormwater treatment and flow control facilities owned or operated by the permittee, making notes of conditions, maintenance needs, or other related concerns. Track all new systems coming into public ownership as development occurs.	City must inspect municipally owned and operated stormwater treatment and control facilities at least once by end of Yr 3 and again by end of Yr 5. Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide training and data forms, provide technical assistance, and ensure that records are kept. Costs to rectify problems will be covered by other stormwater budget categories. Assume that costs split in years 4-5 since all facilities to be re-inspected by end of Yr 5.	Existing mapping fairly complete, but may need to be reviewed, updated, and field checked. Muni-owned SW facilities to be added to existing maps. Location of facilities known since currently inspected and cleaned.	None	Y	Inspect SW treatment and flow control facilities. Identify repair or maintenance needs, resolve concerns, and maintain records.	\$4,000
G15. Conduct spot checks at muni-owned and operated stormwater treatment and flow control facilities after major rainfall events (greater than 10 year recurrence interval).	Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide technical assistance, and ensure that records are kept.		None	Y	Conduct spot checks of stormwater treatment and flow control facilities after major rainfall events. Identify repair or maintenance needs, resolve concerns, and maintain records.	\$2,000
G16. As soon as practicable, execute any repair and maintenance projects needed based on observations made during regular inspections or spot checks of muni-owned or operated stormwater treatment and flow control facilities.	Could involve anything from light maintenance to major reconstruction. Cost estimate here will generally assume that few major construction or reconstruction projects are needed (or will help be paid for by multiple departments/divisions). Cost here is for stormwater compliance staff to provide technical support and approval of needed repairs, ensure that records are kept, and provide some funding for the project (overlap with NPDES CIP Fund).		None	Y	Fix or repair observed problems at muni-owned and operated stormwater treatment and flow control facilities after major storm events. Keep records of repairs and costs.	\$5,000
<b>H. Compliance with Total Maximum Daily Load Allocations: WRIA 34 - South Fork Palouse River.</b>						
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	The City is actively participating in TMDLs being developed for the South Fork Palouse River.	Unknown	Y	Continued participation in TMDL development may be desirable.	\$1,000
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.		None	N	None	\$0
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.		None	Y	Track status of TMDL implementation and keep records.	\$500

<b>I. Monitoring and Program Evaluation Requirements</b>						
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	City does not have an established water quality monitoring program. However, limited WQ monitoring of outfalls and the S. Fork Palouse River has been conducted in the past for other related projects.	None	Y	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	\$2,000
I2. Continue preparing for participation and implementation of a future comprehensive long-term stormwater monitoring program. Have identified and mapped two outfalls or conveyances where stormwater sampling will be conducted. Describe status of identification of sites in 4th annual report.	Actual stormwater monitoring to occur in 2nd permit term. Assume outfalls or conveyances identified and mapped as part of activities in D.1. Includes one site to represent commercial land use and the other site to represent high-density residential.		None	Y	Complete work to evaluate, identify, and map suitable outfalls and/or conveyances for planned future stormwater monitoring. Include status in 4th annual report (March 31, 2011).	\$1,000
I3. Continue preparing for participation and implementation of a future comprehensive long-term Stormwater Management Program (SWMP) effectiveness monitoring program. Have developed at least two suitable questions, selected sites where future monitoring will be conducted, and developed a specific monitoring plan for each question posed. Include a summary of the proposed questions and describe status of developing the monitoring plan in 4th annual report.	Actual Stormwater Management Program effectiveness monitoring to occur in 2nd permit term. Assume that this involves staff time to develop suitable questions to assess program effectiveness, sites where monitoring will be conducted, and development of a monitoring plan for each question posed, which includes proposed purpose, design, and methods.		None	Y	Complete work to develop suitable questions, select monitoring sites or targeted activities for evaluation, and develop specific monitoring plan for each question posed to evaluate effectiveness of SWM Program. Include status in 4th annual report (March 31, 2011).	\$2,500
I4. Continue preparing for participation and implementation of a future comprehensive long-term runoff treatment BMP effectiveness monitoring program. Have identified and mapped at least one runoff treatment BMP at no fewer than two sites per BMP where effectiveness monitoring will be conducted. Identify BMPs selected and describe status of identification of sites in 4th annual report.	Actual BMP effectiveness monitoring to occur in 2nd permit term. Assume treatments BMPs to be monitored identified and mapped as part of activities in D.1.		None	Y	Complete work to identify and map suitable stormwater treatment BMPs for planned future BMP effectiveness monitoring. Include status in 4th annual report (March 31, 2011).	\$1,000
<b>J. Reporting and Record Keeping Requirements</b>						
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 5 with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.		None	Y	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	\$15,000
J2. Continue ongoing process for gathering, recording, maintaining and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.		None	Y	Enact record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	\$10,000
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume that this involves reviewing the evaluation/analysis conducted in permit year 3 and updating it as needed.		None	Y	Review/update evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	\$3,000
J4. Continue process to track the cost of development and implementation of the SWMP.	Assume that this involves reviewing and modifying the process developed as needed.	City's Financial Department may have established accounting procedures.	None	Y	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	\$2,000
J5. Prepare and submit year 3 annual report and updated SWMP to Ecology. Update prior year annual report and address the same considerations as described in permit year 3.	Reports are due no later than March 31 each year. Assume that in later years, it takes a fairly senior staff person working half time from Jan 1 to March 31 to prepare the report - including gathering all records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.		None	Y	Prepare and submit annual report.	\$22,000

K. NPDES Equipment Funds						
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds continue to be set aside in year 4 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.	None	None	Y	Build-up equipment fund.	\$10,000
K2. Construction & Post Construction Equipment Fund.	Assume that funds continue to be set aside in year 4 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.	None	None	Y	Build-up equipment fund.	\$10,000
K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City currently has 2 mechanical sweepers, 1 vactor truck, 1 self-propelled trailer mounted unit, and 5 dump trucks. Additional equipment needs include a vactor truck (\$300K), small trackhoe (\$85K), and additional money for rental of a sweeper unit (\$14K/yr).	Existing O&M Equip Expenditure: \$180,000/yr Additional Equip: \$400,000	Y Ramp-up costs 100% \$180,000 New equip fund (20%) \$80,000	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	\$260,000
K4. TMDL Compliance Equipment Fund.	Assume that some funds continue to be set aside in year 4 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K1).	None	None	N	Fund not needed presently.	\$0
L. NPDES Capital Project Funds						
L1. Known or planned stormwater project needs.	Annual appropriation continued in year 4 for known or planned drainage/flooding projects. Assume funds appropriated for construction of Missouri Flat Creek channel improvement project (Proj No. 8 - City of Pullman Stormwater Capital Improvement Plan, Otak, 2007). Assume construction costs at 75% of total project cost and split (25/75) between years 4 and 5. Assumes that project will not require long-term financing to cover construction costs. Assume funds appropriated for engineering design associated with replacement of existing storm sewer trunk line along Stadium Way & Valley Rd. (Project No. 12). Assume engineering design and permitting costs at 10% of total project cost. Assumes that project will require long-term financing to cover construction costs in subsequent years.	None	None	Y Project No. 8: Miss. Flat Cr. Construction \$50,000 (25% split) Project No. 12: Stadium Wy/Valley Eng Design \$150,000 (10%)	Build-up to support fund for known or planned CIPs. Fund to contribute to division responsible for bulk of CIP costs.	\$200,000
L2. Fund to cover needs of projects discovered as SWM Program is implemented.	Annual appropriation continued in year 4 for projects that will inevitably be discovered during SWM Program implementation that must be addressed. It is not possible to know the magnitude of these project costs, however the estimate will be kept low and it will be assumed that: (1) some are financed over the long term; and (2) large projects will require modification of the annual budget in subsequent years.	None	None	Y	Build-up fund for discovered CIP needs.	\$25,000

2. Stormwater Program Funding -Utility Assumed						
<b>A. Stormwater Utility Implementation</b>						
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Update public information material for utility billing staff as needed and provide refresher training for staff on customer responses as needed.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	None	None	Y	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, update public information materials, and re-train staff on customer response.	\$10,000
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	None	None	Y	Pay Financial Department staff for accounting services rendered to the SW Utility.	\$7,500
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	None	None	Y	SW Utility customer service.	\$7,500
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate, or (2) includes a set schedule for rate increases over the first five years.	None	None	Y	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	\$5,000
<b>B. Stormwater Development Permit Fees</b>						
B4. Re-train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.	Assume minor training updates as needed.	None	None	Y Development fees	Develop training materials, FAQs, etc. for front-line staff dealing with customers.	\$1,500
B5. Continue methods to track stormwater development review costs.		None	None	Y Development fees	Track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	\$1,500
B6. Continue to implement development permit fee process and collect revenue.		None	None	Y Development fees	Implement collection of fees by development review staff.	\$3,500
B7. General Financial Department accounting services.	Payment to Financial Department accounting staff for services rendered to the SW Utility to manage permit fee finances and books. However, if stormwater development fees included as part of overall permit structure, then management of permit fee finances and books by Financial Department accounting staff would result in no additional costs.	None	None	Y Development fees	Pay accounting staff for services supporting stormwater development permit fees, unless stormwater permit fees included as part of overall permit structure.	\$4,500
<b>C. Stormwater Program Reserve Fund</b>						
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.	None	None	Y \$110,000 (20%) SW Utility fees	Build reserve fund to ensure financial stability and financing capacity.	\$110,000
					<b>SUM =</b>	<b>\$1,242,700</b>
					Equipment	\$280,000
					Capital	\$225,000
					Staff, Fees, Overhead, Services	\$627,700
					Reserve	\$110,000
					Funding from Development Fees	\$141,000
					Funding from Utility/Other Source	\$1,101,700
						<b>\$1,242,700</b>

**YEAR 5**

Summary of Regulatory Requirements	Notes & Assumptions	Summary of Existing Municipal Activities Aiding Compliance	Current Average Annual Expenditures	New Funding Method Needed?	Assessment of New Activities Needed for Compliance	Estimated Annual Cost to Comply
<b>1. NPDES</b>						
<b>A. General NPDES Requirements</b>						
A2. Pay Annual Permit Fee.	City of Pullman - \$6,700	None	None	Y	Pay fee.	\$6,700
<b>B. Public Education and Outreach: General public, builders, businesses, engineers, developers, plan reviewers, etc.</b>						
B2. Continue to develop/refine the formal written public education and outreach strategy designed to reach the target audiences identified in B1.	Assume some time necessary to review and update to public education and outreach strategy.	None	None	Y	Update public education and outreach strategy as needed. Continue public education and outreach activities.	\$1,500
B3. Continue to implement the public education and outreach strategy developed in B2.	Assume this includes: stormwater brochures (targeted), work anticipated from public response to brochure mailing (inspection, rectifying problems reported, equipment costs), continued storm drain stenciling with volunteers, and minor classroom education coordinated with schools. Cost also include semi-annual update of stormwater website.	None	None	Y	Continue public education and outreach activities.	\$25,000
<b>C. Public Involvement: Allow public and stakeholder involvement in program development and funding via committees, hearings, advisory panels, etc.</b>						
C2. Continue to implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the Program, including all ordinances. Assume this involves an advisory body, open houses, and news releases.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	None	None	Y	News release (one), open house (one), advisory body meetings (three).	\$20,000
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.).	None	None	Y	Respond to public calls received.	\$5,000
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	None	None	Y	Post updated SWMP on website.	\$500
<b>D. Illicit Discharge Detection and Elimination: Develop, implement, and enforce program to detect and eliminate polluted non-stormwater discharges into the MS4.</b>						
D1. Update completed map of agency MS4, including new and removed connections, updates to system characteristic data and information, location of previously unknown outfalls and connections, etc.	Assume that City has completed MS4 mapping and field survey work by end of Year 2. Assume minimal work needed for annual updates to map by permit compliance staff.	None	None	Y	Annually update MS4 mapping.	\$1,000
D3. Repeat or update IDDE staff training as needed.	Assume that IDDE training is repeated or updated annually as needed based on staffing changes and updated methods.	None	None	Y	Evaluate need for training update. Update and repeat training as needed.	\$3,000

		The City currently conducts limited IDDE-related activities. City does not conduct routine visual inspection of outfalls, however, most stormwater outfalls have been located and mapped. Areas likely to have illicit discharges have not been prioritized for field assessments. Limited source tracing and removal activities occur but no formal enforcement procedures are in place to ensure that such discharges are removed and/or terminated.			Conduct field assessment on one additional high-priority water body within the City and conduct necessary follow-up activities to ensure termination of illicit discharges identified.	\$35,000
D4. Continue implementation of the IDDE Program and regulatory ordinance.	Staff will conduct field assessments on one additional high-priority water body within the City. Field assessments include visual inspection of outfalls during dry weather and documentation of observations and findings. Assume that some screened outfalls appear suspicious and require follow-up work including the collection of samples, source tracing and removal activities, and possibly enforcement actions.		None	Y		
D5. Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Review, update, and redistribute information to target audiences identified in B1 and B2.	Some overlap with B3 - implementation of public education and outreach strategy. Likely need to begin this activity in earlier years. Cost reflects overlap with B3.	None	None	Y	Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Provide updated information as needed on proper disposal, etc.	\$3,000
D7. Respond to spills and illicit discharge hotline phone calls, address reported problems, keep records.	Assume that some calls require significant staff time to address, possibly also involving enforcement procedures, interface with other agencies, and legal support. Assume some overlap with D4. Costs for existing activities assumed by SW Utility.	The City does not have a formal IDDE Plan or a published phone number for public reporting. However, the City does respond to and investigates complaints or reports of spills, illegal dumping, or illicit connections on a limited basis from outside sources. Source tracing and removal of illicit discharges occurs on a limited basis. The Pullman Fire Department responds to hazardous material spill reportings.	Illicit Discharge/Spill Response, Source Tracing & Removal: \$5,000	Y Roll-in costs \$5,000 Additional activities \$15,000	Respond to pollution reporting hotline, address reported problems, trace and resolve problems, and conduct enforcement as needed to eliminate any illicit discharges.	\$20,000
D8. Implement procedures, records, and tracking needed to evaluate program effectiveness versus criteria established in the IDDE Program Plan.	Assume IDDE records and monitoring activities continue following implementation plan this year under guidance of staff involved in the IDDE program.	None	None	Y	Review, update, and use criteria and procedures to evaluate the effectiveness of the IDDE Program, implement the process and evaluate the program at the end of the year.	\$4,000
<b>E. Construction Site Stormwater Runoff: Develop, implement, and enforce program to reduce pollutants in runoff to the MS4 from construction sites one or more acres in size.</b>						
E2. Continue enforcement of the Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of stormwater pollution prevention plans (SWPPPs).	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and that site plan and SWPPP review is more time consuming. Costs included here are for enhanced review activities.	The City's Design Standards (2001) require that erosion and sedimentation control (ESC) plans be prepared for any land altering activity. ESC plans are reviewed as part of the City's site plan review process, however, SWPPPs are currently not reviewed.	Unknown	Y Development fees	Continue reviewing construction site plans with emphasis placed on ensuring that proper ESC BMPs are selected and used. Review Construction SWPPPs. Assume significant interactions with project engineers/contractors.	\$45,000
E3. Execute proper training for staff reviewing construction erosion and sediment control site plans and SWPPPs: Include training on stormwater manual, hydrologic methods, sediment control BMP O&M, etc.	Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (E3) and site inspection (E5).	Site Plan Review: \$5,000/yr Site Inspection: \$5,000/yr	Y Development fees	Continue to provide in-house training or send plan review staff to external training on proper ESC BMPs and SWPPP preparation and review.	\$5,000

E4. Continue enforcement of the Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions, verify SWPPP being followed.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here is for enhanced site inspection and enforcement activities.	Site inspection and enforcement of construction stormwater pollution control measures (ESC BMPs) occurs on a very limited basis.	Unknown	Y	Development fees	Inspect construction sites to ensure that proper ESC BMPs are selected, used, and maintained and SWPPP is being adhered to. Conduct enforcement as needed.	\$30,000
E5. Execute proper training for site inspection and enforcement staff. Include training on sediment control BMP designs, reading engineering drawings, sediment control BMP O&M, identifying problems, enforcement procedures, etc.	Assume that a formal on-going training program for site inspectors and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (E3) and site inspection (E5).	Site Plan Review: \$5,000/yr Site Inspection: \$5,000/yr	Y	Development fees	Continue to provide in-house training or send inspection/enforcement staff to external training on proper ESC BMPs, SWPPP requirements, local enforcement procedures.	\$5,000
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	None	None	Y		Inform construction operators about available training on stormwater pollution prevention for construction sites.	\$500
E7. Continue procedures for receipt and consideration of construction site problems reported by the public, including publicizing a hot line phone number.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.	None	None	Y		Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	\$5,000
<b>F. Post Construction Stormwater Management: Develop, implement, and enforce program to address post construction stormwater runoff to the MS4 from sites one or more acres in size.</b>							
F2. Continue enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of selected structural BMPs, stormwater calculations, O&M proposals, etc.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and site plan review is more time consuming. Cost included here are for enhanced review activities.	The City's Design Standards (2001) require that storm drainage plans be prepared for all property improvements, however, limited review is currently performed. No program exists to ensure and/or enforce on-going inspection and long-term O&M of facilities.	Unknown	Y	Development fees	Continue reviewing construction site plans, drainage reports, calculations, and O&M plans to ensure that proper long-term stormwater runoff controls are being used and properly maintained. Assume significant interactions with project engineers/ contractors.	\$35,000
F3. Execute proper training for staff reviewing post construction stormwater site plans and BMPs. Include training on stormwater manual; hydrologic methods; treatment, detention, retention BMP designs; O&M, etc.	Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (F3) and site inspection (F5) and post-construction SW control BMPs.	Site Plan Review: \$2,500/yr Site Inspection: \$2,500/yr	Y	Development fees	Continue to provide in-house training or send plan review staff to external training on proper post construction BMPs, design, selection, operation, maintenance, E. WA Stormwater Manual requirements, etc.	\$2,500
F4. Continue enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions. Conduct follow-up inspections to ensure adequate maintenance for all structural BMPs.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Site inspection and enforcement of post construction stormwater treatment and flow control BMPs occurs on a limited basis and primarily only during installation.	None	Y	Development fees	Continue inspecting construction sites, including private, to ensure that proper post construction BMPs are selected, used, and maintained. Conduct enforcement as needed.	\$25,000
F5. Execute proper training for site inspection and enforcement staff. Include training on treatment, detention, retention BMP designs; reading engineering drawings; long-term BMP O&M; identifying problems; enforcement procedures; etc.	Assume that a formal on-going training program for site inspection and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	City has qualified/trained personnel and provides on-going training opportunities for staff. Training provided for both site plan review (F3) and site inspection (F5) and post-construction SW control BMPs.	Site Plan Review: \$2,500/yr Site Inspection: \$2,500/yr	Y	Development fees	Continue to provide in-house training or send inspection/enforcement staff to external training on proper post construction BMPs, stormwater manual requirements, local enforcement procedures, etc.	\$2,500
F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	City currently directs design professional to the E. WA SW Manual to comply with technical stormwater requirements consistent with NPDES permit.	None	Y		Obtain and provide information during normal development permitting and review process.	\$500

<b>G. Pollution Prevention and Good Housekeeping for Municipal Operations: Develop and implement an on-going O&amp;M program, including a staff training program, aimed at preventing or reducing pollutant runoff from municipal operations.</b>						
G2. Update good housekeeping training of staff groups as needed.	Assume that it takes 2 years to develop the O&M Plan and that appropriate staff from the various Departments/Divisions are involved. Assume training is provided to approximately 5 groups, including streets, shop, engineering, inspection/enforcement, etc - this is a large effort including formal day of training in-house and full day in field. Assume training is lead by stormwater compliance staff and is a direct stormwater program cost. Costs to send staff to training is borne by Department/Division that staff represent.	No training currently provided.	None	Y	Evaluate need for training update. Update and repeat good housekeeping training program for various affected departments/divisions and associated staff.	\$8,000
G3. Fully implement enhanced storm system maintenance activities in accordance with appropriate schedules. Includes inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facility (BMP) maintenance, and proper waste disposal.	Assume that it takes 2 years to fully phase-in enhanced activities. Assume that facilities exist for proper waste disposal (modification of existing "vactor" waste dewatering/decant facility may be required). Assume that most necessary heavy equipment is available, however some specialized equipment may continue to be rented. Costs here are for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance.	City currently performs limited storm system maintenance, primarily catch basin and system line cleaning. SW treatment and flow control facilities (e.g., detention ponds) inspected and cleaned on an annual basis or as needed. No formal documentation or record keeping.	SW Control Facility Inspect/Maint: \$20,000	Y Roll-in costs \$20,000 Additional activities \$90,000	Estimated costs for enhanced maintenance program with stormwater compliance staff to provide oversight and technical assistance during implementation of new/changed practices, assure record as kept. Work closely with responsible Departments/Divisions.	\$110,000
G4. Fully implement enhanced pollution prevention and good housekeeping practices established in the O&M plan for roads, highways, parking lots. Need to address snow removal, de-icing, snow disposal, material storage & application, and all season BMPs to reduce pollution into the MS4.	Assume that it takes 2 years to fully phase-in activities. Assume that street sweeping continues to be one of the preferred all season BMPs employed by City with additional water quality oriented weather report based sweeping in some areas on a seasonal basis. Assume that snow removal and ice control activities continue at current level of effort and that waste and snow disposal areas are available. Costs here are for improved materials and for stormwater compliance staff to review and record practices and provide technical assistance.	City currently performs street sweeping. Snow removal and ice control activities employed during winter months. Will need to review existing and additional practices required to ensure WQ is protected.	Sweeping Program: Avg 05-06: \$25,000	Y Roll-in costs \$25,000 Additional activities \$45,000	Estimated costs for enhanced practices with stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Department/Divisions.	\$70,000
G5. Fully implement all vehicle and equipment washing and maintenance in self-contained building or wash area and/or maintenance areas where all wash water is kept out of the MS4.	Assume that physical facilities are readily available for washing and maintenance work. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Some costs for changed practices may have to be borne by the Department/Division conducting the work.	City conducts vehicle maintenance inside existing facilities (Transit or Maintenance and Operation). Vehicle washing currently performed outdoors on uncovered wash pad, equipped with O/W separator.	None	Y	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Department/Division.	\$2,000
G6. Fully implement pollution prevention and good housekeeping practices established in the O&M Plan for maintenance activities at all municipally owned buildings.	Cost can vary substantially (e.g., transit areas, airport, etc.). Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Not formally	Unknown	Y	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$2,000
G7. Fully implement pollution prevention and good housekeeping practices established in the O&M Plan at all municipally owned parks and open spaces.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Unsure, need to confirm with Parks.	Unknown	Y	Park storm system, park/open space O&M activities, and changed practices. Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$2,000
G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	City currently seeks NPDES permit coverage and employs appropriate construction and post construction controls for public projects. Compliance with the new construction permit itself will be a cost borne by the project proponent.	N/A	Y	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	\$2,000

G10. Fully implement Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit. Update training materials and execute training as needed.	Assume cost estimate only involves NPDES permit compliance official leading development of the SWPPP and training materials, and conducting training, not the cost of implementing the SWPPP on site, which will be borne by the department/division operating the site. Assume that level of effort drops in years 4-5 because training materials, training program, and procedures have already been established.	Assume a minimum of 3 sites are identified and require the preparation of SWPPPs.	None	Y	Implement Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas, conduct training, implement SWPPPs.	\$5,000
G11. Fully implement provisions to address water quality considerations in the design of all new flood management projects, including minimization of site hydrology impacts where possible.	Assume that normal SEPA, HPA, Critical Areas, Shorelines, and other permitting processes adequately consider and address water quantity and quality for new flood protection projects.	Assume existing permitting/review processes are adequate, however records need to be kept for NPDES purposes.	None	Y	Permit compliance staff interface with development review processes to obtain and keep records per NPDES requirements.	\$1,000
G12. Evaluate five existing flood management projects and determine whether or not changes or additions should be made to improve water quality.	Improvements to be identified, but any projects required will occur in 2nd permit term.		None	Y	Evaluate flood management projects proposed in City's CFHMP and identify any improvements or projects that could enhance water quality.	\$500
G13. Fully implement source control and good housekeeping BMPs during other municipal activities and at other municipal sites that would reasonably be expected to discharge contaminated runoff.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work. Assume that there are several facilities meeting criteria.	City Park's Department shop. Other possible site not identified by City include cemeteries, substations, pump stations, swimming pool, animal shelters, etc.	None	Y	Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	\$3,000
G14. Continue to inspect stormwater treatment and flow control facilities owned or operated by the permittee, making notes of conditions, maintenance needs, or other related concerns. Track all new systems coming into public ownership as development occurs.	City must inspect municipally owned and operated stormwater treatment and control facilities at least once by end of Yr 3 and again by end of Yr 5. Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide training and data forms, provide technical assistance, and ensure that records are kept. Costs to rectify problems will be covered by other stormwater budget categories.	Existing mapping fairly complete, but may need to be reviewed, updated, and field checked. Muni-owned SW facilities to be added to existing maps. Location of facilities known since currently inspected and cleaned.	None	Y	Inspect all remaining SW treatment and flow control facilities. Identify repair or maintenance needs, resolve concerns, and maintain records.	\$4,000
G15. Conduct spot checks at muni-owned and operated stormwater treatment and flow control facilities after major rainfall events (greater than 10 year recurrence interval).	Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide technical assistance, and ensure that records are kept.		None	Y	Conduct spot checks of stormwater treatment and flow control facilities after major rainfall events. Identify repair or maintenance needs, resolve concerns, and maintain records.	\$2,000
G16. As soon as practicable, execute any repair and maintenance projects needed based on observations made during regular inspections or spot checks of muni-owned or operated stormwater treatment and flow control facilities.	Could involve anything from light maintenance to major reconstruction. Cost estimate here will generally assume that few major construction or reconstruction projects are needed (or will help be paid for by multiple departments/divisions). Cost here is for stormwater compliance staff to provide technical support and approval of needed repairs, ensure that records are kept, and provide some funding for the project (overlap with NPDES CIP Fund).		None	Y	Fix or repair observed problems at muni-owned and operated stormwater treatment and flow control facilities after major storm events. Keep records of repairs and costs.	\$5,000

<b>H. Compliance with Total Maximum Daily Load Allocations: WRIA 34 - South Fork Palouse River.</b>						
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	The City is actively participating in TMDLs being developed for the South Fork Palouse River.	Unknown	Y	Continued participation in TMDL development may be desirable.	\$1,000
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.	None	None	N	None	\$0
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	None	None	Y	Track status of TMDL implementation and keep records.	\$500
<b>I. Monitoring and Program Evaluation Requirements</b>						
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	City does not have an established water quality monitoring program. However, limited WQ monitoring of outfalls and the S. Fork Palouse River has been conducted in the past for other related projects.	None	Y	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	\$2,000
<b>J. Reporting and Record Keeping Requirements</b>						
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 1 (2nd permit cycle) with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.	None	None	Y	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	\$15,000
J2. Continue ongoing process for gathering, recording, maintaining and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.	None	None	Y	Enact record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	\$10,000
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume that this involves reviewing the evaluation/analysis conducted in permit year 4 and updating it as needed.	None	None	Y	Review/update evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	\$3,000
J4. Continue process to track the cost of development and implementation of the SWMP.	Assume that this involves reviewing and modifying the process developed as needed.	City's Financial Department may have established accounting procedures.	None	Y	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	\$2,000
J5. Prepare and submit year 4 annual report and updated SWMP to Ecology. Update prior year annual report and address the same considerations as described in permit year 4.	Reports are due no later than March 31 each year. Assume that in later years, it takes a fairly senior staff person working half time from Jan 1 to March 31 to prepare the report - including gathering all records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.	None	None	Y	Prepare and submit annual report.	\$25,000

K. NPDES Equipment Funds						
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds continue to be set aside in year 5 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.	None	None	Y	Build-up equipment fund.	\$10,000
K2. Construction & Post Construction Equipment Fund.	Assume that funds continue to be set aside in year 5 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.	None	None	Y	Build-up equipment fund.	\$10,000
K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City currently has 2 mechanical sweepers, 1 vactor truck, 1 self-propelled trailer mounted unit, and 5 dump trucks. Additional equipment needs include a vactor truck (\$300K), small trackhoe (\$85K), and additional money for rental of a sweeper unit (\$14K/yr).	Existing O&M Equip Expenditure: \$180,000/yr Additional Equip: \$400,000	Y Ramp-up costs 100% \$180,000 New equip fund (40%) \$160,000	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	\$340,000
K4. TMDL Compliance Equipment Fund.	Assume that some funds continue to be set aside in year 5 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K1).	None	None	N	Fund not needed presently.	\$0
L. NPDES Capital Project Funds						
L1. Known or planned stormwater project needs.	Annual appropriation continued in year 5 for known or planned drainage/flooding projects. Assume funds appropriated for construction of Missouri Flat Creek channel improvement project (Proj No. 8 - City of Pullman Stormwater Capital Improvement Plan, Otak, 2007). Assume construction costs at 75% of total project cost and split (25/75) between years 4 and 5. Assumes that project will not require long-term financing to cover construction costs. Assume long-term financing (Pubic Works Trust Fund loan, 10-year loan period, 0.5% annual interest) is secured for construction costs (90% of total project cost) associated with replacement of existing storm sewer trunk line along Stadium Way & Valley Rd. (Project No. 12). Assume funds appropriated to cover cost of year 1 loan payment.	None	None	Y Project No. 8: Miss. Flat Cr. Construction \$150,000 (75% split) Project No. 12: Stadium Wy/Valley Construction Loan \$140,000 (Yr 1)	Build-up to support fund for known or planned CIPs. Fund to contribute to division responsible for bulk of CIP costs. Secure long-term financing for construction costs associated with CIPs. Allocate sufficient funds to cover annual construction loan payment.	\$290,000
L2. Fund to cover needs of projects discovered as SWM Program is implemented.	Annual appropriation continued in year 5 for projects that will inevitably be discovered during SWM Program implementation that must be addressed. It is not possible to know the magnitude of these project costs, however the estimate will be kept low and it will be assumed that: (1) some are financed over the long term; and (2) large projects will require modification of the annual budget in subsequent years.	None	None	Y	Build-up fund for discovered CIP needs.	\$25,000

2. Stormwater Program Funding - Utility Assumed						
<b>A. Stormwater Utility Implementation</b>						
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Update public information material for utility billing staff as needed and provide refresher training for staff on customer responses as needed.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	None	None	Y	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, update public information materials, and re-train staff on customer response.	\$10,000
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	None	None	Y	Pay Financial Department staff for accounting services rendered to the SW Utility.	\$7,500
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	None	None	Y	SW Utility customer service.	\$7,500
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate, or (2) includes a set schedule for rate increases over the first five years.	None	None	Y	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	\$5,000
<b>B. Stormwater Development Permit Fees</b>						
B4. Re-train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.	Assume minor training updates as needed.	None	None	Y Development fees	Develop training materials, FAQs, etc. for front-line staff dealing with customers.	\$1,500
B5. Continue methods to track stormwater development review costs.		None	None	Y Development fees	Track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	\$1,500
B6. Continue to implement development permit fee process and collect revenue.		None	None	Y Development fees	Implement collection of fees by development review staff.	\$3,500
B7. General Financial Department accounting services.	Payment to Financial Department accounting staff for services rendered to the SW Utility to manage permit fee finances and books. However, if stormwater development fees included as part of overall permit structure, then management of permit fee finances and books by Financial Department accounting staff would result in no additional costs.	None	None	Y Development fees	Pay accounting staff for services supporting stormwater development permit fees, unless stormwater permit fees included as part of overall permit structure.	\$4,500
B8. Perform a new cost of service study and update stormwater development permit fees as needed.	Assume permit fee increases must be approved by the governing body and may require a public hearing.	None	None	Y Development fees	Perform new cost of service, work with staff and elected leaders, public hearing, update fees.	\$10,000
<b>C. Stormwater Program Reserve Fund</b>						
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.	None	None	Y \$56,000 (10%) SW Utility fees	Build reserve fund to ensure financial stability and financing capacity.	\$56,000
					<b>SUM =</b>	<b>\$1,337,700</b>
					Equipment	\$360,000
					Capital	\$315,000
					Staff, Fees, Overhead, Services	\$606,700
					Reserve	\$56,000
					Funding from Development Fees	\$171,000
					Funding from Utility/Other Source	\$1,166,700
						<b>\$1,337,700</b>

## Summary

Program Area	Year 1 Cost	Year 2 Cost	Year 3 Cost	Year 4 Cost	Year 5 Cost	5 Year Total
<b>1. NPDES</b>						
A. General NPDES Requirements	\$5,000	\$5,500	\$5,800	\$6,200	\$6,700	\$29,200
B. Public Education and Outreach	\$0	\$0	\$7,000	\$40,000	\$26,500	\$73,500
C. Public Involvement	\$3,500	\$25,500	\$25,500	\$25,500	\$25,500	\$105,500
D. Illicit Discharge Detection & Elimin	\$15,000	\$43,000	\$47,000	\$122,000	\$66,000	\$293,000
E. Construction Site Stormwater Runoff	\$15,500	\$28,000	\$72,500	\$80,500	\$90,500	\$287,000
F. Post Construction Stormwater Mng	\$15,500	\$20,500	\$46,500	\$55,500	\$65,500	\$203,500
G. Pollution Prevent/Good Housekeeping	\$7,000	\$72,000	\$175,500	\$197,000	\$216,500	\$668,000
H. Compliance With Clean-up Plans	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$7,500
I. Monitoring and Program Evaluation	\$1,000	\$2,000	\$6,500	\$6,500	\$2,000	\$18,000
J. Reporting and Record Keeping	\$40,000	\$50,000	\$48,000	\$52,000	\$55,000	\$245,000
K. NPDES Equipment Funds	\$0	\$190,000	\$280,000	\$280,000	\$360,000	\$1,110,000
L. NPDES Capital Project Funds	\$0	\$0	\$91,000	\$225,000	\$315,000	\$631,000
<b>2. STORMWATER PROGRAM FUNDING</b>						
A. Implement Stormwater Utility	\$24,000	\$30,000	\$30,000	\$30,000	\$30,000	\$144,000
B. Implement SW Develop Permit Fees	\$0	\$19,000	\$11,000	\$11,000	\$21,000	\$62,000
C. Stormwater Program Reserve Fund	\$0	\$222,000	\$167,000	\$110,000	\$56,000	\$555,000
<b>Annual Total</b>	<b>\$128,000</b>	<b>\$709,000</b>	<b>\$1,014,800</b>	<b>\$1,242,700</b>	<b>\$1,337,700</b>	<b>\$4,432,200</b>
<b>Equipment</b>	<b>\$0</b>	<b>\$190,000</b>	<b>\$280,000</b>	<b>\$280,000</b>	<b>\$360,000</b>	<b>\$1,110,000</b>
<b>Capital</b>	<b>\$0</b>	<b>\$0</b>	<b>\$91,000</b>	<b>\$225,000</b>	<b>\$315,000</b>	<b>\$631,000</b>
<b>Staff, Fees, Overhead, Services</b>	<b>\$128,000</b>	<b>\$297,000</b>	<b>\$476,800</b>	<b>\$627,700</b>	<b>\$606,700</b>	<b>\$2,136,200</b>
<b>Reserve</b>	<b>\$0</b>	<b>\$222,000</b>	<b>\$167,000</b>	<b>\$110,000</b>	<b>\$56,000</b>	<b>\$555,000</b>
<b>Funding from Development Fees</b>	<b>\$0</b>	<b>\$0</b>	<b>\$124,000</b>	<b>\$141,000</b>	<b>\$171,000</b>	<b>\$436,000</b>
<b>Funding from Utility/Other Source</b>	<b>\$128,000</b>	<b>\$709,000</b>	<b>\$890,800</b>	<b>\$1,101,700</b>	<b>\$1,166,700</b>	<b>\$3,996,200</b>

Appendix C—Annual Stormwater Program  
Implementation Checklist

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>A. General NPDES Requirements</b>			
<b>YEAR 1</b>			
A1. Prepare Notice of Intent (NOI).	Assume that City has prepared and submitted NOI.	NOI prepared and submitted.	
A2. Pay Annual Permit Fee.	City of Pullman - \$5,000	Pay fee.	
<b>YEAR 2</b>			
A2. Pay Annual Permit Fee.	City of Pullman - \$5,500	Pay fee.	
<b>YEAR 3</b>			
A2. Pay Annual Permit Fee.	City of Pullman - \$5,800	Pay fee.	
<b>YEAR 4</b>			
A2. Pay Annual Permit Fee.	City of Pullman - \$6,200	Pay fee.	
<b>YEAR 5</b>			
A2. Pay Annual Permit Fee.	City of Pullman - \$6,700	Pay fee.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>B. Public Education and Outreach: General public, builders, businesses, engineers, developers, plan reviewers, etc.</b>			
<b>YEAR 1</b>			
	Note that minimum requirements do not begin until Yr 3, which may not satisfy desired local approach, particularly when things like ordinances are being developed. Even then, the focus is on water quality protection, not how and why programs are being developed and how the public may be affected.		
<b>YEAR 2</b>			
	See Year 1 Notes & Assumptions.		
<b>YEAR 3</b>			
B1. Begin development and documentation of public education and outreach strategy. Includes conducting analysis to identify and characterize target audiences within jurisdiction.	Target audiences may include types of commercial businesses, owners of multi-family units, residential home owners, organizations that hold charity car washes, educational institutions, etc.	Conduct analysis and develop a document that identifies and characterizes target audiences and defines a strategy and process for reaching them.	
<b>YEAR 4</b>			
B2. Develop a formal written public education and outreach strategy designed to reach the target audiences identified in B1.	Assume that this is fairly straightforward document to prepare and that strategy requires elected leader review and approval.	Prepare a formal written education and outreach strategy, present to elected leaders for review and approval.	
B3. Implement the public education and outreach strategy developed in B2.	Assume this includes: stormwater brochures (general), work anticipated from public responses to brochure mailing (inspection, rectifying problems reported, equipment costs), storm drain stenciling with volunteers, minor classroom education coordinated with schools, and development of stormwater website (page within City's existing site).	Begin public education and outreach activities.	
<b>YEAR 5</b>			
B2. Continue to develop/refine the formal written public education and outreach strategy designed to reach the target audiences identified in B1.	Assume some time necessary to review and update to public education and outreach strategy.	Update public education and outreach strategy as needed. Continue public education and outreach activities.	
B3. Continue to implement the public education and outreach strategy developed in B2.	Assume this includes: stormwater brochures (targeted), work anticipated from public response to brochure mailing (inspection, rectifying problems reported, equipment costs), continued storm drain stenciling with volunteers, and minor classroom education coordinated with schools. Cost also include semi-annual update of stormwater website.	Continue public education and outreach activities.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>C. Public Involvement: Allow public and stakeholder involvement in program development and funding via committees, hearings, advisory panels, etc.</b>			
<b>YEAR 1</b>			
C1. Adopt a program or policy directive to allow the public to participate in the process of developing and implementing the Stormwater Management Program (SWMP), including all ordinances. Must include consideration of public comments.	Note that it may be desirable for actual public/stakeholder involvement to begin in year 1 depending on preferences of local leaders. A formal policy must be developed and adopted by elected leaders by end of permit year 1	Develop and adopt official public involvement policy for stormwater. Assume involves staff time, discussions with leaders, approval at formal agenda.	
<b>YEAR 2</b>			
C2. Implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the SWMP, including all ordinances. Assume this involves an advisory body, open house, and news release.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	News release (one), open house (one), advisory body meetings (three).	
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.).	Respond to public calls received.	
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	Post updated SWMP on website.	
<b>YEAR 3</b>			
C2. Continue to implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the Program, including all ordinances. Assume this involves an advisory body, open houses, and news releases.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	News release (one), open house (one), advisory body meetings (three).	
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.).	Respond to public calls received.	
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	Post updated SWMP on website.	
<b>YEAR 4</b>			
C2. Continue to implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the Program, including all ordinances. Assume this involves an advisory body, open houses, and news releases.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	News release (one), open house (one), advisory body meetings (three).	
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.).	Respond to public calls received.	
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	Post updated SWMP on website.	
<b>YEAR 5</b>			
C2. Continue to implement the program or policy directive adopted in C1 allowing the public to participate in the process of developing and implementing the Program, including all ordinances. Assume this involves an advisory body, open houses, and news releases.	Funding will be shown here to account for broader information and involvement efforts including: open house meetings, work anticipated from public response to open house (inspection, rectifying problems reported, equipment costs), news releases, and other needed activities. Assume that the cost of some involvement work is included in the cost of a particular activity (e.g., developing ordinances).	News release (one), open house (one), advisory body meetings (three).	
C3. Respond to public calls.	Identified as an additional activity that will reasonably be expected by the City. Public calls assumed to be generated from information posted in news releases, website, and other sources. Does not include costs associated with response to public calls generated by other permit elements (e.g., illicit discharge hot line; complaints about utility fees, standards, and other requirements; etc.).	Respond to public calls received.	
C4. Post updated written SWMP on local agency website and/or deliver to Ecology for posting on their website.	Assume costs for coordination and posting of updated SWMP on website. Costs associated with annual updates to SWMP covered elsewhere.	Post updated SWMP on website.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>D. Illicit Discharge Detection and Elimination: Develop, implement, and enforce program to detect and eliminate polluted non-stormwater discharges into the MS4.</b>			
<b>YEAR 1</b>			
D1. City to continue mapping remaining 1/3 of MS4, showing connections to MS4, known outfalls, and receiving waters. Include field surveys to verify locations of outfalls and identify previously unknown outfalls on priority water bodies.	Note that minimum requirements do not begin until Yr 3 and will require that City map 1/3 of system per year through Yr 5. However, City has committed to completing mapping of system by end of 2008 as stated in Draft Palouse River Chlorinated Pesticides and PCB TMDL (May 2007). City has already initiated digital conversion of existing storm drainage system maps. Assume that City has completed 2/3 of MS4 mapping and some field survey work. Costs for continued mapping activities will be covered by existing funding in Yr 1. Costs to complete mapping activities and additional field-related activities will be carried out under direction of permit compliance staff using program funding in Yr 2.	City to continue mapping effort of system. Costs for existing activities rolled-in during Yr 2 and assumed by SW Utility.	
D2. Begin developing an ordinance that prohibits illicit discharges and authorizes enforcement actions (involve the public as required). Ordinance must be completed and adopted by permit year 2.5.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review.	Begin IDDE Ordinance involving public and stakeholders, legal support.	
<b>YEAR 2</b>			
D1. City to complete mapping of remaining 1/3 of MS4, showing connections to MS4, known outfalls, and receiving waters. Include field surveys to verify locations of outfalls and identify previously unknown outfalls on priority water bodies.	Note that minimum requirements do not begin until Yr 3 and will require that City map 1/3 of system per year through Yr 5. However, City has committed to completing mapping of system by end of 2008 as stated in Draft Palouse River Chlorinated Pesticides and PCB TMDL (May 2007). City has already initiated digital conversion of existing storm drainage system maps. Assume that City has completed 2/3 of MS4 mapping and some field survey work. Costs for continued mapping activities will be covered by existing funding in Yr 1. Costs to complete mapping activities and additional field-related activities will be carried out under direction of permit compliance staff using program funding in Yr 2.	Finalize mapping effort of system. Includes needed system surveying and inspection.	
D2. Complete and adopt an ordinance that prohibits illicit discharges and authorizes enforcement actions (involve the public as required). Ordinance must be completed and adopted by permit year 2.5.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review.	Complete IDDE Ordinance involving public and stakeholders, legal review, hearing comments and responses, revisions, formal adoption, placement in code.	
D3. Begin developing written IDDE Program Plan that addresses ordinance enforcement, staff training needs, priority areas & businesses, field assessments, complaint handling, discharge characterization methods, hazard assessment, spill response and containment, tracing methods, sampling/analyzing techniques, removal methods, interface with other agencies, program evaluation methods.	Assume that once ordinance is on the books, enforcement activities are phased-in starting in Yr 3. Assume that written guidance is needed for orderly implementation. Assume preparation involves multiple divisions and takes a significant amount of staff time for most of a year. Funding estimate is only for lead compliance staff.	Develop IDDE Plan using guidance documents from Center for Watershed Protection, Ecology, and other jurisdictions as an aid. Ordinance Enforcement and Spill Response plans included with IDDE Plan. Involve multiple staff as needed.	
D6. Publicize a hotline or other local phone number for public reporting of spills and illicit discharges.	Assume that hotline or other local phone number is publicly listed and publicized by end of year. Assume calls are received from public in the following year and require follow-up activities (inspection; source tracing, identification, removal; enforcement activities; and response to public). Assume costs for follow-up activities covered in D7. Records of all calls and follow-up activities must be maintained.	Publish hotline for pollution reporting in subsequent years.	
<b>YEAR 3</b>			
D1. Update completed map of agency MS4, including new and removed connections, updates to system characteristic data and information, location of previously unknown outfalls and connections, etc.	Assume that City has completed MS4 mapping and field survey work by end of Year 2. Assume minimal work needed for annual updates to map by permit compliance staff.	Annually update MS4 mapping.	
D3. Complete written IDDE Program Plan started in Year 2. Execute training for staff involved.	Assume that once ordinance is on the books, enforcement activities are phased-in starting in Yr 3. Assume that written guidance is needed for orderly implementation. Initial training course is needed for staff involved in the IDDE Program.	Complete IDDE Plan using guidance documents from Center for Watershed Protection, Ecology, and other jurisdictions as an aid. Provide training to staff involved in IDDE program and related activities.	
D4. Begin implementation of the IDDE Program and regulatory ordinance.	Assume some IDDE work begins this year. Based on areas likely to have illicit discharges staff will prioritize receiving waters and outfalls for visual inspection during field assessments in subsequent years.	Develop a list of prioritized receiving waters within City for visual inspection of outfalls.	
D7. Respond to spills and illicit discharge hotline phone calls, address reported problems, keep records.	Assume that some calls require significant staff time to address, possibly also involving enforcement procedures, interface with other agencies, and legal support. Assume some overlap with D4. Costs for existing activities assumed by SW Utility.	Respond to pollution reporting hotline, address reported problems, trace and resolve problems, and conduct enforcement as needed to eliminate any illicit discharges.	
D8. Implement procedures, records, and tracking needed to evaluate program effectiveness versus criteria established in the IDDE Program Plan.	Assume IDDE records and monitoring activities begin following implementation plan this year under guidance of staff involved in the IDDE Program.	Develop criteria and procedures to evaluate the effectiveness of the IDDE Program, implement the process and evaluate the program at the end of the year .	
<b>YEAR 4</b>			
D1. Update completed map of agency MS4, including new and removed connections, updates to system characteristic data and information, location of previously unknown outfalls and connections, etc.	Assume that City has completed MS4 mapping and field survey work by end of Year 2. Assume minimal work needed for annual updates to map by permit compliance staff.	Annually update MS4 mapping.	
D3. Repeat or update IDDE staff training as needed.	Assume that IDDE training is repeated or updated annually as needed based on staffing changes and updated methods.	Evaluate need for training update. Update and repeat training as needed.	
D4. Continue and fully implement the IDDE Program and regulatory ordinance.	IDDE work begins in earnest this year with a fully implemented IDDE Program by mid-year. Staff will conduct field assessments on three high-priority water bodies within the City. Field assessments include visual inspection of outfalls during dry weather and documentation of observations and findings. Assume that some screened outfalls appear suspicious and require follow-up work including the collection of samples, source tracing and removal activities, and possibly enforcement actions.	Conduct field assessments on three high-priority water bodies within the City and conduct necessary follow-up activities to ensure termination of illicit discharges identified.	
D5. Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Develop and distribute information to target audiences identified in B1 and B2.	Some overlap with B3 - implementation of public education and outreach strategy. Likely need to begin this activity in earlier years. Cost reflects overlap with B3.	Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Provide information on proper disposal, etc.	
D7. Respond to spills and illicit discharge hotline phone calls, address reported problems, keep records.	Assume that some calls require significant staff time to address, possibly also involving enforcement procedures, interface with other agencies, and legal support. Assume some overlap with D4. Costs for existing activities assumed by SW Utility.	Respond to pollution reporting hotline, address reported problems, trace and resolve problems, and conduct enforcement as needed to eliminate any illicit discharges.	
D8. Implement procedures, records, and tracking needed to evaluate program effectiveness versus criteria established in the IDDE Program Plan.	Assume IDDE records and monitoring activities continue following implementation plan this year under guidance of staff involved in the IDDE Program.	Review, update, and use criteria and procedures to evaluate the effectiveness of the IDDE Program, implement the process and evaluate the program at the end of the year .	

YEAR 5			
D1. Update completed map of agency MS4, including new and removed connections, updates to system characteristic data and information, location of previously unknown outfalls and connections, etc.	Assume that City has completed MS4 mapping and field survey work by end of Year 2. Assume minimal work needed for annual updates to map by permit compliance staff.	Annually update MS4 mapping.	
D3. Repeat or update IDDE staff training as needed.	Assume that IDDE training is repeated or updated annually as needed based on staffing changes and updated methods.	Evaluate need for training update. Update and repeat training as needed.	
D4. Continue implementation of the IDDE Program and regulatory ordinance.	Staff will conduct field assessments on one additional high-priority water body within the City. Field assessments include visual inspection of outfalls during dry weather and documentation of observations and findings. Assume that some screened outfalls appear suspicious and require follow-up work including the collection of samples, source tracing and removal activities, and possibly enforcement actions.	Conduct field assessment on one additional high-priority water body within the City and conduct necessary follow-up activities to ensure termination of illicit discharges identified.	
D5. Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Review, update, and redistribute information to target audiences identified in B1 and B2.	Some overlap with B3 - implementation of public education and outreach strategy. Likely need to begin this activity in earlier years. Cost reflects overlap with B3.	Inform public employees, businesses, and general public about hazards posed by illicit discharges and improper waste disposal. Provide updated information as needed on proper disposal, etc.	
D7. Respond to spills and illicit discharge hotline phone calls, address reported problems, keep records.	Assume that some calls require significant staff time to address, possibly also involving enforcement procedures, interface with other agencies, and legal support. Assume some overlap with D4. Costs for existing activities assumed by SW Utility.	Respond to pollution reporting hotline, address reported problems, trace and resolve problems, and conduct enforcement as needed to eliminate any illicit discharges.	
D8. Implement procedures, records, and tracking needed to evaluate program effectiveness versus criteria established in the IDDE Program Plan.	Assume IDDE records and monitoring activities continue following implementation plan this year under guidance of staff involved in the IDDE program.	Review, update, and use criteria and procedures to evaluate the effectiveness of the IDDE Program, implement the process and evaluate the program at the end of the year.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>E. Construction Site Stormwater Runoff: Develop, implement, and enforce program to reduce pollutants in runoff to the MS4 from construction sites one or more acres in size.</b>			
<b>YEAR 1</b>			
E1. Begin developing an ordinance for Construction Stormwater Management that requires erosion and sediment controls and regulates sites at least 1+ acre in size (involve the public as required). Ordinance must be completed and adopted by permit year 3. Must include construction stormwater pollution prevention activities that are equivalent to the minimum technical requirements contained in E. WA SW Manual and consistent with the statewide NPDES Construction SW General Permit, including use of approved BMPs, chemical monitoring, certified professionals, and so on. Must allow access by Permittee staff to inspect site for compliance. May allow Erosivity Waiver to be used, at the discretion of the local agency.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop an ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local construction stormwater permit or approval to be obtained.	Begin developing/updating Construction Stormwater Management ordinance involving the public, stakeholders, and legal support. Includes development of an ordinance enforcement strategy.	
E6. Provide information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	Inform construction operators about available training on stormwater pollution prevention for construction sites.	
<b>YEAR 2</b>			
E1. Complete and adopt an ordinance for Construction Stormwater Management (involve the public as required). Ordinance must be completed and adopted by permit year 3	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop an ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local construction stormwater permit or approval to be obtained.	Complete Construction Stormwater Management ordinance involving the public, stakeholders, legal review, hearing comments and responses, revisions, formal adoption, and placement in code.	
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	Inform construction operators about available training on stormwater pollution prevention for construction sites.	
E7. Adopt procedures for receipt and consideration of construction site problems reported by the public, including publicizing a hot line phone number.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.	Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	
<b>YEAR 3</b>			
E2. Begin phasing-in enforcement of the Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of stormwater pollution prevention plans (SWPPPs).	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and that site plan and SWPPP review is more time consuming. Costs included here are for enhanced review activities.	Continue reviewing construction site plans with emphasis placed on ensuring that proper ESC BMPs are selected and used. Review Construction SWPPPs. Assume significant interactions with project engineers/contractors.	
E3. Develop training materials and program for proper training of staff reviewing construction erosion and sediment control site plans and SWPPPs. Include training on stormwater manual, hydrologic methods, sediment control BMP O&M, etc.	Assume that a formal on-going training program for site plan reviewers needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together.	Continue to provide in-house training or send plan review staff to external training on proper ESC BMPs and SWPPP preparation and review.	
E4. Begin phasing-in enforcement of the Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions, verify SWPPPs being followed.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Begin inspecting construction sites to ensure that proper ESC BMPs are selected, used, and maintained and SWPPP is being adhered to. Conduct enforcement as needed.	
E5. Develop training materials and program for proper training of site inspection and enforcement staff. Include training on sediment control BMP designs, reading engineering drawings, sediment control BMP O&M, identifying problems, enforcement procedures, etc.	Assume that a formal on-going training program for site inspectors and enforcement needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together.	Continue to provide in-house training or send inspection/enforcement staff to external training on proper ESC BMPs, SWPPP requirements, local enforcement procedures.	
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	Inform construction operators about available training on stormwater pollution prevention for construction sites.	
E7. Continue procedures for receipt and consideration of construction site problems reported by the public.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.	Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	
<b>YEAR 4</b>			
E2. Continue and ensure full enforcement of the Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of stormwater pollution prevention plans (SWPPPs).	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and that site plan and SWPPP review is more time consuming. Costs included here are for enhanced review activities.	Continue reviewing construction site plans with emphasis placed on ensuring that proper ESC BMPs are selected and used. Review Construction SWPPPs. Assume significant interactions with project engineers/contractors.	
E3. Execute proper training for staff reviewing construction erosion and sediment control site plans and SWPPPs: Include training on stormwater manual, hydrologic methods, sediment control BMP O&M, etc.	Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	Continue to provide in-house training or send plan review staff to external training on proper ESC BMPs and SWPPP preparation and review.	
E4. Continue and ensure full enforcement of the Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions, verify SWPPPs being followed.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Continue inspecting construction sites to ensure that proper ESC BMPs are selected, used, and maintained and SWPPP is being adhered to. Conduct enforcement as needed.	
E5. Execute proper training for site inspection and enforcement staff. Include training on sediment control BMP designs, reading engineering drawings, sediment control BMP O&M, identifying problems, enforcement procedures, etc.	Assume that a formal on-going training program for site inspectors and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	Continue to provide in-house training or send inspection/enforcement staff to external training on proper ESC BMPs, SWPPP requirements, local enforcement procedures.	
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	Inform construction operators about available training on stormwater pollution prevention for construction sites.	
E7. Continue procedures for receipt and consideration of construction site problems reported by the public, including publicizing a hot line phone number.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.	Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	

YEAR 5			
E2. Continue enforcement of the Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of stormwater pollution prevention plans (SWPPPs).	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and that site plan and SWPPP review is more time consuming. Costs included here are for enhanced review activities.	Continue reviewing construction site plans with emphasis placed on ensuring that proper ESC BMPs are selected and used. Review Construction SWPPPs. Assume significant interactions with project engineers/contractors.	
E3. Execute proper training for staff reviewing construction erosion and sediment control site plans and SWPPPs: Include training on stormwater manual, hydrologic methods, sediment control BMP O&M, etc.	Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	Continue to provide in-house training or send plan review staff to external training on proper ESC BMPs and SWPPP preparation and review.	
E4. Continue enforcement of the Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions, verify SWPPP being followed.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here is for enhanced site inspection and enforcement activities.	Inspect construction sites to ensure that proper ESC BMPs are selected, used, and maintained and SWPPP is being adhered to. Conduct enforcement as needed.	
E5. Execute proper training for site inspection and enforcement staff. Include training on sediment control BMP designs, reading engineering drawings, sediment control BMP O&M, identifying problems, enforcement procedures, etc.	Assume that a formal on-going training program for site inspectors and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	Continue to provide in-house training or send inspection/enforcement staff to external training on proper ESC BMPs, SWPPP requirements, local enforcement procedures.	
E6. Continue providing information to construction operators about training available on stormwater pollution prevention for construction sites consistent with NPDES permit or E. WA Stormwater Manual.	Assume that operators are informed of available training opportunities as a normal part of the agencies construction permitting or approval process. Provide flyers on state or trade group training opportunities for example.	Inform construction operators about available training on stormwater pollution prevention for construction sites.	
E7. Continue procedures for receipt and consideration of construction site problems reported by the public, including publicizing a hot line phone number.	Assume hot line is the same one as in D6/D7. Assume that some calls require significant staff time to address, including multiple site visits, record keeping, correspondence with property owners, resolution of problems, and possible enforcement actions.	Respond to pollution reporting hotline, visit sites and resolve problems, maintain records, and conduct enforcement as needed to eliminate any construction pollution problems.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>F. Post Construction Stormwater Management: Develop, implement, and enforce program to address post construction stormwater runoff to the MS4 from sites one or more acres in size.</b>			
<b>YEAR 1</b>			
F1. Begin developing an ordinance for Post Construction Stormwater Management that requires stormwater controls and regulates sites at least 1+ acre in size (involve the public as required). Ordinance must be completed and adopted by permit year 3. Must allow access by Permittee staff to inspect site during and after construction to ensure compliance with BMP selection, design, installation, and O&M standards consistent with E. WA Stormwater Manual. Encourage preservation of natural drainages and reductions in impervious surfaces. Must require source control BMPs. Include mechanism requiring owners to ensure long-term proper O&M of BMPs.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop an ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local code. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local post-construction stormwater permit or approval to be obtained.	Begin developing/updating Post Construction Stormwater Management ordinance involving the public, stakeholders, and legal support. Includes development of ordinance enforcement strategy.	
F6. Provide information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	Obtain and provide information during normal development permitting and review process.	
<b>YEAR 2</b>			
F1. Complete and adopt an ordinance for Post Construction Stormwater Management (involve the public as required). Ordinance must be completed and adopted by permit year 3.	Assume ordinance development work will start in year 1. Assume that it takes up to two years to fully develop an ordinance, develop and ordinance enforcement strategy, involve the public/stakeholders, complete legal review, coordinate internally, hold hearings, adopt the ordinance, and place in local codes. Assume staff time, possible consultant assistance, legal consultant review. Assume that ordinance will require a local post-construction stormwater permit or approval to be obtained.	Complete Post Construction Stormwater Management ordinance involving the public, stakeholders, legal review, hearing comments and responses, revisions, formal adoption, and placement in code.	
F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	Obtain and provide information during normal development permitting and review process.	
<b>YEAR 3</b>			
F2. Begin phasing-in enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of selected structural BMPs, stormwater calculations, O&M proposals, etc.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and site plan review is more time consuming. Cost included here are for enhanced review activities.	Begin reviewing construction site plans, drainage reports, calculations, and O&M plans to ensure that proper long-term stormwater runoff controls are being used and properly maintained. Assume significant interactions with project engineers/ contractors.	
F3. Develop training materials and program for proper training of staff reviewing post construction stormwater site plans and BMPs. Include training on stormwater manual; hydrologic methods; treatment, detention, retention BMP designs; O&M, etc.	Assume that a formal on-going training program for site plan reviewers needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post construction training is integrated together.	Continue to provide in-house training or send plan review staff to external training on proper post construction BMPs, design, selection, operation, maintenance, E. WA Stormwater Manual requirements, etc.	
F4. Begin phasing-in enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions. Conduct follow-up inspections to ensure adequate maintenance performed for all structural BMPs.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Begin inspecting construction sites, including private, to ensure that proper post construction BMPs are selected, used, and maintained. Conduct enforcement as needed.	
F5. Develop training materials and program for proper training of site inspection and enforcement staff. Include training on treatment, detention, retention BMP designs; reading engineering drawings; long-term BMP O&M; identifying problems; enforcement procedures; etc.	Assume that a formal on-going training program for site inspectors and enforcement needs to be established and documented. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together.	Continue to provide in-house training or send inspection/enforcement staff to external training on proper post construction BMPs, stormwater manual requirements, local enforcement procedures, etc.	
F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	Obtain and provide information during normal development permitting and review process.	
<b>YEAR 4</b>			
F2. Continue and ensure full enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of selected structural BMPs, stormwater calculations, O&M proposals, etc.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and site plan review is more time consuming. Cost included here are for enhanced review activities.	Continue reviewing construction site plans, drainage reports, calculations, and O&M plans to ensure that proper long-term stormwater runoff controls are being used and properly maintained. Assume significant interactions with project engineers/ contractors.	
F3. Execute proper training for staff reviewing post construction stormwater site plans and BMPs. Include training on stormwater manual; hydrologic methods; treatment, detention, retention BMP designs; O&M, etc.	Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	Continue to provide in-house training or send plan review staff to external training on proper post construction BMPs, design, selection, operation, maintenance, E. WA Stormwater Manual requirements, etc.	
F4. Continue and ensure full enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions. Conduct follow-up inspections to ensure adequate maintenance performed for all structural BMPs.	Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.	Continue inspecting construction sites, including private, to ensure that proper post construction BMPs are selected, used, and maintained. Conduct enforcement as needed.	
F5. Execute proper training for site inspection and enforcement staff. Include training on treatment, detention, retention BMP designs; reading engineering drawings; long-term BMP O&M; identifying problems; enforcement procedures; etc.	Assume that a formal on-going training program for site inspection and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.	Continue to provide in-house training or send inspection/enforcement staff to external training on proper post construction BMPs, stormwater manual requirements, local enforcement procedures, etc.	
F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.	Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.	Obtain and provide information during normal development permitting and review process.	

**YEAR 5**

<p>F2. Continue enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted procedures for site plan review, including review of selected structural BMPs, stormwater calculations, O&amp;M proposals, etc.</p>	<p>Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex (size, type, location, phased, etc.) and site plan review is more time consuming. Cost included here are for enhanced review activities.</p>	<p>Continue reviewing construction site plans, drainage reports, calculations, and O&amp;M plans to ensure that proper long-term stormwater runoff controls are being used and properly maintained. Assume significant interactions with project engineers/ contractors.</p>	
<p>F3. Execute proper training for staff reviewing post construction stormwater site plans and BMPs. Include training on stormwater manual; hydrologic methods; treatment, detention, retention BMP designs; O&amp;M, etc.</p>	<p>Assume that a formal on-going training program for site plan reviewers is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.</p>	<p>Continue to provide in-house training or send plan review staff to external training on proper post construction BMPs, design, selection, operation, maintenance, E. WA Stormwater Manual requirements, etc.</p>	
<p>F4. Continue enforcement of the Post Construction Stormwater Management ordinance - implementation of adopted site inspection and enforcement procedures, maintain records of inspection and enforcement actions. Conduct follow-up inspections to ensure adequate maintenance for all structural BMPs.</p>	<p>Assume that once ordinance is on the books, enforcement is phased-in starting later in year 3. Assume that some projects are complex and that site inspection and enforcement is more time consuming. Costs included here are for enhanced site inspection and enforcement activities.</p>	<p>Continue inspecting construction sites, including private, to ensure that proper post construction BMPs are selected, used, and maintained. Conduct enforcement as needed.</p>	
<p>F5. Execute proper training for site inspection and enforcement staff. Include training on treatment, detention, retention BMP designs; reading engineering drawings; long-term BMP O&amp;M; identifying problems; enforcement procedures; etc.</p>	<p>Assume that a formal on-going training program for site inspection and enforcement is needed. Existing training (in-house or external) may be adequate for permit compliance but needs to be reviewed and updated/enhanced if necessary. Assume that construction and post-construction training is integrated together. Assume that level of effort drops because most training materials and procedures have already been established.</p>	<p>Continue to provide in-house training or send inspection/enforcement staff to external training on proper post construction BMPs, stormwater manual requirements, local enforcement procedures, etc.</p>	
<p>F6. Continue providing information to design professionals (engineering consultants) about training available on how to comply with stormwater analysis and design procedures and other technical stormwater requirements consistent with NPDES permit or E. WA Stormwater Manual.</p>	<p>Assume that this only involves providing information about training executed by Ecology or other entities, therefore a local training program is not implemented by the permittee. Assume that material is distributed during normal development permitting process.</p>	<p>Obtain and provide information during normal development permitting and review process.</p>	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List ✓
<b>NPDES</b>			
<b>G. Pollution Prevention and Good Housekeeping for Municipal Operations: Develop and implement an on-going O&amp;M program, including a staff training program, aimed at preventing or reducing pollutant runoff from municipal operations.</b>			
<b>YEAR 1</b>			
G3. City to continue performing existing storm system maintenance activities. Includes on-going inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facility (BMP) maintenance, and proper waste disposal.	Per the direction provided by the City, the costs for existing storm system maintenance activities will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance will be included in years 3-5.	City to continue existing storm system inspection and maintenance activities. Costs for existing activities rolled-in during permit year 2 and assumed by SW Utility.	
G4. City to continue existing street sweeping program and other all season BMPs to reduce pollution into the MS4.	Per the direction provided by the City, the costs for the existing street sweeping program will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in enhanced/changed practices, improved materials, and for stormwater compliance staff to review and record practices and provide technical assistance will be included in years 3-5.	City to continue existing street sweeping program. Costs for existing program rolled-in during permit year 2 and assumed by SW Utility.	
G8. As of the effective date of the permit, have reviewed existing and near-term municipal construction projects and sought coverage under statewide NPDES Construction SW General Permit for any projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects after the effective date of the permit.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	
G9. As of the effective date of the permit, have reviewed all municipal "industrial" facilities/sites and sought coverage under statewide NPDES Industrial SW General Permit for municipal sites meeting criteria for coverage.	Assume that some work still needs to be accomplished and is conducted in year 1. Cost will be for NPDES MS4 Permit compliance staff to review facilities and recommend that the facilities seek coverage. Records of the process must be developed. Cost of seeking and compliance with permits will be borne by Department/Division being covered.	Need money and staff to review facilities, assess need for permit, create and maintain records of seeking and complying with industrial stormwater permits for municipal facilities/sites.	
<b>YEAR 2</b>			
G1. Begin developing a good housekeeping plan and schedule (O&M Plan) for municipal operation and maintenance activities aimed at preventing and reducing water quality impacts. Must be at least as protective as relevant chapters of the E. WA Stormwater Manual and must include provisions for record keeping. The O&M Plan must address the following types of facilities or activities that are present within the permittee's boundaries: stormwater collection and conveyance system O&M; road, highway, and parking lot O&M; vehicle fleet storage, washing, and maintenance; municipal building cleaning, washing, painting and other O&M activities; park and open space O&M activities; municipal construction projects (all types); municipal industrial sites and activities; material and equipment storage areas and maintenance areas; flood management projects; and all other facilities that can reasonably be expected to discharge contaminated runoff. The O&M Plan must include a schedule of inspections and requirements for record keeping, and identify the department (and as appropriate, specific staff) responsible for performing each activity. Must be completed by end of permit year 3.	Assume that it takes two years to fully develop the O&M Plan and that appropriate staff from the various Departments/Divisions are involved (this is a large effort and could easily take longer).	Begin developing a good housekeeping plan and schedule (O&M Plan) for municipal operation and maintenance activities aimed at preventing and reducing water quality impacts. Must be at least as protective as relevant chapters of the E. WA Stormwater Manual. Must include schedule for inspections and address methods of record keeping.	
G3. City to continue performing existing storm system maintenance activities. Includes on-going inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facility (BMP) maintenance, and proper waste disposal.	Per the direction provided by the City, the costs for existing storm system maintenance activities will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance will be included in years 3-5.	City to continue existing storm system inspection and maintenance activities. Costs for existing activities rolled-in during permit year 2 and assumed by SW Utility.	
G4. City to continue existing street sweeping program and other all season BMPs to reduce pollution into the MS4.	Per the direction provided by the City, the costs for the existing street sweeping program will continue to be funded by the Street Fund during Yr 1, with existing costs assumed by the SW Utility starting in Yr 2. Costs for phasing-in enhanced/changed practices, improved materials, and for stormwater compliance staff to review and record practices and provide technical assistance will be included in years 3-5.	City to continue existing street sweeping program. Costs for existing program rolled-in during permit year 2 and assumed by SW Utility.	
G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	
<b>YEAR 3</b>			
G1. Complete development and begin implementation of the good housekeeping plan and schedule (O&M Plan) started in year 2.	Cost presented here assume that leadership, technical support, advice, and record keeping is provided by stormwater compliance staff who work to complete the plan, and that some costs to carry out the new procedures is borne by the department/division responsible for a given activity (e.g., cost of changing road maintenance practices/procedures is paid by Road Maintenance Div).	Complete development of good housekeeping plan and schedule (O&M Plan) for municipal operation and maintenance activities. Begin implementation of the plan working with affected departments and divisions. Maintain records.	
G2. Begin developing a municipal good housekeeping staff training program (materials, schedules, who gets what training, etc. ) to meet the needs of the O&M Plan completed in G1. Training must include all employees whose construction, operations, and maintenance job functions may impact storm water quality. Training shall address the importance of protecting water quality, the requirements of the NPDES permit, proper O&M requirements, inspection procedures, ways to perform their job while protecting water quality, procedures for reporting water quality concerns and suspected illicit discharges.	Assume that it takes at least one year to develop the good housekeeping training program and that appropriate staff from the various departments/divisions are involved (this is a large effort and could easily take longer). Assume program development is lead by stormwater compliance staff and is a direct stormwater program cost.	Develop good housekeeping training materials and program, involve various affected departments/divisions and associated staff.	
G3. Begin implementing storm system maintenance activities in accordance with appropriate schedules. Includes inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facilities (BMP) maintenance, and proper waste disposal.	Assume that it takes 2 years to fully phase-in enhanced activities. Assume that facilities exist for proper waste disposal (modification of existing "vector" waste dewatering/decant facility may be required). Assume that most necessary heavy equipment is available, however some specialized equipment may continue to be rented. Costs here are for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance.	Estimated costs for enhanced maintenance program with stormwater compliance staff to provide oversight and technical assistance during implementation of new/changed practices, assure record as kept. Work closely with responsible departments/divisions.	
G4. Begin implementing enhanced pollution prevention and good housekeeping practices established in the O&M plan for roads, highways, parking lots. Need to address snow removal de-icing, snow disposal, material storage & application, and all season BMPs to reduce pollution into the MS4.	Assume that it takes 2 years to fully phase-in activities. Assume that street sweeping continues to be one of the preferred all season BMPs employed by City with additional water quality oriented weather report based sweeping in some areas on a seasonal basis. Assume that snow removal and ice control activities continue at current level of effort and that waste and snow disposal areas are available. Costs here are for improved materials and for stormwater compliance staff to review and record practices and provide technical assistance.	Estimated costs for enhanced practices with stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible departments/divisions.	
G5. Begin conducting all vehicle and equipment washing and maintenance in self-contained building or wash area and/or maintenance areas where all wash water is kept out of the MS4.	Assume that physical facilities are readily available for washing and maintenance work. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Some costs for changed practices may have to be borne by the department/division conducting the work.	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	
G6. Begin implementing pollution prevention and good housekeeping practices established in the O&M Plan for maintenance activities at all municipally owned buildings.	Cost can vary substantially (e.g., transit areas, airport, etc.). Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	
G7. Begin implementing pollution prevention and good housekeeping practices established in the O&M Plan at all municipally owned parks and open spaces.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Park storm system, park/open space O&M activities, and changed practices. Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	

G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by department/division executing project.	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	
G10. Begin developing Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit.	Assume that it takes at least one year to identify/screen all known facilities, evaluate practices, develop SWPPPs, and identify training needs. Assume cost estimate only involves NPDES permit compliance official leading development of the SWPPP and training materials, and conducting training, not the cost of implementing the SWPPP on site, which will be borne by the department/division operating the site.	Develop Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit.	
G11. Begin implementing provisions to address water quality considerations in the design of all new flood management projects, including minimization of site hydrology impacts where possible.	Assume that normal SEPA, HPA, Critical Areas, Shorelines, and other permitting processes adequately consider and address water quantity and quality for new flood protection projects.	Permit compliance staff interface with development review processes to obtain and keep records per NPDES requirements.	
G14. Locate and map all stormwater treatment and flow control facilities owned or operated by the permittee. Inspect each facility, making notes of conditions, maintenance needs, or other related concerns. Track all new systems coming into public ownership as development occurs.	Assume that locating and mapping these systems begins in the year that inspections have to be performed and that required mapping overlaps with illicit discharge program (D.1). City must inspect municipally owned and operated stormwater treatment and control facilities at least once by end of Yr 3 and again by end of Yr 5. Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide training and data forms, provide technical assistance, and ensure that records are kept. Costs to rectify problems will be covered by other stormwater budget categories.	Verify location and map all stormwater treatment and flow control facilities owned or operated by the permittee. Inspect SW treatment and flow control facilities. Identify repair or maintenance needs, resolve concerns, and maintain records.	
G15. Begin conducting spot checks at muni-owned and operated stormwater treatment and flow control facilities after major rainfall events (greater than 10 year recurrence interval).	Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide technical assistance, and ensure that records are kept.	Conduct spot checks of stormwater treatment and flow control facilities after major rainfall events. Identify repair or maintenance needs, resolve concerns, and maintain records.	
G16. As soon as practicable, execute any repair and/or maintenance projects needed based on observations made during regular inspections or spot checks of muni-owned or operated stormwater treatment and flow control facilities.	Could involve anything from light maintenance to major reconstruction. Cost estimate here will generally assume that few major construction or reconstruction projects are needed (or will help be paid for by multiple departments/divisions). Cost here is for stormwater compliance staff to provide technical support and approval of needed repairs, ensure that records are kept, and provide some funding for the project (overlap with NPDES CIP Fund).	Fix or repair observed problems at muni-owned and operated stormwater treatment and flow control facilities after major storm events. Keep records of repairs and costs.	
<b>YEAR 4</b>			
G2. Finish developing and execute a municipal good housekeeping training program for the various staff groups.	Assume that it takes 2 years to develop the O&M Plan and that appropriate staff from the various Departments/Divisions are involved. Assume training is provided to approximately 5 groups, including streets, shop, engineering, inspection/enforcement, etc - this is a large effort including formal day of training in-house and full day in field. Assume training is lead by stormwater compliance staff and is a direct stormwater program cost. Costs to send staff to training is borne by Department/Division that staff represent.	Conduct good housekeeping training program for various affected Departments/Divisions and associated staff.	
G3. Continue phasing-in and implementing enhanced storm system maintenance activities in accordance with appropriate schedules. Includes inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facilities (BMP) maintenance, and proper waste disposal.	Assume that it takes 2 years to fully phase-in enhanced activities. Assume that facilities exist for proper waste disposal (modification of existing "vector" waste dewatering/decant facility may be required). Assume that most necessary heavy equipment is available, however some specialized equipment may continue to be rented. Costs here are for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance.	Estimated costs for enhanced maintenance program with stormwater compliance staff to provide oversight and technical assistance during implementation of new/changed practices, assure record as kept. Work closely with responsible Departments/Divisions.	
G4. Continue phasing-in and implementing enhanced pollution prevention and good housekeeping practices established in the O&M plan for roads, highways, parking lots. Need to address snow removal, de-icing, snow disposal, material storage & application, and all season BMPs to reduce pollution into the MS4.	Assume that it takes 2 years to fully phase-in activities. Assume that street sweeping continues to be one of the preferred all season BMPs employed by City with additional water quality oriented weather report based sweeping in some areas on a seasonal basis. Assume that snow removal and ice control activities continue at current level of effort and that waste and snow disposal areas are available. Costs here are for improved materials and for stormwater compliance staff to review and record practices and provide technical assistance.	Estimated costs for enhanced practices with stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Departments/Divisions.	
G5. Continue conducting all vehicle and equipment washing and maintenance in self-contained building or wash area and/or maintenance areas where all wash water is kept out of the MS4.	Assume that physical facilities are readily available for washing and maintenance work. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Some costs for changed practices may have to be borne by the Department/Division conducting the work.	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Department/Division.	
G6. Continue phasing-in and implementing pollution prevention and good housekeeping practices established in the O&M Plan for maintenance activities at all municipally owned buildings.	Cost can vary substantially (e.g., transit areas, airport, etc.). Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	
G7. Continue phasing-in and implementing pollution prevention and good housekeeping practices established in the O&M Plan at all municipally owned parks and open spaces.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Park storm system, park/open space O&M activities, and changed practices. Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	
G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	
G10. Finish developing and begin implementing Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit. Develop training materials and execute training as needed.	Assume cost estimate only involves NPDES permit compliance official leading development of the SWPPP and training materials, and conducting training, not the cost of implementing the SWPPP on site, which will be borne by the department/division operating the site. Assume that level of effort drops in years 4-5 because training materials, training program, and procedures have already been established.	Complete Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas, conduct training, implement SWPPPs.	
G11. Continue implementing provisions to address water quality considerations in the design of all new flood management projects, including minimization of site hydrology impacts where possible.	Assume that normal SEPA, HPA, Critical Areas, Shorelines, and other permitting processes adequately consider and address water quantity and quality for new flood protection projects.	Permit compliance staff interface with development review processes to obtain and keep records per NPDES requirements.	
G12. Review existing flood management projects, prioritize them based on water quality concerns, and select at least five to review and evaluate whether or not changes or additions should be made to improve water quality.	General language, could result in projects of significant costs depending on how interpreted. Not clear what intention is: is this a review of existing stormwater detention facilities or a review of levee/berm systems? Assume cost is for review process, not improvement projects. Evaluation process and definition of desired improvements occurs in year 5.	Develop criteria and protocol for review, conduct review of existing flood management projects for water quality concerns, select five to evaluate if changes or additions should be made to improve water quality.	
G13. Begin using source control and good housekeeping BMPs during other municipal activities and at other municipal sites that would reasonably be expected to discharge contaminated runoff.	Assume that it takes at least one year to identify all other municipal facilities, evaluate practices, identify appropriate BMPs to be implemented to protect water quality, and provide necessary training. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work. Assume that there are several facilities meeting criteria.	Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	

G14. Continue to inspect stormwater treatment and flow control facilities owned or operated by the permittee, making notes of conditions, maintenance needs, or other related concerns. Track all new systems coming into public ownership as development occurs.	City must inspect municipally owned and operated stormwater treatment and control facilities at least once by end of Yr 3 and again by end of Yr 5. Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide training and data forms, provide technical assistance, and ensure that records are kept. Costs to rectify problems will be covered by other stormwater budget categories. Assume that costs split in years 4-5 since all facilities to be re-inspected by end of Yr 5.	Inspect SW treatment and flow control facilities. Identify repair or maintenance needs, resolve concerns, and maintain records.	
G15. Conduct spot checks at muni-owned and operated stormwater treatment and flow control facilities after major rainfall events (greater than 10 year recurrence interval).	Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide technical assistance, and ensure that records are kept.	Conduct spot checks of stormwater treatment and flow control facilities after major rainfall events. Identify repair or maintenance needs, resolve concerns, and maintain records.	
G16. As soon as practicable, execute any repair and maintenance projects needed based on observations made during regular inspections or spot checks of muni-owned or operated stormwater treatment and flow control facilities.	Could involve anything from light maintenance to major reconstruction. Cost estimate here will generally assume that few major construction or reconstruction projects are needed (or will help be paid for by multiple departments/divisions). Cost here is for stormwater compliance staff to provide technical support and approval of needed repairs, ensure that records are kept, and provide some funding for the project (overlap with NPDES CIP Fund).	Fix or repair observed problems at muni-owned and operated stormwater treatment and flow control facilities after major storm events. Keep records of repairs and costs.	
<b>YEAR 5</b>			
G2. Update good housekeeping training of staff groups as needed.	Assume that it takes 2 years to develop the O&M Plan and that appropriate staff from the various Departments/Divisions are involved. Assume training is provided to approximately 5 groups, including streets, shop, engineering, inspection/enforcement, etc - this is a large effort including formal day of training in-house and full day in field. Assume training is lead by stormwater compliance staff and is a direct stormwater program cost. Costs to send staff to training is borne by Department/Division that staff represent.	Evaluate need for training update. Update and repeat good housekeeping training program for various affected departments/divisions and associated staff.	
G3. Fully implement enhanced storm system maintenance activities in accordance with appropriate schedules. Includes inspection of system components, catch basin and culvert cleaning, open channel cleaning and trash removal, structural BMP inspection, runoff treatment and flow control facility (BMP) maintenance, and proper waste disposal.	Assume that it takes 2 years to fully phase-in enhanced activities. Assume that facilities exist for proper waste disposal (modification of existing "vector" waste dewatering/decant facility may be required). Assume that most necessary heavy equipment is available, however some specialized equipment may continue to be rented. Costs here are for phasing-in full stormwater system maintenance and oversight by compliance staff who review and record practices and provide technical assistance.	Estimated costs for enhanced maintenance program with stormwater compliance staff to provide oversight and technical assistance during implementation of new/changed practices, assure record as kept. Work closely with responsible Departments/Divisions.	
G4. Fully implement enhanced pollution prevention and good housekeeping practices established in the O&M plan for roads, highways, parking lots. Need to address snow removal de-icing, snow disposal, material storage & application, and all season BMPs to reduce pollution into the MS4.	Assume that it takes 2 years to fully phase-in activities. Assume that street sweeping continues to be one of the preferred all season BMPs employed by City with additional water quality oriented weather report based sweeping in some areas on a seasonal basis. Assume that snow removal and ice control activities continue at current level of effort and that waste and snow disposal areas are available. Costs here are for improved materials and for stormwater compliance staff to review and record practices and provide technical assistance.	Estimated costs for enhanced practices with stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Department/Divisions.	
G5. Fully implement all vehicle and equipment washing and maintenance in self-contained building or wash area and/or maintenance areas where all wash water is kept out of the MS4.	Assume that physical facilities are readily available for washing and maintenance work. Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Some costs for changed practices may have to be borne by the Department/Division conducting the work.	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible Department/Division.	
G6. Fully implement pollution prevention and good housekeeping practices established in the O&M Plan for maintenance activities at all municipally owned buildings.	Cost can vary substantially (e.g., transit areas, airport, etc.). Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Stormwater compliance staff to provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	
G7. Fully implement pollution prevention and good housekeeping practices established in the O&M Plan at all municipally owned parks and open spaces.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work.	Park storm system, park/open space O&M activities, and changed practices. Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	
G8. Seek coverage under statewide NPDES Construction SW General Permit for projects meeting criteria for coverage. Use applicable source control and good housekeeping BMPs during all public construction projects.	Assume that NPDES Construction SW permits are being sought for public projects, as needed, and that appropriate construction and post construction controls are employed. Assume that projects not subject to NPDES permitting still include source control and good housekeeping BMPs as applicable. However, need to create and maintain records of such. Cost of seeking and compliance with construction permit will be borne by Department/Division executing project.	Need money and staff to create and maintain records of seeking and complying with construction permits for municipal projects. Technical assistance to project proponent would cost more.	
G10. Fully implement Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas not covered by a statewide NPDES Industrial SW General Permit. Update training materials and execute training as needed.	Assume cost estimate only involves NPDES permit compliance official leading development of the SWPPP and training materials, and conducting training, not the cost of implementing the SWPPP on site, which will be borne by the department/division operating the site. Assume that level of effort drops in years 4-5 because training materials, training program, and procedures have already been established.	Implement Stormwater Pollution Prevention Plans to protect water quality at material storage areas, heavy equipment storage areas, and maintenance areas, conduct training, implement SWPPPs.	
G11. Fully implement provisions to address water quality considerations in the design of all new flood management projects, including minimization of site hydrology impacts where possible.	Assume that normal SEPA, HPA, Critical Areas, Shorelines, and other permitting processes adequately consider and address water quantity and quality for new flood protection projects.	Permit compliance staff interface with development review processes to obtain and keep records per NPDES requirements.	
G12. Evaluate five existing flood management projects and determine whether or not changes or additions should be made to improve water quality.	Improvements to be identified, but any projects required will occur in 2nd permit term.	Evaluate flood management projects proposed in City's CFHMP and identify any improvements or projects that could enhance water quality.	
G13. Fully implement source control and good housekeeping BMPs during other municipal activities and at other municipal sites that would reasonably be expected to discharge contaminated runoff.	Costs here are for stormwater compliance staff to review and record practices and provide technical assistance. Cost of changed practices is borne by the department/division conducting the work. Assume that there are several facilities meeting criteria.	Stormwater compliance staff provide oversight and technical assistance during implementation of changed practices, assure records are kept. Work closely with responsible department/division.	
G14. Continue to inspect stormwater treatment and flow control facilities owned or operated by the permittee, making notes of conditions, maintenance needs, or other related concerns. Track all new systems coming into public ownership as development occurs.	City must inspect municipally owned and operated stormwater treatment and control facilities at least once by end of Yr 3 and again by end of Yr 5. Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide training and data forms, provide technical assistance, and ensure that records are kept. Costs to rectify problems will be covered by other stormwater budget categories.	Inspect all remaining SW treatment and flow control facilities. Identify repair or maintenance needs, resolve concerns, and maintain records.	
G15. Conduct spot checks at muni-owned and operated stormwater treatment and flow control facilities after major rainfall events (greater than 10 year recurrence interval).	Assume that inspection is performed by properly trained maintenance staff using standardized field data collection forms. Stormwater compliance staff will oversee work, provide technical assistance, and ensure that records are kept.	Conduct spot checks of stormwater treatment and flow control facilities after major rainfall events. Identify repair or maintenance needs, resolve concerns, and maintain records.	
G16. As soon as practicable, execute any repair and maintenance projects needed based on observations made during regular inspections or spot checks of muni-owned or operated stormwater treatment and flow control facilities.	Could involve anything from light maintenance to major reconstruction. Cost estimate here will generally assume that few major construction or reconstruction projects are needed (or will help be paid for by multiple departments/divisions). Cost here is for stormwater compliance staff to provide technical support and approval of needed repairs, ensure that records are kept, and provide some funding for the project (overlap with NPDES CIP Fund).	Fix or repair observed problems at muni-owned and operated stormwater treatment and flow control facilities after major storm events. Keep records of repairs and costs.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>H. Compliance with Total Maximum Daily Load Allocations: WRIA 34 - South Fork Palouse River.</b>	Note that according to Ecology, most of the TMDLs for the South Fork Palouse River are targeted for completion and approval by EPA in 2007-08. Based on review of the NPDES permit (Appendix 2) and draft TMDL reports/implementation plans developed to date, it is unlikely that the TMDLs will contain specific stormwater control elements over and above the implementation of standard NPDES BMPs. However, it will be wise to budget for some effort just in case.		
<b>YEAR 1</b>			
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	Participation in TMDL development may be desirable.	
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.	None	
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	Track status of TMDL implementation and keep records.	
<b>YEAR 2</b>			
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	Continued participation in TMDL development may be desirable.	
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs. However, as stated in the Draft Palouse River Chlorinated Pesticide and PCB TMDL (May 2007), the City has committed to the following by December 2008: (1) update the 2001 Design Standards to reference the E. WA Stormwater Manual as the technical reference for best available practices and (2) complete storm drain mapping. Updates to the City's Design Standards assumed under E.1 and F.1. Mapping assumed to be completed under D.1.	No applicable TMDL provisions to comply with. Completion of storm system mapping and update to City's Design Standards covered elsewhere.	
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	Track status of TMDL implementation and keep records.	
<b>YEAR 3</b>			
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	Continued participation in TMDL development may be desirable.	
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.	None	
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	Track status of TMDL implementation and keep records.	
<b>YEAR 4</b>			
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	Continued participation in TMDL development may be desirable.	
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.	None	
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	Track status of TMDL implementation and keep records.	
<b>YEAR 5</b>			
H1. Participate in the development of TMDLs.	Assume this is required to know and control municipal liability. Assume that this involves staff time to review material, attend meetings, prepare and submit correspondence.	Continued participation in TMDL development may be desirable.	
H2. Comply with applicable TMDL provisions (could involve outfall monitoring, retrofitting treatment into existing storm drains, enhanced source control efforts, etc.).	Compliance with the NPDES Phase II Permit is the only requirement the City presently needs to fulfill to be in compliance with applicable TMDLs.	None	
H3. Track status of TMDL implementation progress. Track and record stormwater efforts aimed at addressing TMDLs on receiving waters.	Assume recording keeping and tracking status of TMDL implementation minimal. Status of TMDL implementation included as part of annual report.	Track status of TMDL implementation and keep records.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>I. Monitoring and Program Evaluation Requirements</b>			
<b>YEAR 1</b>			
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	
<b>YEAR 2</b>			
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	
<b>YEAR 3</b>			
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	
I2. Begin preparing for participation and implementation of a future comprehensive long-term stormwater monitoring program. Includes identification and mapping of two outfalls or conveyances where stormwater sampling will be conducted.	Actual stormwater monitoring to occur in 2nd permit term. Assume outfalls or conveyances identified and mapped as part of activities in D.1. Includes one site to represent commercial land use and the other site to represent high-density residential.	Evaluate, identify, and map suitable outfalls and/or conveyances for planned future stormwater monitoring.	
I3. Begin preparing for participation and implementation of a future comprehensive long-term Stormwater Management Program (SWMP) effectiveness monitoring program. Includes identification of at least two suitable questions and the selection of sites where future monitoring will be conducted. Monitoring will include stormwater/receiving water monitoring and/or program activity evaluation monitoring. A specific monitoring plan must be developed for each question posed.	Actual Stormwater Management Program effectiveness monitoring to occur in 2nd permit term. Assume that this involves staff time to develop suitable questions to assess program effectiveness, sites where monitoring will be conducted, and development of a monitoring plan for each question posed, which includes proposed purpose, design, and methods.	Develop suitable questions, select monitoring sites or targeted activities for evaluation, and develop specific monitoring plan for each question posed to evaluate effectiveness of SWM Program.	
I4. Begin preparing for participation and implementation of a future comprehensive long-term runoff treatment BMP effectiveness monitoring program. Includes identification of at least one runoff treatment BMP (Basic, Enhanced, or Oil Treatment) at no fewer than two sites per BMP where future monitoring will be conducted.	Actual BMP effectiveness monitoring to occur in 2nd permit term. Assume treatments BMPs to be monitored identified and mapped as part of activities in D.1.	Identify and map suitable stormwater treatment BMPs for planned future BMP effectiveness monitoring.	
<b>YEAR 4</b>			
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	
I2. Continue preparing for participation and implementation of a future comprehensive long-term stormwater monitoring program. Have identified and mapped two outfalls or conveyances where stormwater sampling will be conducted. Describe status of identification of sites in 4th annual report.	Actual stormwater monitoring to occur in 2nd permit term. Assume outfalls or conveyances identified and mapped as part of activities in D.1. Includes one site to represent commercial land use and the other site to represent high-density residential.	Complete work to evaluate, identify, and map suitable outfalls and/or conveyances for planned future stormwater monitoring. Include status in 4th annual report (March 31, 2011).	
I3. Continue preparing for participation and implementation of a future comprehensive long-term Stormwater Management Program (SWMP) effectiveness monitoring program. Have developed at least two suitable questions, selected sites where future monitoring will be conducted, and developed a specific monitoring plan for each question posed. Include a summary of the proposed questions and describe status of developing the monitoring plan in 4th annual report.	Actual Stormwater Management Program effectiveness monitoring to occur in 2nd permit term. Assume that this involves staff time to develop suitable questions to assess program effectiveness, sites where monitoring will be conducted, and development of a monitoring plan for each question posed, which includes proposed purpose, design, and methods.	Complete work to develop suitable questions, select monitoring sites or targeted activities for evaluation, and develop specific monitoring plan for each question posed to evaluate effectiveness of SWM Program. Include status in 4th annual report (March 31, 2011).	
I4. Continue preparing for participation and implementation of a future comprehensive long-term runoff treatment BMP effectiveness monitoring program. Have identified and mapped at least one runoff treatment BMP at no fewer than two sites per BMP where effectiveness monitoring will be conducted. Identify BMPs selected and describe status of identification of sites in 4th annual report.	Actual BMP effectiveness monitoring to occur in 2nd permit term. Assume treatments BMPs to be monitored identified and mapped as part of activities in D.1.	Complete work to identify and map suitable stormwater treatment BMPs for planned future BMP effectiveness monitoring. Include status in 4th annual report (March 31, 2011).	
<b>YEAR 5</b>			
I1. Recommend that City participate in or establish a local water-quality monitoring program to assess baseline conditions and to evaluate effectiveness of SWM Program or TMDL implementation activities. Includes monitoring outfall quality to receiving waters. Provide a description of any stormwater monitoring or studies conducted by or on behalf of the City and include in annual report.	Recommended activity for City to consider. Specific water sampling and testing not required during effective term of permit, unless required as part of applicable TMDL. Assume some participation by City with local agencies (WSU, Whitman Co., and others) conducting routine or special water quality monitoring studies.	Participate in local water quality monitoring studies. Submit description of water quality monitoring studies with annual report to Ecology.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>J. Reporting and Record Keeping Requirements</b>			
<b>YEAR 1</b>			
J1. Develop written Stormwater Management Program (SWMP) for submittal in permit year 2 with annual report, follow program component format established by Ecology.	Must submit a copy of SWMP to Ecology with the annual report beginning no later than March 31, 2008. Assume that development of the SWMP begins during permit year 1.	Prepare SWMP according to Ecology format. Assume a significant effort by multiple staff, public and stakeholder involvement per C1, review/approval by elected leaders.	
J2. Develop and implement an ongoing process for gathering, recording, maintaining, and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves lead permit compliance staff: (1) itemizing the types of recordkeeping needed for each category of permit requirement; (2) meeting with various department/divisions to learn about current record keeping activities; (3) assessing the need for new processes or changes or enhancements to existing processes; (4) creating or modifying record keeping forms as needed; (5) and working with various directors/managers/staff to ensure implementation of the new processes.	Itemize the types of recordkeeping needed for permit; meet with various department/divisions; assess need for new or changed processes; create record keeping forms/protocols; work with directors/managers/staff to implement. Significant effort by staff at multiple levels.	
<b>YEAR 2</b>			
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 3 with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	
J2. Continue ongoing process for gathering, recording, maintaining, and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.	Complete development of record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume this is a relatively simple process that considers the activities detailed for each SWMP component and cross-check them against records (e.g., reaching target audiences, site plan review and inspection program goals, storm system maintenance inspection goals, and other measurable goals established). Also cross-check activities against established literature, studies, and accepted BMP manuals to assess impact to water quality. Assume that this analysis is presented/discussed in a narrative portion of the annual report.	Develop evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	
J4. Develop and implement a process to track the cost of development and implementation of the SWMP.	Assume this involves lead permit compliance staff: (1) estimating which departments/divisions will need to begin tracking costs, for what, and when; (2) learning about cost tracking methods and options within each affected department or division (prioritized based on when they need to start); (3) checking with each department/division to ensure implementation of cost tracking methods; and (4) obtaining cost tracking information in a timely manner so that the annual report can include it.	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	
J5. Prepare and submit year 1 annual report and SWMP to Ecology. Use annual report form established by Ecology. The annual report must describe the status of compliance with permit conditions, including: (1) the status of implementation of each component of the SWMP; (2) an assessment of progress towards meeting the minimum performance standards (measurable goals) established for each minimum control measure of the SWMP; (3) a description of activities being implemented to comply with each component of the SWMP (including number of inspections, site plans reviewed, illegal connection removed, enforcement actions, educational activities, etc.); (4) proposed SWMP implementation schedule and status (plus comparison with schedule in the permit, discussion of missed deadlines and why, when missed deadline activities will be implemented); and (5) summary of SWMP evaluation (including evaluation of effectiveness of SWMP and appropriateness of BMPs selected). Note annexations during the reporting period and their influence on permit coverage areas. Note if relying upon another entity for implementation of any BMPs or other p	Reports are due no later than March 31 each year beginning in 2008. Assume that in later years, it takes a fairly senior staff person working half time from January 1 to March 31 to prepare the report - including gathering all of the records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.	Prepare and submit annual report.	
<b>YEAR 3</b>			
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 4 with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	
J2. Continue ongoing process for gathering, recording, maintaining and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.	Enact record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume that this involves reviewing the evaluation/analysis conducted in permit year 2 and updating it as needed.	Review/update evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	
J4. Continue process to track the cost of development and implementation of the SWMP.	Assume that this involves reviewing and modifying the process developed as needed.	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	
J5. Prepare and submit year 2 annual report and updated SWMP to Ecology. Update prior year annual report and address the same considerations as described in permit year 2.	Reports are due no later than March 31 each year. Assume that in later years, it takes a fairly senior staff person working half time from Jan 1 to March 31 to prepare the report - including gathering all records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.	Prepare and submit annual report.	
<b>YEAR 4</b>			
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 5 with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	
J2. Continue ongoing process for gathering, recording, maintaining and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.	Enact record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume that this involves reviewing the evaluation/analysis conducted in permit year 3 and updating it as needed.	Review/update evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	
J4. Continue process to track the cost of development and implementation of the SWMP.	Assume that this involves reviewing and modifying the process developed as needed.	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	
J5. Prepare and submit year 3 annual report and updated SWMP to Ecology. Update prior year annual report and address the same considerations as described in permit year 3.	Reports are due no later than March 31 each year. Assume that in later years, it takes a fairly senior staff person working half time from Jan 1 to March 31 to prepare the report - including gathering all records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.	Prepare and submit annual report.	

YEAR 5			
J1. Update written Stormwater Management Program (SWMP) for submittal in permit year 1 (2nd permit cycle) with annual report.	Assume this update occurs in the 4th quarter with the updated plan submitted with annual report in the following permit year.	Update SWMP according to Ecology format. Assume a fair effort by multiple staff, public and stakeholder involvement, review/approval by elected leaders.	
J2. Continue ongoing process for gathering, recording, maintaining and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate permit compliance/noncompliance, and evaluate the effectiveness of SWMP implementation (develop measurable goals). Information to be provided in annual report includes tracking the number of inspection performed, enforcement actions taken, types of public education activities as required for each SWMP component.	Assume that this involves reviewing and modifying the process developed as needed.	Enact record keeping forms/protocols; work with directors/managers/staff to implement. Fair effort by staff at multiple levels.	
J3. Use information from J2 to evaluate the effectiveness of the SWMP components implemented to date, including whether the SWMP is preventing adverse impacts to water quality.	Assume that this involves reviewing the evaluation/analysis conducted in permit year 4 and updating it as needed.	Review/update evaluation approach, conduct evaluation, prepare narrative of process and results for inclusion in annual report to Ecology.	
J4. Continue process to track the cost of development and implementation of the SWMP.	Assume that this involves reviewing and modifying the process developed as needed.	Funding to cover staff time needed to interface with Financial Department accounting staff and develop tracking budgets and reports.	
J5. Prepare and submit year 4 annual report and updated SWMP to Ecology. Update prior year annual report and address the same considerations as described in permit year 4.	Reports are due no later than March 31 each year. Assume that in later years, it takes a fairly senior staff person working half time from Jan 1 to March 31 to prepare the report - including gathering all records, meeting with departments/division/staff responsible for various components, tracking down/reviewing all necessary records, preparing summaries and maps, etc. Effort may be less in first couple years but will grow in later years as required SWMP activities implemented increase.	Prepare and submit annual report.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>K. NPDES Equipment Funds</b>			
<b>YEAR 1</b>			
<b>YEAR 2</b>			
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds begin to be set aside in year 2 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.	Build-up equipment fund.	
K2. Construction & Post Construction Equipment Fund.	Assume that funds begin to be set aside in year 2 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.	Build-up equipment fund.	
K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	
K4. TMDL Compliance Equipment Fund.	Assume that some funds begin to be set aside in year 2 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K.1).	Fund not needed presently.	
<b>YEAR 3</b>			
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds continue to be set aside in year 3 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.	Build-up equipment fund.	
K2. Construction & Post Construction Equipment Fund.	Assume that funds continue to be set aside in year 3 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.	Build-up equipment fund.	
K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	
K4. TMDL Compliance Equipment Fund.	Assume that some funds continue to be set aside in year 3 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K1).	Fund not needed presently.	
<b>YEAR 4</b>			
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds continue to be set aside in year 4 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.	Build-up equipment fund.	
K2. Construction & Post Construction Equipment Fund.	Assume that funds continue to be set aside in year 4 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.	Build-up equipment fund.	
K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	
K4. TMDL Compliance Equipment Fund.	Assume that some funds continue to be set aside in year 4 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K1).	Fund not needed presently.	
<b>YEAR 5</b>			
K1. Illicit Discharge Detection and Elimination Equipment Fund.	Assume that funds continue to be set aside in year 5 to allow the purchase of equipment needed to execute the IDDE program. Includes vehicle, field testing equipment, flow monitoring equipment, field computer, etc.	Build-up equipment fund.	
K2. Construction & Post Construction Equipment Fund.	Assume that funds continue to be set aside in year 5 to allow the purchase and replacement of equipment needed to inspect sites. Includes vehicle(s), GPS devices, cameras, etc.	Build-up equipment fund.	
K3. Good Housekeeping Equipment Fund.	Assume that existing O&M equipment expenditures will be ramped-up during years 2 and 3, with existing costs assumed by the SW Utility at increments of 50% per year. Assume that additional funding is set aside beginning in year 2 and used to finance needed good housekeeping and O&M equipment. The overall cost for phasing-in additional equipment will be included in years 2-5 at increments of 20-20-20-40% based on overall cost. Assume that purchasing and R&R of most major equipment will be shared between the stormwater division and other departments/divisions sharing use or benefit of the equipment.	City to continue to fund existing O&M equipment expenditures with costs ramped-up in permit years 2 and 3. Build-up to support equipment fund in permit years 2-5 for additional O&M equipment identified. Fund to contribute to divisions responsible for bulk of good housekeeping activities and costs.	
K4. TMDL Compliance Equipment Fund.	Assume that some funds continue to be set aside in year 5 to allow the purchase of equipment needed for TMDL compliance (assume significant overlap with equipment needed for IDDE Program, see K1).	Fund not needed presently.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>NPDES</b>			
<b>L. NPDES Capital Project Funds</b>			
<b>YEAR 1</b>			
<b>YEAR 2</b>			
<b>YEAR 3</b>			
L1. Known or planned stormwater project needs.	Annual appropriation beginning in year 3 for known or planned drainage/flooding projects. Assume funds appropriated for engineering design and permitting associated with Missouri Flat Creek channel improvement project (Proj No. 8 - City of Pullman Stormwater Capital Improvement Plan, Otak, 2007). Assume engineering design and permitting costs at 25% of total project cost. Assumes that project will not require long-term financing to cover construction costs.	Build-up to support fund for known or planned CIPs. Fund to contribute to division responsible for bulk of CIP costs.	
L2. Fund to cover needs of projects discovered as SWM Program is implemented.	Annual appropriation beginning year 3 for projects that will inevitably be discovered during SWM Program implementation that must be addressed. It is not possible to know the magnitude of these project costs, however the estimate will be kept low and it will be assumed that: (1) some are financed over the long term; and (2) large projects will require modification of the annual budget in subsequent years.	Build-up fund for discovered CIP needs.	
<b>YEAR 4</b>			
L1. Known or planned stormwater project needs.	Annual appropriation continued in year 4 for known or planned drainage/flooding projects. Assume funds appropriated for construction of Missouri Flat Creek channel improvement project (Proj No. 8 - City of Pullman Stormwater Capital Improvement Plan, Otak, 2007). Assume construction costs at 75% of total project cost and split (25/75) between years 4 and 5. Assumes that project will not require long-term financing to cover construction costs. Assume funds appropriated for engineering design associated with replacement of existing storm sewer trunk line along Stadium Way & Valley Rd. (Project No. 12). Assume engineering design and permitting costs at 10% of total project cost. Assumes that project will require long-term financing to cover construction costs in subsequent years.	Build-up to support fund for known or planned CIPs. Fund to contribute to division responsible for bulk of CIP costs.	
L2. Fund to cover needs of projects discovered as SWM Program is implemented.	Annual appropriation continued in year 4 for projects that will inevitably be discovered during SWM Program implementation that must be addressed. It is not possible to know the magnitude of these project costs, however the estimate will be kept low and it will be assumed that: (1) some are financed over the long term; and (2) large projects will require modification of the annual budget in subsequent years.	Build-up fund for discovered CIP needs.	
<b>YEAR 5</b>			
L1. Known or planned stormwater project needs.	Annual appropriation continued in year 5 for known or planned drainage/flooding projects. Assume funds appropriated for construction of Missouri Flat Creek channel improvement project (Proj No. 8 - City of Pullman Stormwater Capital Improvement Plan, Otak, 2007). Assume construction costs at 75% of total project cost and split (25/75) between years 4 and 5. Assumes that project will not require long-term financing to cover construction costs. Assume long-term financing (Pubic Works Trust Fund loan, 10-year loan period, 0.5% annual interest) is secured for construction costs (90% of total project cost) associated with replacement of existing storm sewer trunk line along Stadium Way & Valley Rd. (Project No. 12). Assume funds appropriated to cover cost of year 1 loan payment.	Build-up to support fund for known or planned CIPs. Fund to contribute to division responsible for bulk of CIP costs. Secure long-term financing for construction costs associated with CIPs. Allocate sufficient funds to cover annual construction loan payment.	
L2. Fund to cover needs of projects discovered as SWM Program is implemented.	Annual appropriation continued in year 5 for projects that will inevitably be discovered during SWM Program implementation that must be addressed. It is not possible to know the magnitude of these project costs, however the estimate will be kept low and it will be assumed that: (1) some are financed over the long term; and (2) large projects will require modification of the annual budget in subsequent years.	Build-up fund for discovered CIP needs.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>Stormwater Program Funding - Utility Assumed</b>			
<b>A. Stormwater Utility Implementation</b>			
<b>YEAR 1</b>			
A1. Review available City data and information (aerial topographic maps, address maps, municipal boundaries, land use data, etc.) and convert to GIS-format. Perform GIS analysis to measure impervious surface area on representative sample of residential properties within the City to establish the Equivalent Residential Unit (ERU). Perform GIS analysis to assign impervious surface coverage and ERUs for non-residential customers. Coordinate with Financial Department (utility billing staff) in the development of a SW Utility customer database to ensure consistency with existing utility billing system. Develop preliminary SW Utility customer database, process draft billing rolls, and conduct necessary quality control to finalize billing rolls.	Assume that initial work will be completed in permit year 1 to develop preliminary SW Utility customer database. Assume some activities and costs overlap with City and consultant work and products.	Review City data and information; perform GIS analysis; develop preliminary customer database and billing rolls; coordinate with Financial Department staff.	
A2. General Financial Department services.	Payment to Financial Department staff for services rendered in the coordination and development of the SW Utility customer database.	Pay Financial Department staff for general services rendered to the SW Utility.	
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	Assume no activity in permit year 1.	
<b>YEAR 2</b>			
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Develop public information material for utility billing staff and train appropriate staff on customer response.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, develop public information materials, and train staff on customer response.	
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	Pay Financial Department staff for accounting services rendered to the SW Utility.	
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	SW Utility customer service.	
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume that rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate or (2) includes a set schedule for rate increases over the first five years.	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	
<b>YEAR 3</b>			
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Update public information material for utility billing staff as needed and provide refresher training for staff on customer responses as needed.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, update public information materials, and re-train staff on customer response.	
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	Pay Financial Department staff for accounting services rendered to the SW Utility.	
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	SW Utility customer service.	
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate, or (2) includes a set schedule for rate increases over the first five years.	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	
<b>YEAR 4</b>			
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Update public information material for utility billing staff as needed and provide refresher training for staff on customer responses as needed.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, update public information materials, and re-train staff on customer response.	
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	Pay Financial Department staff for accounting services rendered to the SW Utility.	
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	SW Utility customer service.	
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate, or (2) includes a set schedule for rate increases over the first five years.	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	
<b>YEAR 5</b>			
A1. Review available City data and information (emphasis on annexations, new development, etc.) and update GIS spatial databases. Perform updated GIS analysis. Update SW Utility customer database and billing rolls. Coordinate with Financial Department (utility billing staff) to update and process billing rolls and send out utility bills (on monthly utility billing statements). Update public information material for utility billing staff as needed and provide refresher training for staff on customer responses as needed.	Assume that an annual process must be conducted to prepare updated and correct utility billing rolls (due to annexations, new development, etc.). Assume that the level of effort is much less than for the start-up year.	Review City data and information; update GIS analysis, customer database, and billing rolls; arrange for Financial Department to send out utility bills, update public information materials, and re-train staff on customer response.	
A2. General Financial Department services.	Payment to Financial Department staff for accounting services rendered to the utility to manage SW Utility fee finances and books.	Pay Financial Department staff for accounting services rendered to the SW Utility.	
A3. SW Utility account management. Includes processing requests for credits and waivers, response to customer questions and complaints, enforcing payment of utility fees.	Assume that there will always be some level of on-going customer service efforts.	SW Utility customer service.	
A4. Prepare budgets for following year and adjust SW Utility fee rates as needed.	Assume rate increases must be approved by the governing body and may require a public hearing. The need for rate increases may be avoided if the original ordinance either: (1) uses a flat five year average rate, or (2) includes a set schedule for rate increases over the first five years.	Prepare budget for following year and adjust SW Utility fee rates as needed. Analysis by staff, support by accounting, review by elected leaders, hearing adoption for new rates.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>2. Stormwater Program Funding - Utility Assumed</b>			
<b>B. Stormwater Development Permit Fees</b>			
<b>YEAR 1</b>			
<b>YEAR 2</b>			
B1. Estimate the full annual cost of service for conducting stormwater plan review, site inspection, enforcement of standards, and providing technical assistance to developers, contractors, and engineers. Consider the cost of serving different types/classes of development customers.	Assume that a formal cost of service analysis will be conducted by the City as part of an overall update to the City's permitting process, and will include an evaluation of enhanced stormwater/drainage/development review activities and costs.	Complete cost of service for stormwater/drainage/development review.	
B2. Work with Directors and Elected Leaders to determine what portion of stormwater development review costs will be funded using permit fees, and how any remaining portions will be funded.	Assume that after cost of service analysis is conducted, elected leaders will determine if the full cost of stormwater development review will be funded by permit fees or whether a portion will be funded in other ways.	Cost of service report presentation, alternatives, meetings with staff and elected leaders, approval to proceed.	
B3. Update or prepare local codes establishing stormwater permit fees, conduct any needed legal reviews, prepare informational material, hold at least one public hearing, adopt new or updated stormwater development permit fees.		Draft new or updated codes for stormwater development review fees, public process, hearing adoption, implementation.	
B4. Train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.		Develop training materials, FAQs, etc. for front-line staff dealing with customers.	
B5. Implement methods (or use existing mechanisms as developed in J.4) to track stormwater development review costs.		Implement methods to track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	
<b>YEAR 3</b>			
B4. Re-train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.	Assume minor training updates as needed.	Develop training materials, FAQs, etc. for front-line staff dealing with customers.	
B5. Continue methods to track stormwater development review costs.		Track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	
B6. Implement stormwater development permit fee process and collect revenue.		Implement collection of fees by development review staff.	
B7. General Financial Department accounting services.	Payment to Financial Department accounting staff for services rendered to the SW Utility to manage permit fee finances and books. However, if stormwater development fees included as part of overall permit structure, then management of permit fee finances and books by Financial Department accounting staff would result in no additional costs.	Pay accounting staff for services supporting stormwater development permit fees, unless stormwater permit fees included as part of overall permit structure.	
<b>YEAR 4</b>			
B4. Re-train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.	Assume minor training updates as needed.	Develop training materials, FAQs, etc. for front-line staff dealing with customers.	
B5. Continue methods to track stormwater development review costs.		Track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	
B6. Continue to implement development permit fee process and collect revenue.		Implement collection of fees by development review staff.	
B7. General Financial Department accounting services.	Payment to Financial Department accounting staff for services rendered to the SW Utility to manage permit fee finances and books. However, if stormwater development fees included as part of overall permit structure, then management of permit fee finances and books by Financial Department accounting staff would result in no additional costs.	Pay accounting staff for services supporting stormwater development permit fees, unless stormwater permit fees included as part of overall permit structure.	
<b>YEAR 5</b>			
B4. Re-train local front-line staff on the details of the new stormwater permit fee and how to respond to customer concerns.	Assume minor training updates as needed.	Develop training materials, FAQs, etc. for front-line staff dealing with customers.	
B5. Continue methods to track stormwater development review costs.		Track stormwater development review costs, mainly provided by Financial Department accounting staff, with some involvement by stormwater compliance staff.	
B6. Continue to implement development permit fee process and collect revenue.		Implement collection of fees by development review staff.	
B7. General Financial Department accounting services.	Payment to Financial Department accounting staff for services rendered to the SW Utility to manage permit fee finances and books. However, if stormwater development fees included as part of overall permit structure, then management of permit fee finances and books by Financial Department accounting staff would result in no additional costs.	Pay accounting staff for services supporting stormwater development permit fees, unless stormwater permit fees included as part of overall permit structure.	
B8. Perform a new cost of service study and update stormwater development permit fees as needed.	Assume permit fee increases must be approved by the governing body and may require a public hearing.	Perform new cost of service, work with staff and elected leaders, public hearing, update fees.	

Summary of Regulatory Requirements	Notes & Assumptions	Assessment of New Activities Needed for Compliance	Status Check List √
<b>Stormwater Program Funding - Utility Assumed</b>			
<b>C. Stormwater Program Reserve Fund</b>			
<b>YEAR 1</b>			
<b>YEAR 2</b>			
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.	Build reserve fund to ensure financial stability and financing capacity.	
<b>YEAR 3</b>			
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.	Build reserve fund to ensure financial stability and financing capacity.	
<b>YEAR 4</b>			
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.	Build reserve fund to ensure financial stability and financing capacity.	
<b>YEAR 5</b>			
C1. Set-aside funds in years 2-5 to build a SWM Program reserve fund equal to 50% of the year 5, fully implemented program cost estimate.	Assumes that reserve is only for the SW Utility with a great proportion of funds set-aside in earlier years to build fund while rates are still low. Assume set aside in years 2-5 at 40-30-20-10% of year 5 program cost estimate. The City may consider removing equipment and/or capital costs from the reserve.	Build reserve fund to ensure financial stability and financing capacity.	

Appendix D—Stormwater Capital  
Improvement Plan

## City of Pullman Stormwater Capital Improvement Plan

Project No.	Project Source <sup>1</sup>	Project Source ID	Project Drainage Area	Project Location and Problem Description	Project Description	Project Type	Est. Cost Original <sup>2</sup>	Est. Cost 2007 <sup>3</sup>
1	CFHMP	S-1	South Fork Palouse River	Overtopping of channel and flooding along Professional Mall Blvd. attributed to a reduction in conveyance capacity of channel due to overgrowth of vegetation and accumulation of debris and sediment. Impacted reach includes approximately 600 feet of channel downstream of confluence with Paradise Creek. Channel originally designed for conveyance of 100-year event. Two outlets equipped with flapper valves designed to provide drainage of the Campus Vista Mobile Home Park below the 100-year flood. However, reduced conveyance capacity of channel requires portable pumping over levy.	Clear channel and remove debris. Regularly maintain channel. Detailed study may be needed to evaluate potential benefits associated with increase in channel cross-section area through dredging and/or excavation.	Channel Maint./Improvement		\$37,500 (clear channel & remove debris)  \$175,000 (dredge & widen channel)
2	CFHMP	S-2	South Fork Palouse River	Overtopping of channel in several locations in the vicinity of the Koppel Farms Bridge. Conveyance capacity of channel from Koppel Farms Bridge downstream to Main Street Bridge (approximately 2,200 feet in length) may be limited by the accumulation of debris and vegetation in the channel. Note: The impacts of the bridge on the hydraulic capacity of the channel was the only parameter evaluated in the City of Pullman CFHMP (Alternative #4).	Clear channel and remove debris. Regularly maintain channel. Detailed study may be needed to evaluate potential benefits associated with increase in channel cross-section area through dredging and/or excavation and construction of a berm along riverbank.	Channel Maint./Improvement		\$62,500 (clear channel & remove debris)  \$435,000 (dredge & widen channel, construct berm)
3	CFHMP	S-4	South Fork Palouse River	Upland runoff from College Hill tributary area results in localized drainage problems in the vicinity of Reaney Park behind railroad embankment.	Improve local drainage by constructing pressure storm sewer line under existing railroad embankment. Detailed analysis and design needed for the purpose of developing construction documents.	Capital		\$75,000
4	CFHMP	S-6	South Fork Palouse River	Restricted flow through reach of channel between Kamiaken Street Bridge and downstream railroad trestles (approximately 200 feet in length). Conveyance capacity of channel may be limited by the accumulation of a significant amount of debris and vegetation in the channel. Note: The impacts of the bridge pier, channel widening, and elimination of the railroad trestle were evaluated in the City of Pullman CFHMP (Alternative #5).	Clear channel and remove debris. Regularly maintain channel.	Channel Maint./Improvement		\$20,000
5	CFHMP	D-1	Dry Fork Creek	Localized flooding at Myers Auto Body during high runoff events. Large CMP culvert previously damaged (collapsed) and inlet channel laden with debris and sediment.	Repair culvert by reinforcement of inlet. Clean inlet channel to culvert. Regularly maintain channel.	Channel Maint./Improvement		\$10,000
6	CFHMP	D-2	Dry Fork Creek	H & H driveway - Grand Avenue. Heavy debris exists in inlet channel to large CMP culvert.	Clean inlet channel to culvert. Regularly maintain channel.	Channel Maint./Improvement		\$5,000
7	CFHMP	M-3	Missouri Flat Creek	Overtopping of channel in the vicinity of the car wash and Stadium Way Bridge, with subsequent flooding of Grand Avenue during large runoff events. Note: The low-profile box culvert under the Car Wash is restrictive and limits channel conveyance as presented in the City of Pullman CFHMP (Alternative #2).	Remove car wash structure and improve channel upstream to Stadium Way Bridge.	Capital	\$156,000	\$171,600
8	CFHMP	M-4 M-5	Missouri Flat Creek	Overtopping of channel and flooding along Grand Avenue attributed to significant channel skew at abandoned railroad trestle and reduction in conveyance capacity due to overgrowth of vegetation and the accumulation of debris (M-4). Additional overtopping of channel downstream of railroad trestle attributed to overgrowth of vegetation and accumulation of debris (M-5). Note: The benefits of removing the railroad trestle and clearing the vegetation and debris along a 700-foot reach of channel were evaluated in the City of Pullman CFHMP (Alternative #3).	Remove abandoned railroad trestle, clear vegetation and debris, and perform channel dredging and cross section improvement along 700-foot reach of channel. Limited analysis and detailed design may be needed to design the reach of channel for the purpose of developing construction documents.	Capital	\$237,500	\$261,250
9	CFHMP	M-6	Missouri Flat Creek	Accumulation of debris and vegetation in the channel downstream of the Grand Avenue Bridge. Note: Length of reach not specified in the City of Pullman CFHMP.	Clear channel and remove debris. Regularly maintain channel.	Channel Maint./Improvement		\$10,000
10	CFHMP	M-8	Missouri Flat Creek	Flooding of low-lying portion of Park Street to the west of intersection with State Street. Restricts access to the City's Maintenance and Operations Facility and Waste Water Treatment Plant during high runoff events. Note: The benefits of vegetation removal and the minimum roadway surface elevation for the 600-foot section of roadway are presented in the City of Pullman CFHMP (Alternative #6).	Elevate Park Street roadway surface. Limited analysis may be needed to determine which flood event (10-, 50-, or 100-year event) to be used as the critical design elevation.	Capital	\$137,000	\$150,700
11	CFHMP	P-1	Paradise Creek	Railroad trestle with skewed inlet and accumulation of debris.	Remove debris. Regularly maintain channel.	Channel Maint./Improvement		\$5,000

Project No.	Project Source <sup>1</sup>	Project Source ID	Project Drainage Area	Project Location and Problem Description	Project Description	Project Type	Est. Cost Original <sup>2</sup>	Est. Cost 2007 <sup>3</sup>
12	Field Visit 03-30-07		Stadium Way	Stormwater runoff from upland tributary areas are conveyed through an existing storm sewer trunk line that follows along Valley Road and the lower portion of Stadium Way. The existing line terminates to the west where it directly discharges into Missouri Flat Creek above the eastbank abutment of the Stadium Way Bridge. Based on information provided by City staff, the existing trunk line is deteriorating in various locations and has limited capacity during larger runoff events (surcharging with displacement of manhole covers). City staff have indicated that the line needs to be replaced, beginning at the outlet of Lake DePuddle and extending to the west along Valley Road and further downstream along Stadium Way, eventually discharging into Missouri Flat Creek. The overall length of line proposed for replacement is approximately 4,800 feet.	Replace 4,800 feet of existing storm sewer trunk line. Detailed analysis and design needed to adequately size replacement line and to develop construction documents.	Capital		\$1,500,000
13	Field Visit 03-30-07		Dry Fork Creek	The lower reaches of Dry Fork Creek are typified by large diameter corrugated metal pipe culverts (predominantly 8-foot diameter), short reaches of open channel, and a long box culvert along Grand Avenue. Based on information provided by the City staff, the existing concrete box culvert along Grand Avenue is aging and showing signs of significant deterioration in numerous locations, which requires periodic removal of concrete from the structure and on-going maintenance and repair activities. City staff have indicated that the box culvert needs to be replaced, however, significant preliminary engineering would be necessary to assess the most appropriate design for this reach of the creek considering the location of the project within the downtown area and its proximity to Grand Avenue. Based on estimates provided by City staff, approximately 1 mile of box culvert would need to be replaced along Grand Avenue.	Replace 2,100 feet of existing box culvert. Recommend conducting a preliminary engineering investigation to (1) assess drainage basin, (2) perform hydraulic/hydrologic analysis; (3) investigate design considerations; and (4) conduct an alternatives analysis, including cost estimates.	Capital		\$3,500,000
<b>Total Capital Drainage Costs</b>								<b>\$5,809 to \$6,311K</b>

<sup>1</sup> Project Source:

- City of Pullman Comprehensive Flood Hazard Management Plan (CFHMP). Prepared by Taylor Engineering, Inc., 2003.
- City of Pullman field visit. Conducted by Otak on March 30, 2007.

<sup>2</sup> Estimated Cost Original: Represent original cost estimates provided for select projects identified in the City of Pullman CFHMP.

<sup>3</sup> Estimated Cost 2007: Represent order of magnitude cost estimates for new projects or updated cost estimates for previously identified projects based on application of the following adjustments:

- For potential projects identified in the CFHMP, apply an ENR Construction Cost Index (CCI) adjustment factor of 1.10 for Seattle, WA for period of 2003 to 2007.