

City of Tacoma Stormwater Management Program Assessment

Attachment B3

Attachment B3. City of Tacoma Stormwater Management Program Assessment

The following discussion includes an assessment of the appropriateness of Tacoma's Stormwater Management Program elements including any changes made or anticipated to be made, and why, per NPDES Stormwater Management Program (SWMP) Permit Sections S9.E.6 and S8.B.2.

B3.1 Public Involvement and Participation

Program Update: This year, elements of the SWMP Public Involvement and Participation Plan were used to update the 2008 Tacoma Surface Water Management Manual. Stakeholders were invited to one public meeting on September 4, 2008, to discuss questions and offer comments. Additionally, the draft Surface Water Management Manual was available on the City's website, and written public comments were solicited between August 26 and September 10, 2008. We have established a small, but growing list of participating stakeholders. Comments were received, evaluated and incorporated in the Manual update. Elements of the Public Involvement and Participation Plan developed for the Stormwater Management Program 2007 Update were implemented as part of this process. Besides the Manual revision, no other formal revisions of the Stormwater Management Program were made in 2008.

The Environmental Services biannual budget review and approval for 2009-2011 was completed in October 2008, and included review of the Stormwater Management Program and related Surface Water Utility budget items. City Council and Environmental Services Commission members reviewed and approved the budget update.

Program Assessment: The existing public participation process completes the related elements of the Stormwater Management Program.

B3.2 Controlling Runoff from New Development, Redevelopment and Construction Sites

Program Update: In late 2008, the single family residential/duplex building permit plan review process was identified as a program element that needed an update to meet NPDES Permit requirements. A Stormwater Site Plan will be required for review and approval of all projects that meet the NPDES Permit Appendix 1 thresholds. The commercial permitting will be reviewed to ensure there are no gaps in enforcement of the NPDES Permit requirements once the process revision for single family/duplex permits has been implemented. These changes will be developed and implemented in 2009.

In 2008, the Building and Land Use Services Division conducted a study of alternatives for streamlining the permitting process with stakeholder involvement. An outcome of the study is to proceed with a Rapid Optimization alternative that incorporates many improvements that can be done without a change to the organizational structure. The plan review and inspection activities related to the Stormwater Management Program are included in that evaluation process and proposed improvements include developing a Permit Center for providing better service at the front end of the plan review process, incorporating an electronic plan review process with defined workflows in the complex plan reviews, improving transparency in the plan review process to the applicants through the City's web, and developing a system for better code development

through implementation planning and feedback loops. These process updates will be further developed, and implementation is anticipated to begin in 2009.

In 2008, final inspection and sign-off of private stormwater facilities was reassigned to the Environmental Compliance inspectors as a process improvement to provide an educational opportunity for Environmental Compliance staff to review operation and maintenance requirements with the builder or owner. It also facilitates the process for tracking future maintenance inspections of the facilities. As a result of this process change, inspection of newly constructed stormwater facilities is assigned to Construction inspectors for publicly-owned facilities within the right-of-way and by Environmental Compliance inspectors for privately-owned facilities located on-site. This is consistent with the existing Stormwater Management Program.

Although City inspectors' standard procedures include inspecting all temporary erosion and sediment control measures both on-site and in the right-of-way during construction, preventing erosion and sediment loss during active construction is recognized as an ongoing challenge and will continue to be a focus of Building Division, Construction Division, and Environmental Compliance inspectors in 2009. This is consistent with the existing Stormwater Management Program.

Significant new plan review and inspection staff training opportunities were provided in 2008 including the Surface Water Management Manual update, NPDES permit requirements, low impact development, erosion and sediment control best management practices and stormwater facility maintenance activities.

Program Assessment: The new program elements added in 2008 were consistent with the existing Stormwater Management Program. Additional program improvements will be evaluated and implemented in 2009 to complete related elements of the Stormwater Management Program.

B3.3 Structural Stormwater Controls

Program Update: In 2008, based on an ongoing program to inspect and evaluate the condition of existing storm main pipes throughout the City, the Thea Foss Watershed Stormwater Pipe Retrofit Project was added to our Capital Improvements Program. This project will rehabilitate deteriorated stormwater pipe in the downtown area with cured-in-place pipe (CIPP) technology to reduce inflow and infiltration from contaminated soils and improve the stormwater quality of discharges to the Thea Foss Waterway, where a Superfund cleanup was recently completed. Construction activities are projected to occur in spring or summer of 2009.

In 2008, a variety of Regional Water Quality Treatment projects were also being considered for addition to the Capital Improvements Program. The City is evaluating the results from a study of Media Filtration Stormwater Treatment Devices located at the WSDOT Lake Union Ship Canal Research Facility (Ship Canal Study). These treatment devices, along with other stormwater treatment BMPs identified in Tacoma's Surface Water Management Manual, will be compared for reasonableness to retrofit Structural Stormwater Controls in the Thea Foss Watershed in a study to be initiated summer, 2009. Reasonableness shall take into consideration effectiveness, capacity, maintenance requirements, flood control, and cost of the treatment technology in comparison to the effectiveness achieved or expected to be achieved in reducing

contaminant loads. Recommendations will be evaluated to implement City-wide. The 2009-2010 Capital Improvement Program has budgeted for one initial regional treatment retrofit and a treatment project upstream of the stormwater outfall to Snake Lake, design details to be determined. Low impact development retrofits are also included in the unfunded project list.

Program Assessment: The Structural Stormwater Controls program has mechanisms for evaluating and adding water quality treatment projects to complete related elements of the Stormwater Management Program.

B3.4 Source Control Program for Existing Development

Program Update: In 2008, the Source Control inspectors began a program of door-to-door area inspections in order to accomplish permit requirements of developing a comprehensive list of Pollution Generating Sources and inspecting 20% of the listed businesses each year starting in 2009. Additionally, the Source Control inspector database was updated with tools to facilitate tracking for the NPDES Permit Annual Report.

Program Assessment: The existing source control program completes the related elements of the Stormwater Management Program.

B3.5 Illicit Connections and Illicit Discharges Detection and Elimination

Program Update: In 2008, IDDE staff made significant progress towards meeting the NPDES Permit deadline to complete IDDE field screening of 60% of the City's stormwater system by February 2011. Field crews investigated sanitary and storm connections by initial smoke testing, then they verified results with a dye test, if necessary. By the end of 2008, field screening was completed for over 11,000 addresses in the City which equates to approximately one-quarter of the City of Tacoma's stormwater system. Additionally, a training video for City field staff to identify and report illicit discharges was developed in 2008 in preparation for the training deadline in February, 2009.

Program Assessment: The existing IDDE program completes the related elements of the Stormwater Management Program.

B3.6 Operation and Maintenance Program

Program Update: As can be seen by comparing the maintenance summary reports from 2007 and 2008, the number of surface water maintenance tasks performed has increased up to 25% in most areas, showing increase in total annual work completed under permit section S5.C.9.b.iii. (inspecting public stormwater facilities) and S5.C.9.b.iv. (annual inspection and maintenance of catch basins).

The systematic maintenance of City-owned catch basins and stormwater facilities is enhanced by maintenance plans which apply to specific locations or facilities which need maintenance at intervals beyond the typical maintenance cycle. These maintenance plans include specific guidelines for the type of maintenance and frequency needed, and are developed as a result of observations during regular maintenance visits by staff. Forty of the 41 maintenance plans were updated in 2008 in response to maintenance

staff observations.

The catch basin inspection and maintenance program has built-in evaluation and updating mechanisms to make sure the system as a whole is being cleaned sufficiently. In addition to a standard two to four year maintenance cycle for each catch basin maintenance area (Areas #1-20), individual maintenance plans are developed for some catchments with especially heavy loads of sediment and individual problem catch basins. A process improvement implemented beginning in 2007 is the additional cleaning of catch basin laterals in conjunction with the catch basin cleaning activity. Another process improvement implemented in 2008 is the use of GPS-linked catch basin inspections during street sweeping activities. This technology was added to the street sweeping program to identify problem catch basins that need immediate attention beyond the normal maintenance cycle. Street sweeping throughout the City is performed in cycles which occur up to three times per year. This allows us to provide annual inspections of all City-owned catch basins, as required in the NPDES Permit Section S5.C.9.b.iv., and identify and correct potential problems, often before a customer complaint is received.

The street sweeping program has become an integrated part of the City's stormwater maintenance activities. Since the Sewer Transmission Maintenance Department took over street sweeping in 2007, miles swept have increased by 25%, as can be seen in the maintenance summary reports. Prioritization of intense use areas such as arterials and business districts for more frequent sweeping is based on higher sediment loads swept in these areas, as well as aesthetics.

The Maintenance Division also provides storm pipe cleaning services throughout the City prioritized based on receiving water, spill response or other source control observations in the stormwater collection system (this included 24 requests for Source Control in 2008). These special projects are completed on an as-needed basis and interrupt the standard catch basin area cleaning schedule. In 2008, the surface water collection system of Outfall 237a was the focus for the summer cleaning project. A total of 156,000 linear feet of pipelines were cleaned in this project area.

Program Assessment: The Operation and Maintenance program completes the related elements of the Stormwater Management Program.

B3.7 Education and Outreach Program

Program Update: Attached is a spreadsheet summarizing the Stormwater Education and Outreach Program activities in 2008 and identifying program updates and future direction for each activity (Attachment B16).

Program Assessment: Evaluation of the overall understanding and adoption of target behaviors resulting from the Stormwater Education and Outreach Program is based on the results of the City of Tacoma Environmental Services, Science & Engineering Division survey which is a regularly administered, statistically valid, City-wide survey. Another round of this survey will be administered in 2009. We are also coordinating with Pierce County's 2009 Surface Water Management Public Opinion Survey to oversample a statistically significant number in Tacoma city-limits for comparative data to supplement Environmental Services survey results. Although no new survey results were available in 2008, a preliminary program assessment was included in Attachment

B16 using information from the 2002 and 2005 City of Tacoma surveys and the recently collected 2009 Pierce County survey results. Complete City of Tacoma 2009 survey results will be included in the 2009 Annual Report.