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Editor's Note

Many thanks to those of you who reviewed and commented on the previous drafts of the manual. Much of the continued improvement of the manual has been, and will continue to be, the result of reviewers' comments and constructive criticisms.

The final version of the manual has been prepared following review of the June, 1991 "Public Review Draft" that was distributed to some 900 reviewers last summer. Technical workshops were held in Everett, Bellevue, Tacoma, and Olympia during August and September, 1991. Written comments were received from 55 reviewers.

Changes in the Puget Sound Stormwater Management Program

The Puget Sound Stormwater Management Program mandated by the Puget Sound Water Quality Management Plan (PSWQMP) has changed substantially since the release of the 1991 draft manual. There are no longer two "companion" rules. The language requiring the adoption of local stormwater management programs has been placed in the PSWQMP instead of being contained in rule form.

The Puget Sound Water Quality Management Plan states that local stormwater management programs are to be consistent with the Plan, as well as Ecology's guidance, model ordinances and Stormwater Management Manual. Ecology is to monitor compliance with the Plan requirements, reviewing the status of each local program every two years. Information on implementation schedules and procedures for reviewing local programs are provided in the "Stormwater Program Guidance Manual for the Puget Sound Basin" (hereafter referred to as the Guidance Manual), a companion to this manual. Copies of either this manual or the Guidance Manual can be obtained by calling (206) 438-7116 or (206) 438-7059. The cost is not known for certain as we go to press, but should be approximately \$40.00 (U.S.) for either manual. Do not send us funds, as a bill will be sent with the manual.

Changes Made to the Manual

Changes were made to the 1991 draft manual based both on new information available and comments received. Some things didn't change: for example, we are still emphasizing the use of infiltration where appropriate. A reduced release rate of 50% of the pre-developed discharge rate has been retained for streambank erosion control. The correction factors have been kept but they are only necessary for streambank erosion control BMPs. The 7-day design storm has not been incorporated at this time. Further hydrologic modelling and analysis is planned for this year with the goal of providing more accurate and easy-to-use methods (see "Unfinished Business", below).

New Development/Redevelopment

- The threshold for land disturbing activities between small parcels and large parcels has been increased to 1 acre (page I-2-2).
- The size threshold of 11.5% for redevelopment sites greater than 1 acre in size was dropped. 5,000 square feet is used as the trigger, regardless of the size of the development (page I-2-4).
- A "documented water quality problem" is now defined (page I-2-4).

Minimum Requirements

- Many editorial changes were made to better clarify the content and rationale for the Minimum Requirements. The modifiers "General" and "Special" for Minimum Requirements were dropped, and the requirements arranged in a more logical order. Objectives were added for each Minimum Requirement.
- The Erosion and Sediment Control "General Criteria" were moved from Chapter II-4 to Chapter I-2, and consolidated as Minimum Requirement #1, Erosion and Sediment Control.
- The off-site analysis requirement (now Minimum Requirement #8, Off-site Analysis and Mitigation) was simplified.
- The ability to use an implemented and adopted basin plan to modify the Minimum Requirements was included (see Minimum Requirement #9, Basin Planning).

Remainder of Chapter I-2

- More specific information and two examples of experimental BMPs have been provided.

Chapter I-3

- A Small Parcel BMP checklist which can be used "as-is" or modified by the local government has been added. Completion of this checklist can be considered to have met the Small Parcel Erosion and Sediment Control Requirements.
- Large parcels require the development of a "Stormwater Site Plan" which is in turn made up of a Large Parcel Erosion Control Plan (LPESC) and a Permanent Stormwater Quality Control Plan (PSQC). The LPESC addresses erosion and sediment control during the construction phase, and the PSQC plan addresses permanent stormwater management facilities.

Chapter I-4

- The BMP selection process has been revised to more clearly define the type of pollution problem that a BMP is targeted to control. The problem may be water quality (WQ), which addresses either nutrients or conventional pollutants, streambank erosion control (SBEC), source control or, as is most likely, a combination of these types.

- A clear distinction is now made between BMPs which are designed to treat the water quality design storm (6-month, 24-hour storm) and those which are designed for streambank erosion control, which are significantly larger events.

Volume II

- Information on development of ESC plans has been added back in Chapter II-4. A sample ESC plan will eventually be included in the Guidance Manual.
- An explanation of the requirements for NPDES stormwater permits based on the proposed industrial baseline general permit is also included in Chapter II-4.
- Changes were made to the filter fabric BMP based on research done by the King County Conservation District (Chapter II-5).

Volume III

- The Rational Method has been dropped from use.
- The procedure for designing infiltration BMPs has been simplified.
- Sand filters have been added as a BMP.
- Aquatards are now considered to be an experimental BMP.
- A new design procedure is provided for presettling basins.
- The sizing criteria for wet ponds has been changed to reflect the amount of runoff generated by a site rather than a "1.5% of drainage area" approach applied across the board. Less intensely developed sites have smaller ponds, while sites with more impervious area require larger ponds. Previously the ponds were the same size regardless of the site impervious cover.
- The use of oil/water separators has been restricted. On an interim basis, sand filters may be used as a substitute.
- The constructed wetland BMP has been moved from the chapter on wetlands to the chapter on detention systems to emphasize its relationship to detention systems rather than the relationship to natural wetlands.
- Biofiltration is now a stand-alone BMP for treatment of conventional pollutants but not for nutrient control.
- Filter strip design has been separated from biofiltration swale design. The existing design method, however, has not been changed.
- Biofilter design now uses the 6-month event instead of the 2-year event in order to be consistent with other BMPs.

Volume IV

- Information on golf courses has been included.
- Street sweeping has been added as a BMP.

Status Reports

Detailed information on NPDES, the Sediment Standards, the relationship of BMPs to the water quality standards, and information on program requirements can be found in the Guidance Manual. Included below are some other status reports.

Training and Technical Assistance

In July, 1992 we will be conducting our first workshops for local government staff. These day-long workshops will be sited throughout the basin and provide an overview of Ecology's stormwater management program. Based on input received at these workshops, we will develop other training sessions.

Eventually we will be providing a wide range of training and technical assistance to both local government staff and others. As a start, funds have been committed to the Center for Urban Water Resources Management at the University of Washington for three different tasks. The first is to continue their popular on-site visits to local jurisdictions. The second task will be to develop a half day (approximate) course on erosion and sediment control which would be appropriate for construction site personnel. The course would then be taped and distributed. The third task is to implement a "hotline" for local government personnel questions. This task would also include cataloging the information that the Center now has available, and includes funding for some applied research. We hope to continue some form of this funding from year to year.

We also anticipate developing a videotape of approved erosion and sediment control BMPs.

Vactor Waste Disposal Issues

We recognize that the lack of accepted procedures and locations for the disposal of waste from maintenance activities is one of the greatest problems confronting stormwater operation and maintenance programs. Disposal of the liquid and solid waste material from vactor trucks and other maintenance operations is a concern because of the potential to contaminate surface or ground water. Some existing disposal practices may violate dangerous waste regulations, or otherwise be harmful to the environment.

In order for Ecology to develop guidelines that address appropriate disposal practices, more information is needed on the nature of vactor wastes. In response to this data gap, two grants from EPA have been used to collect and analyze vactor waste samples. Final results of the sampling will be available in September, 1992.

We will be using the sampling results and other available data to develop disposal options. At this time it is not known if disposal procedures will be issued as guidelines or a rule (regulation).

Ecology's Solid and Hazardous Waste program is currently working on revisions to Ch. 173-304 WAC, the minimum functional standards for solid waste facilities. These revisions may be an appropriate mechanism for addressing vector waste. Contaminated soils have been identified as one of five issues that are to be addressed in the proposed revisions, and vector waste will be looked at as part of this issue. The proposed process for these revisions is to collect information this summer, publish a draft EIS with draft rule language in December of 1992, a final EIS in April of 1993, and adopt final rules in September of 1993.

We intend to prepare a supplemental guidance paper on disposal procedures when we have enough information to begin to answer key questions about the characteristics of these materials.

SEPA Checklist and DNS

A SEPA checklist was filled out for the Stormwater Management Manual as it was determined that the manual was subject to SEPA review as a non-project action. The DNS was published in the March 16-20, 1992 SEPA Register. There was no comment period required.

Status of the WSDOT Manual

WSDOT is required to develop their Highway Runoff Manual within 6 months after this manual is published. Roads and right-of-way issues will be addressed in this manual, and we anticipate that local governments will also be able to make use of this information.

Technical Advisory Committee

The technical advisory groups (TAGs) that were originally constituted by Ecology need to be reconstituted. We anticipate developing those TAGs into a standing advisory committee to review experimental BMPs in consultation with Ecology and provide review of the many technical questions still on our agenda. We expect to reformulate this committee later this year as part of the manual update process.

Unfinished Business

In a field as complex and rapidly changing as stormwater management, there will always be "unfinished business". The PSWQMP requires that the manual be updated yearly. Based on the progress of some ongoing research projects, we anticipate that the next version of the manual will include the results of the HSPF runoff files research done at the University of Washington.

Other additions we hope to make are the use of the 7-day storm for streambank erosion control, and the inclusion of more detailed isopluvial maps for the entire Puget Sound basin.

We still do not have a definitive answer as to the cost of implementing these new procedures. We have funds available for development of a document similar to a Small Business Economic Impact Statement (SBEIS), and hope to have this complete within the next year. Related to the economic question as a whole is whether or not the cost is relatively higher for small commercial sites than for larger sites. This is one of the major problems we hope to address with the SBEIS.

Because of problems with the use of small (less than 1 inch) orifice sizes, runoff from small commercial developments cannot now be adequately controlled through the use of wet ponds. There is no easy solution to this problem, and we hope that local governments will work together with developers to develop and implement alternatives to site-specific wet ponds in the future.

Lastly, we hope to be able to desktop publish the manual in order to make it more user friendly than it currently is. In time, we may also have both a "pocket" version of the manual and a computerized version available.

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Editors and Compilers