Guidance/Resources for Storm Water Phase II

Mississippi Department of Environmental Quality (MDEQ)
Environment Permits Division (EPD)
General Permits Branch
(601) 961-5171

The following is a list of resources that is recommended for developing and implementing a Phase II storm water program. See MDEQ’s web page @ http://www.deq.state.ms.us for a list of the designated municipalities requiring NPDES Storm Water Permitting under Phase II and other relevant information concerning storm water (i.e. permits & guidance manuals are found under the General Permits Branch). The list of designated municipalities is attached at the end of this document as Appendix A. Current census information may be found at http://www.census.gov/. Special thanks to the Colorado Department of Public Health and Environment for a partial list of the following resources.

A. EPA

A.1. EPA Storm Water Phase II
EPA has several web sites with lots of information and good FAQs:

- http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm?program_id=6 14 fact sheets covering the Small MS4 Program, the Six Minimum Measures, Permitting and Reporting, the Construction Program, and the Industrial “No Exposure” Waiver
- http://www.epa.gov/sbrefa/documents/sbar_panel3.htm A copy of the EPA regulation is available at this site
- http://www.epa.gov/owm/sw/phase2 More information can be obtained by calling EPA’s Storm water Phase II Rule Hotline at (202) 260-5716, or by sending an e-mail to sw2@epa.gov
- http://www.epa.gov/OW-OWM.html/sw/phase2/comguide.pdf This EPA compliance guidance manual is intended to aid regulated entities in complying with the Storm Water Phase II final rule.
- http://www.tetratech-test.com/bmpmanual/htmfolder/index.htm A draft menu of BMPs that addresses each of the six minimum control measures and two draft model permits for small construction activities and regulated small municipal separate storm sewer systems (MS4s)
- http://www.epa.gov/owm/sw/toolbox/ EPA is providing the tools necessary to facilitate implementation of the Final Phase II storm water program in an effective and cost-efficient manner. The "tool box" includes the following components: Fact Sheets, Guidance Documents, Menu of BMPs, Information Clearinghouse, Training and Outreach Efforts, Technical Research, EPA’s Office of Research & Development’s Urban Watershed Management Branch, Support for Demonstration Projects, Compliance Monitoring/Assistance Tools, Local Government Environmental Assistance Network. EPA will have a fully operational tool box in place by the time the general permits are issued.
- http://www.epa.gov/npdes/stormwater/measurablegoals/part2.htm#what Measurable goals are BMP design objectives or goals that quantify the progress of program implementation and the performance of your BMPs. Measurable goals become requirements of the storm water management program.

A.2. EPA Compliance Assistance Centers
EPA has established ten sector-specific Compliance Assistance Centers. They cover broader environmental issues than just storm water, but might be useful. The first one is the most relevant to Phase II municipalities.

- National Metal Finishing Resource Center – www.nmfrc.org
- Paints and Coatings Resource Center – www.paintcenter.org
- Printed Wiring Board Resource Center – www.pwbrc.org
- Printers’ National Environmental Assistance Center – www.pnecac.org
- Transportation Environmental Resource Center – www.transource.org
B. General BMPs

With the approach of the Phase II deadline for implementation, many municipalities, consultants and water resource planners have begun the process of determining what mix of the best management practices (BMPs) will be needed to comply with Phase II’s six minimum measures and to obtain permit coverage. Because Phase II is a narrative rule generally requiring the implementation of BMPs for obtaining permit coverage, selecting the right mix of BMPs is critical. The following guidance will help in selecting the proper of BMPs for your particular municipality.

See Also:

- http://www.epa.gov/npdes/ menuofbmps/BMP_files.htm
- http://www.epa.gov/own/sw/toolbox/ EPA’s “tool box” which a menu of BMPs

- Item C.3. - This guidance offers insight on developing the 6 minimum control measures

B.1. Center for Watershed Protection

The center provides objective and scientifically sound information on effective techniques to protect and restore urban watersheds. Workshops, journals, publications and links are available. There is a strong focus on Low Impact Development. Also a good section on model ordinances and several quality reference books.

- 8391 Main Street
  Ellicott City, MD 21043-4605
  Phone: (410) 461-8323
  http://www.cwp.org

Some recommended publications (visit their web page for more information):

- Rapid Watershed Planning Handbook – $40 + s/h
  Guide to creating an effective watershed plan quickly and at a low cost.

  This handbook outlines 22 guidelines for better developments and provides detailed rationale for each principle. Includes a sample Codes & Ordinances Worksheet.

B.2. Know Your Watershed

Tips, tools, and resources for watershed management. Sponsored by the Conservation Technology Information Center (CTIC) at Purdue University. Available publications include a Local Ordinance Manual and an Urban Stream Restoration Field Manual.

- http://www.ctic.purdue.edu/KYW/


Report available for download from the net on community responses to runoff pollution, including 100 case studies.

- Steps to clean up pollution: http://www.nrdc.org/water/pollution/gsteps.asp


Database of monitoring results showing effectiveness of structural and non-structural BMPs. Currently, the database and web site do not include much analysis of the data; this will be added in the future. Data contributions are being solicited on an on-going basis. Available as CD-ROM, or on the web at http://www.bmpdatabase.org.

- Call Jane Clary or Jonathan Kelly at Wright Water Engineers, Inc., (303) 480-1700, or email at clary@wrightwater.com for a copy of the CD-ROM and user’s guide (free).


Proceeds from a recent conference with several quality papers on topics such as Phase II cost estimates, developing a storm water utility fee, tools for eliminating illicit connections, public information projects, and many more directly applicable to Phase II and the six minimum measures. Highly recommended.

- Copies in either paper or CD-ROM are available free of charge from the EPA; call (800) 490-9198 or visit the web site at http://www.epa.gov/ncepihom.

B.6. Storm Water News

A good source of technical information on storm water. Includes a large library of technical papers.

- http://www.stormwater-resources.com/
B.7. **Texas Nonpoint Source Book**
A web site with storm water information geared to public works professionals and other interested parties. The development of this site was funded in part through a U.S. EPA 319(h) grant. A great resource for storm water BMP information.
- [http://www.txnpsbook.org](http://www.txnpsbook.org)

B.8. **Planning & Design Manual for the Control of Erosion, Sediment & Storm Water**
Mississippi’s manual provides technical guidance for the control of erosion, sediment, and storm water from nonpoint sources (NPDES) and for the preparation of erosion, sediment, and storm water control plans as needed. The manual is a cooperative effort by Mississippi Department of Environmental Quality, Mississippi Soil & Water Conservation Commission and USDA Soil Conservation Service. The manual is also available (free) electronically at [http://abe.msstate.edu/csd/p-dm/](http://abe.msstate.edu/csd/p-dm/)

Manual $20
Mississippi Department of Environmental Quality
P.O. Box 20305
Jackson, MS 39289-1305
Phone: (601) 961-5171
[http://www.deq.state.ms.us](http://www.deq.state.ms.us)

B.9. **Field Testing of a Sock-Type Catch Basin Insert**
This report presents the findings of the most comprehensive study to date of catch basin inserts used for storm water pollution control on existing developed sites. The study was funded by a grant from the National Fish and Wildlife Foundation and commissioned by PlanetCPR - a non-profit organization.
- For obtaining a copy call PlanetCPR @ (206) 285-3888
  Fax: (206) 285-3887
  email: [www.planetcpr.org](http://www.planetcpr.org)

C. **General Phase II Program Guidance**

See Also:
- Item A.1. - EPA Storm Water Phase II
- Item B.7. – This Nonpoint Source Book contains guidance on program planning and implementation

C.1. **California Model Urban Runoff Program (MURP)**
A how-to guide for developing urban runoff programs for small municipalities. Developed by the City of Monterey, CA.
  Copy King
  MURP Order
  498 Calle Principal
  Monterey, CA 93940
  (831) 373-1251

C.2. **Designing and Implementing an Effective Storm Water Management Program (APWA)**
110 page manual with good information for getting your Phase II program started. A CD-ROM is also available with the complete Phase II regulation, the EPA BMP database (Item B.4.) and case studies, and other ancillary information. Also available is a Storm Water Facilitators Guide with step by step instructions for an APWA chapter or agency to conduct its own storm water workshop, and videotape of the 2/15/2000 APWA videoconference with the EPA.
- For questions about content call (816) 472-6100 x3582
  Questions about ordering, call (816) 472-6100 x3560
  Costs:
  - Videotape of Teleconference = $69 +s/h
  - Storm Water Manual for Phase II Programs w/ CD= $35 + s/h
  - Storm Water Facilitators Guide = $75 + s/h
  - Package of all three above = $149 +s/h
  - Video tape and Storm Water Manual for Phase II Programs w/ CD= $95 + s/h
C.3. **“How To” Guide for Storm Water and Urban Watershed Management**
This guidance manual was developed by the Troy State University Center for Environmental Research and Service as an element of a U.S. EPA funded cooperative study. This manual focuses on storm water program development in Phase II communities, and offers insight on developing the 6 minimum control measures. This guide is available at the ADEM website:

http://www.adem.state.al.us/EnviroProtect/WatershedMan/watman/Documents/watershed/StrmwtrPhaseIIMan.pdf

- Contact Mr. Michael William Mullen (Director of the Center for Environmental Research and Service) at Troy State University (313) 670-3624. Email: mmullen@troyst.edu

C.4. **The Stormwater Manager's Resource Center (SMRC) web site**
The Stormwater Manager's Resource Center (SMRC) web site is made possible through a grant from the Environmental Protection Agency, Office of Water, Office of Wastewater Management, Assistance Agreement #828077-01. The SMRC site is managed and published by the Center for Watershed Protection, Inc., a 501(c) 3 organization located in Ellicott City, Maryland. The SMRC web site was funded to provide Phase II communities with the tools and techniques necessary to protect their watersheds and to enhance and restore their local water resources. The SMRC is designed specifically for stormwater practitioners, local government officials and others that need technical assistance on stormwater management issues

- http://www.stormwatercenter.net/

D. **Tools for the Six Minimum Measures**

See Also:
- Item A.1. - The EPA has developed Fact Sheets on each of the 6 Minimum Measures.
- Item C.3. – This guide offers insight on developing the 6 minimum control measures.

D.1. **Public Education & Outreach**
See Also:
- Item B.1. – The Center for Watershed Protection includes education & outreach in their watershed planning publications.
- Item B.5. – These proceedings include several papers covering successful education & outreach efforts.
- Item B.6. – The “Library” section of this site contains several articles on Education.
- Item B.7. – The Nonpoint Source Book contains guidance on planning and implementing education and outreach programs and examples of materials available for use.
- Item C.1. – The MURP covers public education.

D.1.i. **League of Women Voters Education Fund – Water Resources**
Information regarding educational programs and resources offered through the League of Women Voters, including the Wetlands Citizen Education Program. The League of Women Voters is very active in storm water education in Colorado.

- http://www.ourwater.org/

D.2. **Public Involvement/Participation**
See:
- MDEQ Power Point presentation with notes that may be used for public outreach efforts. This presentation can be found at MDEQ’s web page @ http://www.deq.state.ms.us, under the General Permit Branch (Technical Guidance).
- Item B.5. – These proceedings include papers covering successful public involvement programs.
- Item C.2. – This manual includes guidance on building community support with stakeholder involvement.

D.3. **Illicit Discharge Detection & Elimination**
See Also:
- Item B.5. – These proceedings include papers covering illicit discharge detection tools and programs.
- Available from the National Technical Information Service (NTIS Order Number: PB93-131472INZ) for $34 + s/h. Order online at http://www.ntis.gov/ or call 1-800-553-6847.

D.3.ii  Rouge River National Wet Weather Demonstration Project - Illicit Connection Reports
Free downloadable report on illicit connections and other technical topics.
- http://www.wcdoe.org/rougeriver/techtop/

D.4. Construction Site Storm Water Runoff Control
See Also:
- Items B.4., B.5., B.6., B.7., and B.8. – All of these have good BMP information for construction site controls.
- Item B.5. and B.7. – Both of these contain guidance on setting up Construction Site Storm Water Runoff Control programs.

D.4.i  International Erosion Control Association
Their web site provides information regarding news, conferences, training and exhibits regarding erosion control, as well as links to other sites. They also publish a journal called Erosion Control.
- http://ieca.org/

D.5. Post Construction Storm Water Management
See Also:
- Item B.1. – The Center for Watershed protection has extensive information on BMPs for post construction runoff controls, as well as guidance on how to develop your municipal program. This is a highly recommended source for information on this minimum measure.
- Item B.4. – Although not complete, the database does contain some data on the effectiveness of post construction BMPs.
- Item B.5. – These proceedings include papers on Post Construction Storm Water Management practices and programs.
- Item B.8. – MDEQ’s manual is recommended as a resource post construction BMPs.

D.5.i  Low Impact Development Manuals (Prince George County, Maryland Department of Environmental Resources, Programs and Planning Division, EPA 841-B-00-003 and EPA 841-B-00-002, 1/2000)
Two technical manuals on Low Impact Development (LID): Low Impact Development, an Integrated Design Approach (EPA 841-B-00-003) was prepared by local planners, engineers, developers, and officials. This document details how to develop and implement LID methods from an integrated design perspective. Low Impact Development Hydrologic Analysis (EPA 841-B-00-002) is the companion document to the LID design manual. This document contains methodology that can be used to estimate changes in site hydrology due to new development, and also to design appropriate treatment systems to maintain the pre-development hydrology of the site.
- Copies available free of charge from the EPA; call (800) 490-9198, or visit the web site at http://www.epa.gov/ncepihom/

D.6. Pollution Prevention/Good Housekeeping for Municipal Operations
See:
- Items B.4., B.5., B.6., & B.7. – All of these have good information on BMPs for municipal operations.

E. Financing Storm Water Management

E.1. The Mississippi Department of Environmental Quality (MDEQ), The Office of Pollution Control, Construction Branch
MDEQ’s Construction Branch has funding available under the Water Pollution Control Revolving Loan Fund Program for certain planning, permit application, design, construction, and other implementation activities needed (exclusive of operation and maintenance) to comply with the Phase II storm water requirements. These low-interest loans of 2.5 % may have up to a 20-year repayment period. Call Mark Smith at 601/961-5130 (Email: Mark_Smith@deq.state.ms.us) for further information.
E.2. Center for Urban Policy and the Environment, Indiana University

The Center for Urban Policy and the Environment at Indiana University-Purdue University Indianapolis (IUPUI) in cooperation with the Watershed Management Institute, Inc. has used EPA grant money to develop a website designed to help communities find ways to pay for storm water management projects.

- [http://stormwaterfinance.urbancenter.iupui.edu/home.htm](http://stormwaterfinance.urbancenter.iupui.edu/home.htm)

See Also:
- Item B.5. – These proceedings include papers on administering and funding storm water programs.
- Item B.7. – The Nonpoint Source Book contains guidance on setting up storm water utilities.

F. Upcoming Phase II Workshops

F.1. The American Public Works Association (APWA) in cooperation with the U.S. EPA

It’s possible that EPA will have new funding available for APWA to do a new program series on Storm Water. Right now, EPA has indicated some interest in a program that highlights case studies from both Phase I and Phase II communities. If we hold such a program, the expected date(s) will start appearing on our calendar of events at [http://www.apwa.net/Education](http://www.apwa.net/Education) sometimes this fall. For more information contact Karen Wilson, Project Manager, American Public Works Association at (816) 472-6100, ext 3565 or by e-mail at kwilson@apwa.net

F.2. Be part of StormCon, the national convention for storm water engineers and program managers. Many people rely on your expertise for guidance on surface water quality-related issues, so don’t let this opportunity to meet and discuss your storm water challenges face-to-face with your peers pass you by. Our great rates at the hotel are selling out fast and classroom space is limited, so if you haven’t already done so, sign up for StormCon today!

**StormCon, The North American Surface Water Quality Conference & Exposition**

Marco Island, FL
August 12 – 15, 2002

Information on the conference, registration forms, and hotel reservation information are all available on the web at [www.StormCon.com](http://www.StormCon.com)

F.3. Coming June 27th, APWA will present a live 2-hour Click, Listen and Learn audio/web broadcast titled Storm Water NPDES Phase II: Setting Measurable Goals for Your BMPs to help you continue in your preparation for the deadline of March 10, 2003. Cost is $125 per site/internet connection. Register online at [www.apwa.net/education](http://www.apwa.net/education). For more information, call Ashley Gann or Michael Long at 1-816-472-6100

G. Associations to Contact for Additional Information

- American Public Works Association (APWA) – 202.393.2792 or [www.apwa.net](http://www.apwa.net)
- Water Environment Federation (WEF) – 1.800.666.0206 or [www.wef.org](http://www.wef.org)
- American Society of Civil Engineers (ASCE) – 1.800.548.2723 or [www.asce.org](http://www.asce.org)
- International Erosion Control Association – 1.800.455.4322 or [www.ieca.org](http://www.ieca.org)
- Erosion Control Magazine – [www.erosioncontrol.com](http://www.erosioncontrol.com)
- Stormwater Magazine – [www.stormh2o.com](http://www.stormh2o.com)

Contact Jim Morris ([Jim_Morris@deq.state.ms.us](mailto:Jim_Morris@deq.state.ms.us)) at MDEQ to provide comments and/or recommendations for additional resources or guidance needs. Information on what your city/county has done to this date to comply with Phase II is welcome – all information received will be shared with other regulated communities.

Last Updated – June 14, 2002
### Appendix A

Incorporated Places and Counties
Automatically Designated Under the Storm Water Phase II Rule
Located in Urbanized Areas
(From the 1990 Census of Population and Housing – U.S. Census Bureau)
(This list may change with the Decennial Census)

<table>
<thead>
<tr>
<th>Bay St. Louis</th>
<th>Harrison County</th>
<th>Pascagoula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biloxi</td>
<td>Hattiesburg</td>
<td>Pass Christian</td>
</tr>
<tr>
<td>Brandon</td>
<td>Hinds County</td>
<td>Pearl</td>
</tr>
<tr>
<td>Clinton</td>
<td>Horn Lake</td>
<td>Petal</td>
</tr>
<tr>
<td>D’Iberville</td>
<td>Jackson County</td>
<td>Rankin County</td>
</tr>
<tr>
<td>DeSoto County</td>
<td>Lamar County</td>
<td>Richland</td>
</tr>
<tr>
<td>Flowood</td>
<td>Long Beach</td>
<td>Ridgeland</td>
</tr>
<tr>
<td>Forrest County</td>
<td>Madison</td>
<td>Southaven</td>
</tr>
<tr>
<td>Gautier</td>
<td>Madison County</td>
<td>Waveland</td>
</tr>
<tr>
<td>Gulfport</td>
<td>Moss Point</td>
<td></td>
</tr>
<tr>
<td>Hancock County</td>
<td>Ocean Springs</td>
<td></td>
</tr>
</tbody>
</table>

Incorporated Places and Counties
(With a population of at least 10,000 and a population density of at least 1,000 people/sq. mi.) Potentially Designated
Outside Urbanized Areas under the Storm Water Phase II Proposed Rule
(This list may change with the Decennial Census)

<table>
<thead>
<tr>
<th>Brookhaven</th>
<th>Greenwood</th>
<th>Natchez</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canton</td>
<td>Grenada</td>
<td>Starkville</td>
</tr>
<tr>
<td>Clarksdale</td>
<td>Indianola</td>
<td>Vicksburg</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Laurel</td>
<td>Yazoo City</td>
</tr>
<tr>
<td>Columbus</td>
<td>McComb</td>
<td></td>
</tr>
<tr>
<td>Greenville</td>
<td>Meridian</td>
<td></td>
</tr>
</tbody>
</table>

---

1 Recommended potential designation criteria: Discharge to sensitive waters, high growth or growth potential, high population density, contiguity to an urbanized area, significant contributor of pollutants to waters of the U.S., ineffective protection of water quality by other programs, etc.

2 If designated, these cities are required to obtain an NPDES storm water discharge permit under Phase II by March 10, 2003.