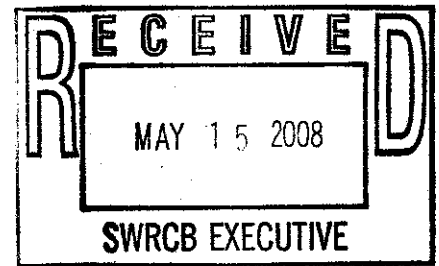


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May 15, 2008

VIA E-Mail

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Re: Comments on Los Angeles River Metals TMDL and Ballona Creek Metals TMDL

Dear Ms. Townsend:

Enclosed with this letter are the following documents which our clients, the Cities of Bellflower, Carson, Cerritos, Downey, Paramount, Santa Fe Springs, Signal Hill and Whittier, are requesting be added to the administrative record to be considered by the State Water Resources Control Board in its review of a proposed Basin Plan Amendment to add a total maximum daily load for metals in the Los Angeles River:

1. Cover Letter from the City of Signal Hill to Ms. Jenny Newman of the California Regional Water Quality Control Board, Los Angeles Region;
2. Declaration of Dr. Susan Paulsen;
3. Declaration of Dr. Gerald Greene; and
4. Declaration of Mr. Kenneth Farfsing.

All of these documents were submitted to the Los Angeles Regional Board prior to the Regional Board's adoption of the proposed Basin Plan Amendment.

In addition, our clients request the incorporation of the following enclosed document in the administrative record for both the LA River and Ballona Creek Metals TMDL:


BURHENN & GEST LLP
Ms. Jeanne Townsend
May 15, 2008
Page 2

1 EPA Memorandum from Robert H. Wayland and James A. Hanlon to
Water Division Directors, November 22, 2002.

Please note that these documents are referenced in comment letters submitted by this firm on behalf of our clients and in a comment letter being submitted by Richard Watson & Associates on behalf of the Cities of Signal Hill, Downey and the Coalition for Practical Regulation. All of these comment letters are being submitted under separate cover.

Please call or e-mail the undersigned if you have any questions concerning these documents.

Very truly yours,



David W. Burhenn



CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, California 90755-3799

Ms. Jenny Newman
California Regional Water Quality Control Board
Los Angeles Region
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013

Re: Comments on the Total Daily Loads for Metals in the Los Angeles River

Dear Ms. Newman:

This letter contains the comments of the City of Signal Hill and is representative of many other watershed cities' concerns regarding the proposed Total Maximum Daily Loads ("TMDL") document for metals in the Los Angeles River. We would like begin our comments by thanking Regional Board staff for agreeing to move the hearing on this TMDL from Ventura to Los Angeles. This will allow greater public participation in the hearing, and staff's flexibility is appreciated.

A. *Summary of Comments*

- Notwithstanding the fact that certain of the Cities challenged the TMDL originally adopted in 2005 (the "2005 TMDL"), many Cities, including the Cities of Downey and Signal Hill have also led in implementation of the TMDL, by pioneering effective structural Best Management Practices ("BMPs") and participating in a watershed-wide educational and organizational effort.
- The City of Downey has led the watershed by approving the installation of some 800 separate infiltration-based structural BMPs that comply with the objectives of the TMDL. Based on storage volume, these include some of the largest installations in the country and some of the smallest, as in the case of single-family homes. They have also included several unique and innovative projects. The City's experience has been shared in several educational public forums.
- The City of Signal Hill has also required significant infiltration BMPs. For example, the City's policy is to require infiltration-based structural BMPs from all priority projects. These include infiltration systems for a 24-acre retail development, for 120 units of affordable housing, for a concrete batch-plant and for several smaller industrial facilities in our 2.2 square mile community.

- Even before the 2005 TMDL became effective, the City of Downey and the City of Signal Hill began organizing the 40 municipal permittees in the LA River watershed to support and fund two crucial technical special studies. The Cities, Caltrans and the County of Los Angeles put into place and convened Steering and Technical Committees and developed initial funding agreements (tentatively agreed to by all but two of the cities) to support the recommended special studies. These agreements will require approval by 40 separate city councils and despite the process having begun some 18 months ago, signed agreements have been received from 13 of the watershed communities. However, numerous Cities are currently scheduling the agreements for consideration by their City Councils and we have received assurances from the County of Los Angeles and Caltrans that they also intend on encouraging adoption of the agreements.
- When the 2005 TMDL was adopted, the Regional Board and the implementing jurisdictions and agencies alike recognized that it contained assumptions and uncertainties that needed to be refined through special scientific studies to derive more accurate waste load allocations and optimized implementation plans.
- As noted above, the Cities are developing support for two special studies, one to develop site specific objectives and one to estimate the atmospheric deposition of metals and assess the impacts of open areas. These studies cannot be completed, and the results submitted to Regional Board staff, by the deadline contained in the proposed Basin Plan Amendment, for reasons that will be explained below. Other deadlines keying off the completion of the special studies also require adjustment.
- The Cities respectfully request that the deadlines for submitting the special studies, for reopening the TMDL, for submitting implementation plans and for achieving the first interim implementation benchmark be extended. We believe that these extensions will allow the special studies agreements to be finalized, the work to be completed and the results incorporated into a reopened TMDL that will be based on more complete science. This will in turn result in more efficient and effective implementation by the responsible jurisdictions and agencies.

B. *Efforts to Implement TMDL*

Implementation of the LA River metals TMDL has posed unique organizational and scheduling challenges for both the Regional Board and the responsible local jurisdictions. The TMDL required 42 disparate agencies (40 Cities, the County of Los Angeles and Caltrans) to cooperate at jurisdictional and watershed levels. There was no overarching existing organization within which the jurisdictions could work and much effort had to be spent on organizing and reaching consensus on conducting the special studies and the Coordinated Monitoring Plan

Ms. Jenny Newman

August 6, 2007

Page 3

("CMP"). The CMP was submitted timely on April 11, 2007 with all but one of the cities agreeing to participate in its funding.

1. *Efforts to Organize Special Studies*

When the 2005 TMDL took effect in early 2006, it was generally unknown which special studies should be pursued, what they would cost, how the funding for the studies should be allocated and whether there was sufficient time to complete the studies by the deadline set in the TMDL (four years from the effective date). It was quickly recognized that neither Caltrans, the City of Los Angeles nor the County of Los Angeles, had sufficient staff to manage these complex special studies, much less the smaller agencies.

Notwithstanding these hurdles, steps were taken before the 2005 TMDL became effective to begin organizing the cities in the watershed. On January 11, 2006, the Cities of Downey and Signal Hill held a TMDL briefing for City Managers, which was attended by representatives from all but four of the watershed cities. This was followed by a March 20, 2006 meeting and recommendation to form a working group of public works officers to report back on the need for special studies and a specific funding formula.

The public works officers met in Downey on April 24, 2006 and May 14, 2006 and recommended three special studies, a specific funding formula and an organizational structure for the monitoring and special studies. A third City Manager meeting (again hosted by the Cities of Downey and Signal Hill) occurred on July 25, 2006 and led to the formation of a voluntary Steering Committee to prepare an issues memorandum and participation survey; the purpose of which were to educate City Council members and City staff to determine their willingness to support both the special studies and the CMP.

The Steering Committee met four times between October 2006 and January 2007, to outline the special studies and prepare the issues memorandum and participation survey. During this period, the three recommended special studies were reduced to two when elements of two proposed studies were condensed into one. The Steering Committee also reviewed the CMP, which was prepared by a Technical Committee chaired by the County and City of Los Angeles and including representatives of the jurisdictional groups. On January 25, 2007, the Steering Committee distributed the issues memorandum and participation survey.

Following literally hundreds of follow-up phone calls and emails, the Steering Committee met in April 2007 to analyze the survey results and found that a broad majority of the jurisdictions supported funding the special studies. While some cities expressed reservations about the funding formula, these reservations have mostly been resolved and cities in 99% of the watershed area affected by the studies now support them. Despite repeated inquiries, two small cities have not returned the survey, while two other cities have conditioned their participation on watershed-wide participation. These issues, and another relating to credit for the related work done on a site specific objectives/water effects ratio study ("Burbank/Los Angeles Study"), remain under discussion. The Steering Committee is committed to resolving these remaining issues.

Despite these unresolved issues, the Steering and Technical Committees have continued to move forward with the special studies, which are estimated to cost nearly \$4 million, and have requested that the Gateway Cities Council of Governments ("GCCOG") act as a fiduciary agent for [?] both the CMP and special studies. On May 2, 2007 the GCCOG Board agreed to serve as the fiduciary agent for a \$340,000 Project Oversight Agreement and on May 17, 2007, a Project Oversight Agreement package was sent to all cities in the watershed, including a cover memorandum and other materials. The cities were requested to schedule these items for approval at an upcoming City Council meeting.

To date, 13 cities have reported adoption of the Project Oversight Agreement and others have scheduled approval of the agreement during August. Attorneys for the City of Los Angeles and GCCOG are working to modify the Agreement so that the City can also adopt it. Based on continued watershed cooperation, a workable adopted schedule, and minor agreement modifications, it is anticipated that the much more expensive CMP and Special Studies Agreements will be approved by the GCCOG and forwarded to the cities, for approval by their respective City Councils. The GCCOG is scheduled to consider the CMP Agreement at its meeting of September 18, 2007. To ensure that the process continues moving forward, it is also important that the Burbank/Los Angeles Study ultimately be accepted by the Regional Board.

We apologize for the length of this description, but we wanted to make sure that the Regional Board was presented with a full picture of the extensive efforts that have been taken to establish, from scratch, an organizational structure with Steering and Technical Committees, to develop special studies proposals, to educate 40 watershed cities about the TMDL, to survey their willingness to participate, to identify and secure a fiduciary agent and to send out agreements for approval by 40 city councils. All of these efforts are required before funding can be secured for the special studies and CMP.

These matters are also set forth in my attached declaration, Exhibit A.

2. *BMP Implementation Efforts*

In addition to the organizational efforts undertaken by the Cities, a considerable parallel effort has been made to implement the water conservation intent of the MS4 Permit and SUSMP, as was recently reiterated by Regional Board staff. We believe that "in the ground" innovative structural BMPs will be critical to effective metals TMDL implementation strategies. These efforts are described more fully in the attached Declaration of Dr. Gerald Greene, a Senior Civil Engineer and Water Resources Control Specialist for the City of Downey (Exhibit B), but are summarized in part here:

- The City of Downey has permitted the installation of nearly 800 infiltrating systems, ranging in size from 200 gallons to 8 acre feet;

- Redevelopment and development projects in the City of Downey are required to incorporate infiltration, unless precluded by the presence of contaminated soils;
- The Cities of Downey and Signal Hill, among others, have been participants in the Board's Design Storm Task Force, which is charged with developing design objectives to maximize metals removal, while minimizing BMP treatment costs.
- On July 18, 2007, the City of Downey hosted a Construction Site Open House of the \$2.8 million, 8 acre-foot infiltrating retention basin at the Discovery Sports Complex Park Project, where about 40 participants observed progress in constructing the world's largest StormTrap installation. Invitees included Regional Board members and staff, MS4 permittees and their representatives, various environmental organizations and other stakeholders.
- The Cities of Long Beach, Signal Hill and the County of Los Angeles completed the Hamilton Bowl Pilot Program, which implemented a series of trash and debris removal devices. One of the interesting discoveries from this effort has been the discovery that metals are adsorbed by the netting and filtering media materials.

C. *Need for Special Studies*

When the 2005 TMDL was adopted, there was a joint recognition by Regional Board staff and the regulated community that additional research was required into the actual detrimental impact of metals on the beneficial uses of the river and that such research would refine the TMDL implementation effort.

For example, the TMDL was adopted without a site-specific water-effects ratio ("WER"). *June 2, 2005 Staff Report ("Staff Report")*, p. 17. The WER represents the correlation between metals that are measured and metals that are biologically available and toxic. As the Staff Report noted, the California Toxics Rule ("CTR") allows "for the adjustment of criteria through the use of a . . . [WER] to assure that the metals criteria are appropriate for the site-specific chemical conditions under which they are applied." *Id.*

The CTR standard itself was developed in a laboratory setting, using water of controlled characteristics, to develop the toxicity standards employed in the 2005 TMDL. However, the nature of urban runoff, POTW discharges and stormwater flow is very different, and more dynamic, than the controlled conditions in the laboratory. The waters in each river reach, during particular times of year, may contain differing levels of suspended solids, hardness and organic matter such as leaf litter. Hardness, suspended solids and organic matter may reduce the uptake, or bioavailability, of these metals through "competitive inhibition" that blocks potential toxic biochemical reactions. When devising the 2005 TMDL, Regional Board staff was unable to give full consideration to these reach-specific factors in developing target loads. Certain assumptions had to be made, as reflected in the staff report.

The Regional Board, in adopting the 2005 metals TMDL, recognized these inherent uncertainties by expressly requiring the TMDL to be reopened after five years, in light of special studies, to "refine the estimate of loading capacity, waste load and/or load allocations, and other studies that may serve to optimize implementation efforts." June 2, 2005 Basin Plan Amendment, p. 17. The Regional Board Resolution acknowledged that the special studies may "provide further information about new data, new or alternative sources, and revised scientific assumptions." Resolution R05-2006, paragraph 6.

In addition to uncertainties regarding the bioavailability, and actual toxicity, of metals in the various LA River reaches, another significant uncertainty of the TMDL related to the impact from atmospheric deposition of metals. The Staff Report noted that "[d]eposition of metals to the surface area of the Los Angeles River watershed may be substantial, on the order of several thousand kilograms per year" *Staff Report*, p. 39.

In approving the 2005 TMDL, the State Water Resources Control Board acknowledged the potentially substantial contribution from airborne metal deposition, and noted that the South Coast Air Quality Management District ("SCAQMD") and the California Air Resources Board ("CARB") have identified the need to: (1) expand the monitoring of larger particles in atmospheric deposition, those most likely to pose a risk to water quality and (2) to investigate the sources of these metals in order to design a control strategy. SWRCB Resolution No. 2005-0077, Paragraph 5. The State Board appointed a representative and directed its staff and Regional Board staff to continue meeting with SCAQMD and CARB to "pursue these studies and to assist in developing control strategies." *Id.*

Recently, Regional Board staff has sent Water Code § 13267 information requests to local large emission sources, airports and ports, seeking information on the transport and fate of metals they emit into the air. We applaud these efforts to obtain information and hope that it will be used, in conjunction with the SCAQMD and CARB, to develop control strategies that will reduce this important source of metals to the watershed; a source over which the responsible parties in this TMDL have no effective control. However, additional work is required to better quantify the impacts of atmospheric deposition of metals in the Los Angeles River watershed, including those that are emitted from open areas of the watershed. Little is known about such impacts, as noted in the Declaration of Dr. Susan Paulsen, attached as Exhibit C to this letter.

If, for example, the results of a special study indicated that higher metals waste load allocation could be allowed in a given reach, implementation efforts and resources could be focused on those reaches where lower waste load allocations were required. This might allow more effective operation and maintenance of spreading grounds to trap pollutants above the estuary or for the purchase of parklands which could be irrigated with runoff or used to filter runoff. Because the 2005 TMDL itself was based on a series of assumptions, the need to complete the special studies is even more important to test the validity of those assumptions and

to allow implementing jurisdictions and agencies to focus implementation efforts where they will be most effective and beneficial.

D. *Outline of Special Studies*

The first study focuses on site-specific objectives ("SSO") for various reaches in the River during both dry weather and wet weather conditions. This study would build on a recently concluded dry weather special study conducted by the Cities of Burbank and Los Angeles. However, the SSO study would go farther, in that it would address both storm conditions and conditions in estuarine waters and sediment. A brief description of the study, and its value to understanding the complex nature of metals in the Los Angeles River waters, is provided by Dr. Paulsen in her declaration.

The second study proposed to be conducted would examine the nature of atmospheric deposition of metals and of the impact of the open areas in the watershed, key areas of uncertainty when the TMDL was developed, as we noted above. A further description of this study and its importance is also provided by Dr. Paulsen's declaration.

These studies meet the requirement in the Basin Plan Amendment for studies that can refine the original estimates of loading capacity, waste loads and/or load allocations and to optimize jurisdictional implementation efforts. Moreover, these studies are being voluntarily organized by the responsible jurisdictions through the Steering and Technical Committees and have not been required by the Executive Officer pursuant to any order.

E. *Requested Modification of Proposed Basin Plan Amendment*

Despite the efforts made by the cities, the special studies described in this letter have not yet commenced. Funding agreements still need to be executed by the cities and adopted by their City Councils. In addition, because the special studies will need to sample stormwater, they are dependent on an adequate number of unpredictable storm events. As noted in Dr. Paulsen's declaration, the 2006-07 storm season produced an insufficient number of storm events. In fact, the 2006-07 storm season was the driest since records were begun in 1877-78. The downtown Los Angeles station received only 3.21 inches of rain by June 30, 2007, or 11.79 inches below the average annual rainfall. It appears unlikely that work on the special studies can begin before the second quarter of 2008, as noted in my declaration (see Exhibit A). Thus, despite 18 months of diligent effort, the Cities do not believe that the special studies will be completed in time to meet the January 11, 2010 deadline, as set in the proposed Basin Plan Amendment.

The notice for the September 6th hearing indicated that, in addition to the discussion of alternatives to the TMDL project, the Regional Board would consider modifying the compliance dates in the 2005 TMDL from their current wording, which calculates milestones based on the TMDL effective date, to dates certain.

The Cities believe that, for the reasons set forth above, some of the revised compliance dates in proposed Table 7-13.2 of the Basin Plan Amendment should be modified as requested below:

- **Deadline for Submission of Special Studies:** The Cities respectfully request that the deadline for presentation of the special studies be either set at January 11, 2011 or, alternatively, that the deadline employed in the original TMDL, four years from the effective date, be used. This modification should provide sufficient time for the special studies to be completed and submitted to Regional Board staff.
- **Deadline for Reopening of TMDL:** The Cities respectfully request that the deadline for reopening the TMDL be set at November 11, 2011. Moving this deadline will allow sufficient time for Regional Board to review the results of the special studies and to determine whether those results dictate changes in the TMDL, but still provide enough lead time for the responsible jurisdictions and agencies to adjust their implementation plans.
- **Deadline for Submission of Implementation Plans:** The Cities respectfully request that the deadline for submitting the draft TMDL implementation plans be moved to six months after conclusion of the re-opener process and that the deadline for the final implementation plan be set for six months after that date. These dates would allow the responsible jurisdictions and agencies sufficient time to incorporate the findings of the special studies and, more importantly, incorporate any changes in the waste load allocations and compliance dates into their TMDL implementation plans.
- **Deadline for Submission of First Jurisdictional Group Compliance Demonstration:** We respectfully request that the deadline for the first jurisdictional group compliance demonstration (50% of the watershed for dry-weather compliance and 25% of the watershed for wet-weather compliance) be moved to January 11, 2013 or alternatively, that the deadline employed in the original TMDL, six years from the effective date, be used. Moving this deadline will conform it to the other requested moved deadlines, as well as allow the jurisdictional groups to take into account the results of the special studies and any changes in the TMDL adopted by the Regional Board at the re-opener.

The Cities are not requesting an extension of any other TMDL compliance dates. We believe that such adjustments to these dates, if any, will depend on the monitoring and BMP implementation information gathered prior to the re-opener of the TMDL, as well as the results of the special studies.

* * *

We appreciate this opportunity to comment on the LA River Metals TMDL and to acquaint the Regional Board and staff with the many significant activities already undertaken by Signal Hill, Downey and other communities to implement the 2005 TMDL and to organize and

Ms. Jenny Newman
August 6, 2007
Page 10

fund the vitally important special scientific studies and monitoring efforts that may allow significant refinement in the TMDL at the re-opener.

We understand that the Regional Board has incorporated its administrative record for the 2005 TMDL into this record, and, to the extent not already done so by such incorporation, we respectfully request a similar incorporation into the record of the comments previously made by all interested parties in connection with the adoption of the 2005 TMDL.

If you, or members of the Regional Board staff, have any questions regarding these comments, please do not hesitate to contact me. I can be reached at 562-989-7302 or at kfarfsing@cityofsignalhill.org.

Sincerely,



Kenneth C. Farfsing
City Manager

cc: Watershed City Managers

Attachments: Exhibit A – Declaration of Kenneth C. Farfsing
Exhibit B – Declaration of Gerald Greene, D.Env., P.E., Q.E.P.
Exhibit C – Declaration of Susan Paulsen, Ph.D., P.E.

1 **DECLARATION OF SUSAN C. PAULSEN, Ph.D., P.E.**

2 I, Susan C. Paulsen, Ph.D., declare and state as follows:

3 1. I am employed by Flow Science Incorporated, an engineering consulting firm with
4 offices in Pasadena, California, Philadelphia, Pennsylvania, Mt. Pleasant, South Carolina and
5 Harrisonburg, Virginia. Flow Science provides consulting services to industry, municipalities, and
6 governmental agencies. We have specialized expertise in a variety of technical areas, including
7 water quality analyses, design of mitigation measures for water quality concerns, turbulent mixing
8 and diffusion in rivers, lakes, estuaries, the ocean and atmosphere, and related regulatory processes.

9 2. My academic education includes a Bachelor of Science with Honors in Civil
10 Engineering (Stanford University, 1990), a Master of Science degree in Civil Engineering
11 (California Institute of Technology, 1993), and a Ph.D. in Environmental Engineering Science
12 (California Institute of Technology, 1997). Included in this formal education were courses in fluid
13 mechanics, hydrologic transport processes, water treatment processes, and aquatic chemistry. I am a
14 registered Civil Engineer in the State of California (C66554, expiration June 30, 2008).

15 3. I am currently a Senior Scientist and Vice President at Flow Science. I have also
16 worked as a Staff Engineer at Dames & Moore. My work experience includes designing and
17 conducting studies of dilution and dispersion of discharges and analyses of water quality in a variety
18 of environments. I have also conducted hydraulic, hydrologic, and water quality analyses for
19 stormwater runoff, NPDES permitting, TMDL programs, irrigation, wastewater, and industrial
20 process water treatment facilities. I have provided testimony and expert analysis in proceedings
21 before Regional Water Quality Control Boards throughout the state (including the Los Angeles
22 Regional Water Quality Control Board) and before the State Water Resources Control Board.

23 4. I have personal and first-hand knowledge of the matters set forth in this Declaration
24 and could, if called upon, testify competently thereto.

25 5. Flow Science has been requested by a consortium of agencies, including Caltrans,
26 Los Angeles County, and the Cities of Downey and Signal Hill, to prepare a preliminary scope of
27 work, budget, and proposal to provide technical oversight of scientific studies related to numeric
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1 targets and implementation of the Total Maximum Daily Loads ("TMDL") for metals in the Los
2 Angeles River. As part of that work, Flow Science has proposed two special studies intended to
3 provide information directly relevant to the implementation of the metals TMDL. During the last
4 two years, I have attended various Los Angeles River Special Studies Steering Committee meetings
5 and general meetings of the watershed city managers and public works officials to review the need
6 for the special studies, and to discuss the preliminary scope of work and budget for the
7 special studies.

8 6. The first of these special studies, known as a "Site Specific Objective" ("SSO")
9 Study, would be conducted to develop site-specific metals water quality objectives for the Los
10 Angeles River watershed for copper, zinc, and lead. Components of this study would likely include
11 1) establishment of the appropriate administrative framework for the study (e.g., a technical advisory
12 committee (TAC), a workplan, etc.); 2) project administration (meetings, reporting, etc.); 3)
13 saltwater and freshwater monitoring and lab analyses for toxicity, metals concentrations in sediment,
14 and metals concentrations in the water column; and 4) data analysis to develop site specific
15 objectives. Chemical analyses would include the components for evaluating the biotic ligand model
16 (BLM), which would be evaluated for its ability to predict toxicity in ambient water samples based
17 upon measured concentrations of chemical constituents in those samples.

18 7. The SSO Study would build upon the soon-to-be completed SSO study currently
19 being conducted by the Cities of Los Angeles and Burbank of metals in the Los Angeles River
20 ("LA/Burbank Study"). Like the LA/Burbank Study, the SSO Study would assess metals in the Los
21 Angeles River during winter dry and wet weather as well as during summer dry weather conditions.
22 However, the objective of the SSO Study would be somewhat broader than the LA/Burbank study in
23 that it would include monitoring of both estuarine waters and estuarine sediment, whereas the
24 LA/Burbank Study focuses on freshwater reaches of the River only, and does not assess sediment.

25 8. The SSO Study project design envisions making use of planned TMDL monitoring at
26 13 stations in the L.A. River watershed. TMDL monitoring at these stations is planned to include
27 sampling of six wet weather events and 12 dry weather events per year. The SSO Study will also
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1 include sampling at two additional saltwater stations in the L.A. River watershed (which are not part
2 of planned TMDL monitoring), but sampling will be more limited at these stations than for the
3 TMDL stations. The SSO study duration would be approximately two years, though this duration is
4 contingent on there being sufficient rainfall during the two wet seasons to enable winter wet weather
5 monitoring. I would note that during the 2006-2007 winter rain season, there was insufficient
6 rainfall to conduct such monitoring. The 2006-07 was the driest season on record since the 1877-78
7 wet season, when records were first kept. The downtown Los Angeles station received only 3.21
8 inches of rain for the rain season ended June 30, 2007, or 11.79 inches below the average annual
9 rainfall. Data evaluation and preparation of a report to be submitted to staff of the Regional Water
10 Quality Control Board ("Regional Board") would require an additional six months to one year, upon
11 completion of field work.

12 9. Provided that the monitoring described above could begin during 2008, and provided
13 that there is sufficient rainfall during the winters of 2008-2009 and 2009-2010 to conduct the
14 required winter wet weather monitoring, I estimate that a report of the results of the SSO Study
15 could be submitted to Regional Board staff by the end of 2010. However, if there was insufficient
16 rainfall to allow wet weather sampling as required by the study design, and as was experienced
17 during the past winter, the final report might be extended by another year (provided that sufficient
18 rainfall was experienced in that year).

19 10. The second special study that Flow Science has been requested to propose is a Paired
20 Atmospheric Deposition and Stormflow Monitoring ("PADSM") Study, which entails coupled
21 monitoring of stormwater quality and atmospheric deposition at locations in natural portions of the
22 Los Angeles River watershed. Up to four (4) locations would be monitored for atmospheric
23 deposition on two occasions during each season, and storm water quality samples will be collected
24 during approximately five (5) storm events, to establish concentrations of metals and other key
25 parameters in runoff from watersheds where atmospheric deposition measurements are being made.

26 11. The PADSM Study would require approximately one year to complete atmospheric
27 deposition monitoring, and approximately two (2) seasons to complete storm flow monitoring.
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1 12. Provided that the study begins in 2008 and that sufficient rain events occur, the
2 PADSM Study is expected to be completed and submitted to Regional Board staff by the end of
3 2010.

4 13. The Los Angeles River Metals TMDL provides that responsible parties and
5 jurisdictions may conduct special studies including water quality measurements that may allow the
6 use of metals partition coefficients to be refined, evaluation of site-specific toxic effects of metals in
7 the Los Angeles River and its tributaries, studies to characterize loadings from background or natural
8 sources and evaluation of aerial deposition and sources of aerial deposition.

9 14. The value of the SSO Study is that it will provide scientific information to describe
10 site-specific conditions in various reaches of the Los Angeles River and allow, in conjunction with
11 the LA/Burbank Study, the development of scientific information necessary to assess the site-
12 specific toxicity of the metals in the River in light of the actual conditions in the River during
13 various time periods, rather than using default California Toxics Rule assumptions about metals
14 toxicity. The SSO Study is intended to address the requests for Special Studies contained in the
15 TMDL Staff Report (pages 79-80). The results of the Study will enable the responsible parties and
16 jurisdictions to recommend to the Regional Board adjustments to California Toxics Rule criteria,
17 TMDL targets and TMDL implementation measures.

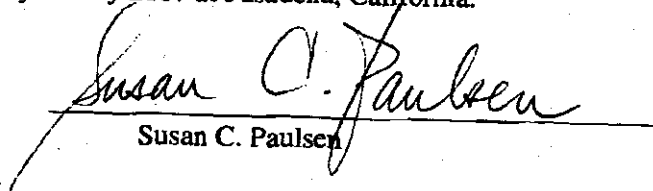
18 15. The value of the PADSM Study is that it will allow estimates to be made of metals
19 concentrations and loadings from natural, open space areas, for comparison to metals TMDL targets
20 and allocations. The study will help to estimate the contribution of atmospheric deposition to metals
21 concentrations and loads in runoff both from open space areas adjacent to urbanized land uses and
22 from the watershed in general. Information on these crucial processes is currently very limited.
23 Information from the study will be used to guide recommendations for implementation actions and
24 cross-media pollution control efforts. I note that the State Water Resources Control Board, when it
25 originally adopted the metals TMDL for the Los Angeles River, required the Regional Board and the
26 State Board to work with the South Coast Air Quality Management District and the California Air
27 Resources Board to expand monitoring of large particulate metals in atmospheric deposition to better
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gage their potential impact on water quality, and to investigate sources of such metals in order to design control strategies. The original State Water Resources Control Board resolution also encouraged local municipalities within the Los Angeles River watershed to assist with such studies. The results of the PADSM Study should fit well with these efforts.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 25th day of July 2007 at Pasadena, California.


Susan C. Paulsen

1 DECLARATION OF GERALD E. GREENE, D.ENV., P.E.

2 I, Gerald E. Greene, D.Env., P.E., hereby declare and state as follows:

3 1. I am a Senior Civil Engineer for the City of Downey. In that capacity, I have
4 responsibility over the compliance of the City with various clean water programs, including Total
5 Daily Maximum Loads ("TMDL") programs. Part of my job responsibility is to review best
6 management practices ("BMPs") to be used to reduce pollutants in urban runoff and stormwater. I
7 am familiar with the steps taken in the City of Downey to install BMPs, or require the installation of
8 BMPs, to reduce pollutants in urban runoff and stormwater and to comply with TMDLs, including
9 the Los Angeles River Metals TMDL. As such, I have first-hand knowledge of the matters set forth
10 in this Declaration and could, if called upon, testify competently thereto.

11 2. The City of Downey serves as chair of the 13-member Executive Advisory
12 Committee ("EAC") of permittees under the municipal separate storm sewer system ("MS4")
13 permit. The EAC meetings provide a forum for permittees to discuss permit compliance issues. As
14 EAC chair, and based on our experience in 2006, the City recently encouraged the EAC MS4
15 permittees to participate in the Heal the Bay Coastal Cleanup scheduled for September 15, 2007.

16 3. During the last year, the City of Downey chaired the Stormwater Session of the
17 California Water Environmental Association Conference in Ontario, gave presentations on Low
18 Impact Development ("LID") for the Southern California Chapter of the American Public Works
19 Association and the California Stormwater Quality Association. A similar LID presentation is
20 scheduled to be presented at the Spring League of Cities Public Works meeting in San Diego.

21 4. The Southern California Chapter of the American Public Works Association has
22 presented the City of Downey with Project of the Year Awards for its Congressman Stephen Horn
23 Way Inverted Median Construction Project and Downey Municipal Separate Storm Sewer System
24 (MS4) Permit NPDES Program, recognizing City leadership in water quality protection efforts.

25 5. As part of its TMDL and MS4 Permit compliance efforts, the City has begun building
26 the Discovery Sports Complex Park Project, which will be the largest Storm Trap installation in the
27 United States. This project is designed to allow infiltration of over 3.2 acre-feet of stormwater and
28

1 urban runoff, with detention storage of another 4.8 acre-feet. The City recently hosted a
2 Construction Site Open House for this project, to which a number of stakeholders were invited,
3 including members of the Regional Board and staff, MS4 permittees and their representatives,
4 various environmental organizations and many other stakeholders. Although costly, at a projected
5 \$2.8 million, the City believes that infiltration-based BMPs such as the Discovery Park Project are
6 probably the most cost-effective and beneficial municipal response to most local TMDLs.

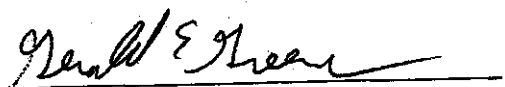
7 6. For the past three years, the City of Downey has required redevelopment projects,
8 including most residential additions, to include a stormwater infiltration system. During this time,
9 the City has permitted the installation of nearly 800 infiltration systems, ranging in size from over
10 3.2 acre feet (more than one million gallons) to as little as 200 gallons in size. While the majority of
11 these permits were issued to residential projects, about 40 were to SUSMP redevelopment projects
12 and over 10 were issued to projects of more than one acre in size.

13 7. City of Downey staff has worked intensively with other agencies, developers and
14 their agents to develop and refine LID designs. We believe that many of the designs developed or
15 used in the City can also be used in a number of cities across the watershed.

16 8. The Cities of Downey and Signal Hill have been active participants in the Regional
17 Board's Design Storm Task Force, which is charged with developing reasonable design objectives to
18 maximize metals removal while minimizing BMP treatment costs.

19 9. The City has also been an active participant in the organizational efforts to plan and
20 fund the special studies and the Coordinated Monitoring Plan required under the LA River Metals
21 TMDL. It has hosted several city manager meetings and employees have served as representatives
22 on the Steering Committee and as a jurisdictional representative on the Technical Committee.

23 I declare under penalty of perjury under the laws of the State of California that the foregoing
24 is true and correct. Executed this 6th day of August 2007 at Downey, California.

25
26 
27 Gerald E. Greene
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1 DECLARATION OF KENNETH C. FARFSING

2 I, Kenneth C. Farfsing, hereby declare and state as follows:

3 1. I am City Manager of the City of Signal Hill, California. In that capacity, I have
4 overall responsibility for the compliance by the city with applicable water quality requirements,
5 including Total Maximum Daily Loads ("TMDLs"). I also am a member of the LA River Metals
6 TMDL Steering Committee, which is coordinating the effort to secure support and funding for two
7 special studies to be conducted in the Los Angeles River watershed as part of the LA River Metals
8 TMDL compliance effort. As such, I have personal and first-hand knowledge of the matters set forth
9 in this Declaration and could, if called upon, testify competently thereto.

10 2. Prior to the effective date of the LA River Metals TMDL, I and other city leaders
11 responsible for compliance with the TMDL recognized that the TMDL posed serious compliance,
12 organizational and scheduling challenges for the 42 local jurisdictions and agencies charged under
13 the TMDL with complying. The LA River Metals TMDL was the first TMDL to require that these
14 42 entities work in a coordinated fashion. No viable organizational structure existed when the
15 Regional Board adopted the TMDL. Organizing the 42 agencies and reaching consensus on various
16 TMDL requirements and issues has proven to be a complicated and time consuming process.

17 3. The following issues, among others, were required to be resolved:

- 18 • Who would prepare the Coordinated Monitoring Program ("CMP")?
- 19 • How would the local agencies allocate the costs of the CMP?
- 20 • What Special Studies would helpful to the Regional Board and U.S. EPA at the reopening?
- 21 • What were the estimated costs of these studies?
- 22 • How would the local agencies allocate the costs of these studies?
- 23 • What organizational structure was required to enter into contracts, invoice cities, pay
- 24 contractors and provide annual financial audits?
- 25 • What general organization structure should manage the studies?
- 26 • Would a Technical Committee be needed to oversee the studies?
- 27 • What would happen if some cities declined to participate?
- 28

1 4. The TMDL presented other difficult issues. With regard to special studies, while
2 early conversations with Regional Board and U.S. EPA staff indicated their support for the studies,
3 the cities did not know which studies should be pursued, their estimated cost, how the funding
4 should be allocated and whether there was sufficient time to complete the studies and submit the
5 results to the Regional Board. None of the cities or agencies had staff sufficient to manage a project
6 of this size. Monies (approximately \$340,000) would have to be set aside for a project manager in
7 addition to the estimated cost of the special studies.

8 5. The cities did not wait until adoption of the TMDL before commencing work to
9 implement it. Beginning prior to the effective date of the LA River Metals TMDL, I and other
10 individuals began to organize meetings among the responsible cities to attempt to coordinate
11 compliance with the TMDL. On January 11, 2006, the Cities of Downey and Signal Hill held a
12 briefing on the TMDL's requirements which was attended by city managers of all but four of the
13 cities. On March 20, 2006, another briefing for city managers was held, which led to a
14 recommendation that a working group of public works officers report back on the need for special
15 studies and a specific funding formula.

16 6. The public works officers met on April 24, 2006 and May 14, 2006 (hosted by the
17 City of Downey) and after those meetings, the officers recommended three special studies, a specific
18 funding formula and an organizational structure for the monitoring and special studies.

19 7. A meeting of city managers (hosted by the Cities of Downey and Signal Hill) took
20 place on July 25, 2006. After discussing and accepting the recommendations of the public works
21 officers, the city managers directed the formation of a voluntary Steering Committee to prepare an
22 issues memorandum and participation survey, the purpose of which were to educate the cities and to
23 determine their support/willingness to fund both the special studies and the CMP.

24 8. In addition to myself, the members of the Steering Committee include a
25 representative of the Regional Board, the County of Los Angeles, the Cities of Los Angeles, San
26 Fernando, Rosemead, Long Beach, Arcadia, Downey, the Gateway Cities Council of Governments,
27 and Caltrans.

28

1 9. The Steering Committee met four times from October 2006 to January 2007 to review
2 special studies issues and prepare the issues memorandum and participation survey for mailing. The
3 original three recommended special studies were condensed to two, at an estimated cost of
4 approximately \$4 million. The committee also reviewed the CMP, which was being prepared
5 separately by a Technical Committee headed by the County and City of Los Angeles and including
6 representatives of cities and jurisdictional areas. On January 25, 2007, the Steering Committee
7 distributed the issues memorandum and survey.

8 10. Following the making and sending of literally hundred of phone calls and e-mails, the
9 Steering Committee met again in [February?] and April 2007 to review the results of the survey.
10 The survey revealed that 36 out of 40 cities in the LA River watershed supported moving forward
11 with the recommended special studies. Of the 40 cities, two were excused from participation because
12 they would derive no benefit from the studies. Some cities expressed reservations about the funding
13 formula, these reservations have mostly been resolved. Two cities did not return surveys despite
14 repeated requests and two cities have conditioned their participation on watershed-wide
15 participation. These issues, and another relating to credit for the related work done on a site specific
16 objectives/water effects ratio study ("Burbank/Los Angeles Study"), remain under discussion.

17 11. Despite unresolved funding and participation issues, the Steering Committee agreed
18 that it should move forward with the special studies. The committee requested that the Gateway
19 Cities Council of Governments ("GCCOG") act as a fiduciary agent for the funding of the CMP and
20 special studies. On May 2, 2007, the GCCOG Board approved the contract under which GCCOG
21 would serve as the fiduciary agent for a \$340,000 Project Oversight Agreement. On May 17, 2007,
22 a package of materials was sent to all cities in the watershed, including a cover memorandum and a
23 Project Oversight Agreement to be adopted by the city council and returned to GCCOG. The cities
24 were requested to schedule approval of these items on an upcoming city council agenda.

25 12. To date, 13 cities have adopted the Project Oversight Agreements (the Cities of
26 Alhambra, Bell, Carson, Downey, El Monte, Huntington Park, Maywood, Montebello, Monterey
27 Park, Pico Rivera, Signal Hill, South Gate and Temple City) and Arcadia is scheduled to approve it
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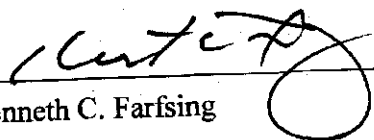
1 in early August. Attorneys for the City of Los Angeles are working with GCCOG on necessary
2 changes so that the City can adopt the Agreement.

3 13. Once the Project Oversight Agreements have been approved for funding by the cities,
4 agreements for the funding of the special studies and monitoring under the CMP will be distributed.
5 This process will take additional time, but it was the judgment of the Steering Committee that
6 starting with the Project Oversight Agreements would make later approvals for the larger CMP and
7 special studies funding agreements more practical to obtain.

8 14. Despite the progress made to date, a number of steps required to approve funding the
9 special studies still must be completed before the studies can be commenced. The Steering
10 Committee is continuing to work on these steps. Assuming that funding and participation issues are
11 resolved, I anticipate that the special studies will commence in the second quarter of 2008.

12 I declare under penalty of perjury under the laws of the State of California that the foregoing
13 is true and correct.

14 Executed this 6th day of August, 2007 at Signal Hill, California.

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18 Kenneth C. Farfising
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 22 2002

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs

FROM: Robert H. Wayland, III, Director
Office of Wetlands, Oceans and Watersheds

James A. Hanlon, Director
Office of Wastewater Management

TO: Water Division Directors
Regions 1 - 10

This memorandum clarifies existing EPA regulatory requirements for, and provides guidance on, establishing wasteload allocations (WLAs) for storm water discharges in total maximum daily loads (TMDLs) approved or established by EPA. It also addresses the establishment of water quality-based effluent limits (WQBELs) and conditions in National Pollutant Discharge Elimination System (NPDES) permits based on the WLAs for storm water discharges in TMDLs. The key points presented in this memorandum are as follows:

NPDES-regulated storm water discharges must be addressed by the wasteload allocation component of a TMDL. See 40 C.F.R. § 130.2(h).

NPDES-regulated storm water discharges may not be addressed by the load allocation (LA) component of a TMDL. See 40 C.F.R. § 130.2 (g) & (h).

Storm water discharges from sources that are not currently subject to NPDES regulation may be addressed by the load allocation component of a TMDL. See 40 C.F.R. § 130.2(g).

It may be reasonable to express allocations for NPDES-regulated storm water discharges from multiple point sources as a single categorical wasteload allocation when data and information are insufficient to assign each source or outfall individual WLAs. See 40 C.F.R. § 130.2(i). In cases where wasteload allocations

are developed for categories of discharges, these categories should be defined as narrowly as available information allows.

The WLAs and LAs are to be expressed in numeric form in the TMDL. See 40 C.F.R. § 130.2(h) & (i). EPA expects TMDL authorities to make separate allocations to NPDES-regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs). EPA recognizes that these allocations might be fairly rudimentary because of data limitations and variability in the system.

NPDES permit conditions must be consistent with the assumptions and requirements of available WLAs. See 40 C.F.R. § 122.44(d)(1)(vii)(B).

WQBELs for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs) under specified circumstances. See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3). If BMPs alone adequately implement the WLAs, then additional controls are not necessary.

EPA expects that most WQBELs for NPDES-regulated municipal and small construction storm water discharges will be in the form of BMPs, and that numeric limits will be used only in rare instances.

When a non-numeric water quality-based effluent limit is imposed, the permit's administrative record, including the fact sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL. See 40 C.F.R. §§ 124.8, 124.9 & 124.18.

The NPDES permit must also specify the monitoring necessary to determine compliance with effluent limitations. See 40 C.F.R. § 122.44(i). Where effluent limits are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data).

The permit should also provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.

This memorandum is organized as follows:

- (I). Regulatory basis for including NPDES-regulated storm water discharges in WLAs in TMDLs;
- (II). Options for addressing storm water in TMDLs; and

(III). Determining effluent limits in NPDES permits for storm water discharges consistent with the WLA

(I). Regulatory Basis for Including NPDES-regulated Storm Water Discharges in WLAs in TMDLs

As part of the 1987 amendments to the CWA, Congress added Section 402(p) to the Act to cover discharges composed entirely of storm water. Section 402(p)(2) of the Act requires permit coverage for discharges associated with industrial activity and discharges from large and medium municipal separate storm sewer systems (MS4), *i.e.*, systems serving a population over 250,000 or systems serving a population between 100,000 and 250,000, respectively. These discharges are referred to as Phase I MS4 discharges.

In addition, the Administrator was directed to study and issue regulations that designate additional storm water discharges, other than those regulated under Phase I, to be regulated in order to protect water quality. EPA issued regulations on December 8, 1999 (64 FR 68722), expanding the NPDES storm water program to include discharges from smaller MS4s (including all systems within "urbanized areas" and other systems serving populations less than 100,000) and storm water discharges from construction sites that disturb one to five acres, with opportunities for area-specific exclusions. This program expansion is referred to as Phase II.

Section 402(p) also specifies the levels of control to be incorporated into NPDES storm water permits depending on the source (industrial versus municipal storm water). Permits for storm water discharges associated with industrial activity are to require compliance with all applicable provisions of Sections 301 and 402 of the CWA, *i.e.*, all technology-based and water quality-based requirements. See 33 U.S.C. §1342(p)(3)(A). Permits for discharges from MS4s, however, "shall require controls to reduce the discharge of pollutants to the maximum extent practicable ... and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." See 33 U.S.C. §1342(p)(3)(B)(iii).

Storm water discharges that are regulated under Phase I or Phase II of the NPDES storm water program are point sources that must be included in the WLA portion of a TMDL. See 40 C.F.R. § 130.2(h). Storm water discharges that are not currently subject to Phase I or Phase II of the NPDES storm water program are not required to obtain NPDES permits. 33 U.S.C. §1342(p)(1) & (p)(6). Therefore, for regulatory purposes, they are analogous to nonpoint sources and may be included in the LA portion of a TMDL. See 40 C.F.R. § 130.2(g).

(II). Options for Addressing Storm Water in TMDLs

Decisions about allocations of pollutant loads within a TMDL are driven by the quantity and quality of existing and readily available water quality data. The amount of storm water data available for a TMDL varies from location to location. Nevertheless, EPA expects TMDL authorities will make separate aggregate allocations to NPDES-regulated storm water discharges

(in the form of WLAs) and unregulated storm water (in the form of LAs). It may be reasonable to quantify the allocations through estimates or extrapolations, based either on knowledge of land use patterns and associated literature values for pollutant loadings or on actual, albeit limited, loading information. EPA recognizes that these allocations might be fairly rudimentary because of data limitations.

EPA also recognizes that the available data and information usually are not detailed enough to determine waste load allocations for NPDES-regulated storm water discharges on an outfall-specific basis. In this situation, EPA recommends expressing the wasteload allocation in the TMDL as either a single number for all NPDES-regulated storm water discharges, or when information allows, as different WLAs for different identifiable categories, e.g., municipal storm water as distinguished from storm water discharges from construction sites or municipal storm water discharges from City A as distinguished from City B. These categories should be defined as narrowly as available information allows (e.g., for municipalities, separate WLAs for each municipality and for industrial sources, separate WLAs for different types of industrial storm water sources or dischargers).

(III). Determining Effluent Limits in NPDES Permits for Storm Water Discharges Consistent with the WLA

Where a TMDL has been approved, NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the wasteload allocations in the TMDL. See 40 CFR § 122.44(d)(1)(vii)(B). Effluent limitations to control the discharge of pollutants generally are expressed in numerical form. However, in light of 33 U.S.C. § 1342(p)(3)(B)(iii), EPA recommends that for NPDES-regulated municipal and small construction storm water discharges effluent limits should be expressed as best management practices (BMPs) or other similar requirements, rather than as numeric effluent limits. See *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761 (Aug. 26, 1996). The Interim Permitting Approach Policy recognizes the need for an iterative approach to control pollutants in storm water discharges. Specifically, the policy anticipates that a suite of BMPs will be used in the initial rounds of permits and that these BMPs will be tailored in subsequent rounds.

EPA's policy recognizes that because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction storm water discharges. The variability in the system and minimal data generally available make it difficult to determine with precision or certainty actual and projected loadings for individual dischargers or groups of dischargers. Therefore, EPA believes that in these situations, permit limits typically can be expressed as BMPs, and that numeric limits will be used only in rare instances.

Under certain circumstances, BMPs are an appropriate form of effluent limits to control pollutants in storm water. See 40 CFR § 122.44(k)(2) & (3). If it is determined that a BMP approach (including an iterative BMP approach) is appropriate to meet the storm water component of the TMDL, EPA recommends that the TMDL reflect this.

EPA expects that the NPDES permitting authority will review the information provided by the TMDL, see 40 C.F.R. § 122.44(d)(1)(vii)(B), and determine whether the effluent limit is appropriately expressed using a BMP approach (including an iterative BMP approach) or a numeric limit. Where BMPs are used, EPA recommends that the permit provide a mechanism to require use of expanded or better-tailored BMPs when monitoring demonstrates they are necessary to implement the WLA and protect water quality.

Where the NPDES permitting authority allows for a choice of BMPs, a discussion of the BMP selection and assumptions needs to be included in the permit's administrative record, including the fact sheet when one is required. 40 C.F.R. §§ 124.8, 124.9 & 124.18. For general permits, this may be included in the storm water pollution prevention plan required by the permit. See 40 C.F.R. § 122.28. Permitting authorities may require the permittee to provide supporting information, such as how the permittee designed its management plan to address the WLA(s). See 40 C.F.R. § 122.28. The NPDES permit must require the monitoring necessary to assure compliance with permit limitations, although the permitting authority has the discretion under EPA's regulations to decide the frequency of such monitoring. See 40 CFR § 122.44(i). EPA recommends that such permits require collecting data on the actual performance of the BMPs. These additional data may provide a basis for revised management measures. The monitoring data are likely to have other uses as well. For example, the monitoring data might indicate if it is necessary to adjust the BMPs. Any monitoring for storm water required as part of the permit should be consistent with the state's overall assessment and monitoring strategy.

The policy outlined in this memorandum affirms the appropriateness of an iterative, adaptive management BMP approach, whereby permits include effluent limits (e.g., a combination of structural and non-structural BMPs) that address storm water discharges, implement mechanisms to evaluate the performance of such controls, and make adjustments (i.e., more stringent controls or specific BMPs) as necessary to protect water quality. This approach is further supported by the recent report from the National Research Council (NRC), *Assessing the TMDL Approach to Water Quality Management* (National Academy Press, 2001). The NRC report recommends an approach that includes "adaptive implementation," i.e., "a cyclical process in which TMDL plans are periodically assessed for their achievement of water quality standards" . . . and adjustments made as necessary. *NRC Report* at ES-5.

This memorandum discusses existing requirements of the Clean Water Act (CWA) and codified in the TMDL and NPDES implementing regulations. Those CWA provisions and regulations contain legally binding requirements. This document describes these requirements; it does not substitute for those provisions or regulations. The recommendations in this memorandum are not binding; indeed, there may be other approaches that would be appropriate

in particular situations. When EPA makes a TMDL or permitting decision, it will make each decision on a case-by-case basis and will be guided by the applicable requirements of the CWA and implementing regulations, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation. EPA may change this guidance in the future.

If you have any questions please feel free to contact us or Linda Boornazian, Director of the Water Permits Division or Charles Sutfin, Director of the Assessment and Watershed Protection Division.

cc:

Water Quality Branch Chiefs
Regions 1 - 10

Permit Branch Chiefs
Regions 1 - 10