SAN DIEGO COUNTY MUNICIPAL STORM WATER PERMIT REISSUANCE ANALYSIS SUMMARY

California Regional Water Quality Control Board, San Diego Region
July 26, 2004

I. INTRODUCTION

Prior to beginning the process for reissuance of the San Diego County Municipal Storm Water Permit (Order No. 2001-01), the California Regional Water Quality Control Board, San Diego Region (Regional Board) has aimed to identify the permitting approach which will best protect water quality for the next permit term while also satisfying the interests of the various stakeholders. It is anticipated that the permitting approach sought by the Regional Board will serve as a starting point which will focus the efforts of the Regional Board and stakeholders during the re-issuance process. The current permit expires on February 21, 2006; therefore it is anticipated that the next permit will be re-issued prior to that date.

This report summarizes the analysis undertaken by the Regional Board to identify its preferred permitting approach for the next storm water permit for San Diego County. The Regional Board's preferred permitting approach for the next permit is identified and discussed in section IV of this report.

II. BACKGROUND

A. Current Regulatory Approach - Order No. 2001-01

Order No. 2001-01 regulates the 21 Phase I municipal storm water Copermittees located within 10 major watersheds of San Diego County. This permit holds the local government accountable for the impacts of its land use decisions on water quality. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) is controlled by and must be authorized by the local government. Accordingly, the permit focuses on measures that the local government must implement, or require others to implement, to reduce pollutant discharges during each of the three stages of urbanization.

The responsibilities of the Copermittees under Order No. 2001-001, however, are not limited to addressing the water quality impacts of urbanization within their jurisdiction. Each Copermittee is responsible for working with the other Copermittees on water quality issues within their shared watersheds. This is because urban runoff generated in various Copermittee jurisdictions does not follow jurisdictional boundaries, but rather travels through many jurisdictions while flowing through and to receiving waters. Collectively, the Copermittees within a watershed each contribute to the cumulative pollutant load that is conveyed in urban runoff by their interconnected municipal separate storm sewer systems

(MS4s) to the receiving waters. Therefore, each Copermittee has shared responsibility for the impacts of its urbanization on the watershed in which it is located.

The existing permit, by including watershed-based requirements, calls for the Copermittees to address water quality issues on a watershed basis in addition to their jurisdictional activities. The Copermittees are required to identify and prioritize major water quality problems in the watersheds and the likely sources of the problems; develop an implementation schedule of short- and long-term activities necessary to address the highest priority water quality problems; and identify the Copermittee(s) responsible for implementing each activity. Public participation, watershed-based land use planning, education, and long-term effectiveness assessment are also activities which are required on a watershed basis.

B. New Paradigm for Storm Water Permits

In recent years, addressing water quality issues from a watershed perspective has increasingly gained attention. Regarding watershed-based permitting, the United States Environmental Protection Agency (EPA) Watershed-Based NPDES Permitting Policy Statement issued on Jan. 7, 2004 states the following:

EPA continues to support a holistic watershed approach to water quality management. The process for developing and issuing NPDES permits on a watershed basis is an important tool in water quality management. EPA believes that developing and issuing NPDES permits on a watershed basis can benefit all watershed stakeholders, from the NPDES permitting authority to local community members. A watershed-based approach to point source permitting under the NPDES program may serve as one innovative tool for achieving new efficiencies and environmental results. EPA believes that watershed-based permitting can:

- *lead to more environmentally effective results;*
- *emphasize measuring the effectiveness of targeted actions on improvements in water quality;*
- *provide greater opportunities for trading and other market based approaches;*
- *reduce the cost of improving the quality of the nation's waters;*
- *foster more effective implementation of watershed plans, including total maximum daily loads (TMDLs); and*
- *realize other ancillary benefits beyond those that have been achieved under the Clean Water Act (e.g., facilitate program integration including integration of Clean Water Act and Safe Drinking Water Act programs).*

Watershed-based permitting is a process that ultimately produces NPDES permits that are issued to point sources on a geographic or watershed basis. In establishing point source controls in a watershed-based permit, the permitting authority may focus on watershed goals, and consider multiple pollutant sources and stressors, including the level of nonpoint source control that is practicable. In general, there are numerous

permitting mechanisms that may be used to develop and issue permits within a watershed approach.

This EPA guidance is in line with State Water Resources Control Board (SWRCB) and Regional Board watershed management goals. For example, the SWRCB's Urban Runoff Technical Advisory Committee (TAC) recommends watershed-based water quality protection, stating "Municipal permits should have watershed specific components." The TAC further recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis."

In addition, the San Diego Region Basin Plan states that "public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach."

In light of EPA's policy statement and the SWRCB's and Regional Board's watershed management goals, the Regional Board seeks to expand watershed management in the regulation of urban runoff. Watershed-based MS4 permits can provide for more effective receiving water quality protection. The entire watershed for the receiving water can be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of urban runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.

C. Other Watershed-based Storm Water Permitting Efforts

Surprisingly, not all the Regional Boards in California have watershed management elements in the MS4 permits that they have adopted. Equally surprising, the Regional Board found that some storm water permits in other parts of the country that are considered watershed-based permits are not as comprehensive, prescriptive, and as advanced in terms of a watershed approach as the current storm water permit for San Diego County. The existing storm water permit already is a progressive, watershed-based permit compared to some other so-called watershed-based permits in place elsewhere.

Of particular note, however, the Oregon Department of Environmental Quality has recently issued a permit which collectively regulates four wastewater facilities and a MS4 located within a single watershed. This permit allows for trading of pollutant credits among point sources covered by the permit in an attempt to bring the entire watershed into compliance with water quality standards. Issuance of this permit was eased by the fact that all point sources within the watershed are owned by a single entity.

III. METHODOLOGY

A. Initial Screening

The Regional Board started its evaluation of the reissuance of the next storm water permit for San Diego County by identifying various permitting approaches which can be pursued. Six representative alternatives were initially identified: 1) continue with current MS4 permit; 2) enhance the Watershed Urban Runoff Management Program (WURMP) section of the current MS4 permit; 3) establish one MS4 permit for the San Diego Region; 4) establish one MS4 permit for each permittee; 5) establish MS4 permits based upon current TMDLs/impaired waterbodies; and 6) establish permits based on watersheds. These alternatives were intended to encompass the broad range of permit options available while not considering all possible permutations of each alternative.

These six alternatives were then preliminarily screened based on such basic factors as meeting Regional Board goals, watershed management effectiveness, and ease of implementation. The initial screening resulted in the elimination of several of the alternatives, due to their failure to forward the Regional Board's general goal of addressing water quality problems on a watershed basis. Other alternatives were eliminated due to issues such as difficulty in administration or lack of adequate supporting data.

B. Options Analyzed

Following this initial screening of the alternatives, two alternatives for municipal storm water regulation were identified which could best promote watershed management within the region and support stakeholder interests, while also meeting other program constraints. These two alternatives were considered for this analysis: 1) establish a MS4 permit for San Diego County with an enhanced watershed requirement section and 2) establish MS4 permits in San Diego County based on watersheds for as many as eight watersheds. These alternatives are described in more detail below.

<u>Alternative A</u>

Alternative A is essentially the current San Diego County MS4 Permit with an enhanced and expanded WURMP section. This alternative would continue to include a Jurisdictional Urban Runoff Management Program (JURMP) component, which would serve as a baseline level of effort that all Copermittees must implement across all watersheds. This JURMP section could potentially be slightly less stringent than the current JURMP section, in order to compensate for the expanded WURMP section. The WURMP section would contain increased detail and specificity, identifying water quality problems in each watershed, together with a focus on best management practice (BMP) requirements targeting the identified water quality problems. Formalized participation in WURMP efforts would also be required.

Alternative B

Alternative B is the regulation of San Diego County MS4s through the issuance of several permits based on watersheds or groups of watersheds. These permits would not include a JURMP section; instead, JURMP-type requirements would be incorporated into the WURMP sections of the permits. In these permits, each watershed would have a different set of requirements for each of its land use types (commercial, industrial, residential, etc.) These requirements would be based on the prominent water quality problems within the watershed. Since each watershed would have different requirements, there would not be a set of baseline requirements required of all Copermittees in all watersheds. Formalized participation in WURMP efforts would also be required.

C. Factors to be Considered in the Analysis

The Regional Board identified factors to be used to assess the two permit alternatives. The factors represent different issues which can be affected by the next San Diego County storm water permit. For ease during analysis, these factors were grouped under the following key categories: 1) Water Quality; 2) Regional Board; 3) Copermittees; and 4) Other Stakeholders. The factors considered in the analysis are described below, together with information on the premises and inferences which were necessary to conduct the analysis.

Water Quality

For the Water Quality category, the Regional Board evaluated each of the two permit alternatives in terms of the following factors: ability to obtain short-term water quality improvements, ability to obtain long-term water quality improvements, ability to facilitate efforts to address water quality problems which go beyond storm water discharges, ability to improve pollution prevention programs, and ability to address water quality impairments without TMDL implementation. Inferences that were used when evaluating the factors for each alternative were based on the Regional Board's knowledge of the implementation and effectiveness of current storm water programs. This included consideration of compliance evaluation findings, as well as information found in annual reports and monitoring reports.

Regional Board

Under this category, the Regional Board evaluated the potential impact of the two permit alternatives on Regional Board resources, programs and activities, as well as the two permit alternatives' consistency with SWRCB and Regional Board plans and policies. The evaluation of the two permit alternatives' impacts on Regional Board resources focused on the time and effort it would take to prepare the permit(s), conduct report reviews, conduct inspections, investigate complaints, handle cases, manage the program, and conduct enforcement under either permit alternative. In determining Regional Board staff time needed for the above mentioned tasks, unit cost factors developed by the SWRCB were used.

Other factors affecting the Regional Board which were assessed include each permit alternative's effect on Regional Board institutional resistance, Regional Board overall efficiency, Regional Board staff organization, Regional Board consistency with its Strategic Plan, Regional Board ability to address water quality impairments without TMDL implementation, Regional Board GIS compatibility, Regional Board compliance assurance, other Regional Board programs, potential watershed-based NPDES permits, and statewide consistency. Evaluations of these factors were based on informal staff surveys and interviews and the collective experience of the Regional Board.

Copermittees

The Copermittee category assessed the Copermittees' likely acceptance of either alternative, potential impacts to Copermittee resources, regional and statewide consistency, permit flexibility, and Copermittee willingness to collaborate. Inferences that were necessary when evaluating the factors for each permit alternative were based on current Copermittee behavior and program implementation. Consideration was also given to the ability of a single Copermittee to develop multiple and different storm water regulations for each watershed within their jurisdiction; the desire on the part of Copermittees for consistent storm water programs; and the current financial climate.

Other Stakeholders

The Other Stakeholders category (all interested parties other than the Copermittees) assessed each of the two alternatives' potential impacts on stakeholder involvement, stakeholder support, and ability to attract financial assistance to the region. The Other Stakeholders category included consideration of environmental, watershed, construction and industry, political, and public stakeholder groups. Inferences that were used when evaluating the factors for each alternative were based on currently understood stakeholder activities and positions.

D. Analysis

Each of the two permit alternatives were assessed for each factor discussed above. Based on this assessment, it was attempted to identify a preferred alternative for each factor when adequate information was known. However, it is important to note that it was sometimes difficult to identify a preferred alternative for some factors, due to lack of information or similarity between the two permit alternatives for a given factor.

Once the preferred alternative was identified for each factor where possible, each of the two permit alternatives was assessed to determine how often it was identified as the preferred alternative. Based on the number of times each permit alternative was identified as the preferred alternative, as well as the relative importance of the factors for which an alternative was preferred, a final overall preferred alternative was identified (discussed below). Due to occasional lack of adequate information and factors for which the two permit alternatives were largely indistinguishable, the final preferred alternative

was identified based upon those factors where adequate information existed and a relatively clear distinction between the alternatives was possible.

IV. CONCLUSIONS

An overall review of the various factors which were considered indicates that Alternative A is the most appropriate permit alternative for the next San Diego County storm water permit. Alternative A is the permitting approach which will continue the use of the current jurisdictional requirements, but will also expand the watershed-based requirements of the permit. Alternative A was identified as the preferred permitting approach for more factors than Alternative B. In addition, Alternative A was more frequently identified as the preferred permit alternative for factors which were considered most important.

In terms of the Water Quality category of factors, Alternative A is the most appropriate permit alternative over the short-term, while Alternative B appears to be the more appropriate permit alternative long-term. Alternative A is also the best permit alternative for both the Regional Board and Copermittee categories of factors. However, for the Other Stakeholder category of factors, Alternative B appears to be the more appropriate permit alternative. These findings are discussed below.

A. Water Quality

Of the factors considered which pertain to water quality, the key factors considered were the two permit alternatives' potential impacts on short- and long-term water quality. Alternative A promises to result in greater short term water quality improvements, while Alternative B over a longer time frame would be expected to result in greater long-term water quality benefits.

Both Alternatives A and B, in implementing a watershed approach in the implementation of storm water programs, are expected to result in water quality improvements within watersheds. Also, both permit alternatives are expected to result in permanent, long-term improvements. The advantage of Alternative A is that current ongoing efforts by Copermittees to improve water quality most likely will proceed uninterrupted. Copermittees under Alternative A will be required to expand and improve existing watershed efforts, which will allow for program continuity. Implementation of Alternative B, on the other hand, would likely divert Copermittee resources away from some current work to abate storm water pollution while the Copermittees reorganize their programs based on watersheds. For these reasons, it is anticipated that Alternative A is the best permit approach in terms of short-term water quality.

Over the long-term, the Alternative B watershed permits are believed to have greater potential for water quality improvements due to their ability to focus directly on specific water quality problems. However, implementation of Alternative A at this time does not preclude the implementation of Alternative B as a long-term step in the future. In fact, Alternative A can serve as a logical interim step before implementing watershed-based

permits. In addition, while Alternative B could have a more overall positive long-term impact on water quality than Alternative A, the Regional Board is not as confident about this as we are about the short-term benefits associated with Alternative A. It is also important to note that Alternative A includes significant expansion and improvement of existing watershed-based requirements by simply incorporating these additional watershed-based requirements into the current regulatory framework.

Moreover, the Regional Board can continue to assess watershed permits as a long-term strategy while implementing the interim step of expanded watershed-based permit requirements found in Alternative A. For example, Copermittee monitoring programs are currently watershed-based, and continued monitoring over the next permit cycle may provide sufficient data to determine trends and issues that should be addressed in future watershed-based permits.

Therefore, the Regional Board finds that Alternative A is the most prudent permitting approach for the protection of water quality at this time.

B. Regional Board

Of the factors considered which pertain to the Regional Board, the key factors considered dealt with the two permit alternatives' potential impacts on Regional Board resources. Alternative A is the preferred permitting approach because it is anticipated that it will result in Regional Board resources being used more efficiently. It is estimated that it will cost the Regional Board an additional 0.75 to 2.1 PYs to prepare the multiple watershed permits necessary under Alternative B versus the single permit under Alternative A. In addition, it is estimated that management of the permits under Alternative B will cost an additional 0.8 PYs per year. These additional resources necessary to prepare and manage the permits will reduce Regional Board efforts in report reviews, inspections, complaint investigations, and enforcement activities in the municipal, construction, and industrial storm water programs.

While implementation of Alternative A is expected to be more efficient in the short term, Alternative B could be more efficient in the long run depending upon its effectiveness. For example, Alternative B could facilitate TMDL implementation or facilitate development of comprehensive watershed-based NPDES permits that regulate all point source discharges within given watersheds. However, these potential future benefits are outweighed by the more likely near-term benefits of Alternative A. Alternative A does not necessitate a reduction in current Regional Board compliance activities, which would be detrimental to maintaining the progress made by the Copermittees in developing storm water management programs. In addition, Alternative A allows for the continuance of providing important feedback to the Copermittees that results from report reviews, inspections, attending meetings, and enforcement actions. These activities are critical at this point in the logical growth of the storm water regulatory program.

For these reasons, Alternative A is the best permitting approach for the Regional Board at this time.

C. Copermittees

Alternative A allows Copermittees to continue the efforts they started with Order No. 2001-01; limits the number of significant changes to their programs; allows them to still be treated equally; and allows them to apply the same regulations throughout their jurisdictions. Copermittees are still working on implementing all of the requirements of the current storm water permit and may be more receptive to an enhanced WURMP section rather than a watershed permit. For these reasons, Alternative A appears to be the permitting approach which would meet Copermittee needs and receive their support.

D. Other Stakeholders

Alternative B appears to be the Alternative which best meets the interests of other stakeholders (all interested parties other than the Copermittees). Alternative B would most likely generate more stakeholder interest, because of its potential to draw interest to issues typically outside of storm water. Though it is difficult to determine which approach would actually receive greater support from stakeholders as a whole, Alternative B would most likely facilitate other Regional Board interests and goals. For example, generation of funding for water quality projects in the region could be enhanced under Alternative B. While the benefits of Alternative B regarding other stakeholders could be significant, Alternative A also provides important benefits for other stakeholders, though perhaps to a lesser extent. In light of this, the benefits of Alternative B for other stakeholders, while important, are found to be less significant than the benefits of Alternative A for the Water Quality, Regional Board, and Copermittee categories of factors.

V. RECOMMENDATIONS

The Regional Board should implement Alternative A for the next permit cycle. This will increase the focus on watershed-based water quality problems and facilitate implementation of Alternative B in the future.

1. If Alternative A is implemented, the Regional Board needs to significantly change how the Regional Board currently oversees the municipal storm water program. The Regional Board's focus should significantly shift from, but not ignore, JURMP implementation to an enhanced WURMP implementation.

2. For the current San Diego County MS4 permit's reissuance, the Regional Board could use the application process as an opportunity to develop watershed-based permit conditions, regardless of which alternative is selected.

3. If a group of Copermittees within a watershed wish to pursue a watershed-based permit for their specific watershed, the Regional Board should attempt to accommodate their request. In such an instance, the resultant watershed-based permit could serve as a pilot permit which could be evaluated for future watershed

permitting efforts.

4. The Regional Board should, within the next permit cycle, evaluate the progress made by the Copermittees in implementing the enhanced WURMP-based programs and determine whether the Alternative B approach is a viable approach for all or some of the Copermittees in the future.

ATTACHMENT 1

for

San Diego County Municipal Storm Water Permit
Reissuance Analysis Summary

This attachment provides background information on the analysis conducted in the report titled "San Diego County Municipal Storm Water Permit Reissuance Analysis Summary." In section III.C of the report, various factors used by the Regional Board to assess the two permit alternatives for the next San Diego Municipal Storm Water Permit are identified. Section III.D of the report then discusses the steps that were taken to analyze the two permit alternatives in terms of the identified factors. Section IV of the report contains a discussion of the analysis of the two permit alternatives and the conclusions that were drawn regarding the alternatives.

This attachment provides support and background information for the analysis and conclusions found in Section IV of the report. It identifies the individual factors that were used to assess the two permit alternatives. These individual factors are grouped into four categories: Water Quality, Regional Board, Copermittees, and Other Stakeholders. The assessment conducted with each of the individual factors is outlined below according to these categories. The primary factors that were considered are first listed as questions, together with the assumption that was used as the basis for the analysis. The two permit alternatives are then assessed in terms of each factor in the corresponding table.

The assessments conducted using each factor were then compiled to cumulatively develop the final analysis and conclusions found in section IV of the report. In many cases, section IV of the report expands on the assessments discussed in this attachment in order to develop the final analysis and conclusions found in the report. As such, this attachment is meant to provide background information for the final analysis and conclusions found in the report, and should only be considered in conjunction with the information found in the report.

It is important to note that it was sometimes difficult to identify a preferred alternative for some individual factors, due to lack of adequate information or occasional similarities between the two permit alternatives. Where this was the case, best professional judgment and Regional Board experience was used where possible to identify a preferred alternative for an individual factor.

A. WATER QUALITY FACTOR ANALYSIS

1. Short-term Water Quality - Will the alternative result in greater short-term water quality benefits/improvements? Assumption: It would be advantageous for the alternative to generate short-term water quality benefits and improvements.

Evaluation of Short-term Water Quality		
Criteria	**Alternative A**	**Alternative B**
In the first 5 years of the permit reissuance, water quality of storm water discharges would improve.	It is difficult to predict measurable differences in discharge quality from the two alternatives in the first five years of the permit reissuance. Alternative A, however, would allow Copermittees to continue current efforts to reduce pollutants in storm water discharges.	It is difficult to predict measurable differences in discharge quality from the two alternatives in the first five years of the permit reissuance. In attempting Alternative B, some resources of the Copermittees would probably be diverted from continuing efforts to reduce pollutants in storm water discharges in order to reorganize by watersheds.
In the first 5 years of the permit reissuance, receiving water quality impacted by storm water discharges would improve.	It is difficult to predict measurable differences in receiving water quality from the two alternatives in the first five years of the permit reissuance. Alternative A, however, would allow Copermittees to continue efforts to improve receiving water quality impacted by storm water discharges.	It is difficult to predict measurable differences in receiving water quality from the two alternatives in the first five years of the permit reissuance. In attempting Alternative B, some resources of the Copermittees would probably be diverted from efforts to improve receiving water quality in order to reorganize by watersheds.
Assessment	In the short-term Copermittees would most likely spend considerable time reorganizing on a watershed basis under Alternative B. Alternative B would probably divert resources from continuing efforts to reduce pollutants in storm water dischargers and improve receiving water quality.	

2. Long-term Water Quality - Will the alternative result in greater long-term water quality benefits/improvements? Assumption: It would be advantageous for the alternative to generate long-term and lasting water quality benefits and improvements.

Evaluation of Long-term Water Quality Improvements		
Criteria	**Alternative A**	**Alternative B**
Beyond the first 5 years of the permit reissuance, water quality of storm water discharges would improve.	Implementation of this alternative would result in improved storm water discharge quality beyond the first five years.	Implementation of this alternative might result in greater long-term improvements to discharge quality than Alternative A.
Beyond the first 5 years of the permit reissuance, receiving water quality would improve.	Implementation of this alternative would result in improved receiving water quality beyond the first five years.	Implementation of this alternative might result in greater long-term improvements to receiving water quality than Alternative A.
Assessment	Five years beyond the initial permit reissuance, Alternative B, in better targeting specific water quality problems and promoting greater coordination and cooperation of Copermittees in watersheds, might result in greater long-term improvements in quality of storm water discharges and receiving waters.	

3. Addressing a Wider Range of Water Quality Problems – see section B, item 9.

4. Pollution Prevention - Will the alternative result in greater pollution prevention? Assumption: It would be positive for the alternative to encourage and accelerate efforts to prevent pollutants from being generated and discharged to surface waters.

Evaluation of Pollution Prevention		
Criteria	**Alternative A**	**Alternative B**
The alternative would accelerate efforts to prevent storm water related pollutants from being generated and discharged to receiving waters.	This alternative would emphasize the implementation of an effective pollution prevention program.	Greater that Alternative A, this alternative would ensure a coordinated pollution prevention program within a watershed.
Assessment	To the extent that Alternative B results in greater Copermittee targeting of specific water quality problems and coordination and cooperation within a watershed, Alternative B would better ensure a coordinated pollution prevention program within a watershed.	

5. Addressing Water Quality Impairments without TMDLs – see section B, item 6.

B. REGIONAL BOARD FACTOR ANALYSIS

1. Regional Board Resources – Will the alternative require greater or lesser Regional Board resources to develop and administer? Assumption: The fewer Regional Board resources that it would take to draft and oversee MS4 permits the better.

Evaluation of Regional Board Resources		
Criteria	**Alternative A**	**Alternative B**
Permit Preparation	a. Order No. 2001-01 requires the Copermittees to submit Reports of Waste Discharge (RWDs) in August 2005. The information needed in the RWDs is described in the federal regulations. b. Staff will review and process one application. c. Draft one tentative Order, with some identification of water quality issues specific to watersheds and some development of specific BMP requirements d. One comment period and hearing series e. Possible appeal of one Order Assessment: Using the unit cost factor for large MS4 permit, the permitting process will take 1350 hours	a. Additional resources will be needed for staff to notify and work with the Copermittees so that the Copermittees are able to submit multiple RWDs describing specific storm water programs for each watershed. b. Staff must review and process multiple applications. c. Draft several tentative Orders, with identification of water quality issues specific to watersheds and development of specific BMP requirements d. Multiple comment periods and hearing series e. Possible appeal of multiple Orders. Assessment: Based upon our experience with the Riverside and Orange Counties MS4 permits and the unit cost factor for a

		medium MS4 permit, our estimate is : 2 permits - 1800 hours 3 permits - 2200 hours 4 permits - 2600 hours 5 permits - 3000 hours 6 permits - 3400 hours 7 permits - 3800 hours 8 permits - 4200 hours 9 permits - 4600 hours 10 permits -5000 hours
Report Reviews	- 21 Individual JURMPs - One unified JURMP - 10 WURMPs - One Unified WURMP - One receiving water report - 21 individual annual reports Assessment: Using cost factors, approx. 1100 hrs per year	- Up to 10 unified JURMPs and WURMPs - 10 receiving water reports - Up to 43 individual annual reports Assessment: Using unit cost factors, approx. 1350 hrs per year
Inspections	Assume 6 full evaluations and 18 inspections using unit cost factors for large MS4 program. Assessment: 930 hours per year	Additional time will be necessary to evaluate programs on a watershed basis rather than a jurisdictional basis, since requirements may not be as explicit and programs could be more complex. Assessment: 1280 hours per year
Complaint Investigation	More complaints and requests for investigations occur as the public becomes more aware of the MS4 program. Assessment: 20-30 investigations a year for 120-180 hours	Alternative B will create more stakeholder involvement resulting in more public awareness and requests for investigations. Assessment: 30-40 investigations a year for 180- 240 hours
Case Handling	845 hours per major permit	Based upon unit cost factors, 68 hours for each additional permit. (for 10 watershed permits, 845 + (9 x 68) = 1457 hours)
Program Management	Unit cost factor for program management is based upon number of personnel years (PYs). This should be the same for both alternatives.	
Enforcement	One Cleanup and Abatement Order (CAO) in the last five years. Assessment: 135 hours per year	Expenditure of resources may be slightly higher as standard enforcement actions may have to be issued to the same agency for similar violations under 2 or more MS4 permits, with permits being more complex. Assessment: Assume 1 CAO, Average 150 hours per year
Assessment	Alternative B will cost approximately 0.75 – 2.1 PYs more to prepare permits and 0.8 PYs more per year to manage than Alternative A	

2. Institutional Resistance – Will the alternative generate institutional resistance within the Regional Board? Assumption: The less internal resistance to the alternative the better.

Evaluation of Institutional Resistance		
Criteria	**Alternative A**	**Alternative B**
What potential internal resistance or support is there to the alternative?	Support by those who consider the JURMP component of the program to be critical at this time.	Support by those who consider the future of the WURMP component of the program to be critical at this time.
Assessment	No known significant internal opposition or support for either alternative at this time.	

3. Efficiency – Will the alternative increase Regional Board efficiency? Assumption: The more the alternative provides an opportunity to produce equivalent results with less resources, or greater results with equivalent resources, the better.

Evaluation of Efficiency		
Criteria	**Alternative A**	**Alternative B**
Costs	As presented under No.1 (Evaluation of Regional Board Resources), because it will require more MS4 permits, Alternative B will require the Regional Board to direct PYs away from current storm water activities and towards additional permit writing, report reviews and case handling activities. These resources would be made up by doing less of something else (i.e. construction storm water inspections, designating agencies under Phase II, etc.).	
Benefits	From a program "bean counting" standpoint, Alternative B would result in more outputs in terms of permits produced, reports reviewed, and cases handled (meetings attended, outreach efforts, workshops, etc.); but would also result in less outputs in terms of audits, inspections, complaint investigations, and enforcement actions.	
Assessment	From a traditional program management standpoint (bean counting), Alternative A is preferred. From a non-traditional standpoint, the assessment of efficiency depends upon whether watershed permits will encourage sufficient initiative by the Copermittees to compensate for the use of less traditional compliance tools by the Regional Board.	

4. Staff Reorganization – Will the alternative require Regional Board staff reorganization that is not currently planned? Assumption: The more the alternative is consistent with future plans for staff reorganization the better.

Evaluation of Staff Reorganization		
Criteria	**Alternative A**	**Alternative B**
Assuming the office will in time be reorganized into watershed teams, which permit alternative will better facilitate that change?	Assigning the Permit to multiple watershed units could make management of the permit more complex. Questions such as which unit is responsible for updating the permit, attending Copermittee meetings, and being the primary contact will need to be resolved.	Watershed permits can be easily assigned to watershed units.
Assessment	Any impact on staff reorganization is minor at this time.	

5. Strategic Plan – Will the alternative be consistent with the Regional Board Strategic Plan? Assumption: The more the alternative is consistent with the Strategic Plan the better.

Evaluation of Strategic Plan		
Criteria	**Alternative A**	**Alternative B**
Organizations are effective, innovative, and responsive	Alternative B is more innovative than Alternative A.	
Surface waters are safe for drinking, fishing, and swimming, and support healthy ecosystems and other beneficial uses	This is assessed in Item A of this attachment.	
Individuals and other stakeholders support our efforts	This is assessed in Item D of this attachment.	
Water quality is comprehensively measured	This is assessed in Item A of this attachment.	
Assessment	There is little difference between the alternatives in terms of consistency with the Strategic Plan.	

6. TMDL Implementation – Will the alternative address water quality impairments, thereby decreasing the need for numerous TMDLs? Assumption: The more the alternative provides an opportunity to correct water quality impairments without conducting a TMDL the better.

Evaluation of TMDL Implementation		
Criteria	**Alternative A**	**Alternative B**
How would the alternative require necessary special studies?	Either as part of the WURMP section or under special studies in the Monitoring and Reporting program.	A requirement for special studies could be specified anywhere in the permit.
How would the alternative require watershed-based monitoring for pollutants of concern?	Either as part of the WURMP section or under special studies in the Monitoring and Reporting program.	As part of the receiving water monitoring program.
How would the alternative require mass loading reductions?	As part of the WURMP component or receiving water limitations section.	As part of the receiving water limitations section.
How would the alternative require reductions from sources other than urban runoff , such as from Phase II entities, Indian Reservations, etc.?	Not known if it can be done.	If other sources can be named as Copermittees in the watershed MS4 permit.
Assessment	Because TMDLs are for sources of pollutants within a watershed, Alternative B may better provide incentive for addressing water quality impairments without a TMDL.	

7. GIS Compatibility – Will the alternative be compatible with GIS implementation and promote and enhance its use? Assumption: The more the alternative is conducive to GIS use the better.

Evaluation of GIS Compatibility		
Criteria	**Alternative A**	**Alternative B**
Assessment	Any difference between alternatives should be minor.	

8. Enforceability/Compliance – Will the alternative promote assessment of compliance and also be enforceable? Assumption: The easier it is to assess compliance under an alternative the better.

Evaluation of Enforcement/Compliance		
Criteria	**Alternative A**	**Alternative B**
Has the alternative proven to be effective?	Alternative A has proven successful in ensuring that Copermittees implement or require implementation of BMPs under their JURMPs.	Less resources will be available for using traditional compliance and enforcement tools. By using Alternative B, reliance is placed in nontraditional compliance methods. Information is not known to be available to document success of nontraditional methods.
Assessment	Alternative A, which is based upon explicit requirements and is easier to enforce, should result in better compliance.	

9. Other Programs (Construction Storm Water, Industrial Storm Water, CalTrans Storm Water, TMDL Implementation, POTW, etc.) – Will the alternative promote and enhance other Regional Board programs? Assumption: The more the alternative can result in coordination with other programs the better.

Evaluation of Other Programs		
Criteria	**Alternative A**	**Alternative B**
Basin Planning & Water Quality Standards Non-point Source Grants TMDLs	Alternative B may facilitate coordination with these programs more than Alternative A by providing a convenient forum to exchange ideas, identify common concerns and activities, develop priorities, and coordinate schedules for actions.	
Industrial Programs	The current focus is to coordinate industrial storm water activities of the Regional Board with the Copermittees' JURMP activities.	If resources need to be diverted to manage more MS4 permits, Alternative B may negatively impact this program.
Phase II SW Programs	The current focus is to integrate Phase II program work into Phase I program work.	If resources need to be diverted to manage more MS4 permits, Alternative B may negatively impact this program.
CalTrans	The current focus is to integrate CalTrans program activities into MS4 program activities.	If resources need to be diverted to manage more MS4 permits, Alternative B may negatively impact this program.
Construction Storm Water	The current focus is to ensure adequate BMPs are being implemented at construction sites.	If resources need to be diverted to manage more MS4 permits, Alternative B may negatively impact this program.
Compliance Assurance	The current focus is to assess Copermittee JURMP activities and provide feedback. This includes compliance assurance activities to ensure that Copermittees are requiring and implementing adequate BMPs during the	If resources need to be diverted to manage more MS4 permits, Alternative B may negatively impact this program.

	planning and construction phases of development, as well as at existing municipal, commercial and industrial facilities.	
Site Mitigation/UST	No effect on program	
Land Disposal	No effect on program	
Assessment	Alternative B may negatively impact other storm water programs, but could support Basin Planning & Water Quality Standards, Non-point Source, and Grants.	

10. Watershed-based NPDES Permits – Will the alternative promote and enhance the issuance of watershed-based NPDES permits? Assumption: The more the alternative will promote and enhance watershed-based NPDES permits the better.

Evaluation of Watershed-based NPDES Permits		
Criteria	**Alternative A**	**Alternative B**
One vision for future NPDES permitting is that there would be one master NPDES permit for all point source storm water and non-storm water discharges in a watershed.	Alternative A would be a small step in this direction.	Alternative B would be a larger step in this direction, but could be even greater if all Phase II entities, Caltrans and industrial/ construction dischargers were included.
Assessment	Alternative B may provide a bigger boost to developing comprehensive watershed permits in the future, if there are no legal barriers to including other types of dischargers.	

11. Statewide Consistency - Will the alternative be consistent with other Regional Board MS4 permits? Assumption: The more the format is consistent with other Regional Board MS4 permit formats the better, provided the format ensures protection of water quality.

Evaluation of Statewide Consistency		
Criteria	**Alternative A**	**Alternative B**
Is the alternative consistent with other Regional Board MS4 permits?	Alternative B is more inconsistent with other MS4 permits than Alternative A. However the goals of both alternatives are consistent with the goals of MS4 permits adopted by other Regional Boards, i.e. reducing pollutants to MEP and requiring compliance with receiving water objectives. Both alternatives are also consistent with all State Board precedential decisions on MS4 permits.	
Assessment	Because Alternative A is consistent with previous permits and is more similar to MS4 permits issued by other Regional Boards, there is less reason for appeal of the permits to the State Board.	

C. COPERMITTEE FACTOR ANALYSIS

1. Acceptance – Will the alternative be viewed positively and with acceptance by the Copermittees? Assumption: Acceptance and a positive attitude will facilitate permit implementation and result in fewer challenges of the permit requirements.

Evaluation of Acceptance		
Criteria	**Alternative A**	**Alternative B**
Copermittees support the alternative as the correct, next step in addressing storm water issues?	Unknown. Based on informal discussions, Copermittees do expect a move towards watershed permitting, but they have not stated their opinion of this.	
Copermittees willingness to change?	Alternative A would result in similar program structure and implementation, with a change in focus to support watershed activities.	Alternative B could result in Copermittees within more than one watershed regulating areas of their City differently from other areas. Therefore, Copermittees are less likely to support this alternative.
Will this alternative result in legal challenges?	Alternative A may not result in legal challenges as this is more of a continuation of the current program.	Alternative B may result in legal challenges as this would be a "new" set of rules.
Assessment	Alternative A would be preferred as it is more similar to the current program and Copermittees could continue to treat all entities within their boundaries the same.	

2. Copermittee Resources – Will the alternative positively or negatively affect Copermittee resources? Assumption: The fewer Copermittee resources that it would take to implement all MS4 permit requirements the better.

Evaluation of Copermittee Resources		
Criteria	**Alternative A**	**Alternative B**
Reporting requirements	10 WURMPs and 1 Unified WURMP, in addition to JURMPs, annual reports, monitoring report	2-8 separate watershed reports, no JURMP required, annual reports, monitoring reports
Monitoring	Costs shared based on population.	Likely to increase costs due to multiple monitoring efforts and data analysis.
Program Implementation	Little difference for Copermittees and principal permittee, as program requirements may be similar.	Likely to increase costs as more coordination is required (dependent on number of watersheds).
Coordination/Meetings	May be a slight increase in costs as a greater emphasis is placed on watershed activities; Copermittees are not currently as focused on WURMP as JURMP actions.	Significant increase over costs of Alternative A, as Copermittees' participation in meetings, monitoring, and reporting is expected to increase (dependent upon number of watersheds).
Assessment	While Alternative B appears to result in significant cost increases, it is more likely that the Copermittees will spend the same amount of money on the entire program and instead allocate the dollars differently. This could result in poor program performance in some areas. Alternative A would retain the positive gains of the JURMP, while increasing watershed activities.	

3. Collaboration – Will the alternative support and enhance collaboration among the Copermittees? Assumption: Increasing collaboration among Copermittees can make better use of their resources while addressing storm water issues.

Evaluation of Collaboration		
Criteria	**Alternative A**	**Alternative B**
Which alternative will better generate collaboration?	Alternative A will require an increase in collaboration within a watershed, but will not require collaboration on all program elements; Copermittees will still be individually responsible for JURMP implementation.	Alternative B will require collaboration on all aspects of program implementation.
How have the Copermittees worked together in the past on WURMP efforts?	The County of San Diego provides overall guidance.	County of San Diego guidance may be limited in some watersheds based on land holdings.
Legal limitations to collaboration	Unknown	Unknown
What level of collaboration will be required?	Alternative A requires increased collaboration, but not to the level of Alternative B.	Alternative B requires Copermittees to think outside of jurisdictional boundaries and implement programs outside of jurisdictional boundaries that will benefit water quality within jurisdictional boundaries.
Assessment	While Alternative B would require greater collaboration among Copermittees, they have not currently demonstrated an eagerness to collaborate and jointly address storm water issues at such a scale. Alternative A would increase the level of collaboration while still recognizing individual programs.	

4. Flexibility – Does the alternative provide the Copermittees with flexibility in implementing their programs? Assumption: A more flexible permit would be preferred by the Copermittees, as this would allow them more choices in achieving compliance.

Evaluation of Flexibility		
Criteria	**Alternative A**	**Alternative B**
Will the alternative more readily allow changes to the permit/program?	Changes may be more contested as each change would affect all of the Copermittees.	Changes may be easier as they would be limited to the watershed that requires the change.
Will the alternative allow the Copermittees greater flexibility in meeting permit requirements?	There is little difference between the two alternatives. Both would contain specific detailed permit requirements.	There is little difference between the two alternatives. Both would contain specific detailed permit requirements.
Assessment	Alternative B may be slightly preferred because it may be easier to amend.	

5. Reporting Requirements – Will the alternative increase reporting requirements? Assumption: A permit that reduces the reporting requirements would be preferred by the Copermittees over one that keeps the requirements the same or increases the requirements.

Evaluation of Reporting Requirements		
Criteria	**Alternative A**	**Alternative B**
Number of reports	JURMP, WURMP, JURMP annual report, WURMP annual report, monitoring report	Watershed plans, watershed annual reports, monitoring reports, possible special watershed reports
Reporting effort	Less effort than Alternative B, because the required reports and formats have already been developed.	More effort than Alternative A, because new reports and formats would need to be developed.
Assessment	Alternative A would likely necessitate development of more reports, but Alternative B would likely require greater reporting effort. Therefore, there is likely little difference between the two alternatives in terms of resources expended on reporting.	

6. Statewide Consistency – Is the alternative consistent with other MS4 permits within the state? Assumption: The Copermittees will favor an alternative that is consistent with other permits in the State rather than having to develop a new type of program.

Evaluation of Statewide Consistency		
Criteria	**Alternative A**	**Alternative B**
Consistent with other MS4 permits in state?	More consistent with other permits.	Less consistent with other permits.
Is consistency necessary to achieve clean water?	Equal - permits would have requirements necessary to address regional water quality issues.	
Assessment	Alt A would be preferred by Copermittees as it is similar to other programs already in the state and region.	

7. Regional Consistency – Is the alternative consistent with other MS4 permits within the region? Assumption: The Copermittees will favor an alternative that is consistent with other permits in the region rather than having to develop a new type of program.

Evaluation of Regional Consistency		
Criteria	**Alternative A**	**Alternative B**
Consistent with other permits in region?	More consistent with other permits.	Less consistent with other permits.
Is consistency necessary to achieve clean water?	Equal - permits would have requirements necessary to address regional water quality issues.	
Assessment	Alt A would be preferred by Copermittees as it is similar to other programs already in the state and region.	

D. STAKEHOLDER FACTOR ANALYSIS

1. Stakeholder Involvement - Will the alternative be effective in generating active stakeholder involvement? Assumption: Stakeholder involvement is positive, because greater involvement can generate a better work product and more public awareness.

Evaluation of Stakeholder Involvement		
Criteria	**Alternative A**	**Alternative B**
Which alternative would generate more active stakeholder involvement from environmental groups?	Unknown, most likely negligible difference between the two alternatives.	Unknown, most likely negligible difference between the two alternatives.
Which alternative would generate more active stakeholder involvement from watershed groups?	This approach would generate stakeholder involvement from watershed groups, but less so than Alternative B.	This alternative would most likely generate more stakeholder involvement from watershed groups, because essentially all activities would be conducted at the watershed level.
Which alternative would generate more active stakeholder involvement from construction and other industry groups?	Unknown, most likely negligible difference between the two alternatives.	Unknown, most likely negligible difference between the two alternatives.
Which alternative would generate more active stakeholder involvement from political groups?	Unknown, most likely negligible difference between the two alternatives.	Unknown, most likely negligible difference between the two alternatives.
Which alternative would generate more active stakeholder involvement from the general public?	This approach would generate stakeholder involvement from the general public, but less so than Alternative B.	This alternative would most likely generate more stakeholder involvement from the general public, because watershed efforts would most likely be more prominent and visible to the public.
Assessment	Two of the identified stakeholder groups would most likely be more involved if Alternative B were used, while the reaction of the other identified stakeholder groups is unknown. Therefore, it appears that Alternative B would be the recommended alternative for this factor.	

2. Stakeholder Support - Will the alternative be supported by a majority of the stakeholders? Assumption: Stakeholder support is positive, because it increases the probability that implementation will occur and be effective.

Evaluation of Stakeholder Support		
Criteria	**Alternative A**	**Alternative B**
Environmental groups would support which alternative?	Environmental groups would most likely support this alternative, but less so than Alternative B.	This alternative would most likely be preferred by environmental groups, because it can focus more directly on specific water quality problems which they may be interested in.
Watershed groups would support which alternative?	Watershed groups would most likely support this alternative, but less so than Alternative B.	This alternative would most likely be preferred by watershed groups, because it can focus more directly on specific water quality problems which they may be interested in.
Construction and other industry groups would support which alternative?	Construction and other industry groups would not like this approach, but would prefer it over Alternative B.	Construction and other industry groups would oppose this approach, because of its potential for different standards in different

		watersheds.
Political groups would support which alternative?	Political groups would most likely not like this approach, but would prefer it over Alternative B.	Political groups would most likely oppose this approach, because of the difficulty in using inter-jurisdictional efforts.
The general public would support which alternative?	Unknown which alternative would be preferred.	Unknown which alternative would be preferred.
Assessment	Two identified types of stakeholder groups would most likely prefer Alternative A, two would most likely prefer Alternative B, and one's preference is unknown. Assuming that each type of stakeholder group is of equal importance, it appears that neither Alternative would be supported by stakeholders more than the other.	

3. Financial Assistance – Will the alternative attract financial assistance? Assumption: The ability to attract financial assistance is positive, because financial assistance can result in projects which improve water quality.

Evaluation of Financial Assistance		
Criteria	**Alternative A**	**Alternative B**
Will the alternative attract financial assistance from grants?	While this alternative could attract financial assistance from grants, Alternative B would most likely be more effective at attracting financial assistance from grants.	This alternative would most likely be more effective at attracting financial assistance from grants, because well established watershed efforts are usually more effective in attracting grant money.
Will the alternative attract financial assistance from other sources such as watershed groups, conservancies, and private parties?	Unknown	Unknown
Assessment	Alternative B is the preferred alternative for the Financial Assistance factor.	