

# **CITY OF BENICIA**

## **STORM WATER MANAGEMENT PLAN**

### **ANNUAL REPORT 2004-2005**

#### **I. INTRODUCTION – PROGRAM OVERVIEW**

The City of Benicia is required by the Environmental Protection Agency, under the provisions of the National Pollution Discharge Elimination System (NPDES) Phase II regulations and the State Water Resources Control Board Phase II General Permit requirements to develop and implement a Storm Water Management Plan (SWMP). The SWMP is intended to reduce pollutants that may be present in storm water runoff from streets and property within the city limits. This is the City of Benicia's first Annual Report on the implementation of its SWMP.

The City of Benicia submitted an application package to obtain coverage under the Phase II General Permit of March 9, 2003 in compliance with the Phase II Municipal Stormwater regulations. This was the initial phase of the review process to gain coverage under the Phase II permit. After reviewing the SWMP, the San Francisco Bay Regional Water Quality Control Board (RWQCB) submitted comments and a request for clarifications regarding the content of the SWMP. The comments received from the RWQCB were very constructive and were used to improve the clarity of the plan and add goals to help with water quality compliance. The plan was resubmitted to the RWQCB and in September 2003 the RWQCB deemed the SWMP as complete but required revisions in order to approve the SWMP. In November 2004, the revised SWMP was submitted, reviewed and deemed to meet the Maximum Extent Practicable (MEP) standard as required by the Regional Water Board staff. The SWMP was then posted on the SWRCB website for public review and comment before adoption. Public notices also ran in the local newspaper once per week for three weeks during this 60-day public comment period. Because the RWQCB did not receive any public comments, a public hearing was not required and the Storm Water Management Plan was approved January 31, 2005.

The SWMP is a five-year program that implements the General Permit through a series of measures and practices that are designed to address storm water pollution before it is discharged into the receiving water. The plan includes six elements called Minimum Control Measures (MCMs) that identify a responsible department within the city designated to carry-out each measure, what Best Management Practices (BMPs) are to be implemented that are expected to achieve pollution reduction, what methods would be used to measure BMP effectiveness, and an implementation timetable.

The six MCMs required by the General Permit are:

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Storm water Runoff Control
- Post-Construction Storm water Management
- Pollution Prevention for Municipal Operations

We believe that the City of Benicia has made important strides in this first Plan year, and has plans for further strides in the coming years. Four areas the City has identified for strengthening in the coming year are the publication of a structured Outreach Plan, creation and distribution of Hazardous Material brochures, a better Education Material Tracking System, and a more consistent and prominent method of noticing to the public the street sweeping schedule. Our goal for 2005-06 is to improve those areas.

The City plans to expend approximately \$120,500 in year one and \$125,500 in year two of the current two-year budget cycle in order to perform storm water management activities. As the storm water management plan progresses during its first five-years, an annual assessment of the budgetary needs will be performed and modifications or revisions to the city budget may be needed.

Benicia continues to enjoy ongoing private development. Accordingly, this past year's focus has been on the City's inspection and enforcement tools that are used to control and minimize the risk of non-stormwater discharges, and the development of an enabling ordinance. A significant effort by staff has been spent developing inspection guidance materials and information for developers on the requirements of the SWMP. To date, staff has developed a draft Storm Water Management and Discharge Control Ordinance, drafted revisions to the existing Grading Ordinance, created an Enforcement Response Plan and created a Commercial/Industrial – Construction Site Inspection plan for approval during the upcoming report period.

A significant effort has also been made to make the Clean Water Program a presence at civic events. In this year's report we have included, as attachments documents that represent some of the implementation tools of our SWMP. We are summarizing our activities here and discuss them in more detail in the following sections. We also reference documents on file with the City Engineer should it be desirable to review that program sections documentation. This data is kept on file for a minimum of ~~three-five~~ years, or the duration of the permit, whichever is longer.

The City Engineer was designated by the City Manager as the Program Leader charged with implementing the SWMP and was actively assisted by the Engineering, Water Quality, and Maintenance Divisions of the Public Works Department, the Planning and Building Inspection Divisions of the Community Development Department, and the Parks and Community Services

Department. The Police and the Fire Departments also provide some support in implementing the SWMP.<sup>ab</sup>

Changes to the City's legal authority to require storm water controls and maintenance will also be implemented. An ordinance prohibiting non-storm water discharges and revisions to the grading and erosion control ordinance is anticipated to be in place by the end of 2005 to clarify and enforce what can and cannot be discharged to the City's storm drain system.

Each year, beginning in September 2005, the City will submit to the SWRCB a detailed report on the progress and effectiveness of each of the MCMs and identify those changes needed to the plan based on each MCM performance.

### **Public Education and Outreach Activities – (PEO)**

In review of the program we have found four areas in the Public Education and Outreach area that will need strengthening in the coming year. Those areas include the creation of the PEO Outreach Plan, developing and distributing more information on hazardous materials, formalizing the tracking of PEO material inventory, and providing clearer notice to residents of the street sweeping schedule.

The City has initiated some of the first and second year activities in our five-year plan. Two staff presentations were conducted for involved City staff. The first meeting was to introduce the plan and create general awareness of the requirements. The second meeting was a detailed discussion of the responsibilities of each department member of the SWMP implementation team. The City has also prepared a draft training and guidance for developers that is undergoing in-house review and planned for presentation to the full staff in the fall, in advance of full implementation.

This year City personnel staffed a booth during the City's Public Works Week events May 16 – 21, 2005 at the local farmers market and also hosted an Open House on Saturday, May 14, 2005 at the city's Corporation Yard. Roughly 300 items related to water were distributed at both events. Using program developed signboards and educational materials approximately 250 pieces of educational materials were distributed. The City also maintained a static display at the Public Library during Public Works Week and Water Awareness month in May.

### **Public Involvement and Participation (PIP)**

The City will implement a decal and stenciling program later this year. In the fall staff will update the Council on the program and present the new proposed Stormwater ordinances at a public hearing. This will also provide the opportunity for the public to review and comment on the SWMP.

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<sup>a</sup> See Stormwater Implementation Team Organization Chart (Attachment A)

<sup>b</sup> See Public Works Department Organization Chart (Attachment B)

## **Illicit Discharge Detection and Elimination (IDDE)**

During the first year of the City of Benicia SWMP implementation, staff has made significant progress in implementing its Performance Standards. Staff has created a structure of screening and investigating illicit discharges, and developed and implemented a database for all inspections. Staff has also designed and organized a structure for the SWMP implementation team and conducted initial meetings described above. Staff has also developed a draft enabling ordinance and maintained the City outfall maps.

The staff is evaluating the effectiveness of the program by analyzing the findings from the database. Furthermore, the City has adopted a strategy of rather than trying to identify areas where there has been dumping or illicit discharge, because there is no such history, we identify the businesses that pose the most risk. Until a history of adverse experience is documented, we believe this is the most effective way to ensure compliance. The Water Quality Division performs inspections of commercial and industrial business sites for sewer connection, cross-connection and permit purposes. There were zero (0) "Notices of Violation" and zero (0) "Warning Notice" issued during the inspections. Again, we continue to review inspection reports to determine which business should warrant greater attention.

Illicit Discharge Activities are also directly related to Municipal Maintenance staff efforts. In addition to the Industrial and Commercial Inspections conducted, City staff provides first response inspections for any reported suspicious discharge, whether on private or public property.

This past fiscal year there was one report of a suspected illegal discharge from a commercial business. The suspected violator was inspected and the owner of the business was advised to train and educate his personnel about the penalty involved for the person who illegally dumps any wastewater or chemicals down the City's storm drain. A staff member from the Solano County Environmental Management assisted the City's industrial inspector to inspect this particular business. The City believed the joint inspection made quite an impression on the business owner and there have been no more reports of illegal dumping into the storm drain since the inspection.

## **Construction Site Run-Off Control Activities (CRC)**

The City of Benicia is nearing built-out status with infill development expected in the future. The last major residential developments are now underway in Benicia. All developments undergoing construction this past year were commenced prior to the approval of the SWMP; however, the City has been aware of and responding to the need to implement Best Management Practices to the MEP for some time. The standard practice for all major construction projects and new developments (other than minor residential additions to existing structures) has been to require a Storm Water Pollution Prevention Plan (SWPPP) for review by the Assistant Engineer. This year 2 sites within the City's jurisdiction required grading permits. The SWPPP's were prepared for each one.

All construction sites are sent a pre-rainy season letter notifying the developer of the erosion and sedimentation control measures that are required. All sites are inspected routinely for water quality Best Management practices (BMP's), during storms and after storms.

On the development projects, City staff did not issue any "Corrective Notice." Staff distributed courtesy advisory notices as a reminder of "Rainy Season" obligations at each project site. During and post rain inspections were conducted at all development sites.

The City also had 3 major capital improvement projects this past fiscal year. Those projects were: Annual Citywide Street Overlay, West I Street Infrastructure Improvement Project, and Military West Water Line Replacement Project. However due to the season and the short construction duration, no specific SWPPP's were implemented or required under the construction specifications. We also constructed the Inflow and Infiltration Improvements Project and began construction of the Water Treatment Plant Improvement Project. Both of these projects required SWPPP's. Regular inspections during and post storm will be conducted.

Staff has attended two workshops on erosion and sedimentation control sponsored by the San Francisco Bay Estuary Project, and inspection staff has worked directly with the Storm Water Program Coordinator to develop inspection instruction and recording forms.

### **Post Construction Storm Water Management (PCM)**

As part of its effort to comply with the Permit and implement the SWMP, the City has developed a draft Storm Water Management and Discharge Control Ordinance that is currently undergoing staff review. Staff has also developed and reviewed a guide for development for runoff controls and treatment measures. Staff has also developed and is undergoing review internally on an Enforcement Response Plan (ERP). The elements of the ERP are being implemented while the review is ongoing. Staff has also developed a database for use to record all inspection activities.

### **Pollution Prevention for Municipal Operations**

Benicia continues a very high level of inspection and maintenance in our compliance efforts of these performance standards. Sweeping is performed every month on over 97 curb miles. Weekly street sweeping is conducted on all main arteries throughout the City. We will continue to monitor volumes of materials to establish a trend to evaluate effectiveness.

Under our routine maintenance program, maintenance staff inspects the majority of storm drain inlets a minimum of once annually. In September every drainage inlet known to collect substantial debris is inspected and cleaned. Some inlets are further cleaned of debris during normal winter maintenance efforts. Although the latter is principally a reactive measure for flood control efforts it assists in achieving the Program's goals by removing additional debris from the system.

In regards to other municipal maintenance activities, the City staff continues to use only non-restrictive pesticides/herbicides and all maintenance employees assigned to this duty have annual training in its use. Other Best Management Practices applicable to routine grounds and

pavement maintenance are followed as a matter of routine. The City’s maintenance facility is routinely inspected and there are copies of its Storm Water Pollution Prevention Plan readily available at the city’s Corporation Yard.

## Highlights of Major Accomplishments

| Year    | Actions  |
|---------|--|
| 2004-05 | Presented a SWMP briefing open to all City staff                         |
| 2004-05 | Prepared draft staff training material                                   |
| 2004-05 | Participated in Coastal Cleanup Day                                      |
| 2004-05 | Drafted an Enforcement Response Plan                                     |
| 2004-05 | Designed, created and implemented an inspection database                 |
| 2004-05 | Prepared a specific organization chart                                   |
| 2004-05 | Prepared a draft storm water ordinance                                   |
| 2004-05 | Drafted a revision to the existing Grading and Erosion Control Ordinance |
| 2004-05 | Maintained the City outfall maps   |

## II. Background/History

### City of Benicia<sup>c</sup>

The City of Benicia has a population of approximately 29,000 and is located approximately 35 miles northeast of San Francisco and 57 miles southwest of Sacramento<sup>d</sup>. It was founded in 1847 along the north shore of the Carquinez Strait, where the combined flows of the Sacramento and San Joaquin rivers have cut a deep gorge through the Coast Range. The Strait is a crucial link in northern California’s inland waterway, connecting San Pablo Bay and San Francisco Bay to the west with the Sacramento and San Joaquin River deltas to the east. Through the Strait, ocean-going ships can reach the deepwater Port of Benicia or continue on to the Central Valley ports of Sacramento and Stockton. All the City’s storm water is conveyed both by natural and man-made channels and drainage culverts to the Carquinez Strait or Suisun Bay.

### Geographic and Land Use Description<sup>e</sup>

The boundaries of the watersheds located within the City of Benicia are the Carquinez Strait (southerly), the Lake Herman/Sky Valley/Paddy Creek areas (northerly) the City of Vallejo (westerly), and Suisun Bay (easterly). The watershed includes the following sub-basins:

- Sulfur Springs Creek/Lake Herman
- Goodyear Slough/Industrial Park (northeasterly section)
- Benicia Urban Areas

<sup>c</sup> Excerpted from approved SWMP

<sup>d</sup> See Benicia Vicinity Map (Attachment A)

<sup>e</sup> Excerpted from approved SWMP

All the sub-basins are served by natural or constructed drainage systems, such as creeks, ditches, underground piping, and storm drain culverts. The climate in Solano County is typically dry in the summer with mostly seasonal rainfall between October and April. The ten-year average annual precipitation over the basin is 19.01 inches. General area-wide storms of two or three days in duration produce most of the rainfall.

The terrain within the sub basin is quite diverse. There are steep hills north of Military and Highway 780. Flat and rolling terrain extends to the south and east including most of the industrial park. Benicia consists of four distinct areas: Southampton, Benicia Industrial Park, Downtown City area, and the undeveloped area surrounding Lake Herman. The most intensively developed areas within the Benicia city limits include the downtown City area with a central commercial district and the area along Southampton Road, with medium to high density residential land uses and a commercial shopping center. The total land area is approximately 13 square miles.

The Lake Herman watershed is located in Solano County between the cities of Vallejo and Benicia. The northern portion of the watershed lies within the city limits of Vallejo and the southern portion lies within the sphere of influence of Benicia. Lake Herman is the major body of water in the drainage basin, and is located on Sulfur Springs Creek about two miles north of downtown Benicia. Sulfur Springs Creek is the main channel traversing the basin, with the area north of Lake Herman called Sky Valley. The watershed includes Sulfur Springs Mountain range to the west as well as lesser ridges to the north, east, and south. Sulfur Springs Mountain has a peak elevation of 1000 feet. The Lake Herman drainage basin covers an area approximately ten square miles.

The primary land use in the watershed is agricultural; there are several beef cattle ranches, a small dairy and an abandoned walnut orchard. Syar Industries, an aggregate mining firm, has facilities near the western end of the watershed. The majority of their operations lie outside the watershed; however, the company is proposing to expand their operation to the top of the ridge of Sulfur Springs Mountain of which the eastern slope is within the watershed.

In addition to several ranch homes, there are several residences within the watershed located on Lake Herman Road west of the lake. The grading and infrastructure of a residential subdivision, Hiddenbrooke, was put in place in the early 90s in Upper Sky Valley. Home construction is underway and scheduled for completion during the next several years. A golf course has been operating in the Hiddenbrooke area since 1991. This entire area drains to a retention basin and ultimately into Lake Herman.

## **Storm Water Characteristics<sup>f</sup>**

The storm water collected and discharged into the Carquinez Strait can be characterized as being composed of non-point source runoff from streets and parking lots, commercial and residential property, parks, and open space. There are no known cross-connections with the City's separate sanitary sewer system; the City has completely inspected one section, the East Second

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<sup>f</sup> Excerpted from approved SWMP

Street/Marina area drainage basin, and found four cross-connections between storm and sewer lines. These cross connections were immediately corrected. City’s ongoing program is to inspect all storm drains and sewers for cross connection.

**Pollutants of Concern<sup>g</sup>**

An important aspect of a water quality control plan, such as this SWMP, is an assessment of the beneficial uses that are to be protected. The beneficial uses are defined by California’s Porter-Cologne Water Quality Control Act and include boating, swimming, and fishing. Impacts from agriculture runoff, hillside development, and urban runoff have resulted in the Clean Water Act Section 303(d) listing of the Carquinez Strait for Mercury, Copper and Diazinon.

**Mercury and Diazinon<sup>h</sup>**

The Carquinez Strait is listed on the Clean Water Act’s 303(d) list due to impairment for multiple constituents. The City has identified two constituents listed as high to medium priority pollutants on the EPA’s 2002 303(d) list for which storm water controls may have a positive influence. The constituents, their priority status and pollutant source are listed below:

| CONSTITUENTS | PRIORITY      | POLLUTANT SOURCE  |
|--------------|---------------|---|
| Mercury      | High Priority | Industrial Point Sources, Resource Extraction, Atmospheric Deposition, Natural Sources and Nonpoint Sources |
| Diazinon     | Medium        | Non-point Sources, Urban Runoff   |

Lake Herman is identified as significant surface water in the RWQCB – SF Bay Region Basin Plan. Lake Herman is part of the Suisun Bay Hydrologic planning area and has been listed as being impaired with respect to Mercury, but of a low priority. In the event of an emergency Lake Herman Reservoir may be used as a backup drinking water source for the City. Hastings Mine within the Sulfur Spring Creek watershed is listed as an inactive mercury mine on figure 4-5 of the Basin Plan.

**III Summary and Evaluation**

**MCM 1. Public Education and Outreach (PEO)**

**Introduction – Goals and Highlights:**

The PEO goals for 2004-05 focused on introducing the program to the community. The City established the following goals:

- Making presentations to city staff, elected officials and the general public.

<sup>g</sup> Excerpted from approved SWMP

<sup>h</sup> Excerpted from approved SWMP



- Developing training material for City staff.
- Gathering demographic information to be used for developing and implementing citizen surveys.
- Determining the city's role for its storm water program at civic events.
- Increasing the City's storm water presentations for the school pollution prevention education program for 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade classes.

The Public Education and Outreach MCM consist of distributing materials and performing outreach activities to educate citizens about the adverse impact polluted storm water runoff has on the receiving water. The City expects an increase in compliance with its storm water program as the public and staff becomes more educated about their personal responsibility to help protect water quality.

To implement increased staff awareness, Board Staff conducted a presentation for all City staff on February 9, 2005 with before and after surveys. The increase in the average score was 2%, however, staff did have an initial high awareness. Also, an overview presentation in new development impacts was made to Public Works and community development Staff on April 14, 2005.

To increase the public's knowledge each year, the City's annual storm water report, a summary of the Stormwater Management Plan, and documentation of achievements and implementation plans will be submitted to the public and members of the City Council for review. The report will also be posted on the City's website. The materials will be available for review each year in the fall after the annual report is submitted.

The City implemented multiple programs providing public education and outreach involving its storm water program. The City conducted a trial pet waste management program that included signs, bags and stations for pet waste disposal located at two of the City's pedestrian paths. Monitoring the use of the number of bags used shows that approximately 18,000 bags were utilized at the two locations, First Street Green and the Dog Park at Benicia Community Park. The City will be using this data as a baseline comparison to evaluate its pet waste management program annually and to determine if its measurable goal of distributing more bags was reached.

The City continued implementation a pollution prevention public education program for 3<sup>rd</sup> through 5<sup>th</sup> grade elementary school students. The education program included tours, classroom presentations, and educational brochures to teach the students about storm water pollution. The City began developing an elementary school pollution prevention (P2) program during fiscal year 1996/97 (July/96 through June/97) after working with two targeted industries – automotive repair and printers.

At its inception, the P2 education program was introduced only to third grade classes. The Lindsay Wildlife Museum was hired by the City to coordinate and implement the program. The students were educated on the difference between storm and sanitary sewer systems, simple P2 concepts, and how wastewater is treated before discharge. The school education program expanded to include 4<sup>th</sup> and 5<sup>th</sup> grade classes at the beginning of school year 2000/2001.

The third graders are taught storm water P2, discovery of wetlands, and restoration at Lake Herman. Fourth graders begin learning about microorganisms and their impact on wastewater treatment. Wastewater plant tours are given to the students and they participate in simple laboratory tests and equipment. In addition, fourth grade students were introduced to a new program that entails learning the geography of California's natural water and aqueduct systems, and learning about the state's watersheds. Finally, the fifth graders are discovering the benefits of water conservation and learning about the City's watershed, and what affects Lake Herman's water quality.

Classroom participation is very positive and encouraging. During the 2004/2005 school year, all the third (19 classes) and fifth (14 classes) grades participated with 402 and 432 students attending the presentations, respectively. The fourth grade participation rate was 18 classes with 552 students in attendance. The P2 Report records the achievements<sup>i</sup>.

The City's Public Education and Water Education Coordinator advertises her program with a brochure given to each teacher and conducts a meeting to introduce her program to the elementary teachers before the start of the school year. A copy of the City of Benicia Water Education Program brochure is enclosed<sup>j</sup>. Classroom participation rate and a survey that is given to the teachers at the end of the school year are used to evaluate and measure each year's goal. The survey shows 1386 students for 2004-05.

The PE/WE Coordinator worked with the teachers to establish goals at the beginning of the school year. Comparing the results to the goals shows that for 2004-05 the program is effective. The teacher evaluations continue to be overwhelmingly positive. The surveys are continuously refined as the PE Coordinator analyzes and evaluates the teacher's responses. A copy of the Benicia Water Education Program 04-05 Report is available for review.

The City's PE Coordinator distributes "goody bags" directly to the teachers before each school year. The goody bags contain pencils, rulers, erasers, bookmarks, P2 educational materials, brochures, activity books that engage student participation (such as word puzzles, coloring, etc.), and other promotional items. The teachers are given one activity book (hard-backed reference books) that touch on wastewater treatment pollution prevention or science activities. P2 educational materials can be incorporated into the classroom curriculum at the teacher's discretion. We believe the giveaways are now more effective at reaching or teaching the students about P2 and related subjects when distributed by each teacher. The third-grade students are given a door hanger that contains a fish for the students to color on one side and a message about the City of Benicia's household hazardous waste recycling program on the opposite side. The PE Coordinator believes that the door hangers are less likely to be thrown away by parents because the students have worked on coloring the fish, which personalizes it.

The City's PE coordinator modified and expanded the water conservation educational curriculum to include more storm water components. Kindergarten through Second grade classes were distributed workbooks from the Department of Water Resources. This modified curriculum was presented to public and private schools located in Benicia. The City focused on storm water

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<sup>i</sup> See P2 Report (Attachment B)

<sup>j</sup> See City of Benicia Water Education Program brochure (Attachment C)

quality and pollution prevention during the City’s Pollution Prevention Week in September and annual Public Works Week in May by utilizing informational displays at the Benicia Library and City Hall<sup>k</sup>.

The City worked in partnership with the Benicia Unified School District to participate in the annual Coastal Cleanup Day event<sup>l</sup>. Families, individuals, schools, community groups, corporations and kayakers were invited to clean up the Benicia waterfront areas at ten (10) locations throughout the city. Benicia had an attendance of 807 volunteers who collected 8,583 pounds of trash and 734 pounds of recyclables over an area of 10 miles of coastline. The City continues to educate the community about the benefits of trash reduction, tree planting, erosion prevention, and restoring wildlife to local wetland areas.

Our household waste company, Pleasant Hill Bayshore Disposal at the beginning of the reporting period and Allied Waste towards the end, tracks the household hazardous waste collected and Benicia submits the information annually with its Pollution Prevention Report<sup>m</sup>.

Information about recycling household hazardous waste and trash management was made available by Pleasant Hill Bayshore Disposal, the City’s waste management subcontractor. The Community Development Department distributed brochures on Erosion Control/Pollution Prevention with every applicable building permit.<sup>n</sup>

Once we develop educational material, the Community Development Department will meet with private developers and contractors early in the project development and environmental phase to advise and guide projects that may impact the storm water system, including adverse effects on riparian habitat and contributions of runoff that would affect the existing storm drain system or contribute additional polluted runoff. Projects expected to be included are the Benicia Business Park and Jefferson Park Villas Development. An example of a BMP implementation in Benicia is included in “A Guidebook of Post-Construction Stormwater Best Management Practices in Action – August 2005”<sup>o</sup>.

## **Measurable Goals Overview:**

See Measurable Goals Overview Table – Page 1 and 2

### **Measurable Goals Discussion:**

Generally the Public Education and Outreach (PEO) goals were as follows:

- Presentations were to be held with city officials, elected officials and the public.
- Training material was to be developed for City staff.

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<sup>k</sup> See Examples of Displays (Attachment D)

<sup>l</sup> See Coastal Cleanup Flyer and Photos (Attachment E)

<sup>m</sup> See City of Benicia Pollution Prevention Report (Attachment B)

<sup>n</sup> See material on waste disposal, trash management and erosion/sedimentation prevention (Attachment F)

<sup>o</sup> A Guidebook of Post-Construction Stormwater Best Management Practices in Action – August 2005 (Attachment)

- Demographic information was to be gathered and citizen surveys developed and implemented. The city was to have a public presence of the storm water program at civic events.
- The City was to enhance the presentations that have been made to schools at grades 3 - 5.

In fiscal 2004-05 the City was able to make presentations to the City staff. These were effective for the majority of staff and a robust discussion of concerns evolved from the presentation. Staff came away clearly expressing concern about the level of effort, but was clearly advised of the importance of the program. Staff was also able to develop a draft training guide (CDD Planning Application) for development. It is not yet implemented and is going through the staff review process. Its effectiveness is not yet determined.

The goals for the educational program were accomplished. This has been the continuation and enhancement of a program initiated in 1996. It has been judged effective due to the evaluation responses, and the participation of the grade school children in civic events such as Coastal Cleanup Day [which the City participates in annually](#).

Because of the need to focus on inspection tools and guidance for construction, a number of the PEO goals were not implemented. These goals were primarily in the area of gathering demographic information and community surveys. Also, presentation of the new ordinance, and the public discussion about it has yet to occur, but is scheduled to be presented [in March](#) together with the discussion of the Annual Report ~~this fall~~.

[A number of measurable goals were modified. With only 6 months to implement our activities, a several -goalsnumber had to be moved to a later period than originally indicated in the Stormwater Management Plan. as submitted. The activities delayed were ese were the delay of 1.b the Council presentation, 1.c local government workshop, 1.d that annual presentation, 2.b collection of census data, 2.c collection of sample surveys, 2.d collection of survey data, and 2.e implementation of the survey. Other measurable goals that were modified were 3.a and b, the development of a website and getting feedback on it, and 4, the development of a stormwater booth.](#)

### **Goals and Modifications:**

The goals for 2005-06 are to complete the uncompleted 2004-05 goals and complete the 2005-06 goals. It is also to maintain level of effort for those past goals that have an ongoing aspect. Part of the 05-06 goals is to continue the actions of previously achieved goals. Specifically, the goals are:

- Conducting the public workshop and the presentation to Council with the public hearing process for the new Stormwater ordinance and the revised Erosion and Grading ordinance
- Complete the demographic information gathering and surveying
- Review the data as planned during 2005-06.

No modification of measurable goals is planned at this time.

## **MCM 2. Public Involvement and Participation (PIP)**

### **Introduction – Goals and highlights:**

The Public Participation and Outreach MCM has the goal of providing opportunities for citizens to participate in storm water program development and implementation, including participation in public hearings, encouraging citizen representation in project and development reviews affecting storm water issues, and/or community environmental awareness events.

Benicia organized to encourage public involvement and participation in storm water related measures. This year, continuation of the storm drain stenciling, which allows volunteers to stencil or affix storm drain inlet markers with the slogan, “Only Rain Down the Drain” was halted due to concerns for citizen safety. The program is being revised, and will be reinstated by next spring.

The current program has a goal of establishing a public outreach program that includes the use of high school volunteer students to assist with storm drain inlet stenciling. The City would use the volunteers only in the summer and one or two areas of the City would be targeted for stenciling or for replacement of stencils during the summer. The stencils should be replaced once every five to seven years, which is the expected lifetime of the stencils. The stenciling program will be evaluated by how many stencils that are replaced each summer and by the participation rate of volunteers from year-to-year. As mentioned above, part of the City’s public outreach includes participation in the Coastal Cleanup Day. ~~F In which the City annually-participates annually.~~(See Attachment G)

In addition to the public involvement and participation opportunities described above, the City provided two opportunities for public involvement and comment during regularly scheduled City Council meetings. The first of these meetings was a Council Workshop on July 23, 2003 to educate the council and the public on the SWRCB requirements for the City’s SWMP and the upcoming budget impact. On August 5, 2003 staff introduced the Storm Water Management Plan, and invited public comment and adoption. No public comments were made, and the Stormwater Management Plan was adopted. The goal of both meetings was to promote public awareness and involvement in the development of this SWMP.

### **Measurable Goals Overview:**

See Measurable Goals Overview Table – Page 3

### **Measurable Goals Discussion:**

The City accomplished most of the goals established for 2004-05. The Storm Drain Stenciling Program is being revamped. The Trashcan Decal program was delayed due to budgetary restraints. Also, the Yard Waste Program is scheduled to be revisited in the spring of 2006. Performance Standards for the program appears to have been effective. Staff will continue to

monitor and compare results from year to year to see if modifications are necessary to maintain a high level of effectiveness.

### **Goals and Modifications:**

The goal for 2005-06 is to complete the two new goals that are committed to as well as maintain the level of effort for those past goals that have an ongoing aspect. Specifically, the goals are:

- Conducting the public workshop and
- Conducting a Household Hazardous Waste collection and document the events

No modifications of measurable goals are planned at this time.

## **MCM 3. Illicit Discharge Detection and Elimination (IDDE)**

### **Introduction – Goals and highlights:**

Under the Illicit Discharge Detection and Elimination (IDDE) Minimum Control Measure (MCM), a plan was developed to systematically check the storm drain system for connections to sewer or septic systems. It includes verifying the existing storm drain system map and informing the community of hazards associated with illegal discharges and improper disposal of wastes. In addition to those mentioned above, illicit discharges are identified as commercial car wash and laundry wastewaters, grease from restaurants, radiator flushing disposal, spills from auto accidents, and improper disposal of household toxics and automotive fluids. Illicit discharge detection and elimination also includes adopting an ordinance to prohibit non-storm water discharges into the storm drain system and implement appropriate procedures and enforcement actions. The ordinance adoption will occur in the fall after the necessary public hearings.

The City and regulatory agencies currently implement several programs regarding the identification and elimination of illicit discharges in Benicia. This program includes the City's Pretreatment/Pollution Prevention (P2) Coordinator who routinely inspects and monitors Industrial Users and enforces Pretreatment regulations to ensure local limit compliance<sup>P</sup>. At the same time, storm water inspections are conducted concurrently with regular Pretreatment inspections. The Public Works inspector works in partnership with the City's Assistant Fire Marshall to conduct visual observations around the City to identify and detect illicit discharges in

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<sup>P</sup> See Old and New Stormwater Inspection Forms (Attachment H)

Benicia. The City has verified the storm drain map detailing the layout and outfalls of the storm drain system and defining the drainage basins to the Carquinez Strait and Suisun Bay.

In addition to the above-mentioned BMPs, the City has a goal to implement additional activities to identify and eliminate illicit discharges and to inform the community of the hazards associated with the improper disposal of wastes. The proposed BMPs include prioritizing areas of concern for illegal dumping, providing bi-lingual educational materials to restaurants in these areas of concern, and coordinating with the Water Quality Division to add a storm water component to their industrial and commercial inspections.

The City is working with other agencies to acquire posters to distribute to restaurants as part of a public education campaign to reduce fats, oils, and grease (FOG) in the sanitary sewer lines. These posters will have bilingual language, in English and Spanish. Because the number of restaurants and residents has increased in Benicia, there has also been an increase in FOG and sanitary sewer overflows (SSO) have become a concern. The City has set a goal to work with the Bay Area Pollution Prevention Group (BAPPG) to do a group printing of FOG control door hangers as part of a public outreach program to the residential community. The City's P2 Coordinator will be working with the field collection crew in 2004/2005 to collect baseline data for FOG induced clean up and SSOs in the collection system. Subsequently, the City can evaluate and measure the success of its FOG control program beginning in 2005/2006.

The City's P2 Coordinator continued to conduct visual inspections of industries and businesses throughout the community on a quarterly or bi-monthly basis to detect non-storm water discharges. In addition, the P2 Coordinator used brochures, and P2 educational materials as part of a public outreach program to educate City employees, businesses, and residents about proper waste disposal. The annual Coastal Clean-up event was advertised in the newspaper, through water bill inserts, and various media outlets.

A further goal of conducting training workshops to educate various departments (Parks, Planning, Building, Engineering, Collection System, Water Quality, etc.) about the importance of an effective storm water P2 program remains to be completed. These workshops will include storm water ordinance training and the importance of enforcement and guidance on the Enforcement Response Plan. An evaluation form will be developed to determine the effectiveness of the training and to determine employee awareness. Refresher courses will be given biennially.

**Measurable Goals Overview:**

See Measurable Goals Overview Table – Page 4 and 5

**Measurable Goals Discussion:**

The IDDE area is an area where the City has made the most progress in completing its Performance Standards. Of all the Performance Standards, only the adoption of the ordinance and the training in the implementation of the ordinance, and the development of bi-lingual materials remain. The City has developed and implemented a database, and is using that

database to identify problems and future courses of action. Staff has also been briefed in the Enforcement Response Plan, and has critiqued the draft document during its development<sup>9</sup>.

The effectiveness of these Performance Standards is the low number of illicit discharges, none of which resulted in polluting the public waters.

The City modified some of the measurable goals. Goal 1.f was partially accomplished with the circulation of a ~~staff~~-draft ordinance for internal review and comment. The final document is planned to go to Council for adoption in March 2006. Goal 2.a was also modified with the training material having been prepared, but the training being planned for completion in the spring of 2006. The development of bi-lingual material is modified to be in 2005-06~~5~~.

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<sup>9</sup> See Draft Enforcement Response Plan (Attachment I)



## **Goals and Modifications:**

Of the goals for 2004-05, most were accomplished. The goal for 2005-06 is to continue to complete those goals and the committed goals for 2005-06. The specific goals are:

- Adopt the Storm Water Management and Discharge Control Ordinance
- Adopt the revised Erosion and Grading Ordinance
- Perform training in illicit discharge recognition and response
- Educate staff on the ERP and its implementation

No modification of measurable goals is planned at this time.

## **MCM 4. Construction Site Storm Water Runoff Control (CRC)**

### **Introduction – Goals and highlights:**

Under the Construction Site Storm Water Runoff Control MCM an erosion and sediment control program for construction activities that disturb one or more acres was developed and implemented. This control measure informally implements the elements of the Draft Grading and Erosion Control ordinance in advance of formal approval. Procedures have been implemented for review of site construction plans to ensure that the plans define the types of controls and precautions to be installed. Site inspections and checklists have been developed that verify that the erosion control plan has been implemented as permitted. An Enforcement Response Plan is ready for implementation upon adoption of the Draft Grading and Erosion Control Ordinance. As part of the Enforcement Response Plan, procedures have been established for the receipt, distribution and response to illicit discharges.

Projects that are greater than one acre in size are required to obtain a separate statewide Construction Storm Water Permit from the SWRCB and prepare a Storm Water Pollution Prevention Plan (SWPPP). Contractors are also required to manage the construction site for not only sediment and erosion, but also materials management so that non-stormwater runoff from materials and storage areas does not enter the storm drain system. Contractors are specifically directed to the RWQCB San Francisco Bay Region (SFBR) Erosion and Sediment Control Field Manual. City engineers review plans for compliance with the Phase II General Permit. Conditions of development will also be developed and implemented that mobilize the requirements for runoff reduction and erosions and sedimentation elimination as the ordinance is adopted.

The City Engineer's staff review Erosion and Grading Control Plans, and the Public Works Inspector and Benicia Building Official inspect construction sites<sup>rs</sup> during the rainy season to ensure that the eight categories of effective erosion control methods are being utilized as illustrated in the *California Stormwater Best Management Practice Handbook: Construction*.

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<sup>r</sup> See Old Form Inspection Example (Attachment J)

<sup>s</sup> See New Construction Site Inspection form (Attachment K)

In addition to the above-mentioned BMPs, each permit that is issued includes a brochure outlining Erosion Control BMP's. Upon completion of the project review process, the PW Inspector starts an Erosion Control card that tracks inspection dates and conditions. The Inspector verifies that the Erosion Control Measures are in place and ensures compliance with the SWRCB's General Construction Permit.

The Public Works Inspector gives guidance and is authorized by the City Engineer to enforce the existing encroachment and grading ordinances by issuing stop work orders when compliance has not been satisfied. If non-compliance continues the PW Inspector can cite and has the authority to contact the RWQCB to have them enforce the SWMP and issue fines if necessary.

Under the Ordinance, the City will implement additional activities to control storm water runoff from construction sites. Proposed BMPs include the development and adoption of erosion and sediment control standards for construction, as well as revising the existing Grading and Erosion Control Ordinance. Finally, a draft application submittal form was developed and is scheduled for adoption in early 2006 that will have additional questions regarding potential storm water impacts for projects that are subject to review by CEQA.

### **Measurable Goals Overview:**

See Measurable Goals Overview Table – Page 6

### **Measurable Goals Discussion:**

The goal for 2004-05 was the adoption of a Storm Water Management and Discharge Control Ordinance. [The goal is modified with Sstaff has-completinged](#) the draft ordinance and is in the process of in-house review for [future adoption-in the fall in 2006 rather thaen 2005](#). There were no other goals for 2004-05; however, staff has attended two workshops sponsored by the RWQCB and SFEI on erosion control, a 2005-06 goal. Staff also conducted 96 construction site storm water quality inspections, but no warning notices or notices of violations were issued<sup>1</sup>. This can be attributed to the developers that are working in Benicia are national level contractors that have storm water program experience in major subdivision.

### **Goals and Modifications:**

The goal for 2004-05 was the adoption of a new Storm Water Management and Discharge Control Ordinance. The draft has been completed and the adoption is being scheduled for this fall. The goals for 2005-06 are as follows:

- Adopt the ordinance
- Prepare and distribute an informational brochure for the development community on erosion and sedimentation control
- Conduct a staff workshop on erosion and sedimentation control
- Continue the review of SWPPP's

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<sup>1</sup> See Construction Site Inspection Database Report (Attachment L)

- Conduct a contractor workshop on erosion and sedimentation control
- Train staff in the use of the ordinance
- Continue the ongoing activities in pre and post storm inspections
- Maintain the emergency response chart that has already been developed

No modification of measurable goals is planned at this time.

## **MCM 5. Post-Construction Storm Water Management (PCM)**

### **Introduction – Goals and highlights:**

The Post-Construction Storm Water Management MCM is to ensure that building and site improvements incorporated into building permits and in new development and redevelopment projects as conditions of approval are managed and maintained in such a fashion to preserve their effectiveness in storm water pollution prevention. Urban runoff increases the volume and velocity of water entering storm drains and creeks. This can create streambed scouring, erosion and downstream silting and flooding and may lead to aquatic and property damage. Our municipal code restricts development to be further than twenty-five feet from the top-of-bank on either side of a waterway to reduce the migration pathways for sediment, nutrients and pathogens into creeks.

The City is adopting an ordinance requiring post-construction BMPs for new development and redevelopment projects as required by the General Permit, and plans to have the ordinance in place by the end of the year. Post construction BMPs are required, as part of the plan review, to include measures to ensure that runoff flows will not substantially increase from pre-construction levels. Staff has developed draft planning and engineering guidelines. Revision of engineering standards is a goal to be accomplished by the end of the fiscal year. There are not yet any projects that have integrated management practices that require an operation and maintenance plan. However, the City is developing and will implement a post-construction BMP inspection program to be used when such facilities are incorporated into projects.

The City is directing designers and developers to the California Stormwater Quality Association’s Stormwater BMP Handbook for New Development and Redevelopment and the Bay Area Stormwater Management Agencies Association’s Start at the Source Guidance manual for Stormwater protection. Furthermore the City has recently developed a draft document titled “Project Applicant, Stormwater Controls Requirements”<sup>u</sup> that will be utilized by the Community Development Department to give to applicants when they request a review of a plan.

### **Measurable Goals Overview**

See Measurable Goals Overview Table – Page 7

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<sup>u</sup> Draft Project Applicant, Stormwater Controls Requirements (Attachment M)

## Measurable Goals Discussion

The City has ~~had to modify measurable goal 1, adopting and ordinance, and 2.b, training of contractors to be accomplished in 2005-06. Otherwise~~ However, -the City has begun or completed all the goals set for 2004-05, and has initiated steps on 2005-06 goals. ~~A goal of this MCM, which appears in other MCMs, is the development of a new ordinance to enable the SWMP.~~ The draft of the ordinance has been finalized and staff review is ~~underway~~ completed. ~~It is scheduled w-planned to go to Council for adoption in March 2006. Upon completion of the final revisions, the ordinances will be scheduled for public hearing and adoption this fall.~~ Staff has also developed an Enforcement Response Plan to be used in conjunction with all inspections. Further, staff has developed and has implemented a database for all inspection information.

Staff has developed the draft guidance document for development and is in the process of in house review and training of staff. We anticipate it will be completed and disseminated with training beginning in the spring of 2006. by the end of the year thereby achieving the last planned Quantifiable Target for 2004-05 for this MCM.

### Goals and Modifications:

All the goals for 2004-05 were either commenced or completed. Only the adoption of the ordinance remains to be completed. The specific goals for 2005-06 are as follows:

- Adopt the ordinance
- Complete the developer guidance that has been started
- Contractor Training
- Prepare standard conditions of approval for projects
- Prepare an inspection schedule for municipal treatment BMP's
- Prepare an inspection schedule for private treatment BMP's
- Perform training in the inspection of private treatment BMP's
- Implement the inspections
- Train staff in the Enforcement Response Plan

No modifications of goals are proposed.

## **MCM 6. Pollution Prevention for Municipal Operations (PPMO)**

### Introduction – Goals and highlights:

This control measure is to examine, adjust and modify maintenance methods with the goal of reducing polluted runoff from municipal facilities. This includes runoff from streets, parking lots, open spaces, and corporation yards (storage of road repair materials and vehicle fluids, and vehicle maintenance) into local receiving water bodies. The goals of this measure include the development of an Operation and Maintenance Plan; training employees on good housekeeping techniques; erosion controls for repairs on water and sewer lines, storm drain maintenance; and determining which BMPs and goals will work best for City owned property. For 2004-05, the

goals focused primarily on street sweeping measures, problem areas of sweeping training of staff and maintenance of sweeping equipment.

City staff and its subcontractors implement multiple programs for pollution prevention and good housekeeping for municipal operations. Programs that are in place are: City employees and citizens are advised to contact 911 to notify the Police/Fire Departments (PD/FD) in the event of any sort of spill regardless of the source; the PD/FD determines the procedure to be undertaken depending on the nature of the spill; and, non-hazardous materials are contained and storm drains are secured by the PW maintenance crews. In the event of hazardous materials, a Hazardous Materials Response Team is alerted to respond and the Solano County Department of Environmental Health is contacted.

This past year, the City performed annual storm drain system cleaning in the areas known to be a source of non-point source pollution. The City has mapped the storm drain system to ensure all facilities are documented<sup>v</sup>. The City also completed a two and a half mile pipeline to carry increased volumes of Infiltration and Inflow of storm water into sanitary sewers that begins on the west end of the city and ends on the east side of the city at the Wastewater Treatment Plant.

Universal Building Services performs street cleaning in the City on a regular and systematic basis. Every street in the city (over 97 curb miles) is swept monthly<sup>w</sup>. During this reporting year, 1093 cubic yards of material was removed. In addition, the City's Traffic Pedestrian Bicycle Safety Committee (TPBS) approved use of parking restrictions for street sweeping on an as needed basis for selected streets. Currently requests for no parking during street sweeping times has been posted for East D and East E Streets. The City also received and has on file the sweeper crew training records and the equipment maintenance records.

The City responded to, and abated or cleaned, 13 hazardous material spills that were typically fuel and oil spills. The City through its recycling program achieved 94% residential participation and collected 617 tons of recyclable material. The records are in the Storm Water Coordinator's files.

The City created a spill response form that is included in the draft Enforcement Response Plan.

## **Measurable Goals Overview**

See Measurable Goals Overview Table – Page 8 and 9

## **Measurable Goals Discussion**

The measurable goals that have not yet been implemented, and which were 2004-05 goals are the investigation, evaluation and implementation of a pilot program in leaf reduction. Staff has not yet, identified the areas where there is a high leaf volume. The other 2004-05 goal that has not yet been implemented is the training of the sweeper contract operator in the identification and reporting has illicit discharges.

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<sup>v</sup> See Storm Basin Drainage Map (Attachment N)

<sup>w</sup> See Street Sweeping Schedule (Attachment O)



## **Goals and Modifications:**

A number of goals remain from 2004-05. They are categorized as two groups of activities. The first is various activities related to leaf removal management. The second is the training and maintenance for contract sweeping. The goal for 2005-06 is to complete those goals as well as the 6 new goals for 2005-06. The specific goals are:

- Assess areas with excess cars on the street
- Develop outreach related to parked cars
- Identify high leaf areas
- Evaluate two methods to reduce leaves
- Implement pilot measures to reduce leaves
- Conduct sweeper operation and maintenance training
- Continue implementation of the spill response plan
- Develop spill response reporting documents
- Assess municipal practices in the use of fertilizers and pesticides

We propose to modify Performance Standards 3, 4 and 8 related to the operation and maintenance of the sweepers. The City of Benicia has sweeping performed by a contract sweeper. Accordingly, the City requires the contractor to properly train operators and to maintain equipment. As a modification, the City proposes that PS 3 be modified to state, “The City will verify through observations and record review the proper operation of the sweepers”. We propose that PS4 be changed to “The City will verify through record review the proper maintenance of the sweeper”. The City further proposes that PS 8 be changed to “The City will verify operator training through review of training records for operators assigned to Benicia”.

## **GLOSSARY/ACRONYM LIST**

| <b>Acronym</b>    | <b>Meaning</b>                                  |
|-------------------|---|
| BMPs              | Best Management Practices                       |
| CEQA              | California Environmental Quality Act            |
| EPA               | Environmental Protection Agency                 |
| FOG               | Fats, Oils, and Grease                          |
| MCMs              | Minimum Control Measures                        |
| SWRCB             | State Water Resources Control Board             |
| NOI               | Notice of Intent                                |
| NPDES             | National Pollutant Discharge Elimination System |
| P2 Coordinator    | Pollution Prevention Coordinator                |
| PE/WE Coordinator | Pollution Education/Water Education Coordinator |
| PHBD              | Pleasant Hill Bayshore Disposal                 |
| PS                | Performance Standard                            |
| RWQCB             | Regional Water Quality Control Board            |
| SWMP              | Storm Water Management Plan                     |
| SWPPP             | Storm Water Pollution Prevention Plan           |
| TPBS              | Traffic Pedestrian Bicycle Safety Committee     |



**SIGNATORY REQUIREMENT**

*“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete.*

*I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”*

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James R. Erickson  
City Manager  
City of Benicia

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Date

Recommended by:

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Daniel Schiada  
Director of Public Works  
City of Benicia

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Date