

# Workshop Summary



**Date:** October 22, 2009

**To:** Fran Castro, CNMI Department of Environmental Quality  
Kathy Chaston, National Oceanic and Atmospheric Administration

**From:** Kelly Collins and Dave Hirschman, Center for Watershed Protection; Anne Kitchell, Horsley Witten Group

**Re:** Summary from September 8-9, 2009 CNMI Municipal Stormwater Management Workshop, Garapan, Saipan



**Horsley Witten Group**

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This memorandum summarizes the discussions and recommendations generated during a one and one-half-day training workshop by the Center for Watershed Protection (CWP) and Horsley Witten Group (HW) on municipal stormwater management and pollution prevention. The workshop was supported by the CNMI Department of Environmental Quality (DEQ) and National Oceanic and Atmospheric Administration (NOAA) Coral Program. Workshop participants primarily included agency staff from DEQ, Coastal Resources Management Program (CRM), and Department of Public Works (DPW). Representatives from the Mayor's Office and Mariana Islands Nature Alliance (MINA) were also in attendance.

All workshop materials including slideshows, handouts, maps, participant's list, and additional resources can be downloaded directly at:

[http://www.cwp.org/Our\\_Work/Training/temp\\_wrkshp/index.htm](http://www.cwp.org/Our_Work/Training/temp_wrkshp/index.htm)

This memorandum is organized into three sections: Workshop Overview, Recommendations, and Workshop Evaluations.

## **Section 1. Workshop Overview**

The purpose of the workshop was to increase the awareness of pollution sources and pollution producing behaviors in Saipan and to introduce pollution prevention, good housekeeping, and stormwater management techniques that can be implemented to improve water quality. Prior to the workshop, CWP/HW/NOAA and DEQ conducted a reconnaissance of the area to evaluate local stormwater conditions in Garapan and identify potential fieldtrip alternatives. The workshop began with an introduction by Kathy Chaston, NOAA Coral and Coastal Management Specialist, on the importance of managing stormwater on the Pacific Islands. This was followed by a brief icebreaker, then an overview by CWP of stormwater pollutants likely generated on Saipan. CWP and HW then reviewed potential sources of pollution in island watersheds, and asked participants to compare and contrast well-managed and poorly managed sites. The morning wrapped up with a CWP presentation on procedures, operations, and projects that municipalities and other

organizations can promote to address pollution sources.

In the afternoon, the workshop participants divided into three groups and headed out into the field on foot to assess pollution sources and solutions in the immediate downtown Garapan area (Figure 1). Field groups also visited a potential retrofit site at the National Park, the maintenance yard at the Fiesta Hotel (hotspot), and the outfall just north of the Fiesta Hotel to provide first hand experience completing field assessment forms and identifying pollution prevention sources and opportunities. During this exercise, an active sewer backup at a retail location was observed and reported. Inspectors were sent to the site.

The workshop resumed the next morning with group discussions on the key projects and management actions to address water quality improvements in the watershed, and implementation strategies aimed at accelerating these projects. Groups then presented their findings from the previous afternoon field assessment and their top five projects for the watershed.



**Figure 1.** Map of downtown Garapan

The workshop closed with a discussion on project and management recommendations to address pollution prevention and stormwater problems in Saipan. The “top three” recommendations included implementation of the following:

- 1.) Sanitary Sewer Inspection Program
- 2.) Watershed Education and Outreach Program
- 3.) Garapan Beautification Program (redevelopment and retrofit opportunities)

Other projects included establishing a street sweeping program, creating an interagency

enforcement task force program, and a conducting a parking improvement project.

The remainder of this memorandum elaborates on the top three recommendations and provides additional findings and recommendations related to stormwater and watershed management in CNMI that were derived from the open discussions, group activities, and field observations before and during the workshop.

## **Section 2. Recommendations**

The three main programs in CNMI identified for follow-up implementation were a septic system inspection program, watershed education and outreach, and a Garapan beautification program. Implementation strategies for these programs were briefly discussed at the conclusion of the workshop, including key details such as potential partners, responsible parties, and delivery mechanisms. This section summarizes the information discussed at the workshop, and presents the group's recommendations for implementing these programs.

### Sanitary Sewer Inspection Program

Illicit sewer connections to both the stormwater drainage system and the drinking water supply occur periodically in Garapan and result in bacteria contamination problems to both surface water and potable drinking water. In the downtown Garapan area, septic system inspections were conducted annually to find illicit sewer connections, and problem areas and fix identified issues. These inspections, which involved the CUC, DPW, DEQ and the Department of Environmental Health, were well organized in the past and resulted in an immediate response.. However, there is no systematic approach, inspection process, or tracking system when doing the actual inspections. In order to comply with new NPDES regulations, CNMI needs to continue these inspections with a more comprehensive and programmatic approach. The inspections can be performed under existing programs and budgets, but additional funds will be required for field testing equipment and materials.

DEQ should take the lead in organizing and coordinating this program, and the following departments and individuals were recommended for additional involvement in this program:

- CNMI Department of Environmental Quality (DEQ) - Brian Bearden & John Iguel
- Department of Public Works (DPW) - Tony Tomokane, Joel Puyat
- DEQ Wastewater treatment – David Rosario
- Coastal Resources Management Program (CRM)
- Commonwealth Utilities Corporation (CUC)
- Saipan Mayor's Office
- Bureau of Environmental Health

The following table identifies the responsibilities for each of the involved agencies.

| <b>Agency</b>        | <b>Responsibilities</b>   |
|----------------------|---|
| DEQ/CRM              | Enforcement of stormdrain and sewer                               |
| CUC                  | Illicit connections to sewer. Addressing overflowing grease traps |
| DPW/Mayor's Office   | Illicit connections to stormdrain                                 |
| Environmental Health | Basic sanitation violations/problems                              |

### *Recommendations*

- DEQ needs to review the existing NPDES permit to determine specific program requirements. These requirements should be used to develop an IDDE program. Detailed information about setting up an effective IDDE program can be found in the publication: *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*. Available: [http://www.cwp.org/Resource\\_Library/Controlling\\_Runoff\\_and\\_Discharges/idde.htm](http://www.cwp.org/Resource_Library/Controlling_Runoff_and_Discharges/idde.htm)
- The inspection team should conduct rapid outfall screening followed by indicator monitoring at suspect outfalls to identify illicit connections. An inventory of assessed outfalls and problems should be maintained. If it has not been done already, the outfalls should be mapped in order to quickly identify problems in the drainage network and to assess drainage areas upstream of problem outfalls.
- A tracking system should be developed to organize and track IDDE program data. Maintenance of a tracking system will allow a municipality to document repairs and identify repeat offenders.
- A public education campaign should be conducted before the inspections to inform businesses and residents of the existence and purpose of the program, and to stress the public health and safety benefits of sewage-free waterways. This campaign can also be used to inform residents about better practices and behaviors to reduce bacteria pollution. The inspection team can hand out flyers while doing inspections. These efforts can be coordinated with the watershed education and outreach program discussed below. The Blue Starfish Certification Project, discussed below, led by MINA can provide proper contact information and response procedures for sanitary backups, leaks, and improper connections..

### Watershed Education and Outreach

In order to address commercial and residential sources of pollution, a watershed education and outreach program should be established with a focus on residential and commercial pollution-producing behaviors. During the workshop, Sam Sablan, MINA, and Lisa Eller, DEQ volunteered to lead this program effort, with help from DEQ and CRM. In order to run an effective outreach campaign, sources of funding need to be identified.

### *Recommendations:*

- The outreach effort should be multi-lingual (English, Chamorro and/or Carolinian, Japanese, and Chinese) with an emphasis on illustrative pictures in order for the educational message to reach the culturally diverse population. Key residential and commercial behaviors to address include dumping of materials and washwater down the stormdrain, illicit sewer connections to the stormdrain, material stockpiling, trash dumping, and hazardous material storage.
- Stormdrain stenciling should be done at all stormwater catch basins and inlets to prevent dumping of materials and wash water into the street or stormdrain system.
- Develop a “Blue Starfish” Certification Program for businesses and commercial operations that use better management or good housekeeping techniques to minimize pollution. This program should be led by MINA and can use publicity, recognitions, and incentives to promote the program. Examples include plaques for businesses that use good practices, posters, stickers to post adjacent to internal sewer access points, and badges for youth trainees.

- Coordinate with the sanitary sewer inspection program to develop materials to educate residents about the public health and safety benefits of sewage-free waterways and to inform residents about better practices and behaviors to reduce bacteria pollution. Proper contact information and response procedures should be provided for sanitary backups, leaks, and improper connections. Stickers or posters with this information should be developed and posted adjacent to internal sewer access.
- Coordinate with the CNMI beautification program to conduct trash clean-ups and to install a high visibility demonstration project and involve businesses and residents in the project design and installation.

### Garapan Beautification Program

While the first two programs can address several stormwater pollution issues in the short-term, it is important to be mindful of future development and redevelopment in downtown Garapan and opportunities that may arise to improve water quality and protect natural resources. This program involves redevelopment and beautification projects that look toward improving the future of downtown Garapan, and can be a partnership with the existing Beautify CNMI Program. DEQ-CRM should take the lead on pursuing these opportunities and implementing the Beautify Garapan program.

The following agencies were identified for involvement in the Garapan Beautification Program:

- Non-Government Organizations (NGOs)
- CNMI Department of Environmental Quality (DEQ)
- Department of Public Works (DPW)
- Saipan Mayor's Office
- Garapan Business Bureau

### *Recommendations:*

- Install a high visibility demonstration retrofit project in downtown Garapan. During the field assessments, several opportunities for right-of-way and other retrofit projects were identified.
- Conduct a "Business Clean-up Day" in downtown Garapan
- Conduct a Garapan wide hazmat, oil, and grease collection.
- Restore areas of bare soil that are lacking vegetation. These areas contribute sediment to the stormdrain system and numerous areas of bare soils were observed during the field assessments.
- Install parking improvement projects (permeable pavement, turf pavers, or parking curbs) to prevent vehicle parking on areas of bare soils or grassed areas that will quickly become bare soil areas.
- Begin a street sweeping program in the downtown area.

### Section 3. Workshop Evaluations

A total of 20 evaluation forms were completed and returned to CWP and HW after the workshop. Participants were asked to respond to five basic evaluation questions. A summary of the answers to each question is provided below.

#### Q1. Did the workshop meet your needs?

Summary: Overall, the workshop reportedly met or exceeded expectations of the participants, and was viewed as very informational and informative.

|                     | <b>1</b><br>Fell short of expectations | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b><br>Exceeded expectations |
|---------------------|--|----------|----------|----------|-----------------------------------|
| Number of responses | -                                      | -        | 1        | 7        | 12                                |

Comments include:

- Very educational, very informative.
- Better than expected final plans/action items. Got me fired up to take on a major project.
- This workshop really taught me a lot of new ideas of a better maintenance of stormwater management. Most of all, it is great for my work or job improvement of having more knowledge of stormwater drainage
- Hope to have more follow up workshops
- Spend more time conducting outdoor field exercises.
- Coordination and consolidation of ideas can create better solutions of the problems

#### Q2. Please rate the workshop from the following perspectives?

Summary: Workshop participants rated all aspects of the workshop – presentations, the field component, group work session and the workshop organization - highly.

|                       | <b>Poor</b> | <b>Fair</b> | <b>Adequate</b> | <b>Very Good</b> | <b>Excellent</b> |
|-----------------------|-------------|-------------|-----------------|------------------|------------------|
| Presentations         | -           | -           | 1               | 8                | 11               |
| Field Component       | -           | -           | 1               | 7                | 11               |
| Group Work Sessions   | -           | -           | -               | 8                | 11               |
| Workshop Organization | -           | -           | -               | 8                | 11               |

#### Q3. What were the most valuable aspects of this workshop to you?

Summary: Workshop participants liked the field work and team brainstorming components of the workshop, but some would have liked to see a larger field component, with better organization and more user friendly field forms.

Specific comments include:

- Learning about retrofitting/field work
- Knowing where to apply for grants for the projects.
- Understanding what to look for while trying to understand your site and scoring your site
- Planning leading to action items
- The 'hands-on' field component was the most enjoyable and the most valuable
- The field exercise
- Meeting other agencies with their roles and responsibilities
- To be able to identify assess current problems causing water pollution and how we can solve these issues through common projects
- Retrofits for more green space
- Teamwork, learning about planning and new strategies, and tools for best practices
- Learning about pollution from stormwater

#### **Q4. Were the field component and group work sessions useful? Any suggestions for improvement?**

Summary: Participants saw the field component and group work sessions of the workshop as useful, and tended to like the interaction and the opportunity to go out into the field to address concepts covered during the PowerPoint presentations. Participants suggested improvements mostly related to increased field time and organization. Also, there were a few comments related to increasing attendance from other agencies and participants who were not present at this workshop.

Specific comments include:

- More organization of field component
- Hands on experience are always useful
- Need more participants
- Would like more participation from agencies who were not present at this workshop
- Allow more time to gather field data
- Need a more user friendly field form

#### **Q5. Any other comments or ideas?**

Participants suggested workshop improvements mostly related to increasing attendance from other agencies, providing handouts in advance, and providing more time for detailed discussions.

Specific comments include:

- Need more training and hands-on activities
- Seek a better venue to hold workshop
- Participants need to re-group after the workshop and work as a team
- More field trips to critical areas
- Need to push these projects