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In reply, please refer to:
EMD / CWB

LBS
10014ELS.03
marked 10/17

October 17, 2003

Mr. Frank J. Doyle, P.E.
Director
Department of Environmental Services
City and County of Honolulu
1000 Uluohia Street, Suite 308
Kapolei, HI 96707

Attention: Mr. Gerald Takayesu, Head
Storm Water Quality Branch

Dear Mr. Doyle:

The Department of Health is transmitting to you a National Pollution Discharge Elimination System (NPDES) Compliance Evaluation Inspection Report regarding the following permit:

Permittee	**NPDES Permit No.**
City and County of Honolulu Storm Water Management Program	HI 0021229

The Clean Water Branch (CWB) has processed and is awaiting responses to comments on several Notices of Intent (NOI) for municipal facilities to be covered by the General Permit Authorizing Discharges of Storm Water Associated with Industrial Activities. Should the City and County of Honolulu decide to implement the recommendation to expand the Program to involve all municipal departments and facilities, the CWB requests direction how these NOIs should be handled.

If there are any questions regarding the Compliance Evaluation Inspection Report, please contact Mr. Michael Tsuji, Supervisor of the Enforcement Section, Clean Water Branch, at 586-4309.

Sincerely,

Denis R. Lau

DENIS R. LAU, P.E., CHIEF
Clean Water Branch

Enclosure: Compliance Evaluation Inspection Report

Program Evaluation Report

City and County of Honolulu Storm Water Management Program (Permit No. HI 0021229)

Executive Summary

Tetra Tech, Inc., with assistance from the Hawaii Department of Health (DOH), conducted a program evaluation of the City and County of Honolulu's (the City) Municipal Storm Water Management Program (the program or SWMP) in August 2003. The purpose of the program evaluation was to determine the City's compliance with their National Pollutant Discharge Elimination System (NPDES) Permit (HI 0021229). The program evaluation included an in-field verification of program implementation.

This program evaluation report identifies program deficiencies and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the program.

Several elements of the City's program were particularly notable:

- The City has created a solid foundation for implementation of the storm water program.
- The City's End-of-Year Report is well written and clearly describes permit requirements and the activities completed to meet those specific requirements.
- The City is using focus groups to evaluate how best to communicate with construction workers about the importance of the storm water regulations.

The following deficiencies were considered the most significant:

- The City should resolve jurisdictional issues that currently limit the effectiveness of their program.
- The City should expand the coverage of the program to involve all municipal departments and facilities that have the potential to contaminate storm water.
- For public construction projects where the City is the NPDES construction operator, City inspectors need to routinely inspect for storm water compliance.
- City construction inspectors need to ensure adequate installation and maintenance of erosion and sediment control best management practices (BMPs).
- The City needs to determine how they intend to verify that private post-construction BMPs are being adequately maintained.

- The City should develop a BMP manual for common maintenance activities that occur at City facilities.

- The City should expand their current interdepartmental training program to include additional municipal departments.

- The City needs to provide the commercial/industrial inspectors with additional guidance and enforcement tools.

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1.0 Introduction

1.1 Program Evaluation Purpose

Tetra Tech, Inc., with assistance from the Hawaii Department of Health (DOH), conducted a program evaluation of the City and County of Honolulu's (City) Municipal Storm Water Management Program (the program or SWMP) in August 2003. The purpose of the program evaluation was to determine the City's compliance with their National Pollutant Discharge Elimination System (NPDES) Permit (HI 0021229). Secondary goals included the following:

- Review the overall effectiveness of the program.
- Acquire data to assist in reissuance of the permit.

40 CFR 122.41(i) and Section 13 of the Standard NPDES Permit Conditions, which are attached to the City's NPDES Permit No. HI 0021229, provide the authority to conduct the program evaluation.

1.2 Permit History

The City was issued an NPDES permit to discharge storm water runoff and certain non-storm water discharges identified in the permit from the City and County of Honolulu's existing municipal separate storm sewer system (MS4) outfalls into State Waters and Waters of the U.S. on the Island of Oahu. The NPDES storm water permit was issued on October 6, 1999, became effective on November 5, 1999, and is scheduled to expire on September 8, 2004. The current permit, the second MS4 storm water permit issued to the City, requires the City to develop and implement a SWMP.

1.3 Logistics and Program Evaluation Preparation

Before initiating the on-site program evaluation, Tetra Tech, Inc., reviewed the following program materials:

- NPDES Permit No. HI 0021229
- Reapplication for NPDES Permit No. HI 0021229 (March 1999)
- *Fiscal Year 2002 End-of-Year Report for the City and County of Honolulu* (October 2002)
- *Rules Relating to Storm Drainage Standards* (January 2000)
- *Best Management Practices Manual for Construction Sites in Honolulu* (May 1999)
- *Response Plan for Investigations of Illicit Discharges* (March 29, 2000)
- EPA and DOH correspondence with the permittee

On August 13 and 14, 2003, Tetra Tech, Inc., with assistance from DOH, conducted the program evaluation. The evaluation schedule was as follows:

Wednesday, August 13	**Thursday, August 14**
• Program evaluation kickoff meeting • Program Management, Reporting, and Public Education • Construction and Land Development (office and field) • System Maintenance (office and field)	• Construction (field) • Improper Discharge Activities (office) • Industrial and Commercial Activities (office and field) • Outbrief

Upon completion of the evaluation, the evaluation teams held an exit interview to discuss the preliminary findings. During the exit interview, the attendees were informed that the findings were to be considered preliminary pending further review by DOH and EPA.

1.4 Program Areas Evaluated

The following program areas were evaluated:

- Program management and reporting, including the City's effectiveness assessment.
- Construction and land development.
- System maintenance.
- Improper discharge activities.
- Industrial and commercial activities.
- Public education.

1.5 Program Areas Not Evaluated

The following areas were not evaluated in detail as part of this program evaluation:

- Wet-weather monitoring program and monitoring program details (e.g., sample locations, types, frequency, parameters).

- Other NPDES permits issued to the City (e.g., industrial or construction NPDES storm water permits).

- Legal authority.

- Inspection reports, plan review reports, and other relevant files. The program evaluation team did not conduct a detailed file review to verify that all elements of the program were being implemented as described. Instead, the team relied on its observations and on statements from the permittee's representatives to assess overall compliance with permit requirements. A detailed file review of specific program areas could be included in a subsequent evaluation.

1.6 Program Areas Recommended for Further Evaluation

The evaluation team recommends the following additional assessments:

- Additional review of the effectiveness of the industrial and commercial activities program appeared warranted. Specific areas of focus should include: 1) the City's approach and procedures for conducting inspections and requiring remedial actions; 2) procedures for re-visiting previously targeted areas to ensure continued compliance; and 3) expanded use of dry weather screening programs to identify and eliminate illicit discharges.

- Once a complete inventory is identified, inspection of additional municipal facilities and departments to ensure proper best management practices (BMPs) are established and implemented on a City-wide basis.

2.0 Program Evaluation Results

This program evaluation report identifies program deficiencies and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a City's overall progress in implementing the program. The evaluation team identified only positive attributes that were innovative (beyond minimum requirements). Some areas were found to be simply adequate; that is, not deficient or innovative.

The evaluation team did not evaluate all components of the City's program. Therefore, the City should not consider the list of program deficiencies contained in this report as constituting a comprehensive evaluation of all individual program elements.

The most significant program deficiencies and positive attributes identified during the evaluation are noted in the Executive Summary and are described in *text boxes* in the following subsections.

2.1 Evaluation of Program Management, Reporting and Effectiveness

Positive Attributes:

- *The City has created a solid foundation for implementation of the storm water program.*

While several improvements were necessary, the overall program structure and direction provided by the Department of Environmental Services (ENV) appeared comprehensive and provided a solid foundation to achieve program goals. The program appeared iterative as the City periodically evaluated the effectiveness of individual program elements and individual BMPs. One such example was a street sweeping study in which various sweeping frequencies were evaluated to determine the most effective approach. The program used geographical targeting to focus resources in areas with a high potential to discharge pollutants. As an example, the City had identified, prioritized, and then targeted their staff resources in several individual light industrial areas within the greater Honolulu metropolitan area. The

City also targeted the Chinatown district and established alliances with local community groups to better deliver their storm water pollution prevention message. The City appeared progressive and embraced technology as a tool for more effective resource allocation and program effectiveness. As an example, the Department of Facility Maintenance (DFM) was developing a geographic information system (GIS) intranet program to better assess the operational status of their collection system and track and plan staffing commitments. This included developing a barcode and reader system so field crews could automatically record information on storm drain cleaning and preventative maintenance.

- *The City's End-of-Year Report is well written and clearly describes permit requirements and the activities completed to meet those specific requirements.*

The Fiscal Year 2002 End-of-Year Report covering the period July 1, 2001 – June 30, 2002 (dated October 2002) clearly describes the City's past year activities to meet the permit requirements. Each individual permit requirement is listed in italics in the annual report with information on the various activities the City accomplished to meet the requirement. This allows a reader to quickly understand what the City was required to do and the City's accomplishments that year to meet the requirement.

The City is encouraged to also include each individual permit requirement's planned activities for the next reporting period in the End-of-Year Report. This will allow readers to understand what the City did last year and what it plans to do in subsequent years.

Program Deficiencies:

- *The City should resolve jurisdictional issues that currently limit the effectiveness of their program.*

The City is required to "prohibit non-storm water discharges through its separate storm sewer system into State Waters" and reduce the discharge of pollutants from its separate storm sewer system to the maximum extent practicable. During the evaluation, City construction and industrial/commercial inspectors discussed the need to determine whether a discharge actually entered the MS4 or State Waters prior to taking any action. This process appeared to limit the overall effectiveness of the program, as inspectors were sometimes reluctant to take action when the ultimate discharge point could not be easily determined. The City should be more proactive in addressing illegal discharges and take the initiative to resolve problems where it has the authority. For example, ignoring discharges that may not reach State Water or a catch basin only results in confusion with the regulated public and City inspectors.

- *The City should expand the coverage of the program to involve all municipal departments and facilities that have the potential to contaminate storm water.*

Although the NPDES storm water permit was issued to the City and County of Honolulu Department of Environmental Services, all City departments have the potential to discharge storm water. Departments such as Facility Maintenance, Planning and Permitting, and Design and Construction were specifically tasked with

implementation in the SWMP, while departments such as Parks and Recreation, Enterprise Services, Transportation Services, Fire, and Police were not. It appeared that the City had initially chosen to compartmentalize the program within a subset of the entire city government. In March 2003, the City began to submit Notice of Intents (NOIs) to DOH for approximately 20 municipal facilities seeking coverage under the DOH's General Permit Authorizing Discharges of Storm Water Associated with Industrial Activities (Industrial Storm Water General Permit). The process of seeking individualized permit coverage, rather than incorporation within the overall program, would appear to further compartmentalize the program. The process did not appear to be an efficient use of resources as each facility would have their own Storm Water Pollution Prevention Plan (SWPPP) and inspection and monitoring requirements. Additionally, the filing fee associated with each NOI could be avoided.

The Environmental Protection Agency (EPA) clearly intended for all municipal facilities that discharge to the MS4 to be included in the Phase I program. The Part 1 application requirements, described in 40 CFR 122.26(d)(iii)(B)(6), requires the applicant to identify "publicly owned parks, recreational areas, and other open lands." In EPA's *Guidance Manual for the Preparation of Part 1 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* (EPA 505/8-91-003A), EPA describes publicly-owned lands as "public parks, recreation areas, municipal buildings... public utility lands and public roads." EPA therefore intended municipal facilities to be included in the storm water program and addressed by the NPDES MS4 permit.

The City should revise their current approach of covering some facilities under separate industrial storm water general permits and develop and implement a comprehensive program that covers all municipal facilities and activities that have the potential to pollute storm water runoff. The City should create an inventory of their municipal assets and then prioritize them by their potential to contaminate storm water runoff. Some cities have used the General Accounting Board Standards (GABS) Statement 34, which addresses the costs of operating and maintaining public works infrastructure, to develop inventories of municipal facilities for the storm water program. Minimum designated BMPs should be developed and applied at all sites, while site-specific BMPs could be developed for select facilities, if needed. This approach generally ensures a consistent program that can be implemented on the facility level with oversight and guidance from the primary municipal department. Lastly, this approach helps to raise storm water pollution prevention awareness among the entire municipal work force.

2.2 Evaluation of Construction and Land Development

Positive Attribute:

- *The City has developed clear standards for erosion control and storm drainage design.*
  The Department of Planning and Permitting's *Rules Relating to Soil Erosion Standards and Guidelines* (April 1999) and *Rules Relating to Storm Drainage Standards* (January 2000) provide developers with clear standards and criteria to

follow when designing projects. The *Erosion Control Standards* include flowcharts, different requirements for various categories of projects, and minimum BMPs checklists for small and large construction projects. In addition, larger projects are required to design BMPs to limit erosion to a specific rate. The *Rules Relating to Storm Drainage Standards* document includes hydrologic criteria for flood control and require storm water quality plans for certain projects. Both standards include examples to assist developers in understanding the requirements.

Program Deficiencies:

- *For public construction projects where the City is the NPDES construction operator, City inspectors need to routinely inspect for storm water compliance.*

The evaluation team visited a public construction project at the Sand Island Wastewater Treatment Plant. Although the City is listed as the operator on the NPDES construction permit, the City's contractor performs the routine storm water inspections. For projects where the City is the NPDES construction operator, the City should ensure compliance with the permit by also performing its own routine inspections. These inspections can be performed by the City's project manager's for that project, if properly trained, or the City's private construction inspectors could perform the inspections. Compliance at these sites is the responsibility of the City and identified non-compliance will place the City at risk of violating both the MS4 permit and the DOH's General Permit Authorizing Discharges of Storm Water Associated with Construction Activity (Construction Storm Water General Permit).

- *City construction inspectors need to ensure adequate installation and maintenance of erosion and sediment control BMPs.*

During the evaluation, the evaluation team observed several BMPs that were either installed incorrectly or required maintenance. This includes catch basin filters (e.g., "gutterbuddies") that were undersized for the inlet they were protecting, a watering station without gravel underneath resulting in significant sediment being tracked around the site, and lack of adequate street sweeping and controls to prevent track-out of sediment from construction sites. Construction inspectors need to ensure that erosion and sediment controls are adequately installed and maintained. Erosion and sediment controls at construction sites should be dynamic as the construction activity changes. Inspectors should also be trained on when erosion and sediment controls need to be changed or modified as site conditions change.

The City could consider developing a field manual for erosion and sediment controls that clearly explains installation and maintenance of common BMPs. As an example, the San Francisco Regional Water Quality Control Board has developed a *Field Manual for Erosion and Sediment Control* (an order form for this field manual is available from http://www.swrcb.ca.gov/stormwtr/docs/reg2training_products03.pdf).

- *The City needs to determine how they intend to track and verify that private post-construction BMPs are being adequately maintained.*

  The City's storm water quality rules became effective in 2000. These rules require many different structural storm water controls in order to meet the detention- and flow-through-based requirements. Although applicants are required to submit a proposed maintenance plan, the City should develop a process to track structural controls and periodically verify that these controls are being maintained.

  The City should also begin to track the installation of structural controls. Tracking of projects should begin in the plan review stage with a database or GIS. This database or tracking system should include information on both public and private projects. In addition to the standard information collected for all projects (such as project name, owner, location, start/end date, etc.), the tracking system should also include:
    - Source control BMPs (type, number)
    - Treatment control BMPs (type, number)
    - Lat/Long coordinates of controls using GPS
    - Photographs of controls, if necessary
    - Maintenance requirements
    - Frequency of required maintenance and inspections

  Inspections should occur both during construction and after construction is complete to verify as-built conditions for both source control and treatment control BMPs. Inspectors should have access to final approved plans and conditions to ensure BMPs are implemented as designed.

  As an example of maintenance verification, the City of Santa Monica, California, sends annual proof of inspection letters to landowners with structural storm water controls. The letter requires the landowner to certify that the structural control was inspected and maintained. Santa Monica prioritizes follow-up inspections of those properties that have not returned their annual inspection letter.

- *The City should include source control requirements in the requirements for storm water quality plans and in plan review stage.*

  The storm water quality requirements in the City's *Rules Relating to Storm Drainage Standards* specify sizing requirements for structural BMPs on new residential developments greater than 10 acres and new commercial developments greater than 5 acres. The structural practices used to meet these requirements are usually either detention practices or filtration or infiltration practices. The City should also require that projects implement source control BMPs, for projects both above 5 acres and below 5 acres in size. These include BMPs to address runoff controls, fueling areas, trash enclosures, and outdoor material storage. The City should also consider requiring new developments to stencil or permanently impress storm drain inlets before the City accepts the streets from the developer. The source control requirements can be either written into the City's rules and standards or applied to projects at the plan review stage.

Information on source control BMPs can be found in Chapter 4 of the California Stormwater Quality Association's *New Development and Redevelopment Handbook* available online at http://www.cabmphandbooks.org/. Source control BMPs are also described in the City of Los Angeles' *Development BMP Handbook – Part B: Planning Activities, Second Edition* (August 2002), which is accessible at http://www.lastormwater.org/.

- *The City needs to ensure that erosion control calculations match what occurs on-site.* The *Rules Relating to Soil Erosion Standards and Guidelines* require certain projects to estimate soil loss and propose BMPs to control soil loss to an allowable rate. The City reviews these calculations, which include a specific timeframe for construction activity proposed by the developer. However, if the developer exceeds this proposed timeframe, the estimated soil loss would be greater than calculated. For example, the Home Depot under construction in Kapolei estimated a construction timeframe of approximately 30 days, however construction activity was continuing well beyond this timeframe. The City needs to develop a process to ensure that projects follow their erosion control plan and computations. This could include having inspectors notify the Department of Planning and Permitting when a project exceeds its estimated construction timeframe.

- *Construction inspectors focus solely on erosion and sediment control issues and do not inspect for good housekeeping or other storm water concerns.* During construction inspections, City inspectors stated that they focus on erosion and sediment controls and do not routinely inspect for good housekeeping practices or other potential pollutant sources such as fueling or material storage areas. Sediment is not the only potential pollutant source at construction sites that can discharged to the City's MS4. The City should include these additional pollutant sources in their routine inspection procedures in order to ensure that pollutants are not discharged.

- *Construction inspectors do not use a checklist to document inspections.* City construction inspectors do not use a checklist specific to erosion and sediment controls to help document inspections. A checklist with specific erosion and sediment control items, such as the minimum BMP checklists for small and large projects listed in the City's *Rules Relating to Soil Erosion Standards and Guidelines*, will help the inspector focus on the main storm water concerns at each site. This checklist, if a copy is provided to the construction operator, will also provide the operator with additional information on the major areas of concern for the City. The checklist should also cover good housekeeping and other potential pollutant sources (e.g., stucco, concrete, paint, fueling, etc.).

- *Training is needed for both City inspectors and private construction operators.* The City should provide additional training on storm water and erosion and sediment controls to both City inspectors and private construction operators. The training should be specific to each audience and should focus on the requirements, typical BMPs, inspection and maintenance needs. If practicable, the training should also include a field component so attendees can view erosion and sediment controls and installation and maintenance techniques. This training can be taught by the City or

coordinated with other organizations. The International Erosion Control Association (www.ieca.org) is one organization sponsoring training on erosion and sediment controls.

2.3 Evaluation of System Maintenance

Positive Attribute:

- *Interdepartmental training regarding storm water was evident.*
  ENV storm water staff have worked closely with the other participating departments to educate them about the impact of their activities on storm water. The Facility Maintenance, Planning and Permitting, and Design and Construction Departments all received various levels of routine training. For instance, ENV had provided training to the catch basin cleaning crews regarding operational BMPs in August of 2002. The Board of Water Supply (BWS) also appeared to provide internal tailgate training to their field staff. ENV staff interviewed during the evaluation exhibited a high level of storm water awareness and the training was evident at both the Halawa corporation yard and BWS Manana base yard. For example, the BWS site manager had developed and implemented structural treatment controls (i.e., gravel infiltration pit covered with geotextile) to prevent sediment transport from the site.

Program Deficiencies:

- *The City should develop a BMP manual for common maintenance activities that occur at City facilities.*
  The City should develop a formalized set of maintenance BMPs for routine and emergency in-house activities. It was stated that a comprehensive set of BMPs was last compiled in 1996, however the BMPs were generally construction related. Interviews with field staff indicated that staff were generally implementing common sense BMPs but did not have specific procedures or written guidance. The need for activity-specific BMPs was evident at the Sand Island Dewatering Facility, as City crews were not using the facility appropriately. Activity-specific BMPs should be organized as a manual and be created in a format that facilitates its use by field staff (i.e., field friendly). It should be distributed to all field staff and should complement the overall goals of the SWMP. Importantly, each applicable department should participate in the BMP development so as to ensure ownership and implementability. Developing a more specific and easily distributed maintenance manual will benefit the City by maintaining a level of consistency among field staff activities.

  For example, the Sacramento County Department of Transportation's Maintenance and Operations Division created a handbook that provides detailed BMPs for both routine and emergency activities. Topics covered include roadside ditch digging, pothole patching, storm patrol, saw cutting, street marking removal, painting, post installation, roadside herbicide application, roadside mowing, tree trimming/removal, roadside vegetation and hedge trimming, vegetation truck watering, street sweeping, yard maintenance, disposal of bituminous waste and open containers, storage of materials in the yard, disposition of hazardous materials, and washing of county

vehicles and equipment. The BMP handbook is comprehensive and formalizes the approved maintenance and operation activities for Division staff.

Additionally, the City of San Diego's Parks and Recreation Department developed a BMP manual that could be a guide for other cities because it describes the entire BMP development process from conception to field-testing. The manual is innovative in that a diverse work group first identified the pollutants of concern and then developed suites of BMPs to minimize their occurrence or impacts on receiving waters. The resulting manual provides approximately 30 individual BMPs grouped into four categories: organic, chemical, maintenance, and administrative. Each BMP description provides procedures; maps; monitoring frequency; additional references; both city and non-city employees who perform the task; site-specific equipment needs; possible locations of use; possible surfaces affected; procedures for spilled, dumped, or mishandled products or activities; evaluation criteria; and the staff responsible for BMP development. Individuals from multiple department sections collaborated on the BMPs to ensure their appropriateness and implementability.

These manuals have proven very effective in limiting the discharge of pollutants from municipal activities.

- *The City should expand their current interdepartmental training program to include additional municipal departments.*

  The City should institute a formal storm water awareness training program for all municipal departments and/or staff for select facilities that have the potential to contaminate storm water. The universe of training candidates could be based on the facility prioritization recommended in Section 2.1 of this report. The training should be structured so to provide both minimum and activity-specific guidance. Minimum awareness training could include the goals and purpose of the City's storm water program, impacts of urban runoff, minimum designated BMPs, and the identification of and response to illicit discharges. Activity specific training could highlight potential sources of pollution, minimum designated BMPs that can be used to reduce and/or eliminate such sources, and specific BMPs for their facilities and activities. The training should attempt to leverage the City's public education campaign and highlight to staff that they also serve a role in protecting water quality. Staff should be aware of the NPDES permit, the overall SWMP, and the applicable BMPs. Field staff should be encouraged to actively evaluate the effectiveness of BMPs and apply new BMPs when needed.

- *Additional storm water controls were necessary at inspected facilities.*

  On-site inspections were performed at the Halawa corporation yard, TheBus maintenance yard, the BWS Manana base yard, and the vactor truck dewatering pad located at the Sand Island Dewatering Facility. ENV representatives stated that they were in the process of evaluating facility improvements and were initially focusing on good housekeeping followed by the potential need for structural treatment controls. This process appeared to be effective as the housekeeping at the inspected facilities was generally very good. However, identified deficiencies included:

- Sand Island Dewatering Facility – trucks were being washed outside of the dewatering pad and wash waters were being discharged to the ground. Additionally, the adjacent maintenance yard had some storm water exposure issues such as batteries and used oil stored outside without cover or secondary containment.
- Halawa corporation yard – additional sediment control BMPs were needed in the rear of the yard where the drainage ditch crosses under the yard and enters Halawa Stream. The City should ensure that sediment or stockpiled material does not discharge into the drainage ditch or Halawa Stream.
- BWS maintenance yard – vehicle and/or equipment batteries were stored outside without cover. Additionally there was some significant track-out in the vicinity of the existing infiltration pit and truck/equipment washing area. A remedy had been determined for this deficiency as the truck/equipment washing activities were to be relocated.

The City should take immediate steps to remedy these deficiencies.

2.4 Evaluation of Improper Discharge Activities

Positive Attribute:

- *The City conducts thorough investigations of identified illicit discharges.* The City demonstrated that they are fully capable of responding to spills and investigating identified illicit discharges. The City maintains an Environmental Concerns Line for public reporting of spills and discharges. City staff stated that the line receives approximately 300 storm water related calls per year. ENV support technicians investigate the complaints, detailed investigation reports are generated, and informational and/or notice of violation letters are sent to the responsible party(s). Complaint details are entered into a spreadsheet and locations are tracked via the City's tax map key. Adequate spill response procedures were established.

Program Deficiency:

- *The City should consider expanding their existing field screening program.* Currently, the City conducts field screening as a component of their Surveys of Prioritized Industrial Area program. While this process appeared effective for the select area, it was temporal in nature and was not part of a larger recurring dry weather-screening program. Based on the existing schedule, previously surveyed areas would not be revisited for more than a decade. The City could use the results of a routine and recurring dry weather-screening program to better define priority areas and pollutants of concern. The process would help identify residential, commercial and/or industrial areas where dry weather discharges are prevalent. At a minimum, the City should revisit previously screened areas to assess changes and the prevalence of discharges.

  As an example, the City should review San Diego's Dry Weather Analytical Monitoring Program, which is specified in Attachment E of the San Diego storm water MS4 permit (available at

http://www.swrcb.ca.gov/rwqcb9/programs/sd_stormwater.html). Each permittee is required to develop a map, designate monitoring stations, and collect samples for both analytical laboratory analysis and field screening to detect and address dry weather discharges. The City of San Diego enhanced their program by developing sampling action trigger levels that indicate when an illicit discharge investigation should occur and a sample collection sheet to standardize the data collection effort. San Diego's program proved immediately effective in identifying and eliminating illicit discharges as approximately 30 illicit discharges were eliminated in the first six months of the program. Information about their dry weather-screening program is available under the work products section of the San Diego storm water web site (http://www.projectcleanwater.org).

2.5 Evaluation of Industrial and Commercial Activities

Program Deficiencies:

- *The City needs to provide the commercial/industrial inspectors with additional guidance and enforcement tools.*

The City should be commended for establishing a comprehensive inventory of industrial sources, conducting outreach, inspections and BMP surveys in select areas, and developing and carrying out a formal response plan for illicit discharges. These activities are instrumental pieces of an effective commercial and industrial program. However, several improvements appeared necessary if the City is to achieve the desired result of changing the behavior of the business community.

Consistency of message – To achieve the desired results, inspectors need to provide a consistent, factual, and compelling statement to the business community owners regarding the purpose of their inspection and the need to implement BMPs. To do this, ENV should draft a script for their inspectors and the script should be used to initially train each inspector. Its use can be discontinued when each inspector is providing a consistent message to the business community. The script should clearly describe the purpose of the inspection, the legal authority to inspect, municipal code applicability, potential (or real) impacts to water quality, and minimum designated, or activity specific, BMPs needed to reduce and/or eliminate sources of pollution. Ideally, this information would be substantiated in a handout or equivalent that is complementary of the existing public education campaign. It is imperative for the regulated business community to know why the City is conducting the inspections, that the actions of each facility can have an impact on water quality, and ramifications of non-compliance.

Integration with the public education campaign – The City's inspection process should be directly tied to the existing public education campaign. Inspectors should attempt to create a bridge between their inspection and the message being broadcast to the general public (e.g., "help protect our waters for life").

Administrative citation authority – Currently ENV inspectors do not have the authority to issue administrative citations for identified non-compliance. Inspectors can investigate the activity, provide the party an informational letter, issue a letter of

warning, and ultimately have the City Attorney's office proceed with a formal finding of violation and monetary penalty. Achieving compliance can be difficult and appeared to require multiple repeat visits. Additionally, while the City Attorney's office has been supportive, the process did not appear particularly efficient and might discourage lesser cases from being pursued. The City should consider providing ENV inspectors administrative citation authority similar to other code enforcement officers (e.g., traffic, housing-zoning, etc.). Alternatively, the City might consider expanding the responsibility of existing code enforcement officers to support storm water activities. Both of these approaches have been used successfully by many large metropolitan cities.

Enhanced process for re-inspection – The need for re-inspection was evident on both a facility specific and geographical area basis. For individual facilities where a discharge was observed or other violations were present, the inspectors should provide notice to the facility that a re-inspection will occur on a specific day, or during a time period (e.g., the week of xx). A formal process should be established to ensure that repeat inspections are conducted during the established time frame. Ramifications for failure to comply should be clearly communicated.

On a geographical area basis, the City should revisit those areas that were previously targeted as part of the Survey of Prioritized Industrial Areas. As noted in Section 2.1 of this report, the City had previously targeted specific areas of the City for inspection and education. Unfortunately, it appeared that the City only returns to those areas in response to complaints. To achieve the desired results, the City will need to establish a recurring presence and continue to pursue identified cases of non-compliance. For example, the City of Livermore, California, has an established drive-by schedule for light industrial parks that is intended to increase its oversight presence and identify active discharges. The program requires limited staff resources and has proven very effective in eliminating discharges by educating tenants and owners. In Honolulu, these activities would be intended to heighten awareness and keep the momentum from previous activities.

The prevalence of illicit discharges identified in a short time period in the Waipahu area would indicate that additional efforts could be made to proactively identify and eliminate illicit discharges. It appears unlikely that intensive educational and inspection efforts would have a lasting impact on the behavior of the business community without frequent encouragement.

- *Greater participation with other regulatory agencies will help to calibrate the City's inspection process.*
  Although identified non-compliance within the construction, commercial and industrial sectors is frequently communicated to the State, the City should actively seek opportunities to participate with State and Federal inspections. Participation with these activities will help to calibrate the inspection process, identification of deficiencies and violations, and follow-up procedures, including enforcement. Participation will also help to better leverage resources and ensure an appropriate and mutually agreeable response is provided by the entity.

2.6 Evaluation of Public Education

Positive Attributes:

- *The City is using focus groups to evaluate how best to communicate with construction workers about the importance of the storm water regulations.*

  The City held two focus groups in June 2003 with construction workers from large and small/medium companies. The objective of the focus groups was to better understand the behaviors, attitudes, and level of understanding regarding storm water pollution prevention and regulations, identify educational materials they're currently using, and identify how best to communicate with workers about the importance of the storm water BMPs. Eighteen construction workers participated in the focus groups. The focus groups found that general awareness of water quality-related procedures were high, although safety-related procedures were rated higher. Time factors and lack of serious repercussions were cited as factors when construction workers engaged in improper clean water practices. The focus groups felt that education of General Contractors, supervisors and foreman is needed and that weekly staff meetings on-site are the most effective means of educating workers. The City is encouraged to continue these focus groups with other industries and commercial business groups.

- *The City has developed a sophisticated and varied public education campaign that focuses on both the general public and targeted groups.*

  As described in the City's *Public Education Campaign Activity and Recap Report* (May 2002 – July 2003), the City relies on a variety of techniques in order to educate the public on storm water awareness. These techniques include television and radio PSAs, storm drain stenciling, and a watershed model contest. The City has also developed a storm water-specific web site at http://www.cleanwaterhonolulu.com.

  In order to target specific groups, the City developed BMPs for car maintenance and worked with 22 NAPA Auto Parts stores on Oahu to distribute an informational flyer. The City also instituted a "grease initiative" with posters, brochures and media placements to educate the general public on proper methods and tips for disposing used cooking oil and grease. Additional industries targeted include the visitor industry and Waikiki condominiums and hotels, the construction industry, and Chinatown.

  To increase visibility and acceptance, the City has developed numerous BMPs and educational videos that use celebrity hosts to convey the message. The videos can be downloaded directly from the city's storm water web site.

- *The City is conducting annual surveys to assess storm water awareness.*

  The City conducts an annual telephone survey of Oahu residents to measure changes in resident attitudes and perceptions regarding water quality and awareness of Clean

Water programs conducted by the City. Questions were added to the survey to also measure behavior in addition to awareness.

During the evaluation, the City asked for examples of other cities conducting surveys to measure both awareness and behavior. An example of a public telephone survey report that measured residents behavior, attitudes, knowledge and awareness was conducted in San Diego County and is available at: http://www.projectcleanwater.org/pdf/Carlsbad/public_awareness_03_car_slr.pdf.

Program Deficiency:

- *The City should expand the target audience of their public education campaign to include all municipal employees.*
  Although the City has held an erosion control workshop for City engineers and inspectors, provided interdepartmental training and has a sophisticated and varied public education program, they have yet to routinely target the approximately 8,000 municipal employees. Past activities like printing a storm water awareness message on the back of municipal pay stubs should be continued and the City should look for ways to leverage their access to this large population.