



**PROTECT  
OUR WATER**

MĀLAMA I KA WAI  
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

# **Lessons Learned: Compliance Audit of HDOT's Construction Site Runoff Control Program**

**Vijaya Tummala, PE, CFM, CPESC, CISEC**

Senior Project Manager

EnviroServices & Training Center, LLC

# TOPICS FOR TODAY

- Compliance Audit
  - HDOT NPDES MS4 Permits
  - Audit Work Plan and Program Element Audit Report (PEAR)
- PEAR 2
  - Schedule, Records Request and Review, and On-Site Evaluations
- PEAR 2 Findings
- PEAR 2 Corrective Actions
- PEAR 2 Positive Findings
- Lessons Learned

# ACRONYMS

- CM – Construction Manager
- HDOT - State of Hawaii, Department of Transportation
- IDDE – Illicit Discharge Detection and Elimination
- MCM – Minimum Control Measure
- MS4 - Municipal Separate Storm Sewer System
- NPDES - National Pollutant Discharge Elimination System
- PEAR - Program Element Audit Report



**PROTECT  
OUR WATER**

MĀLAMA I KA WAI  
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

[www.stormwaterhawaii.com](http://www.stormwaterhawaii.com)

# COMPLIANCE AUDIT

# HDOT NPDES MS4 PERMITS

- Airports Division has NPDES Small MS4 Permits at:
  - Kahului Airport Small MS4 General Permit HI 14KE349
  - Daniel K. Inouye Airport Small MS4 Individual Permit HI S000005
- Harbors Division has NPDES Small MS4 Permits at:
  - Honolulu Harbor Small MS4 General Permit HI 03KB482
  - Kaleloa Harbor Small MS4 General Permit HI 03KB488
- Highways Division Maui District has a NPDES Small MS4 General Permit HI 15KE674
- Highways Division Oahu District has a NPDES MS4 Individual Permit HI S000001



MS4

Pollution  
Prevention &  
Good  
Housekeeping

Public  
Education &  
Outreach

Public  
Involvement  
&  
Participation

Illicit  
Discharge  
Detection &  
Elimination

**Construction  
Site Runoff  
Control**

Post-  
Construction  
Runoff Control

# COMPLIANCE AUDIT

- Reason for Compliance Audit
  - 2014 Consent Decree between HDOT, State of Hawaii Department of Health, and Environmental Protection Agency
- Purpose:
  - Determine compliance with the federal and state regulations, MS4 permits, and the Consent Decree
  - Identify deficiencies and potential violations and allow for timely self-correction
  - Evaluate six MCMs of the MS4 program
- Audit of the six HDOT MS4 Permits both on Oahu and Maui
- HDOT hired an Independent Third-Party Auditor for this task

# AUDIT WORK PLAN

- Audit Work Plan
  - Developed in November 2016
  - Audit started in March 2017 and is scheduled to be completed in March 2020
  - Six PEARS
  - Focus today is on PEAR 2: Construction Runoff Control Program

State of Hawaii Department of Transportation  
Office of Environmental Compliance



**Revised Audit Work Plan**  
**State Project No. OSC-15-01**

November 2016

# AUDIT WORK PLAN PEARS

PEAR 1: Post-  
Construction  
Runoff Control /  
Permanent BMPs

PEAR 3: Public  
Outreach / Public  
Involvement

PEAR 5: Pollution  
Prevention /  
Good  
Housekeeping

**PEAR 2:**  
Construction  
Site Runoff  
Control

PEAR 4: IDDE  
and Industrial  
Commercial  
Activities/Tenant  
Programs

PEAR 6: Staffing,  
Funding,  
Organizational  
Structure,  
Availability of  
Resources and  
Stormwater  
Program  
Sustainability

# AUDIT WORK PLAN

- Potential Violation - area where the evaluation found the permittee not in compliance with a specific permit requirement or SWMPP commitment
- Deficiency - item which, if not corrected, will lead to potential violation



# PEAR 2: HDOT's Construction Site Runoff Control Program

# PEAR 2 SCHEDULE & STEPS

- PEAR 2 Schedule: September 2017 – March 2018 (7 months)
- Notice of Audit
  - Key Documents, Schedule, and Construction Projects
- Records Request
- Records Review
- Pre-onsite Evaluation Conference Call
- Onsite Evaluation
- Draft PEAR
- HDOT Review
- Final PEAR

# KEY DOCUMENTS

Key documents were provided to and reviewed by the Auditor.

- Kahului Airport: 9 documents
- Daniel K. Inouye Airport: 16 documents
- Honolulu Harbor: 17 documents
- Kalaheo Harbor: 27 documents
- Highways Maui: 27 documents
- Highways Oahu: 41 documents

# RECORDS REQUEST

Based on the review of the Key Documents, the Auditor requested records and documentation from HDOT for verification of compliance.

- Kahului Airport: 2 questions
- Daniel K. Inouye Airport: 4 questions
- Honolulu Harbor: 7 questions
- Kalaeloa Harbor: 7 questions
- Highways Maui: 2 questions
- Highways Oahu: 3 questions

HDOT provided clarifications for additional questions from the Auditor based on Records Review

# CONSTRUCTION PROJECTS

All MS4s selected two construction projects each for the Onsite Evaluations

- Kahului Airport: 2 projects but only one active at the time of the Audit
- Daniel K. Inouye Airport: 2 projects
- Honolulu Harbor: No onsite evaluation
- Kalaeloa Harbor: 1 project
- Highways Maui: 2 projects have not broken ground – no onsite evaluation
- Highways Oahu: 2 projects

# ONSITE EVALUATIONS



# ONSITE EVALUATIONS



# ONSITE EVALUATIONS





# PEAR 2 FINDINGS

# POTENTIAL VIOLATIONS



# NONE

# DEFICIENCIES

- PEAR 2 yielded four deficiencies for HDOT
  - Two of the deficiencies were related to documentation inconsistencies
  - Two of the deficiencies were related to items that were not identified during the inspection of the construction sites

# DEFICIENCIES



# DEFICIENCIES





**PROTECT  
OUR WATER**

MĀLAMA I KA WAI  
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

[www.stormwaterhawaii.com](http://www.stormwaterhawaii.com)

# PEAR 2 CORRECTIVE ACTIONS

# CORRECTIVE ACTIONS

HDOT implemented the following corrective actions for the deficiencies from PEAR 2

- Conducted additional training for relevant staff
- Updated Construction and Inspection Enforcement Standard Operating Procedure and Inspection Checklist to ensure proper documentation
- Developed Construction Inspection Corrective Action Report and Monthly Construction Inspection Summary Table to track deficiencies and implementation of corrective actions



# PEAR 2 POSITIVE FINDINGS

# POSITIVE FINDINGS

- All three divisions collaborate on the annual Protect Our Waters Conference
- Though not mandated by their permits, Airports Division and Harbors Division have developed program requirements for projects that disturb less than 1 acre
- Highways Division maintains a publicly-available online map of current and future construction projects

# POSITIVE FINDINGS

- Highways Oahu District's ERP Table 2-1 is an effective presentation of the timeframes required for contractors to address specific instances of non-compliance
- Highways Oahu District's construction stormwater independent inspection form allows for a high level of specificity regarding the exact location of particular BMPs (such as reference to mileposts)
- Highways Oahu District's asset management system
  - Prompts inspectors to specify a date when deficiency follow-up is expected from a contractor
  - Can dynamically add and track site-specific BMPs

# POSITIVE FINDINGS

- Several of the construction sites visited during the MS4 Permit Audit utilized “live” BMP plans which were updated daily or weekly
- HDOT inspectors communicated well with contractors during inspections
  - Used inspection time as opportunity to educate contractors
- Airports Division will soon be exercising the option afforded in their permit to reduce inspection frequency at sites with few deficiencies



**PROTECT  
OUR WATER**

MĀLAMA I KA WAI  
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

[www.stormwaterhawaii.com](http://www.stormwaterhawaii.com)

# LESSONS LEARNED

# LESSONS LEARNED

- **Documentation** is critical to show that the Permittees are meeting the requirements
  - Maintain records
  - Ensure inspections are closed out (Document corrective actions implemented including any time extensions)

# LESSONS LEARNED

- **Education through training or certification** can provide consistent level of expertise for inspectors (HDOT, CM, Contractor, & Third-Party)
  - Inspectors can train/share their experience from other projects, BMPs that worked or did not work
  - Began consolidating required construction-related training of HDOT staff, consultants, and contractors through the annual Protect Our Water Conference
  - Consider requiring stormwater inspectors to obtain relevant certifications to maintain a consistent level of expertise

# LESSONS LEARNED

- **Finally, good documentation and adequate training can help you**
  - Identify small items that can easily overlooked
  - Communicate requirements and expectations clearly
  - Prepare for an EPA/DOH Audit
  - Share ideas and concerns related to the Construction Site Runoff Control Program

# FINAL THOUGHTS

- We are all on the same team, everyone has a role to play in operating a good construction site runoff control program
- HDOT is trying to help Construction Projects be in compliance with the Permits, avoid enforcement, and improve water quality
- HDOT is open to ideas and suggestions to improve their Construction Site Runoff Control Program



# THANK YOU

HDOT would like to thank you for diligently working to protect water quality in Hawaii



**Vijaya Tummala, PE, CFM, CPESC, CISEC**  
Senior Project Manager  
EnviroServices & Training Center, LLC