July Construction Stormwater Quality Workshop
July 16–19, 2018
WE ARE INTERESTED IN WHAT YOU WANT TO LEARN ABOUT!

The City is planning a Post Construction BMP workshop in 2019.

Please go to the website below to take the pre-survey.

https://www.surveymonkey.com/r/2VFG5W2
Adaptive Management by using Cityworks & CloudCompli Platforms
Thursday; July 19, 2018

- Why Do It?
- Permit Requirements
- City Programs
- Adaptive Management
USGS NAWQA – Oahu 1999-2001, Stream Sediment

Concentrations of organic compounds in sediments and fish were among the highest in the nation.
Chlordane - Bids tightly to soil; insoluble in water; volatilizes slowly when exposed to sun.
1947 Introduced in US
1979 EPA Imposed restrictions
1983 Banned from home, garden, ag
1988 Banned as a termiticide
2013 New York birds die for past 14 years by eating insects tolerant to chlordane. [https://blog.epa.gov/blog/2013/06/30-years-after-the-epa-ban-chlordane-still-poisons-local-birds/](https://blog.epa.gov/blog/2013/06/30-years-after-the-epa-ban-chlordane-still-poisons-local-birds/)
NO PHASING
NO TEMPORARY STABILIZATION
NO SEDIMENTATION BASIN
CIRCA 2006

WHY DO IT?

8/2/2006 ~ 0.95”
Cityworks Update
Thursday; July 19, 2018

• Why Do It?
• Permit Requirements
• City Programs
• Adaptive Management
CITY MS4 PROGRAMS

1. IDDE (*Cityworks*)
2. Industrial Commercial Inspections (*Cityworks*)
3. Post Construction BMP Inspections (*Cityworks*)
4. Stream Monitoring (*Cityworks*)
5. DI, CB, Outfall, Pipe Insp (*Cityworks*)
6. Retrofit Project for SD System (*Cityworks*)
7. Public Education Outreach (*Cityworks*)
8. Construction Site Runoff (*CloudCompli*)
9. Street Sweeping (*Cityworks*)
10. Good House Keeping (*CloudCompli, future*)
Cityworks Update
Thursday; July 19, 2018

- Why Do It?
- Permit Requirements
- City Programs
- Adaptive Management
IDDE – INVESTIGATION/ENFORCEMENT

IDDE Tracking Categories
- Residential
- Municipal
- Institutional
- Industrial
- Construction
- Commercial
IDDE – SWMPP METRICS

INVESTIGATION/ENFORCEMENT PERMIT REQUIREMENTS & PRODUCTION

Total Assigned To by Fiscal Year

**Investigation Priority**

- None
- Medium Low
- Medium
- High
- Medium High

**Investigation by Category**

- Commercial
- Construction
- Industrial
- Institutional
- Municipal
- Residential

**Investigation Status**

- Open
- Closed

**Closed Status by Fiscal Year**

**Number of Investigations**

- Total: 657
- All: 440

**Total Inspections**

- AKANA: 2
- KIMSEU: 6
- **WAGONER: 300**
IDDE – ENHANCED METRICS

INVESTIGATION/ENFORCEMENT

SWMPP METRICS

by Tracking Category

Fiscal Year

Total Actions by Fiscal Year

by Community

Action by Category

by Source Category

Resolved Investigations

Follow Up Actions

Illicit Investigations
INDUSTRIAL/COMMERCIAL
POST CONSTRUCTION

- <all other values>
- City
  - Closed
- DOE
- No Connection
- No Development
- No Jurisdiction
- Open
POST CONSTRUCTION
POST CONSTRUCTION
RETROFIT PROJECTS

DFM Hydrodynamic Separator - Needs Cleaning

DFM Drain Inlet Filter - Needs Cleaning

DFM Catch Basin - Needs Cleaning
RETROFIT PROJECTS

DFM-ROADS GENERATE WOs FOR CLEANING. MARK "CLEAN"

COMMON GIS ASSET

DFM-ROADS CITYWORKS

DFM-SWQ INSPECT PC BMPs MARK %
FULL: 0%.
25%, 50%, 75%
100% FULL

DFM-SWQ CITYWORKS
PUBLIC EDUCATION OUTREACH

- Adopt
  - Adopt a Stream
    - No
    - Yes
  - Adopt a Block
    - No
    - Yes
# Public Education Outreach

## Adoptions by Community

<table>
<thead>
<tr>
<th>Community</th>
<th>Block Adoptions</th>
<th>Stream Adoptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honolulu</td>
<td>Yes 16 (19.5%)</td>
<td>Yes 7 (11.8%)</td>
</tr>
<tr>
<td>Pearl City</td>
<td>No 66 (80.4%)</td>
<td>No 52 (88%)</td>
</tr>
<tr>
<td>Kailua</td>
<td>No 4</td>
<td>No</td>
</tr>
<tr>
<td>Wahiawa</td>
<td>Yes 2</td>
<td>No</td>
</tr>
</tbody>
</table>

## Active Adoptions

<table>
<thead>
<tr>
<th>SITE UID</th>
<th>Adopted</th>
<th>Community</th>
<th>Organization</th>
<th>Contract Expiration</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAB-0328</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0077</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0010</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0015</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0301</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>AAS-0062</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0008</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0019</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0053</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0026</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0025</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0024</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0029</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAS-0033</td>
<td>No</td>
<td>Honolulu</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Contract Expirations in Next 6mo

<table>
<thead>
<tr>
<th>Community</th>
<th>Category</th>
<th>Organization</th>
<th>Contract Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl City</td>
<td>AAB</td>
<td>inspire church</td>
<td>10/1/22</td>
</tr>
<tr>
<td>Pearl City</td>
<td>AAB</td>
<td>USS CHAFEE (DDG 90)</td>
<td>10/28/2</td>
</tr>
</tbody>
</table>
CONSTRUCTION SITE RUNOFF
CONSTRUCTION SITE RUNOFF

Deficiencies by Period

DPP

- 2017 Q2: 200
- 2017 Q3: 470
- 2017 Q4: 400
- 2018 Q1: 470
- 2018 Q2: 100

Deficiencies by Period

DDC

- 2017 Q2: 135
- 2017 Q3: 100
- 2017 Q4: 90
- 2018 Q1: 60
- 2018 Q2: 15
CONSTRUCTION SITE RUNOFF

No change in BMPs with Deficiencies

3PI;
N= 1237;
20170202 to 20170923

3PI;
N=803;
20160202 to 20160923
CONSTRUCTION SITE RUNOFF

by Location Owner

LIN, GUANGSHENG & CAO, XIANMEI & LIN, CANG WEN
(TPR) OHEI LTD PROFIT SHARING RETIREMENT TRUST
Hauoli Lofts LLC
2604 Pacific Heights LLC
399 Kahului LLC
50TH State Investments, LLC
392 Investment LLC
98-201 Pupuole St LLC
A.S.N. Enterprises
Aaron Foi
ABLECUIENNE
Action Realty, GLACCS LLC
Agilplay Residences
AH LYN, YIM LLC
Ahuimanu Estates, LLC
Aina Nui Corporation

by Location Status

Active
Inactive

Deficiencies FYTD

Status
Closed
Open
Overdue
Total

Deficiencies
4003
674
21
4698

Open vs Overdue

Overdue 3.02%
Open 96.98%

by Deficiency Level

Minor
Major
Critical
NA
N/A

by Community

City
Honolulu
Kaneohe
Kapolei
Ewa Beach
Kailua
Total

Locations
429
72
71
65
59
939

Open Deficiencies by Date Reported

<table>
<thead>
<tr>
<th>id</th>
<th>name</th>
<th>address_street</th>
<th>address_city</th>
<th>bmp_name</th>
<th>VM</th>
<th>Status</th>
<th>deficiency_level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4352</td>
<td>Pearl City Corporation Yard Master Plan Improvements for DFM Road Maintenance, Phase I</td>
<td>952 3rd Street</td>
<td>Pearl City</td>
<td>WM-6 Hazardous Waste Management</td>
<td>2917-11</td>
<td>Closed</td>
<td>Minor</td>
</tr>
<tr>
<td>4328</td>
<td>Kaneohe / Kailua Sewer Tunnel</td>
<td>95 Kanohe Bay Dr</td>
<td>Kailua</td>
<td>WM-5 Solid Waste Management</td>
<td>2107-07</td>
<td>Closed</td>
<td>Minor</td>
</tr>
<tr>
<td>4600</td>
<td>Moanalua Hillside Apartments</td>
<td>1229 Al Kapuna St</td>
<td>Honolulu</td>
<td>WM-1 Material Delivery and Storage</td>
<td>2107-05</td>
<td>Closed</td>
<td>Minor</td>
</tr>
<tr>
<td>10194</td>
<td>Honolulu WWTP Locker Building Renovation</td>
<td>91-1000 Geiger Road</td>
<td>Ewa Beach</td>
<td>WM-5 Solid Waste Management</td>
<td>2019-01</td>
<td>Closed</td>
<td>Minor</td>
</tr>
<tr>
<td>7710</td>
<td>Ala Wai Golf Course Access Lot and Parking Lot Improvements</td>
<td>404 Kapahulu Avenue</td>
<td>Honolulu</td>
<td>WM-1 Material Delivery and Storage</td>
<td>2018-12</td>
<td>Closed</td>
<td>Minor</td>
</tr>
</tbody>
</table>
TMDL – STREET SWEEPING

Street Sweeping
- <all other values>
- Honolulu, 01
- Honolulu, 02
- Honolulu, 03
- Honolulu, 04
- Honolulu, 05
- Honolulu, 06
- Honolulu, 07
- Honolulu, 08
- Honolulu, 09
- Honolulu, 10
TMDL – STREET SWEEPING; % GREEN
TMDL – STREET SWEEPING; % TRASH
STREET SWEEPING; 5% TRASH
SURFACE STREET TRASH; HOT SPOT & HIGH
STREAM MONITORING
STREAM MONITORING
Nitrate+Nitrite as Nitrogen

Specific Criteria for STREAMS:
- Geometric Mean not to exceed the given value
  - Dry: 0.03
  - Wet: 0.07
- Not to exceed the given value more than 10% of the time
  - Dry: 0.09
  - Wet: 0.13
- Not to exceed the given value more than 2% of the time
  - Dry: 0.17
  - Wet: 0.30

Concentration (mg/L)

<table>
<thead>
<tr>
<th>Location</th>
<th>Dry</th>
<th>Wet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiakea Stream</td>
<td>0.074</td>
<td>0.066</td>
</tr>
<tr>
<td>Waihi Stream</td>
<td>0.076</td>
<td>0.122</td>
</tr>
<tr>
<td>Waakua St. Bridge</td>
<td>0.106</td>
<td>0.112</td>
</tr>
<tr>
<td>Kahaloa Dr. Bridge</td>
<td>0.114</td>
<td>0.167</td>
</tr>
<tr>
<td>Woodlawn Dr. Bridge</td>
<td>0.07</td>
<td>0.075</td>
</tr>
<tr>
<td>At Kanewai Field near USGS</td>
<td>0.17</td>
<td>0.145</td>
</tr>
<tr>
<td>Kapiolani Blvd. Bridge-kauma</td>
<td>1.034</td>
<td>1.201</td>
</tr>
<tr>
<td>End of Palolo Pl.</td>
<td>0.302</td>
<td>0.345</td>
</tr>
<tr>
<td>10th Ave. bridge</td>
<td>0.547</td>
<td>0.612</td>
</tr>
<tr>
<td>Kiwila St. Bridge</td>
<td>0.222</td>
<td>0.217</td>
</tr>
<tr>
<td>Chamina de Univ. Bridge</td>
<td>0.129</td>
<td>0.129</td>
</tr>
<tr>
<td>Koali Rd.</td>
<td>0.095</td>
<td>0.095</td>
</tr>
<tr>
<td>Near BWS Pump Sts.</td>
<td>0.056</td>
<td>0.056</td>
</tr>
<tr>
<td>Channel at Wilder St.</td>
<td>0.137</td>
<td>0.137</td>
</tr>
<tr>
<td>Near King St. and Kalakaua Ave.</td>
<td>0.137</td>
<td>0.137</td>
</tr>
</tbody>
</table>
Figure 3-3. A Graph of δ¹⁵N versus δ¹⁸O composition of different nitrate sources compared to the sample results.

*Modified From Kendall McDonnell (1998)*
Cityworks Update
Thursday; July 19, 2018

- Why Do It?
- Permit Requirements
- City Programs
- Adaptive Management
ADAPTIVE MANAGEMENT

PLAN
6 TO 7/2017

ISO 9001
ISO 14001
ISO 55000

REVISE
LESSONS LEARNED
5 TO 6/2018

IMPLEMENT
7/2017 TO 5/2018
ASSET MANAGEMENT

Incorporating Asset Management Planning Provisions into NPDES Permits
40 CFR 122.41(e) *Proper operation and maintenance*. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

The permittee shall develop an asset management plan ("AMP") in order to establish intended levels of service for their stormwater system consistent with the conditions of this permit. The AMP shall inventory and assess the condition of all critical hard and natural assets and evaluate costs required to achieve intended levels of service, linking those costs to funding sources.
USEPA’s 10 Step Asset Management Process Provides a Framework for Integrated Planning

END OF CY2018 IMPLEMENT CITYWORKS INSIGHTS AND BEGIN TO LEARN ABOUT THIS MODULE. AZTECA HAS ENDORSE ISO 55000 AND DEVELOPED INSIGHTS TO GENERALLY FOLLOW ISO 55000 GUIDELINES.
Adaptive Management

- Cityworks – Investigation/Enforcement Data
  - Construction Contractors
- CloudCompli – 3 Party Inspection Data
  - Construction Contractors with BMP Effectiveness < 50%

- Email Invitation to this Workshop
- Cityworks – Investigation/Enforcement Data
  - Collect contact information on Contractor; email
- CloudCompli – 3 Party Inspection Data
  - Collect contact information on Contractor; email
Adaptive Management

- Survey
  - Ask Contractors what topics do they need help in?

- Select topics based on survey results
- Invite industry speakers
- Provide hands on exercises
- Take post survey
Adaptive Management

- Cityworks – Investigation/Enforcement Data
  - Reason for Discharge??
- CloudCompli – 3 Party Inspection Data
  - Most frequent BMP deficiencies

- Web based “FREE” construction training
  - Adjust back end training to cover most frequent BMP deficiencies
- Individual contractor training sheets
  - Address the top 11 BMP deficiencies
  - Make available as a download in web-based training
Leveraging Existing Data Maximize Program Resources

9. The City has not leveraged its existing datasets to help assess program effectiveness or to inform program implementation. The City should evaluate its existing data and make or suggest programmatic changes in an effort maximize program resources.
Leveraging Existing Data
Maximize Program Resources

FY 17 - Kalihi Pollutants

- N/A: 39%
- Blank: 9%
- Washwater: 14%
- Wastewater: 8%
- Vehicle Fluids: 3%
- Swimming pool discharge: 0%
- Swimming pool backwash: 0%
- Sediment: 6%
- Paint: 0%
- Trash: 3%
- Unknown: 0%
- Food Waste: 3%
- Hazardous Material: 0%
- Green Waste: 3%
- Fertilizers or Herbicides: 0%
- Effluent discharge w/o a permit: 3%
- Construction Waste: 3%
- Animal Waste: 3%
Leveraging Existing Data
Maximize Program Resources

FY 17- Kalihi Action

- Blank: 3%
- NOO: 3%
- NOV: 37%
- LOW: 14%
- N/A: 43%
- IL: 0%
QUESTIONS?
WE ARE INTERESTED IN WHAT YOU WANT TO LEARN ABOUT!

The City is planning a Post Construction BMP workshop in 2019.

Please go to the website below to take the pre-survey.

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