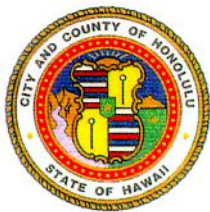


**Annual Compliance Report  
AOC Year 1: May 2017 to April 2018**

**National Pollutant Discharge Elimination System  
and Stormwater Reporting and Training Project  
Contract No. SC-DDC-1700031  
April 27, 2018**

**Prepared For:**



**The City and County of Honolulu  
Department of Design and Construction, and  
Department of Environmental Services,  
Division of Wastewater Engineering and Construction  
650 South King Street  
Honolulu, Hawaii 96813**

**Prepared By:**



**The Limtiaco Consulting Group  
Civil Engineering and Environmental Consultants  
1622 Kananui Street  
Honolulu, Hawaii 96817**



**Annual Compliance Report  
AOC Year 1: May 2017 to April 2018**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION  
SYSTEM AND STORMWATER REPORTING AND  
TRAINING PROJECT**

**Honolulu, Oahu, Hawaii**

**Prepared For:**

**City and County of Honolulu  
Department of Design and Construction  
and  
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Division of Wastewater Engineering and Construction  
650 South King Street  
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**April 27, 2018**

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**LIST OF ABBREVIATIONS**

<b><u>Abbreviation</u></b>	<b><u>Definition</u></b>
%	Percent
AOC	Administrative Order on Consent
BMPs	Best Management Practices
CD	Department of Design and Construction, Civil Division
CCH	City and County of Honolulu
DDC	City and County of Honolulu, Department of Design and Construction
DMRs	Discharge Monitoring Reports
DOH	State of Hawaii, Department of Health
ENV	City and County of Honolulu, Department of Environmental Services
MS4	Municipal Separate Storm Sewer System
NGPC	Notice of General Permit Coverage
NOC	Notice of Cessation
NPDES	National Pollutant Discharge Elimination System
PM	Project Manager
SoDN	Start of Dewatering Notification
SWPPP	Storm Water Pollution Prevention Plan
TLCG	The Limtiaco Consulting Group
WEC	Department of Environmental Services, Division of Wastewater Engineering and Construction

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## EXECUTIVE SUMMARY

The 1<sup>st</sup> Annual Compliance Report covers May 2017 through April 2018 and is being submitted as required by the Administrative Order on Consent (AOC) between the City and County of Honolulu (CCH), Department of Design and Construction (DDC) and the Department of Environmental Services (ENV), Division of Wastewater Engineering and Construction (WEC), and the Department of Health (DOH). The Annual Compliance Report has three objectives:

1. List and discuss incomplete and in-progress AOC action items;
2. Track the progress and compliance status of DDC and WEC projects with National Pollutant Discharge Elimination System (NPDES) construction dewatering permits; *and*
3. Summarize “lessons learned” to create feedback loops for future improvements to DDC and WEC’s compliance program.

In AOC Year 1, DDC and WEC paid the full penalty amount to DOH, contracted a third-party consultant (The Limtiaco Consulting Group) and completed an Internal Review. There were no incomplete activities or provisions required by the AOC.

Past projects with NPDES construction dewatering permits were examined to establish a compliance baseline and provide feedback on the effectiveness of program changes initiated by DDC and WEC in complying with the AOC. All active DDC and WEC projects, either in the design or construction phase, with NPDES construction dewatering permit coverage, were tracked for compliance status. Two projects at DDC and WEC had active NPDES construction dewatering permit coverage:

- WEC’s Kaneohe/Kailua Sewer Tunnel Project (permit no. HI0021853), *and*
- Civil Division’s (CD’s) Manoa Stream Tributary Retaining Wall (file no. HI14GE403).

The Kaneohe/Kailua Sewer Tunnel project was deemed compliant with the NPDES construction dewatering permit coverage. The Manoa Stream Tributary Retaining Wall project is in the process of being terminated and did not proceed into construction.

Three major program changes at DDC and WEC were implemented:

1. Investment in a compliance program;
2. Initiating Coordination with the CCH Municipal Separate Storm Sewer System (MS4) Program and Amongst the Divisions;
3. Engagement of staff and increasing awareness of regulatory requirements; *and*
4. Development of feedback loops and sharing of lessons learned through the Annual Compliance Report.

Overall, the compliance program at DDC and WEC is still in an early developmental phase, but the intention of all program changes is to develop a robust compliance program. DDC and WEC are currently completing a Gap Analysis Report and developing a Training Program, both of which will be documented and discussed in the 2<sup>nd</sup> Annual Compliance Report, covering May 2018 to April 2019.

## 1. INTRODUCTION

In April 2017, the CCH, DDC and ENV-WEC, and the DOH entered into an AOC. The intention of the AOC was to improve DDC and WEC's compliance with NPDES construction stormwater and construction dewatering permits.

The AOC prescribes five actions:

1. Contract a third-party consultant;
2. Conduct an Internal Review of DDC and WEC's existing compliance program;
3. Submit a Gap Analysis Report that summarizes weaknesses and prescribes recommendations;
4. Develop a Training Program aimed at further educating and developing a robust compliance program; *and*
5. Prepare an Annual Compliance Report for DDC and WEC's AOC progress and NPDES construction dewatering permit performance.

The AOC, effective on April 27, 2017, requires DDC and WEC to submit Annual Compliance Reports while the AOC is in effect until DOH terminates the AOC. DDC and WEC's obligations under the AOC terminates upon determination by DOH after written notification that DDC and WEC have fully complied with all the requirements of the AOC, no sooner than July 1, 2019.

The Annual Compliance Report has three objectives as required by the AOC:

1. List and discuss incomplete and in-progress AOC action items;
2. Track the progress and compliance status of DDC and WEC projects with NPDES construction dewatering permits; *and*
3. Summarize "lessons learned" to create feedback loops for future improvements to DDC and WEC's compliance program.

The Annual Compliance Report follows the anniversary of the effective date of the AOC. Thus, the 1<sup>st</sup> Annual Compliance Report covers May 2017 through April 2018, which will be hereafter considered AOC Year 1.<sup>1</sup>

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<sup>1</sup> The 2<sup>nd</sup> Annual Compliance Report will cover May 2018 through April 2019, AOC Year 2. If necessary, subsequent Annual Compliance Reports will cover corresponding AOC Years, until termination of the AOC by DOH.

## 1.1. Annual Compliance Report Checklist

Table 1-1 shows the requirements of the Annual Compliance Report and the pages/sections in which those requirements are discussed.

Table 1-1. AOC and Annual Compliance Report checklist

Required Conditions	AOC Reference	Annual Compliance Report Section and Page Number
<ol style="list-style-type: none"> <li>1. Prepare an Annual AOC Compliance Report and submit to DOH-CWB</li> <li>2. Summary of inspections conducted pursuant to this AOC</li> <li>3. The number of reported unreported non-compliances with NPDES construction dewatering permits</li> <li>4. Report on the compliance status of DDC and WEC construction projects with NPDES construction dewatering permit</li> </ol>	V.47.a	<ul style="list-style-type: none"> <li>• Section 4, page 4-1</li> </ul>
<ol style="list-style-type: none"> <li>5. Summary of program changes made as a result of "lessons learned" or as a result of the feedback loop associated with the improved compliance program by this AOC</li> <li>6. Detailed discussion if no changes were made during the year</li> </ol>	V.47.b	<ul style="list-style-type: none"> <li>• Section 4, page 4-1</li> <li>• Section 5, page 5-1</li> </ul>
<ol style="list-style-type: none"> <li>7. Document incomplete activities or provisions required by this AOC, which were actionable during the previous year</li> <li>8. Itemized list of in-progress or upcoming requirements</li> <li>9. Detailed discussion pertaining to incomplete activities or provisions</li> </ol>	V.47.c	<ul style="list-style-type: none"> <li>• Section 2.2, page 2-2</li> <li>• Section 2.3, page 2-2</li> </ul>

## **2. ACHIEVEMENT OF AOC REQUIREMENTS IN AOC YEAR 1**

Documented are activities and provisions required by the AOC and actionable during AOC Year 1. Completed, in-progress, and incomplete activities are itemized and discussed in Section 2.1, Section 2.2, and Section 2.3, respectively. Table 2-1 details the AOC requirements and status updates.

In AOC Year 1, DDC and WEC paid the full penalty amount to DOH, contracted a third-party consultant (The Limtiaco Consulting Group), completed an Internal Review, and submitted an Annual Compliance Report. There were no incomplete activities or provisions required by the AOC.

The Gap Analysis Report and Training Program will be developed and completed in AOC Year 2 and will be documented and discussed in the 2<sup>nd</sup> Annual Compliance Report.

### **2.1. Completed AOC Requirements**

To fully illustrate DDC and WEC's actions in complying with the requirements of the AOC, a summary of the completed AOC requirements is included below.

#### **2.1.1. Requirement 1: Contract a Third-Party Consultant**

On January 16, 2017, DDC and WEC contracted a third-party consultant, The Limtiaco Consulting Group (TLCG). TLCG assisted with the AOC actions through the "NPDES and Stormwater Reporting and Training" project.

#### **2.1.2. Requirement 2: Penalty Payment**

On June 21, 2017, the total amount of the monetary penalty of one-hundred-and-forty-thousand dollars (\$140,000.00) was paid to DOH-CWB.

#### **2.1.3. Requirement 3: Conduct an Internal Review of DDC and WEC's Compliance Program**

The third-party consultant, TLCG, performed an Internal Review of existing processes and procedures. The Internal Review gathered information through an online survey, group presentations, one-on-one staff interviews, and document reviews. The processes that support a "robust compliance program" were investigated and gaps, deficiencies and weaknesses that could result in NPDES non-compliance were identified and presented in a Gap Analysis Report.

## **2.2. In-Progress AOC Requirements**

The third-party consultant, TLCCG, is assisting DDC and WEC in completing the Gap Analysis Report and developing the Training Program.

### **2.2.1. Requirement 4: Submit a Gap Analysis Report That Summarizes Weaknesses and Prescribes Recommendations**

The Gap Analysis Report is being prepared to recommend corrective actions for each identified gap, deficiency and weakness found during the Internal Review.

From December 2017 through February 2018, a 60% and subsequent 90% Draft Gap Analysis Report was prepared and reviewed by DDC and WEC. Comments were addressed and adjustments were made.

The Final Gap Analysis Report must be submitted to DOH for a technical review on June 4, 2018, after which DDC and WEC has 60 days to address all comments and submit a revised Gap Analysis Report, unless both parties agree to an extension of time.

The 2<sup>nd</sup> Annual Compliance Report covering May 2018 to April 2019 will include additional information from the Gap Analysis Report, such as program changes prompted by the Gap Analysis Report.

### **2.2.2. Requirement 5: Develop a Training Program Aimed at Further Educating and Developing a Robust Compliance Program**

From February to March 2018, a 60% Draft Training Program Plan was developed and reviewed by DDC and WEC.

The primary goal of the Training Program will be to decrease the deficiencies and weaknesses that potentiate NPDES non-compliance while supporting a “robust compliance program.”

The Final Training Program Plan will be submitted to DOH within 120 days of finalizing Gap Analysis Report. The 2<sup>nd</sup> Annual Compliance Report covering May 2018 to April 2019 will include additional information from the Training Program, such as a summary of training sessions conducted.

## **2.3. Incomplete AOC Requirements**

There are no incomplete activities or provisions required by the AOC for Year 1.

Table 2-1. AOC requirements and status updates including an itemized list of in-progress requirements.

AOC Requirement	AOC Conditions	AOC Reference	Status Update	AOC Due Date
I. Contract a Third-Party Consultant	1. The City shall contract a third-party firm (e.g. environmental planning/engineering firm) to conduct an Internal Review of the City's NPDES construction dewatering permit processes.	V.36	Completed (January 16, 2017)	April 1, 2017
II. Penalty Payment	1. The City shall pay a monetary penalty of one hundred and forty thousand dollars (\$140,000.00).	V.49	Completed (June 21, 2017)	June 26, 2017
III. Internal Review	1. Review DDC and WEC's processes and procedures to ensure NPDES Compliance, such as: <ul style="list-style-type: none"> <li>• Scoping for permits</li> <li>• Budgets for permit compliance</li> <li>• Sets qualifications for construction/project management services</li> <li>• Reviews water pollution prevention best management practices (BMP) designs</li> <li>• Obligates methods used to comply with NPDES construction dewatering permits</li> <li>• Ensures environmental compliance from contractors to contracted professional services</li> <li>• Completes internal compliance feedback loops to "learn from mistakes"</li> <li>• Analysis of design consultant contract language and standard specifications</li> <li>• Identify any contractual language or specifications that are barriers to permit compliance</li> </ul>	V.36/ V.39.a	Complete	Included in Gap Analysis Report, Gap Analysis Draft Report Due June 4, 2018
IV. Gap Analysis and Report	1. Identify gaps and weaknesses in DDC and WEC's compliance processes, such as: <ul style="list-style-type: none"> <li>• Lack of standard practice between divisions, units, and sections</li> <li>• Lack of oversight or record keeping</li> <li>• Lack of staff training</li> <li>• Incomplete assignment of internal roles and responsibilities</li> <li>• Missing necessary standard specifications in:                             <ul style="list-style-type: none"> <li>○ Design contracts</li> <li>○ Bid documents</li> <li>○ Construction contracts</li> <li>○ Plan design</li> <li>○ Internal feedback and communication</li> </ul> </li> </ul>	V.39.a	In-Progress	Gap Analysis Draft Report Due June 4, 2018
	2. Prescribe corrective actions to address deficiencies and weaknesses that could potentially lead to NPDES non-compliance: <ul style="list-style-type: none"> <li>• Include implementation schedules</li> </ul>	V.39.c		
	3. Provide detailed NPDES construction dewatering permit compliance procedures, such as the following: <ul style="list-style-type: none"> <li>• Standard Operating Procedures</li> <li>• Design review flow charts and checklists for consistent practices</li> <li>• Ensure that the above are approved by divisions to ensure usefulness</li> </ul>	V.39.d		
	4. Provide templates and documents necessary to implement a robust compliance program: <ul style="list-style-type: none"> <li>• Self-inspection report templates</li> <li>• Non-compliance reporting forms</li> <li>• Flow charts</li> <li>• Project evaluations</li> </ul>	V.39.e		
	5. Detail how DDC and WEC will create a "feedback loop" to modify and improve future design, bid, and construction processes to prevent re-encountering problems and repeating mistakes. Feedback loop shall include: <ul style="list-style-type: none"> <li>• Root cause analyses for permit compliance problems encountered during the construction process</li> <li>• Constructability or compliance issues found and addressed during the construction phase will be provided to the design sections to be used as the basis to improve future designs and processes.</li> </ul>	V.39.f		
	6. Provide detailed NPDES construction dewatering permit compliance procedures, such as the following: <ul style="list-style-type: none"> <li>• Standard Operating Procedures</li> <li>• Design review flow charts and checklists for consistent practices</li> <li>• Ensure that the above are approved by divisions to ensure usefulness</li> </ul>	V.39.d		
V. Training Program	1. Dewatering compliance Training Program	V.42.a	In-Progress	Due within 120 days of finalizing Gap Analysis Report
	2. Develop and submit to DOH within 120 days of finalizing Internal Review and Gap Analysis Report: <ul style="list-style-type: none"> <li>• Establish an annual Training Program</li> <li>• Continuing education for DDC personnel involved in preparation, management, or supervision of construction projects that include NPDES construction dewatering permits</li> <li>• Must address results from the Internal Review</li> <li>• Address any workflow changes or standardization of practices resulting from the Internal Review</li> <li>• Provide information on specific roles and responsibilities</li> <li>• Provide multiple case studies on NPDES construction dewatering compliance</li> <li>• Shall include:                             <ul style="list-style-type: none"> <li>○ General NPDES construction dewatering training;</li> <li>○ Resolution of dewatering problems;</li> <li>○ Mitigation structures, pollution prevention devices, treatment equipment;</li> <li>○ Compliance methods;</li> <li>○ BMPs;</li> <li>○ Developing required management plans;</li> <li>○ Developing protocols for non-compliance reporting.</li> </ul> </li> </ul>	V.42.b		
	3. Submit to DOH a personnel list of specific positions to be trained	V.43		
	4. Schedule all new DDC and WEC employees to attend first available session	V.44		
	5. Track all DDC and WEC personnel required to take the training in an electronic database <ul style="list-style-type: none"> <li>• Can be included in 2<sup>nd</sup> Annual Compliance Report</li> </ul>	V.45		
	6. Invite DOH-CWB to training sessions	V.46		

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### **3. COMPLIANCE STATUS FOR PROJECTS WITH NPDES CONSTRUCTION DEWATERING PERMITS FROM DECEMBER 2013 TO MAY 2017**

For this first Annual Compliance Report, past projects with NPDES construction dewatering permits were examined to establish a compliance baseline. The compliance baseline allows for comparison between past and future compliance performance, providing feedback on the effectiveness of program changes initiated by DDC and WEC in complying with the AOC. Additionally, an examination of past projects provides insights into the factors that potentiated non-compliances.

#### **3.1. Evaluating the Compliance Status of Past Projects with NPDES Construction Dewatering Permits**

The timeframe for evaluating completed projects with NPDES construction dewatering permits spanned December 2013 through April 2017. This time period was chosen to coincide with the most recent NPDES Construction Dewatering General Permit, which became effective on December 2013 and expired in December 2016. As such, permit conditions were consistent throughout the examined timeframe. The examined timeframe ended on April 2017, when the AOC became effective.

The evaluation process involved a document review and discussions with DDC and WEC design and construction project managers (PMs). The evaluation process is shown in Figure 3-1.

During the document review, the DOH Water Pollution Control Viewer was used to gather permit information and review submittals required by NPDES construction dewatering permits:

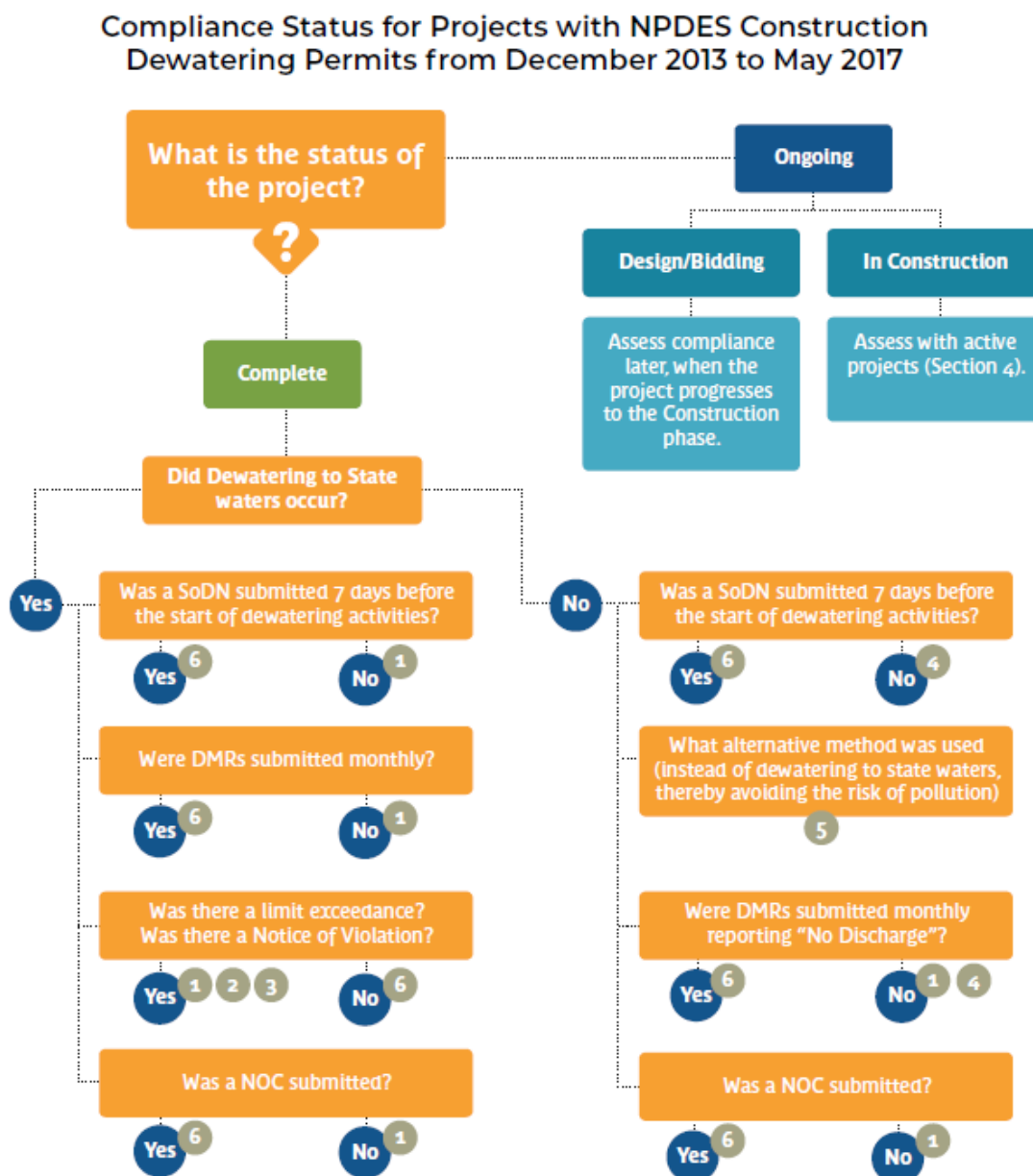
- Permit Number,
- Issuance and expiration date,
- Start of Dewatering Notification (SoDN),
- Discharge Monitoring Reports (DMRs), *and*
- Notice of Cessation (NOC).

The document review was supplemented by discussions with DDC and WEC design and construction PMs, who provided answers to the following questions:

- What is the status of the project?
- Was dewatering effluent discharged to State waters?
- Did dewatering activities occur? *and*
- What type of dewatering activities?

The evaluation results were compiled and shown in Table 3-1. The data in Table 3-1 was evaluated to forecast compliance problems and gather lessons learned, termed “insights” and discussed further in Section 3.2.

Figure 3-1. The evaluation process of past projects and the insights gained regarding NPDES construction dewatering compliance



- INSIGHTS**
- 1 Lack of awareness of NPDES requirements.
  - 2 Inadequate supervision of dewatering system operation and maintenance.
  - 3 Permit limits are difficult to meet.
  - 4 Permit requirements are ambiguous. Work with DOH to clarify when SoDN and DMRs shall be submitted.
  - 5 Alternatives to dewatering—protecting State waters.
  - 6 Awareness of NPDES requirements.

Table 3-1. Post-completion compliance indicators for projects with NPDES construction dewatering permit coverage from December 2013 to April 2017

Project Title	Division	Permit Number	Permit Type	Issue Date	Expiration Date	Start of Dewatering Notification	Discharge of Effluent to State Waters	Discharge Monitoring Reports	Notice of Cessation	Terminated Date	Notification of Violation Order	Insight
Kahaluu Debris Basin Emergency Repairs	CD	HI0021861	Individual	12/17/2013	12/16/2018	Yes	Yes	Yes	Yes	1/5/2015	Yes	1 2 3 6
91-555 Pupu Street Drainage Outfall Improvements Project	CD	HI11GE045	General	12/9/2013	12/5/2016	N/A	No	No	Yes	1/14/2014	No	4 5 6
91-627 Pupu Street Drainage Outfall Improvements Project	CD	HI11GE046	General	12/9/2013	12/5/2016	N/A	No	No	Yes	1/14/2014	No	4 5 6
Hanapepe Loop Drain Outfall Improvements	CD	HI11GE022	General	12/9/2013	12/5/2016	N/A	No	No	Yes	4/13/2018	No	1 4 5 6
Ulehawa Stream Flood Control Improvements	CD	HI11GE001	General	12/9/2013	12/5/2016	N/A	No	No	Yes	4/13/2018	No	1 4 5 6
Mali Stream Flood Control Improvements	CD	HI11GE002	General	12/9/2013	12/5/2016	Yes	No	No	Yes	4/13/2018	No	2 3 6
Reconstruction of Bandstand/ Shell Parking Lot and Related Site Improvements at Kapiolani Regional Park	FD	HI12GE244	General	12/9/2013	12/5/2016	Yes	No	No	Yes	1/2/2018	No	4 5 6
Waimalu Wastewater Pump Station Force Main and Waiau Area Sewer Rehabilitation/ Reconstruction, Phase 2	WEC	HI14GE434	General	8/5/2014	12/5/2016	N/A	No	No	N/A	Expired	No	1 4 5 6

\*N/A denotes a submittal that was not applicable to the project. Permit requirements for SoDNs and DMRs were ambiguous, which necessitate revisions to the NPDES construction dewatering permit. Please refer to Section 3.2.4 Insight 4: Ambiguous Permit Submittal Requirements.

### **3.2. Insights and Implementable Improvements**

The following insights were gained while evaluating past projects with NPDES construction dewatering permits.

Insights 1 through 4 discuss factors that potentiate non-compliance while Insights 5 and 6 discuss factors that support a “robust compliance program.” These insights provide a baseline of dewatering awareness and compliance to which future DDC and WEC projects can be compared. The insights will also assist in determining future NPDES construction dewatering permit compliance efforts.

#### **3.2.1. Insight 1: Lack of Awareness of NPDES Requirements**

- Required SoDNs, NOCs, and DMRs were not always submitted for projects at DDC and WEC.
- DDC and WEC staff were not fully aware of all submittal requirements.

#### **3.2.2. Insight 2: Inadequate Supervision of Dewatering System Operation and Maintenance**

- Dewatering design needs are difficult to forecast, especially the actual pollutant load and volume of water to be treated.
- Dewatering requires significant monitoring, sampling, adjusting, and reporting. Active supervision is required, otherwise there will be an increased probability that a project will fail to meet regulatory requirements and discharge polluted effluent.
- DDC and WEC must clearly define roles and responsibilities with personnel designated to perform each task.
- DDC and WEC must develop a protocol for immediate notification, response, and conference with DOH during emergency situations, such as when permit limits are exceeded or when non-compliance is anticipated.

#### **3.2.3. Insight 3: Permit Limits are Incompatible for Construction Dewatering Activities**

- Permit limits based on water quality standards are stringent and may be infeasible to meet.
- Cost-effective dewatering systems cannot realistically treat the dewatering effluent to the permit limit requirements.
- Dewatering systems are just one part of a construction project yet require the attention and effort of a water treatment facility.
- By working with DOH, NPDES construction dewatering permits could be updated to include more reasonable water quality and permit limits.

**3.2.4. Insight 4: Ambiguous Permit Submittal Requirements**

- Permittees are required to submit a SoDN when dewatering activities begin. However, the permit must distinguish the difference between dewatering activities and those that discharge to State waters. Dewatering activities do not always discharge to State waters.
- DMRs do not have an explicit start date.
- The permit does not consider projects that never exercise the permit.
- For example, due to the time involved with obtaining a permit, and to avoid costly construction delays, the permit is sometimes obtained as a back-up disposal alternative but may never actually discharge dewatering effluent. This creates a problem because the permit could be active with DOH reporting requirements while there is no dewatering effluent discharge activity to report.
- Although dewatering activities never occurred, or dewatering effluent was never discharged to State waters, a lack of submittals can be misperceived as an attempt to hide a violation.
- Proper documentation is necessary to prove compliance and improve future performance. However, the permit requirements must be clear, consistent, and easy for permittees to comply with.
- By working with DOH, NPDES construction dewatering permits should be revised to clarify the aforementioned ambiguous requirements.

**3.2.5. Insight 5: DDC and WEC Implement Alternative Methods to Dewatering to State Waters**

- Projects are finding more protective methods, such as trench-to-trench disposal (infiltration in basins or on land) and avoiding dewatering altogether.

**3.2.6. Insight 6: Awareness of NPDES Requirements at DDC and WEC**

- DDC and WEC staff recognized the risk of discharging to State waters. Ultimately DDC and WEC staff avoided discharging to State waters.
- NPDES construction dewatering permits were obtained as a contingency plan. DDC and WEC staff implemented dewatering methods that protected State waters.
- DMRs were not submitted due to a misinterpretation of the permit requirement. DDC and WEC staff believed that if there is no discharge to State waters, then DMRs are not needed.

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#### **4. COMPLIANCE STATUS FOR DEWATERING PROJECTS ACTIVE DURING AOC YEAR 1**

The AOC was signed on April 27, 2017, effectively defining AOC Year 1 from May 2017 to April 2018. During this time period, all active DDC and WEC projects, either in the design or construction phase, with NPDES construction dewatering permit coverage, were tracked for compliance status.

Two projects at DDC and WEC had active NPDES construction dewatering permit coverage:

- WEC's Kaneohe/Kailua Sewer Tunnel Project (permit no. HI0021853), and
- CD's Manoa Stream Tributary Retaining Wall (file no. HI14GE403).

The projects are discussed below in Sections 4.1 and 4.2, respectively.

##### **4.1. Permit No. HI0021853 – CCH Kaneohe/Kailua Sewer Tunnel Project**

During AOC Year 1, the Kaneohe/Kailua Sewer Tunnel project was deemed compliant with the NPDES construction dewatering permit coverage.

See Appendix A for the attached *NPDES Construction Dewatering Monthly Review* and *Dewatering Compliance Evaluation Report*. Note: both documents were developed to meet the AOC requirements and were completed by a Third-Party Consultant, TLCG.

##### **4.2. File No. HI14GE403 – Manoa Stream Tributary Retaining Wall**

The Manoa Stream Tributary Retaining Wall project has NPDES Construction Dewatering General Permit coverage under Notice of General Permit Coverage (NGPC), file no. HI14GE403.

The Site-Specific Dewatering BMP Plan, submitted on October 23, 2017, is in compliance with NGPC Condition 1<sup>2</sup>. However, the project is in the process of being terminated. A compliance status for the NPDES Dewatering General Permit is not applicable.

Following is a review of the issues related to the dewatering portion of the project:

##### *1. Inexperienced contractor*

- Although explicitly required in the contract documents, the contractor did not have in-water work experience and knowledge of permit conditions and requirements, specifically the DOH NPDES construction dewatering permit,

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<sup>2</sup> The NGPC, Condition 1, requires that a Site-Specific Dewatering BMP Plan is submitted to DOH at least 30 days prior to the start of dewatering discharges.

the DOH 401 Water Quality Certification Permit, and the Department of Army Section 404 Permit.

- The contractor neglected the advice of CD staff and did not hire an environmental consultant, who could have assisted, advised, and supervised compliance of environmental permits.

## 2. *Difficulty meeting permit requirements*

- The contractor previously intended to test dewatering effluent in the stream after discharge. CD required the contractor to test the dewatering effluent prior to discharge, as required by the permit.  
(Note: an intermittent discharge required one test sample per discharge.)
- Test samples were required to be sent to a laboratory. Laboratory results had an expected turnaround time of 24 hours.  
(Note: this resulted in a 24-hour holding period to allow the dewatered effluent to be treated and tested before discharging to the stream.)
- The anticipated quantity of dewatering effluent exceeded the capacity of the contractor's proposed dewatering system.
- The contractor adjusted the dewatering procedures to meet the testing and holding requirements. Ultimately the contractor chose to use water trucks to collect the effluent from the dewatering system. The effluent would be used as irrigation water at an approved site.

## 3. *Expired environmental permits*

- The project was delayed and could not be completed before the 404 NWP and 401 WQC permits expired.  
(Note: Due to the delay in starting the project, new permits would have had to be applied for and obtained.)

These issues reflect the insights discussed in Section 3.2. Overall, there was an awareness of NPDES construction dewatering requirements. CD staff, as the permittee and Duly Authorized Representative, guided the contractor towards alternative dewatering disposal methods.

Regardless, NPDES construction dewatering requirements were an issue that complicated the execution of the project.



## **5. SUMMARY OF PROGRAM CHANGES**

The AOC requires a summary of program changes made as a result of “lessons learned” or feedback loops associated with the improved compliance procedures, pursuant to completing the AOC requirements. During AOC Year 1, three major program changes at DDC and WEC were implemented:

1. Investment in a compliance program;
2. Initiating Coordination with the MS4 Program and Amongst the Divisions;
3. Engagement of staff and increasing awareness of regulatory requirements;  
*and*
4. Development of feedback loops and sharing of lessons learned through the Annual Compliance Report.

The program changes primarily consist of executing the AOC requirements and further developing a compliance program. Overall, the compliance program at DDC and WEC is still in an early developmental phase, but the intention of program changes is to develop a robust compliance program at DDC and WEC.

### **5.1. Program Change 1: Investing in a Compliance Program**

The AOC was identified as an opportunity to improve the compliance program and, ultimately, protect the environment.

The AOC obligated DDC and WEC to improve their compliance efforts only with regard to NPDES construction dewatering permits. However, DDC and WEC expanded the AOC requirements to include the additional regulations:

- NPDES construction stormwater permits,
- The City’s Rules Relating to Water Quality, *and*
- The City’s MS4 Program.

DDC and WEC successfully executed the “NPDES and Stormwater Reporting and Training” project. Efforts to improve compliance at DDC and WEC were coordinated. And staff time was committed to increasing compliance efforts.

### **5.2. Program Change 2: Initiating Coordination with the MS4 Program and Amongst the Divisions**

The “NPDES and Stormwater Reporting and Training” project began coordinating concurrent compliance efforts led by the City’s MS4 Program and DDC-CD. The MS4 Program and DDC-CD have implemented effective resources and processes/procedures, which will be distributed to the divisions. This coordination will share lessons learned and create consistency between the divisions and the MS4 program. The divisions will not have to waste time and resources on redundant efforts. Rather the divisions can immediately adopt effective solutions and agilely adapt through continual improvement.

### **5.3. Program Change 3: Engaging Staff and Increasing Awareness of Regulatory Requirements**

Amongst the staff and leadership at DDC and WEC, there is an overwhelming desire to protect the environment by complying with construction dewatering and construction stormwater regulations. There are knowledgeable experts at DDC and WEC who are aware of and comply with regulatory requirements. Yet, many staff are still confused or lacked confidence when working with regulatory requirements.

Within AOC Year 1, there was an increase of awareness regarding regulatory requirements, especially with regard to the construction stormwater regulations. The increased awareness was a result of DDC-CD Environmental Consultant, the City's MS4 Construction Runoff Control Program, and the AOC Internal Review.

The Internal Review had a high average participation rate of 83% for the divisions at DDC and WEC. The Internal Review focused on DDC and WEC staff who perform work tasks that influence NPDES construction stormwater and construction dewatering permit compliance, namely personnel who are involved in the preparation, execution, and/or evaluation of a permit requirement: design and construction PMs, and construction inspectors.

Heightened awareness of regulatory requirements was promoted by engaging DDC and WEC staff through a series of presentations, discussions, and one on one interviews. The following staff were engaged through the "NPDES and Stormwater Reporting and Training Project":

- DDC leadership (includes Director and Administration Staff);
- Division leadership (Chief, Assistant Chief, and Branch/Section Heads);
- Branches or Sections; *and*
- Individual division staff.

Awareness of regulatory requirements will only continue to grow in AOC Year 2 with the implementation of the corrective actions prescribed in the Gap Analysis Report and the supporting Training Program.

### **5.4. Program Change 4: Developing Feedback Loops and Sharing Lessons Learned through the Annual Compliance Report**

The Annual Compliance Report itself is a feedback loop that tracks and reports on the progress of NPDES construction dewatering permits at DDC and WEC. The compliance status of past and present projects with NPDES construction dewatering permits will be evaluated, and insights, or "lessons learned" will be incorporated into the compliance program to increase compliance for future projects

**Appendix A. Permit No. HI0021853 CCH Kaneohe/Kailua Sewer Tunnel Project**

- *NPDES Construction Dewatering Monthly Review* (pg. A-3), and
- *Dewatering Compliance Evaluation Report* (pg. A-5).

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### NPDES Construction Dewatering Monthly Review

**Project Info**

Project: *Kaneohe Kailua Sewer Tunnel Project* Date: *2/01/18*  
 Name of Reviewer: *Jamie Tanimoto, Codee Samala-Passos (The Limtiaco Consulting Group)*  
 NPDES Construction Dewatering Permit/NGPC: *HI0021853* Month Reviewed: *December*  
 No Discharges were made to state waters in the review month

**Paperwork On-Site**

- Dewatering System Plan                       Dewatering System Maintenance Plan
- BMP Plan or SWPPP                               NPDES Construction Dewatering NGPC/Permit
- Discharge Monitoring Reports               NPDES Construction Stormwater NGPC/Permit
- Monitoring Lab Results                       Chains of Custody

**Observing Effluent at the Outfall(s)**

Outfall #'s      Location of observation(s)  
 If outfall not accessible, find a place to check effluent after all treatment and closest to  
 Outfall  
*N/A, See comments below*

Visual Observations  
 Note color of effluent, if turbid or clear, if any dirt/solids, foam, sheen, oily, algae present. Also note if any erosion or problems occurring at outfall.  
*N/A, See comments below*

**Comments**

*Outfall 001 was not observed, as dewatering effluent was being routed to the Kailua Regional WWTP and not the outfall*  
*Outfall 002 was not observed, as it was decommissioned in September 2017*

**Dewatering Effluent Monitoring**

List any parameters whose measured level exceeded its permit limit  
 Include parameter, measured level vs. permit limit

*No parameters were measured in exceedance, as all dewatering effluent was routed to Kailua WWTP, and not being discharged through the NPDES permitted outfall. DMR has not yet been submitted to DOH and is late.*

Was DOH notified of limit exceedance?	<del>Y</del> / <del>N</del>	Date of notification:	n/a
Was it within 24 hrs. of becoming aware?	<del>Y</del> / <del>N</del>	DOH person spoken to:	n/a
Was written report submitted?	<del>Y</del> / <del>N</del>	Was it on time?	<del>Y</del> / <del>N</del>

**Additional Comments**

*See attached report, AOC Dewatering Project Compliance Evaluation Report*

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**Administrative Order on Consent, Docket No. 2015-CW-EO-57****Dewatering Compliance Evaluation Report**

This Compliance Evaluation (CE) was performed in accordance with requirements of the Administrative Order on Consent (AOC) between the State of Hawaii, Department of Health (DOH), the City and County of Honolulu (City), Department of Design and Construction (DDC), and the City Department of Environmental Services (ENV), Division of Wastewater Engineering and Construction (WEC).

The purpose of the CE is to examine the DDC or WEC project's compliance with its National Pollutant Discharge Elimination System (NPDES) construction dewatering permit over the course of the AOC year (April 27, 2017 – April 26, 2018). The CE does not examine compliance before the AOC year began.

Project: *Kaneohe Kailua Sewer Tunnel Project (Project)*  
*WEC*

Division:

NPDES Permit: *HI0021853*

Issuance - Expiration Dates: *8/12/13 – 8/11/18*

Date of Inspection: *2/1/18*

Inspectors: *Jamie Tanimoto, Codee Samala-Passos of The Limtiaco Consulting Group (TLCG), DDC and WEC Consultants*

Facility Representative: *Stuart Ujimori, Construction Project Manager (PM), WEC*

**Background Information**

*The purpose of the Project is to construct a deep sewer tunnel servicing Kailua and Kaneohe, Oahu, Hawaii. The 3-mile long, 13-foot diameter tunnel extends from the Kaneohe Partial Treatment Facility (KPTF) to the Kailua Regional Wastewater Treatment Plant (KRWWTP). Construction activities related to the Project include drilling and constructing the tunnel, building facilities to connect existing incoming sewer lines to the tunnel, building an influent pump station to get wastewater from the tunnel to KRWWTP, constructing a tunnel access shaft, and installation of related structures and appurtenances. The Project has sites at both ends of the tunnel, at KPTF and KRWWTP, and where the tunnel access shaft is being constructed.*

*The amount of ground water and process water released during tunnel drilling activities varied with ground water conditions during the course of the project, however the Project handled peak ground water flows up to two (2) million gallons per day. Both the KPTF and KRWWTP sites had dewatering treatment systems that treated the tunnel water before disposal.*

*The Project has a National Pollutant Discharge Elimination System (NPDES) permit, Permit HI0021853, to discharge dewatering effluent associated with the construction of the tunnel to Kawa Stream (at Discharge Point 1) and Nuupia Pond (at Discharge Point 2). However, after realizing the dewatering effluent was not meeting permit limits, WEC explored alternate disposal options. The Project obtained approval from ENV to discharge the dewatering effluent to KRWWTP. WEC also had permission from the neighboring Marine Corps Base Hawaii (MCBH) at to irrigate a dry, vegetated area with the treated dewatering effluent from the tunnel's KRWWTP site.*

*The Project ceased all discharges to state waters by May 2015, and discharged to KRWWTP instead. The Project discharged treated dewatering effluent to the vegetated area at MCBH on six occasions for approximately two (2) hours at a time, when construction activities required the discharge valve to KRWWTP to be temporarily closed.*

The treatment process documented in the Project’s Water Treatment Plan included the following steps.

1. Solids removal utilizing two (2) existing digester tanks awaiting demolition
  - a. Digester No. 2 (207,000 gallons capacity) for settling – 138 min. detention time for peak flow of 1,500 gpm
  - b. Digester No. 1 (235,000 gallons) – additional 156 min. detention time at peak flow rate
2. pH neutralization in Digester 1 (pH sensors at influent and effluent lines of the tank) with 30% HCl, controlled by a Hach SC200 controller to initiate acid feed at 8.0 Standard Units (SU) (Limit range is 5.5 – 8.0 SU)
  - a. Recirculation of effluent will be triggered when outlet pH is detected at 8.5 SU.
3. Multimedia Filtration through manufacturer-specified layering of media
  - a. Backwash water to be recirculated back at Digester No. 2 or into the sanitary sewer in accordance with sewer discharge permit
4. Metals reduction to be updated to incorporate additional information as required
5. Bacteria, Nitrogen, and Phosphorous reduction through previous treatment units, like acid addition and solids removal; possible use of a cationic ion exchange medium (resin or clinoptilolite)

TLCG met with S. Ujimori, WEC PM, at the Project site to discuss the Project’s dewatering activities. During the CE, S. Ujimori stated that the Project has not discharged dewatering effluent to Kawa Stream or Nuupia Pond since May 2015 after receiving permission to discharge to KRWWTP. Drilling of the tunnel was complete, and pipe installation and grouting in the tunnel were ongoing. The dewatering system at KPTF and Discharge Point 1 at Kawa Stream had been decommissioned since September 2017. Approximately 50 gallons per minute of untreated residual water is still being discharged into the Kailua Kaneohe Force Main at KPTF. The discharge outfall at KRWWTP was recently removed.

**OVERALL STATUS OF NPDES CONSTRUCTION DEWATERING PERMIT COMPLIANCE**  
GOOD

The status of NPDES construction dewatering permit compliance was determined by evaluating the following categories of permit requirements. The criteria for compliant and non-compliant categories are described below.

Overall Score:

Poor: 0 – 14

Fair: 15 – 20

Good: 21 – 25

Category Scores:

Scores are based on how the project performed on the criteria evaluated below.

Categories that involve direct threat to water quality have higher score potential.

Category:	1	2	3	4	5	6	Total
	1 / 2	3 / 4	3 / 4	5 / 5	5 / 5	5 / 5	22 / 25



**Category 1: Initial Submittals and Reports** (Applicable only in first year of evaluation)

Score (2): 1

Reason for Score: *Plans were submitted in the form of the Water Treatment Plan; however the plan was submitted just five days before the start of dewatering activities, rather than the required 30.*

The following documents were submitted before dewatering activities began:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Notice of the Start of Dewatering Activities |  |
| <input checked="" type="checkbox"/> General Contractor Info                      | <input checked="" type="checkbox"/> Dewatering System Plan             |
| <input type="checkbox"/> BMP Plan or SWPPP                                       | <input checked="" type="checkbox"/> Dewatering System Maintenance Plan |

Any other items required by permit conditions:

- Dewatering and Treatment facilities designer info

**Category 2: Documents - Adequacy + Availability On-Site**

Score (4): 3

Reason for Score: *Some details of the Water Treatment Plan did not meet permit requirements.*

The following documents were available on site as required by the NPDES permit:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Dewatering System Plan       | <input checked="" type="checkbox"/> Dewatering System Maintenance Plan        |
| <input checked="" type="checkbox"/> BMP Plan or SWPPP            | <input checked="" type="checkbox"/> NPDES Construction Dewatering NGPC/Permit |
| <input checked="" type="checkbox"/> Discharge Monitoring Reports | <input checked="" type="checkbox"/> NPDES Construction Stormwater NGPC/Permit |
| <input checked="" type="checkbox"/> Monitoring Lab Results       | <input checked="" type="checkbox"/> Chains of Custody                         |

Do the plans listed above meet the requirements of the permit?

*The Water Treatment Plan contained dewatering system and maintenance information. The Water Treatment Plan had some inadequacies, but because the dewatering effluent was treated and discharged to KRWWTWP, those inadequacies did not result in polluted discharges to State waters (or a higher risk thereof).*

*Weaknesses:*

- *Section 7 stated that monitoring information and other documentation of compliance shall be retained during the life of the construction project; however the permit requires retention for 5 years (after generation of document).*
- *The plan sometimes discusses what could be done and doesn't commit to what will be done. It would not provide clear instruction to someone attempting to set up the treatment system.*

**Category 3: Discharge Monitoring Reports (DMRs) – Proper Completion + Submittal + Exceedances of Permit Limits**

Score (4): 3

Reason for Score: *DMRs for September, October, November, and December 2017, were submitted late. Note, the late submittals occurred after a change in signatory to the ENV director, who is located in a different city than WEC. Also, signatory did not date November 2017 DMR.*

Months (During AOC Year1)	Submitted to DOH?	Submitted on time?	Met all permit limits?	Was certified by a signatory?	Included lab and QA/QC data?
May	yes	yes	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
June	yes	yes	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
July	yes	yes	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
August	yes	yes	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
September	yes	no	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
October	yes	no	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
November	yes	no	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
December	yes	no	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
January	yes	yes	<i>n/a, no discharge</i>	yes	<i>n/a, no discharge</i>
February	<i>no**</i>	<i>no</i>	<i>tbd**</i>	<i>tbd**</i>	<i>tbd**</i>

\*The AOC became effective on April 27, 2017. Since the Annual Compliance Report for Year 1 is due on April 27, 2018, DMRs for March and April 2018 cannot be evaluated, as they will not be due to DOH until April 28, 2018 and May 28, 2018. March and April 2018 will be included in the Year 2 Annual Compliance Report.

\*\*The February DMR was due on March 28, 2018. This report was finalized on April 16, 2018. At the time of report finalization, the DOH had no public record of receipt of the February DMR. Therefore, it could not be determined if the report was or will be submitted to DOH, and if it met requirements relating to limits, certification, and lab QA/QC data.

**Category 4: Quality of Dewatering Effluent/Meeting Permit Limits**

Score (5): 5

Reason for Score: *The Project has been discharging its dewatering effluent to KRWWTP since May 2015. Therefore, the Project has no issues with exceeding permit limits.*

Months (During AOC Year1)	# of exceedances	Verbally reported?	Written report to DOH?	Corrective action taken?	Did correction work?
May	0	n/a	n/a	n/a	n/a
June	0	n/a	n/a	n/a	n/a
July	0	n/a	n/a	n/a	n/a
August	0	n/a	n/a	n/a	n/a
September	0	n/a	n/a	n/a	n/a
October	0	n/a	n/a	n/a	n/a
November	0	n/a	n/a	n/a	n/a
December	0	n/a	n/a	n/a	n/a
January	0	n/a	n/a	n/a	n/a
February	0	n/a	n/a	n/a	n/a

**Category 5: Maintenance**

Score (5): 5

Reason for Score: *The Project has been discharging its dewatering effluent to KRWWTP since May 2015. While dewatering flows were high during tunnel drilling and construction, the dewatering effluent was treated and the dewatering system was being maintained as necessary. However, since the discharge was not going to state waters, maintenance did not have the potential to impact water quality of Nuupia Pond or Kawa Stream.*

*Since tunnel drilling activities are now complete and tunnel construction activities are progressing, dewatering effluent has drastically decreased in volume. Dewatering effluent is no longer being treated before being discharged to KRWWTP. The dewatering treatment systems have been decommissioned; as such, they no longer require maintenance.*

Question/Requirement	Answer Yes, No, N/A, or date
When was the dewatering treatment system last maintained?  Has the dewatering treatment system been maintained as scheduled in the maintenance plan?  Does it appear that maintenance is being performed as needed (to maintain treatment performance at a level that meets permit limits)?  Have any unanticipated bypasses or upsets occurred?  Have the unanticipated bypasses or upsets been reported as required?	n/a

**Category 6: Illicit or Unpermitted Discharges at the Site**

Score (5): 5

Reason for Score: *While one illicit discharge occurred, the discharge was reported as required and was even cleaned from the ditch to which it discharged.*

During the AOC year, have any illicit or unpermitted discharges of pollutants to State waters occurred from the Site? Fill out a box for each illicit or unpermitted discharge.

Date of discharge: <i>10/29/17</i> Pollutants in discharge: <i>Water and residual grout</i>
Quantity (gallons of discharge, pounds of pollutants, etc.): <i>1,000 gallons (900 to ground at site, 100 to storm drain and dry canal)</i>
Was the discharge removed from State waters? <i>Yes</i>
Corrective actions taken: <i>Yes</i>
Was it reported to DOH (oral and written)? <i>Yes, on time. Written report was thorough and contained photos of both the incident and the affected areas after being cleaned.</i>