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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

10047EMK.13

10-16-13

October 16, 2013

mailed
OCT 16 2013

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7003 1680 0000 7275 3869

Ms. Lori M.K. Kahikina, P.E.
Director
Department of Environmental Services
City and County of Honolulu
1000 Uluohia Street, Suite 308
Kapolei, Hawaii 96707

Dear Ms. Kahikina:

Subject: **NOTICE OF APPARENT VIOLATION (NAV)**
National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4)
Oahu, Hawaii

You are hereby notified of apparent violations of the Hawaii Revised Statutes (HRS), §342D-50(a), which states that "no person, including any public body, shall discharge any water pollutant into State waters, or cause or allow any water pollutant to enter State waters except as in compliance with this chapter, rules adopted pursuant to this chapter, or a permit or variance issued by the director."

The HRS, §342D-1, defines "Water pollutant" to include "dredged spoil, solid refuse, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, soil, sediment, cellar dirt and industrial, municipal, and agricultural waste."

The HRS, §342D-1, defines "State waters" to include "all waters, fresh, brackish, or salt, around and within the State, including, but not limited to, coastal waters, streams, rivers, drainage ditches, ponds, reservoirs, canals, ground water, and lakes."

The Hawaii Administrative Rules (HAR), §11-54-4(a)(3), provides in part that "[a]ll waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including [s]ubstances in amounts sufficient to produce … objectionable color, turbidity or other conditions in the receiving waters."

VIOLATION:

On April 23-25, 2013, the Department of Health (DOH), Clean Water Branch (CWB), and PG Environmental, contractor for the US Environmental Protection Agency, conducted an MS4 compliance audit of the City and County of Honolulu (CCH), MS4 program. During the audit and follow-up discussions between the DOH-CWB and CCH, Department of Environmental Services staff, the DOH-CWB identified deficiencies and potential violations of the CCH's NPDES MS4 permit, Permit No. HI S000002. Findings from the compliance audit are included in the enclosed audit report prepared by PG Environmental. Please note that the appendices to the Audit Report are included on the enclosed disc.

Within 20 calendar days of the date of this letter, please review the enclosed audit report and schedule a meeting with the DOH-CWB to discuss what the CCH must change in order to voluntarily return to compliance. If the CCH prefers to not meet with the DOH-CWB, within 20 calendar days, the CCH must submit a revised Storm Water Management Plan (SWMP) and make all changes to the CCH's MS4 programs such that the CCH is in full compliance with the issued NPDES permit. In your revised SWMP, please include the reference number located on the upper right hand corner of the first page of this notice.

Please submit all requested information within 20 calendar days of this notice to:

Clean Water Branch
Department of Health
919 Ala Moana Boulevard, Room 301
Honolulu, HI 96814-4920
Telephone: 808-586-4309
Fax: 808-586-4352

The HRS, §342D-30, provides for penalties of up to $25,000 per day for each violation. The DOH-CWB reserves its right to seek penalties for all violations, including those described above or failure to respond adequately to this notice.

Should you have any questions, please contact Mr. Matthew Kurano of the Enforcement Section, Clean Water Branch, at 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

MK:jst

Enclosures: 1) Municipal Separate Storm Sewer System (MS4) Compliance Audit Report
2) Disc with Compliance Audit Report Appendices

c: Water Division (WTR-7), CWA Compliance Office, EPA, Region 9 (w/o enclosures)
Mr. Edward G. Bohlen, Deputy Attorney General, Department of the Attorney General (w/o enclosures)

U.S. Environmental Protection Agency
Region 9
Water Division
75 Hawthorne Street
San Francisco, CA 94105-3901

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) COMPLIANCE AUDIT

CITY AND COUNTY OF HONOLULU, OAHU, HAWAII

AUDIT REPORT

Audit Dates:
April 23–25, 2013

Report Date:
September 24, 2013

EXECUTIVE SUMMARY

On April 23–25, 2013, the U.S. Environmental Protection Agency's (EPA) contractor, PG Environmental, LLC and staff from Hawaii Department of Health (HDOH) (hereinafter, collectively, the Audit Team) conducted an audit of the City and County of Honolulu (City) Municipal Separate Storm Sewer System (MS4) Program.

The Audit Team reviewed documents, met and interviewed staff to gather information on overall program management, and conducted field activities to review the City's MS4 program. The audit focused on the following program elements: (1) Illicit discharge detection and elimination, (2) Construction site runoff control, (3) Post-construction stormwater management in new development and redevelopment, (4) Pollution prevention / good housekeeping, and (5) monitoring. The audit included a specific focus on evaluating the effectiveness of the City's MS4 program and understanding the City's efforts to measure and quantify program effectiveness. At the conclusion of the audit, the Audit Team discussed preliminary observations with the City's representatives.

In this report, where applicable, the Audit Team has identified noteworthy aspects of the City's stormwater program implementation, recommendations for improvement, program deficiencies, and potential permit violations. Although this report may include potential permit violations, it is not a formal finding of violation.

Several elements of the City's program were noteworthy, as described below.

1. The City appeared to have strong leadership and participation in its stormwater program. This was evidenced by significant participation in the audit by numerous City departments and strong overall awareness of the stormwater program by staff interviewed during the audit. The City has established memoranda of agreement (MOAs) between City departments to define the roles and responsibilities for MS4 program implementation. Furthermore, the City has engaged the police and fire departments at a level not commonly seen in other MS4 programs and had access to a variety of consultants that provided valuable assistance for program implementation.
2. The City had developed an effective program for oversight of the City's municipal industrial facilities through collaboration with a consultant. The Audit Team observed high levels of stormwater awareness among staff at City-owned municipal industrial facilities visited during the audit. Pollution prevention or good housekeeping deficiencies were not observed at the municipal industrial facilities visited during the audit.

The Audit Team also identified potential permit violations which are summarized below.

1. The City's SWMP does not describe how the City's illicit discharge tracking database will document information about the resolution of each illicit discharge.
2. The City's illicit discharge tracking database does not provide information about the resolution of each illicit discharge aside from an investigation report closure date.
3. The City's construction drawings plan review and approval did not identify the need for additional BMPs to ensure the discharge of pollutants from the site would be reduced to the MEP.

4. The City had not developed and implemented an effective inspection oversight program for private construction sites in the vertical building phase.
5. The City had not documented inspections as specified in Chapter 4.6.1 of the SWMP.
6. The City had not developed and implemented an effective inspection oversight program for City-owned and operated (public) construction sites.
7. The City's inspector training activities are inadequate.
8. The City had not developed and implemented an effective system to compile a database of post-construction BMPs.
9. The City had not provided adequate training for staff responsible for conducting post-construction BMP inspections.
10. Sediment and debris had been discharged to Sand Island Stream at the Sand Island Dewatering Facility.
11. The City had significantly decreased its street sweeping and drainage system maintenance activities.
12. The City had not developed measurable goals/standards and milestones for each BMP included in the SWMP.
13. The SWMP fails to include name or position title and affiliation of the person or persons responsible for implementation or coordination of each program component.
14. The City's monitoring program was not designed to assess compliance with the Permit and to measure the effectiveness of its SWMP.

Several program deficiencies and areas for improvement have been identified and are summarized below.

1. The City's program for field screening of outfalls did not include procedures to evaluate observed dry weather flows. The City should develop defined procedures for conducting dry weather flow analyses and upstream tracking in an effort to characterize flows from the MS4 and to identify potential illicit discharges and connections. Additionally, the City should establish a process for City or consultant field staff to notify City Department of Environmental Services (ENV) if dry weather flow is observed from an MS4 outfall so the flow can be assessed and tracked, if necessary.
2. City inspectors did not use the Site Specific Construction Best Management Practices Plan (SSCBMP) plan to evaluate contractor compliance. For construction sites larger than 1 acre and requiring coverage under the HDOH construction general permit, City inspectors did not use the required SSCBMP Plan to evaluate contractor compliance.
3. The City ENV construction oversight inspection program should be based on a risk ranking process. Furthermore, the City should use these oversight inspections as a way to assess the adequacy and effectiveness of their ongoing inspection program implemented by City Department of Planning and Permitting (DPP) site development, building division, and third-party construction managers.
4. The City's use of building inspectors and construction managers for ensuring MS4 permit compliance should be assessed and improved. Due to a high degree of variability among site conditions and oversight by the City, the Audit Team recommends that the City use dedicated erosion and sediment control or stormwater inspectors to conduct oversight inspections of all applicable construction projects within the City's jurisdiction.

5. The City's use of construction managers for ensuring MS4 permit compliance should be assessed and improved.
6. After a site visit and review of project information, it was unclear to the Audit Team whether post-construction BMPs for the Kapolei Parkway Urban Core 5 Construction Project had been properly included in the projects plans and review process. Furthermore, it was unclear whether BMPs observed onsite were intended to be permanent post-construction stormwater management structures.
7. Storm water pollution control plans (SWPCPs) developed for municipal facilities should be modified to identify site-specific BMPs and be user-friendly references for facility personnel.
8. The City should consider expanding the universe of municipal facilities requiring SWPCPs to include additional facilities that have a potential to discharge pollutants to the MS4 or State waters.
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.

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1.0 INTRODUCTION

On April 23–25, 2013, the U.S. Environmental Protection Agency's (EPA) contractor, PG Environmental, LLC and staff from Hawaii Department of Health (HDOH) (hereinafter, collectively, the Audit Team) conducted an audit of the City and County of Honolulu Municipal Separate Storm Sewer System (MS4) Program.

1.1 Permit and Stormwater Management Plan

The City and County of Honolulu (hereinafter, City or Permittee) has authorization to discharge stormwater runoff and certain non-stormwater discharges from the City's MS4 and certain City-owned buildings and facilities to state waters in and around the Island of Oahu under the National Pollutant Discharge Elimination System (NPDES Permit No. HI S000002 (hereinafter, the Permit). The Permit became effective June 24, 2011 and is set to expire September 8, 2014. This is the third MS4 permit issued to the City.

The Permit identifies approximately 97 City-owned industrial facilities and 45 small MS4 facilities that are authorized to discharge under the Permit. The Permit notes that additional facilities and outfalls that may be identified by the City are also authorized to discharge. Discharges from the City's MS4 must be in accordance with the terms and conditions of the Permit and HDOH's "Standard NPDES Permit Conditions" dated December 30, 2005.

Part D.1 of the Permit requires the City to develop and improve, implement, and enforce a storm water management plan (SWMP) designed to address the requirements of the Permit and to reduce the discharge of pollutants from its MS4 to the maximum extent practicable (MEP). The City's SWMP (current at the time of the audit) was dated June 22, 2012. The SWMP is referenced throughout this report, as applicable.

1.2 Program Areas Evaluated

The audit was not a comprehensive evaluation of all parts of the Permit. The audit included an evaluation of the Permittee's compliance with the following components of the SWMP required in the Permit:

1. Program Management
2. Illicit discharge detection and elimination.
3. Construction site runoff control.
4. Post-construction storm water management in new development and redevelopment.
5. Pollution prevention / good housekeeping.
6. Monitoring.

1.3 Audit Process

The Audit Team obtained its information through interviews with representatives from various City departments along with a series of record reviews and field verification activities. EPA contractor representatives presented their credentials at the opening meeting of the audit.

The primary representatives involved in the audit were the following:

City and County of Honolulu MS4 Program Audit: April 23–25, 2013	
City Department of Environmental Services (ENV)	Timothy Houghton (Deputy Director) Gerald Takayesu (Storm Water Quality Branch Head) Randall Wakumoto (Storm Water Quality Branch Senior Engineer) Ponciana (Ping) Quindica Ramon Coronel (Post-construction BMP Team Lead)
City Department of Planning and Permitting (DPP)	Marvin Fukagawa (Acting Chief) Steve Young (Site Development) Timothy Hiu (Building)
City Department of Design and Construction (DDC)	David Neyer (Wastewater) Frank Terada (Civil Division) Edgar Acorda
City Department of Parks and Recreation (DPR)	John Reid (Planner)
City Department of Enterprise Services (DES)	Don Six (Maintenance and Operations Superintendent)
City Department of Facility Maintenance (DFM)	Ross Sasamura Tyler Sugihara (Road Maintenance) Thomas Takeuchi (Road Maintenance)
Honolulu Fire Department (HFD)	Michelle Freitas (Safety Specialist)
Honolulu Police Department (HPD)	Damien E. Gilding
Honolulu Authority for Rapid Transit (HART)	Ryan Tam (Planner)
City Consultants	Ron Rickman (USGS) Ramon Sera (Kennedy/Jenks Consultants) Lindsay Nakashima (Belt Collins Hawaii) Jessica Chiam (AECOM) Ming Ding (AECOM) Jon Yee (AECOM) Pamela Uyeda (Parsons Brinckerhoff) Ross Keneko (CH2M HILL) Mike Okamoto (RM Towill)

	Corporation)
Hawaii Department of Health – Clean Water Branch	Matthew Kurano Jamie Tanimoto Gavin Nagaue Reef Migita Michael Tsuji
EPA Region 9 – Pacific Islands Contact Office	Hudson Slay
EPA Contractors, PG Environmental, LLC	Wes Ganter Bobby Jacobsen

2.0 PROGRAM EVALUATION RESULTS

This section is organized to generally follow the structure of the Permit. For each section in the report, where applicable, the Audit Team has identified the following: noteworthy aspects of the City's stormwater program implementation, program deficiencies, recommendations for improvement, and potential permit violations. Program deficiencies are areas of concern that may prevent successful program implementation or areas that, unless action is taken, have the potential to result in non-compliance. Recommendations from the Audit Team often accompany findings of deficiency. Potential permit violations are areas in which the Permittee is not fulfilling requirements of the Permit and/or the SWMP. Although this report may include potential permit violations, it is not a formal finding of violation.

The audit findings are supported by interviews, observations, and photographic evidence gathered during the audit, as well as documentation that may have been obtained before, during, or after the audit. This audit report does not attempt to comprehensively describe all aspects of the City's MS4 program, fully document all lines of questioning conducted during personnel interviews, or document all in-field verification activities conducted during site visits.

The audit schedule is presented as Appendix A. Referenced documentation used as supporting evidence is provided in Appendix B, and photo documentation is provided in Appendix C. A copy of the Permit is included as Appendix D. Separate observations of the Urban Core 5 site are provided in Appendix E.

2.1 Program Management

In general, the Audit Team observed strong leadership and programmatic support for the City's stormwater program. The City has numerous departments involved in the stormwater program and representatives from multiple City departments participated in the audit. City staff involved in the Audit displayed a high level of general stormwater awareness and knowledge of specific responsibilities under the MS4 program. The City had contracted with several consultants to provide specialized implementation support. Additionally, as a component of various program elements, the City has multiple data collection tools in place (e.g., identified illicit discharges, catch basin inspection and cleaning, construction site inspections).

It appeared to the Audit Team that the City continued to implement robust public education and

participation programs, even though this was not specifically evaluated as part of the audit. Specifically, the Audit Team found the City's efforts at distributing stormwater-related information with City staff paystubs, hosting educational events for school children, conducting its adopt-a-stream program, and offering bilingual outreach activities to be notable.

2.2 Illicit Discharge Detection and Elimination

Part D.1.c of the Permit requires the City to implement a program to detect and eliminate illicit connections and illegal discharges to the MS4, as described in the City's SWMP. The City's program must include the specific components identified at Part D.1.c.(1)–(9) of the Permit, including licenses for private drain connections, field screening, illicit discharge tracking, complaint investigation, and enforcement. Chapter 3 of the City's SWMP describes the City's programs related to these Permit requirements and obligates the City to issue licenses for private drain connections, conduct field screening, investigate complaints, track illicit discharges, and conduct enforcement.

The Audit Team discussed the City's illicit discharge detection and elimination program with City staff and found, in general, that the City had implemented programs for field screening, tracking, complaint investigation, and enforcement. The City continues to issue drain connection licenses for new connections to the MS4 (further discussed in the section on post-construction stormwater management). The City conducts annual training primarily through an online interface with training content developed by the City. The City's program appeared to be very responsive to complaints submitted to the City for stormwater issues using an effective method to receive and respond to calls and emails from citizens and employees about illicit discharges.

2.2.1 Field Screening

Part D.l.c.(3), "Field Screening," of the Permit requires the City to "continue to implement its written plan for observing major and minor outfalls to screen for improper discharges." The Permit also requires the City's plan to designate priority areas for screening, specify the frequency for screening, and identify the procedures to be followed when a discharge is observed. Chapter 3.3 of the City's SWMP and Appendix C.2, "Field Screening Plan" (dated June 2012) discusses the City's program for field screening. Chapter 3.3 and Appendix C.2 state that if indicators such as color, sheen, odor, or soapy suds are observed on dry weather flow, "Efforts are made to trace the flow upstream to determine the location of the discharge and initiate appropriate enforcement actions." The SWMP does not detail how the inventory of priority areas is evaluated nor describe what the "efforts" to trace flows upstream are and what entity is responsible for determining if dry weather flows are allowable non-stormwater discharges or illicit discharges to the MS4.

During the audit, City staff could not describe specific procedures that would be followed if a dry weather flow were observed.

Further, City staff explained that approximately 30,000 MS4-related structures had been inspected in the current and past fiscal years by DFM consultants, but observations of flow into or out of the system during dry weather are not necessarily reported to ENV for follow-up as a potential illicit discharges or connections. City staff stated that if something looked especially out of the ordinary then it may be reported to ENV for follow up.

Deficiency:

2.2.1(a) The City's program for field screening of outfalls did not identify procedures to be followed when a discharge is observed during dry weather. *(Part D.1.c.(3))*

The City must develop defined procedures for conducting dry weather flow analyses and upstream tracking in an effort to characterize flows from the MS4 as either authorized non-stormwater discharge per Part B.2 of the Permit or potential illicit discharges and connections. Additionally, the City should establish a process for City or consultant field staff to notify ENV if dry weather flow is observed from an MS4 outfall so the flow can be assessed and tracked. System flow characterization efforts over time will help the City differentiate between areas that are prone to dry weather flows originating from authorized non-stormwater discharges versus those in which a dry weather flow is a probable indicator of an illicit discharge or connection.

2.2.2 Illicit Discharge Investigation and Tracking

Part D.1.c.(5)(i) of the Permit requires the City to develop a database to identify improper discharge activity which includes specific information about each suspected improper discharge. The database must document the Permittee's investigation of the discharge, follow-up activities, and resolution of each discharge. Chapter 3.4 of the City's SWMP states that the City has developed a database of investigated illicit discharges, but it does not specify that it includes information regarding the resolution of each potential illicit discharge. During the audit, City staff explained that the City had developed and implemented a database for tracking illicit discharges. City staff explained how the database is used and provided the Audit Team with a printed copy of information in the database for 2011, 2012, and 2013. The database includes a column titled "Description" for entering information about the nature of the discharge, and a column titled "InvestReportClosed" which provides a date of case closure.

Potential Violations:

2.2.2(a) The City's SWMP does not describe how the City's illicit discharge tracking database will document information about the resolution of each illicit discharge. *(Permit Part D.1.c.(5)(i))*

2.2.2(b) The City's illicit discharge tracking database does not provide information about the resolution of each illicit discharge aside from an investigation report closure date. *(Permit Part D.1.c.(5)(i))*

2.3 Construction Site Runoff Control

Part D.1.d of the Permit requires the City to implement a construction site management program for public and private construction sites to reduce the discharge of pollutants to the maximum extent practicable (MEP). The City's program must include the specific components identified at Part D.1.d.(1)–(8) of the Permit, including requirements for best management practice (BMP) implementation, construction site inventory, plan review, site inspections, enforcement, training, and education.

The Audit Team, along with City staff, discussed the City's implementation of its SWMP and reviewed the associated technical standards, plan review and approval procedures, and commonly used implementation tools such as review forms and inspection checklists. In addition, the Audit Team discussed the City's program for maintaining an inventory of

construction sites, inspection oversight for various types of projects, enforcement, training, and education. Following those discussions, the Audit Team and City staff visited nine construction projects of varying types, in different stages of construction, and under different departmental oversight. Of the nine projects, five were private and four were public. Table 1 lists the projects visited by the Audit Team.

Table 1. Construction projects visited by the Audit Team

Project	Public or Private	Construction Stage
Ilima at Leihano in Kapolei Construction Project	Private	Site work
Mehana Construction Project	Private	Some portions of project with site work, some in vertical building. Audit Team observed area with active site work.
Haseko Construction Project in Ewa Beach	Private	Some portions of project with site work, some in vertical building. Audit Team observed area with active vertical building.
Gentry Construction Project in Ewa Beach	Private	Portion of site had recently finished site work, other portion was undergoing vertical building. Audit Team observed area with active vertical building.
Tony Honda Auto Body Repair Shop Construction Project	Private	Vertical building
Kapolei Parkway Urban Core 5 Construction Project in Kapolei	Public / DTS	Rough and fine grading and utility installation
Kalaeloa Boulevard Construction Project in Kapolei	Public / DTS	Near completion, awaiting final landscaping and signage
Wahiawa WWTP Upgrade Construction Project	Public / DDC Wastewater Division	Vertical building
Road Rehabilitation Construction Project in Whitmore Village	Public / DDC Civil Division	Active roadway milling

During the site visits the Audit Team observed considerable variability among the site conditions, BMP installation and maintenance, and inspector oversight. For example, the Audit Team noted numerous site deficiencies at two public construction projects—Kapolei Parkway Urban Core 5 and Wahiawa WWTP Upgrade—while few deficiencies were observed at two private construction projects with active site work—Ilima at Leihano and Mehana Construction Projects. The variability observed at the sites demonstrates the City's inability to consistently implement the construction site runoff control element of the Permit. Likewise, the Audit Team identified potential violations and deficiencies with respect to the plan review, site inspections, and training and education requirements of the Permit and therefore each element is discussed individually in the following subsections. Detailed site visit observations from the Kapolei Parkway Urban Core 5 Construction Project are presented in Appendix E.

2.3.1 Plan Review

Part D.1.d.(3)(i) – (iv) requires the City to review submitted Site Specific Construction Best Management Practices (SSCBMP) plans or similar documents to ensure the project applicant incorporates established drainage standards and erosion and sediment specifications, reduces the discharge of pollutants to the MEP, files an NOI for permit coverage, and obtains construction general permit coverage, where applicable. Chapter 4.5 of the City's SWMP provides detailed instructions and a BMP Checklist for conducting plan reviews of private and public projects. The Audit Team reviewed the City's procedures for receiving and conducting plan reviews for private and public projects, including documenting review notes and findings on the BMP Checklist. No findings were identified during the office-based review. However, the following findings relating to plan review and approval were noted during the site visit to Kapolei Parkway Urban Core 5.

The Site Specific Construction Best Management Practices (SSCBMP) plan contains schematics and discussions of the erosion and sediment control BMPs deployed at the site. A complete construction drawing plan set for the project was obtained during the audit. The project Notice of Intent and SSCBMP is provided as Appendix B, Exhibit 1 and 2. As shown in Figure 1, the project site is located immediately southwest of the Kapolei Hale.

Figure 1. Kapolei Parkway Urban Core 5 project location. Image obtained from Google Maps 2013.

The eastern portion of the roadway construction project intersects and passes over a waterway. The construction drawing plan set calls for the installation of a detention basin at the downstream boundary of the project site in the existing waterway. The approximate locations of the waterway and detention basin are denoted in the aerial photograph included as Figure 1. Though it is not clear on what date the aerial photograph in Figure 1 was taken, it should be noted that the photo depicts the detention basin had not been installed at a time of active grading. As further described below, the detention basin had only been partially constructed at the time of the site visit.

Importantly, the Urban Core 5 SSCBMP plan includes a discussion of the BMPs to be used at the site, but does not mention the detention basin. Section 3.0, "Best Management Practice Specifications/Details," of the SSCBMP provides the installation schedule and maintenance and inspection procedures for other proposed BMPs including controlling stormwater flowing onto and through the project, soil stabilization, slope protection, storm drain inlet protection, and perimeter controls and sediment berms. However, section 3.6 of the SSCBMP plan titled "Sediment Basins and Detention Basins" indicates "n/a". Likewise, the construction drawing plan set fails to include detailed drawings for the detention basin and only depicts it in plan view. Last, Attachment F, "Contingency Plan" of the SSCBMP also fails to mention the detention basin as an area of concern and potential remedy following a significant precipitation event (see Appendix B, Exhibit 2). City and project representatives did not definitively state whether the basin was temporary or it would be a permanent post-construction stormwater management structure for the site.

Similarly, the erosion and sediment control sheets within the construction drawings only depict the placement of upstream sand bags and a perimeter silt fence in the area surrounding where the existing waterway enters the project site. Given the extent of work required in the existing waterway, which required the placement of a 66-in. concrete pipe and constructed inlet and outlet features, both the construction drawings and the SSCBMP should have included (a) additional detail regarding the timing, installation specifications, and maintenance and inspection procedures for the detention basin, (b) additional BMPs in the immediate vicinity of the inlet and outlet features to prevent sediment from entering the waterway, and (c) both the inlet and the detention basin areas in the contingency plan.

As depicted in the project's approved construction plans and erosion and sediment control sheet (see Appendix B, Exhibit 3), City plan reviewers approved the use of upstream, off-property sand bags as an upstream BMP and the permanent stormwater detention basin as the sole downgradient BMP for the project. The approved construction plan does not specifically indicate work phases or dictate that the detention basin should have been installed and completed before the cut and fill work associated with the culvert installation. Nor does the approved plan consider or require additional BMPs at the upgradient terminus of the culvert. The approved plan does not include BMPs for excavation or work in waterways. At the time of the site visit, it was evident that additional work was required at the upgradient end of the culvert to complete a headwall/wingwall installation. Neither the contractor or construction manager was aware of the need for additional BMPs currently or during future construction in this area. Sediment loss to the waterway and culvert was evident to the Audit Team (see Appendix C, Photographs 1 through 3).

Potential Violation:

2.3.1(a) The City's construction drawings plan review and approval did not identify the need for additional BMPs to ensure the discharge of pollutants from the site would be reduced to the MEP. *(Permit Part D.1.d.(3)(ii))*

Part D.1.d.(3)(ii) requires Permittee review the applicable SSCBMP or similar documents to verify that construction projects implement measures to ensure the discharge of pollutants from the site will be reduced to the MEP. BMPs proposed for the work in and adjacent to a waterway did not include sufficient BMPs to ensure reduction of pollutants to the MEP.

2.3.2 Construction Site Inspection Standards

Part D.1.d.(4) of the Permit requires that the City conduct construction sites inspections which include a review of erosion and sediment controls, good housekeeping practices, and compliance with approved plans. Chapter 4.6 of the SWMP describes the City's plan for conducting inspections and establishes responsibilities for City staff and the contractor/developer. Chapter 4.6.1 of the SWMP states that inspections are performed in accordance with "Inspection and Enforcement Program for Construction Sites" (January 2000), "Rules Relating to Soil Erosion Standards and Guidelines" (April 1999), and "Storm Water Best Management Practice Manual, Construction" (November 2011). The SWMP states that City inspectors use the Construction Site BMP Checklist to document inspections, including deficiencies and corrective actions. Chapter 4.8 of the SWMP states that inspection personnel must update the construction site tracking database with information regarding inspections.

During the Audit, the City explained that inspection responsibilities are divided amongst several City departments based on whether the project is private and public. Observations of the private and public inspection process are discussed independently below. It was also explained that ENV provides construction oversight inspections at public and private construction projects. City staff explained that ENV staff conducts approximately 80 oversight inspections each year at the larger active construction sites, with inspections for each selected site generally occurring once during the wet season and once during the dry season.

It was noted throughout the audit that City inspectors (DPP, ENV, and third-party construction managers) did not use the SSCBMP as the basis of facility inspections. In several instances, the City inspectors did not appear to know that an SSCBMP plan existed for the site. Instead, the inspectors solely relied on the erosion and sediment control sheets within the approved plan set and their best professional judgment to assess the adequacy of temporary erosion and sediment control BMPs on the site.

Deficiencies:

2.3.2(a) City inspectors did not use the SSCBMP plan to evaluate contractor compliance. *(Permit Part D.1.d.(4))*

Part D.1.d.(4) of the Permit requires City inspections include a review of site Erosion and Sediment Controls, good housekeeping practices, and compliance with approved erosion control plans or construction BMPs Plans. Chapter 4.3.2 of the City's SWMP states that large construction projects must develop and implement a Drainage and Erosion Control Plan (ECP), and ROH §14-14.2(c) establishes specific requirements for ECPs. Chapter 4.5 of the City's SWMP explains that ECPs are reviewed and approved by the City prior to permit issuance. Furthermore, Chapter 4.5 of the City's SWMP states that the City ensures project have obtained coverage under the construction general permit, where applicable.

Chapter 4.6 of the City's SWMP states that during construction site inspections at a minimum, city inspectors should review "the BMP Plan, including the ECP (if applicable), and to determine whether the requirements of the Plans are being implemented and maintained properly on the construction site." Likewise, HAR Chapter 11-55, Appendix C, NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity, Part 6 requires the permittee to "design, operate, implement, and maintain the construction best management practices plan."

Many of the required elements contained within the SSCBMP plan are integral for a contractor, or the City in the case of a public project, to ensure compliance across both the City permit and the HDOH construction general permit requirements. Additionally, the SSCBMP plans include BMP installation guidelines and schedules for recurring inspections and maintenance. The City increases its risk of non-compliance by focusing exclusively on the erosion and sediment control sheets of approved plans and their best professional judgment rather than using the SSCBMP plan as one of its primary compliance tools.

2.3.2(b) The City ENV construction oversight inspection program should be based on a risk ranking process.

While the ENV construction oversight inspections appeared to be an effective element of their overall construction site runoff control program and the ENV inspectors appeared knowledgeable about erosion and sediment control BMPs, the City would benefit from an improved targeting strategy that includes some form of a risk ranking process for site selection. Interviews with ENV staff indicated that site selection was, in part, based on project size. The Audit Team recommends that ENV develop and apply the oversight site selection process as an overall risk minimization tool for the City. Thus, sites with highest risk of environmental harm, permit non-compliance, community involvement, or other means would be inspected at higher frequencies or during particularly risk-prone phases of construction. The City should use these oversight inspections as a way to assess the adequacy and effectiveness of their ongoing inspection program implemented by DPP site development, building division, and third-party construction managers. In the short-term, public projects and those in active vertical building should be targets for ENV oversight inspections.

2.3.3 Construction Site Stormwater Inspections

Private Construction Site Inspections

During the Audit, the City explained that it has distributed the responsibilities for construction site runoff control oversight among several different City departments. DPP Site Development Division conducts inspections and is responsible for MS4 program implementation during the site development stage of private construction. This includes rough and final grading and utility installations. According to the site work inspectors and contractor representatives interviewed at the construction sites, the site development inspectors are present almost every day at the sites. The DPP site development inspectors observe sites daily for stormwater issues, complete the City's "Construction Site BMPs Weekly Checklist" form, and record the inspections in the City's construction permit tracking system POSSEE and its field module Ranger.

DPP Building Division conducts inspections and is responsible for MS4 program implementation during the vertical building stages of private construction. In areas where site work has been completed and vertical building has begun on private construction sites, the City's building inspectors from DPP Building Division are responsible for oversight of stormwater issues. In instances where site development work and vertical building are occurring concurrently, DPP Site Development inspectors and Building inspectors may both be on-site. Building inspectors are tasked with a full range of building permit inspections (e.g., foundation, electrical, plumbing, roofing, etc.) as well as the adequacy and maintenance of temporary erosion and sediment control BMPs. Building inspectors do not conduct or document inspections specifically for stormwater, but may note stormwater issues while they conduct other building permit inspections. Finally, ENV staff conduct periodic oversight inspections of private

construction and are available to provide guidance and training to DPP Site Development and DPP Building Division inspectors.

Private Construction Sites in the Site Development Stage

The Audit Team observed that construction sites in the development stage of construction had appropriate temporary erosion and sediment control BMPs installed and the BMPs appeared to have been maintained. Inspections, including deficiencies and corrective actions, were documented and tracked within the City's database.

Private Construction Sites in the Vertical Building Stage

As previously noted, in areas where site work has been completed and vertical building has begun on private construction sites, the City's building inspectors from DPP Building Division are responsible for oversight of stormwater issues. Based on site observations and interviews with inspectors, building inspectors do not conduct or document inspections specifically for stormwater, but may note stormwater issues while they conduct other building permit inspections.

The Audit Team observed several site deficiencies at private construction projects with active vertical building. Specifically, the Audit Team observed issues related to sediment tracking, and BMP installation and maintenance at the Haseko Construction Project in Ewa Beach and the Tony Honda Auto Body Repair Shop Construction Project. The Audit Team observed the following:

Haseko Construction Project – Section 4A, Phase 3

- Sediment from vehicle tracking was present on a paved alleyway between Kamakana Street and Wai'ilikahi Street (see Appendix C, Photograph 4); the tracking led from the second or third lot to the north of the intersection of the alleyway and Waiemi Street. The vehicle tracks went over a storm drain inlet which had a filter fabric insert with dried sediment present on the inlet metal grate covering (see Appendix C, Photograph 5). The City building inspector for the project said this was not something he would likely make note of or address if he were conducting a building inspection in this area.
- A portable toilet that was not staked or otherwise secured was present directly above a storm drain inlet along Waikoihi Street between Wai'ilikahi Street and Waikapuna Street (see Appendix C, Photograph 6). The City building inspector for the project and another building inspector from the City present for the site visit explained that this was not an issue they had been trained to identify and would therefore not address during a building inspection.
- Filter fabric within a storm drain inlet along an alleyway between Waikoihi Street and Waiemi Street had torn or collapsed and would no longer provide filtration for stormwater entering the inlet (see Appendix C, Photographs 7 and 8). The City building inspector for the project stated that this was an area of the project that he would not typically access or walk through even if he was called out to do a building inspection in that area of the project.
- The City building inspectors present at the Haseko Construction Project in Ewa Beach explained that they do not necessarily observe an entire site when they are called out to conduct building permit inspections. Therefore, there may be BMPs implemented in uninspected areas of the site which are not evaluated.

Tony Honda Auto Body Repair Shop Construction Project

- Sediment was present in the curb and gutter flow pathway along and in Ukee Street on the northern perimeter of the project (see Appendix C, Photograph 9). The nearest storm drain inlet was approximately 30 feet to the west, near the intersection of Ukee Street and Ka Uka Boulevard. At the time of the site visit there was an excavated area associated with the project that extended into Ukee Street between the location of the sediment and the storm drain inlet.
- The top of the concrete inlet structure for the storm drain inlet near the intersection of Ukee Street and Ka Uka Boulevard had been crushed and compromised the integrity of the storm drain inlet protection BMP (see Appendix C, Photographs 10 and 11). The City building inspector for the project stated that this had been reported and would be fixed.
- The straw wattles installed along a section of the western perimeter of the project were not entrenched or staked into the ground (see Appendix C, Photographs 12 and 13).
- A minor amount of sediment from vehicle tracking was present at the project entrance/exit to Ka Uka Boulevard (see Appendix C, Photographs 14 and 15). The project had a rock-lined construction entrance which, according to onsite staff, had been replaced with new stone about a week prior to the site visit. In addition, there was a hose kept at the project entrance for washing vehicle tires prior to the vehicle's exiting the site.

Potential Violations:

2.3.3.(a) The City had not developed and implemented an effective inspection oversight program for private construction sites in the vertical building phase. *(Permit Part D.1.d.(4))*

Part D.1.d of the Permit requires the City to implement a "construction site management program to reduce to the MEP the discharge of pollutants from both private and public construction sites." Part D.1.d.(4) of the Permit requires that the City conduct construction sites inspections which include a review of erosion and sediment controls, good housekeeping practices, and implementation of approved plans. As described above. The Audit Team observed several instances of potential non-compliance at private construction projects in the vertical building stage.

2.3.3.(b) The City had not documented inspections as specified in Chapter 4.6.1 of the SWMP.

Pursuant to Chapter 4.6.1 of the SWMP, "When conducting inspections, the City inspectors will use the Construction Site BMP Checklist (see Appendix D5) to evaluate conformance with applicable documents, and to document deficiencies and corrective actions." It was observed that Building inspectors did not consistently use the Construction Site BMP Checklist to document inspections, deficiencies, or corrective actions.

Deficiency:

2.3.3.(c) The City's use of building inspectors for ensuring MS4 permit compliance should be assessed and improved.

As discussed above, overall, the Audit Team observed a high degree of variability among site conditions and oversight at private construction sites in the grading phase versus private construction sites in the vertical building phase and public construction sites. Due to the observed variability in site conditions and oversight, the Audit Team recommends that the City use dedicated erosion and sediment control or stormwater inspectors to conduct oversight inspections of all applicable construction projects within the City's jurisdiction.

Public Construction Site Inspections

The two primary City departments responsible for large public Capital Improvement Project (CIP) construction activities are the Department of Design and Construction (DDC) and the Department of Transportation Services (DTS). Active construction for both of these departments was observed during the audit. It should be emphasized that representatives of DTS were not present throughout the audit while participation by other departments was strong throughout the audit.

For public construction, the appropriate sponsoring City department conducts inspections and is responsible for MS4 program implementation. The sponsoring department assigns an in-house project engineer and also uses the services of either an in-house or third-party construction manager to ensure the installation and maintenance of temporary erosion and sediment controls. Information obtained during the audit indicates the in-house project engineer visits the site frequently while the construction manager is generally present daily. The construction manager is responsible for ensuring the contractor adheres to all contractual requirements, including the installation and maintenance of temporary erosion and sediment control BMPs, and the requirements of HDOH's construction general permit, if applicable. ENV staff conduct periodic oversight inspections of public construction and are available to provide guidance and training to City project engineers and construction managers when requested. Thus, public construction sites should be receiving up to four levels of oversight including the project engineer, construction manager, contractor, and ENV. Observations from the two public construction project site visits is provided below.

Kapolei Parkway Urban Core 5 – Public Construction Project

The project included the installation of roads and utilities in support of future development and serves as an extension of Kapolei Parkway. The project included road and utility installation from Kama'aha Avenue to Kamokila Boulevard. The project sponsor, DTS, had applied for coverage under the HDOH construction general permit and had submitted a SSCBMP for HDOH approval in July 2012. As per the SSCBMP, the site included 9.77 acres of disturbance and staging areas. Representatives at the site stated the project was initiated in November 2012 and was scheduled for completion in January 2014. Bowers-Kubota had been hired as the third-party construction manager and the contractor was Royal Contractors. Representatives from both the contractor and construction manager were present during the site visit. A City DTS project engineer had been assigned as project manager but this individual was not present during the site visit.

A significant precipitation event had occurred during the early morning hours preceding the site visit. At the time of the site visit, a 66-in. concrete culvert had been installed in the waterway that crosses the site from north to south. The majority of the culvert had been buried except for the most upstream portion, which remained exposed within the earthen trench. The upstream terminus was exposed in a vertical-wall earthen trench of native soil and compacted fill (see Appendix C, Photographs 16 through 19). At its downstream terminus, the culvert discharged into a crudely constructed detention basin. The contractor stated that the detention basin had yet to be completed and ultimately it would contain 3:1 sloped sides and a constructed outfall to the established waterway. He further stated that only the bottom of the basin had been constructed and additional site work to develop the basin could not be completed due to recent rains and

significant water flow into the partially constructed basin. The basin had been in its current condition for several months (see Appendix C, Photographs 20 through 22).

The Audit Team walked the perimeter of the basin and noted that it lacked distinct banks. A rudimentary dam of dredged spoil materials was present at its terminus. These spoils were functioning as a partial dam; however, discharges from the basin were occurring at the time of the site visit. The water within the basin and discharging from the basin was sediment-laden and turbid (see Appendix C, Photographs 23 through 25). Deep tracks from heavy equipment were present along the western border of the basin. In the area immediately surrounding the basin, temporary sediment and erosion controls BMPs consisted of a single silt fence that bordered a portion of the southeastern boundary of the road. The silt fence did not extend to the culvert inlet to the basin and was partially submerged at its terminus (see Appendix C, Photograph 26). The silt fence appeared to be ineffective at controlling sediment discharges to the basin and no additional BMPs were present in the immediate upgradient portion of the earthwork. Exposed soil with gullies and rills were present.

In addition, while there were some BMPs installed and working properly (e.g., concrete washout, storm drain covers, and select spans of silt fencing) (see Appendix C, Photographs 27 and 28), there were numerous instances of uncontrolled sediment stockpiles (see Appendix C, Photographs 29 and 30) and loose soil showing signs of rill and gully formation; and, the overall site boundary was poorly defined. These deficiencies should have been identified and rectified during the previously conducted recurring inspections.

Wahiawa WWTP Upgrade – Public Construction Site

The project included upgrades to various WWTP components, including the influent pump station, headworks facility, secondary treatment process, ultraviolet light disinfection system, and effluent pump station. The WWTP discharges to the adjacent Wahiawa Reservoir. Bowers-Kubota had been hired by the City as the third-party construction manager for the project. The prime contractor for the project was Oceanic Companies, Inc. (OCI). Site representatives explained that major grading operations had been completed and the majority of the work occurring at the time of the site visit was building construction and equipment installation. A Bowers-Kubota representative explained that typically OCI conducts daily and weekly stormwater inspections accompanied by Bowers-Kubota staff. OCI provides a copy of the inspection reports to Bowers-Kubota for review.

During the site visit, the Audit Team noted several issues regarding BMP installation and maintenance, and vehicle tracking. Specifically, sediment from vehicle tracking was present on California Avenue at the entrance to the WWTP (see Appendix C, Photographs 31 and 32). A rock-lined construction entrance had been installed from the active construction area to the facility entrance, but sediment was still present in the adjacent roadway (see Appendix C, Photograph 33). A straw wattle BMP had been placed in front of a nearby storm drain inlet; however, since it was located on a concrete surface, the straw wattle had not been staked or entrenched into the ground (see Appendix C, Photograph 34). There were gaps between adjacent lengths of silt fence installed along the southern perimeter of the site (see Appendix C, Photographs 35 and 36). In several locations around the perimeter of the site and soil stockpiles in the northwest corner of the project, silt fence and straw wattle BMPs were not entrenched or staked into the ground (see Appendix C, Photographs 37 and 38). In addition, an area in the southwest corner of the site, which project representatives explained is a primary location for

stormwater to leave the site, did not have adequate or properly maintained BMPs. Specifically, straw wattle BMPs installed in this location were not staked or entrenched into the ground and sections of silt fence were deteriorated (see Appendix C, Photographs 39 through 42). Accumulated sediment was present upgradient and adjacent to the straw wattle and silt fence BMPs in this area. The edge of the Wahiawa Reservoir was within approximately 100 feet of this location.

Potential Violation:

2.3.3(d) The City had not developed and implemented an effective inspection oversight program for public construction sites. *(Permit Part D.1.d.(4))*

Part D.1.d of the Permit requires the City to implement a "construction site management program to reduce to the MEP the discharge of pollutants from both private and public construction sites." Part D.1.d.(4) of the Permit requires that the City conduct construction sites inspections which include a review of erosion and sediment controls, good housekeeping practices, and implementation of approved plans.

The Audit Team observed several instances of potential non-compliance at public construction projects sponsored by DDC and DTS. Specifically, at the Kapolei Parkway Urban Core 5 construction project the Audit Team observed issues related to improper site design, improper BMP installation and maintenance, ineffective inspections, and ultimately, sediment discharge; at the Wahiawa WWTP Upgrade construction project the Audit Team observed improper BMP installation and maintenance.

Deficiency:

2.3.3(e) The City's use of construction managers for ensuring MS4 permit compliance should be assessed and improved.

Based on the condition of the public sites visited during the Audit, the City needs to evaluate the designated roles and responsibilities of its in-house and third-party construction managers and emphasize that these individuals perform a critical role in ensuring permit compliance. This is especially significant for larger public projects in which the City is the signatory and responsible party under HDOH's construction general permit. In these instances the construction manager should have a primary responsibility for ensuring that the contractor adheres to the requirements of the general permit and the approved construction and erosion and sediment control plans.

2.3.4 Construction Stormwater Training and Education

Part D.1.d.(7) of the Permit requires the City to annually train employees in targeted positions (whose jobs or activities are engaged in construction activities including plan review and construction inspection staff) regarding the requirements of the SWMP and the Permit. Chapter 4.10.2.2 of the SWMP describes three separate classes for construction site inspectors. The third class, Construction BMP Inspector Training, offers on-site training for building and grading permit inspectors, construction engineers, construction managers, and other staff involved in construction activities. This class is said to be held at active construction sites to review procedures for inspecting construction BMPs and related activities, identify deficiencies and necessary corrective actions, and prepare for potential regulatory audits related to the Permit.

During the Audit, City Building inspectors explained that they receive annual stormwater training from the City, but it was not necessarily tailored to specific things they should look for related to stormwater during their building inspections.

Also during the Audit, the third-party construction manager at the Kapolei Urban Core 5 project acknowledged that the water and saturated soils precluded their ability to complete the detention basin (and thus precluded it from functioning as designed), they expressed little concern about the overall site conditions or the lack of BMPs. Nor was concern raised about the ongoing discharge of sediment-laden water from the site to the waterway. Additionally, the onsite representative from Royal Contracting stated that the City inspector had specifically stated that the oversight of erosion and sediment controls was the responsibility of the City and not the construction manager.

Furthermore, based on records provided by the City during the audit, an inspector from ENV had performed a construction oversight inspection at the site on April 17, 2013, about a week prior to the Audit Team's site visit (see Appendix B, Exhibit 4). The Audit Team did not obtain a copy of the City's construction oversight inspection report from the site visit.

Potential Violation:

2.3.4(a) The City's inspector training activities are inadequate. *(Permit Part D.1.d.(7))*

Part D.1.d.(7) of the Permit requires the City to annually train employees in targeted positions (whose jobs or activities are engaged in construction activities including plan review and construction inspection staff) regarding the requirements of the SWMP and the Permit. The statements from on-site inspectors, coupled with the observed site deficiencies, implies serious failures regarding training of City inspectors and third-party construction managers.

2.4 Post-construction Stormwater Management in New Development and Redevelopment

Part D.1.e of the Permit requires the City to further develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects. The program should address projects that disturb more than one acre of land and smaller projects that have the potential to discharge pollutants to the MS4. The City's program must include the specific components identified at Part D.1.e.(1)–(4) of the Permit. These elements include post-construction runoff standards, review of plans, BMP tracking for operation and maintenance, education, and training.

In December 2012, the City adopted its draft *Rules Relating to Storm Drainage Standards* (hereinafter, Drainage Standards), effective June 1, 2013, which establishes updated post-construction BMP requirements for the City. Prior to that date, the 1999 *Rules Relating to Storm Drainage Standards* were in effect (adopted February 26, 1999; effective April 8, 1999). The City had developed the Drainage Standards in a format that appeared to the Audit Team to be readable, usable, and an improvement to the City's standards for post-construction stormwater management.

The Audit Team discussed with City staff its process for incorporating post-construction BMPs into construction project plans and how the Drainage Standards would be applied. In addition,

the Audit Team discussed the City's BMP tracking, inspection, and training activities, and visited five post-construction BMPs with City staff.

2.4.1 Post-Construction BMP Tracking

City ENV staff explained that its primary trigger for post-construction BMP tracking is the issuance of private drain connection licenses which are required for connections to the MS4. Information regarding post-construction BMPs is included in the drain connection license issued by DPP, and this information is shared with ENV for BMP tracking. However, City staff explained that drain connection licenses are not required for projects which discharge directly to a stream and thus bypass the MS4. Drain connection licenses are also not required for public construction projects. Furthermore, drain connection licenses are issued at the onset of a project with information about *proposed* BMPs; therefore, changes to site design during construction would not be captured by the drain connection license and this information may not be shared with ENV.

As a result, the City did not have a comprehensive database of all post-construction BMPs in the City. Furthermore, field inspection activities by ENV staff were focused on verifying the as-built presence, location, and type of BMP rather than assessing BMP functionality (further discussed in next finding).

City staff explained that there were 185 known post-construction BMPs in the tracking inventory at the time of the audit, only two of which are publicly-owned. City staff stated that there are likely additional BMPs in the City which are not captured in the database. The City Post-Construction BMP Team Lead provided the Audit Team with a copy of ENV's post-construction BMP tracking inventory (see Appendix B, Exhibit 5). The inventory included information such as location, contact person for BMP, type of BMP, and the frequency for inspection and maintenance for most of the BMPs included in the inventory. Not all information fields were complete for all BMPs included in the inventory. The inventory did not include photographs of the BMPs or operation and maintenance requirements as required by Part D.1.e.(3) of the Permit.

Potential Violation:

2.4.1(a) The City had not developed and implemented an effective system to compile a database of post-construction BMPs. *(Permit Part D.1.e.(3))*

Part D.1.e.(3) of the Permit requires the City to "develop a system to compile a database of post-construction BMPs and the frequency of maintenance and inspection of the BMPs." Chapter 5.7 of the City's SWMP explains that post-construction BMPs that discharge to the MS4 will be tracked in a database and geographic information system (GIS). The City did not have a comprehensive database of all post-construction BMPs in the City.

The City should develop a more effective approach to inventory post-construction BMPs with an emphasis on collaboration and information sharing during the planning, construction, and post-construction phases to ensure effective oversight by ENV. For example, the City should ensure post-construction BMPs are installed correctly, and at that time, the City could ensure the BMP is included in its inventory and document the BMP's appearance at installation with photographs for reference during future routine BMP inspections. The City should also consider amending post-construction BMP operation and maintenance requirements to property deeds to ensure that responsibility is clearly transferred with the property itself.

2.4.2 Post Construction BMP Inspection Training

The Audit Team visited five locations with post-construction BMPs, including one with recently implemented low impact development (LID) practices, with City staff. Several observations from the post-construction BMP site visits are included at Appendix C, Photographs 43 through 50.

During the site visits, the City's Post-Construction BMP Team Lead and City technician explained there are approximately seven to ten City staff members trained to conduct post-construction BMP inspections, though only typically two are working on the inspections at any given time. During the site visits, the Audit Team discussed with City staff the types of things they look for during their inspections and their typical inspection process. City staff explained that their primary function in conducting the BMP inspections was to verify whether there were BMPs at the location and whether there was an operation and maintenance plan associated with the BMPs. Inspections are documented on a "Permanent BMP Inspection Report" form and with photographs. The City's Post-Construction BMP Team Lead and City technician stated that they had not been provided with specific training to enable them to evaluate the functionality of BMPs to determine whether they are working as designed.

Potential Violation:

2.4.2(a) The City had not provided adequate training for staff responsible for conducting post-construction BMP inspections. *(Permit Part D.1.e.(4))*

Part D.1.e.(4) of the Permit requires the City to provide annual training to staff "responsible for inspecting post-construction BMPs and LID practices." Furthermore, Chapter 5.5 of the City's SWMP states, "To ensure that post-construction BMPs are being operated and maintenance in accordance with the project's approved operation and maintenance plan, they are inspected by City staff trained specifically for this task." Chapter 5.9.2.2 of the City's SWMP explains that training which "covers installation, operation and maintenance, and inspection considerations for post-construction BMPs" will be available to staff.

A formal training program is imperative for the City to ensure BMPs are installed correctly, inventoried, inspected, and properly maintained. This is of particular importance as the number of post-construction BMPs in the City will increase as the City implements its new Design Standards and requires LID practices. The City must ensure that City staff are provided with formal training to implement the new Drainage Standards. This will likely necessitate cross-training and increased collaboration among City departments (e.g., DPP, DFM, and ENV) to ensure effective planning, implementation, inspection, and maintenance throughout the lifetime of the BMPs.

2.4.3 Post Construction BMP Standards and Plan Review

Deficiencies:

2.4.3(a) Observations pertaining to the City's Revised Drainage Standards.

As noted above, in December 2012 the City adopted its draft Drainage Standards, effective June 1, 2013, which establishes updated post-construction BMP requirements for the City. While the Audit Team was not tasked to perform a comprehensive review of the City's Drainage Standards, a preliminary review coupled with onsite discussions with City representatives yielded the following concerns.

a. The Drainage Standards provide an exemption for projects that are "required to obtain a separate industrial NPDES storm water permit from DOH for long term storm water discharges." Specifically, §1-5, Section II, Part I.B.2.a of the Drainage Standards exempts these projects from being considered "Priority A Projects" which require LID, source control BMPs, onsite retention, and biofiltration, unless infeasible. The purpose and value of this exemption was unclear to the Audit Team as a separate industrial NPDES stormwater permit will likely not require stormwater treatment and controls at a level similar to the Drainage Standards.

b. Projects classified as "Priority B" at §1-5, Section II, Part I.B.6.b of the Drainage Standards (i.e., retail gasoline outlets, automotive repair shops, restaurants, and parking lots with at least 10,000 square feet of total impervious area) are only required to "*consider* [emphasis added] appropriate LID Site Design Strategies" and to implement source control BMPs. After discussions with City staff, it did not appear to the Audit Team that the City had developed guidance for how to address the term "consider" so expectations are clear to both City staff and the development community. The use of the term "consider" may result in an inconsistent and lesser application of requirements for Priority B projects.

c. The Drainage Standards do not include guidance or requirements for the use of preferential BMPs, which takes into consideration pollutants of concern, BMP effectiveness, maintenance requirements, and projected BMP lifetimes.

2.4.3(b) Possible failure to include permanent post-construction BMPs for the Kapolei Parkway Urban Core 5 Construction Project.

The Kapolei Parkway Urban Core 5 Construction Project was described previously in findings 2.3.1 and 2.3.3. Following the audit, the Audit Team reviewed the Notice of Intent, SSCBMP plan, and construction drawing plan set for the project and could not readily identify if the project included permanent post-construction stormwater management practices. Part D.1.e of the Permit requires the City to ensure permanent controls are in place to prevent or minimize water quality impacts for projects that disturb at least one acre of land through development of design standards and plan review. As per the SSCBMP, the site included 9.77 acres of disturbance and staging areas.

The construction drawing plan set shows that stormwater collected on the roadway surface is collected in catch basins and routed to the southwest corner of the site and into an existing storm drain system. The plan set and erosion and sediment control sheets also denote the installation of an earthen berm immediately to the west of the detention basin. The earthen berm had been constructed prior to the site visit and the during the site visit a contractor representative stated that the berm was to retain runoff from a portion of the site. As previously stated in finding 2.3.1, the SSCBMP plan fails to specifically list or describe the detention basin and also fails to mention the earthen berm in section 3.6 of the SSCBMP. Section 3.14, "Post-Construction Controls," of the SSCBMP plan indicates "n/a". As noted above, City and project representatives did not definitively state whether the detention basin observed during the site visit was temporary or it would be a permanent post-construction stormwater management structure for the site. For these reasons, it is unclear to the Audit Team if the earthen berm or detention basin were intended to serve as post-construction BMPs and if post-construction BMPs were included in the project design as required by the Permit. If the BMPs were designed to be permanent post-construction BMPs, it is unclear to the Audit Team how the City would know to

include them in their inventory and provide for ongoing maintenance and inspection. The City should resolve these issues for this site, and others as applicable, to ensure conformity in post-construction BMP inclusion, tracking and ongoing maintenance.

2.5 Pollution Prevention / Good Housekeeping

Part D.1.f of the Permit requires the City to further develop and implement a system maintenance program to reduce the discharge of pollutants to the MEP from all City-owned facilities, roads, parking lots, waste facilities, and the MS4. The City's program must include the specific components identified at Part D.1.f.(1)–(4) of the Permit. Chapter 6 of the SWMP, Pollution Prevention and Good Housekeeping, includes the required elements of debris control BMPs, chemical application BMPs, erosion control BMPs, and municipal facilities BMPs. The Audit Team focused its discussions with City staff on the municipal facilities and debris control programs, and visited five municipal facilities with City staff during the audit.

Overall, City staff appeared to have good stormwater awareness and the City, in collaboration with a consultant, had implemented an effective program for pollution prevention and good housekeeping at municipal facilities. Notably, the City MS4 program had engaged with and gained effective participation from numerous departments including the City's Fire and Police Departments.

2.5.1 Municipal Facilities BMPs

On April 24, 2013, the Audit Team visited the Sand Island Dewatering Facility which is overseen by DFM. During the site visit, the Audit Team observed that DFM staff had very recently conducted grubbing activities along the northern perimeter of the facility. DFM staff stated the grubbing was conducted to remove vegetation that was limiting the line of sight from the adjacent road. The removal of vegetation was to serve as a deterrent to homeless individuals who frequented the area. At the time of the inspection, woody materials such trees, grass, and shrubs and some sediment removed during the grubbing activities had been placed on the adjacent DFM laydown property located to the west. However, it was evident that some of the woody materials and sediment had entered the waterway which also contained standing water. Due to the grubbing, the shorelines on both the north and south sides of the waterway were devoid of vegetation, and exposed soil was present. Temporary erosion and sediment controls were absent (see Appendix C, Photographs 51 through 53).

The City had developed a stormwater pollution control plan (SWPCP) for the dewatering facility and a copy, dated June 2007, was provided during the audit. Section II.C.d of the SWPCP states, "Loose foliage (i.e., leaves, branches, etc.) should be removed from the drainage ditches located with (sic) the facility grounds to avoid flooding conditions and increased pollutants entering receiving waters." Furthermore, section II.C.h of the SWPCP states, "Silt fences, absorbent socks, and filtration devices should be used whenever potential pollutants are visually observe (sic) to be present." These practices had not been implemented in the field. Figure 3 of the SWPCP denotes the adjacent waterway as the "Sand Island Stream."

The DFM laydown property immediately west of the dewatering facility contained the woody materials from the grubbing and other organic wastes, sediment, and discarded items collected within the City's rights-of-way by DFM crews. The laydown area was encircled by a fence on three sides; however, the northern side adjacent to the waterway was not fenced. The unfenced

portion of the laydown property was sloped towards the waterway. Erosion and sediment controls were absent. (see Appendix C, Photographs 54 through 55). DFM staff stated that the laydown property did not have an SWPCP as it was not considered an applicable municipal facility per its SIC (standard industrial classification) code.

Figure 2 depicts the dewatering facility, laydown area, and vegetation that was removed as part of the grubbing activities. The waterway, outlined with a dotted red line in the figure, is under the vegetative canopy.

Figure 2. Aerial image of DFM Sand Island dewatering facility and laydown property. Image obtained from Google Maps 2013.

As described in Chapter 6.5 of the SWMP, the City must ensure appropriate BMPs are implemented at facilities requiring SWPCPs. There are 97 facilities identified as municipal industrial facilities in the Permit. The plans were to be developed and implemented within 90 days of the effective date of the Permit (i.e., September 21, 2011). Discussions with City staff and review of a tracking spreadsheet provided during the audit indicate the City has developed and implemented SWPCPs for 118 municipal facilities.

During the audit, the Audit Team obtained copies of SWPCPs developed for multiple City-owned facilities. Upon review of the SWPCPs after the audit, the Audit Team noted that while the SWPCPs appear to provide a significant amount of information, they do not clearly identify site-specific BMPs to be implemented based on facility site conditions.

For example, the *Halawa AES Corporation Yard SWPCP*, dated April 2013, describes the facility location, site conditions, onsite activities, drainage, and potential pollutant sources; however, the SWPCP only provides a generic description of BMPs to address the potential pollutant sources at the facility. Table 4-1 of the *Halawa AES Corporation Yard SWPCP* identifies the potential pollutant sources and categories of BMPs to address these pollutants. The SWPCP then refers the reader to Appendix E of the document for an explanation of the BMPs within each category (e.g., E.3: Vehicle and Equipment Maintenance). Appendix E does not identify the specific conditions and application of BMPs at the facility itself. For example, BMP E3-1 states, "Wash vehicles and equipment in designated areas away from storm drain inlets"; however, the SWPCP does not identify where these "designated" areas for washing are located. In addition, BMP E.4: Material Storage includes multiple practices for reducing pollutant discharges from the storage of materials, but does not identify specifically where materials should be stored at the Halawa AES Corporation Yard.

Potential Violation:

2.5.1(a) Sediment and debris had been discharged to a waterway at the Sand Island Dewatering Facility. *(Permit Part D.1.f)*

Part D.1.f of the Permit requires the City to develop a maintenance program to reduce the discharge of pollutants to the MEP from all City-owned facilities. Furthermore, Part C.1.f of the Permit states that all waters shall be free of substances such as "soil particles resulting from erosion on land involved in earthwork, such as the construction of public works." Chapter 6.4.2 of the SWMP, Vegetated Portions of the Drainage System, includes minimum BMPs for working around and maintaining vegetated portions of the drainage system. BMP 2 states "Reduce excessive cutting, clearing, or removal of vegetation if the vegetation is reducing pollutant loads and so long as there are no public safety concerns such as flooding and rodent control." The grubbing observed at the Sand Island Dewatering Facility resulted in sediment being discharged to the adjacent waterway.

Deficiencies:

2.5.1(b) SWPCPs developed for municipal facilities should be modified to identify site-specific BMPs and be user-friendly references for facility personnel. *(Permit Part D.1.f.(4))*

Part D.1.f.(4) of the Permit requires the City to develop and implement SWPCPs for City-owned industrial facilities identified in the Permit but not covered by a separate NPDES permit. The Audit Team recommends that the City modify the SWPCPs to clearly identify how the site-specific BMPs should be implemented at each facility. The presentation of this information should be made accessible and readily usable for onsite staff. The City should consider using photographs or a combination of photographs and a site map to display updated site-specific BMP implementation information for each facility. The inclusion of photographs and captions on Page 8 of the *Halawa AES Corporation Yard SWPCP* appeared to be an effective and useful way to convey pertinent information about drainage features and discharge locations at the facility. A similar method might be used to convey site-specific BMP information, which would be an effective onsite reference for facility staff. The City might also consider the method it used to convey information about BMP implementation in its *Municipal Field Guide*.

2.5.1(c) The City should consider expanding the universe of municipal facilities to include additional facilities that have a potential impact water quality.

It was determined that the DFM laydown property adjacent to the Sand Island Dewatering Facility did not have an SWPCP as it was not considered an applicable municipal facility per its SIC code. Yet, this facility did pose a threat to water quality as runoff from the site would go unimpeded into the adjacent waterway. The City should consider adding this site to its existing inventory of municipal facilities with an SWPCP.

2.5.2 Debris Control

During onsite discussions, City staff explained that the City has experienced challenges with equipment maintenance and procurement over the past couple of years which has hindered its ability to conduct street sweeping and drainage system maintenance activities at past levels of frequency and effectiveness. DFM staff stated that equipment lifespans for vactor trucks and street sweepers has been several years shorter than anticipated. The City has also recently had several vacant positions for both catch basin cleaning and street sweeping operations.

Based on review of information for ENV and DFM activities included in the City's *Departmental and Agency Reports* for Fiscal Year 2008–2009 through Fiscal Year 2011–2012, the Audit Team noted a significant decrease in street sweeping and drainage system maintenance activities. For example, the City reported almost a 50 percent decrease in catch basin, inlet, and manhole inspection and cleaning from Fiscal Year 2010–2011 to Fiscal Year 2011–2012. Table 2 and Figures 3–5 provide a summary of the data.

During the audit, City staff explained that the City was taking steps to fill vacant positions and to replace or upgrade equipment to ensure maintenance activities could be performed effectively. City staff stated that the City was to receive three new vacuum/flusher combination trucks in April 2013 and five additional trucks in Fiscal Year 2013–2014. Five street sweepers were added to the City's fleet recently, prior to the audit, and seven more were in the process of purchase. In addition, five street sweepers have been identified for purchase in the Fiscal Year 2013–2014 budget.

Table 2. Street Sweeping and Drainage System Maintenance Activities

Fiscal Year*	**Street Sweeping** (total curb miles)	**Catch Basin, Inlet, and Manhole Inspection and Cleaning** (number of structures)	**Storm Drain Line Inspection and Cleaning** (linear feet)
FY 08-09	35,955	10,113	315,736
FY 09-10	29,029	13,945	315,603
FY 10-11	32,261	9,595	218,410
FY 11-12	26,899	4,823	165,260

* Fiscal year from July 1 to June 30

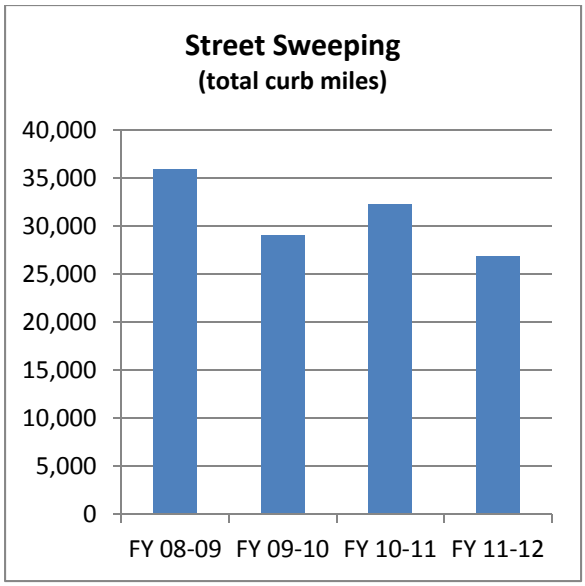


Figure 3. Annual street sweeping curb miles swept, Fiscal Year 2008–2009 through Fiscal Year 2011–2012.

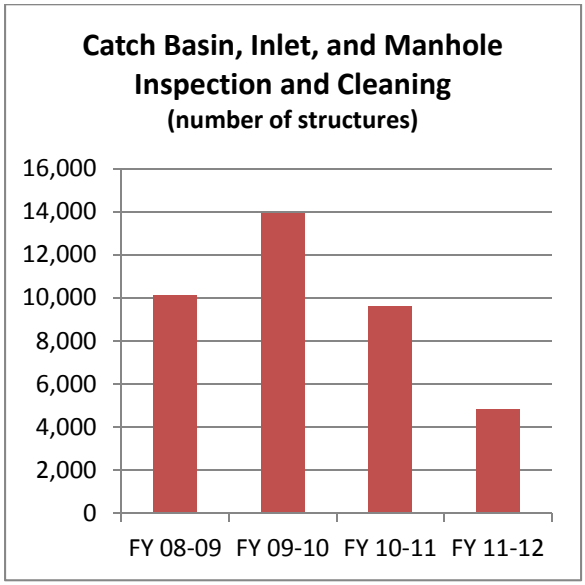
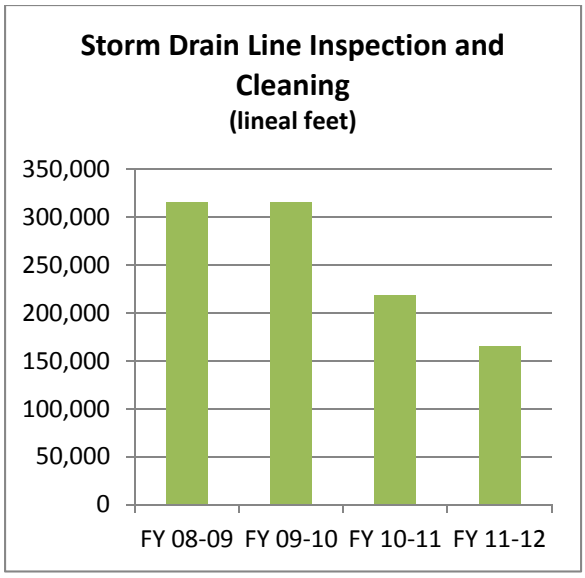


Figure 4. Number of catch basins, inlets, and manholes inspected and cleaned annually from Fiscal Year 2008–2009 through Fiscal Year 2011–2012.



Figures 5. Amount of storm sewer line inspected and cleaned annually from Fiscal Year 2008–2009 through Fiscal Year 2011–2012.

Potential Violation:

2.5.2(a) The City had significantly decreased its street sweeping and drainage system maintenance activities. *(Permit Part D.1.f.(1)(ii))*

Part D.1.f.(1)(ii) of the Permit requires the City to "continue to perform frequent, regularly-scheduled street sweeping on all major streets, and in industrial, commercial and residential areas." In addition, Part D.1.f.(1)(v) of the Permit required the City to develop and submit to HDOH a "priority-based schedule for inspecting and maintaining storm drain lines, manholes, and inlets/catch basins." All inlets/catch basins must be inspected or maintained at least once during the Permit term. As depicted above in Table 2 and Figures 3, 4, and 5, the City had significantly reduced its street sweeping and drainage system maintenance activities.

2.6 Program Effectiveness and Monitoring

The City has several plans and reports that describe overall program implementation and are related to the assessment of program effectiveness. These include the City's (1) SWMP, (2) Program Effectiveness Assessment Plan, (3) Annual Report, (4) Annual Monitoring Plan, and (5) Annual Monitoring Report.

The Audit Team discussed the City's SWMP, Program Effectiveness Plan, and Annual Monitoring Plan with City staff to gain an understanding of ongoing activities and how they relate specifically to the MS4 program and gauging program effectiveness.

2.6.1 SWMP

Part D.1 of the Permit requires the Permittee's SWMP to include measurable standards and milestones for each of the BMPs, plus underlying rationale, including interim measures to aid in determining level of effort and effectiveness of each program component. In addition, Part G.1.d of the Permit requires the Permittee to submit a "written strategy for determining effectiveness of its SWMP." Pursuant to this requirement, the Permittee developed its *Program Effectiveness Assessment Plan*, dated June 2012 (hereinafter, Assessment Plan), which is included in the City's

SWMP as Appendix A.2. While not explicitly stated, page 1-6 of the City's SWMP implies that the measurable standards and milestones for the BMPs included in the SWMP should be included the Assessment Plan. The City is required to submit an annual report each year that describes MS4 program implementation and effectiveness in comparison to the requirements of the Permit during the past fiscal year.

After a review of the SWMP and the Assessment Plan, it does not appear that the Permittee has identified measurable standards and milestones for each BMP to satisfy the requirements of the Permit. The sections of the SWMP dedicated to the individual program components do not include specific identified measureable goals, standards, or milestones for each of the BMPs. Section 1.3 of the Assessment Plan states, "The City has also developed specific measurable goals or milestones related to each program component.…Measurable Goals have been incorporated into this approach as data assessment measures." However, the "data assessment measures" included in the Assessment Plan do not appear to fulfill the requirement of Part D.1 of the Permit to include "measureable standards and milestones for each of the BMPs." For example, for the illicit discharge detection and elimination (IDDE) program, section 3 of the SWMP includes specific BMPs, such as outfall field screening, investigating complaints, enforcement, and training, to be implemented; however, the corresponding section of the Assessment Plan does not identify a measurable standard, milestone, or goal for each of these BMPs. Furthermore, some sections of the Assessment Plan identify specific data to be tabulated, but do not explain how this information will be evaluated to determine program effectiveness.

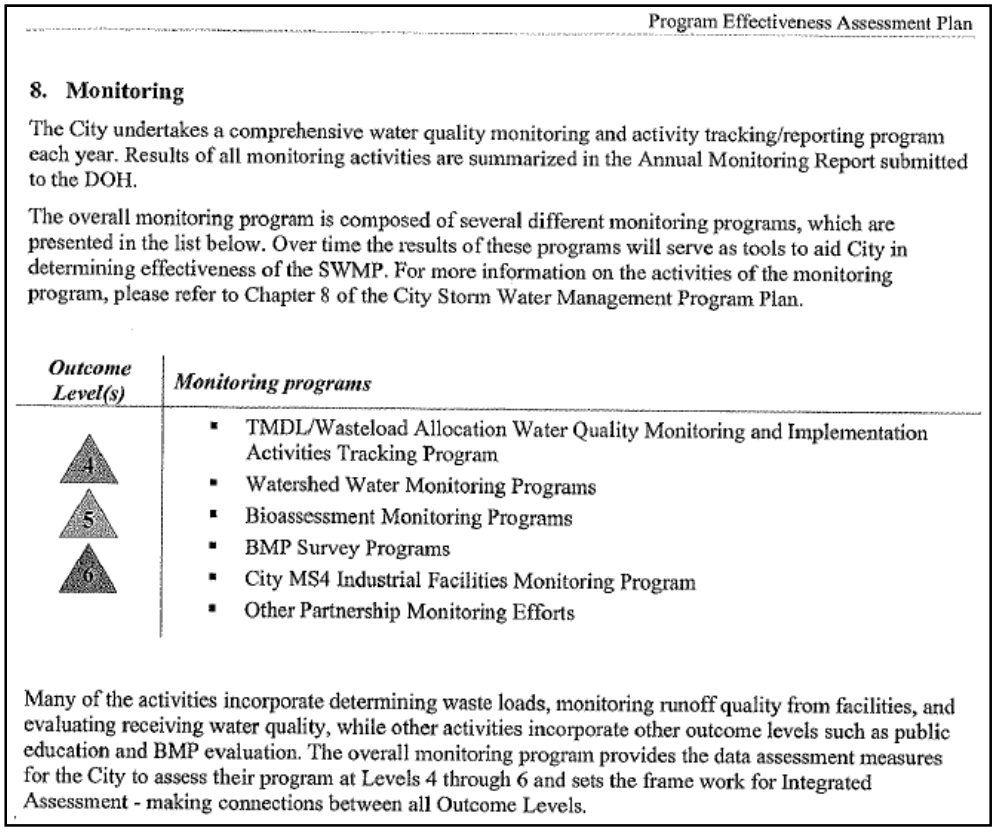
A review of the SWMP determined that the City did not include the name or position title and affiliation of the person or persons responsible for implementation or coordination of each program component as required by Part D.1 of the Permit. The City's SWMP clearly identifies the departments responsible for implementation and coordination of program components, but does not specify names of staff or position titles and affiliations. In addition, a discrepancy was noted regarding the responsible departments identified in Section 4 of the SWMP and an appendix to the SWMP for Construction Site Runoff Control program implementation. Specifically, Appendix D.4, *Inspection and Enforcement Program for Construction Sites*, January 2000 identifies that the Board of Water Supply (BWS) is responsible for several aspects of the construction site inspection and enforcement program; however, the Audit activities determined that BWS was not responsible for the ongoing construction site inspection and enforcement program and is not mentioned as having responsibility in the corresponding section of the SWMP.

2.6.2 Assessment Plan and Monitoring Plan

Part F of the Permit requires the City to develop and implement an annual monitoring plan that achieves the objectives defined at Part F.1.a–b of the Permit. These objectives include (1) assessing compliance with the Permit, (2) measuring the effectiveness of the SWMP, (3) assessing overall health of receiving waters, (4) characterizing stormwater discharges, (5) identifying sources of specific pollutants, (6) detecting and eliminating illicit discharges and illegal connections to the MS4, and (7) assessing water quality issues in each watershed resulting from stormwater discharges. Part F.1.b.(1)–(7) of the Permit specifies additional items which must be included. The City is required to submit an annual monitoring report that covers the monitoring activities conducted during the past fiscal year.

Pursuant to Part F.1.a of the Permit, the City developed and submitted to HDOH its *Annual Monitoring Plan for Fiscal Year 2013,* dated June 2013 (hereinafter, Monitoring Plan), which was reviewed by the Audit Team and discussed with City representatives during the audit. Though the Monitoring Plan and City staff described various monitoring activities related to current or potential total maximum daily loads (TMDLs), it did not appear to the Audit Team that the City's monitoring program was oriented to measure MS4 program effectiveness and address the fundamental requirements of Parts F.1.a–b of the Permit. Rather, the majority of the City's monitoring was, and continues to be, oriented towards documenting sediment loads and pollutant concentrations in upgradient or adjacent land within watersheds subject to existing, or possibly future, TMDLs.

For example, while the Monitoring Plan describes various ongoing and upcoming monitoring efforts that may collect data which would enable the City and other stakeholders to assess water quality and overall health, the plan does not discuss how the results will be analyzed and subsequently used to measure program effectiveness, compliance with the Permit, or direct program implementation. The City's monitoring program should be designed to help measure the effectiveness of the City's SWMP and its effect on water quality. Section 8 of the Assessment Plan, provided below as Figure 6, only provides a general discussion of how the City's ongoing monitoring will be used to assist in measuring effectiveness.



Program Effectiveness Assessment Plan

8. Monitoring

The City undertakes a comprehensive water quality monitoring and activity tracking/reporting program each year. Results of all monitoring activities are summarized in the Annual Monitoring Report submitted to the DOH.

The overall monitoring program is composed of several different monitoring programs, which are presented in the list below. Over time the results of these programs will serve as tools to aid City in determining effectiveness of the SWMP. For more information on the activities of the monitoring program, please refer to Chapter 8 of the City Storm Water Management Program Plan.

Outcome Level(s)	*Monitoring programs*
4 5 6	▪ TMDL/Wasteload Allocation Water Quality Monitoring and Implementation Activities Tracking Program ▪ Watershed Water Monitoring Programs ▪ Bioassessment Monitoring Programs ▪ BMP Survey Programs ▪ City MS4 Industrial Facilities Monitoring Program ▪ Other Partnership Monitoring Efforts

Many of the activities incorporate determining waste loads, monitoring runoff quality from facilities, and evaluating receiving water quality, while other activities incorporate other outcome levels such as public education and BMP evaluation. The overall monitoring program provides the data assessment measures for the City to assess their program at Levels 4 through 6 and sets the frame work for Integrated Assessment - making connections between all Outcome Levels.

Figure 6. Excerpt of monitoring section from Assessment Plan.

The City could not communicate how the overall monitoring scheme serves to measure program effectiveness and provide useful feedback for evaluation of its own program.

Potential Violations:

2.6.2(a) The City had not developed measurable goals/standards and milestones for each BMP included in the SWMP. *(Permit Part D.1)*

Part D.1 of the Permit to include "measureable standards and milestones for each of the BMPs."

2.6.2(b) The SWMP fails to include name or position title and affiliation of the person or persons responsible for implementation or coordination of each program component. *(Permit Part D.1)*

Part D.1 of the Permit requires the City to include the following in its SWMP: The name or position title and affiliation of the person or persons responsible for implementation or coordination of each program component. *(Part D.1)*

2.6.2(c) The City has not developed and implemented a monitoring program to assess compliance with the Permit and to measure the effectiveness of its SWMP. *(Permit Part F.1.a)*

Part F.1.a of the Permit requires the City to develop and submit an annual monitoring plan each year which describes the monitoring program to be implemented over the course of the next fiscal year. The monitoring program must be designed to meet the specific objectives at Part F.1.a.(1)–(7) of the Permit, and the annual monitoring plan must include the specific items identified at Part F.1.b.(1)–(7) of the Permit.

Given some of the complexity and interrelationships among the SWMP, Monitoring Plan, Annual Monitoring Report, and Assessment Plan, the City may benefit from a coordinated monitoring plan that articulates the overall goals of the program, types of data generated, and how the information will be specifically used to demonstrate the effectiveness of the City's MS4 program.

Deficiency:

2.6.2(d) The City has not leveraged its existing datasets to help assess program effectiveness or to inform program implementation.

Part F.1 of the Permit requires the City to submit an Annual Monitoring Plan, that among other items, measures the effectiveness of its SWMP (F.1.a.(2)) and identifies management measures proven to be effective and/or ineffective (F.1.b.(3)). During the audit, City representatives discussed various datasets and tracking mechanisms which have been implemented for various components of the MS4 program. For example, the City maintains information on catch basin cleaning and inspection activities, construction oversight inspections, complaint calls, illicit discharges, enforcement actions, and municipal facility inspections. Discussions with City staff revealed significant effort and expenditures are incurred to gather the data, but similar efforts are not used to analyze the data and to modify program elements or measure or improve the efficiency and effectiveness of the specific activities. For example, Chapter 6.2.5 of the SWMP states that the City uses a priority based schedule for cleaning, which is included in Appendix F. Appendix F also provides a ranking system, based in part on how much debris is removed from the catch basins. During the Audit, it was stated that catch basin cleaning has been conducted three times by consultants, but the data collected during the cleaning had not previously been used to assess the cleaning schedule and ranking system, target DFM crews' activities within high trash areas, efficiently modify route schedules, or identify locations for the installation of exclusionary devices on the basins themselves.

Likewise, the City's inventory of construction oversight inspections could be analyzed to identify whether there are specific types of construction activities (e.g., private, public, grading, vertical building) that have resulted in higher instances of non-compliance and if oversight inspections could be more targeted. Information maintained by the City regarding outfall screening for illicit discharge detection and reported illicit discharges could be used to identify areas for targeted outreach and education activities. In summary, the City should evaluate its existing data and make or suggest programmatic changes in an effort maximize program resources. In summary, the Audit Team recommends the City expand its effort to analyze its collected data to measure the effectiveness of its SWMP and identify management measures proven to be effective and/or ineffective.

Appendix A
Audit Schedule

Preliminary Agenda for MS4 Program Inspection
City and County of Honolulu, Hawaii
April 23—25, 2013

Day	Time	Program/Agenda Item
Tuesday, April 23, 2013	8:00 am - 10:00 am	Kick-off Meeting and Program Management Overview. CCH to provide presentation followed by questions **(Office)**
	10:00 am - 10:45 am	Illicit Discharge Detection and Elimination **(Office)**
	10:45 am - 11:30 am	Pollution Prevention/Good Housekeeping for Municipal Operations—including Planning of Wednesday Field Activities **(Office)**
	11:30 am - 12:00 pm	Legal Authorities and Enforcement **(Office)**
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 1:45 pm	Construction Site Stormwater Runoff Control **(Office)**
	1:45 pm - 2:30 pm	Post-Construction Stormwater Management **(Office)**
	2:30 pm - 4:30 pm	Field activity to observe select program activities occurring in general Kapolei, Makakilo, Ewa areas. Specific activities/locations to be determined based on morning discussion **(Field)**
Wednesday, April 24, 2013	8:30 am - 12:00 pm	Team A: CCH-DDC Construction Projects Team B: Private Construction Projects **(Field)**
	12:00 pm - 1:00 pm	Lunch
	1:00 pm - 4:00 pm	Team A: Pollution Prevention/Good Housekeeping Operations Team B: Post Construction BMP Maintenance **(Field)**
	4:00 pm - 4:30 pm	Recap and Logistics Planning for Thursday

Thursday, April 25, 2013	8:30 am - 12:00 pm	Monitoring and Program Effectiveness **(Office)**
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 2:00 pm	Open Time Period for Additional Activities
	2:00 pm - 3:00 pm	Internal Discussion[1]
	3:00 pm - 4:00 pm	Closing Conference[2]

[1] Internal Discussion – Time for inspectors to arrange notes and prepare information to be discussed with the Permittee at the Closing Conference. Permittee participation is not expected during this period.

[2] The Permittee is encouraged to invite representatives from all applicable organizational divisions/departments.

Appendix B
Exhibit Log

Exhibit 1
Notice of Intent for Urban Core 5 Construction Project

Reset Form | Submit by Email | Print Form

CWB NOI General Form for Appendix C

Previously assigned NGPC File No (for renewal NOI only): HI _____

Automatic Coverage (for New NOI only)
- ☐ I elect to **claim** automatic coverage per HAR, Section 11-55-34.09(f).
- ☒ I elect to **waive** automatic coverage per HAR, Section 11-55-34.09(g).

1. Owner Information

Owner Legal Name	City and County of Honolulu				
Owner Department	Department of Transportation Services				
Owner Division	n/a				
Owner Mailing Address	650 South King Street, Third Floor				
Owner Mailing City	Honolulu	Owner Mailing State	HI	Owner Mailing Zip+4	96813-3017
Owner Street Address	650 South Street, Third Floor				
Owner City	Honolulu	Owner State	HI	Owner Zip+4	96813-3017

Owner Contact Person First Name: Wayne
Owner Contact Person Last Name: Yoshioka
Owner Contact Person Position Title: Director
Owner Phone No: (808) 768-8303
Owner Fax No: (808) 768-4954
Owner Contact Person Email: wyoshioka@honolulu.gov

2. Owner Type: Municipal

Options for Owner Type:
- Industrial - Private Facility or Project
- Municipal - City, County, or State Government Facility or Project
- Federal - Federal Government Facility or Project
- MS4 - Municipal Separate Storm Sewer System

3. Operator or General Contractor Information

☒ For CWB-NOI Forms C, F, G, and I only
The general contractor information will be submitted at least 30 calendar days before the start of construction activities.

Operator Legal Name	Royal Contracting Company Limited				
Operator Department	n/a				
Operator Division	n/a				
Operator Mailing Address	677 Ahua Street				
Operator Mailing City	Honolulu	Oper. Mailing State	HI	Operator Mailing Zip+4	96819+2002
Operator Street Address	677 Ahua Street				
Operator City	Honolulu	Operator State	HI	Operator Zip+4	96819+2002

Operator Contact Person First Name: Leonard
Oper. Contact Person Last Name: Leong
Operator Contact Person Position Title: Vice President
Operator Phone No: (808) 839-9006
Operator Fax No: (808) 839-7571
Operator Contact Person Email: leonard@royalcontracting.com

4. Facility or Project Information

Facility Legal Name: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Facility Mailing Address: c/o City and County of Honolulu, Department of Transportation Services

Facility Mailing City: Honolulu | Facility Mailing State: HI | Facility Mailing Zip+4: 96813-3017

Facility Street Address: Extension of Kapolei Parkway from Intersection with Kamokila Boulevard

Facility City: Kapolei | Facility State: HI | Facility Zip+4: 96707-xxxx

Facility Contact Person First Name: Wayne | Facility Contact Person Last Name: Yoshioka

Facility Contact Person Position Title: Director

Facility Phone No: (808) 768-8303 | Facility Fax No: (808) 768-4954

Facility Contact Person Email: wyoshioka@honolulu.gov

Island of Facility: Oahu

If there are multiple Plat and/or Parcel Numbers, please separate them with semi-colons.
If there are more Tax Map Keys (TMKs), please attach a separate sheet.

TMK Division	Zone	Section	Plat	Parcel or Lot
(1)	9	1	16	150

5. Receiving State Water(s) Information

5.a. Number of Receiving State Waters: 1

5.a.i. Receiving Waters Name: Pacific Ocean

Receiving Waters Classification: A

Latitude Degrees (N): 021 | Latitude Minutes: 17 | Latitude Seconds: 45

Longitude Degrees (W): 158 | Longitude Minutes: 05 | Longitude Seconds: 11

5.a.ii. Additional Receiving Waters Name: n/a

Receiving Waters Classification:

Latitude Degrees (N): | Latitude Minutes: | Latitude Seconds:

Longitude Degrees (W): | Longitude Minutes: | Longitude Seconds:

5.a.iii. Additional Receiving Waters Name: n/a

Receiving Waters Classification:

Latitude Degrees (N): | Latitude Minutes: | Latitude Seconds:

Longitude Degrees (W): | Longitude Minutes: | Longitude Seconds:

5.b. Receiving Separate Drainage System - Complete the following if the discharge from your facility or project first enters a separate storm drainage system (e.g., City and County of Honolulu Municipal Separate Storm Sewer System [MS4] , etc.)

Separate Drainage System Owner Name: City and County of Honolulu

Latitude Degrees (N): 021 | Latitude Minutes: 19 | Latitude Seconds: 33

Longitude Degrees (W): 158 | Longitude Minutes: 05 | Longitude Seconds: 10

☐ Drainage System Owner Approval to Discharge is attached.

☐ The request to the Drainage System Owner for Approval to Discharge is attached. The Approval to Discharge will be submitted at least 30 calendar days before the start of construction activities or discharge, whichever is sooner.

6. Authorized Representative Information - Select authorization under A or B or C or A & C or D. Do not select A & B or B & C - this will cause a delay in the issuance of the NGPC.

☒ A. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to submit information/documents necessary to complete the CWB NOI Form for coverage under the NPDES general permit to discharge to State waters from the subject facility. The Owner hereby agrees to comply with and be responsible for all NGPC conditions.

☐ B. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to submit information/documents necessary to complete the CWB NOI Form for coverage under the NPDES general permit to discharge to State waters from the subject facility. Our representative is further authorized to submit information/documents for compliance with the NGPC conditions, except submittal of the CWB NOC Form. The Owner hereby agrees to comply with and be responsible for all NGPC conditions.

Representative Company/Organization Name: Royal Contracting Company Limited

Representative Department: n/a

Representative Division: n/a

Representative Mailing Address: 677 Ahua Street

Rep. Mailing City: Honolulu | Rep. Mailing State: HI | Rep. Mailing Zip+4: 96819-2002

Representative Street Address: 677 Ahua Street

Representative City: Honolulu | Rep. State: HI | Representative Zip+4: 96819-2002

Representative First Name: Leonard | Representative Last Name: Leong

Representative Position Title: Vice President

Representative Phone No: (808) 839-9006 | Representative Fax No: (808) 839-7571

Representative Contact Person Email: leonard@royalcontracting.com

☐ C. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to submit information/documents for compliance with the NGPC conditions, except submittal of the CWB NOC Form. The Owner hereby agrees to comply with and be responsible for all NGPC Conditions.

☐ D. A separate authorization statement is attached, specifying the limited authorization of the representative.

Representative Company/Organization Name

Representative Department

Representative Division

Representative Mailing Address

Rep. Mailing City | Rep. Mailing State: HI | Rep. Mailing Zip+4

Representative Street Address

Representative City | Rep. State: HI | Representative Zip+4

Representative First Name | Representative Last Name

Representative Position Title

Representative Phone No | Representative Fax No

Representative Contact Person Email

7. Certification - Alteration of this item will result in the invalidation of this CWB-NOI Form submittal. **The person certifying this CWB-NOI Form must meet one of the following descriptions and be employed by the owner or be an administrator of the sole proprietorship, trust, or LLC listed in Item 1.**

○	I certify that for a state agency, I am a principal executive officer or ranking elected official.
◉	I certify that for a municipal agency, I am a principal executive officer or ranking elected official.
○	I certify that for a non-federal public agency, I am a principal executive officer or ranking elected official.
○	I certify that for a federal agency, I am the chief executive officer of the agency, or I am the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
○	I certify that I am a general partner for a partnership.
○	I certify that for a corporation, I am the President, Vice President, Secretary, or Treasurer of the corporation and in charge of a principal business function, or I perform similar policy or decision-making functions for the corporation.
○	I certify that I am the proprietor for a sole proprietorship.
○	I certify that for a corporation, I am the Manager of one or more manufacturing, production, or operating facilities and am authorized to make management decisions which govern the operation of the regulated facility or facilities including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations. I can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements and authority to sign documents has been assigned or delegated to me in accordance with corporate procedures.
○	I certify that for a trust, I am a trustee.
○	I certify that for a limited liability company (LLC), I am the Manager or a Member authorized to make management decisions for the LLC and am in charge of a principal business function, or I perform similar policy or decision-making functions for the LLC.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature  Date Signed 7/12/2012

Certifying Person First Name Wayne Certifying Person Last Name Yoshioka

Certifying Person Position Title Director

Certifying Person's Company or Agency City and County of Honolulu

Certifying Department Department of Transportation Services

Certifying Division n/a

Certifying Phone No (808) 768-8303 Certifying Fax No (808) 768-4954

Certifying Person Email wyoshioka@honolulu.gov

For facilities/projects on the island of Oahu, submit one (1) copy of the CWB NOI General Form, applicable discharge form (e.g., CWB NOI Form C), and supporting documents with the certifying person's original signature and $500 Filing Fee.

For facilities/projects on the island of Hawaii, submit three (3) copies of the CWB NOI General Form, applicable discharge form (e.g., CWB NOI Form C), and supporting documents. One copy of the CWB NOI General Form shall include the certifying person's original signature and $500 Filing Fee.

For facilities/projects located on islands other than Oahu and Hawaii, submit two (2) copies of the CWB NOI General Form, applicable discharge form (e.g., CWB NOI Form C), and supporting documents. One copy of the CWB NOI General Form shall include the certifying person's original signature and $500 Filing Fee.

Submit by Email

Print Form

Exhibit 2
SSCBMP for Urban Core 5 Construction Project

Construction Best Management Practice Plan

Notice of General Permit Coverage (NGPC) File No. HIR10D926

Preparation Date 7/13/2012

All sections of this template MUST be completed for National Pollutant Discharge Elimination System (NPDES) General Permit compliance.

If Section 3.0 - Best Management Practice Specifications/Details is not submitted with the initial submittal, **a complete Site-Specific Construction Best Management Practice (SSCBMP) Plan must be submitted to the CWB for comment no less than 30 calendar days prior to starting construction activities**. Your entire SSCBMP Plan (including Sections 2.0 and 3.0) will be reviewed in the order received and will not be expedited to accommodate your schedule. Written acceptance of a COMPLETED SSCBMP plan from the Clean Water Branch (CWB) must be received before the start of construction activities.

It is highly recommended that all sections of this template are completed in the initial submittal with the CWB Notice of Intent (NOI) General Form. Please refer to the DOH-CWB Procedure for Changing Construction Site-Specific BMPs, dated July 20, 2010.

As of April 1, 2011, all applicants shall submit the plan using this template instead of the CWB-NOI Form C (Rev. 08/01/2007).

Table of Contents

Project Information

(Item No. 4 of CWB NOI General Form)

Kapolei Parkway, Urban Core 5	
Makaaha Avenue to Kamokila Boulevard	
Kapolei	*Hawaii*
96707	*Oahu*

Estimated Project Dates

(Item No. C.8.b.vi. of CWB-NOI Form C)

Project Start Date: 8 / 27 / 2012

Install Erosion Control Measures Date: 8 / 27 / 2012 to 9 / 4 / 2012

Site Disturbance Begin Date: 9 / 5 / 2012

Major Construction Activity Begin Date: 9 / 11 / 2012

Project Estimated Completion Date: 12 / 30 / 2013

Certification of the CWB SSCBMP Plan

(Item Nos. 6.a., 6.b., 6.c., 6.d., or 7 of CWB NOI General Form)

The certifying person and duly authorized representative shall meet the requirements of Hawaii Administrative Rules, Section 11-55-07.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Leonard K.P. Leong *Date:* July 13, 2012

Person Name: Leonard K.P. Leong

Person Position Title: Vice President

Person Company or Agency: Royal Contracting Company Limited

Department: n/a

Division: n/a

Phone Number: (808) 839-9006 *Fax No.:* (808) 839-7571

Person Email: leonard @royalcontracting.com

Owner/Permittee Information

(Item No. 1 of CWB NOI General Form)

The Owner/Permittee Legal Name must be identical to the Certifying Person Company or Agency in Item No. 1 of CWB NOI General Form.

City and County of Honolulu	
Department of Transportation Services	*n/a*
650 South King Street, Third Floor	
Honolulu	*Hawaii 96813-3017*
Wayne Yoshioka	
Director	
(808) 768-8303	*(808) 768-4954*
wyoshioka@honolulu.gov	

General & Sub-Contractor(s) Information

(Item No. 3 of CWB NOI General Form)

Information will be submitted at least 30-calendar days before the start of Construction Activity	
Royal Contracting Company Limited	
677 Ahua Street	
Honolulu, Hawaii 96819-2002	
Leonard K.P. Leong	

Vice President	
Office (808) 839-9006	*Cellular (808) 478-7516*
e-mail leonard@royalcontracting.com	

Section 1.0 - Project/Facility Information

1.1 - Additional Project Information

(Item No. 4 of CWB NOI General Form)

County or Similar Subdivision: Honolulu

Facility/Project Front Gate Location Coordinate (degrees, minutes, seconds):

Latitude 021 ° 19 ' 40" N *Longitude 158 ° 05 '10" W*

Coordinate System Reference Datum (e.g., NAD83, WGS84): WGS84
Collection Method for determining coordinate (e.g., GoogleEarth, handheld GPS unit): GoogleEarth

Tax Map Key:

Division	Zone	Section	Plat	Parcel or Lot
1	9	1	16	150

Does the Facility/Project include a baseyard/staging area onsite:

☒ *Yes, please refer to the attached Site Plan*

☐ *To be determined 30 days before the start of construction activities. The Permittee may need to obtain a modification to the NGPC and pay the $500 Filing Fee.*

☐ *No, the street address/location of the baseyard/staging area is provided below and the receiving water discharge point from this location is provided in SSCBMP Section 1.3:*

*Street Address/Location:*_____

*City:*_____ *State:*_____ *ZIP Code:*_____

Tax Map Key:

Division	Zone	Section	Plat	Parcel or Lot

1.2 – Authorized Representative Information

(Item No. 6.b., 6.c., or 6.d. of CWB NOI General Form)

Complete this section only if different from Certifying Person listed in Item No. 7 of CWB NOI General Form and not the Duly Authorized Representative listed in Item No. 6.a. of CWB NOI General Form.

Company or Organization Name: _____

Contact Person Name: _____

Contact Person Title: _____

Mailing Address: _____

City: _____ *State:* _____ *ZIP Code:* _____

Telephone Number: _____ *Fax:* _____

Email: _____

1.3 - Receiving Water(s) Information

(Item No. 5.a.i.-iii. of CWB NOI General Form)

Number of Receiving Water Discharge Points (may be multiple for same water body): 1

a. *Receiving Water Name: Pacific Ocean*
Receiving Water Classification: A
Receiving Water Discharge Point Coordinates (degrees, minutes, seconds):
Latitude 021 ° 17 ' 45" N Longitude 158 ° 05 ' 11" W
On the Section 303(d) List? See http://hawaii.gov/health/environmental/env-planning/wqm/2006_Integrated_Report/2006_Chapter_IV_Assessment_of_Waters.pdf.
☐ *Yes* ☒ *No*

b. *Receiving Water Name: n/a*
Receiving Water Classification _____
Receiving Water Discharge Point Coordinates (degrees, minutes, seconds):
Latitude _ _ ° _ _ ' _ _ " N Longitude _ _ _ ° _ _ ' _ _ " W
On the Section 303(d) List? ☐ *Yes* ☐ *No*

c. Receiving Water Name: n/a
Receiving Water Classification _____
Receiving Water Discharge Point Coordinates (degrees, minutes, seconds):
Latitude _ _ ° _ _ ' _ _ " N Longitude _ _ _ ° _ _ ' _ _ " W
On the Section 303(d) List? ❑ *Yes* ❑ *No*

Coordinate System Reference Datum (e.g., NAD83, WGS84): WGS84
Collection Method for determining coordinate (e.g., GoogleEarth, handheld GPS unit):
GoogleEarth

1.4 - Receiving Separate Drainage System

(Item No. 5.b. of CWB NOI General Form)

Complete the following if the discharge from your facility or project first enters a separate storm drainage system (e.g., City and County of Honolulu Municipal Separate Storm Sewer System [MS4], State Department of Transportation-Highways Division MS4, other) prior to the State waters.

a. Separate Drainage System Owner Name: City and County of Honolulu
Discharge Point Coordinates (degrees, minutes, seconds) into the Separate Drainage System: Latitude 021 ° 19 ' 33" N Longitude 158 ° 05 ' 10" W

b. Separate Drainage System Owner Name: n/a
Discharge Point Coordinates (degrees, minutes, seconds) into the Separate Drainage System: Latitude _ _ ° _ _ ' _ _ " N Longitude _ _ ° _ _ ' _ _ " W

c. Separate Drainage System Owner Name: n/a
Discharge Point Coordinates (degrees, minutes, seconds) into the Separate Drainage System: Latitude _ _ ° _ _ ' _ _ " N Longitude _ _ ° _ _ ' _ _ " W

Coordinate System Reference Datum (e.g., NAD83, WGS84): WGS84
Collection Method for determining coordinate (e.g., GoogleEarth, handheld GPS unit):
GoogleEarth

❑ *Attach the Drainage System Owner(s) Approval to Discharge, in Attachment* _____.

☒ *Check this box if the Certifying Person is responsible for the overall operation and maintenance of the Separate Drainage System and approves of the storm water discharge into their drainage system.*

1.5 - Existing Pollution Sources/ History of Land Use

(Item No. C.7.a. & C.7.b. of CWB-NOI Form C)

Describe the history of land use at the existing Facility/Project site: Presently vacant. The area was cultivated in sugarcane prior to urban development.

Determine if the existing Facility/Project site may contain any existing pollution source(s) by using the following references. Place a check next to all references you utilized to determine existing pollution source(s).

- ☐ *a. DOH, Solid and Hazardous Waste Branch-Hawaii Underground Storage Tank- Leaking Underground Storage Tank database*
- ☐ *b. DOH, Hazard Evaluation and Emergency Response Office records*
- ☐ *c. Phase I and/or Phase II Environmental Site Assessments, as applicable*
- ☐ *d. Recent site inspections*
- ☒ *e. Past land use history*
- ☐ *f. Soil sampling data, if available*
- ☐ *g. Other (specify):* _____

Describe any existing pollution source(s) identified in the references you checked above: n/a

Describe any corrective measures that have been undertaken for any existing pollution source(s): There is no indication of chemical residues in soil from previous agricultural operations. No specific corrective measures were undertaken.

1.6 - Construction Site Estimates

(Item No. C.1. of CWB-NOI Form C)

Please provide the following estimates for the construction site.

Total project area including areas to be left undisturbed: 8.72 *acres*

Construction site area to be disturbed including storage and staging areas: 9.77 *acres*

Percentage of impervious area before construction: 0 *%*

Runoff coefficient before construction: 0.4

Percentage impervious area after construction: 0.87 *%*

Runoff coefficient after construction: 0.88

1.6.a. - Quantity of Storm Water Runoff

(Item No. C.2. of CWB-NOI Form C)

Estimate the quantity of storm water runoff during construction when the greatest and/or maximum area of disturbance occurs. Provide the supporting calculations in an attachment or insert in this section.

_____ *Millions of Gallons per Day (MGD)*

or

See Appendix for details _____ *Cubic Feet per Second (CFS)*

1.6.b. – Soil Characterization

(Item No. C.8.b.ii. of CWB-NOI Form C)

Describe the nature of the soil on the project site (including the potential to encounter contaminated soil) and the nature of the fill material to be used: *See Appendix for details*

1.7 - Nature and Sequence of Construction Activity

(Item Nos. C.1.d. and C.8.b.i.(1) & (2) of CWB-NOI Form C)

What is the function of the construction activity (Please check all applicable activity(ies))?

❑ *Residential* ❑ *Commercial* ❑ *Industrial* ☒ *Road Construction* ❑ *Linear Utility*

❑ *Other (please specify):*_____

Describe the general scope of the work for the project, major phases of construction, etc:
Extend Kapolei Parkway 1720 feet west from Kamokila Boulevard intersection

Is the Project Phased?

❑ *Yes (Select this if separate general contractors for each phase. Owner acknowledges that a separate NOI package and filing fee shall be submitted for each phase.)*

☒ *No (Select this for construction phasing due to scheduling only.)*

1.8 - Existing or Pending Permits, Licenses, or Approvals

(Item Nos. C.5.and C.8.b.v. of CWB-NOI Form C)

Note the other applicable Federal, State, or County permits, Licenses, or approvals for the project.

❑ *Other NPDES Permit or NGPC File No.:*_____

❑ *Department of the Army Permit (Section 404):*_____

If your project requires work in, above, under or adjacent to State waters, please contact the Army Corps of Engineers (COE) Regulatory Branch at (808) 438-9258 regarding their

permitting requirements. Provide a copy of the COE permitting jurisdictional determination (JD) or the JD with COE Person's Name, Phone Number, and Date Contacted.

- ❑ *Facility on SARA 313 List (identify SARA 313 chemicals on project site:_____*
- ❑ *RCRA Permit (Hazardous Wastes):_____*
- ❑ *Section 401 Water Quality Certification:_____*
- ❑ *Other:_____*
- ❑ *County-approved Erosion and Sediment Control Plan and/or Grading Permit*

a. *Is a County-approved Erosion and Sediment Control Plan and/or Grading Permit, where applicable for the activity and schedule for implementing each control, required?*
   - ☒ *Yes. Please complete Section 1.8.b below and skip Section 1.8.c.*
   - ❑ *No. Please complete Section 1.8.c below and skip Section 1.8.b.*

b. *Is a copy County-approved Erosion and Sediment Control Plan and/or Grading Permit, as appropriate for the activity and schedule for implementing each control, attached?*
   - ❑ *Yes, see Attachment _____*
   - ☒ *No, the County-approved Erosion and Sediment Control Plan and/or Grading Permit, as appropriate for the activity and schedule for implementing each control, will be submitted at least 30 calendar days before the start of construction activities.*

c. *Please select and complete at least one (1) of the following items to demonstrate that a County-approved Erosion and Sediment Control Plan and/or Grading Permit, as appropriate for the activity and schedule for implementing each control, is not required.*
   - ❑ *See Attachment _____ for the County written determination.*
   - ❑ *Provide the County contact person information (Name, Department, Phone Number, and Date Contacted): _____*
   - ❑ *The project is a Federal Project and does not require County approval.*
   - ❑ *Other (specify): _____*

1.9 - Project Site Maps and Construction Plans/Drawings

(Item Nos. C.4. and C.8.a.ii. of CWB-NOI Form C)

Attach, title, and identify all maps (pdf - minimum 300 dpi) listed below, in Attachment A. Please reference which maps account for the features listed below.

a. *Island on which the project is located. See Figure 1 Location Map*
b. *Vicinity of the project on the island. See Figure 1*
c. *Legal boundaries of the project. Refer to Dwg. C-7 Layout Plan*
d. *Receiving State water(s), including wetlands and receiving storm water drainage system(s), as applicable, identified and labeled. See Figure 1*
e. *Boundaries of 100-Year flood plans. n/a*

f. ALL outfalls or discharge points from the project with identification numbers and coordinates. See Figure 2 Coordinate Location Map

g. Areas of soil disturbance. See limits of Clearing, grubbing, and grading on Dwg. C-8

h. Location(s) of impervious structures (including buildings, roads, parking lots, etc.) after construction is completed. Project site

i. Pre-Construction Topography including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows). Refer to Dwg. C-9 Grading Plan

j. During-Construction Topography (after major grading activities) including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows). Dwg. 9

k. Post-Construction Topography including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows). Refer to Dwg. 9

1.10 - Flow Chart or Line Drawing

(Item No. C.5. of CWB-NOI Form C)

Attach or insert in this section, a flow chart showing the following (Check each item, as applicable): See Attachment A

☒ *a. Storm water entering the project from off-site areas*

☒ *b. General route taken by storm water through the project (show the routes through different drainage areas)*

☒ *c. Treatment system(s) utilized for the reduction of sediment (e.g., silt fence, earth berm, detention basin, vegetated swale, etc.)*

☒ *d. Best Management Practices (BMPs) utilized to prevent erosion (e.g., erosion control mats, reduced open area, revegetation, etc.)*

☒ *e. Quantity of flow through each applicable route from upslope to the receiving State water*

☒ *f. Drainage system(s) receiving storm water from the project, as applicable (e.g., City and County of Honolulu Municipal Separate Storm Sewer System (MS4), etc.)*

☒ *g. State water name(s) receiving storm water from the project*

Indicate which item(s) are not identified _____

Section 2.0 - Construction Activity Best Management Practices

2.1 - Special Conditions for Land Disturbances

(Item No. C.8.b.iv. of CWB-NOI Form C)

By submitting this section the owner and/or general contractor agrees that at a minimum, they will comply with all conditions as stated below from Section No. 11 of HAR, Chapter 11-55, Appendix C, under Special Conditions for Land Disturbances.

"(a) Construction Management Techniques

(1) Clearing and grubbing shall be held to the minimum necessary for grading and equipment operation.

(2) Construction shall be sequenced to minimize the exposure time of the cleared surface area.

(3) Construction shall be staged or phased for large projects. Areas of one phase shall be stabilized before another phase is initiated. Stabilization shall be accomplished by temporarily or permanently protecting the disturbed soil surface from rainfall impacts and runoff.

(4) Erosion and sediment control measures shall be in place and functional before earth moving operations begin. These measures shall be properly constructed and maintained throughout the construction period.

(5) All control measures shall be checked and repaired as necessary, for example, weekly in dry periods and within twenty-four hours after any rainfall of 0.5 inches or greater within a 24-hour period. During prolonged rainfall, daily checking is necessary. The permittee shall maintain records of checks and repairs.

(6) The permittee shall maintain records of the duration and estimated volume of storm water discharge(s).

(7) A specific individual shall be designated to be responsible for erosion and sediment controls on each project site.

(b) Vegetation Controls

(1) Pre-construction vegetative ground cover shall not be destroyed, removed, or disturbed more than twenty calendar days prior to land disturbance.

(2) Temporary soil stabilization with appropriate vegetation shall be applied on areas that will remain unfinished for more than thirty calendar days.

(3) Permanent soil stabilization with perennial vegetation or pavement shall be applied as soon as practical after final grading. Irrigation and maintenance of the perennial vegetation shall be provided for thirty calendar days or until the vegetation takes root, whichever is shorter.

(c) Structural Controls

(1) Storm water flowing toward the construction area shall be diverted by using appropriate control measures, as practical.

(2) Erosion control measures shall be designed according to the size of disturbed or drainage areas to detain runoff and trap sediment.

(3) Water must be discharged in a manner that the discharge shall not cause or contribute to a violation of the basic water quality criteria as specified in HAR, Chapter 11-54, Section 11-54-4."

2.2 - Construction Schedule

(Item No. C.8.b.vi. of CWB-NOI Form C)

In Attachment C, attach the proposed construction schedule which shall include, at a minimum:

☒ *The date when the SSCBMP Plan, including erosion control measures will be implemented*
☒ *The date when the general contractor will begin the site disturbance*
☒ *The date when each major construction activity begins*
☒ *The proposed timetable for each major activity*
☒ *The date when each major construction activity ends*
☒ *The date when the general contractor will end site disturbance*
☒ *The date when erosion control measures will be removed*
☒ *The date when the Notice of Cessation form will be submitted*

2.3 - Potential Sources of Pollution Associated with Construction Activities

Account for potential sources of water pollution associated with construction activities including but not limited to the contents of the following tables.

2.3.a. - Potential Storm Water Pollutant Sources

(Item No. C.8.b.iii. of CWB-NOI Form C)

Source/Material	***Location (List Map No.)***	***Proposed BMP/Control Method***	***Section 3.0 References (e.g., 3.9)***
Construction debris, green waste, general litter		*Use covered waste receptacles and haul to approved disposal facility. Construction waste will not be buried onsite.*	*3.9*
Materials associated with the operation and maintenance of equipment, such as oil, fuel, and hydraulic fluid leakage		*Monitor vehicles for leaks and conduct regular preventive maintenance to reduce chance of leakage. Clean up any discharge immediately. No maintenance or repair activities shall be conducted onsite. Trucks to carry Spill Kits.*	*3.9*

Note: No specific mention of basin or earthen berm or reference to their appropriate BMP sections in Section 3.

Source/Material	*Location (List Map No.)*	*Proposed BMP/Control Method*	*Section 3.0 References (e.g., 3.9)*
Soil erosion from the disturbed areas	*Dwg. C-9*	*Multiple erosion control measures will be utilized as indicated on the Dwg. C-8*	*3.2, 3.3, 3.4, 3.5, 3.7*
Sediment from soil stockpiles	*Stockpile to be located in the Staging Area*	*The temporary stockpile at designated staging area will be fully covered. Silt fence will be installed around the staging area.*	*3.5*
Emulsified asphalt or prime/tack coat		*Asphalt substances will be applied according to manufacturers' recommendations to minimize discharge of pollutants.*	*3.9*
Materials associated with painting, such as paint and paint wash solvent		*Properly seal and store containers when not in use. Excess paint will not be discharged to the storm sewer system, but will be disposed properly according to manufacturers' instruction or State and City and County regulations.*	*3.9*
Industrial chemicals, fertilizers, and or pesticides	*Dwgs. L-1 to L-3*	*Apply in minimum amounts as recommended by manufacturer. Work fertilizer into soil to minimize exposure to stormwater. Store in covered area. Transfer contents of partially used bags to sealable bins to avoid spills*	*3.9*
Hazardous waste (Batteries, Solvents, Treated Lumber, etc.)		*n/a*	
Metals		*n/a*	
Existing Pollution Sources from Section 1.5 above		*n/a*	

Source/Material	***Location (List Map No.)***	***Proposed BMP/Control Method***	***Section 3.0 References (e.g., 3.9)***
Other		*n/a*	

2.3.b. - Potential Non-Storm Water Pollution Sources

(Item No. C.3. of CWB-NOI Form C)

Indicate the handling location, BMPs, and ultimate disposal location for all applicable non-storm water discharges. If the non-storm water is discharged to State waters, the construction activity may require a separate NPDES permit. All solid waste shall be disposed of at DOH, Solid and Hazardous Waste Branch (SHWB), Solid Waste Section (SWS) permitted facilities. If not, contact the SHWB-SWS at (808) 586-4226 as additional permits may be required.

Source	***Handling Location (List Map No.)***	***Proposed BMP/Control Method***	***Ultimate Disposal Location***	***Section 3.0 Reference (e.g., 3.9)***
Dust Control Water		*Carefully monitor application rate to prevent runoff generation*		*3.2*
Concrete Truck Wash Water	*Concrete Wash Basin located in Staging Area*	*Discharge chute wash water to a designated containment basin for evaporation. Hardened concrete will be removed from the basin for offsite disposal.*	*Contractor to provide information*	*3.11*
Construction Exit Wash Water		*n/a – No washing of construction vehicles*		
Irrigation Water	*Dwgs.I-1 to I-3*	*Carefully monitor application rate to prevent runoff generation*		*3.9*

Source	***Handling Location (List Map No.)***	***Proposed BMP/Control Method***	***Ultimate Disposal Location***	***Section 3.0 Reference (e.g., 3.9)***
Hydrotesting Effluent		*Store in tanker truck(s) and apply for dust control. Alternately, Contractor to obtain permit to dispose into the City Sewer*		*3.9*
Dewatering Effluent		*n/a – Groundwater not anticipated*		
Saw-cutting Slurry		*Vacuum slurry from pavement saw-cutting with a "shop vac" operated behind the cutting machine. Empty shop vac contents into construction waste bins and hauled to an approved disposal site.*	*To be submitted by Contractor*	*3.9*
Concrete Curing Water		*Carefully monitor application to prevent runoff generation. Alternatively, apply a fast-drying concrete curing compound to form a membrane that retains moisture without the need for curing water. Concrete pours will not be scheduled in inclement weather.*		*3.9*
Plaster Waste Water		*n/a*		
Water-Jet Wash Water		*n/a*		

Source	***Handling Location (List Map No.)***	***Proposed BMP/Control Method***	***Ultimate Disposal Location***	***Section 3.0 Reference (e.g., 3.9)***
Existing Pollution Sources from Section 1.5 above		*n/a*		
Other (as identified)		*n/a*		

2.4 - Project Site Maps and Construction Plans/Drawings

(Item Nos. C.4. and C.8.a.ii. of CWB-NOI Form C)

Attach, title, and identify all maps (pdf - minimum 300 dpi) listed below, in Attachment A. Please reference which maps account for the features listed below. Provide location and design details for all BMPs.

a. *Construction sequence diagrams showing the location of specific BMPs (including stabilization BMPs) that will be implemented at different sequences of construction* n/a
b. *Additional Maps for* ***each major construction activity*** *that show all BMPs employed for activity specific pollution prevention. Please have at least one (1) map per major construction activity (e.g., Demolition, Mass Grading, Trenching, Vertical Construction, Landscaping, etc.)* All erosion control measures will be installed per Dwg. C-8 prior to commence of any major construction activities
rd and/or staging areas including remote/off-site areas. Areas used for construction materials, or wastes and areas for the disposal of wash down of construction equipment and vehicles, concrete truck drum wash water, treated dewatering effluent, hydrotesting effluent discharge, etc. Dwg. C-8
c. *Location(s) where stabilization practices are expected to occur and design details* Dwg. C-8
d. *Location(s) and descriptions of all structural controls including those that will be used to divert the offsite storm water from flowing into the construction site and design details* n/a
e. *Areas where vegetative practices are to be implemented* Dwgs. C-8, L-1, and L-2
f. *Post Construction Final Stabilization BMP Plan* Dwgs. L-1 and L-2

Note: Absence of permanent controls.

2.5 - BMPs for Major Construction Activities

(Item No. C.8.b.iii. of CWB-NOI Form C)

Complete the following tables for each major construction activity based on the submitted construction schedule. Indicate all potential pollutants associated with each activity, the BMP to be used to mitigate the pollutant, and the location each BMP will be implemented. Additional tables should be inserted or attached as needed.

a. Construction Activity: Clearing and grubbing Date Initiated: 10/4/2011
Responsible Party: Contractor

Potential Pollutants	***BMP/Control Method (List Section 3.0 Reference)***	***Location (Reference Map if applicable)***
Dust	*3.2*	
Green waste	*3.9*	

b. Construction Activity: Grading, Utility Installation Date Initiated: 10/6/2011
Responsible Party: Contractor

Potential Pollutants	***BMP/Control Method (List Section 3.0 Reference)***	***Location (Reference Map if applicable)***
Dust	*3.2*	
Loose soil from disturbed area	*3.2, 3.3, 3.4, 3.5, 3.7*	*Dwgs. C-8, L-1 to L-3*
Leak from construction equipment	*3.9*	*Service Truck to carry Spill Kit*
Concrete truck wash water	*3.9*	*Concrete wash basin in Stageing Area*
Hydrotesting	*3.9*	

c. Construction Activity: Road Construction Date Initiated: 10/6/2011
Responsible Party: Contractor

Potential Pollutants	***BMP/Control Method (List Section 3.0 Reference)***	***Location (Reference Map if applicable)***
Leak from construction equipment	*3.9*	*Service Truck to carry Spill Kit*
Concrete truck wash water	*3.9*	*Concrete wash basin in Staging Area*
Emulsified asphalt or prime/tack coat	*3.9*	
Striping paint	*3.9*	
Saw-cutting slurry	*3.9*	
Concrete curing water	*3.9*	

d. Construction Activity: Landscape Installation Date Initiated: 3/5/2012
Responsible Party: Contractor

Potential Pollutants	***BMP/Control Method (List Section 3.0 Reference)***	***Location (Reference Map if applicable)***
Fertilizer	*3.9*	
Irrigation water	*3.9*	*Dwgs. I-1 to I-3*

2.6 - Training and Record Keeping

Training your on-site staff, general contractor, and subcontractors is a required BMP. Storm water pollution prevention training is required as part of this SSCBMP plan. By selecting one of the following options, you are certifying that the storm water pollution prevention training will be conducted.

Please select one of the following options for storm water training record keeping:

☒ *The Storm Water Pollution Prevention Training Log provided in Attachment B will be used*

❑ *A self developed storm water pollution prevention training log is attached as Attachment B.*

2.7 - Site Inspections

Site inspections insure NPDES compliance and adequate implementation of the SSCBMP Plan. Site inspections are required components of the SSCBMP Plan. Site inspection details are as follows:

Personnel responsible for conducting inspections: Vincent Telles

Qualifications: Project Superintendent

2.8 - Inspection Schedule and Procedures:

Describe the inspection schedules and procedures you have developed for your site. Include the frequency of inspections for each BMP or group of BMPs and indicate when you will inspect (e.g., before/during/and after rain events, spot inspections). Include the maintenance requirements for each BMP (e.g., level of sediment buildup allowed):

BMP inspections conducted weekly and within 24 hours of rainfall 0.5 inches or greater

Inspections to be conducted by Vincent Telles, Project Superintendent.

Describe the general procedures for correcting problems when they are identified. Include the name and contact numbers for responsible staff and time frames for making corrections:

Immediately correct problems when identified. Repair BMP as necessary. Keep records of corrections and repairs.

Please select one of the following options:

☒ *The Inspection Report Form provided in Attachment E will be used.*

❑ *A self developed Inspection Report Form is attached as Attachment E.*

2.9 – Contingency Plan

Provide a contingency plan in Attachment F to ensure that even under the worst case scenario, the construction activity will have a minimal adverse impact to State water(s).

☒ *The Contingency Plan is attached as Attachment F.*

Section 3.0 - Best Management Practice Specifications/Details

(Item Nos. C.8.b.iii. and C.9 of CWB-NOI Form C)

Include product specifications or catalog cuts in Attachment A, as needed. Show the BMPs below on the construction plans and list the drawing or sheet numbers where the BMPs will be implemented under Section 2.6 - BMPs for Major Construction Activities. Note that this is a tool box of BMPs that the design consultant has determined may be used for the listed pollutant sources. The contractor has the option to use one (1) or all of the BMPs listed or to list a new BMP. Amendments to the SSCBMP Plan shall be identified in Attachment G and certified on page 3 of the SSCBMP Plan.

3.1 - BMP: Controlling Storm Water Flowing onto and through the Project

Describe structural practices including but not limited to berms, ditches, and storage basins used to divert, retain or otherwise limit run-on and run-off from the site.

BMP Description: *Sand bag berms shown on Dwg. C-8*	
Installation Schedule:	*10/3/2011*
Maintenance and Inspection:	*Remove sediment deposited behind berms. Check bag tears and replace as necessary*
Product Specification Reference:	*Typical detail shown on Dwg. C-8*

BMP Description**:** *Crossing drain pipe and inlet, outlet structures shown on Dwg. C-9*	
Installation Schedule**:**	*10/6/2011*
Maintenance and Inspection**:**	*Check drain pipe periodically to ensure proper function*
Product Specification Reference**:**	*HDPE pipe, SDOT Standard Specification 706.10*

3.2 - Soil Stabilization

Describe soil stabilization methods such as hydroseeding to stabilize exposed soils during construction activities. Also include BMPs for dust control methods in this section.

BMP Description: *Water spray*	
Installation Schedule:	*Proceed with grading progress*
Maintenance and Inspection:	*Implement to suit field condition*
Product Specification Reference:	*State DOT Construction BMP Field Manual SM-18*

BMP Description: *Mulching*	
Installation Schedule:	*Proceed with grading progress if base course is not placed right away after subgrade preparation*
Maintenance and Inspection:	*Check for bare spots and washout. Implant as necessary*
Product Specification Reference:	*State DOT Construction BMP Field Manual EC-6*

BMP Description: *Landscape installation*	
Installation Schedule:	*3/5/2012*
Maintenance and Inspection:	*Check for bare spots and washout. Implant as necessary*
Product Specification Reference:	*Dwgs. L-1 to L-3*

3.3 - Slope Protection

Describe controls such as erosion control blankets and tackifiers to be used to stabilize slopes. Include design specifications.

BMP Description: *Mulching*	
Installation Schedule:	*Proceed with grading progress if base course is not placed right away after subgrade preparation*
Maintenance and Inspection:	*Check for bare spots and washout. Implant as necessary*
Product Specification Reference:	*State DOT Construction BMP Field Manual EC-6*

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Product Specification Reference:	

3.4 - Storm Drain Inlet Protection

Describe the methods to control pollutants from discharging into storm drain inlets. Include design specifications.

BMP Description: *Catch basin guard*	
Installation Schedule:	*For existing catch basin: 10/3/2011* *For new catch basin: right after catch basin construction*
Maintenance and Inspection:	*Inspect weekly during dry periods as well as within 24 hours of any rainfall of 0.5 inch or greater which occurs in a 24-hour period or daily during periods of prolonged rainfall. Replace clogged filter roll. Remove accumulated sediment.*
Product Specification Reference:	*Dwg. C-8*

3.5 - Perimeter Controls and Sediment Barriers

Describe perimeter controls such as silt fences or fiber rolls which will be used to prevent pollutants from discharging from the site. Include design specifications.

BMP Description: *Silt fence*	
Installation Schedule:	*10/3/2011*
Maintenance and Inspection:	*Inspect weekly during dry periods as well as 24 hours of any rainfall of 0.5 inch or greater which occurs in a 24-hour period or daily during period of prolonged rainfall*
Product Specification Reference:	*SDOT Standard Specification 716.08*

3.6 - Sediment Basins and Detention Ponds

Describe structural sediment control practices such as sediment basins and detention ponds. Include design specifications in Attachment A.

BMP Description: *n/a*	
Installation Schedule:	
Maintenance and Inspection:	
Product Specification Reference:	

No mention of basin.

3.7 - Stabilized Ingress/Egress Structures

Describe the procedures to remove accumulation and tracking of sediment offsite. Include design specifications for any construction or implemented stabilized ingress/egress.

BMP Description: *Stabilized Ingress/Egress*	
Installation Schedule:	*10/3/2011*
Maintenance and Inspection:	*Periodically inspect sediment accumulation. Replace crush rock layer as necessary.*
Product Specification Reference:	*Dwg. C-8*

3.8 - Additional Erosion and Sediment Control BMPs

Describe any additional BMPs that will be used for erosion and sediment control (ESC) purposes. Include design specifications for all BMPs planned for the project.

BMP Description: *n/a*	
Installation Schedule:	
Maintenance and Inspection:	
Product Specification Reference:	

3.9 - Material Handling and Waste Management

Describe measures and include details to address materials such as trash, recycling, and any other identified potential pollutant associated with material handling and waste management.

BMP Description: *Proper disposal of construction debris, green waste, and general litter*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*Litter will be bagged daily and placed in an offsite dumpster. Haul to approved disposal facility. Ensure no littering during transportation. Burying and burning construction waste onsite are prohibited.*
Product Specification Reference:	*Construction waste taken to PVT Landfill; Green Waste taken to Hawaii Earth Products*

BMP Description: *Equipment leakage clean up*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*Inspect vehicles daily for leaks and perform regular preventive maintenance to reduce chance of leakage. Clean up any discharge immediately as incident occurs. Dispose the waste properly at approved disposal facility. No maintenance or repair activities shall be conducted onsite.*
Product Specification Reference:	*Contractor to provide disposal site information*

BMP Description: *Disposal of concrete truck wash water*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*Discharge chute wash water to a designated containment basin for evaporation. Hardened concrete will be removed from the basin and hauled to approved offsite disposal facility.*
Product Specification Reference:	*Contractor to provide details*

BMP Description: *Disposal of hydrotesting effluent*	
Installation Schedule:	*Through utility construction*
Maintenance and Inspection:	*Store effluent in tanker truck(s) and apply for dust control. Alternately, Contractor may apply for disposal into sewer.*
Product Specification Reference:	*Contractor to provide details*

BMP Description: *Controlled application of irrigation water*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*Carefully monitor application rate to prevent runoff generation.*
Product Specification Reference:	*Contractor to provide details*

BMP Description: *Saw-cutting slurry clean up*	
Installation Schedule:	*Through road pavement construction*
Maintenance and Inspection:	*Vacuum slurry from pavement saw-cutting with a "shop vac" operated behind the cutting machine. Empty contents vacuumed up into Concrete Wash Basin.*
Product Specification Reference:	*Contractor to provide details*

BMP Description: *Controlled application of concrete curing water*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*Carefully monitor application to prevent runoff generation. Alternately, apply approved concrete curing compound to retain moisture in lieu of using water.*
Product Specification Reference:	*SDOT Standard Specification 711.01, Contactor to provide details*

BMP Description: *Controlled application of Emulsified asphalt or prime/tack coat*	
Installation Schedule:	*Through road pavement construction*
Maintenance and Inspection:	*Carefully applied asphalt substances per manufacturers' recommendation to minimize discharge of pollutants.*
Product Specification Reference:	*Contractor to provide details*

BMP Description: *Management of painting substances*	
Installation Schedule:	*Through road pavement construction*
Maintenance and Inspection:	*Properly seal and store paint containers when not in use. Excess paint will not be discharged to the storm drain system, but be disposed according to manufacturers' instruction or State and City and County regulations. In spill incident, clean up the spilled mass immediately and dispose the waste properly.*
Product Specification Reference:	*Contractor to provide disposal site information*

BMP Description: *Controlled application of fertilizer*	
Installation Schedule:	*3/5/2012 to 3/30/2012*
Maintenance and Inspection:	*Apply in minimum amounts as recommended by manufacturers. Work fertilizer into soil to minimize exposure to stormwater. Transfer contents of partially used bags to sealable bins to avoid spills.*
Product Specification Reference:	*Contractor to provide details*

3.10 - Baseyards/ Staging Areas

Describe construction materials expected to be stored at a baseyard or staging area. Include procedures for storage of materials to minimize exposure of the materials to storm water.

BMP Description: *Staging area management*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosures.*
Product Specification Reference:	*Contractor to provide details at least 30 days before the start of construction activities*

3.11 - Washout Areas

Describe the control to eliminate the potential for discharges associated with wastewater streams such as concrete washout, paint wash water, stucco, and so on. Include design specifications for any controls, if applicable.

BMP Description: *Management of washout area*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*Designate a washout area onsite. Contain all washout water and disposal properly as stated in Subsection 3.9.*
Product Specification Reference:	*Concrete Wash Basin is to be located in Staging Area*

3.12 - Proper Equipment/Vehicle Fueling and Maintenance Practices

Describe equipment/vehicle fueling and maintenance practices that will be implemented to prevent storm water contamination from equipment fueling/maintenance practices (e.g., secondary containment, overhead cover, drip pans, spill kits, etc.)

BMP Description: *Take care not to spill POL's when fueling and maintenance equipment.*	
Installation Schedule:	
Maintenance and Inspection:	*Promptly clean up any spills with spill kit.*
Product Specification Reference:	

3.13 - Any Additional Non-Erosion or Sediment Control BMPs

Describe any additional BMPs that do not fit into the above categories. Indicate the problem they are intended to address.

BMP Description: *Spill Prevention and Response*	
Installation Schedule:	*Through project construction*
Maintenance and Inspection:	*Manufacturer's recommended method for spill cleanup shall be clearly posted and site personnel shall be made aware of the procedures and the location of cleanup supplies stored onsite. All spills will be contained and cleaned up immediately after discovery. Spills in toxic or hazardous nature, regardless of size, shall be reported to the State Department of Health. The spill area will be kept well ventilated and personnel shall ware appropriate protective clothing to prevent injury from contact with hazardous substance. Adjustment shall be made to the spill prevention plan as necessary to prevent recurring. Document spills, including causes and cleanup measures.*
Product Specification Reference:	*Contractor to submit details*

3.14 – Post Construction BMPs

Describe any additional BMPs that do not fit into the above categories, including structural BMPs (e.g., detention basin for sediment removal, in-line drainage system product). Indicate the problem they are intended to address.

BMP Description: *n/a*	
Installation Schedule:	
Maintenance and Inspection:	
Product Specification Reference:	

No mention of basin or earthen berm.

SSCBMP Plan Attachments

Attachment A - Project Site Maps and Construction Plans/Drawings with design details (SSCBMP Sections 1.10, 2.4, & 3.0)

PROJECT SITE MAPS AND CONSTRUCTION PLANS/DRAWINGS

Figures

Figure 1 *Location Map*

Figure 2 *Coordinate Location Map*

Construction Drawings

T-1 *Title Sheet*

C-1 *Construction Notes*

C-4 *General Plan*

C-6 *Hydraulic/Hydrologic Data*

C-7 *Layout Plan*

C-8 *Erosion Control Plan*

C-9 *Grading Plan*

L-1 *Planting Plan - 1*

L-2 *Planting Plan – 2*

L-3 *Planting Plan – 3*

I-1 *Irrigation Plan – 1*

I-2 *Irrigation Plan - 2*

I-3 *Irrigation Plan - 3*

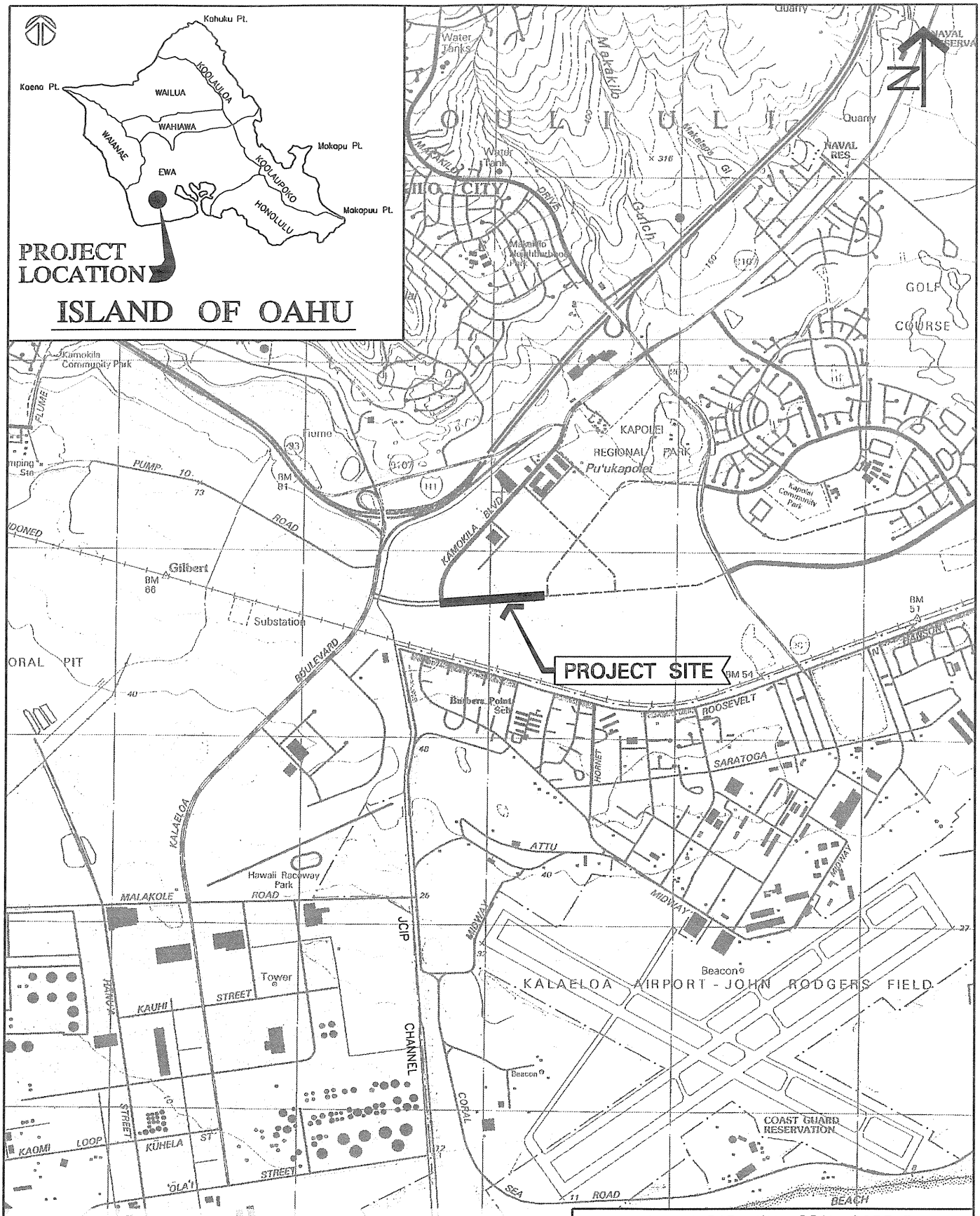
Site Location Plan (C-8) Showing location of Concrete Wash Basin and Temporary Stockpile

Detail of Concrete Wash Basin

Detail of Temporary Stockpile silt fence

Contractor and Subcontractor Certifications

Project Schedule



KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD

LOCATION MAP

FIGURE 1

Kapolei Parkway, Urban Core 5
Kamaaha Avenue to Kamokila Boulevard
SSCBMP Appendix A

COORDINATE LOCATION MAP

FIGURE 2

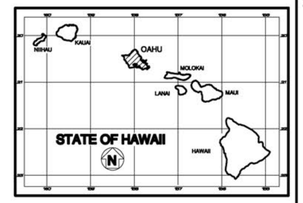
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	1	157

2011 / CP-___

CONSTRUCTION PLANS
FOR
KAPOLEI PARKWAY
URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD

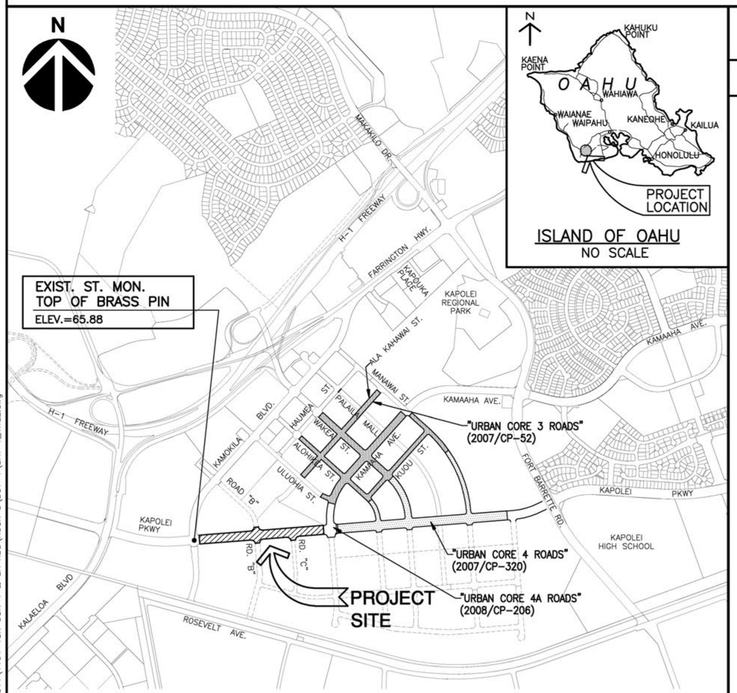
KAPOLEI, EWA, OAHU, HAWAII

DPP FILE NO.:
CONSTRUCTION PLAN FILE NO.:



OWNER:
City & County of Honolulu
Department of Transportation Services
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

PREPARED BY:
Engineering Concepts, Inc.
CONSULTING ENGINEERS
HONOLULU, HAWAII



LOCATION MAP
NO SCALE
T.M.K. : 9-1-016 : POR. 150

INDEX OF DRAWINGS

APPROVED:

DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES **DATE**
CITY & COUNTY OF HONOLULU

DIRECTOR, DEPARTMENT OF PLANNING & PERMITTING, **DATE**
CITY & COUNTY OF HONOLULU
(FOR SITE GRADING & WORK WITHIN CITY R/W)

CHIEF, ENVIRONMENTAL MANAGEMENT DIVISION, **DATE**
(DEPARTMENT OF HEALTH, STATE OF HAWAII)

Jun 01, 2011-1:17pm
N:\DOT\Dwg\2011\1104-TOK UCR 4 & 5A RDS\KUCR 5\DOT-1\SHT 1_TITLE.dwg

URBAN CORE 5 ROADS - 0812

FILE	POCKET	FOLDER	NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	2	157

GENERAL CONSTRUCTION NOTES

1. ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986 AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII.

2. THE UNDERGROUND PIPES, CABLES OR DUCT LINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR NEW LINES.

3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS" AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 14 OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.

3. CONSTRUCTION ACTIVITIES WILL NOT BE PERMITTED IN CITY STREETS DURING WEEKENDS AND HOLIDAYS WITHOUT PRIOR APPROVAL FROM THE DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES.

5. THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING AT 768-8084 TO ARRANGE FOR INSPECTION SERVICES AND SUBMIT FOUR (4) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK.

6. CONFINED SPACE

   FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(B), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:

   I. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO THE FOLLOWING:

      a. FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
      b. LIFELINE AND ASSOCIATED CLIPS.
      c. INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
      d. TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
      e. EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
      f. CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
      g. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20 FEET AWAY).
      h. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.

   II. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.

   III. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT)

7. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

8. FOR BENCH MARK, SEE SHEET 1.

9. UTILITY LINES SHOULD BE DESIGNED WITH FLEXIBLE JOINTS, PARTICULARLY WHERE LINES ARE CONNECTED TO STRUCTURES.

10. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND LICENSES REQUIRED. THE CONTRACTOR SHALL CONDUCT ALL TESTS AS REQUIRED BY THE ENGINEER AND BE RESPONSIBLE FOR ALL EXPENSES INCURRED IN CONDUCTING THESE TESTS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS AND INVERTS OF ALL EXISTING UTILITIES AND DRAINAGE SYSTEMS, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO COMMENCEMENT OF CONSTRUCTION.

12. THE CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCY OR CONFLICT FOUND IN THE FIELD PRIOR TO OR DURING THE COURSE OF CONSTRUCTION AND SHALL NOT PROCEED WITH CONSTRUCTION UNTIL THE ENGINEER RESOLVES THE SAID DISCREPANCY OR CONFLICT.

13. FOR DETAILS NOT DELINEATED BY THESE PLANS, THE CONTRACTOR SHALL REFER TO THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" OR THE "WATER SYSTEM STANDARDS", DATED 2002, WHICHEVER IS APPLICABLE.

14. UNLESS OTHERWISE NOTED, ALL EXISTING PAVEMENT, UTILITY LINES AND OTHER IMPROVEMENTS DAMAGED OR UNDERMINED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE RECONSTRUCTED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE TO MATCH EXISTING CONDITIONS.

15. ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD. HOWEVER, CONNECTIONS TO UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA. UNDERGROUND UTILITIES SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES. NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PAY FOR ALL DAMAGED UTILITIES.

16. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.

17. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH THE ADMINISTRATIVE RULES OF THE DEPARTMENT OF HEALTH REGARDING NOISE CONTROL FOR OAHU.

18. UTILITIES SHALL BE INSTALLED PURSUANT TO THE PROVISION OF ORDINANCE NUMBERS 2875 AND 3357 (UNDERGROUND UTILITIES).

GRADING NOTES

1. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 14, ARTICLES 13, 14, 15 AND 16, AS RELATED TO GRADING, SOIL EROSION AND SEDIMENT CONTROL, OF THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED, AND THE SOILS REPORT TITLED "GEOTECHNICAL ENGINEERING EXPLORATION URBAN CORE 4 ROADS (KAPOLEI PARKWAY, ALOHIKEA STREET, WAKEA STREET & MANAWAI STREET), KAPOLEI, OAHU, HAWAII", BY GEOLABS INC., DATED: JANUARY 25, 2008.

2. NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60.1, "AIR POLLUTION CONTROL".

4. THE UNDERGROUND PIPES, CABLES OR DUCT LINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

5. ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.

6. ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED.

7. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.

8. THE CITY SHALL BE INFORMED OF THE LOCATION OF THE BORROW/DISPOSAL SITE FOR THE PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

9. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE DIRECTOR, DEPARTMENT OF PLANNING AND PERMITTING, PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH THE COMMUNITY NOISE CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE II, CHAPTER 46, "COMMUNITY NOISE CONTROL".

10. THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.

11. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS", AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AND IF APPLICABLE, THE NPDES PERMIT FOR THE PROJECT.

12. WHERE APPLICABLE AND FEASIBLE, THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTH MOVING PHASE OF THE GRADING IS INITIATED.

13. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.

14. TEMPORARY EROSION CONTROL PROCEDURES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO APPLICATION FOR GRADING PERMIT.

15. IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.

16. FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH D.P.P. AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT FOUR (4) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. FOR CITY PROJECTS, THE CONTRACTOR SHALL COORDINATE INSPECTIONAL SERVICES WITH THE RESPONSIBLE CITY AGENCY.

17. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

18. FOR ALL PROJECTS, WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND, THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII, AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM. ALSO, FOR NON-CITY AND OTHER NON-GOVERNMENTAL AGENCY PROJECTS, THE CONTRACTOR SHALL PROVIDE A WRITTEN COPY OF THE NGPC TO THE PERMITTING AND INSPECTION SECTION, CIVIL ENGINEERING BRANCH, D.P.P., AT LEAST SEVEN (7) CALENDAR DAYS BEFORE THE START OF THE CONSTRUCTION. FOR CITY OR OTHER GOVERNMENTAL PROJECTS, THE CONTRACTOR SHOULD PROVIDE A WRITTEN COPY OF THE NGCP TO THE APPROPRIATE CITY DEPARTMENT OR GOVERNMENTAL AGENCY PER THEIR REQUIREMENTS.

19. ALL GRADING AND CONSTRUCTION WORK SHALL IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE WILL BE REDUCED TO THE MAXIMUM EXTENT PRACTICABLE AND WILL NOT CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF WATER QUALITY STANDARDS.

20. NON-COMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECTED TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.

21. FOR PROJECT BENCH MARK, SEE SHEET 1.

THE FOLLOWING NOTES WERE EXTRACTED FROM THE SUBSURFACE INVESTIGATION REPORT PREPARED BY GEOLABS, INC. TITLED "GEOTECHNICAL ENGINEERING EXPLORATION URBAN CORE 4 ROADS (KAPOLEI PARKWAY, ALOHIKEA STREET, WAKEA STREET & MANAWAI STREET), KAPOLEI, OAHU, HAWAII", BY GEOLABS INC., DATED: JANUARY 25, 2008.

SITE GRADING

1. AT THE ON-SET OF EARTHWORK, THE CONTRACTOR SHALL THOROUGHLY CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF GRADING. VEGETATION, ORGANIC DEBRIS, CONSTRUCTION DEBRIS, DELETERIOUS MATERIAL, AND OTHER UNSUITABLE MATERIALS SHALL BE REMOVED AND DISPOSED OF PROPERLY OFF-SITE.

2. THE CONTRACTOR SHALL OVER-EXCAVATE SOFT AND/OR YIELDING AREAS ENCOUNTERED DURING CLEARING BELOW AREAS DESIGNATED TO RECEIVE FILL OR FUTURE IMPROVEMENTS. THE CONTRACTOR SHALL OVER-EXCAVATE SOFT AND/OR YIELDING AREAS TO EXPOSE FIRM AND/OR STIFF NATURAL MATERIAL. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH WELL-COMPACTED FILL. THE EXCAVATED SOFT AND/OR ORGANIC SOILS SHALL BE PROPERLY DISPOSED OF OFF-SITE.

3. THE CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE EXISTING STRUCTURES AND PAVEMENTS WITHIN THE PROJECT LIMITS. THE OVER-EXCAVATIONS RESULTING FROM DEMOLITION WORK SHALL BE BACKFILLED WITH COMPACTED GRANULAR FILL MATERIAL.

4. THE CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE EXISTING UTILITIES TO BE ABANDONED. THE RESULTING EXCAVATION SHALL BE PROPERLY BACKFILLED WITH SELECT GRANULAR FILL MATERIAL MOISTURE-CONDITIONED TO ABOVE THE OPTIMUM MOISTURE CONTENT, PLACED IN 8-INCH LEVEL LOOSE LIFTS, AND COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION. UTILITIES TO BE ABANDONED IN-PLACE UNDER PROPOSED STRUCTURES SHALL BE BACKFILLED BY PUMPING LEAN CONCRETE OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) UNDER LOW PRESSURE.

5. AFTER CLEARING AND GRUBBING, THE CONTRACTOR SHALL PROOF-ROLL EXPOSED SUBGRADES WITH A MINIMUM 10-TON VIBRATORY DRUM ROLLER FOR A MINIMUM OF SIX PASSES TO ASSIST IN DETECTING AND COLLAPSING NEAR-SURFACE VOIDS AND LOOSE ZONES CREATED BY THE SHRINKAGE CRACKS AND GROUND DEPRESSIONS. THE EXPOSED SUBGRADES SHALL BE PROOF-ROLLED WITHOUT MOISTURE-CONDITIONING OF THE SUBGRADE SOILS (AT PRE-EXISTING MOISTURE CONTENTS.) LOOSE AREAS DISCLOSED DURING THE PROOF-ROLLING OPERATION SHALL BE BACKFILLED WITH GENERAL FILL MATERIAL COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION. THE PROOF-ROLLING OPERATIONS SHALL BE CONDUCTED UNDER THE NEAR-CONTINUOUS OBSERVATION BY A REPRESENTATIVE OF GEOLABS IN THE FIELD.

6. SUBSEQUENT TO THE PROOF-ROLLING OPERATIONS, THE CONTRACTOR SHALL SCARIFY THE SUBGRADES TO AT MINIMUM DEPTH OF 12 INCHES, MOISTURE-CONDITIONED TO AT LEAST 2 PERCENT ABOVE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION. RELATIVE COMPACTION REFERS TO THE IN-PLACE DRY DENSITY OF SOIL EXPRESSED AS A PERCENTAGE OF THE MAXIMUM DRY DENSITY OF THE SAME SOIL ESTABLISHED IN ACCORDANCE WITH ASTM D 1557. OPTIMUM MOISTURE IS THE WATER CONTENT (PERCENTAGE BY DRY WEIGHT) CORRESPONDING TO THE MAXIMUM DRY DENSITY.

7. WHERE SHRINKAGE CRACKS ARE OBSERVED AFTER COMPACTION OF THE SUBGRADE, THE CONTRACTOR SHALL SCARIFY THE SOILS AND PREPARE AGAIN AS RECOMMENDED ABOVE. THE CONTRACTOR SHALL OVER-EXCAVATE SOFT AREAS CAUSED BY SATURATION AND SUBSEQUENT YIELDING OF THE EXPOSED SUBGRADE DUE TO INCLEMENT WEATHER AND POOR DRAINAGE. THE CONTRACTOR SHALL REPLACE OVER-EXCAVATED SOFT AREAS WITH WELL-COMPACTED FILL.

8. THE ASPHALTIC CONCRETE BASE (ACB) MATERIAL SHALL CONSIST OF ASPHALT-TREATED BASALT AGGREGATE, PLACED IN A LAYER NOT TO EXCEED 6 INCHES IN COMPACTED THICKNESS, AND COMPACTED TO NO LESS THAN 92 PERCENT OF THE MAXIMUM THEORETICAL SPECIFIC GRAVITY DETERMINED IN ACCORDANCE WITH ASTM D 2041. THE AGGREGATE SUBBASE MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 31 OF THE CITY AND COUNTY OF HONOLULU STANDARD SPECIFICATIONS (SEPTEMBER 1986). THE MATERIAL SHALL BE MOISTURE-CONDITIONED TO ABOVE THE OPTIMUM MOISTURE CONTENT, PLACED IN 8-INCH LEVEL LOOSE LIFTS, AND COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION.

9. THE EXCAVATED ON-SITE SOILS GENERATED FROM CUT AREAS MAY BE RE-USED AS A SOURCE OF FILL MATERIALS TO RAISE THE EXISTING GROUND SURFACE TO THE BOTTOM OF THE SUBBASE COURSE LAYER. ADDITIONAL IMPORTED FILL MATERIALS REQUIRED FOR THE PROJECT SHALL CONSIST OF 3-INCH MINUS MATERIALS FREE OF VEGETATION, ADOBE CLAYS, AND OTHER DELETERIOUS MATERIALS. IN ADDITION, IMPORTED FILL MATERIALS SHALL ALSO HAVE A LABORATORY CALIFORNIA BEARING RATIO (CBR) VALUE OF 12 OR MORE AND SHALL HAVE A MAXIMUM SWELL OF LESS THAN 1 PERCENT WHEN TESTED IN ACCORDANCE WITH ASTM TEST DESIGNATION D 1883. FILL MATERIALS SHALL BE MOISTURE-CONDITIONED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE, PLACED IN LEVEL LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, AND COMPACTED TO A MINIMUM OF 90 PERCENT RELATIVE COMPACTION. THE UPPER 3 FEET OF FILL MATERIALS BELOW THE PAVEMENT FINISHED GRADE SHOULD BE COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION.

10. FILLS PLACED ON SLOPES STEEPER THAN 5H:1V SHALL BE KEYED AND BENCHED INTO THE EXISTING SLOPE TO PROVIDE STABILITY OF THE NEW FILL AGAINST SLIDING. THE FILLING OPERATIONS SHALL START AT THE LOWEST POINT AND CONTINUE UP IN LEVEL HORIZONTAL COMPACTED LAYERS.

TRAFFIC NOTES FOR WORK ON CITY & COUNTY STREETS

1. A PERMIT SHALL BE OBTAINED FROM THE DEPARTMENT OF TRANSPORTATION SERVICES BEFORE WORK ON ANY PORTION OF A PUBLIC STREET OR HIGHWAY MAY BEGIN. CONSTRUCTION TRAFFIC CONTROL PLANS APPROVED BY THE DEPARTMENT OF TRANSPORTATION SERVICES AND/OR DEPARTMENT OF PLANNING AND PERMITTING MUST BE PROVIDED WHEN APPLYING FOR THE PERMIT.

2. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL NECESSARY SIGNS AND OTHER PROTECTIVE FACILITIES, WHICH SHALL CONFORM WITH THE "HAWAII ADMINISTRATIVE RULES GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS" ADOPTED BY THE DIRECTOR OF TRANSPORTATION, AND THE CURRENT U.S. FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, PART VI - TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS."

3. WORK ON ANY CITY STREET MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:30 A.M. TO 3:30 P.M., MONDAY THROUGH FRIDAY, UNLESS OTHERWISE PERMITTED BY THE DEPARTMENT OF TRANSPORTATION SERVICES.

4. DURING WORKING HOURS, THE CONTRACTOR SHALL PROVIDE FOR THROUGH TRAFFIC. DURING NON-WORKING HOURS, ALL TRENCHES SHALL BE COVERED WITH A SAFE NON-SKID BRIDGING MATERIAL AND ALL LANES SHALL BE OPEN TO TRAFFIC.

5. AS REQUIRED BY THE DEPARTMENT OF TRANSPORTATION SERVICES, THE CONTRACTOR SHALL PROVIDE OFF-DUTY POLICE OFFICERS TO CONTROL THE FLOW OF TRAFFIC.

6. WHERE PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN PASSABLE CONDITION IN ACCORDANCE WITH ADAAG 4.1.1(4) AND 4.3, OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGE BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED.

7. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THESE RIGHTS-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.

8. THE CONTRACTOR SHALL REFERENCE TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION SERVICES AND DEPARTMENT OF PLANNING AND PERMITTING, ALL EXISTING TRAFFIC SIGNS, POSTS AND PAVEMENT MARKINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGNS, POSTS AND PAVEMENT MARKINGS DISTURBED BY HIS ACTIVITIES.

9. THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT FOUR (4) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF WORK TO BE DONE ON SIGNS, POST AND PAVEMENT MARKINGS.

10. NO EQUIPMENT SHALL BE STORED WITHIN STREET RIGHTS-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION SERVICES.

11. THE CITY DEPARTMENT OF TRANSPORTATION SERVICES SHALL ENSURE THAT THE CONTRACTOR INSTALLS THE CONSTRUCTION TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MUTCD AND HAWAII ADMINISTRATIVE RULES AS SPECIFIED IN TRAFFIC NOTE #2.

REVISION	DATE	BRIEF	BY	APROVED

CRAIG S. ARAKAKI
LICENSED PROFESSIONAL ENGINEER
No. 5510-C
HAWAII, U.S.A.

License Expiration Date 04-30-12

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Craig S. Arakaki
Signature

Engineering Concepts, Inc.
1100 Alakea Street, Suite 700
Honolulu, Hawaii 96813

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 150
(PROPOSED PUBLIC STREET)

CONSTRUCTION NOTES

ENGINEER: CA, CH, JT
DRAWN BY: HH
CHK BY: CA
DATE: MAY 27, 2011
SCALE: AS SHOWN
REF.

APPROVED :

FILE	POCKET	FOLDER	NO.

Jun 01, 2011 - 1:17pm
N:\CAD\DWG\2011\104-TOK UCR 4 & 5A RDS\PLOT\UCR 5\DOT-1\SHT 2-4_ NOTES.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	5	157

TRUE NORTH
SCALE "80"

EXIST. KAMOKILA BLVD. (CITY)

FUTURE ROAD "B" (UNDER SEPARATE PLANS)

EX. (LUJONIA ST. (CITY)

ALA KAHAWAI ST. (PROPOSED CITY)

"URBAN CORE 3 ROADS" CONSTRUCTED UNDER SEPARATE PLANS (2007/CP-52)

EXISTING

KAMAAHA AVE. (PROPOSED CITY)

EXISTING OUTLET

"URBAN CORE 4A ROADS" TO BE CONSTRUCTED UNDER SEPARATE PLANS (2008/CP-206)

"URBAN CORE 3 ROADS" CONSTRUCTED UNDER SEPARATE PLANS (2007/CP-52)

TMK: 9-1-016:121

EXISTING CITY PARKING LOT

LOT 90037

"URBAN CORE 4 ROADS" CONSTRUCTED UNDER SEPARATE PLANS (2007/CP-320)

EXIST. KAPOLEI PKWY. (CITY)

KAPOLEI PKWY. (PROPOSED CITY)

ACCESS PERMITTED

ROAD "C"

EX. CB-13.1KB

EX. CB-13.2KB

EX. CB-13.2K

EX. CB-13.3K

EX. DMH-6.1

OUTLET-2

SMH-12K

CB-9K

CB-8K

SMH-13K

CB-10WA

SMH-5.3WA

CB-8WA

CB-11WA

SMH-6WA

SP. DMH-4WA

CB-6WA

CB-8KB

CB-9KB

INLET-1

CB-5HB

CB-4HB

CB-11WAB

CB-7HB

SMH-5.1WA

CB-6HB

CB-3HB

CB-2HB

CB-1HB

EX. CB

EX. DMH

SP. DMH-1.1H

CB-1H

SP. DMH-1.2H

CB-2H

SP. DMH-1.3H

CB-3H

SMH-5.2WA

SP. DMH-2H

CB-4H

SP. DMH-2.1H

CB-5H

CB-6H

SP. DMH-2.3H

CB-7H

SMH-5WA

SP. DMH-3WA

CB-5WA

SP DMH-3.1WA

SP DMH-3.2WA

CB-7WA

CB-9WA

SP DMH-3.3WA

EXIST. SP. DMH-1H

MATCH LINE SEE SHEET 6

MATCH LINE SEE SHEET 6

MATCH LINE SEE SHEET 6

NOTE:

1. FOR EASEMENT DESCRIPTION NOTES SEE SHEET 7.
2. NOTATIONS OF PIPES AND CATCH BASIN ARE BASED ON APPROVED "REVISED DRAINAGE MASTER PLAN FOR THE CITY OF KAPOLEI".

GENERAL PLAN 1

SCALE "80"

TMK: 9-1-016: 134

GRAPHIC SCALES

SCALE "80" 80' 0 80' 160'

REVISION	DATE	BRIEF	BY	APPROVED

CRAIG S. ARAKAKI LICENSED PROFESSIONAL ENGINEER No. 5510-C HAWAII, U.S.A.

License Expiration Date 04-30-12

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Craig S. Arakaki
Signature

Engineering Concepts, Inc.
1160 N. King Street Suite 700
Honolulu, Hawaii 96814

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 150
(PROPOSED PUBLIC STREET)

GENERAL PLAN-1

ENGINEER:	CA, CH, JT	DATE:	MAY 27, 2011
DRAWN BY:	FQ	SCALE:	AS SHOWN
CHK BY:	CA	REF.	

APPROVED :

FILE	POCKET	FOLDER	NO.

C-4

Jun 01, 2011-1:23pm
N:\CAD\Work\2011\11-14-TCK UCR 4 & 5A RDS\KUCR 5\007-1\SHT 5-7_GP & HYDROLOGIC DATA.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	7	157

HYDRAULIC DATA *

ITEM	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A50	A51	A52	A53	A54	A55	A56	A57	A58	A59
PIPE	66" RCP CL III	66" RCP CL III	66" RCP CL III	66" RCP CL III	66" RCP CL III	66" RCP CL III	66" RCP CL III	66" RCP CL III	54" RCP CL III	54" RCP CL III	18" RCP CL III	18" RCP CL III	18" RCP CL III	18" RCP CL III	18" RCP CL III	24" RCP CL III	24" RCP CL III	18" RCP CL III	24" RCP CL III	24" RCP CL III
Q cfs	133.12	133.78	133.31	127.60	123.23	123.35	123.35	118.20	105.71	105.37	0.47	0.64	0.85	0.85	0.85	9.20	8.35	0.89	6.17	5.30
A ac	46.41	46.15	45.75	43.27	41.53	41.15	41.15	38.80	34.43	34.15	0.11	0.15	0.20	0.20	0.20	2.28	2.08	0.21	1.53	1.32
V fps	5.60	5.63	5.61	5.37	5.19	5.19	5.19	4.98	6.65	6.63	4.27	3.98	5.27	4.60	5.27	13.89	6.65	5.27	11.69	5.84
Dn ft.	2.80	3.71	3.70	3.57	3.49	3.48	3.48	3.36	2.93	2.93	0.15	0.19	0.21	0.24	0.21	0.52	0.84	0.21	0.44	0.65
So ft./ft.	0.0059	0.0025	0.0025	0.0025	0.0025	0.0026	0.0026	0.0026	0.0050	0.0050	0.03	0.02	0.03	0.02	0.03	0.07	0.01	0.03	0.06	0.01
ITEM	A60	A61	A62	A63	A64	A65	A66	A67	A68	A69	A70	A71	A72	A73	A74	A75	A76	A77	A78	A79
PIPE	18" RCP CL III	18" RCP CL III	18" RCP CL III	18" RCP CL III	18" RCP CL III	24" RCP CL III	24" RCP CL III	24" RCP CL III	30" RCP CL III	24" RCP CL III	24" RCP CL III	24" RCP CL III	24" RCP CL III	24" RCP CL III	24" RCP CL III	24" RCP CL III	24" RCP CL III	18" RCP CL III	18" RCP CL III	24" RCP CL III
Q cfs	0.81	0.81	0.89	0.89	0.89	6.97	5.46	0.64	16.89	9.83	8.22	6.68	5.78	2.13	1.33	6.25	4.74	0.89	0.89	1.66
A ac	0.19	0.19	0.21	0.21	0.21	1.72	1.36	0.15	4.37	2.48	2.06	1.65	1.44	0.52	0.33	1.54	1.18	0.21	0.21	0.41
V fps	5.11	5.87	5.27	5.44	5.27	9.49	5.88	2.48	3.44	3.13	6.61	6.32	5.98	6.79	3.87	8.66	5.69	5.27	4.88	6.24
Dn ft.	0.20	0.17	0.21	0.20	0.21	0.56	0.66	0.28	1.11	0.92	0.83	0.73	0.68	0.31	0.32	0.56	0.62	0.21	0.22	0.27
So ft./ft.	0.03	0.05	0.03	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.03	0.01	0.03	0.03	0.03
ITEM	A80	B63	B64	B65	B69	B70	B71	C2	C5											
PIPE	24" RCP CL III	24" RCP CL III	24" RCP CL III	18" RCP CL III	18" RCP CL III	18" RCP CL III	18" RCP CL III	66" RCP CL III	66" RCP CL III											
Q cfs	1.29	6.88	3.67	1.85	2.69	1.81	1.11	133.45	127.35											
A ac	0.32	1.80	0.93	0.49	0.66	0.45	0.26	55.05	51.81											
V fps	3.80	2.19	2.08	1.05	1.52	3.45	0.63	5.62	9.60											
Dn ft.	0.31	0.92	0.63	0.5	0.62	0.49	0.51	2.95	3.00											
So ft./ft.	0.01	0.005	0.005	0.0044	0.0047	0.0051	0.0044	0.005	0.0043											

ITEM	ACRES	Q (cfs)	Tm
CB-1H	0.11	0.47	10
CB-1HB	0.15	0.64	10
CB-2H	0.20	0.85	10
CB-2HB	0.20	0.85	10
CB-3H	0.20	0.85	10
CB-3HB	0.20	0.85	10
CB-3HB STUB	2.08	8.35	10
CB-4H	0.21	0.89	10
CB-4HB	0.21	0.89	10
CB-4HB STUB	1.32	5.30	
CB-5H	0.19	0.81	10
CB-5HB	0.19	0.81	10
CB-6H	0.21	0.89	10
CB-6HB	0.21	0.89	10
CB-7H	0.21	0.89	10
CB-7HB	0.21	0.89	10
CB-7HB STUB	1.36	5.46	10
CB-5WA	0.19	0.81	10
CB-6WA	0.19	0.81	10
CB-6WA STUB	1.18	4.74	10
CB-7WA	0.21	0.89	10
			10
CB-8WA	0.21	0.89	10
CB-9WA	0.09	0.38	10
CB-9WA STUB	0.32	1.29	10
CB-10WA	0.21	0.89	10
CB-11WAB	0.15	0.64	10
CB-8K	0.18	0.77	10
CB-8K STUB	0.49	1.85	10
CB-8KB	0.26	1.11	10
CB-9K	0.21	0.89	10
CB-9KB	0.21	0.89	10
CB-9KB STUB	0.45	1.81	10

DRAINAGE DESIGN CRITERIA

RUNOFF FACTORS

ONE HOUR RAINFALL
Tm 10 = 1.75 in.

RUNOFF COEFFICIENT
C=0.90 (PAVED AREA)
0.85 (REMAINING AREAS)

PIPE ROUGHNESS
n=0.013

* ALL DATA ARE TAKEN FROM APPROVED "REVISED DRAINAGE MASTER PLAN FOR THE CITY OF KAPOLEI"

EASEMENT DESCRIPTION

E1 PROPOSED 10' WIDE EASEMENT FOR LANDSCAPE & UTILITY PURPOSES IN FAVOR OF CAMPBELL HAWAII INVESTOR, LLC.

E2 PROPOSED 10' WIDE EASEMENT FOR IRRIGATION PURPOSES IN FAVOR OF THE CITY OF KAPOLEI COMMUNITY ASSOCIATION, LLC.

E3 PROPOSED 10'x68.17' EASEMENT FOR ELECTRICAL PURPOSES IN FAVOR OF HAWAIIAN ELECTRIC COMPANY AND PROPOSED EASEMENT FOR STREET LIGHT TRAFFIC SIGNAL PURPOSES IN FAVOR OF THE CITY & COUNTY OF HONOLULU AND PROPOSED EASEMENT FOR IRRIGATION PURPOSES IN FAVOR OF THE KAPOLEI COMMUNITY ASSOCIATION, LLC. AND PROPOSED EASEMENT FOR COMMUNICATION PURPOSES IN FAVOR OF THE CITY OF KAPOLEI PROPERTY DEVELOPMENT, LLC.

E4 PROPOSED 7'x16.66' EASEMENT FOR ELECTRICAL PURPOSES IN FAVOR OF HAWAIIAN ELECTRIC COMPANY. AND PROPOSED EASEMENT FOR TRAFFIC SIGNAL PURPOSES IN FAVOR OF THE CITY & COUNTY OF HONOLULU.

E5 EXISTING EASEMENT 6169 FOR WATER IN FAVOR OF BOARD OF WATER SUPPLY.

E6 EXISTING EASEMENT 6171 FOR ACCESS & UTILITY PURPOSES IN FAVOR OF THE CITY & COUNTY OF HONOLULU.

E7 EXISTING EASEMENT 10291 FOR ACCESS, CABLE, CATV, COMUNICATION, DRAIN, ELECTRICAL, SEWER, TELEPHONE & WATER PURPOSES IN FAVOR OF KAPOLEI PROPERTY DEVELOPMENT, LLC.

E8 EXISTING 30' WIDE EASEMENT FOR SEWER PURPOSES IN FAVOR OF C & C OF HONOLULU

E9 EXISTING EASEMENT 6170 FOR WATER IN FAVOR OF BOARD OF WATER SUPPLY.

E10 EXISTING 10' WIDE EASEMENT FOR LANDSCAPE & UTILITY PURPOSES IN FAVOR OF CAMPBELL HAWAII INVESTOR

E11 EXISTING EASEMENT 7117 FOR ACCESS & UTILITY PURPOSES IN FAVOR OF THE CITY & COUNTY OF HONOLULU.

E12 EXISTING EASEMENT 5750 FOR ACCESS & UTILITY PURPOSES IN FAVOR OF THE CITY & COUNTY OF HONOLULU.

REVISION	DATE	BRIEF	BY	APPROVED

CRAIG S. ARAKAKI
LICENSED PROFESSIONAL ENGINEER
No. 5510-C
HAWAII, U.S.A.

License Expiration Date 04-30-12

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Craig S. Arakaki
Signature

Engineering Concepts, Inc.
1100 S. King Street Suite 700
Honolulu, Hawaii 96814

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 150
(PROPOSED PUBLIC STREET)

HYDRAULIC / HYDROLOGIC DATA

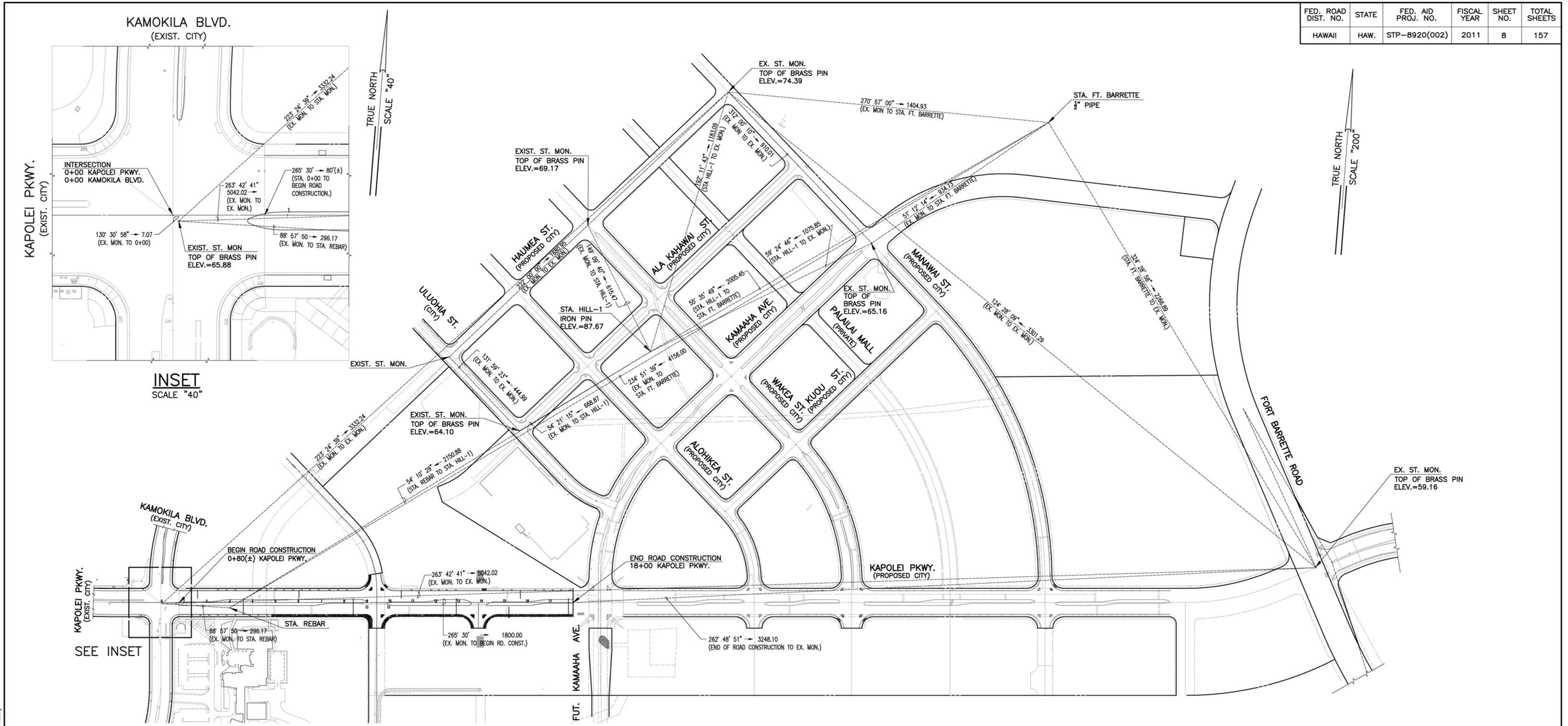
ENGINEER: CA, CH, JT
DRAWN BY: FQ
CHK BY: CA
DATE: MAY 27, 2011
SCALE: AS SHOWN
REF.

APPROVED :

FILE	POCKET	FOLDER	NO.

Jun 01, 2011-1:25pm
N:\CAD\DWG\2011\1104-KDK UCR 4 & 5A RDS\KUCR 5\DOT-1\SHT 5-7_GP & HYDROLOGIC DATA.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	8	157



LAYOUT PLAN
SCALE "200"

GRAPHIC SCALE

SCALE "200" 200' 0 200' 400'

SCALE "40" 40' 0 40' 80'

REVISION	DATE	BRIEF	BY	APPROVED

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 150
(PROPOSED PUBLIC STREET)

LAYOUT PLAN

ENGINEER: CA, CH, JT
DRAWN BY: FG
CHK BY: CA
DATE: MAY 27, 2011
SCALE: AS SHOWN
REF.

APPROVED :

CRAIG S. ARAKAKI
LICENSED PROFESSIONAL ENGINEER
No. 5510-C
HAWAII, U.S.A.

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Signature

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1100 A. King Street, Suite 700
Honolulu, Hawaii 96814

FILE	POCKET	FOLDER	NO.

C-7

SHEET 8 OF 157 SHEETS

Jun 01, 2011 - 1:26pm
N:\CAD\DWG\2011\104-TCK UCR 4 & 5A RDS\EUCR 5\DOT-1\SHT 8_LAYOUT PLAN.dwg

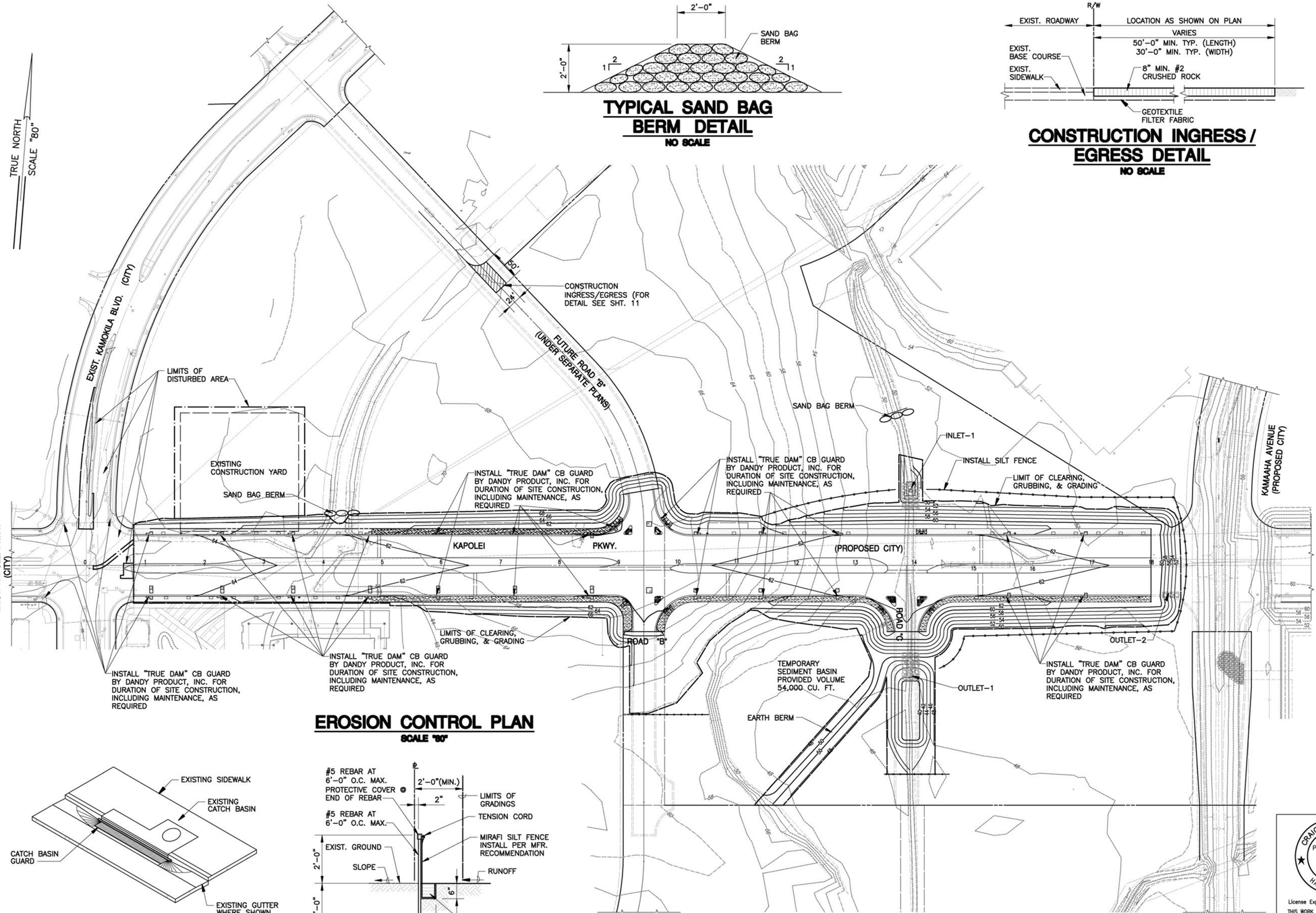
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	9	157

BEST MANAGEMENT PRACTICES NOTES:

1. THE CONTRACTOR SHALL CONSTRUCT OR MAINTAIN SEDIMENT BASINS, EROSION CONTROL BERMS, SILT FENCES CATCH-BASIN GUARDS, INGRESS/EGRESS AND OTHER ITEMS SHOWN ON THE EROSION CONTROL PLAN AS SOON AS PRACTICABLE AND TO THE EXTENT PRACTICAL. FOR DETAILS, SEE THIS SHEET.
2. THE CONSTRUCTION INGRESS/EGRESS SHALL HAVE AN 8" THICK NO. 2 CRUSHED ROCK LAYER LOCATED AT AND TO DIMENSIONS AS SHOWN ON THE EROSION CONTROL PLAN. SHOULD THE CONTRACTOR REQUIRE AN INGRESS/EGRESS OTHER THAN WHAT IS SHOWN ON THE EROSION CONTROL PLAN, THE CONTRACTOR SHALL RE RESPONSIBLE TO OBTAIN ALL NECESSARY APPROVALS, INCLUDING THAT FOR RELOCATION OF THE CRUSHED ROCK AREA AS REQUIRED.
3. SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED. UNLESS OTHERWISE INDICATED IN THE SPECIAL PROVISIONS OR PROPOSAL, PAYMENT FOR PLANTING OR GRASSING, INCLUDING MAINTENANCE REQUIRED UNDER THIS ITEM (OTHER THAN THAT SPECIFIED FOR LANDSCAPING) SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE PRICE BID FOR GRADING.
4. ALL BEST MANAGEMENT PRACTICES (BMP's) SHALL NOT BE REMOVED UNTIL ALL PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.
5. AT THE END OF GRADING OPERATIONS, EXISTING CATCH-BASINS AND DRAIN MANHOLES SURROUNDING THE PROJECT SITE SHALL BE INSPECTED AND ANY ACCUMULATED SEDIMENT AND DEBRIS FOUND IN THE DRAIN STRUCTURES SHALL BE REMOVED. FLUSHING INTO THE CATCH-BASINS AND DRAIN MANHOLES IS PROHIBITED.
6. THE CONTRACTOR SHALL INSPECT AND CLEAN THE TEMPORARY SILT FENCES AFTER EACH STORM EVENT.
7. FOR CATCH-BASIN GUARD, INSTALL "TRUE DAM" CB-GUARD BY DANDY PRODUCTS, INC. FOR THE DURATION OF SITE CONSTRUCTION, INCLUDING MAINTENANCE AS REQUIRED.
8. CATCH-BASIN GUARDS SHALL BE REMOVED IN THE EVENT OF AN ABOVE NORMAL RAINFALL AND SHALL BE REINSTALLED AFTER THE EVENT.
9. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT BASIN PRIOR TO COMMENCEMENT OF GRADING WORK.

LEGEND:

- EX. W 8 — EXISTING WATER
- EX. S 8 — EXISTING SEWER
- EX. D 18 — EXISTING DRAIN
- EXISTING CATCH BASIN
- 100 — FINISH CONTOUR
- 100 — EXISTING CONTOUR
- PROPERTY LINE
- LIMITS OF CLEARING, GRUBBING & GRADING
- LIMITS OF DISTURBED AREA
- SILT FENCE
- INGRESS/EGRESS
- SAND BAG BERM



EROSION CONTROL PLAN
SCALE "80"

TYPICAL SAND BAG BERM DETAIL
NO SCALE

CONSTRUCTION INGRESS / EGRESS DETAIL
NO SCALE

CATCH BASIN GUARD (CB GUARD) DETAIL
NO SCALE

TYPICAL SILT FENCE DETAIL
NO SCALE

GRAPHIC SCALE
80' 0 80' 160'
SCALE "80"

REVISION	DATE	BRIEF	BY	APROVED

CRAIG S. ARAKAKI LICENSED PROFESSIONAL ENGINEER No. 5510-C HAWAII, U.S.A.

License Expiration Date 04-30-12

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Signature

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1100 A. King Street, Suite 700
Honolulu, Hawaii 96814

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 150
(PROPOSED PUBLIC STREET)

EROSION CONTROL PLAN

ENGINEER: CA, CH, JT — DATE: MAY 27, 2011
DRAWN BY: FQ — SCALE: AS SHOWN
CHK BY: CA — REF.
APPROVED :

FILE	POCKET	FOLDER	NO.

Jun 01, 2011-1:27pm
N:\CAD\Work\2011\104-TCK UCR 4 & 5A RDS\KUCR 5\D07-1\Sht 9_ECP.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	10	157

ESTIMATED EARTHWORK QUANTITIES:

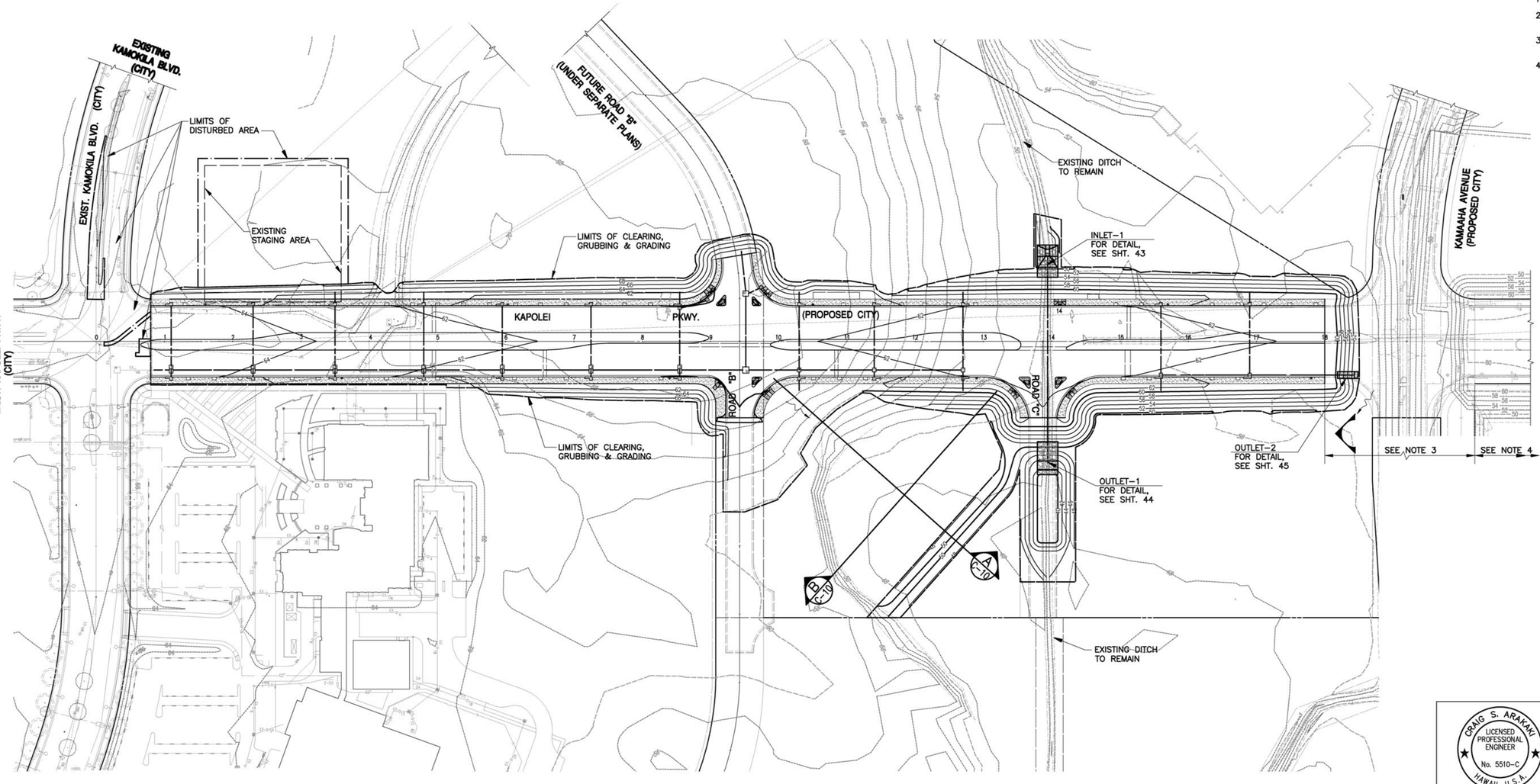
AREA TO BE CLEARED, GRUBBED & GRADED. 8.72 AC.

TOTAL DISTURBED AREA. 9.77 AC.

EXCAVATION	EMBANKMENT
51,300 CY	37,400 CY

NOTES:

1. EARTHWORK QUANTITIES ARE FOR ESTIMATING PURPOSES ONLY.
2. CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 3 ROADS" (DPP FILE NO. 2007/CP-52)
3. TO BE CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 4A ROADS" (DPP FILE NO. 2008/CP-206)
4. CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 4 ROADS" (DPP FILE NO. 2007/CP320)



LEGEND:

- EX. W8 — EXISTING WATER
- EX. S8 — EXISTING SEWER
- EX. D18 — EXISTING DRAIN
- EXISTING CATCH BASIN
- 100 — FINISH CONTOUR
- 100 — EXISTING CONTOUR
- PROPERTY LINE
- OVERLAND FLOW PATTERN
- LIMITS OF CLEARING, GRUBBING, GRADING & DISTURBED AREA
- SWALE
- 100 — EXIST. CONTOUR CONSTRUCTED UNDER "KAPOLEI URBAN CORE 4 ROADS" PROJECTS
- LIMITS OF DISTURBED AREA

GRADING PLAN
SCALE "80"

GRAPHIC SCALES
SCALE "80" 80' 0 80' 160'

REVISION	DATE	BRIEF	BY	APPROVED

CRAIG S. ARAKAKI LICENSED PROFESSIONAL ENGINEER No. 5510-C HAWAII, U.S.A.

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 150
(PROPOSED PUBLIC STREET)

GRADING PLAN

ENGINEER: CA, CH, JT DATE: MAY 27, 2011
DRAWN BY: FQ SCALE: AS SHOWN
CHK BY: CA REF.
APPROVED :

FILE	POCKET	FOLDER	NO.

Jun 01, 2011 - 1:28pm
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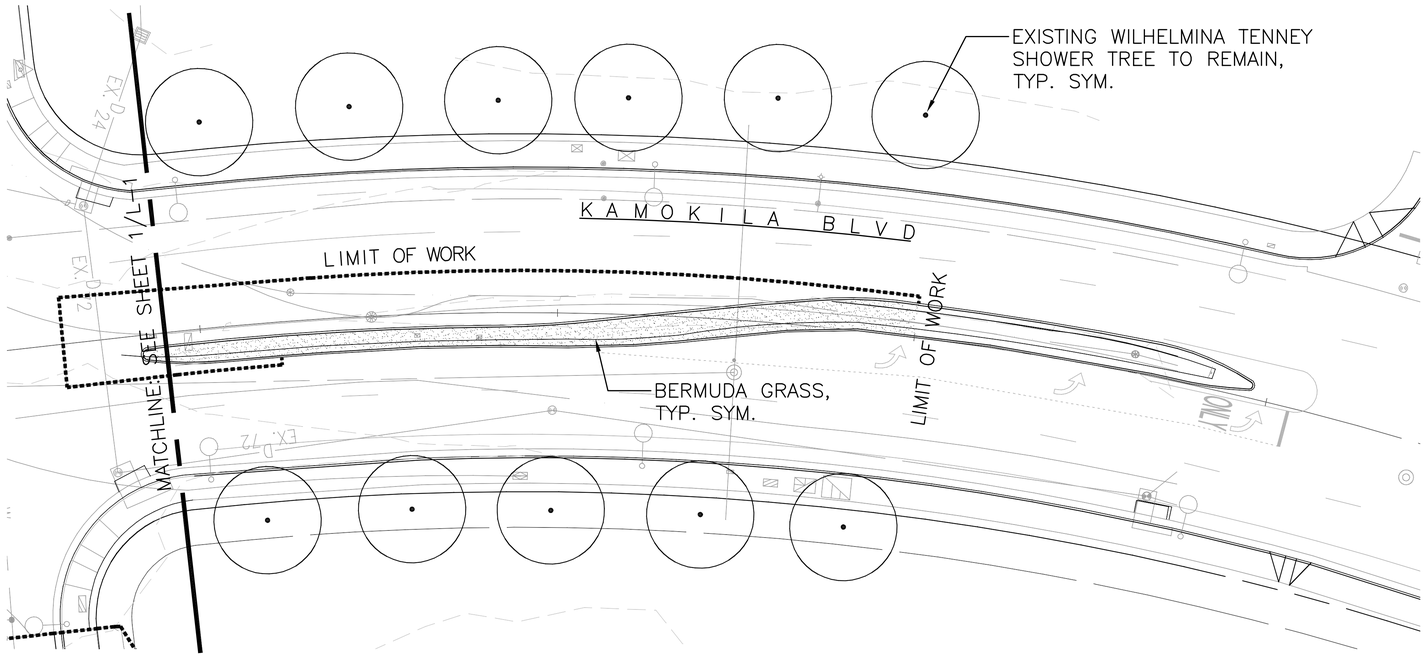
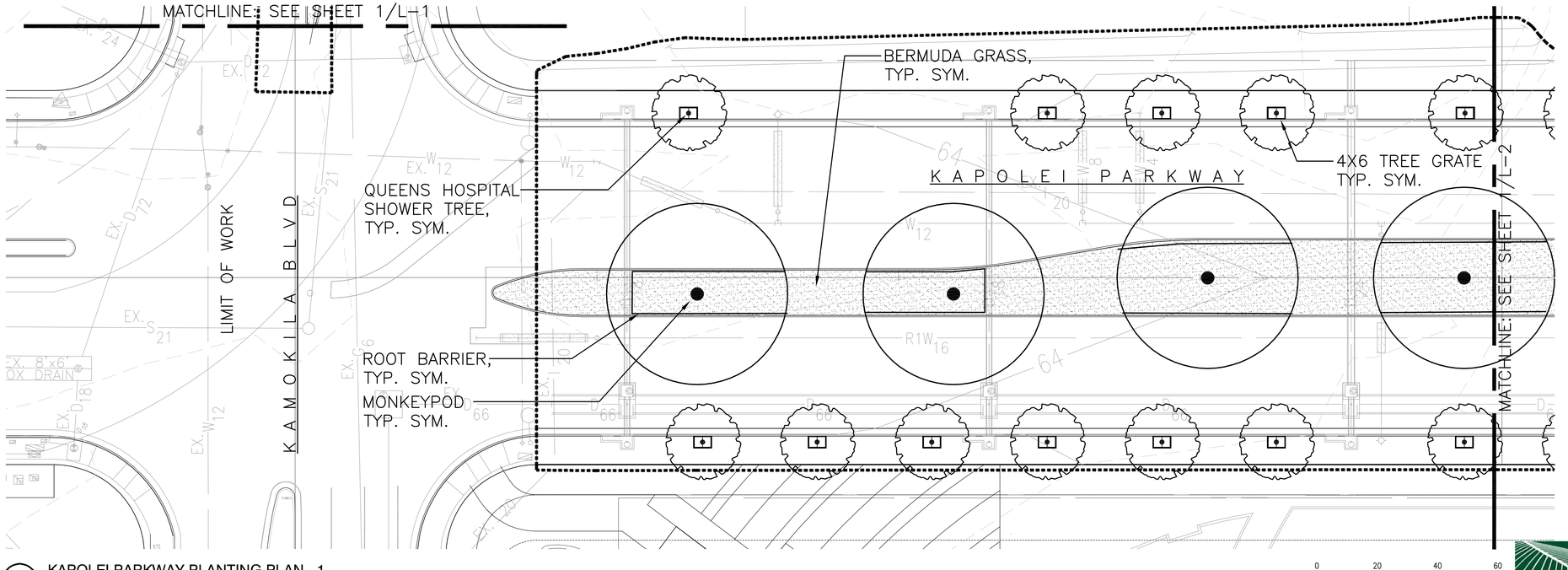
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		2011	55	157



1 KAMOKILA BLVD PLANTING PLAN

SCALE: 1"=20'-0"



2 KAPOLEI PARKWAY PLANTING PLAN - 1

SCALE: 1"=20'-0"

REVISION	DATE	BRIEF	BY	APPROVED

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI CITY

URBAN CORE 5 ROADS

KAPOLEI, EWA, OAHU, HAWAII

T.M.K. : 9-1-016 : POR. 134 & POR.138

(PROPOSED PUBLIC STREET)

PLANTING PLAN - 1

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

SIGNATURE — EXPIRATION DATE OF LICENSE 4/30/13

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Engineering Concepts, Inc.
1150 S. King Street Suite 700
Honolulu, Hawaii 96814

PBR HAWAII & ASSOCIATES, INC.

ENGINEER:	RC
DRAWN BY:	CB
CHK BY:	RH
DATE:	JUNE 1, 2011
SCALE:	AS SHOWN
REF.	

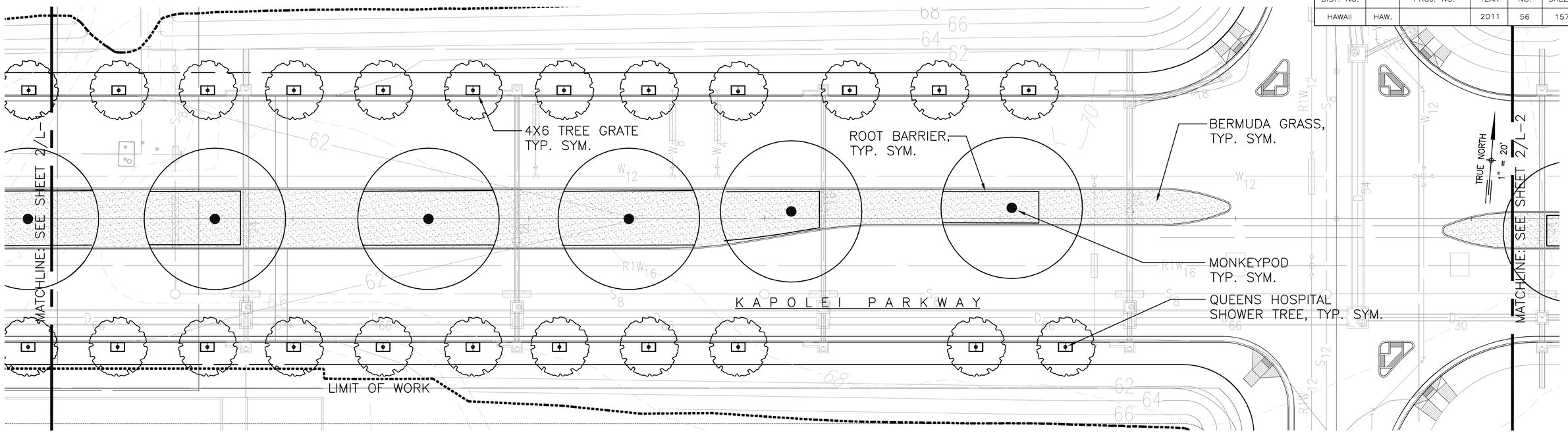
APPROVED :

SHEET OF - SHEETS L-1

FILE	POCKET	FOLDER	NO.

May 26, 2011 - 3:30pm
P:\PROJECTS\OAHU\Kapolei\Urban Core Roads 5\CD\KUC5R-PLANTING.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		2011	56	157

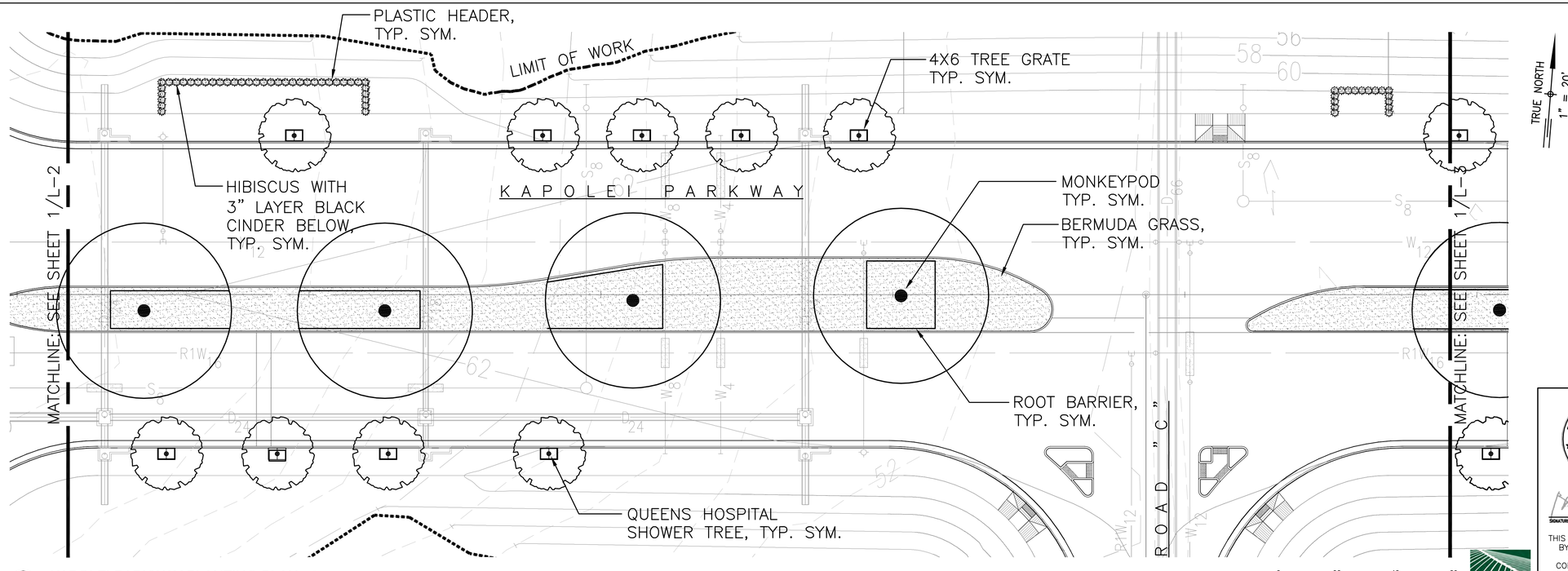


1 KAPOLEI PARKWAY PLANTING PLAN - 2

SCALE: 1"=20'-0"

0 20 40 60

SCALE: HORIZONTAL 1" = 20' FEET



2 KAPOLEI PARKWAY PLANTING PLAN - 3

SCALE: 1"=20'-0"

0 20 40 60

SCALE: HORIZONTAL 1" = 20' FEET

REVISION	DATE	BRIEF	BY	APPROVED

RUSSELL Y.J. CHUNG
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HAWAII, U.S.A.

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI CITY

URBAN CORE 5 ROADS
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 134 & POR.138
(PROPOSED PUBLIC STREET)

PLANTING PLAN - 2

ENGINEER: RC DATE: JUNE 1, 2011
DRAWN BY: CB SCALE: AS SHOWN
CHK BY: RH REF.

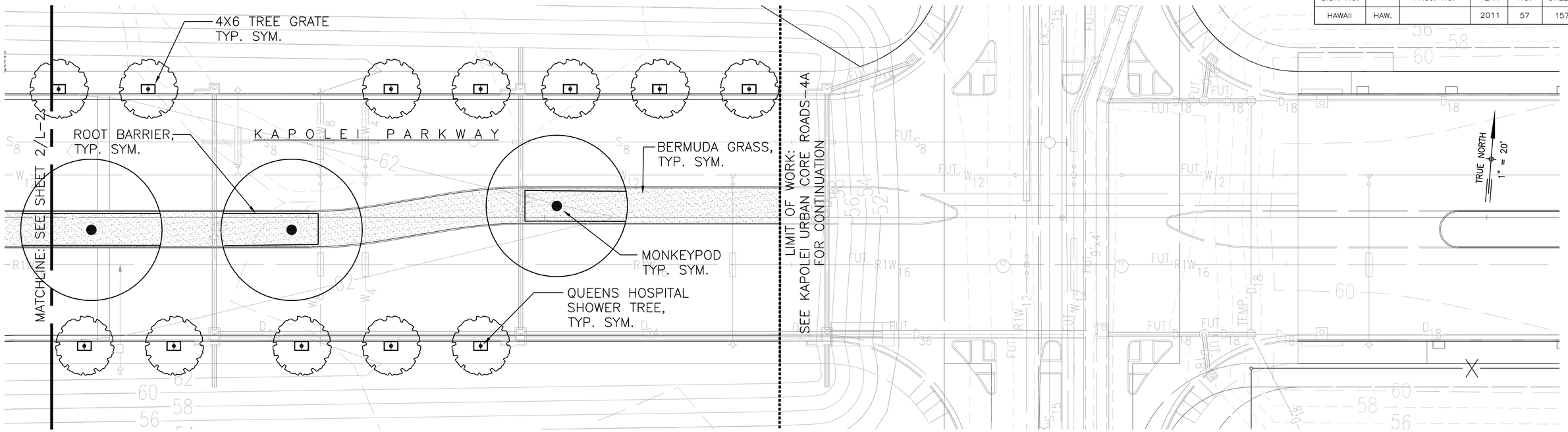
APPROVED :

FILE	POCKET	FOLDER	NO.

SHEET OF - SHEETS L-2

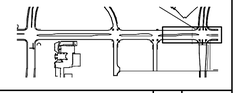
May 26, 2011-3:30pm
P:\PROJECTS\OAHU\Kapolei\Urban Core Roads 5\CD\KUC5R-PLANTING.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		2011	57	157



1 KAPOLEI PARKWAY PLANTING PLAN - 4
SCALE: 1"=20'-0"

0 20 40 60
SCALE: HORIZONTAL FEET
1" = 20'



REVISION	DATE	BRIEF	BY	APROVED

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No. 6076
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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
KAPOLEI CITY

URBAN CORE 5 ROADS
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 134 & POR.138
(PROPOSED PUBLIC STREET)

PLANTING PLAN - 3

ENGINEER: RC DATE: JUNE 1, 2011
DRAWN BY: CB SCALE: AS SHOWN
CHK BY: RH REF.

APPROVED :

SHEET OF - SHEETS L-3

FILE	POCKET	FOLDER	NO.

May 28, 2011 - 3:30pm
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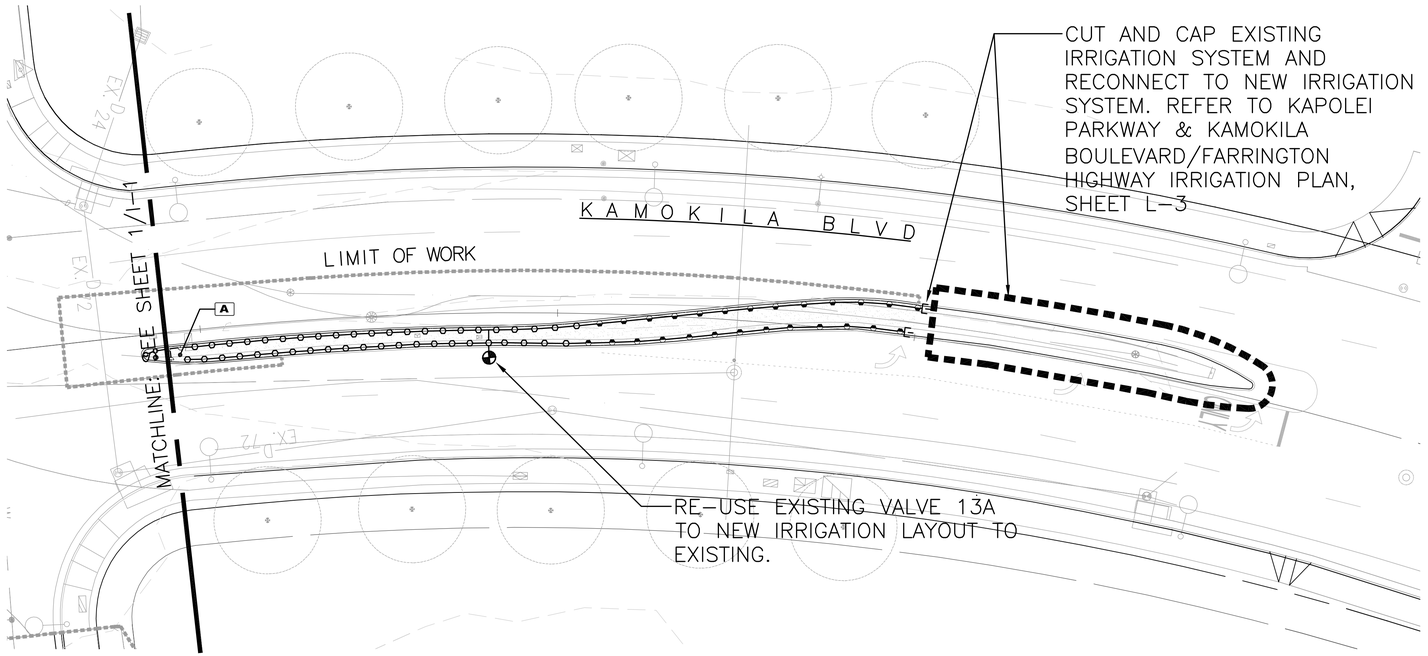
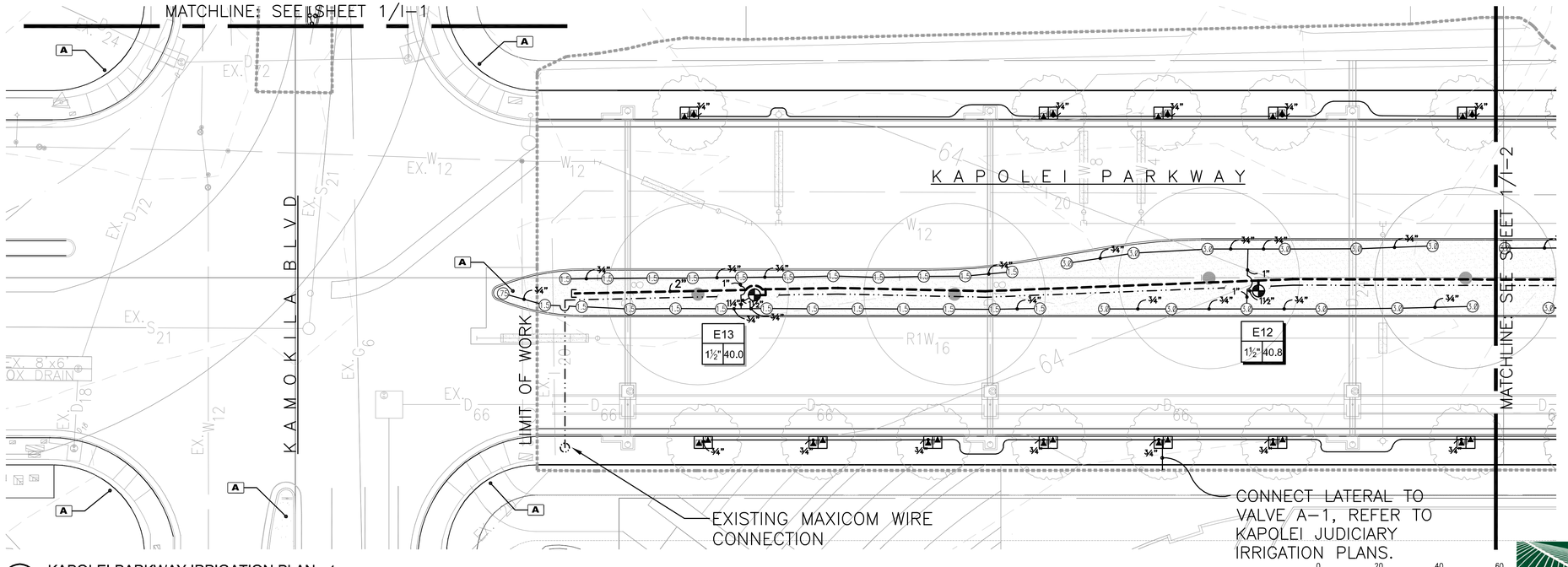
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		2011	63	157



1 KAMOKILA BLVD IRRIGATION PLAN

SCALE: 1"=20'-0"



2 KAPOLEI PARKWAY IRRIGATION PLAN - 1

SCALE: 1"=20'-0"

REVISION	DATE	BRIEF	BY	APROVED

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

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Honolulu, Hawaii 96814

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI CITY

URBAN CORE 5 ROADS
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 134 & POR.138
(PROPOSED PUBLIC STREET)

IRRIGATION PLAN - 1

ENGINEER: RC
DRAWN BY: CB
CHK BY: RH
DATE: JUNE 1, 2011
SCALE: AS SHOWN
REF.

APPROVED :

FILE	POCKET	FOLDER	NO.

SHEET OF - SHEETS I-1

May 26, 2011 - 3:26pm
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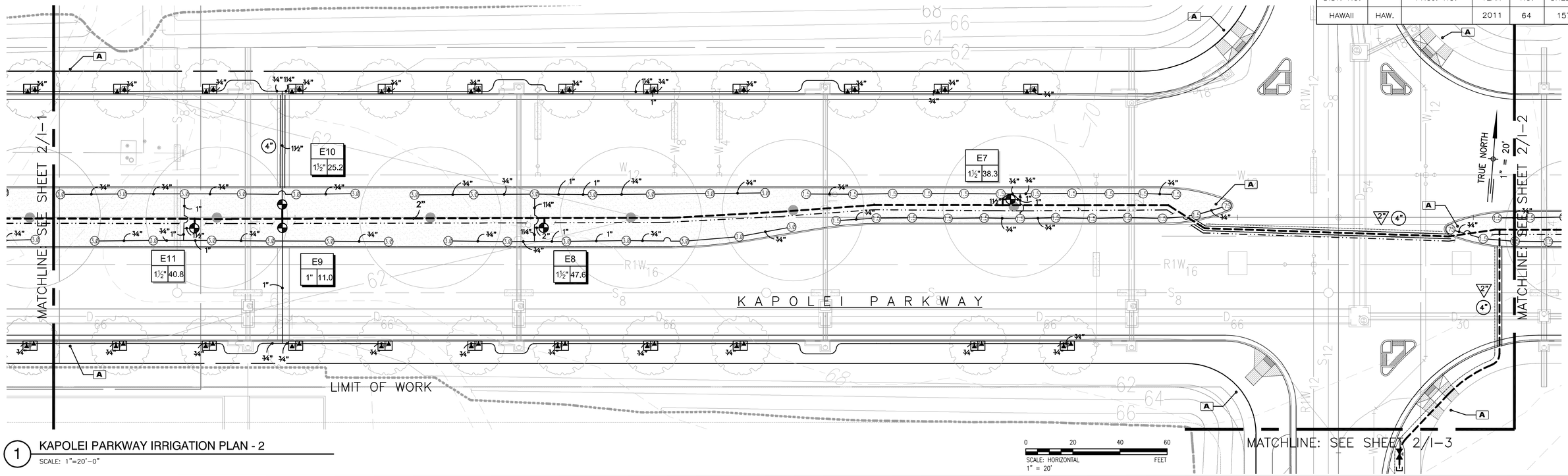
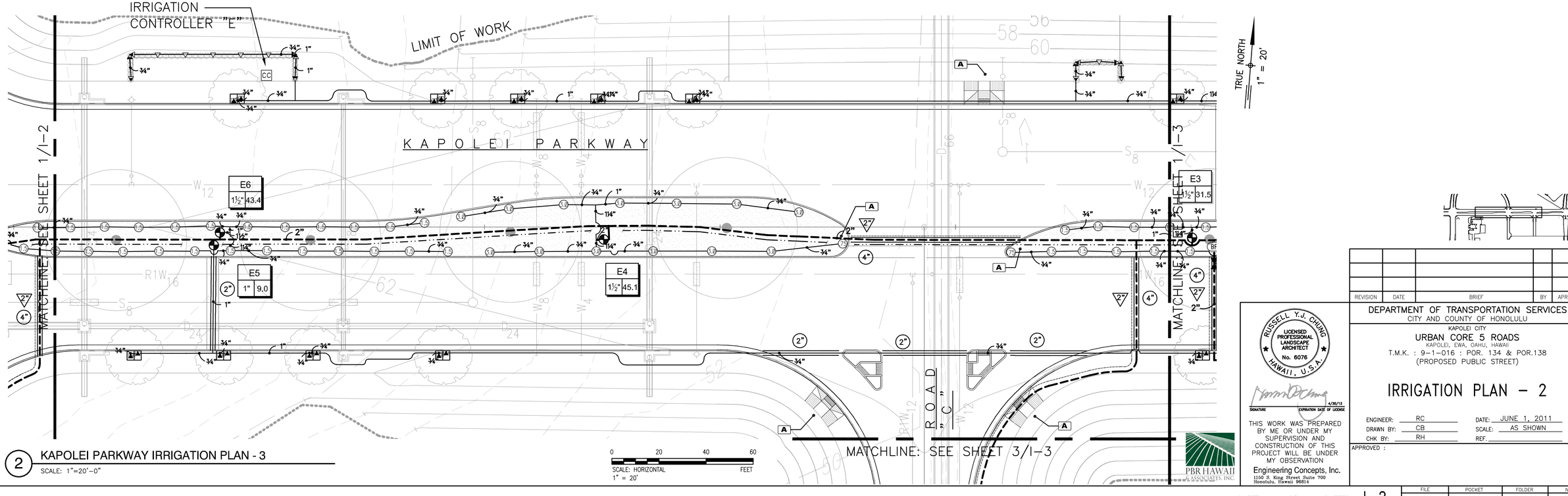
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		2011	64	157



1 KAPOLEI PARKWAY IRRIGATION PLAN - 2

SCALE: 1"=20'-0"

SCALE: HORIZONTAL 1" = 20'



2 KAPOLEI PARKWAY IRRIGATION PLAN - 3

SCALE: 1"=20'-0"

SCALE: HORIZONTAL 1" = 20'

REVISION	DATE	BRIEF	BY	APROVED

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI CITY

URBAN CORE 5 ROADS
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016 : POR. 134 & POR.138
(PROPOSED PUBLIC STREET)

IRRIGATION PLAN - 2

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

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Honolulu, Hawaii 96814

PBR HAWAII & ASSOCIATES, INC.

ENGINEER: RC
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DATE: JUNE 1, 2011
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REF.

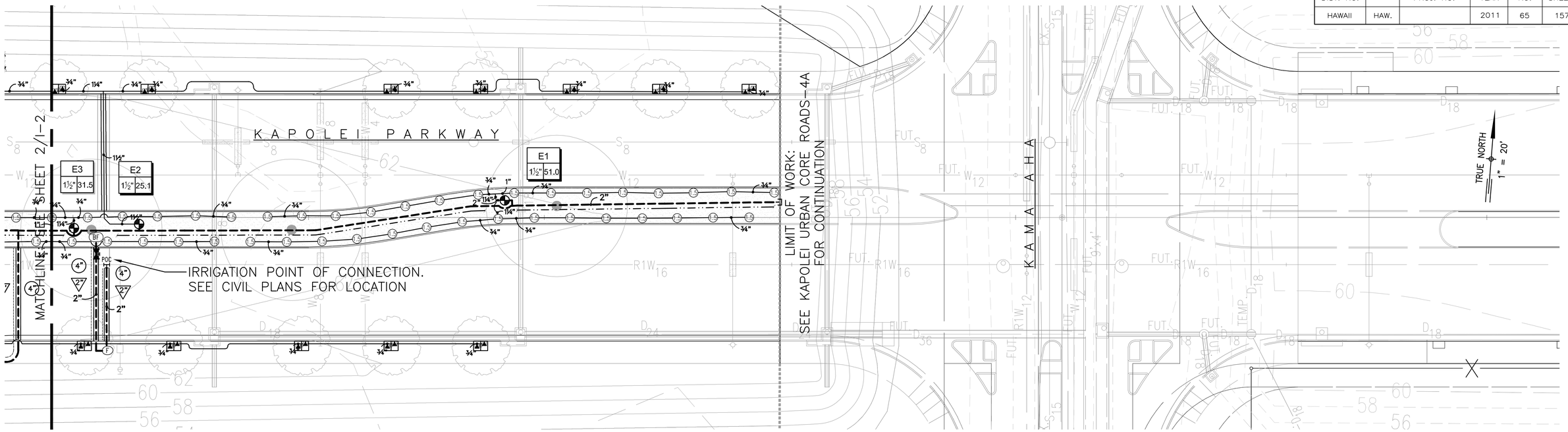
APPROVED :

FILE	POCKET	FOLDER	NO.

SHEET OF - SHEETS 1-2

May 26, 2011 - 3:26pm
P:\PROJECTS\OAHU\Kapolei\Urban Core Roads 5\CD\KUC5R-IRRIGATION.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		2011	65	157

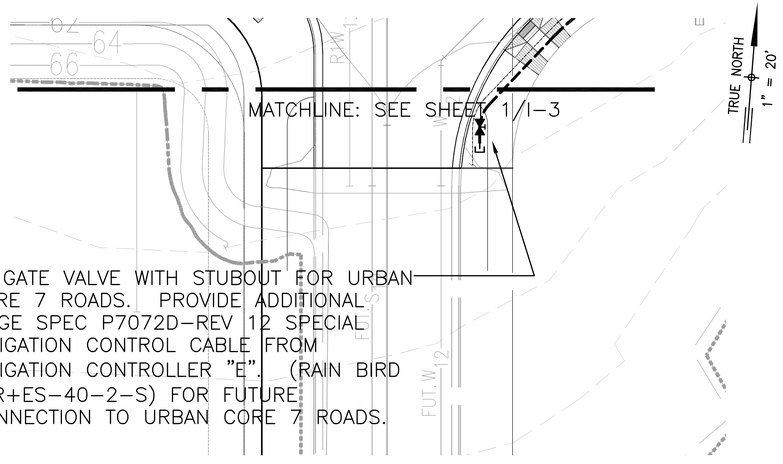


1 KAPOLEI PARKWAY IRRIGATION PLAN - 4

SCALE: 1"=20'–0"

0 20 40 60

SCALE: HORIZONTAL FEET
1" = 20'

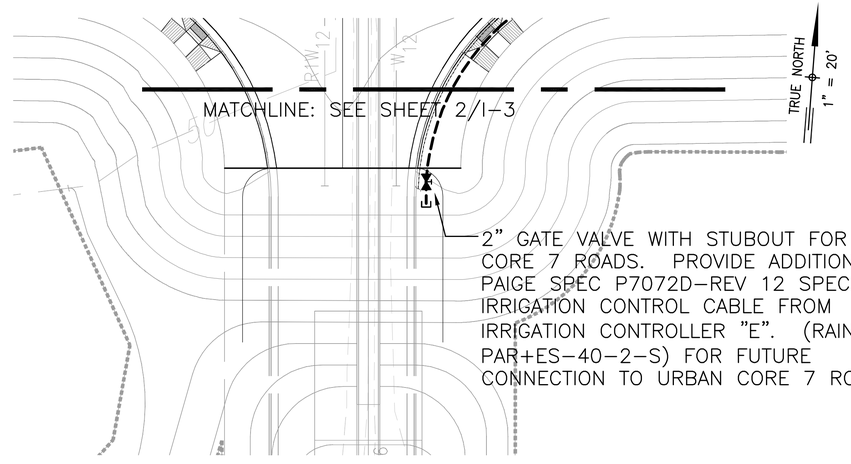


2 KAPOLEI PARKWAY IRRIGATION PLAN - 2

SCALE: 1"=20'–0"

0 20 40 60

SCALE: HORIZONTAL FEET
1" = 20'



3 KAPOLEI PARKWAY IRRIGATION PLAN - 3

SCALE: 1"=20'–0"

0 20 40 60

SCALE: HORIZONTAL FEET
1" = 20'

REVISION	DATE	BRIEF	BY	APPROVED

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI CITY

URBAN CORE 5 ROADS
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9–1–016 : POR. 134 & POR.138
(PROPOSED PUBLIC STREET)

IRRIGATION PLAN – 3

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.

SIGNATURE EXPIRATION DATE OF LICENSE 4/30/13

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

Engineering Concepts, Inc.
1150 S. King Street Suite 700
Honolulu, Hawaii 96814

PBR HAWAII & ASSOCIATES, INC.

ENGINEER: RC DATE: JUNE 1, 2011
DRAWN BY: CB SCALE: AS SHOWN
CHK BY: RH REF.

APPROVED :

FILE	POCKET	FOLDER	NO.

SHEET OF - SHEETS 1–3

May 26, 2011–3:26pm
P:\PROJECTS\OAHU\Kapolei\Urban Core Roads 5\CD\KUC5R–IRRIGATION.dwg

Attachment B – SSCBMP Plan Training Log (SSCBMP Section 2.6)

TRAINING LOG

Project Name: ***Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard***
Project Location: ***Kapolei, Oahu, Hawaii***
Instructor's Name(s):
Instructor's Title(s):

Course Location: _____ *Date:* _____

Course Length (hours): _____

Stormwater Training Topic: (check as appropriate)

- ❑ *Erosion Control BMPs*
- ❑ *Sediment Control BMPs*
- ❑ *Non-Stormwater BMPs*
- ❑ *Emergency Procedures*
- ❑ *Good Housekeeping BMPs*

*Specific Training Objective:*_____

_____

Attendee Roster:

No.	***Name of Attendee***	***Company***
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Attachment C - Construction Schedule (SSCBMP Section 2.2)

CONSTRUCTION SCHEDULE

The date when the SSCBMP Plan will be implemented: 8/27-2012

The date when the general contractor will begin the site disturbance: 9 / 5 / 2012

The date when major construction activity begins: 9 / 11 / 2012

The proposed timetable for each major activity:

Installation of temporary erosion control measures: 8 / 27 / 2012 to 9 / 4 / 2012
Clearing and Grubbing: 9 / 5 / 2012 to 9 / 10 / 2012
Grading and utility installation: 9 / 11 / 2012 to 4 / 16 / 2013
Construction of roadway: 4 / 17 / 2013 to 7 / 24 / 2013
Installation of landscape and ground cover: 7 / 25 / 2013 to 10 / 1 / 2013

The date when major construction activity ends: 10 / 1 / 2013

The date when the general contractor will end site disturbance: 12 / 26 / 2013

The date when erosion control measures will be removed: 10 / 2 / 2013 to 12 / 30 / 2013

The date when the Notice of Cessation form will be submitted: 1 / 4 / 2014

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

*NGPC File No: HIR10*_____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Site-Specific Construction Best Management Practice (SSCBMP) Plan for any work that you perform on-site. Any person or group who violates any condition of the SSCBMP Plan may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SSCBMP Plan. A copy of the SSCBMP Plan is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact storm water must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SSCBMP Plan for the above designated project and agree to follow the BMPs and practices described in the SSCBMP Plan.

This certification is hereby signed in reference to the above named project:

*Company:*_____

*Address:*_____

*Telephone Number:*_____

*Type of construction service to be provided:*_____

_____

Signature: _____

Title: _____

Date: _____

Attach copies, retain originals on-site.

Attachment E – SSCBMP Inspection Report Form (SSCBMP Section 2.8)

INSPECTION REPORT FORM

*Date:*_____ *Project/Site:*_____ *NGPC File No.: HIR10*_____

*Inspector's Name:*_____ *Weather:*_____

Site Specific Construction Best Management Practices (SSCBMPs) Plan	***Yes***	***No***	***N/A***	***Date Corrected***	***Notes***
Is a copy of the SSCBMP plan available at the site?					
Is the SSCBMP plan certified, signed, and dated?					
Is the SSCBMP plan current and up-to-date?					
Are accompanying erosion and sediment control (ESC) drawings available at the site?					
Are the ESC drawings up-to-date?					
Are all NGPCs available at the site?					
Are inspection records available at the site?					

Best Management Practices	***Location***	***Installed Per Specifications (Y/N)***	***Adequate***	***Needs Maintenance***	***N/A***	***Date Corrected***	***Notes***
Controlling Storm Water Flowing onto and through the Project (SSCBMP Section 3.1)							
Soil Stabilization (SSCBMP Section 3.2)							
Slope Protection (SSCBMP Section 3.3)							
Storm Drain Inlet Protection (SSCBMP Section 3.4)							
Perimeter Controls and Sediment Barriers (SSCBMP Section 3.5)							
Sediment Basins and Detention Ponds (SSCBMP Section 3.6)							
Stabilized Ingress/Egress Structures (SSCBMP Section 3.7)							
Additional Erosion and Sediment Control BMPs (SSCBMP Section 3.8)							

Best Management Practices	***Location***	***Installed Per Specifications (Y/N)***	***Adequate***	***Needs Maintenance***	***N/A***	***Date Corrected***	***Notes***
Material Handling and Waste Management (SSCBMP Section 3.9)							
Baseyards/Staging Areas (SSCBMP Section 3.10)							
Washout Areas (SSCBMP Section 3.11)							
Proper Equipment/Vehicle Fueling and Maintenance Practices (SSCBMP Section 3.12)							
Additional Non-Erosion or Sediment Control BMPs (SSCBMP Section 3.13)							
Post Construction BMPs (SSCBMP Section 3.14)							
Other							

Site Conditions	***Yes***	***No***	***N/A***	***Notes and Corrective Actions***
Are off-site flows entering the construction site?				
Is there evidence of polluted discharges off the site?				

Site Conditions	***Yes***	***No***	***N/A***	***Notes and Corrective Actions***
Is there evidence of polluted discharges from the site to a state water (e.g. storm drain, ditch, stream, ocean)?				
Is repair, maintenance, or installation of sediment control BMPs needed at the site?				
Is repair, maintenance, or installation of erosion control BMPs needed at the site?				
Are construction materials/debris/trash/soil stored or disposed of properly at the site?				
Is there vehicle tracking from the site to receiving streets?				
Do locations exist where additional or revised BMPs are needed?				
Do locations exist where BMPs may no longer be necessary and may be removed?				
Does your site evaluation indicate a need to update or revise the current SSCBMP plan and/or accompanying erosion and sediment control drawings?				

Photos taken during the SSCBMP inspection documented above are:

- ❑ *Attached*
- ❑ *Inserted*
- ❑ *Not taken, attached, or inserted.*

(Insert photos in this section if you so choose.)

I certify that I am the person who performed the inspection documented above and that all information recorded on this form is a true and accurate representation of what was observed at the construction site recorded above. Any photographs attached that were taken during the inspection are a true, accurate, and unaltered representation of what was observed during the inspection documented above.

Inspector's Printed Name: _____

Inspector's Signature: _____ *Date:* _____

Attachment F – Contingency Plan (SSCBMP Section 2.9)

CONTINGENCY PLAN

The intent of the Contingency Plan is to address back-up procedures in the event of severe weather conditions or inability of the implemented BMP Plan to control pollutants in runoff.

Periodic Inspection during Inclement Weather. Although construction activities generally cease during inclement weather, continued inspection of sediment and erosion control measures is required. Inspections are particularly important since heavy runoff can cause control measures to fail and/or flooding to occur. In the event of problem is encountered during inspection, the inspector shall notify Wayne Yoshioka at (808) 768-8303 and a decision shall be made on whether to repair, replace or implement additional control measures.

Implementation of Additional Control Measures. In general, all erosion and sediment control measures should in good working order due to regular inspection and maintenance practices. However, additional control measures may need to be installed to minimize erosion and sediment transportation when severe weather conditions are anticipated. These measures may include but not limit to:

- *Placement of aggregate base course over exposed disturbed area*
- *Placement of aggregate base course to form a filter berm*
- *Placement of sand bags for runoff diversion and/or containment*
- *Installation of multiple tiers of silt fence*

No mention of basin.

Materials required to implement these additional control measures should be kept on hand for immediate availability should the need arise.

Attachment G – SSCBMP Amendment Log

AMENDMENT LOG

Project Name: ***Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard***

SSCBMP Contact: _____

Amendment No.	*Description of the Amendment*	*Date of Amendment*	*Amendment Prepared by [Name(s) and Title]*

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	12	173

ESTIMATED EARTHWORK QUANTITIES:

AREA TO BE CLEARED, GRUBBED & GRADED.		8.72 AC.
STOCKPILE AREA		1.41 AC.
TOTAL DISTURBED AREA.		11.18 AC.

	EXCAVATION	EMBANKMENT
GRADING	51,665 CY	36,075 CY
STOCKPILE	0 CY	15,590 CY

NOTES:

1. EARTHWORK QUANTITIES ARE FOR ESTIMATING PURPOSES ONLY.
2. CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 3 ROADS" (DPP FILE NO. 2007/CP-52)
3. TO BE CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 4A ROADS" (DPP FILE NO. 2008/CP-206)
4. CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 4 ROADS" (DPP FILE NO. 2007/CP320)

LEGEND:

- EXISTING WATER
- EXISTING SEWER
- EXISTING DRAIN
- EXISTING CATCH BASIN
- FINISH CONTOUR
- EXISTING CONTOUR
- PROPERTY LINE
- OVERLAND FLOW PATTERN
- SWALE
- LIMITS OF CLEARING, GRUBBING, GRADING, STOCKPILING, & DISTURBED AREA

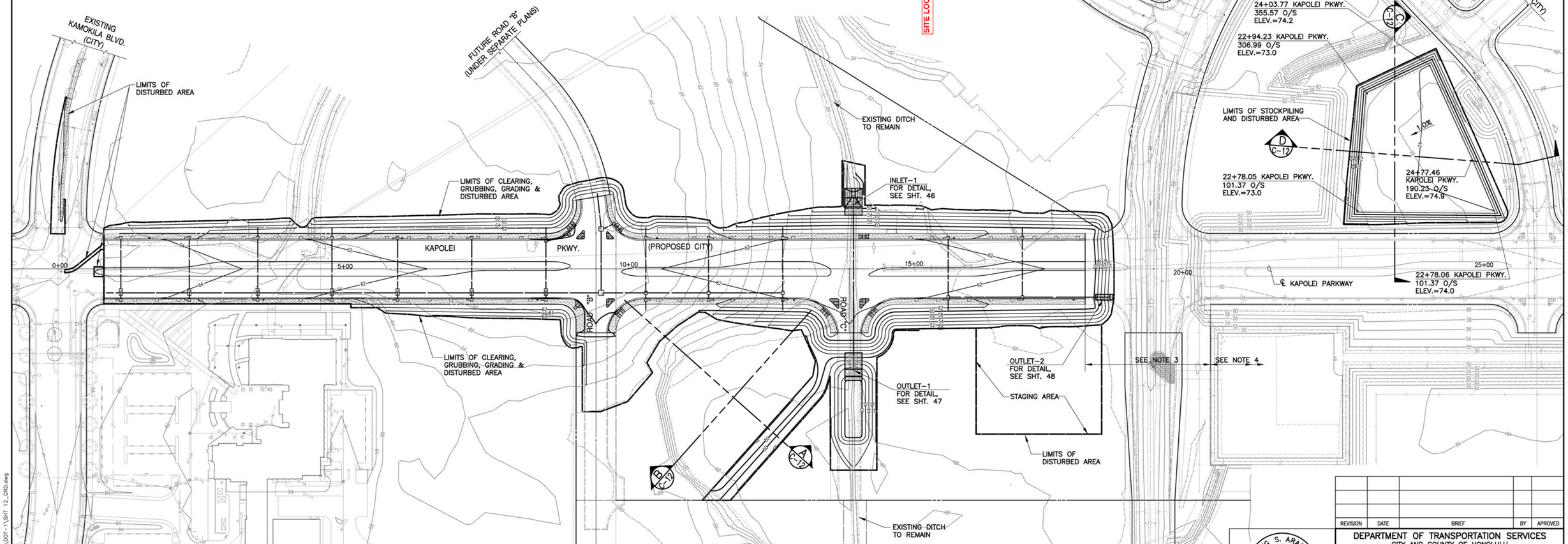
BASEYARD 100.65 ft

BASEYARD 140.22 ft

TRUE NORTH

SCALE "80"

SITE LOCATION PLAN



GRADING PLAN

SCALE "80"

GRAPHIC SCALES

SCALE "80" 80' 0 80' 160'

REVISION	DATE	BRIEF	BY	APROVED

CRAIG S. ARAKAKI LICENSED PROFESSIONAL ENGINEER No. 5510-C HAWAII, U.S.A.

License Expiration Date 04-30-12

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Craig S. Arakaki
Signature

Engineering Concepts, Inc.
1100 S. King Street Suite 700
Honolulu, Hawaii 96814

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016:186
(PROPOSED PUBLIC STREET)

GRADING AND STOCKPILING PLAN

ENGINEER: CA, CH, JT
DRAWN BY: FG
CHK BY: CA
DATE: DEC. 21, 2011
SCALE: AS SHOWN
REF.

APPROVED :

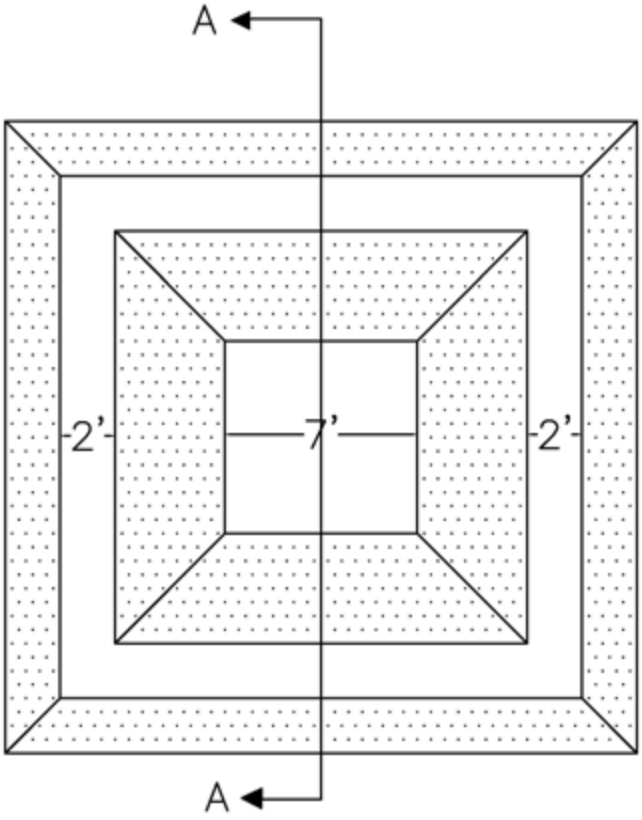
Chief, Civil Engineering Branch, DPP — Date

FILE	POCKET	FOLDER	NO.

Dec. 16, 2011 - 2:24pm
N:\CAD\DWG\2011\1104-TCK UCR 4A & 5 RDS\KUCR 5\DOT-1\SHT 12_GRD.dwg

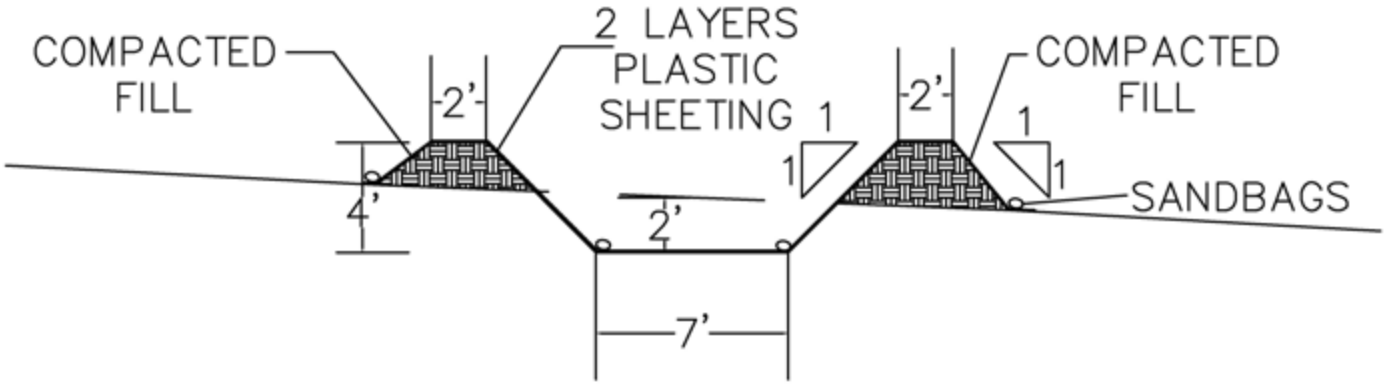
LINE BASIN WITH 2 LAYERS OF 4 MIL POLYETHYLENE PLASTIC

PLACE SANDBAGS ON TOP SHEETING



NOTE:
CLEAN OUT HARDENED CONCRETE TO MAINTAIN BASIN CAPACITY

PLAN VIEW OF CONCRETE CHUTE WASH BASIN

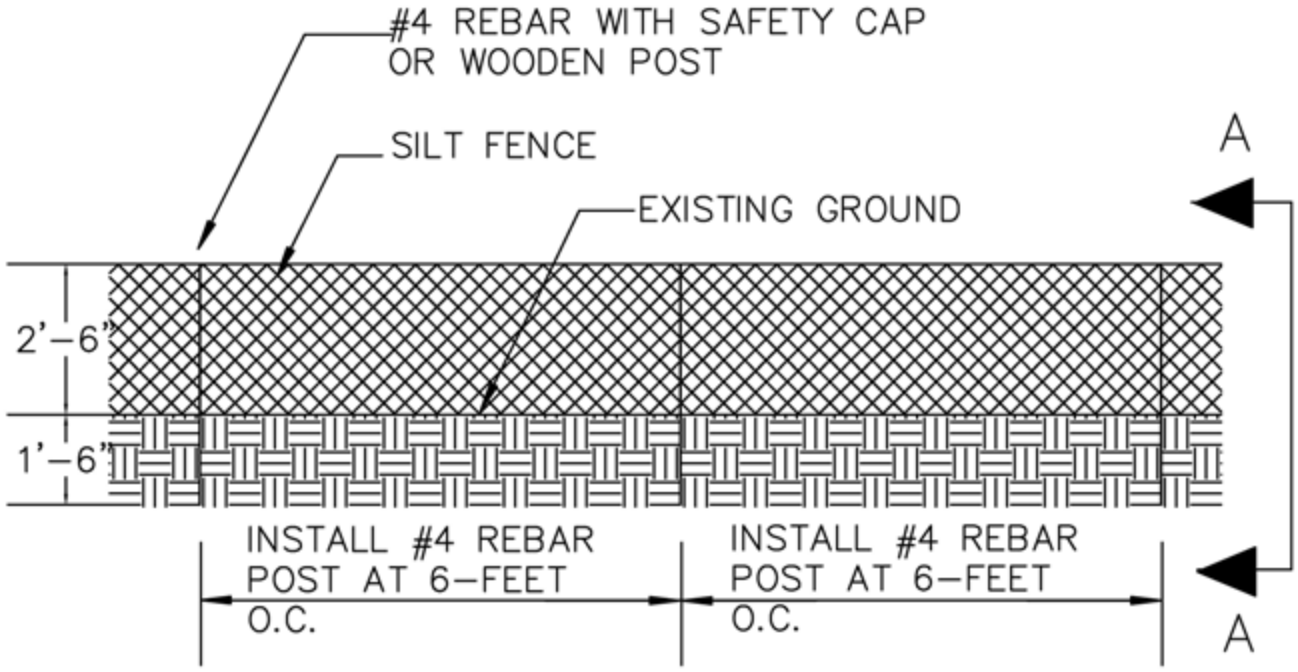


SECTION "AA"

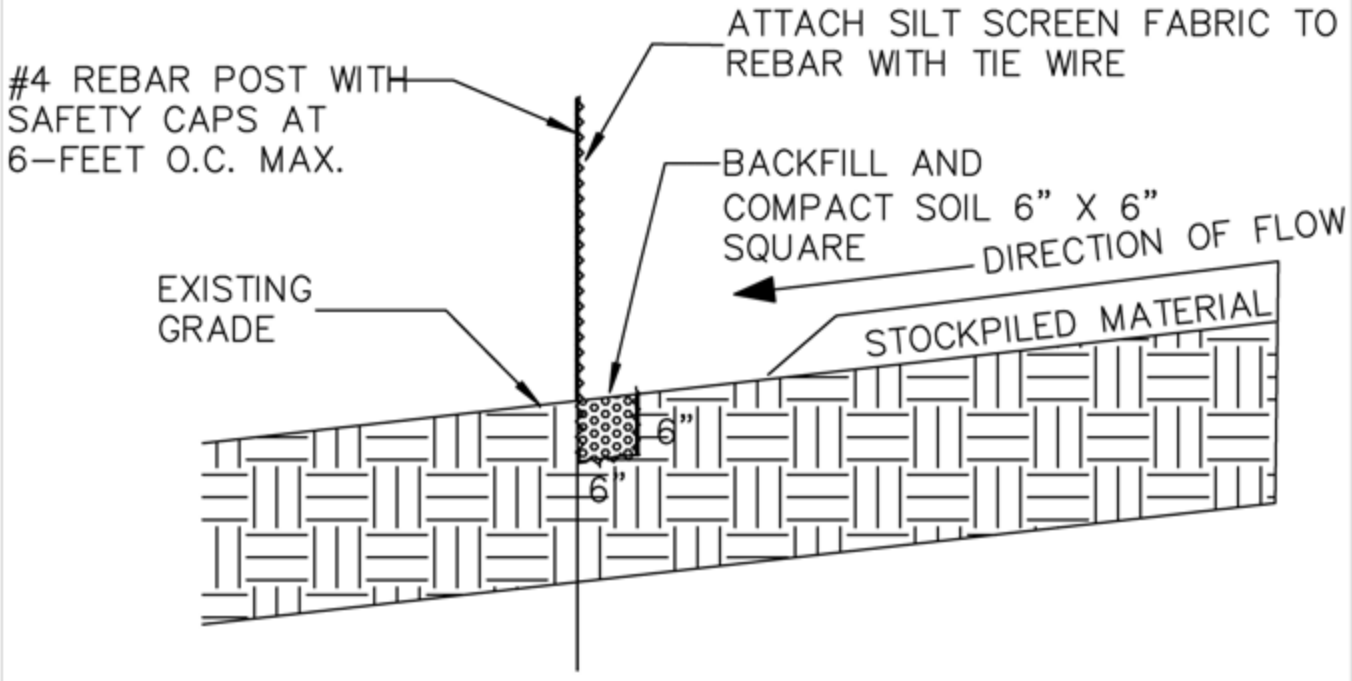
KAPOLEI PARKWAY, URBAN CORE 5

BEST MANAGEMENT PLAN FOR ROYAL CONTRACTING CO. LTD.

CONCRETE WASH BASIN DETAIL



ELEVATION



SECTION 'AA'

KAPOLEI PARKWAY, URBAN CORE 5

BEST MANAGEMENT PLAN FOR ROYAL CONTRACTING CO. LTD.

STOCKPILE DETAIL

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Operator(s): City and County of Honolulu, Department of Transportation Services

As a subcontractor, you are required to comply with the Site-Specific Construction Best Management Practice (SSCBMP) Plan for any work that you perform on-site. Any person or group who violates any condition of the SSCBMP Plan may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SSCBMP Plan. A copy of the SSCBMP Plan is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact storm water must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SSCBMP Plan for the above designated project and agree to follow the BMPs and practices described in the SSCBMP Plan.

This certification is hereby signed in reference to the above named project:

Company: Affiliated Construction, LLC.

Address: 94-111 Leokane Streeet Unit 148A, Waipahu, Hawaii, 96797

Telephone Number: (808) 676-5542

Type of construction service to be provided: Grouted Rubble Paving

Signature: Karl Kamada

Title: Member-RME

Date: 6/27/2012

Attach copies; retain originals on-site

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

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This certification is hereby signed in reference to the above named project:

Company: Aloha Steel Corporation

Address: 850 Ahua Street, Honolulu, Hawaii 96819

Telephone Number: (808) 836-2990

Type of construction service to be provided: Reinforcing steel

Signature: *Edson Hoo* 

Title: *President*

Date: 06/27/2012

Attach copies, retain originals on-site.

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

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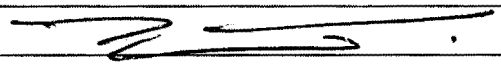
This certification is hereby signed in reference to the above named project:

Company: Edwards & Sands Construction Co., Inc.

Address: P.O. Box 971029, Waipahu, Hawaii, 96797

Telephone Number: (808) 682-8808

Type of construction service to be provided: Concrete construction

Signature: *Thomas L.K. Tom* 

Title: *President*

Date: 06/20/12

Attach copies, retain originals on-site.

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Operator(s): City and County of Honolulu, Department of Transportation Services

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This certification is hereby signed in reference to the above named project:

Company: Jack Endo Electric, Inc.

Address: 2814 Kilihau Street, Honolulu, Hawaii 96819

Telephone Number: (808) 839-7717

Type of construction service to be provided: Electrical ducts and boxes, light poles, and fixtures

Signature: *Herbert K. Endo*

Title: *President, Treasurer*

Date: 6/16/2012

Attach copies, retain originals on-site.

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Operator(s): City and County of Honolulu, Department of Transportation Services

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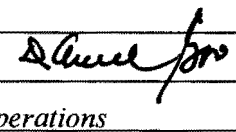
This certification is hereby signed in reference to the above named project:

Company: Grace Pacific Corporation

Address: P.O. Box 78, Honolulu, Hawaii, 96810

Telephone Number: (808) 845-3991

Type of construction service to be provided: Asphaltic Concrete Paving

Signature: *Darrell Goo* 

Title: *Senior Vice President, Operations*

Date: June 26, 2012

Attach copies, retain originals on-site.

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Operator(s): City and County of Honolulu, Department of Transportation Services

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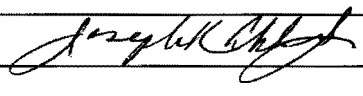
This certification is hereby signed in reference to the above named project:

Company: Hawaiian Water and Chlorination, Inc.

Address: 2464 St. Louis Drive, Honolulu, Hawaii, 96816-2031

Telephone Number: (808) 734-3562

Type of construction service to be provided: Chlorination of potable water lines

Signature: *Joseph K. Anakalea Jr.* 

Title: *President*

Date: 6/27/12

Attach copies, retain originals onsite.

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Operator(s): City and County of Honolulu, Department of Transportation Services

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This certification is hereby signed in reference to the above named project:

Company: Pacific Preferred Contractors Corporation

Address: 1805 Homerule Street, Honolulu, Hawaii, 96819

Telephone Number: (808) 848-6615

Type of construction service to be provided: Pavement Striping

Signature: Palmer Scott Hironaga

Title: President

Date: 06/22/12

Attach copies, retain originals on-site.

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10 D926

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Operator(s): City and County of Honolulu, Department of Transportation Services

As a subcontractor, you are required to comply with the Site-Specific Construction Best Management Practice (SSCBMP) Plan for any work that you perform on-site. Any person or group who violates any condition of the SSCBMP Plan may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SSCBMP Plan. A copy of the SSCBMP Plan is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact storm water must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SSCBMP Plan for the above designated project and agree to follow the BMPs and practices described in the SSCBMP Plan.

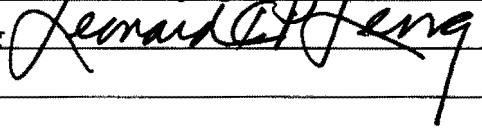
This certification is hereby signed in reference to the above named project:

Company: Royal Contracting Company Limited

Address: 677 Ahua Street, Honolulu, Hawaii, 62819-2002

Telephone Number: (808) 839-9006

Type of construction service to be provided: Erosion Control Measures, Clearing, Grading, Drainage, Utilities, Roadway, Irrigation, Landscaping

Signature: *Leonard K.P. Leong* 

Title: *Vice President*

Date:

Attach copies, retain originals on-site.

Attachment D – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

NGPC File No: HIR10

Project Title: Kapolei Parkway, Urban Core 5, Kamaaha Avenue to Kamokila Boulevard

Operator(s): City and County of Honolulu, Department of Transportation Services

As a subcontractor, you are required to comply with the Site-Specific Construction Best Management Practice (SSCBMP) Plan for any work that you perform on-site. Any person or group who violates any condition of the SSCBMP Plan may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SSCBMP Plan. A copy of the SSCBMP Plan is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact storm water must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SSCBMP Plan for the above designated project and agree to follow the BMPs and practices described in the SSCBMP Plan.

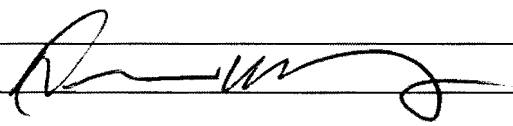
This certification is hereby signed in reference to the above named project:

Company: Wong's Striping Inc.

Address: 87-405 Kulawae, Waianae, Hawaii, 96792-3371

Telephone Number: (808) 668-5494

Type of construction service to be provided: Traffic signs and warning mats

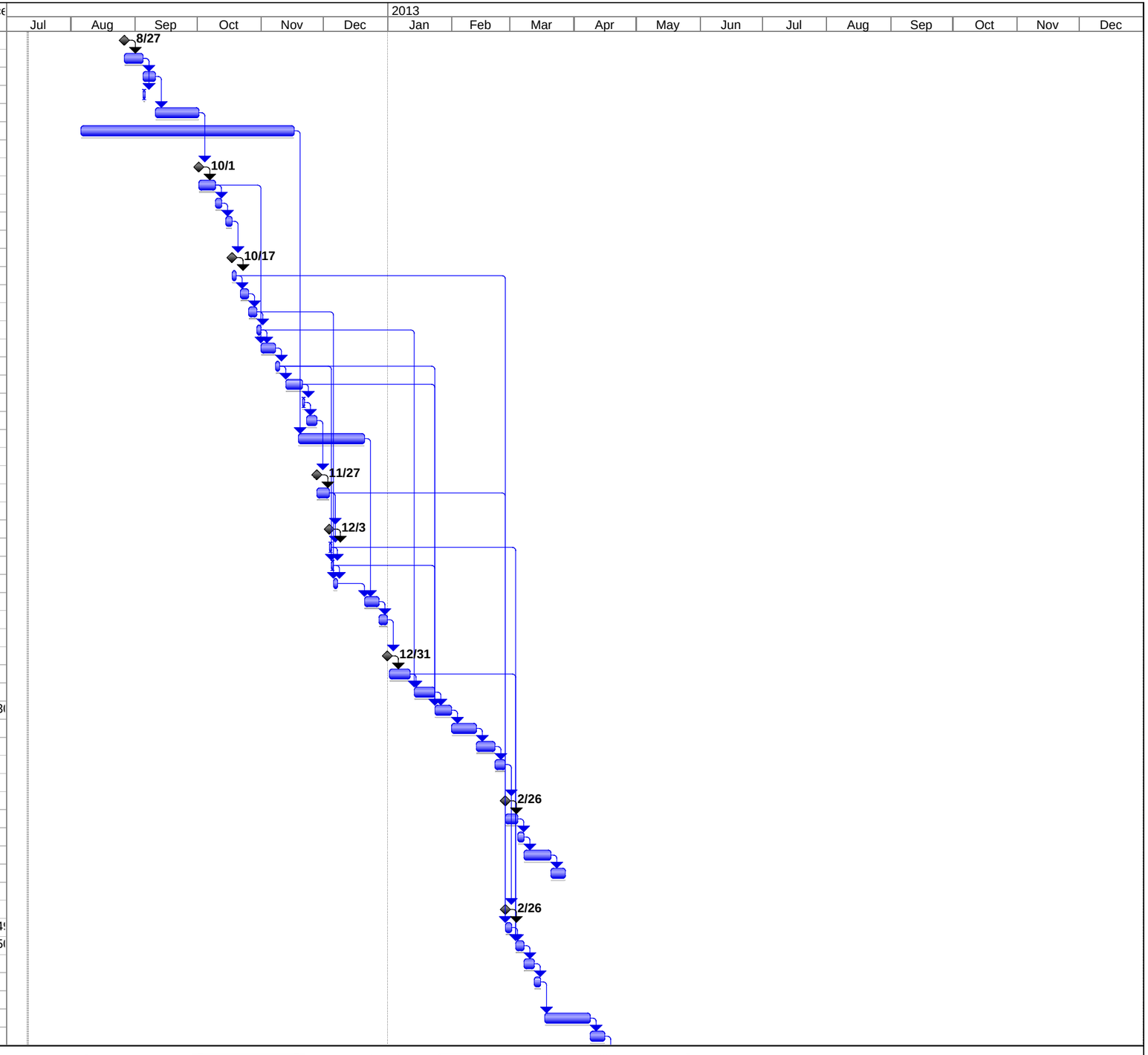
Signature: *Dennis Wong* 

Title: *RME*

Date: 7-02-2012

Attach copies, retain originals on-site.

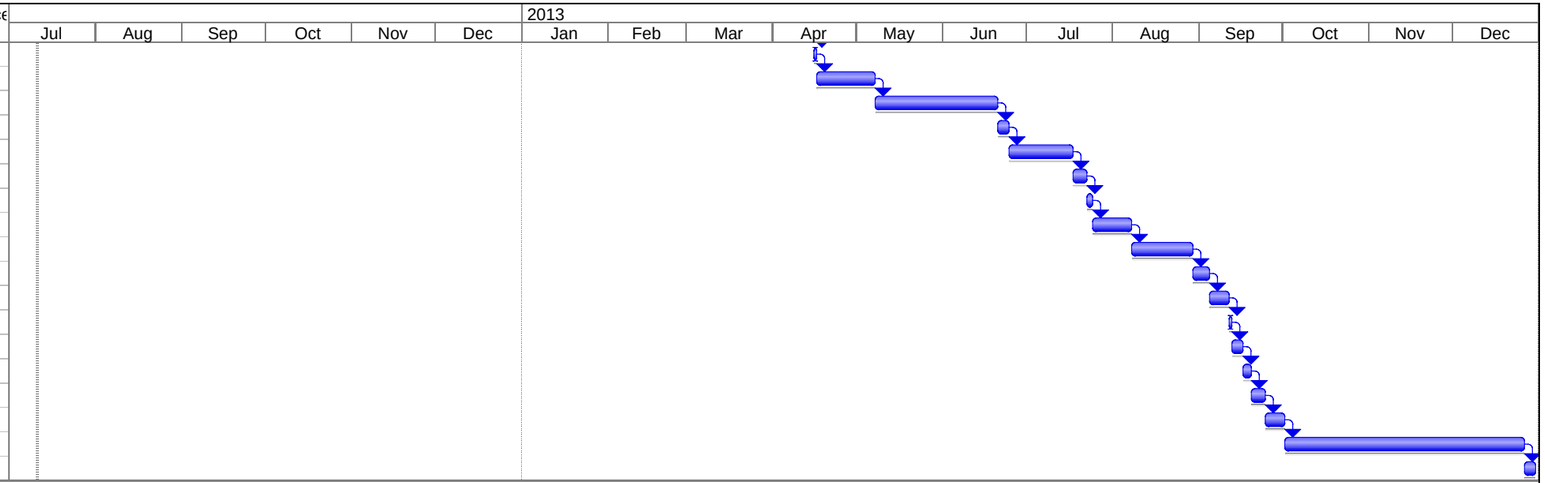
ID	Task Name	Duration	Start	Finish	Predece
1	NOTICE TO PROCEED	0 days	Mon 8/27/12	Mon 8/27/12	
2	EROSION CONTROL MEASURES	6 days	Mon 8/27/12	Tue 9/4/12	1
3	CLEAR AND GRUB	4 days	Wed 9/5/12	Mon 9/10/12	2
4	DEMOLITION	1 day	Wed 9/5/12	Wed 9/5/12	2
5	MASS GRADING	15 days	Tue 9/11/12	Mon 10/1/12	3
6	PRODUCTION OF 66" RCP PIPE	70 days?	Mon 8/6/12	Fri 11/16/12	
7					
8	**ELECTRICAL SYSTEM 11 DAYS**	0 days	Mon 10/1/12	Mon 10/1/12	5
9	KAPOLEI PKY DUCT 8+80 - 10+20 (EG-4)	5 days	Tue 10/2/12	Tue 10/9/12	8
10	ROAD "B" ELECT DUCT 24+65 - 26+00	3 days	Wed 10/10/12	Fri 10/12/12	9
11	ROAD "C" ELECT DUCT 23+83 - 25+32	3 days	Mon 10/15/12	Wed 10/17/12	10
12					
13	**DRAINAGE SYSTEM 50 DAYS**	0 days	Wed 10/17/12	Wed 10/17/12	11
14	18" & 24" DR. CROSSING 0+80 TO 5+00	2 days	Thu 10/18/12	Fri 10/19/12	13
15	24" DRAIN 15+60 TO 18+44	4 days	Mon 10/22/12	Thu 10/25/12	14
16	18" DRAIN CROSSING 15+60 TO 18+44	2 days	Fri 10/26/12	Mon 10/29/12	15
17	18" & 24" DR. CROSSING 5+00 TO 9+00	2 days	Tue 10/30/12	Wed 10/31/12	16
18	54" DRAIN CROSSING 9+51	4 days	Thu 11/1/12	Wed 11/7/12	17,9
19	18" & 24" DR, CROSSING 10+30 TO12+70	2 days	Thu 11/8/12	Fri 11/9/12	18
20	66" DRAIN CROSSING 13+94	6 days	Tue 11/13/12	Tue 11/20/12	19
21	30" DRAIN 9+52 TO 10+30	1 day	Wed 11/21/12	Wed 11/21/12	20
22	24" DRAIN 10+30 TO 12+70	3 days	Fri 11/23/12	Tue 11/27/12	21
23	66" DRAIN 0+85 TO 9+52	23 days	Mon 11/19/12	Thu 12/20/12	6
24					
25	**NON-POTABLE SYSTEM 4 DAYS**	0 days	Tue 11/27/12	Tue 11/27/12	22
26	16" RECYCLE 4+35 TO 4+60	4 days	Wed 11/28/12	Mon 12/3/12	25
27					
28	**SEWER SYSTEM 10 DAYS**	0 days	Mon 12/3/12	Mon 12/3/12	26
29	8" SEWER CROSSING 4+50	1 day	Tue 12/4/12	Tue 12/4/12	26,28
30	8" SEWER CROSSING 11+95	1 day	Wed 12/5/12	Wed 12/5/12	29,19
31	8" SEWER 14+20 TO 18+05	2 days	Thu 12/6/12	Fri 12/7/12	16,30
32	8" SEWER 4+50 TO 11+95	4 days	Fri 12/21/12	Thu 12/27/12	23,31
33	12" & 8" CROSSING 9+39 ROAD "B"	2 days	Fri 12/28/12	Mon 12/31/12	32
34					
35	**WATER SYSTEM 38 DAYS**	0 days	Mon 12/31/12	Mon 12/31/12	33
36	12" WATER 0+80 TO 5+00	8 days	Wed 1/2/13	Fri 1/11/13	35
37	12" WATER 5+00 TO 9+00	7 days	Mon 1/14/13	Wed 1/23/13	36,17
38	12" WATER 9+00 TO 12+00	6 days	Thu 1/24/13	Thu 1/31/13	19,20,3
39	12" WATER 12+00 TO 18+05	8 days	Fri 2/1/13	Tue 2/12/13	38
40	TESTING & CHLORINATION	6 days	Wed 2/13/13	Thu 2/21/13	39
41	CONNECTIONS	3 days	Fri 2/22/13	Tue 2/26/13	40
42					
43	**NON-POTABLE SYSTEM 20 DAYS**	0 days	Tue 2/26/13	Tue 2/26/13	41
44	16" RECYCLE 4+60 TO 5+79	4 days	Wed 2/27/13	Mon 3/4/13	43
45	16" RECYCLE 5+79 TO 8+00	3 days	Tue 3/5/13	Thu 3/7/13	44
46	16" RECYCLE 8+00 TO 15+00	9 days	Fri 3/8/13	Wed 3/20/13	45
47	16" RECYCLE 15+00 TO 18+05	4 days	Thu 3/21/13	Wed 3/27/13	46
48					
49	**ELECTRICAL SYSTEM 13 DAYS**	0 days	Tue 2/26/13	Tue 2/26/13	41
50	KAPOLEI PKY DUCT 0+11 - 3+00 (EG-2)	3 days	Wed 2/27/13	Fri 3/1/13	14,26,4
51	KAPOLEI PKY DUCT 3+00 - 8+80 (EG-3)	4 days	Mon 3/4/13	Thu 3/7/13	29,36,5
52	KAPOLEI PKY DUCT 10+20 - 13+40 (EG-4,5)	3 days	Fri 3/8/13	Tue 3/12/13	51
53	KAPOLEI PKY DUCT 14+70 - 17+95 (EG-5,6)	3 days	Wed 3/13/13	Fri 3/15/13	52
54					
55	STREET LIGHTING SYSTEM	14 days	Mon 3/18/13	Mon 4/8/13	53
56	TRAFFIC SIGNAL SYSTEM	5 days	Tue 4/9/13	Mon 4/15/13	55



Project: Kapolei Parkway Urban Core
Date: Wed 7/11/12

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

ID	Task Name	Duration	Start	Finish	Predece
57	IRRIGATION SLEEVES	1 day	Tue 4/16/13	Tue 4/16/13	56
58	24" AGGREGATE SUBBASE	15 days	Wed 4/17/13	Tue 5/7/13	57
59	CONCRETE CURBS & GUTTERS	30 days	Wed 5/8/13	Thu 6/20/13	58
60	TRAFFIC SIGN POSTS	2 days	Fri 6/21/13	Mon 6/24/13	59
61	CONCRETE SIDEWALKS	16 days	Tue 6/25/13	Wed 7/17/13	60
62	9-1/2" GLASSPHALT BASE	3 days	Thu 7/18/13	Mon 7/22/13	61
63	4" AC PAVEMENT	2 days	Tue 7/23/13	Wed 7/24/13	62
64	ROOT BARRIERS	10 days	Thu 7/25/13	Wed 8/7/13	63
65	IRRIGATION SYSTEM	16 days	Thu 8/8/13	Thu 8/29/13	64
66	TOPSOIL PLANTERS	4 days	Fri 8/30/13	Wed 9/4/13	65
67	STREET TREES	5 days	Thu 9/5/13	Wed 9/11/13	66
68	IRON GRATINGS	1 day	Thu 9/12/13	Thu 9/12/13	67
69	SURVEY MONUMENTS	2 days	Fri 9/13/13	Mon 9/16/13	68
70	PAVEMENT STRIPING	3 days	Tue 9/17/13	Thu 9/19/13	69
71	TRAFFIC SIGNS	3 days	Fri 9/20/13	Tue 9/24/13	70
72	GRASSING	5 days	Wed 9/25/13	Tue 10/1/13	71
73	90-DAY MAINTENANCE	62 days	Wed 10/2/13	Thu 12/26/13	72
74	REMOVE EROSION CONTROLS	2 days	Fri 12/27/13	Mon 12/30/13	73



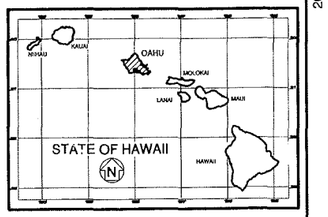
Project: Kapolei Parkway Urban Core
Date: Wed 7/11/12

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

Exhibit 3
Excerpt from Construction Drawing Plan Set for Urban Core 5 Construction Project

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	1	173

2011 / CP-143



CITY AND COUNTY OF HONOLULU

DEPARTMENT OF TRANSPORTATION SERVICES

HONOLULU, HAWAII

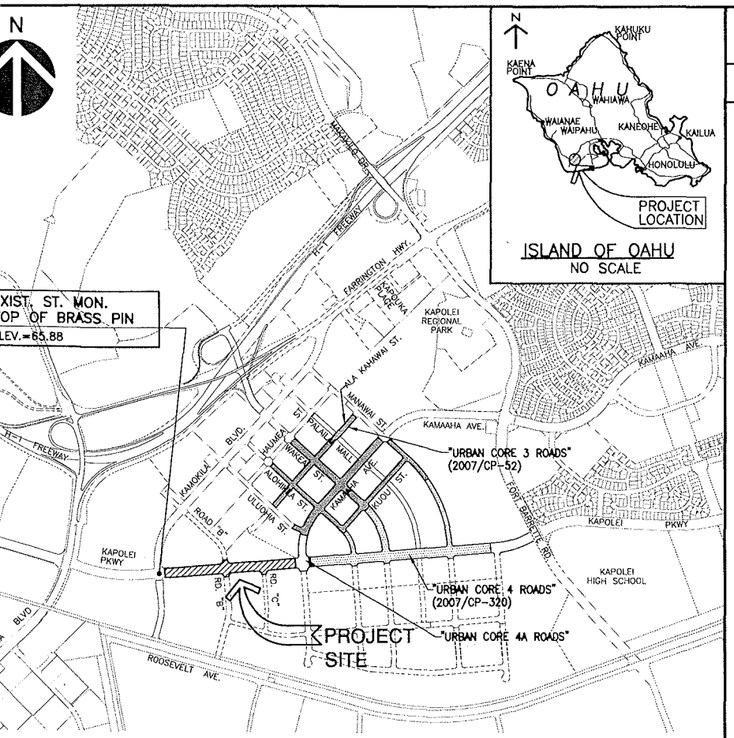
PLANS FOR

KAPOLEI PARKWAY URBAN CORE 5

KAMAAHA AVENUE TO KAMOKILA BOULEVARD

FEDERAL-AID PROJECT NO. STP-8920(002)

DISTRICT OF EWA
ISLAND OF OAHU



LOCATION MAP
NO SCALE
T.M.K. : 9-1-016:186

ISLAND OF OAHU
NO SCALE

INDEX OF DRAWINGS

SHT.	DWG.	DESCRIPTION
1	T-1	TITLE SHEET
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6-7	C-5 TO C-6	GENERAL PLAN 1-2
8	C-7	HYDRAULIC / HYDROLOGIC DATA
9	C-8	LAYOUT PLAN
10	C-9	EROSION CONTROL PLAN
11	C-10	DEMOLITION PLAN AND EROSION CONTROL DETAILS
12	C-11	GRADING PLAN AND STOCKPILING PLAN
13	C-12	GRADING SECTIONS & STOCKPILING NOTES
14	C-13	PLAN & PROFILE - KAPOLEI PARKWAY (STA. 0+00 TO STA. 8+00)
15	C-14	PLAN & PROFILE - KAPOLEI PARKWAY (STA. 8+00 TO STA. 15+00)
16	C-15	PLAN & PROFILE - KAPOLEI PARKWAY (STA. 15+00 TO 18+00)
17	C-16	PLAN & PROFILE - ROAD "B" & ROAD "C"
18-20	C-17 TO C-19	PROFILE - DRAIN LINES
21	C-20	PROFILE - F. H. CONN. KAPOLEI PARKWAY
22	C-21	PROFILE - WATER CONN. KAPOLEI PARKWAY
23-24	C-22 TO C-23	TYPICAL ROADWAY SECTIONS
25	C-24	MISCELLANEOUS DETAILS
26-27	C-25 TO C-26	MISCELLANEOUS WATER DETAILS
28	C-27	MISCELLANEOUS SEWER DETAILS
29	C-28	CURB RAMP DETAILS
30	C-29	DETAIL ROADWAY PLAN - KAMOKILA BOULEVARD (STA. 0+00 TO STA. 4+00)
31	C-30	DETAIL ROADWAY PLAN - KAPOLEI PARKWAY (STA. 0+00 TO STA. 5+00)
32	C-31	DETAIL ROADWAY PLAN - KAPOLEI PARKWAY (STA. 5+00 TO STA. 11+00)
33	C-32	DETAIL ROADWAY PLAN - KAPOLEI PARKWAY (STA. 11+00 TO STA. 17+00)
34	C-33	DETAIL ROADWAY PLAN - KAPOLEI PARKWAY (STA. 17+00 TO END RD.)
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42	S-2	PLAN, SECTIONS & DETAILS - SP DMH 3WA & 4WA
43	S-3	PLAN & SECTIONS - SP DMH 3.1WA & 3.2WA
44	S-4	HECO AND HTCO MANHOLE MODIFICATION DETAILS
45	S-5	TRAFFIC STANDARD AND LIGHT POLE FOUNDATIONS
46-48	C-40 TO C-42	MISCELLANEOUS DRAINAGE DETAILS
49-56	C-43 TO C-50	CROSS SECTIONS
57-59	C-51 TO C-53	TRAFFIC SIGNS AND PAVEMENT MARKING PLAN 1-3
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150-157	EG-1 TO EG-8	HECO DUCTLINE HORIZONTAL TIE DOWN PLAN & PROFILE
158-165	EH-1 TO EH-8	HTCO DUCTLINE HORIZONTAL TIE DOWN PLAN & PROFILE
166-173	EI-1 TO EI-8	CATV DUCTLINE HORIZONTAL TIE DOWN PLAN & PROFILE

APPROVED:

12/15/11

DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES
CITY & COUNTY OF HONOLULU

DATE

DESIGN DESIGNATION

DESIGN ADT (2050).....62,000
DHV.....2,200
D (DESIGN).....50/50
T (DESIGN).....3%
T (24).....8.6%
V.....30 MPH

FILE	POCKET	FOLDER	NO.

URBAN CORE 5 ROADS - 0812

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	2	173

GENERAL CONSTRUCTION NOTES

1. ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR THE PROJECT AND THE APPLICABLE PROVISIONS OF THE HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005, AS AMENDED, OF THE STATE DEPARTMENT OF TRANSPORTATION, AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII.

2. THE UNDERGROUND PIPES, CABLES OR DUCT LINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR NEW LINES.

3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS" AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 14 OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.

5. THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT TWO (2) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK.

6. THE CONTRACTOR MAY SUBMIT A SUBSTITUTION REQUEST TO PRECAST ANY CITY OWNED AND/OR MAINTAINED DRAINAGE STRUCTURE (EX., CATCH BASINS, DRAIN MANHOLES, DRAIN INLETS, CULVERTS, ETC.). HOWEVER, PRIOR TO CONSTRUCTION AND INSTALLATION OF ANY PRECAST STRUCTURE, THE CONTRACTOR SHALL a) SUBMIT SIX (6) SETS OF SHOP DRAWINGS TO THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING AND OBTAIN WRITTEN APPROVAL AND b) NOTIFY THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES. NON-COMPLIANCE WITH ANY OF THESE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL PRECAST CONSTRUCTION WORK AND REJECTION OF ALL PRECAST STRUCTURES ALREADY CONSTRUCTED.

7. CONFINED SPACE

   FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:

   I. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
      a. FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
      b. LIFELINE AND ASSOCIATED CLIPS.
      c. INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
      d. TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
      e. EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
      f. CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
      g. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20 FEET AWAY).
      h. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.

   II. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.

   III. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).

8. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

9. FOR BENCH MARK, SEE SHEET 1.

10. UTILITY LINES SHALL BE CONSTRUCTED WITH FLEXIBLE JOINTS, PARTICULARLY WHERE LINES ARE CONNECTED TO STRUCTURES.

11. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND LICENSES REQUIRED.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS AND INVERTS OF ALL EXISTING UTILITIES AND DRAINAGE SYSTEMS, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO COMMENCEMENT OF CONSTRUCTION.

13. THE CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCY OR CONFLICT FOUND IN THE FIELD PRIOR TO OR DURING THE COURSE OF CONSTRUCTION AND SHALL NOT PROCEED WITH CONSTRUCTION UNTIL THE ENGINEER RESOLVES THE SAID DISCREPANCY OR CONFLICT.

14. FOR DETAILS NOT DELINEATED BY THESE PLANS, THE CONTRACTOR SHALL REFER TO THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" OR THE "WATER SYSTEM STANDARDS", DATED 2002, WHICHEVER IS APPLICABLE.

15. UNLESS OTHERWISE NOTED, ALL EXISTING PAVEMENT, UTILITY LINES AND OTHER IMPROVEMENTS DAMAGED OR UNDERMINED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE RECONSTRUCTED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE TO MATCH EXISTING CONDITIONS.

16. ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD. HOWEVER, CONNECTIONS TO UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA. UNDERGROUND UTILITIES SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES. NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PAY FOR ALL DAMAGED UTILITIES.

17. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.

18. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH THE ADMINISTRATIVE RULES OF THE DEPARTMENT OF HEALTH REGARDING NOISE CONTROL FOR OAHU.

19. CONSTRUCTION ACTIVITIES WILL NOT BE PERMITTED IN CITY STREETS DURING WEEKENDS AND HOLIDAYS WITHOUT PRIOR APPROVAL FROM THE DIRECTOR, DEPARTMENT OF TRANSPORTATION SERVICES.

GRADING NOTES

1. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 14, ARTICLES 13, 14, 15 AND 16, AS RELATED TO GRADING, SOIL EROSION AND SEDIMENT CONTROL OF THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED, AND THE SOILS REPORT TITLED, "GEOTECHNICAL ENGINEERING EXPLORATION KAPOLEI CITY URBAN CORE 5 ROADS (KAPOLEI PARKWAY & KAMAAHA AVENUE), KAPOLEI, OAHU, HAWAII", BY GEOLABS, INC., DATED JANUARY 25, 2008.

2. NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60.1, "AIR POLLUTION CONTROL".

4. THE UNDERGROUND PIPES, CABLES OR DUCT LINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

5. ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.

6. ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED.

7. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.

8. THE CITY SHALL BE INFORMED OF THE LOCATION OF THE BORROW/DISPOSAL SITE FOR THE PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

9. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE DIRECTOR, DEPARTMENT OF PLANNING AND PERMITTING, PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH THE COMMUNITY NOISE CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 46, "COMMUNITY NOISE CONTROL".

10. THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.

11. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS", AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AND IF APPLICABLE, THE NPDES PERMIT FOR THE PROJECT.

12. WHERE APPLICABLE AND FEASIBLE, THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTH MOVING PHASE OF THE GRADING IS INITIATED.

13. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.

14. TEMPORARY EROSION CONTROL PROCEDURES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO APPLICATION FOR GRADING PERMIT.

15. IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.

16. FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT TWO (2) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. FOR CITY PROJECTS, THE CONTRACTOR SHALL COORDINATE INSPECTIONAL SERVICES WITH THE RESPONSIBLE CITY AGENCY.

17. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

18. FOR ALL PROJECTS, WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND, THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL A NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII, AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM. ALSO, FOR NON-CITY AND OTHER NON-GOVERNMENTAL AGENCY PROJECTS, THE CONTRACTOR SHALL PROVIDE A WRITTEN COPY OF THE NGPC TO THE PERMITTING AND INSPECTION SECTION, CIVIL ENGINEERING BRANCH, D.P.P., AT LEAST SEVEN (7) CALENDAR DAYS BEFORE THE START OF THE CONSTRUCTION. FOR CITY OR OTHER GOVERNMENTAL PROJECTS, THE CONTRACTOR SHOULD PROVIDE A WRITTEN COPY OF THE NGPC TO THE APPROPRIATE CITY DEPARTMENT OR GOVERNMENTAL AGENCY PER THEIR REQUIREMENTS.

19. ALL GRADING AND CONSTRUCTION WORK SHALL IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE WILL BE REDUCED TO THE MAXIMUM EXTENT PRACTICABLE AND WILL NOT CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF WATER QUALITY STANDARDS.

20. NON-COMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECTED TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.

21. FOR BENCH MARK, SEE SHEET 1.

THE FOLLOWING NOTES WERE EXTRACTED FROM THE SUBSURFACE INVESTIGATION REPORT TITLED, "GEOTECHNICAL ENGINEERING EXPLORATION KAPOLEI CITY URBAN CORE 5 ROADS (KAPOLEI PARKWAY & KAMAAHA AVENUE), KAPOLEI, OAHU, HAWAII", BY GEOLABS, INC., DATED JANUARY 25, 2008.

SITE PREPARATION AND GRADING

1. AT THE ON-SET OF EARTHWORK, THE CONTRACTOR SHALL THOROUGHLY CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF GRADING. VEGETATION, ORGANIC DEBRIS, CONSTRUCTION DEBRIS, DELETERIOUS MATERIAL, AND OTHER UNSUITABLE MATERIALS SHALL BE REMOVED AND DISPOSED OF PROPERLY OFF-SITE.

2. THE CONTRACTOR SHALL OVER-EXCAVATE SOFT AND/OR YIELDING AREAS ENCOUNTERED DURING CLEARING BELOW AREAS DESIGNATED TO RECEIVE FILL OR FUTURE IMPROVEMENTS. THE CONTRACTOR SHALL OVER-EXCAVATE SOFT AND/OR YIELDING AREAS TO EXPOSE FIRM AND/OR STIFF NATURAL MATERIAL. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH WELL-COMPACTED FILL. THE EXCAVATED SOFT AND/OR ORGANIC SOILS SHALL BE PROPERLY DISPOSED OF OFF-SITE.

3. THE CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE EXISTING STRUCTURES AND PAVEMENTS WITHIN THE PROJECT LIMITS. THE OVER-EXCAVATIONS RESULTING FROM DEMOLITION WORK SHALL BE BACKFILLED WITH COMPACTED GRANULAR FILL MATERIAL.

4. THE CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE EXISTING UTILITIES TO BE ABANDONED. THE RESULTING EXCAVATION SHALL BE PROPERLY BACKFILLED WITH SELECT GRANULAR FILL MATERIAL MOISTURE-CONDITIONED TO ABOVE THE OPTIMUM MOISTURE CONTENT, PLACED IN 8-INCH LEVEL LOOSE LIFTS, AND COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION. UTILITIES TO BE ABANDONED IN-PLACE SHALL BE BACKFILLED BY PUMPING LEAN CONCRETE OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) UNDER LOW PRESSURE.

5. AFTER CLEARING AND GRUBBING, THE CONTRACTOR SHALL PROOF-ROLL EXPOSED SUBGRADES WITH A MINIMUM 10-TON VIBRATORY DRUM ROLLER FOR A MINIMUM OF SIX PASSES TO ASSIST IN DETECTING AND COLLAPSING NEAR-SURFACE VOIDS AND LOOSE ZONES CREATED BY THE SHRINKAGE CRACKS AND GROUND DEPRESSIONS. THE EXPOSED SUBGRADES SHALL BE PROOF-ROLLED WITHOUT MOISTURE-CONDITIONING OF THE SUBGRADE SOILS (AT PRE-EXISTING MOISTURE CONTENTS.) LOOSE AREAS DISCLOSED DURING THE PROOF-ROLLING OPERATION SHALL BE BACKFILLED WITH GENERAL FILL MATERIAL COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION. THE PROOF-ROLLING OPERATIONS SHALL BE CONDUCTED UNDER THE NEAR-CONTINUOUS OBSERVATION BY THE ENGINEER OR AN AUTHORIZED REPRESENTATIVE IN THE FIELD.

6. SUBSEQUENT TO THE PROOF-ROLLING OPERATIONS, THE CONTRACTOR SHALL SCARIFY THE SUBGRADES TO A MINIMUM DEPTH OF 12 INCHES, MOISTURE-CONDITIONED TO AT LEAST 2 PERCENT ABOVE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION. RELATIVE COMPACTION REFERS TO THE IN-PLACE DRY DENSITY OF SOIL EXPRESSED AS A PERCENTAGE OF THE MAXIMUM DRY DENSITY OF THE SAME SOIL ESTABLISHED IN ACCORDANCE WITH ASTM D 1557. OPTIMUM MOISTURE IS THE WATER CONTENT (PERCENTAGE BY DRY WEIGHT) CORRESPONDING TO THE MAXIMUM DRY DENSITY.

7. WHERE SHRINKAGE CRACKS ARE OBSERVED AFTER COMPACTION OF THE SUBGRADE, THE CONTRACTOR SHALL SCARIFY THE SOILS AND PREPARE AGAIN AS RECOMMENDED ABOVE. THE CONTRACTOR SHALL OVER-EXCAVATE SOFT AREAS CAUSED BY SATURATION AND SUBSEQUENT YIELDING OF THE EXPOSED SUBGRADE DUE TO INCLEMENT WEATHER AND POOR DRAINAGE. THE CONTRACTOR SHALL REPLACE OVER-EXCAVATED SOFT AREAS WITH WELL-COMPACTED FILL.

8. THE EXCAVATED ON-SITE SOILS GENERATED FROM CUT AREAS MAY BE RE-USED AS A SOURCE OF FILL MATERIALS TO RAISE THE EXISTING GROUND SURFACE TO THE BOTTOM OF THE SUBBASE COURSE LAYER. ADDITIONAL IMPORTED FILL MATERIALS REQUIRED FOR THE PROJECT SHALL CONSIST OF 3-INCH MINUS MATERIALS FREE OF VEGETATION, ADOBE CLAYS, AND OTHER DELETERIOUS MATERIALS. IN ADDITION, IMPORTED FILL MATERIALS SHALL ALSO HAVE A LABORATORY CALIFORNIA BEARING RATIO (CBR) VALUE OF 12 OR MORE AND SHALL HAVE A MAXIMUM SWELL OF LESS THAN 1 PERCENT WHEN TESTED IN ACCORDANCE WITH ASTM TEST DESIGNATION D 1883. FILL MATERIALS SHALL BE MOISTURE-CONDITIONED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE, PLACED IN LEVEL LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, AND COMPACTED AS SPECIFIED IN THE CONTRACT DOCUMENTS.

9. FILLS PLACED ON SLOPES STEEPER THAN 5H:1V SHALL BE KEYED AND BENCHED INTO THE EXISTING SLOPE TO PROVIDE STABILITY OF THE NEW FILL AGAINST SLIDING. THE FILLING OPERATIONS SHALL START AT THE LOWEST POINT AND CONTINUE UP IN LEVEL HORIZONTAL COMPACTED LAYERS.

PAVEMENT MATERIALS

1. THE ASPHALT CONCRETE BASE (ACB) MATERIAL SHALL CONSIST OF ASPHALT-TREATED BASALT AGGREGATE, PLACED IN A LAYER NOT TO EXCEED 6 INCHES IN COMPACTED THICKNESS, AND COMPACTED TO NO LESS THAN 92 PERCENT OF THE MAXIMUM THEORETICAL SPECIFIC GRAVITY DETERMINED IN ACCORDANCE WITH ASTM D 2041.

2. THE AGGREGATE SUBBASE MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 30 OF THE CITY AND COUNTY OF HONOLULU STANDARD SPECIFICATIONS (SEPTEMBER 1986). THE MATERIAL SHALL BE MOISTURE-CONDITIONED TO ABOVE THE OPTIMUM MOISTURE CONTENT, PLACED IN 8-INCH LEVEL LOOSE LIFTS, AND COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION.

APPROVED:

DIRECTOR, DEPARTMENT OF PLANNING & PERMITTING, CITY & COUNTY OF HONOLULU — DATE

CHIEF, ENVIRONMENTAL MANAGEMENT DIVISION, (DEPARTMENT OF HEALTH, STATE OF HAWAII) — DATE 5-02-2012

REVISION	DATE	BRIEF	BY	APPROVED

CRAIG S. ARAKAKI — LICENSED PROFESSIONAL ENGINEER — No. 5510-C — HAWAII, U.S.A.

License Expiration Date 04-30-14

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Craig S. Arakaki
Signature

Engineering Concepts, Inc.
1150 S. King Street Suite 700
Honolulu, Hawaii 96814

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016:186
(PROPOSED PUBLIC STREET)

CONSTRUCTION NOTES

ENGINEER: CA, CH, JT — DATE: DEC. 21, 2011
DRAWN BY: FG — SCALE: AS SHOWN
CHK BY: CA — REF.

APPROVED: 6/8/12
CHIEF, CITY ENGINEERING BRANCH, DEPT. OF PLANNING AND PERMITTING — DATE

C-1

SHEET 2 OF 173 SHEETS

FILE	POCKET	FOLDER	NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	10	173

TRUE NORTH
SCALE "80"

EXISTING KAMOKILA BLVD. (CITY)

EXISTING KAMOKILA BLVD. (CITY)

EXISTING JUDICIARY COMPLEX

KAPOLEI PKWY. (PROPOSED CITY)

ALOHIKEA ST. (PROPOSED CITY)

KAMAAHA AVENUE (PROPOSED CITY)

ULUOHIA ST. (PROPOSED CITY)

KUOU ST. (PROPOSED CITY)

ROAD "B"

ROAD "C"

50'

CONSTRUCTION INGRESS/EGRESS FOR DETAIL, SEE SHT. 11

FUTURE ROAD "B" (UNDER SEPARATE PLANS)

LIMITS OF DISTURBED AREA

INSTALL CB GUARD FOR DURATION OF SITE CONSTRUCTION, INCLUDING MAINTENANCE, AS REQUIRED. FOR DETAIL, SEE SHT. 11

SAND BAG BERM FOR DETAIL, SEE SHT. 11

TEMPORARY SILT FENCE. FOR DETAIL, SEE SHT. 11

INSTALL CB GUARD FOR DURATION OF SITE CONSTRUCTION, INCLUDING MAINTENANCE, AS REQUIRED. FOR DETAIL, SEE SHT. 11

INLET-1

LIMIT OF CLEARING, GRUBBING, & GRADING

TEMPORARY ACCESS PATH

INSTALL CB GUARD FOR DURATION OF SITE CONSTRUCTION, INCLUDING MAINTENANCE, AS REQUIRED. FOR DETAIL, SEE SHT. 11

LIMITS OF CLEARING, GRUBBING, AND DISTURBED AREA FOR TEMPORARY ACCESS PATH

SILT FENCE

EXISTING CONCRETE HEADWALL/OUTLET

TEMPORARY SILT FENCE. FOR DETAIL, SEE SHT. 11

LIMIT OF STOCKPILING AND DISTURBED AREA

TEMPORARY SEDIMENT BASIN
PROVIDED VOLUME
105,400 CU. FT. (TO ELEV. 52)
REQUIRED VOLUME
5,076 CU. FT.

EXISTING CORAL ACCESS ROAD FOR EXISTING SEWER LINE

OUTLET-2

STAGING AREA

OUTLET-1

LIMITS OF DISTURBED AREA

TEMPORARY SILT FENCE. FOR DETAIL, SEE SHT. 11

INSTALL 424 LF 16 FT HIGH DUST SCREEN

INSTALL CB GUARD FOR DURATION OF SITE CONSTRUCTION, INCLUDING MAINTENANCE, AS REQUIRED. FOR DETAIL, SEE SHT. 11

TEMPORARY SEDIMENT BASIN
PROVIDED VOLUME
54,000 CU. FT.
REQUIRED VOLUME
31,392 CU. FT.
EFFECTIVE AREA = 8.72 AC

LIMIT OF CLEARING, GRUBBING, & GRADING

EARTH BERM SEE NOTE 1 ON THIS SHT.

SAND BAG BERM FOR DETAIL, SEE SHT. 11

LEGEND:

- EX. W8 — EXISTING WATER
- EX. S8 — EXISTING SEWER
- EX. D18 — EXISTING DRAIN
- EXISTING CATCH BASIN
- 100 — FINISH CONTOUR
- 100 — EXISTING CONTOUR
- PROPERTY LINE
- OVERLAND FLOW PATTERN
- SWALE
- LIMITS OF CLEARING, GRUBBING, GRADING & DISTURBED AREA
- SILT FENCE
- DUST FENCE

NOTES:

1. THE CONTRACTOR SHALL CONSTRUCT EARTH BERM PRIOR TO STARTING GRADING.
2. THE CONTRACTOR SHALL REMOVE CATCH BASIN GUARDS (FILTERS) DURING AN EVENT OF ABOVE NORMAL RAINFALL AND REPLACE FILTERS AFTER EVENT HAS PASSED.
3. FOR WATER POLLUTION AND EROSION CONTROL NOTES, SEE SHEET 4.

EROSION CONTROL PLAN

SCALE "80"

GRAPHIC SCALE
SCALE "80" 80' 0 80' 160'

REVISION	DATE	BRIEF	BY	APROVED

CRAIG S. ARAKAKI
LICENSED PROFESSIONAL ENGINEER
No. 5510-C
HAWAII, U.S.A.

License Expiration Date 04-30-14

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Craig S. Arakaki
Signature

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016:186
(PROPOSED PUBLIC STREET)

EROSION CONTROL PLAN

ENGINEER: CA, CH, JT
DRAWN BY: FG
CHK BY: CA
DATE: DEC. 21, 2011
SCALE: AS SHOWN
REF.

APPROVED: 4/8/12
Chief, Civil Engineering Branch, DPP, DPWE Date

FILE	POCKET	FOLDER	NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	12	173

ESTIMATED EARTHWORK QUANTITIES:

AREA TO BE CLEARED, GRUBBED & GRADED.		10.10 AC.
STOCKPILE AREA		1.41 AC.
TOTAL DISTURBED AREA.		11.51 AC.

	EXCAVATION	EMBANKMENT
GRADING	54,890 CY	35,440 CY
STOCKPILE	0 CY	19,450 CY

NOTES:

1. EARTHWORK QUANTITIES ARE FOR ESTIMATING PURPOSES ONLY.
2. TO BE CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 4A ROADS".
3. CONSTRUCTED UNDER SEPARATE PLANS "KAPOLEI CITY URBAN CORE 4 ROADS" (DPP FILE NO. 2007/CP320).

LEGEND:

- EX. W_8 — EXISTING WATER
- EX. S_8 — EXISTING SEWER
- EX. D_{18} — EXISTING DRAIN
- EXISTING CATCH BASIN
- 100 — FINISH CONTOUR
- EXISTING CONTOUR
- PROPERTY LINE
- OVERLAND FLOW PATTERN
- SWALE
- LIMITS OF CLEARING, GRUBBING, GRADING, STOCKPILING, & DISTURBED AREA

TRUE NORTH
SCALE "80"

EXISTING KAMOKILA BLVD. (CITY)
LIMITS OF DISTURBED AREA
FUTURE ROAD "B" (UNDER SEPARATE PLANS)
LIMITS OF CLEARING, GRUBBING, GRADING & DISTURBED AREA
KAPOLEI PKWY. (PROPOSED CITY)
0+00
5+00
10+00
15+00
LIMITS OF CLEARING, GRUBBING, GRADING & DISTURBED AREA
EXISTING JUDICIARY COMPLEX
EXISTING DITCH TO REMAIN
INLET-1 FOR DETAILS, SEE SHT. 46
ROAD "C"
OUTLET-1 FOR DETAILS, SEE SHT. 47
OUTLET-2 FOR DETAILS, SEE SHT. 48
SEE NOTE 2
STAGING AREA
LIMITS OF DISTURBED AREA
EXISTING DITCH TO REMAIN
B C-12
A C-12
ALOHIKEA ST. (PROPOSED CITY)
KAMAAHA AVENUE (PROPOSED CITY)
ULUOHIA ST. (PROPOSED CITY)
KUOU ST. (PROPOSED CITY)
LIMITS OF CLEARING, GRUBBING, AND DISTURBED AREA FOR TEMPORARY ACCESS PATH
TEMPORARY ACCESS PATH
24+03.77 KAPOLEI PKWY. (355.57 O/S) ELEV.=75.7
C C-12
22+94.23 KAPOLEI PKWY. (306.99 O/S) ELEV.=74.5
LIMITS OF STOCKPILING AND DISTURBED AREA
EXISTING CONCRETE HEADWALL/ OUTLET
D C-12
1.0%
22+78.83 KAPOLEI PKWY. (111.36 O/S) ELEV.=74.5
24+77.46 KAPOLEI PKWY. (190.23 O/S) ELEV.=76.4
20+00
25+00
℄ KAPOLEI PARKWAY
25+10.61 KAPOLEI PKWY. (111.36 O/S) ELEV.=75.5
SEE NOTE 4
EXISTING CORAL ACCESS ROAD FOR EXISTING SEWER LINE

GRADING AND STOCKPILING PLAN

SCALE "80"

GRAPHIC SCALE
SCALE "80" 80' 0 80' 160'

REVISION	DATE	BRIEF	BY	APPROVED

CRAIG S. ARAKAKI LICENSED PROFESSIONAL ENGINEER No. 5510-C HAWAII, U.S.A.

License Expiration Date 04-30-14

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Craig S. Arakaki
Signature

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

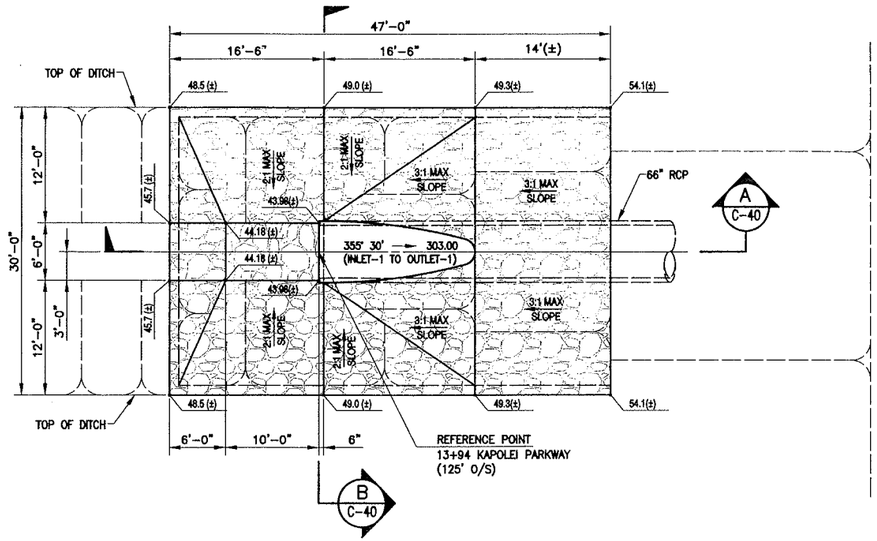
KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016:186
(PROPOSED PUBLIC STREET)

GRADING AND STOCKPILING PLAN

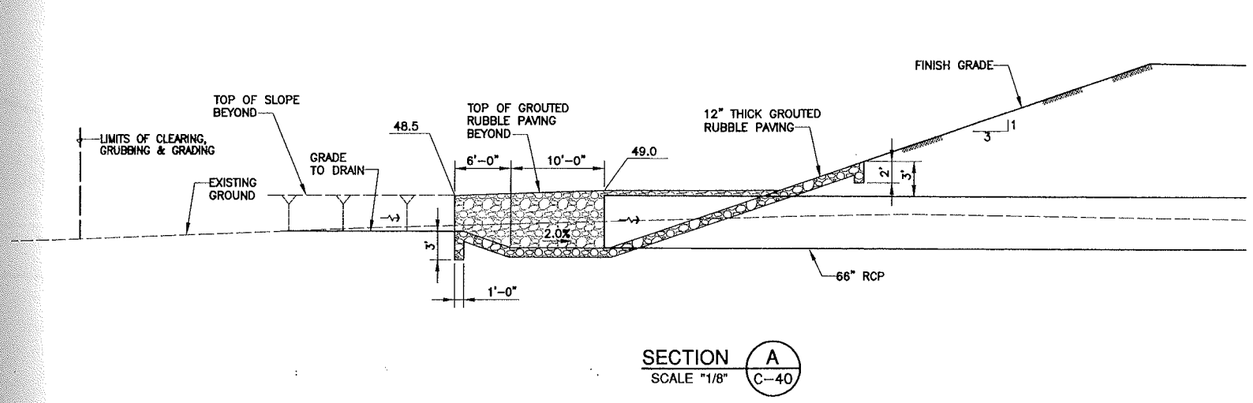
ENGINEER: CA, CH, JT
DRAWN BY: FG
CHK BY: CA
DATE: DEC. 21, 2011
SCALE: AS SHOWN
REF.

APPROVED :
M. Zo 4/9/12
Chief, Civil Engineering Branch, DPP — Date

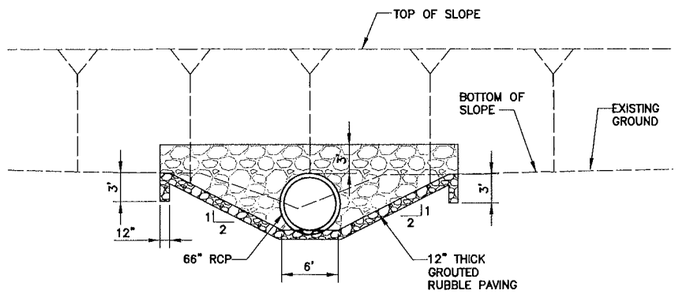
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	46	173



PLAN - INLET 1
SCALE "1/8"



SECTION A
SCALE "1/8" C-40



SECTION B
SCALE "1/8" C-40

TEMPORARY INLET - 1 DETAILS
SCALE AS SHOWN

GRAPHIC SCALE
SCALE "1/8" 8' 0 8' 16'

REVISION	DATE	BRIEF	BY	APROVED

CRAIG S. ARAKAKI
LICENSED PROFESSIONAL ENGINEER
No. 5510-C
HAWAII, U.S.A.

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Craig S. Arakaki
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CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016:186
(PROPOSED PUBLIC STREET)

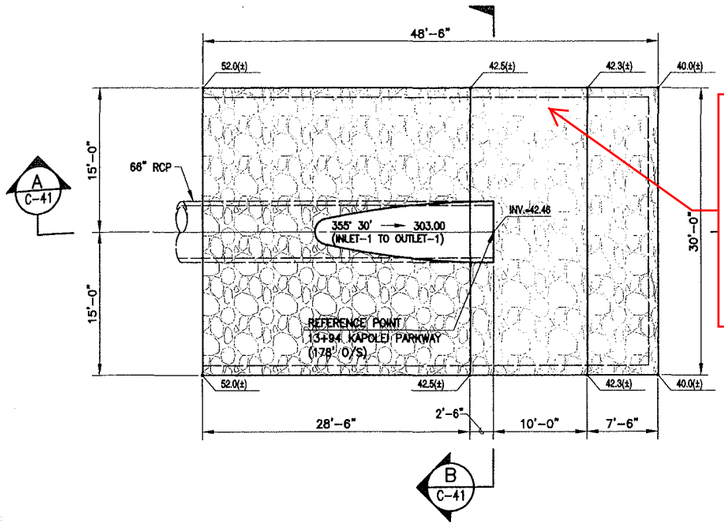
MISCELLANEOUS DRAINAGE DETAILS

ENGINEER: CA, CH, JT
DRAWN BY: FG
CHK BY: CA
DATE: DEC. 21, 2011
SCALE: AS SHOWN
REF.

APPROVED :
Chief, Civil Engineering Branch, DPP — Date 4/8/14

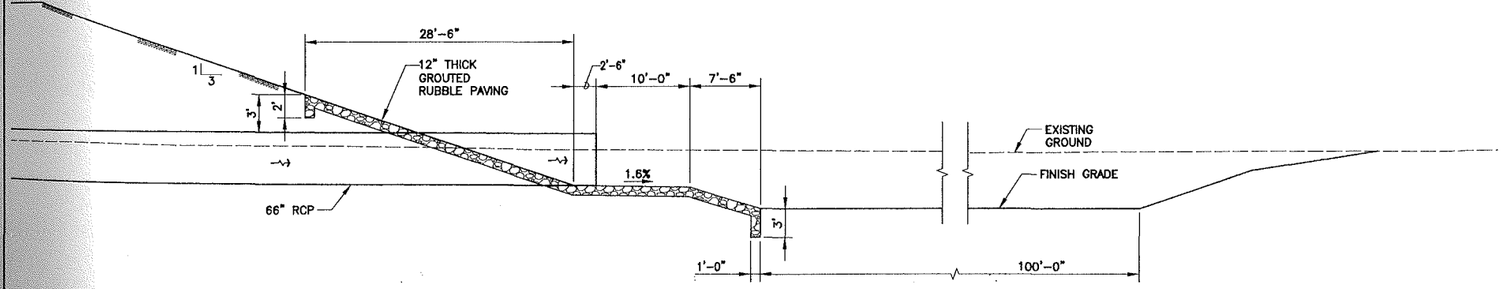
FILE	POCKET	FOLDER	NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8920(002)	2011	47	173

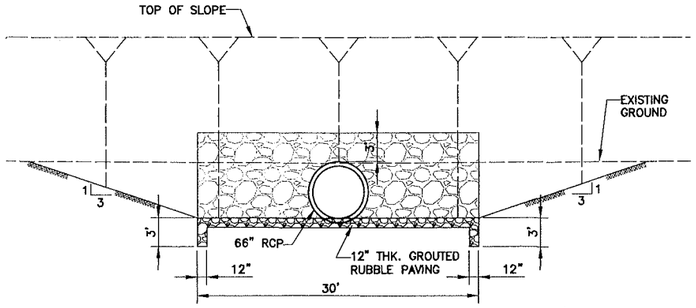


From the drawings it is unclear what type, if any, of outlet structure was to be constructed at the terminus of the detention basin.

PLAN - OUTLET 1
SCALE "1/8"



SECTION A (C-41)
SCALE "1/8"



SECTION B (C-41)
SCALE "1/8"

TEMPORARY OUTLET - 1 DETAILS

SCALE AS SHOWN

GRAPHIC SCALE
SCALE "1/8" 8' 0 8' 16'

REVISION	DATE	BRIEF	BY	APROVED

CRAIG S. ARAKAKI
LICENSED PROFESSIONAL ENGINEER
No. 5510-C
HAWAII, U.S.A.

License Expiration Date 04-30-14

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Signature

Engineering Concepts, Inc.
1150 S. King Street Suite 700
Honolulu, Hawaii 96814

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

KAPOLEI PARKWAY, URBAN CORE 5
KAMAAHA AVENUE TO KAMOKILA BOULEVARD
KAPOLEI, EWA, OAHU, HAWAII
T.M.K. : 9-1-016:186
(PROPOSED PUBLIC STREET)

MISCELLANEOUS DRAINAGE DETAILS

ENGINEER: CA, CH, JT
DRAWN BY: FG
CHK BY: CA
DATE: DEC. 21, 2011
SCALE: AS SHOWN
REF.

APPROVED: 4/8/13
Chief, Civil Engineering Branch, DPP Date

Exhibit 4
Excerpt of ENV Construction Oversight Inspection Inventory

City and County of Honolulu
Storm Water Quality Branch
1000 Uluohia Street, Suite 212, Kapolei, Hawaii 96707
CONSTRUCTION BMPs INSPECTION LOG, FY 2013

CONSTRUCTION BMPs INSPECTION LOG, FY 2013

Lead Inspector	Date visited/photo log	Area	Project Name	Address	Developer or NPDES Holder	Contact	Phone	Copy of NPDES Permit	Copy of GP Permit	TMK	Work Area (sf) <ECP Calc>	Work Area (ac)	Contractor	Contact	Phone	DPP or DDC Inspector	Phone
PQ	1/9/2013	Waikiki	Hilton Hawaiian Village - Louis Vuitton	2005 Kalia Road	Hilton WorldWide	Mark Philpott, Project Manager | Swinerton Builders	808.955.1106, C 808.436.6184	no	GP2012-07-0389	2-6-008:034	9,440	0.22	Swinerton	Mark Philpotts (pm)/John McLaughlin (s)	436-6184 / 295-0366	Ben Cacho (g)/ Anothony Tato (b)	8087 / 8147
MN	1/10/2013	Waipahu	Honolulu High Capacity Transit Corridor Project - Ho'opili	Aloun Farm Area	HART - C&C Honolulu	Thomas Ho, Kiewit Infrastructure Group	620-0109, 679-0638	HI R10D518	GP2012-03-0102	9-1-017:004,086	1,143,445	26.25	Kiewit	Thomas Ho	620-0109, 679-0638	Charles Domingo	590-1049
DK	3/11/2013	Kapolei	Makakilo C&D	Makakilo C&D area	DR Horton	Vanessa Yanagawa	521-5661 ext.143	HI R10C561.ext12	GP2013-03-0133	9-2-003:081,072	3,249,576	74.60	Delta Construction	Alfonso Legaspi	479-6371	Canaan Kutzen	590-0608
PQ	4/2/2013	Ewa Beach	Haseko-Hoakalei - Area 4E	Ewa Beach - Haseko	Haseko	Adan Sutton/Scott Craycroft	222-0251/330-2639	no	no		0	0.00	Haseko	Adan Sutton/Scott Craycroft	222-0251/330-2639	David Silva	220-4631
PQ	4/2/2013	Ewa Beach	Haseko- Hoakalei - Area 4F	Ewa Beach - Haseko	Haseko	Adan Sutton/Scott Craycroft	222-0251/330-2639	no	no		0	0.00	Haseko	Adan Sutton/Scott Craycroft	222-0251/330-2639	David Silva	220-4631
PQ	4/2/2013	Ewa Beach	Haseko-Hoakalei - Area 4B	Ewa Beach - Haseko	Haseko	Adan Sutton/Scott Craycroft	222-0251/330-2639	no	no		0	0.00	Haseko	Adan Sutton/Scott Craycroft	222-0251/330-2639	David Silva	220-4631
PQ	4/8/2013	Ewa Beach	Gentry - Sandalwood- Area 40	Ewa Beach - Gentry	Gentry	Darian Chun	330-8111	HI R10B590	GP2012-12-0616	9-1-069:033	526,640	12.09	Gentry	Darian Chun	330-8111	David Silva	220-4631
PQ	4/8/2013	Ewa Beach	Gentry - Area 41	Ewa Beach - Gentry	Gentry	Darian Chun	330-8111	HI R10B590	GP2012-07-0379	9-1-069:033	361,548	8.30	Gentry	Darian Chun	330-8111	David Silva	220-4631
PQ	4/8/2013	Ewa Beach	Gentry - Area 45	Ewa Beach - Gentry	Gentry	Darian Chun	330-8111	HI R10B590	GP2012-12-0592	9-1-069:034, 037	1,969,260	45.21	Gentry	Darian Chun	330-8111	David Silva	220-4631
PQ	4/4/2013	Ewa Beach	Haseko-Area 3F	Ewa Beach - Haseko	Haseko	Dan Wiley	220-8503	no	no		0	0.00	Haseko	Dan Wiley	220-8503	David Silva	220-4631
PQ	4/4/2013	Ewa Beach	Haseko- Area 6	Ewa Beach - Haseko	Haseko	Dan Wiley	220-8503	no	no		0	0.00	Haseko	Dan Wiley	220-8503	David Silva	220-4631
PQ	4/4/2013	Ewa Beach	Haseko-District Park	Ewa Beach - Haseko	Haseko	Dan Wiley	220-8503	no	no		0	0.00	Haseko	Dan Wiley	220-8503	David Silva	220-4631
PQ	4/9/2013	Kapolei	Ilima at Leihano	Kapolei-Ilima at Leihano	Kapolei Senior Village LLC	Mitchell Brown	760-804-7007	HI R10E041.ext12	GP 2013-02-0087	9-1-160:026,029&9-1-016:143,189	3,484,844	80.00	Kiewit	Matt Adams	674-1088 o/ 503-705-5471 c	Mel Buen	542-9153
PQ/DK/MW	4/16/2013	Kapolei	Mehana - 3B	Kapolei	DR Horton	Vanessa Yanagawa	521-5661 ext.143	HI R10C453.ext12	GP2012-09-0491	9-1-016:161	329,749	7.57	Delta Construction	Alfonso Legaspi	479-6371	Canaan Kutzen	590-0608
PQ/DK/MW	4/16/2013	Kapolei	Mehana - 3C	Kapolei	DR Horton	Vanessa Yanagawa	521-5661 ext.143	HI R10C453.ext12	GP2012-10-0523	9-1-016:161	217,800	5.00	Delta Construction	Alfonso Legaspi	479-6371	Canaan Kutzen	590-0608
PQ	4/17/2013	Kapolei	Kapolei Parkway-Urban Core 5	Kamaaha to kamokila	C&C Honolulu- DTS	Jhune Mals-Bowers and Kubota	282-6192, 836-7787	HI R10D926	GP2012-10-0511	9-1-016:150&186	439,956	10.10	Royal Contracting	Vince Tellis	478-7547	Canaan Kutzen	590-0608
DK	4/17/2013	Kapolei	Makakilo C&D	Makakilo C&D area	DR Horton	Vanessa Yanagawa	521-5661 ext.143	HI R10C561.ext12	GP2013-03-0133	9-2-003:081,072	3,249,576	74.60	Delta Construction	Alfonso Legaspi	479-6371	Randy Goto	630-4740
DK/PQ	4/22/2013	Kapolei	Kalaeloa Blvd Improvements OR&L	Kalaeloa Blvd after tracks	C&C Honolulu- DTS	John Fernandez-Bowers and Kubota	478-0324	HI R10D234	GP2012-11-0581	9-1-015:013	147,233	3.38	Henry's Equipment	Donald Silva	391-1814	Mel Buen	542-9153
											0	0.00					
											0	0.00					

Exhibit 5
Post-Construction BMP Inventory

SWQ Branch
Post Construction
Permanent BMP

	TMK	DPP PERMIT	FACILITY	ADDRESS	OWNER	CONTACT PERSON	TITLE	PHONE #	PERMANENT BMP	INSP	MAINT	Latitude N	Longitude W
1	1-1-012:012	SWP2006-06-0055	First Assembly Of God	3400 Moanalua Road	First Assembly of God	Daniel Kaneshiro	Pastor	372-3451	Drain Inlet Insert	X	X	21° 21' 56.45"	157° 54' 6.96"
			First Assembly Of God		First Assembly of God				Drain Inlet Insert	X	X	21° 21' 56.41"	157° 54' 7.99"
			First Assembly Of God		First Assembly of God				Drain Inlet Insert	X	X	21° 21' 57.14"	157° 54' 8.46"
			First Assembly Of God		First Assembly of God				Drain Inlet Insert	X	X	21° 21' 57.36"	157° 54' 8.70"
2	1-1-015:089	SWP2012-01-0002	EAN Holdings LLC	3103 North Nimitz Hwy	EAN Holdings LLC	Paul Koppel	GM&VP	838-2939	Drain Inlet Insert	X	X	21° 20' 6.43"	157° 54' 31.02"
3	1-1-014:091	SWP2011-02-0011	ALAMO RENT-A-CAR	3051 N. Nimitz Hwy	Alamo Rent A Car	Paul Koppel	VP & General Manager	838-2939	Vegetative Swale	M	M	21° 20' 5.82"	157° 54' 28.05"
4	1-2-018:001	SWP2005-10-0060	Middle Street Transit Center	611 Middle Street	CCH DTS	Sandra Abelaye	Manager	768-8371	Hydrodynamic Separator	A	A	21° 20' 0.43"	157° 53' 14.14"
5	1-5-012:017	SWP2001-09-0056	Costco Wholesale	525 Alakawa St.	COSTCO WHOLESALE	Joe Viscuso	Facilities Supervisor	526-6103	Hydrodynamic Separator	A	A	21° 19' 5.07"	157° 52' 12.62"
			Costco Wholesale		COSTCO WHOLESALE				Hydrodynamic Separator	A	A	21° 19' 6.621"	157° 52' 12.17"
6	1-5-013:010	SWP2008-04-0038	Lowes (Iwilei)	411 Pacific Street	LOWE'S H I W	Travis Winfrey	Store Manager	528-9370	Hydrodynamic Separator	Q	A	27° 18' 52.89"	157° 52' 25.43"
			Lowes (Iwilei)						Hydrodynamic Separator	Q	A	27° 18' 53.34"	157° 52' 23.34"
			Lowes (Iwilei)						Hydrodynamic Separator	Q	A	27° 18' 54.64"	157° 52' 18.80"
			Lowes (Iwilei)						Hydrodynamic Separator	Q	A	27° 18' 55.79"	157° 52' 19.30"
			Lowes (Iwilei)						Hydrodynamic Separator	Q	A	27° 18' 58.18"	157° 52' 20.15"
7	1-5-012:005	SWP2010-08-0054	Weinberg Parking Lot	735 Dillingham Blvd.	COSTCO WHOLESALE	Joe Viscuso	Facilities Supervisor	526-6103	Drain Inlet Inserts	X	X	21° 19' 8.59"	157° 52' 5.90"
8	1-5-015:002	SWP2003-07-0045	Costco Gas Service Station	520 Alakawa St.	COSTCO WHOLESALE	Joe Viscuso	Facilities Supervisor	526-6103	Hydrodynamic Separator	A	A	21° 19' 8.28"	157° 52' 20.67"
9	1-5-015:006	SWP2007-10-0091	Dillingham Self Storage	935 Dillingham Blvd.	York & Company, Inc.	James D. York	Owner	479-3778	Infiltration Sump	SM	SM	21° 19' 9.37"	157° 52' 16.03"
			Dillingham Self Storage						Infiltration Sump	SM	SM	21° 19' 14.07"	157° 52' 15.59"
			Dillingham Self Storage						Infiltration Sump	SM	SM	21° 19' 13.04"	157° 52' 16.14"
10	1-5-019:003	SWP2004-06-0038	KSBE Bus Facility	750 Kohou St.	Kamehameha Schools	Wendy Cook	Project Manager	842-8796	Oil & Water Separator	M	M	21° 19' 26.89"	157° 52' 14.45"
11	1-6-027:076	SWP2008-08-0060	Walgreens	1520 N. School St.	Walgreens Co.	Robert P. Muniz	Store Manager	845-7111	Hydrodynamic Separator	A	A	21° 20' 3.60"	157° 52' 4.10"
			Walgreens						Drain Inlet Insert	A	A	21° 20' 3.94"	157° 52' 4.64"
			Walgreens						Drain Inlet Insert	A	A	21° 20' 4.07"	157° 52' 5.33"
			Walgreens						Drain Inlet Insert	A	A	21° 20' 4.99"	157° 52' 5.80"
12	1-7-026:010	SWP2007-04-0044	Hawaii USA FCU	1226 College Walk	HAWAII USA FCU	John Kaneshiro	SVP Operation	534-4300	Infiltration Sump	M	M	21° 18' 56.22"	157° 51' 43.20"
			Hawaii USA FCU						Infiltration Sump	M	M	21° 18' 56.95"	157° 51' 43.50"
13	2-1-009:011	SWP2010-05-0045	Capitol Place	1200 Queen Emma St.	Capitol Place AOAO	Ray De Smet	General Manager	695-2000	Hydrodynamic Separator			21° 18' 41.71"	157° 51' 28.25"
			Capitol Place						Hydrodynamic Separator			21° 18' 36.71"	157° 51' 29.48"
14	2-1-042:004	SWP2010-06-0048	Alapai Transit Center	710 S. King Street	CCH - DTS	Sandra Abelaye	Project Manager	768-8375	Silt Basin	M	M	21° 18' 13.96"	157° 51' 10.41"
15	2-1-048:008	SWP2006-01-0008	Keola La'i	600 Queen Street	Keola Lai Condominium AOAO	Don Davis	General Manager	292-0300	Drop Inlets	Q	A	21° 18' 9.58"	157° 51' 25.72"
			Keola La'i						Drop Inlets	Q	A	21° 18' 5.55"	157° 51' 26.96"
			Keola La'i						Drop Inlets	Q	A	21° 18' 8.59"	157° 51' 28.95"
16	2-1-060:007	SWP2003-04-0022	UH - JB Medical School	651 Ilalo St.	John Burns School of Medicine	Tavia Shiroma	Env'l Health & Safety	692-1854	Hydrodynamic Separator	SA	SA	21° 17' 45.21"	157° 51' 53.55"
17	2-2-047:005	SWP2007-08-0071	Dowsett Estates Subdivision	Ragsdale Place	Laumaka LLC	Patrick Shin	President	227-2901	Ponding basin	A	A	21° 20' 22.581"	157° 49' 37.93"
18	2-2-049:001	SWP2007-08-0071	Dowsett Estates Subdivision	Kamaaina Drive	Laumaka LLC	Patrick Shin	President	227-2901	Ponding basin	A	A	21° 20' 28.449"	157° 49' 35.71"
19	2-3-003:072	SWP2011-11-0067	Pacifica Honolulu	1009 Kapiolani Blvd	AOAO Pacifica Honolulu	Raymond B. De Smet	General Manager	591-9222	Hydrodynamic Separator	X	X	21° 17' 45.65"	157° 51' 4.14"
			Pacifica Honolulu						Hydrodynamic Separator	X	X	21° 17' 41.80"	157° 51' 8.46"
			Pacifica Honolulu						Hydrodynamic Separator	X	X	21° 17' 47.65"	157° 51' 6.97"
			Pacifica Honolulu						Hydrodynamic Separator	X	X	21° 17' 48.86"	157° 51' 5.62"
20	2-3-003:073	SWP2005-05-0029	NineONine Kapiolani	909 Kapiolani Blvd.	AOAO NineONine Kapiolani	Milton Miyasato	Maintenance Supervisor	226-1848	Hydrodynamic Separator	Q	A	21° 17' 54.66"	157° 51' 9.87"
21	2-3-003:075	SWP2005-07-0040	Public Storage - Kapiolani Blvd.	1067 Kapiolani Blvd	Public Storage	David Marzochi	Senior VP - Construction	8182448080e	Drain Inlet Insert	A	A	21° 17' 44.10"	157° 51' 2.59"
22	2-3-004:073	SWP2005-10-0064	Ward Village Shops	1160 Auahi Street	Howard Hughes Corporation	Douglas Umi Kai	Associate General Manager	791-2997	Hydrodynamic Separator	A	A	21° 17' 38.00"	157° 51' 8.62"
			Ward Village Shops						Hydrodynamic Separator	A	A	21° 17' 37.80"	157° 51' 4.63"
			Ward Village Shops						Hydrodynamic Separator	A	A	21° 17' 37.46"	157° 51' 3.48"
			Ward Village Shops						Hydrodynamic Separator	A	A	21° 17' 34.54"	157° 51' 3.23"
23	2-3-004:075	SWP2009-02-0007	Queen Street Park	Queen Lane	HCDA	Stephen Miyamoto	Project Manager	587-8168	Drain Inlet Insert	M	X	21° 17' 36.56"	157° 50' 57.94"
			Queen Street Park						Drain Inlet Insert	M	X	21° 17' 35.34"	157° 51' 4.92"
			Queen Street Park						Drain Inlet Insert	M	X	21° 17' 38.15"	157° 50' 59.33"
24	2-3-005:001	SWP2003-11-0076	Hokua	1288 Ala Moana Blvd.	KOHUA AOAO	Bob Cope	Maintenance Manager	6922001	Hydrodynamic Separator	A	A	21° 17' 34.44"	157° 51' 2.12"
25	2-3-006:014	SWP2003-06-0042	Sunset Heights - KoOlani Tower	1177 Queen Street	KoOlani AOAO	Davie Felipe	General Manager	597-8207	Hydrodynamic Separator	Q	A	21° 17' 36.48"	157° 50' 57.56"

SWQ Branch
Post Construction
Permanent BMP

	TMK	DPP PERMIT	FACILITY	ADDRESS	OWNER	CONTACT PERSON	TITLE	PHONE #	PERMANENT BMP	INSP	MAINT	Latitude N	Longitude W
			Sunset Heights - KoOlani Tower						Hydrodynamic Separator	Q	A	21° 17' 36.36"	157° 50' 55.80"
26	2-3-010:028	SWP2005-01-0001	Moana Pacific	1288 Kapiolani Blvd.	Moana Pacific Condominium	Michael McDonagh	Assistant Manager	754-0269	Hydrodynamic Separator	Q	A	21° 17' 45.48"	157° 50' 50.52"
27	2-3-010:048	SWP2006-08-0062	Honolulu Design Center	1250 Kapiolani Blvd	Inspiration International	Phung Chau	Operations Manager	237-5461	Drain Inlet Insert	M	M	21° 17' 45.21"	157° 50' 51.20"
28	2-3-016:009	SWP2003-01-0003	Walmart Keeaumoku	630 Keeaumuku	WALMART STORES	Imay Dano	Assistant Manager	955-8441	Hydrodynamic Separator	Q	Q	21° 17' 44.34"	157° 50' 35.78"
			Walmart Keeaumoku						Hydrodynamic Separator	Q	Q	21° 17' 38.63"	157° 50' 32.62"
			Walmart Keeaumoku						Hydrodynamic Separator	Q	Q	21° 17' 42.36"	157° 50' 30.43"
			Walmart Keeaumoku						Hydrodynamic Separator	X	X	21° 17' 46.17"	157° 50' 31.91"
29	2-3-038-031	SWP2006-03-0015	NORDSTROM	1450 Ala Moana Blvd	General Growth Properties	Joe Francher	Operations Manager	682-5614	Hydrodynamic Separator	A	A	21° 17' 29.0"	157° 50' 28.12"
30	2-4-011:008	SWP2010-10-0072	Safeway Beretania	1234 Beretania St	SAFEWAY INC.	Deborah Karbo	Real Estate Manager	9257381241	Drain Inlet Insert	X	X	21° 18' 6.10"	157° 50' 34.68"
			Safeway Beretania						Drain Inlet Insert	X	X	21° 17' 5.79"	157° 50' 34.17"
			Safeway Beretania						Drain Inlet Insert	X	X	21° 17' 6.27"	157° 50' 32.97"
			Safeway Beretania						Drain Inlet Insert	X	X	21° 17' 4.99"	157° 50' 30.69"
			Safeway Beretania						Drain Inlet Insert	X	X	21° 17' 5.79"	157° 50' 30.75"
			Safeway Beretania						Drain Inlet Insert	X	X	21° 17' 7.51"	157° 50' 32.95"
31	2-4-005:001	SWP2012-01-0008	StorQuest Self Storage	1414 Kalakaua Avenue	King Storage LLC	Allison Vasconcellos	Hawaii District Manager	542-1601	Detention Vaults	M	M	21° 17' 51.22"	157° 50' 14.79"
			StorQuest Self Storage						Detention Vaults	M	M	21° 17' 51.42"	157° 50' 13.89"
32	2-6-002:015	SWP2012-01-0008	Wyndham at Waikiki Beach Wal	227 Lewers St.	AOAO 227 Lewers	Glen Nagasako	Chief Engineer	9214413(630	Hydrodynamic Separator	A	A	21° 16' 46.69"	157° 49' 49.93"
33	2-6-002:018	SWP2007-07-0059	Royal Hawaiian Shopping	2201 Kalakaua Ave.	The Festival Companies	Doug Thom	Operations&Facilities Mgr	931-3130	Drain Inlet Insert	SA	SA	21° 16' 43.25"	157° 49' 43.15"
			Royal Hawaiian Shopping						Drain Inlet Insert	SA	SA	21° 16' 42.78"	157° 49' 44.17"
			Royal Hawaiian Shopping						Drain Inlet Insert	SA	SA	21° 16' 42.66"	157° 49' 44.02"
			Royal Hawaiian Shopping						Downspout Insert	SA	SA	21° 16' 41.70"	157° 49' 44.71"
34	2-6-003:001	SWP2005-11-0070	Waikiki Beach Walk Embassy S	227 Beachwalk Street	Waikiki Beach - Embassy Suites	Bruce Musrascik	Retail Operations Manager	9313592(389	Hydrodynamic Separator	Q	A	21° 16' 44.78"	157° 49' 52.30"
35	2-6-003:031	SWP2007-07-0068	Trump International Hotel & Tow	220 Beachwalk St.	IRONGATE AZREP LLC	Dennis Maher	Director of Facilities	6837429(590	Hydrodynamic Separator	Q	A	21° 16' 46.88"	157° 49' 55.88"
			Trump International Hotel & Tower						Hydrodynamic Separator	Q	A	21° 16' 45.69"	157° 49' 58.68"
			Trump International Hotel & Tower						Hydrodynamic Separator	Q	A	21° 16' 44.78"	157° 49' 57.80"
			Trump International Hotel & Tower						Hydrodynamic Separator	Q	A	21° 16' 45.33"	157° 49' 55.32"
			Trump International Hotel & Tower						Hydrodynamic Separator	Q	A	21° 16' 45.78"	157° 49' 54.34"
36	2-6-011:001	SWP2005-12-0074	The Watermark	1551 Ala Wai Blvd.	ALA WAI WATREMARK MGT	Michael Baker	General Manager	983-3350	Drain Inlet Insert	M	M	21° 17' 15.30"	157° 50' 17.6"
37	2-6-013:001	SWP2007-05-0047	Allure Waikiki	1837 Kalakaua Avenue	FIFIELD COMPANY	Tiare Devella	Executive Assitant	542-3322	Drain Inlet Insert	Q	Q	21° 17' 13.42"	157° 50' 2.83"
38	2-6-017:068	SWP2004-04-0022	Loft @ Waikiki	427 Launiu Street					Biofiltration	M	M	21° 16' 59.98"	157° 49' 43.68"
39	2-7-035:052	SWP2010-09-0063	Manoa Cottage East	748 Olokeke Avenue	SYS Corporation	Rory Loughran	Project Manager	447-7679	Drain Inlet Insert	M	M	21° 17' 2.68"	157° 49' 2.24"
			Manoa Cottage East						Drain Inlet Insert	M	M	21° 17' 3.30"	157° 49' 2.63"
40	3-2-064:133	SWP2010-08-0053	Kuhina at Kahala	670 Hunalewa St.	Hunalewa Cluster Development	Randy Davidoff	Senior Executive	593-6312	Drain Inlet Insert			21° 16' 3.27"	157° 47' 31.80"
			Kuhina at Kahala						Drain Inlet Insert			21° 16' 3.79"	157° 47' 32.46"
			Kuhina at Kahala						Drain Inlet Insert			21° 16' 4.64"	157° 47' 33.38"
			Kuhina at Kahala						Drain Inlet Insert			21° 16' 5.73"	157° 47' 33.40"
41	3-5-017:044	SWP2002-09-0069	Kahala Nui Senior Living	4389 Malia St.	Kahala Senior Living Community	Roberto Larios	Maintenance Manager	218-7011	Hydrodynamic Separator			21° 16' 48.00"	157° 46' 58.00"
			Kahala Nui Senior Living						Drain Inlet Insert			21° 16' 49.00"	157° 46' 59.00"
			Kahala Nui Senior Living						Drain Inlet Insert			21° 16' 48.00"	157° 47' 0.00"
42	3-9-010:045	SWP2003-07-0047	Koko Villas Subdivision	Koko Kai Place	Hawaiian Properties	Jeffry Pope	Property Manager	539-9772	Detention Basin	X	X	21° 17' 27.52"	157° 40' 28.85"
43	3-9-082:062	SWP2010-08-0055	Kalama Kuu	1161 Mokuhano St.	Kalama Kuu AOAO (HI First)	Lynn Uyenco	Vice President	792.3006	Detention Basin	M	M	21° 17' 46.00"	157° 40' 17.00"
44	4-1-008:011	SWP2008-04-0041	Kumuhau Subdivision	41-550 Kumuhau	DHHL	Jeff Fujimoto		620-9274	Detention Basin	X	X	21° 20' 42.00"	157° 43' 36.00"
45	4-2-004:037	SWP2009-05-0031	Kaopa Subdivision	Akipola Street	G&GB Development Company	Gale Berengue	Owner		LID, Interceptor Ditch	X	X	21° 22' 45.87"	157° 44' 34.95"
46	4-2-038:021	SWP2010-01-0002	Kailua Town Center	629 Kailua Road	Kaneohe Ranch/Castle Family	Miles Nishijima	Property Manager	236-8914	Drain Inlet Insert	X	X	21° 23' 33.30"	157° 44' 35.75"
47	4-5-076:041	SWP2005-07-0038	King Winward Nissan	45-576 Kamehameha Hwy.	King Windward Nissan	Douglas Bayot	Service Consultant	235-6435	Landscape Design	A	A	21° 23' 59.00"	157° 48' 01.00"
48	4-6-029:091	SWP2009-04-0027	KSBE - Heeia pre-school	46-430 Kahuhipa Street	KSBE	Bonnie Abe	Facilities Manager	534-8300	Drain Inlet Insert	A	A	21° 24' 40.11"	157° 49' 5.83"
49	4-7-012:011	SWP2006-09-0077	Kahaluu Regional Park	47-180A Waihee Road	CCH - DPR				Vegetative Swale	M	M	21° 27' 33.00"	157° 50' 30.00"
50	6-1-003:001	SWP2008-05-0045	Burger Subdivision	61-129 Tutu Street	CCH- Wailua Corp Yard	Morris Apana	District Superintendent		CDS PMSU30_30	A	A	21° 37' 59.90"	158° 4' 11.12"
51	8-5-003:020	SWP2009-02-0015	Kaupuni Village	85-576B Waianae Valley Rd	DHHL				Bio-filtration			21° 26' 58.23"	158° 11' 3.56"
52	8-5-027:071	SWP2007-03-0034	Kahikolu 'Ohana Hale 'O	85-296 Ala Hema St	HI Christian Coalition of Churches	Michael Kahikina	Director	697-7301	Drain Inlet Insert			21° 27' 17.30"	158° 11' 30.74"

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	TMK	DPP PERMIT	FACILITY	ADDRESS	OWNER	CONTACT PERSON	TITLE	PHONE #	PERMANENT BMP	INSP	MAINT	Latitude N	Longitude W
			Waianae						Drain Inlet Insert			21° 27' 18.25"	158° 11' 32.26"
53	8-6-001:004	SWP2006-01-0003	Keola O Pokai Bay	Leihoku Street	Mark Development LLC			697-7314	Hydrodynamic Separator			21° 26' 10.06"	158° 10' 38.40"
54	8-6-001:035	SWP2010-01-0001	Hale Wai Vista	86-78 Farrington Highway	HCDCH	Gary Furuta	Project Manager	429-7815	Infiltration Chambers			21° 26' 13.17"	158° 11' 7.09"
			Hale Wai Vista						Infiltration Chambers			21° 26' 15.87"	158° 11' 1.41"
55	8-7-002:001	SWP2011-01-0004	Maile Self Help Project	Kulaaaupuni Street	Self Help Housing Corp of Hawaii	Claudia Shay	Executive Director	842-7111	Detention Basin			21° 25' 04.05"	158° 10' 28.45"
			Maile Self Help Project						Detention Basin			21° 25' 05.43"	158° 10' 25.97"
56	8-7-033:011	SWP2011-06-0047	Green Homes at Lualualei	87-1720 Farrington Hwy	Green Homes Lualualei LLC	Richard (RJ) Martin	Developer		Drywells			21° 26' 15.87"	158° 11' 1.41"
57	8-7-026:057	SWP2011-01-0005	Queen Liliuokalani Childrens Center	87-1860 Farrington Hwy	Queen Liliuokalani Trusts	Deena Aniya	Facilities Maintenance	349-1343	Drain Inlet Insert			21° 19' 47.48"	158° 4' 54.19"
									Drain Inlet Insert			21° 23' 28.07"	158° 9' 15.87"
									Drain Inlet Insert			21° 23' 36.07"	158° 9' 16.74"
58	9-1-010:007	SWP2011-01-0005	Ewa By Gentry - Area 35	End of Kuanoo Place	Ewa by Gentry Comm Association	Jim Dodson	Manager	685-0111	Retention Basin	M	A	21° 19' 59.01"	158° 0' 25.31"
59	9-1-012:045	SWP2005-07-0043	Golf Course - Hoakalei	Haseko - Hoakalei	Hoakalei Country Club	Mike Biscotti	General Manager	853-4346	Detention/Retention Basins			21° 19' 7.77"	158° 05' 38.75"
60	9-1-015:021		STAR ADVERTISER	Kapolei Parkway	Star Advertiser	Colleen E. Soronaka	Safety/Loss Manager	529-4398	Hydrodynamic Separator			21° 19' 37.08"	158° 05' 27.38"
			STAR ADVERTISER						Hydrodynamic Separator			21° 19' 39.96"	158° 05' 25.97"
61	9-1-015:022	SWP2008-08-0063	Kapolei Commons	4450 Kapolei Parkway	MCK Management LLC	Kyle Pang		393-6432	Hydrodynamic Separator	Q	A	21° 19' 43.40"	158° 05' 26.79"
									Hydrodynamic Separator	Q	A	21° 19' 44.64"	158° 05' 30.4"
									Hydrodynamic Separator	Q	A	21° 19' 45.82"	158° 05' 33.3"
									Hydrodynamic Separator	Q	A	21° 19' 46.12"	158° 05' 35.76"
									Hydrodynamic Separator	Q	A	21° 19' 46.40"	158° 05' 36.42"
									Hydrodynamic Separator	Q	A	21° 19' 47.09"	158° 05' 39.16"
									Hydrodynamic Separator	Q	A	21° 19' 47.87"	158° 05' 42.92"
62	9-1-016:001	SWP2008-01-0005	Kapolei Costco	287 Kamokila Blvd	COSTCO WHOLESALE	John Heine	Administrative Manager	674-3900	Hydrodynamic Separator			21° 19' 35.1"	158° 05' 18.4"
			Kapolei Costco						Hydrodynamic Separator			21° 19' 34.5"	158° 05' 12.7"
			Kapolei Costco						Hydrodynamic Separator			21° 19' 37.5"	158° 05' 11.6"
63	9-1-016:001	SWP2007-07-0060	Kapolei Judiciary Complex	4675 Kapolei Parkway	State Judiciary	Wayne Taniguchi	Facility Manager	539-4348	Hydrodynamic Separator			21° 19' 37.39"	158° 05' 10.11"
			Kapolei Judiciary Complex						Hydrodynamic Separator			21° 19' 34.61"	158° 05' 10.58"
64	9-1-016:036	SWP2006-06-0054	The Villas at A'eloa	91-1130 Namahoe St.	HHFDC/Kapolei Pacific Ltd	Mona Wengler	Property Manager	949-7611	Drain Inlet Insert			21° 20' 22.37"	158° 3' 59.20"
65	9-1-118:001	SWP2000-11-0057	Big-K Store	500 Kamokila Blvd.	KMART	Tim Gerkin	Facilities Manager	6749355	Landscape Design			21° 21' 37.98"	157° 57' 36.15"
66	9-1-016:059	SWP2006-09-0078	Nohona at Kapolei	Kaiau Ave.	Hawaiiana Management	Charles Ray	Managing Agent		Landscape Design & Inlet			21° 19' 55.04"	158° 3' 59.20"
67	9-1-016:064	SWP2007-10-0089	Kealakai at Kapolei	Kaiau Ave./Kamaaha Ave.		Orlando Davidson	Manager	714-9785023	Drain Inlet Insert			21° 20' 1.36"	158° 4' 24.06"
			Kealakai at Kapolei						Drain Inlet Insert			21° 19' 55.26"	158° 4' 15.61"
			Kealakai at Kapolei						Drain Inlet Insert			21° 19' 52.70"	158° 4' 20.66"
			Kealakai at Kapolei						Drain Inlet Insert			21° 19' 59.63"	158° 4' 19.70"
68	9-1-016:037	SWP2009-07-0052	(Nohona II) Kapolei Village Cent	Kamaaha Avenue		Ariel B Pascual	Executive Director	674-9355	Drain Inlet Insert			21° 20' 9.39"	158° 3' 58.35"
			(Nohona II) Kapolei Village Center						Drain Inlet Insert			21° 20' 6.77"	158° 3' 57.94"
			(Nohona II) Kapolei Village Center						Drain Inlet Insert			21° 20' 7.68"	158° 3' 54.73"
69	9-1-016:093	SWP2007-08-0070	Senior Residence at Kapolei	91-1060 Namahoe St.	Pacific Housing Oahu Corporation	Bryan Thompson	Resident Manager	6742937	Hydrodynamic Separator			21° 20' 18.51"	158° 3' 51.92"
70	9-1-016:122	SWP2008-11-0082	Pulewa at Mehana	Kunehi Street	D. R. Horton				Hydrodynamic Separator			21° 19' 32.68"	158° 4' 23.61"
			Pulewa at Mehana	Kunehi/Kukuhu					Hydrodynamic Separator			21° 19' 29.47"	158° 4' 23.35"
			Pulewa at Mehana	Kukuhu/Manawai					Hydrodynamic Separator			21° 19' 29.19"	158° 4' 28.37"
			Pulewa at Mehana	Manawai/Kakala					Hydrodynamic Separator			21° 19' 34.26"	158° 4' 28.68"
71	9-1-016:124	SWP2010-06-0051	La Hiki Subdivision at Mehana	Kunehi Street	D.R. Horton	Vanessa Yanagawa	Project Manager	523-5681	Hydrodynamic Separator			21° 19' 39.18"	158° 4' 16.48"
			La Hiki Subdivision at Mehana						Hydrodynamic Separator			21° 19' 37.07"	158° 4' 13.60"
			La Hiki Subdivision at Mehana						Hydrodynamic Separator			21° 19' 22.70"	158° 4' 35.74"
72	9-1-016:159	SWP2011-08-0055	Nanala at Mehana	530-Kunehi St.	D.R. Horton	Vanessa Yanagawa	Project Manager	626-3624	Hydrodynamic Separator			21° 19' 39.06"	158° 4' 24.31"
			Nanala at Mehana						Hydrodynamic Separator			21° 19' 36.39"	158° 4' 23.94"
			Nanala at Mehana						Hydrodynamic Separator			21° 19' 35.33"	158° 4' 29.23"
			Nanala at Mehana						Hydrodynamic Separator			21° 19' 38.70"	158° 4' 29.57"
73	9-1-017:071	SWP2009-06-0038	E Kapolei Drainage System		DHHL				Detention Basin			21° 20' 21.85"	158° 3' 9.14"
			E Kapolei Drainage System		DHHL				Detention Basin			21° 20' 49.72"	158° 2' 22.63"

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	TMK	DPP PERMIT	FACILITY	ADDRESS	OWNER	CONTACT PERSON	TITLE	PHONE #	PERMANENT BMP	INSP	MAINT	Latitude N	Longitude W
74	9-1-017:071	SWP2009-05-0035	E Kapolei Abutilon Contingency	North South Rd	DLNR				Detention Basin			21° 20' 22.37"	158° 3' 9.16"
75	9-1-017:071	SWP2008-12-0087	E Kapolei Dev - Kroc Center	East West Road	Salvation Army	William Bowen	Facilities Manager	693-8349	Hydrodynamic Separator			21° 20' 43.12"	158° 3' 1.84"
			E Kapolei II Dev - Kroc Center						Hydrodynamic Separator			21° 20' 40.13"	158° 2' 58.7"
76	9-1-017:076	SWP2007-08-0072	Ewa Villages (Area H)	Renton Road	Hui Kauhale Inc.	Marian Gushiken	President	523-8826	Aquaswirl & Inlet Inserts	X	X	21° 20' 42.99"	158° 2' 6.79"
77	9-1-026:004	SWP2007-04-0043	Kapolei Consolidated Corp Yard	94-140 Olai St.	CCH - DFM Roads Division	Tom Lenchanko	District Superintendent	768-4310	Retention Basin	M	Q	21° 17' 55.38"	158° 6' 16.65"
78	9-1-032:041	SWP2008-10-0073	Mendocino Forest	91-250 Komohana St.	Mendocino Forest Products, Co.	David Kimball	General Manager	682-	Drain Inlet Insert	M	M	21° 18' 19.64"	158° 5' 56.10"
			Mendocino Forest						Drain Inlet Insert	M	M	21° 18' 19.70"	158° 5' 57.20"
			Mendocino Forest						Drain Inlet Insert	M	M	21° 18' 19.56"	158° 5' 58.26"
79	9-1-061:035	SWP2001-04-0035	Geiger Community Park	91-1129 Kahiuka	CCH - DPR			768-4310	No Post Cons. BMPs	X	X	21° 20' 3.69"	158°1'39.85"
80	9-1-074:019	SWP2005-08-0044	Precision Moving & Storage (Ko	91-544 Awakumoku St.	Kole Group Warehouse	Rudy Alivado	Maintenance Supervisor		Drain Inlet Insert (N/I)	W	W	21° 19' 06.70"	158° 6' 59.97"
81	9-1-074:034	SWP2006-09-0075	United Environmental Service	91-517 Awakumoku St.	United Tire	Susie Say	President	682-	Drain Inlet Insert (N/I)	Q	Q	21° 19' 0.78"	158° 6' 58.80"
82	9-1-075:001	SWP2006-10-0098	Hardware Hawaii Kapolei	110 U'u Place	Hardware Hawaii Limited	Lloyd Nakagawa	Operations Manager	674-8101	Kristar Vortex	SA	SA	21° 20' 43.99"	157° 55' 44.14"
83	9-1-075:002	SWP2008-03-0025	Hawaii Carpenters Union TC	2040 lauwiliwili St			Operations Manager	682-	Drain Inlet Insert			21° 19' 47.30"	158° 4' 53.72"
84	9-1-075:005	SWP2007-04-0042	Henkels & McCoy	2130 Lauwiliwili St.	Henkels & McKoy Inc.	Randy Miyao	Maintenance Supervisor	479-1011	Drain inllet filter inserts,	M	M	21° 19' 8.39"	158° 5' 27.28"
85	9-1-075:006	SWP2007-05-0046	Goodwill Career & Learning Cen	2140 Lauwiliwili St.	Goodwill Industries of Hawaii, LLC	Rod Suza	Maintenance Supervisor	792-5090	Drain inlet filters 4	M	M	21° 19' 8.33"	158° 5' 26.02"
86	9-1-075:008	SWP2008-08-0061	Kapolei Kai Warehouse	2176 Lauwiliwili	Kapolei Kai, LLC	Louis Shiraishi	Property Manager	479-0527	Grass Swale	M	W	21° 19' 5.52"	158° 5' 33.56"
87	9-1-075:009	SWP2005-01-0002	Hoku Production Facility	1075 Opakapaka St.	Operating Engineers Local No.3	Calvin Dole	Maintenance Manager	845-7871	Snout (N/I)	M	M	21° 19' 5.82"	158° 5' 36.54"
88	9-1-075:012	SWP2010-02-0012	CVS Kapolei Distribution Center	1007 Opakapaka Street	Longs Drug Stores of California	Chandler McAdams	Loss Prevention Manager	(808) 690-	Aquaswirl	Q	A	21° 19' 16.20"	158° 5' 42.63"
			CVS Kapolei Distribution Center	1007 Opakapaka Street	Longs Drug Stores of California				Aquaswirl	Q	A	21° 19' 15.41"	158°5'40.98"
89	9-1-075:014	SWP2009-09-0062	Airgas West Kapolei Facilty Ph 1	1008 Opule Street	AirGas West	Tyler Kuntz	Operations Manager	692-	Kristar Vortex	SA	SA	21° 19' 17.11"	158° 5' 34.32"
90	9-1-075:015	SWP2005-03-0012	Kapolei Business Park Warehou	1030 Opule Street		Patrick Cheng	Director Logistics	486-2092	Landscape swales &	M	M		
91	9-1-075:018	SWP2008-03-0027	Kapolei Kingdom Hall	1019 Opule Street	Jehovahs Witnesses Hawaii	Jeff Johnson	Operation/Maint Chair	(480) 220-	No Post Cons. BMPs	SA	W	21° 19' 19.10"	158° 5' 36.58"
92	9-1-075:021	SWP2006-06-0028	NEX Generation Building	1019 Lauia St	NEX Generation Kapolei, LLC	Phillip Kelpper, Avalon	Property Manager	479-1720	Drain Inlet Insert (N/I)	X	X	21° 19' 16.92"	158° 5' 41.13"
93	9-1-075:022	SWP2006-04-0024	Kapolei Spectrum Business Park	2047 Lauwiliwili Street	SFI Kapolei, LLC	Debbie Perreira, Colliers	Property Manager	752-8199 ext	CDS (4), vegetated swales	Q	Q	21° 19' 16.78"	158° 5' 28.15"
			Kapolei Spectrum Business Park							Q	Q	21° 19' 24.66"	158° 5' 25.26"
			Kapolei Spectrum Business Park							Q	Q	21° 19' 22.32"	158° 5' 23.23"
			Kapolei Spectrum Business Park							Q	Q	21° 19' 16.19"	158° 5' 22.37"
94	9-1-075:029	SWP2005-07-0036	SPI - Kapolei VSC	2107 Lauwiliwili St.		John A Low			Kristar Fossil Filter	A	A	21° 19' 11.85"	158° 5' 23.60"
			SPI - Kapolei VSC							A	A	21° 19' 10.13"	158° 5' 25.32"
			SPI - Kapolei VSC							A	A	21° 19' 13.26"	158° 5' 31.66"
			SPI - Kapolei VSC							A	A	21° 19' 15.06"	158° 5' 29.62"
95	9-1-075:033	SWP2006-09-0071	Aloha Island Self Storage	2009 Lauwiliwili St.		Kyle Villoria		677-6339	Drain Inlet Insert (N/I)	X	X		
96	9-1-075:035	SWP2009-04-0029	Kapolei Business Park Ph2	Lauwiliwili Street		Dashia Cambra		801-718-	No Post Cons. BMPs	X	X		
97	9-1-075:040	SWP2006-01-0005	Carrier Hawaii	2060 Lauwiliwili Street		Mathew A Teho		295-4033	Vegetated ground cover,	M	M		
98	9-1-075:041	SWP2006-12-0109	Kalaeloa Ward-Church of JC LD	2074 Lauwiliwili St.		John Arizumi		949-7528199	Inlet Filter Basket, Stencil	X	X		
99	9-1-075:045	SWP2007-11-0094	Island Shutter	1031 Lauia St.		Scott Lustrup	President	832-0888	Drain Inlet Insert (N/I)	M	M	21° 19' 14.91"	158° 5' 31.76"
100	9-1-075:047	SWP2008-05-0043	Group Builders Warehouse	1014 Lauia St.		Mark Iwasaki	Project manager		Filter Insert (2), Grassed				
101	9-1-075:048	SWP2006-03-0018	New Warehouse - BKS	1026 Lauia Street		Ernesto Ponce	President	2 Aquaswirl	No Post Cons. BMPs	X	X	21° 19' 17.09"	158° 5' 32.07"
102	9-1-075:049	SWP2006-04-021	MGJA Warehouse	1034 Lauia	Angelito Agsalud	Angelito Agsalud	Superintendent	682-6500	Vegetated Swale, Drain Inlet	M	M		
103	9-1-088:008	SWP2008-08-064	Chun Wah Kam - Crossroads Ka	885 Kamokila Blvd.	Crocodile Partners	Nelson Chun	Owner	226-4201	Drain Inlet Insert			21° 19' 58.47"	158° 4' 56.16"
			Chun Wah Kam - Crossroads Kapolei						Drain Inlet Insert			21° 19' 56.71"	158° 4' 56.91"
			Chun Wah Kam - Crossroads Kapolei						Drain Inlet Insert			21° 19' 56.61"	158° 4' 55.17"
104	9-1-088:012	SWP2008-08-012	Palailai Mall		Kapolei Property Development				Detention Basin			21° 19' 52.87"	158° 04' 39.44"
105	9-1-088:022	SWP2010-10-0080	The Cole Academy	Ala Kahawai Street	Lettuce Expand LLC	Gina Mangieri	President	294-8290	Contech Vortechs				
106	9-1-088:023	SWP2006-01-0006	Simply Organized - Crossroads	889 Kamokila Blvd.		Frank Suster	Maintenance & Safety Officer	6741300/	Inlet Inserts 3				
107	9-1-118:004	SWP2003-05-0030	New Ace Hardware at Kapolei	480 Kamokila Blvd.		Derek Worchel			Hydrodynamic Separator			21° 19' 46.2498"	158° 5' 12.4404"
108	9-1-118:004	SWP2003-06-0040	Home Depot Kapolei	4600 Kapolei Parkway		James Ryan	Real Estate Manager	533-3811	Hydrodynamic Separator			21° 19' 41.559"	158° 5' 15.741"
			Home Depot Kapolei						Hydrodynamic Separator			21° 19' 42.6684"	158° 5' 22.4694"
			Home Depot Kapolei						Hydrodynamic Separator			21° 19' 49.1016"	158° 5' 20.8716"
109	9-1-118:007	SWP2004-06-0035	Outback Steakhouse Kapolei	302 Kamokila Blvd.		Bruce Nitto / Bill	CBRE		Drain Inlet Insert				

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	TMK	DPP PERMIT	FACILITY	ADDRESS	OWNER	CONTACT PERSON	TITLE	PHONE #	PERMANENT BMP	INSP	MAINT	Latitude N	Longitude W
110	9-1-118:008	SWP2006-08-0065	Hawaii Self Storage Kapolei	480 Kamokila Blvd.		Colin Yokoyama	Bowers + Kubota Mgt, Inc.		Drain Inlet Insert				
111	9-1-118:009	SWP2005-07-0035	Kapolei Parkway Shops	338 Kamokila Blvd.	CCH	Jason Souki	Ralph S Inouye	541-5157	Hydrodynamic Separator			21° 19' 44.87"	158° 5' 14.18"
112	9-1-126:008	SWP2009-05-0033	Franciscan Vistas Phase 1	94-1471 Miula Street	FRANSCISCAN VISTAS LLP	Kathy McAlister	Business Manager	681-4000	Hydrodynamic Separator	M	A	21° 20' 29.74"	158° 1' 58.2"
			Franciscan Vistas Phase 1						Hydrodynamic Separator	M	A	21° 20' 25.79"	158° 2' 1.17"
113	9-1-126:001	SWP2009-06-0042	Ewa Mahiko Gym	91-1161 Renton Road	CCH - DPR	Geno Onato	Recreation Director		Vegetated Swale	X	X	21° 20' 16.98"	158° 2' 16.83"
114	9-1-134:022	SWP2008-10-0069	Ocean Point Water Quality Basi	Hoakalei Country Club	HASEKO HOMES	Mike Biscotti	General Manager	626-3609	Detention Basin			21° 18' 47.38"	158° 1' 48.68"
115	9-1-134:022	SWP2006-01-0002	Ocean Point Water Quality Basi	Hoakalei Country Club	HASEKO HOMES	Mike Biscotti	General Manager	528-9063	Detention Basin			21° 18' 47.38"	158° 1' 48.68"
116	9-1-134:022	SWP2006-07-0058	Ocean Point Water Quality Basi	Hoakalei Country Club	HASEKO HOMES	Mike Biscotti	General Manager	529-1794	Detention Basin			21° 18' 47.38"	158° 1' 48.68"
117	9-1-134:022	SWP2004-02-0013	Ocean Point Water Quality Basi	Hoakalei Country Club	HASEKO HOMES	Mike Biscotti	General Manager	672-1201	Retention Basin - Wet Pond			21° 18' 56.26"	158° 1' 38.89"
118	9-1-134:022	SWP2008-10-0069	Ocean Point Water Quality Basi	Hoakalei Country Club	HASEKO HOMES	Mike Biscotti	General Manager	528-9063	Retention Basin - Wet Pond			21° 18' 35.88"	158° 1' 33.87"
119	9-1-134:021	SWP2007-08-0076	Ocean Point Water Quality Basi	Hoakalei Country Club	HASEKO HOMES	Mike Biscotti	General Manager	951-3680	Retention Basin - Wet Pond			21° 18' 49.16"	158° 1' 43.10"
120	9-1-148:008	SWP2009-12-0077	Kapolei Village Shops	4850 Kapolei Parkway	KAPOLEI SHOPS LLC	Katrina Medina	Property Manager	5239755(354	Hydrodynamic Separator	X	X	21° 19' 48.71"	158° 4' 42.07"
			Kapolei Village Shops						Hydrodynamic Separator	X	X	21° 19' 44.08"	158° 4' 43.53"
121	9-2-003:076	SWP2005-08-0046	WAI KALOI (Palehua East B)	Makakilo Drive	Castle & Cooke Homes	Kanani Kaopua	Property Manager	837-5209	Detention basin	A	A	21° 21' 59.34"	158° 4' 19.32"
122	9-2-019:059	SWP2002-09-0064	Westhills 3 Subdivision	Limukele Street	D.R. Horton	Vanessa Yanagawa	Project Manager	528-9063	Detention Basin	A	A	21° 22' 4.159"	158° 5' 21.16"
123	9-2-019:090	SWP2007-01-0001	Kahiwelo (Makakilo C&D)	Kulihi St.	D.R. Horton	Vanessa Yanagawa	Project Manager	528-9063	Detention Basin	M	M	21° 20' 40.56"	158° 4' 37.14"
124	9-2-019:093	SWP2007-12-0099	Easter Seals Hawaii	92-461 Makakilo Dr.	Easter Seals Hawaii	Lynn Reconsal	Manager	951-3680	Retention Basin	M	M	21° 20' 40.86"	158° 4' 43.26"
125	9-2-042:026	SWP2007-01-0001	Kahiwelo water quality area 2	92-459 Hoanau St.	D.R. Horton	Vanessa Yanagawa	Project manager	528-9063	Aquaswirl	Q	A	21° 20' 53.18"	158° 4' 22.05"
126	9-4-005:074		Central Oahu Regional Park	94-801 Kamehameha Hwy.				564-1353	Vegetative swale, Detention			21° 24' 35.58"	158° 0' 2.82"
127	9-4-015:014	SWP2003-03-0017	Servco Auto Leeward	94-729 Farrington Hwy.		Van Peterson			Detention Basin			21° 22' 58.92"	158° 0' 14.76"
128	9-4-017:058	SWP2007-04-0036	Plantation Town Apartments	94-979 Kaolu Pl.		Marvin Kimura		528-9063	Hydrodynamic Separator			21° 23' 17.58"	158° 0' 3.54"
			Plantation Town Apartments						Hydrodynamic Separator			21° 23' 14.58"	158° 0' 4.68"
129	9-4-060:036	SWP2004-04-0023	Filipino Church of Christ	94-1366 Hiapo		Elias Sevilleta		684-1882	Detention Basin			21° 23' 53.76"	157° 59' 59.88"
130	9-4-099:021	SWP2006-06-0029	Contractors Equipment & Servic	94-450 Ukee St.		Taku Fujimoto	Pastor					21° 25' 27.48"	158° 0' 13.44"
131	9-4-115:011	SWP2011-04-0031	Waipio Gentry Shopping Center	94-790 Ukee St	Metro Storage	Kimberly Lord ruz	Owner	521-2611	Drain Inlet Insert			21° 24' 41.58"	158° 59' 52.62"
			Waipio Gentry Shopping Center						Drain Inlet Insert			21° 24' 40.56"	158° 59' 55.92"
			Waipio Gentry Shopping Center						Drain Inlet Insert			21° 24' 42.06"	158° 59' 58.08"
			Waipio Gentry Shopping Center						Drain Inlet Insert			21° 24' 43.50"	158° 0' 0.36"
			Waipio Gentry Shopping Center						Drain Inlet Insert			21° 24' 46.14"	158° 0' 1.20"
132	9-4-115:043	SWP2004-09-0058	Pearl Harbor Calvary Chapel	94-1040 Waipio Uka		Derald Skinner	VP - A&B Properties	678-3994	Vegetative swale			21° 24' 49.20"	157° 59' 57.60"
133	9-4-127:012	SWP2003-09-0054	Kaiser Permanente	94-1480 Moaniani St.		Chris Lutz (271-2809)	Pastor	432-3100	Oil/water speerators			21° 25' 31.40"	157° 59' 52.80"
134	9-4-127:014	SWP2004-06-0037	Tony Auto Group	94-1299 Ka Uka Blvd								21° 25' 39.90"	157° 59' 54.06"
135	9-4-127:015	SWP2000-03-0012	COSTCO WAIPIO	94-1489 Moaniani St.	COSTCO WHOLESALE	Bert Yasumura			Aquaswirl (2)				
136	9-4-128:005	SWP2007-02-0010	Waipio Business Center	1388 Moaniani St.		George Yamasaki	Service Station Manager	593-6328	Vegetative Swale, oil/water			21° 25' 17.10"	157° 59' 46.68"
			Waipio Business Center									21° 25' 16.02"	157° 59' 48.24"
137	9-4-128:010	SWP2009-08-0056	Metro Self Storage	94-1355 Waipio Uka Street		Shari Bender		678-4005	Drain Inlet Insert			21° 25' 14.64"	157° 59' 44.99"
			Metro Self Storage						Drain Inlet Insert			21° 25' 15.12"	157° 59' 44.70"
			Metro Self Storage						Drain Inlet Insert			21° 25' 15.72"	157° 59' 44.69"
138	9-4-160:024	SWP2008-07-0056	Milltown Bus. Ctr.-Amfac Indtl Su	94-412 Paiwa St	Milltown Ctr Bus/Indtl Park Assoc	x	x	x	Detention Basin			21° 23' 23.34"	158° 0' 20.34
139	9-4-160:025	SWP2008-07-0056	Milltown Bus. Ctr.-Amfac Indtl Su	Mokuola St. acrossFILCOM	Milltown Ctr Bus/Indtl Park Assoc				Detention Basin			21° 23' 16.92"	158° 0' 23.10"
140	9-4-161:009	SWP2009-07-0049	Designer Built Systems	94-101 Malakeke Pl.	Designer Built Systems Inc.	Randall Lau	President	833-3711	Hydrodynamic Separator			21° 23' 8.46"	158° 0' 29.52"
141	9-4-161:010	SWP2008-06-0047	Frito Lay Warehouse	94-120 Malakeke Pl	Haskell-Frito Lay	Linda Preston	Hawaii Fleet Admin	484-0440	Hydrodynamic Separator			21° 23' 12.42"	158° 0' 30.18"
			Frito Lay Warehouse						Hydrodynamic Separator			21° 23' 9.24"	158° 0' 31.38"
			Frito Lay Warehouse						Hydrodynamic Separator			21° 23' 11.10"	158° 0' 35.40"
142	9-4-161:014	SWP2007-01-0002	Sugar Mill Center, Rd Z	Malakeke Place	Avalon Development Company	Collin Miyamoto	Vice President	587-7770	Hydrodynamic Separator			21° 23' 9.48"	158° 0' 29.46"
143	9-4-161:015	SWP2007-01-0002	Sugar Mill Center, Rd X	Malakeke Street	Avalon Development Company	Collin Miyamoto	Vice President	587-7770	Hydrodynamic Separator			21° 23' 11.88"	158° 0' 37.98"
144	9-4-166:016	SWP2011-04-0032	MR3 Home & Community Servic	94-412 Maikoiko street	MR3 Development LLC	Rosemary Manuel	Administrator	456-0078	Drain Inlet Insert			21° 23' 15.97"	158° 0' 42.82"
145	9-4-166:016	x	Milltown Bus. Ctr.-Amfac Indtl Su	94-401 Akoki St.	Milltown Ctr Bus/Indtl Park Assoc	x	x	x	Detention Basin			21° 23' 12.77"	158° 0' 42.99"
146	9-4-170:022		The Renaissance	Hahana St, Waipahu	Castle & Cooke Homes	Jed Miyazaki		626-3609	Detention Basin			21° 23' 17.39"	158° 0' 28.53"
147	9-5-002:001	SWP2002-01-0011	Mililani Ike Elementary	95-1330 Lehiwa Drive	STATE DOE	Rudy Raquirag	Head Custodian	626-2980	Hydrodynamic Separator			21° 28' 45.55"	157° 59' 13.01"

SWQ Branch
Post Construction
Permanent BMP

	TMK	DPP PERMIT	FACILITY	ADDRESS	OWNER	CONTACT PERSON	TITLE	PHONE #	PERMANENT BMP	INSP	MAINT	Latitude N	Longitude W
148	9-5-046:008	SWP2007-04-0040	Mililani Tech Park	Kahelu Ave	Castle & Cooke Properties	Jed Miyazaki		587-7770	Hydrodynamic Separator			21° 28' 57.34"	158° 0' 46.02"
149	9-5-002:032	SWP2007-08-0074	Castle and Cooke Self MM Stora	95-1080 Lehiwa Dr.	Castle & Cooke Properties	Lorna Nono		587-7770	Hydrodynamic Separator			21° 28' 37.20"	158° 59' 34.93"
			Castle and Cooke Self MM Storage						Drain Inlet Insert			21° 28' 37.20"	158° 59' 34.93"
150	9-5-012:020	SWP2010-12-0093	Sixty Parkside	95-060 Waikalani Drive	SIXTY Parkside LLC	Greg Hatcher		2821138/837-	Drain Inlet Insert			21° 27' 52.28"	158° 1' 19.65"
			Sixty Parkside						Drain Inlet Insert			21° 27' 52.65"	158° 1' 19.06"
			Sixty Parkside						Drain Inlet Insert			21° 27' 53.12"	158° 1' 18.34"
151	9-5-046:022	SWP2007-07-0063	Verizon Wireless	255 Kahelu Ave.		Brian Bott / Syska	President	626-3609	Hydrodynamic Separator			21° 23' 16.00"	158° 0' 24.00"
			Verizon Wireless						Drain Inlet Insert			21° 23' 16.00"	158° 0' 24.00"
			Verizon Wireless						Drain Inlet Insert			21° 23' 16.00"	158° 0' 24.00"
			Verizon Wireless						Drain Inlet Insert			21° 23' 16.00"	158° 0' 24.00"
152	9-5-046:029	SWP2005-06-0033	Leilehua Building	300 Kahelu Ave.	Castle & Cooke Properties	Jed Miyazaki		626-4010	Drain Inlet Insert			21° 28' 54.52"	158° 1' 2.18"
			Leilehua Building						Drain Inlet Insert			21° 28' 53.40"	158° 1' 1.68"
153	9-5-049:010	SWP2007-04-0041	Mililani Mauka Commercial B	95-1147 Ukuwai St.	Castle & Cooke Properties	Lorna Nono		626-8807	Detention Basin				
154	9-5-049:010	SWP2010-10-0074	MMCB LONGS	95-1830 Meheula Pkwy	Castle & Cooke Properties	Bob Uruqhart		626-3609	Iinlet Filter Inserts + Stencil				
155	9-5-049:050	SWP2008-09-0066	Sound Health Hawaii	95-150 Ukuwai Street		Dawn Urabe Meaney	Vice President	250-8004				21° 28' 37.00"	158° 0' 46.00"
156	9-5-049:056		Mililani Mauka MF 107A S Gully	Ainamakua Drive	Castle & Cooke Development	Jed Miyazaki		438-1022	Detention Basin			21° 27' 57.73"	158° 0' 3.47"
157	9-5-049:073	SWP2005-08-0047	Mililani Mauka S Gully	Ainamakua Drive	Castle & Cooke Development	Jed Miyazaki		548-4811	Detention Basin			21° 27' 57.73"	158° 0' 3.47"
158	9-5-050:059		Waipio Point	94-1004 Hoainau St.		Mark McClure		454-8785	Aquaswirl (3)				
159	9-5-057:112		Mililani Mauka MF123	Haalilo Street	Castle & Cooke Development	Jed Miyazaki		626-4010	Detention Basin			21° 28' 15.04"	157° 59' 23.32"
160	9-5-077:011		Mililani Mauka MF109	Aahu Street	Castle & Cooke Development	Jed Miyazaki		626-4010	Detention Basin			21° 28' 38.49"	157° 59' 24.73"
161	9-5-080:038		Mililani Mauka MF124_Basin 1	999 Lehiwa Drive	Castle & Cooke Development	Jed Miyazaki		534-4342	Detention Basin			21° 28' 24.80"	157° 59' 20.39"
162	9-5-082:047		Mililani Mauka MF124_Basin 2	1068 Haalilo Street	Castle & Cooke Development	Jed Miyazaki		626-4010	Detention Basin			21° 28' 22.20"	157° 59' 18.45"
163	9-5-093:021		Mililani Mauka N Gully	Ukuwai Drive	Castle & Cooke Development	Jed Miyazaki		626-4010	Detention Basin			21° 28' 15.60"	158° 0' 25.78"
164	9-7-019:035	SWP2010-100079	Hale Mohalu	787 Kamehameha Hwy	Oahu Veterans	Gary Furuta		626-4010					
165	9-7-024:051	SWP2003-07-0046	Walmart Pearl City	1131 Kuala St.		Kini Santana	Owner/Developer	626-4010				21° 23' 57.16"	157° 58' 27.65"
			Walmart Pearl City									21° 23' 51.65"	157° 58' 32.69"
			Walmart Pearl City									21° 23' 53.49"	157° 58' 28.68"
166	9-7-024052	SWP2007-10-0088	Irrigation Systems, Inc.	1225 Kuala Street		Ken Ota	Store Co-manager	626-4010	Detention Basin				
167	9-7-024:052	SWP2009-04-0023	Hawaii USA FCU at Manana	1255 Kuala Street		Karl Yoneshige	General Manager	586-0430	Detention Basin				
168	9-7-024:057	SWP2007-10-0093	Pearl City Gateway	1100 Kuala St.		Theresa Hookano	Pres & CEO	626-3609	Detention Basin				
169	9-7-024:058	SWP2006-10-0087	Central Pacific Bank - Pearl City	1030 Makolu St.		Steve Covert		626-3609	Drain inlet filter inserts (6)			21° 24' 0.21"	157° 58' 21.57"
			Central Pacific Bank - Pearl City									21° 24' 0.63"	157° 58' 21.88"
			Central Pacific Bank - Pearl City									21° 24' 1.05"	157° 58' 22.21"
			Central Pacific Bank - Pearl City									21° 24' 1.19"	157° 58' 22.04"
			Central Pacific Bank - Pearl City									21° 23' 58.79"	157° 58' 23.63"
			Central Pacific Bank - Pearl City									21° 23' 59.32"	157° 58' 23.95"
			Central Pacific Bank - Pearl City									21° 23' 59.76"	157° 58' 24.52
170	9-7-024:063	SWP2005-11-0067	Wendy's Pearl City	1187 Kuala St.		Sandy Ballard		614-7646730	Drain inlet filter insert (3)			21° 24' 00.94"	157° 58' 22.77"
			Wendy's Pearl City									21° 23' 59.93"	157° 58' 22.77"
			Wendy's Pearl City									21° 23' 59.65"	157° 58' 23.25"
171	9-9-046:070	SWP2004-11-0071	Oahu Veterans Center	1298 Kukia St.		Patrick Parker		429-5379	Vortechs (2)				
172	9-9-071:013	SWP2008-12-0089	Target West Honolulu	4380 Lawehana St		Lori Sloan	Executive Director	551-2386	Drain inlet filter inserts,			21° 21' 22.00"	157° 55' 45.00"
			Target West Honolulu									21° 21' 17.00"	157° 55' 49.00"
173	9-9-077:025	SWP2006-08-0067	Warehouse Complex GRA PAC	99-1312 Koaha Pl. Aiea				522-5964				21° 22' 29.00"	157° 54' 00.40"
									Semi monthlty	**SM**			
									Monthly	**M**			
									Quarterly	**Q**			
									Semi Annual	**SA**			
									Annual	**A**			

Appendix C
Photograph Log

Photograph 1. Urban Core 5 Construction Project – View of 66-in. concrete culvert placed in waterway. Trench has been cut into compacted fill.

Photograph 2. Urban Core 5 Construction Project – View of 66-in. concrete culvert in waterway at site. Native soil horizon visible as brown soil on left.

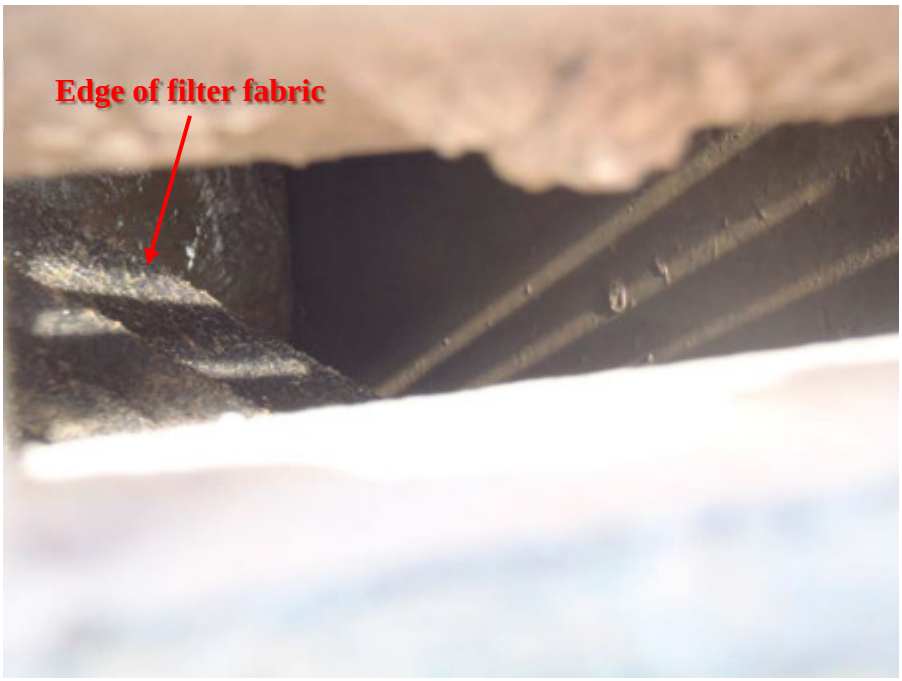
Photograph 3. Urban Core 5 Construction Project – View of waterway entering project site immediately above trench and 66-in. concrete culvert. Note the lack of BMPs.

Photograph 4. Haseko Construction Project – View of sediment tracking from active building lot to adjacent alleyway.

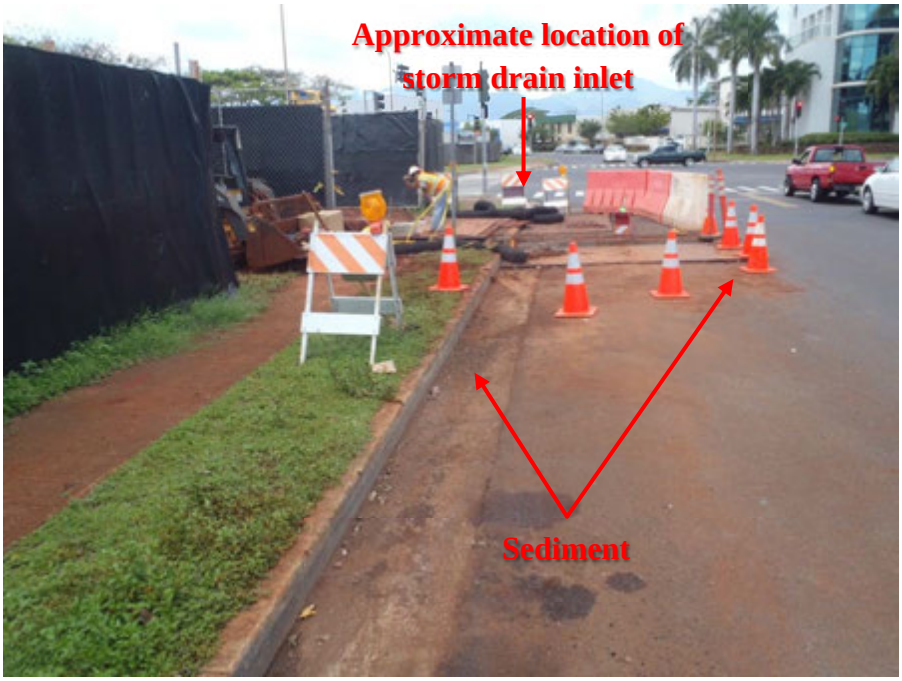
Photograph 5. Haseko Construction Project – View of storm drain inlet noted in previous photograph. Note dried sediment on metal grate.

Photograph 6. Haseko Construction Project – View of unsecured portbale toilet directly above storm drain inlet.

Photograph 7. Haseko Construction Project – View of storm drain inlet with filter fabric that had torn or collapsed.



Photograph 8. Haseko Construction Project – View into storm drain inlet shown in previous photograph. Note that the filter fabric was not longer fully intact.



Photograph 9. Tony Honda Construction Project – View of sediment in curb and gutter and on street along northern perimeter of the site.

Photograph 10. Tony Honda Construction Project – View of storm drain inlet denoted in previous photograph. Note that the inlet had been crushed and compromised the inlet protection BMP.

Photograph 11. Tony Honda Construction Project – Additional view of storm drain inlet shown in previous photograph.

Photograph 12. Tony Honda Construction Project – View of straw wattle along western perimeter of the site.

Photograph 13. Tony Honda Construction Project – Close-up view of section of straw wattle shown in previous photograph. Note that the straw wattle was not entrenched or staked into the ground.

Photograph 14. Tony Honda Construction Project – View of sediment from vehicle tracking at project entrance/exit onto Ka Uka Boulevard.

Photograph 15. Tony Honda Construction Project - View of project entrance/exit. Note hose for washing vehicle tires.

Photograph 16. Urban Core 5 Construction Project – Exposed soil and flow path into waterway. Note the lack of BMPs.

Photograph 17. Urban Core 5 Construction Project – View of 66-in. concrete culvert placed in waterway. Trench has been cut into compacted fill.

Photograph 18. Urban Core 5 Construction Project – View of 66-in. concrete culvert in waterway at site. Native soil horizon visible as brown soil on left.

Photograph 19. Urban Core 5 Construction Project – View of waterway entering project site immediately above trench and 66-in. concrete culvert. Note lack of BMPs.

Photograph 20. Urban Core 5 Construction Project – View of partially constructed detention basin.

Photograph 21. Urban Core 5 Construction Project – View of partially constructed detention basin with heavy equipment tracks.

Photograph 22. Urban Core 5 Construction Project – View of eastern boundary of partially constructed detention basin.

Photograph 23. Urban Core 5 Construction Project – View of turbid discharge from detention basin downstream of spoils and gravel bag.

Photograph 24. Urban Core 5 Construction Project – View of spoils at end of detention basin.

Photograph 25. Urban Core 5 Construction Project – Additional view of spoils at end of detention basin.

Photograph 26. Urban Core 5 Construction Project – Additional view of detention basin with silt fence underwater near inlet.

Photograph 27. Urban Core 5 Construction Project – View of concrete wash-out at project site.

Photograph 28. Urban Core 5 Construction Project – View of silt fence surrounding inlet.

Photograph 29. Urban Core 5 Construction Project – View of uncontained soil and aggregate stockpiles at site.

Photograph 30. Urban Core 5 Construction Project – View of uncontained soil stockpiles at site.

Photograph 31. Wahiawa WWTP Construction Project – View of project sign at facility entrance.

Photograph 32. Wahiawa WWTP Construction Project – View of sediment from vehicle tracking at entrance to facility.

Photograph 33. Wahiawa WWTP Construction Project – View of rock-lined construction entrance to active area of project. Note sediment on surface of rocks.

Photograph 34. Wahiawa WWTP Construction Project – View of straw wattle in front of nearby storm drain inlet to northeast of entrance.

Photograph 35. Wahiawa WWTP Construction Project – View of gap between lengths of silt fence along southern perimeter of project.

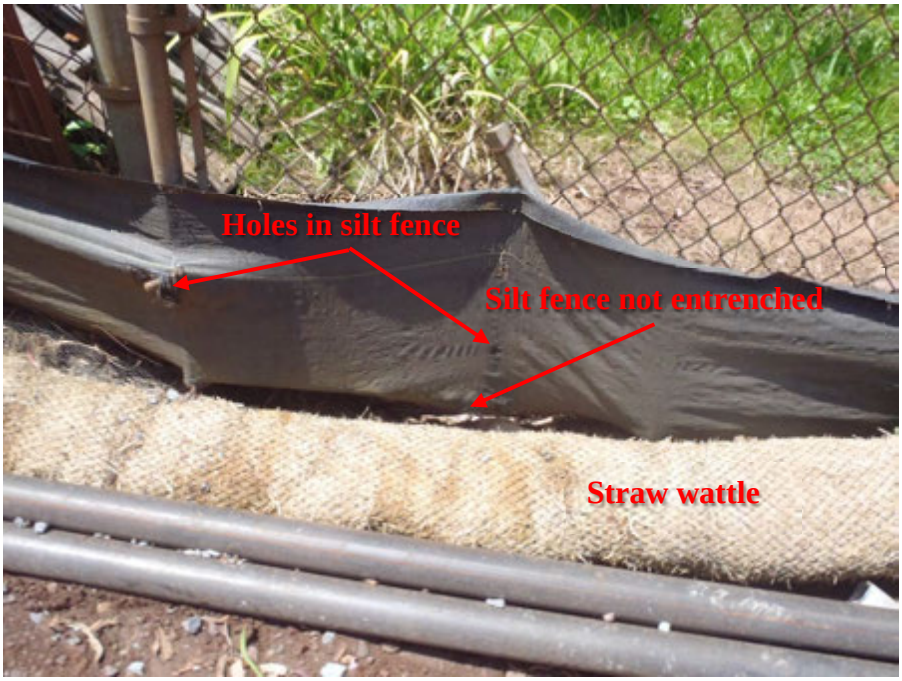
Photograph 36. Wahiawa WWTP Construction Project – View of Wahiawa Reservoir beyond silt fence installed along perimeter of site.

Photograph 37. Wahiawa WWTP Construction Project – View of silt fence near northwest corner of the site that was not entrenced into the ground.

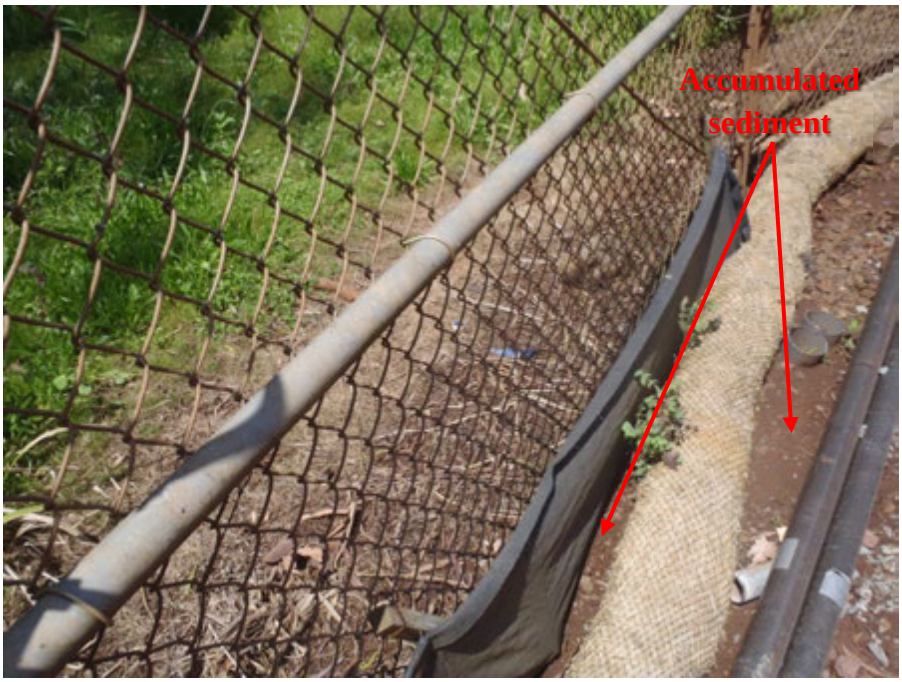
Photograph 38. Wahiawa WWTP Construction Project – View of soil stockpile near northwest corner of the site. Note silt fence not entrenched into groud and straw wattles not entrenched or staked into ground. .

Photograph 39. Wahiawa WWTP Construction Project – View of southwest corner of the site.

Photograph 40. Wahiawa WWTP Construction Project – View of straw wattle installed in southwest corner of site. Note straw wattle not entrenched or staked into ground.



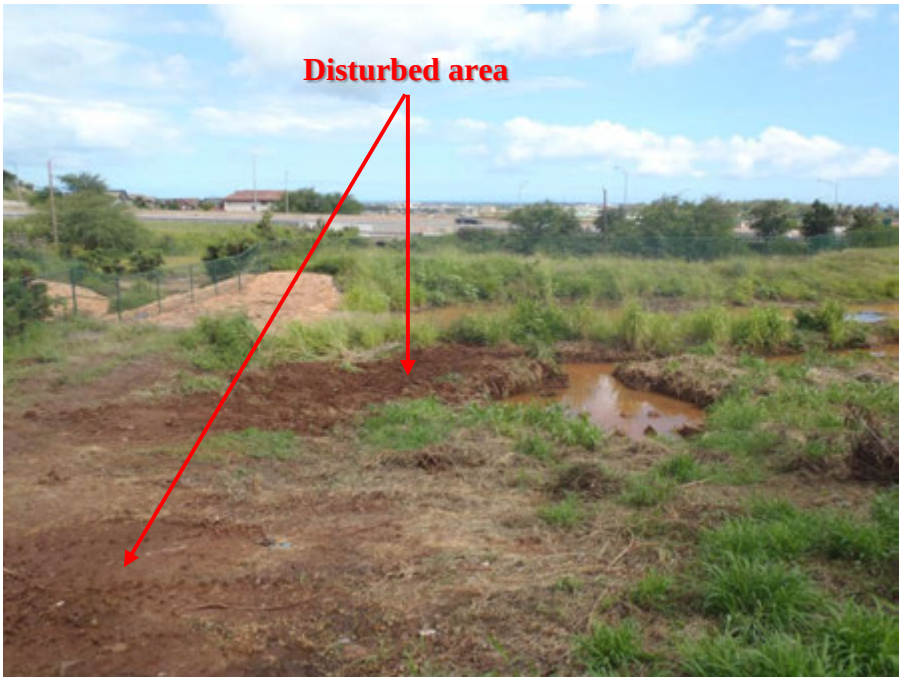
Photograph 41. Wahiawa WWTP Construction Project – Close-up of straw wattle and silt fence shown in Photograph 24. Note straw wattle not entrenched or staked into ground. Silt fence was not entrenched into ground and had holes in the fabric.



Photograph 42. Wahiawa WWTP Construction Project – Additional view of silt fence and straw wattles in southwest corner of the site.

Photograph 43. Post-Construction BMP –View of detention basin at Makakilo C&D (Kahiwelo Development).

Photograph 44. Post-Construction BMP – View of disturbed area near southwest edge of the basin shown in Photograph 43.



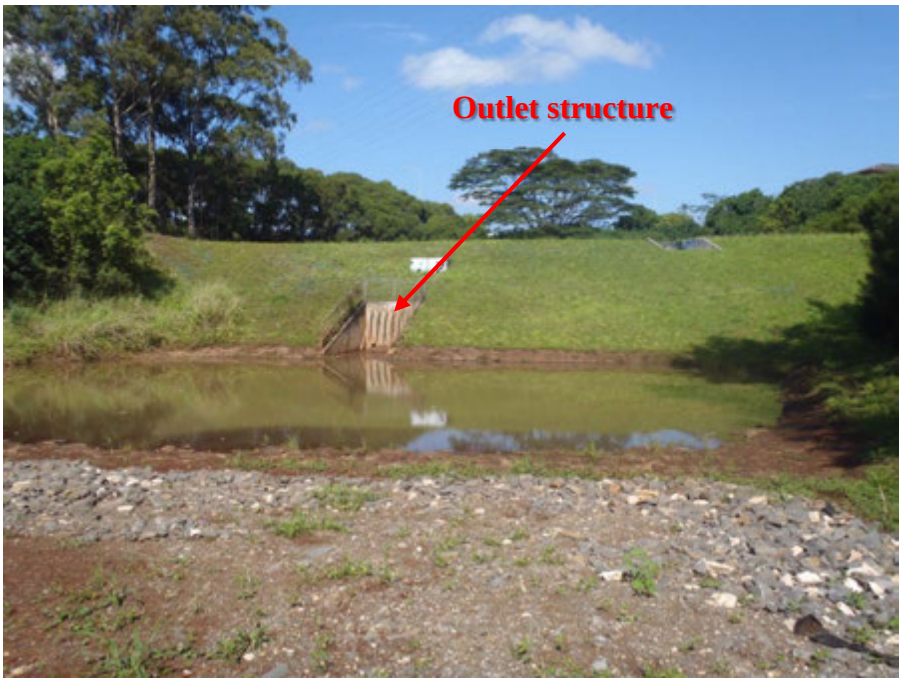
Photograph 45. Post-Construction BMP – View of disturbed area near northeast edge of the basin shown in Photograph 43.

Photograph 46. Post-Construction BMP – View of detention basin at WaiKaloi.

Photograph 47. Post-Construction BMP – Example of vegetated bioswales in parking lot of Mililana Mauka Commercial Center Project.

Photograph 48. Post-Construction BMP – View of "rain garden" BMP at Mililana Mauka Commercial Center Project.

Photograph 49. Post-Construction BMP – View looking southeast of detention basin BMP at Mililani Mauka Development.



Photograph 50. Post-Construction BMP – View of outlet structure from detention basin shown in Photograph 49.

Photograph 51. Sand Island Dewatering Facility – View of recently grubbed area and waterway.

Photograph 52. Sand Island Dewatering Facility – North bank of waterway. Sand Island Access Road is in background.

Photograph 53. Sand Island Dewatering Facility – View of south and north banks of waterway. Note exposed sediment, woody debris present in water, and lack BMPs.

Photograph 54. Sand Island Dewatering Facility – View of material laydown area located adjacent to dewatering facility. Soil stockpiles, concrete wastes and woody debris from recent grubbing were present onsite. Drainage pathway appeared to flow towards direction photo was taken from.

Photograph 55. Sand Island Dewatering Facility – Photo taken from same location as previous photograph showing proximity to waterway. Note lack of BMPs.

Appendix D
NPDES MS4 Permit

PERMIT NO. HI S000002

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. §1251 et. seq.; the "Act"); Hawaii Revised Statutes, Chapter 342D; and Hawaii Administrative Rules, Department of Health (DOH), State of Hawaii, Chapters 11-54 and 11-55;

CITY AND COUNTY OF HONOLULU (CITY) DEPARTMENT OF ENVIRONMENTAL SERVICES (ENV)

(PERMITTEE)

is authorized to discharge storm water runoff and certain non-storm water discharges as identified in Part B.2 of this permit from the City's Municipal Separate Storm Sewer System (MS4), Municipal Building Complex, Kapolei Building Complex, and City facilities in Tables 1 and 2, and additional City facilities and storm sewer outfalls that may be identified from time to time by the Permittee,

into State Waters in and around the Island of Oahu, Hawaii,

in accordance with the general requirements, discharge monitoring requirements, and other conditions set forth herein, and in the attached DOH "Standard NPDES Permit Conditions," dated December 30, 2005, that is available on the DOH, Clean Water Branch (CWB) website at http://hawaii.gov/health/environmental/water/cleanwater/about/stdcond.html.

All references to Title 40 of the Code of Federal Regulations (CFR) are to regulations that are in effect on July 1, 2006, except as otherwise specified. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations in Title 40 of the CFR.

This permit will become effective on June 24, 2011.

This permit and the authorized discharge will expire at midnight, **September 8, 2014**.

Signed this 24th day of May, 2011.

(For) Director of Health

This Page was modified on May 31, 2011

FINAL PERMIT
May 24, 2011

Table 1: City Municipal Industrial facilities covered under this permit			
Department	**Div/District**	**Facility**	
Honolulu Police Department		Kahuku Police Station Kailua Police Station Kalihi Police Station Kapolei Police Station Wahiawa Police Station	Waianae Police Station Waipahu Training Academy
Honolulu Fire Department		Central Fire Station Pawaa Fire Station Makiki Fire Station Kuakini Fire Station Kaimuki Fire Station Kalihi Fire Station Waikiki Fire Station Mokulele Fire Station and Training Center Kakaako Fire Station and Main Complex Aiea Fire Station Sunset Beach Fire Station Waipahu Fire Station Kahuku Fire Station Waialua Fire Station Hauula Fire Station Wahiawa Fire Station Kaneohe Fire Station Kailua Fire Station Aikahi Fire Station Pearl City Fire Station Kaaawa Fire Station Manoa Fire Station	Wailupe Fire Station Ewa Beach Fire Station Nuuanu Fire Station Waianae Fire Station Waimanalo Fire Station Nanakuli Fire Station McCully Fire Station Moanalua Fire Station Kalihi-Kai Fire Station Kalihi-Uka Fire Station Palolo Fire Station Hawaii-Kai Fire Station Makakilo Fire Station Mililani Fire Station Kahaluu Fire Station Waiau Fire Station Olomana Fire Station Kapolei Fire Station Mililani-Mauka Fire Station Waikele Fire Station Waipahu Vehicle Maintenance Shop Waterfront Fire Station Aircraft One Fire Station
Department of Transportation Services		Middle Street Intermodel Center Pearl City Bus Facility	Kalihi-Palama Bus Facility
Department of Facility Maintenance	Road Division	Halawa Corp Yard Pearl City Corp Yard Waianae Corp Yard Wahiawa Corp Yard Waialua Corp Yard Kapolei Corp Yard	Laie Corp Yard Kaneohe Corp Yard, including Ahuimanu Dewatering Facility Kailua Corp Yard Sand Island Dewatering Facility

Table 1: City Municipal Industrial facilities covered under this permit			
Department	**Div/District**	**Facility**	
Department of Facility Maintenance	Automotive Equipment Service (AES)	Kapaa AES Corp Yard Halawa AES Corp Yard	Pearl City AES Corp Yard
	Public Building and Electrical Maintenance (PBEM)	Kokea Corp Yard Manana Corp Yard	
Department of Environmental Services	Collection System Maintenance (CSM)	Halawa CSM Corporation Yard	
	Refuse - Transfer Stations	Kapaa Refuse Transfer Station Keehi Refuse Transfer Station Kawailoa Refuse Transfer Station	
	Refuse – Collection Yards	Honolulu Refuse Collection Yard Waianae Refuse Collection Yard Pearl City Refuse Collection Yard Wahiawa Refuse Collection Yard Waialua Refuse Collection Yard Laie Refuse Collection Yard Kapaa Refuse Collection Yard	
	Refuse - Convenience Centers	Wahiawa Refuse Convenience Center Laie Refuse Convenience Center Waimanalo Refuse Convenience Center Waipahu Refuse Convenience Center Ewa Refuse Convenience Center Waianae Refuse Convenience Center	
	Refuse – Closed Sanitary Landfills	Kapaa Closed Sanitary Landfill Kalaheo Closed Sanitary Landfill Waipahu Closed Sanitary Landfill Kawailoa Closed Sanitary Landfill Waianae Closed Sanitary Landfill	

Table 1: City Municipal Industrial facilities covered under this permit		
Department	**Div/District**	**Facility**
Department of Environmental Services	Treatment & Disposal – Wastewater Treatment Plants (WWTP)	Sand Island WWTP Honouliuli WWTP Waianae WWTP Wahiawa WWTP Kailua WWTP

Table 2: City Small MS4 facilities covered under this permit			
Department	**Div/District**	**Facility**	
Department of Parks and Recreation	District I	Hanauma Bay Nature Preserve Kapiolani Regional Park Kaimuki Community Park Kilauea District Park	Koko Head District Park Manoa District Park McCully District Park Palolo District Park
	District II	Ala Moana Regional Park Aiea District Park Salt Lake District Park Ala Puumalu Community Park Booth District Park Lanakila District Park	Puunui District Park Kalihi Valley District Park Kalakaua District Park Halawa District Park Makiki District Park Moanalua District Park
	District III	Mililani District Park Wahiawa District Park Pearl City District Park Waipahu District Park	Makakilo Community Park Waianae District Park Nanakuli District Park
	District IV	Waimanalo District Park Kailua District Park Kaneohe Community/Sr. Center	Kaiaka Bay Beach Park Kaneohe District Park Kualoa District Park
	District V	Central Oahu Regional Park Waipio Peninsula Soccer Field	
	Honolulu Botanical Gardens	Foster Botanical Garden Hoomaluhia Botanical Garden Wahiawa Botanical Garden	
Department of Enterprise Service		Neal Blaisdell Center Waikiki Shell Honolulu Zoo Ala Wai Golf Course Ewa Village Golf Course	Kahuku Golf Course Pali Golf Course Ted Makalena Golf Course West Loch Golf Course
Department of Environmental Services	Treatment & Disposal	Paalaa Kai Wastewater Treatment Plants (WWTP) Kaneohe Bay #4 Wastewater Pump Station (WWPS)	

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ATTACHMENT: STANDARD NPDES PERMIT CONDITIONS (Updated as of December 30, 2005). In case of conflict between the conditions stated in this permit and those specified in the Standard NPDES Permit Conditions, the more stringent conditions shall apply.

This Page was modified on May 31, 2011

Part A. GENERAL REQUIREMENTS

The Permittee shall:

Part A.1. Comply with all materials submitted in and with the reapplication, dated October 31, 2008.

Part A.2. Retain a copy of this permit and all other related materials and the SWMP, with all subsequent revisions, at the ENV office.

Part A.3. Ensure that anyone working under this permit complies with the terms and conditions of this permit.

Part A.4. Include the permit number, **HI S000002**, and the following certification with all information required under this permit:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Part A.5. Submit all information required under this permit to the following address:

Director of Health
Clean Water Branch
Environmental Management Division
Department of Health
919 Ala Moana Boulevard, Room 301
Honolulu, Hawaii 96814-4920

Part B. DISCHARGE LIMITATIONS

Part B.1. The Permittee shall effectively prohibit non-storm water discharges through its separate storm sewer system into State Waters and from its facilities as identified in Tables 1 and 2. National Pollutant Discharge Elimination System (NPDES) permitted discharges and non-storm water discharges identified in Part B.2 of this permit are exempt from this prohibition.

Part B.2. The following non-storm water discharges may be discharged into the Permittee's separate storm sewer system provided that the discharge be identified below, and meet all conditions when specified by the Permittee. In the event that any of the below non-storm water discharges are determined to be a source of pollutants by the Permittee, the discharge will no longer be allowed.

- ✓ Water line flushing;
- ✓ Landscape irrigation;
- ✓ Diverted stream flows;
- ✓ Rising ground waters;
- ✓ Uncontaminated ground water infiltration (as defined in 40 CFR §35.2005(20));
- ✓ Uncontaminated pumped ground water;
- ✓ Discharges from potable water sources and foundation drains;
- ✓ Air conditioning condensate;
- ✓ Irrigation water;
- ✓ Springs;
- ✓ Water from crawl space pumps and footing drains;
- ✓ Lawn watering runoff;
- ✓ Water from individual residential car washing;
- ✓ Water from charity car washes;
- ✓ Flows from riparian habitats and wetlands;
- ✓ Dechlorinated swimming pool discharges;
- ✓ Exterior building wash water (water only);
- ✓ Residual street wash water (water only), including wash water from sidewalks, plazas, and driveways, but excluding parking lots; and
- ✓ Discharges or flows from fire fighting activities.

The Permittee may also develop a list of other similar occasional incidental non-storm water discharges (e.g., non-commercial car washes, etc.) that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected (based on information available to the Permittee) to be significant sources of pollutants to the MS4, because of either the nature of the discharges or conditions the Permittee has established for allowing these

discharges to the MS4 (e.g., non-commercial car wash with appropriate controls on frequency, proximity to sensitive water bodies, BMPs on the wash water, etc.). The Permittee shall document in the storm water management plan any local controls or conditions placed on the discharges, and include a provision prohibiting any individual non-storm water discharge that is determined to be contributing pollutants to the MS4.

Part B.3. The discharge of pollutants from the Permittee's MS4 and Small MS4 facilities, as identified in Table 2, shall be reduced to the Maximum Extent Practicable (MEP), consistent with Section 402(p)(3)(B) of the CWA. This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants to the MEP from the City's MS4 and Small MS4 facilities to waters of the State. MEP is a dynamic performance standard and it evolves as our knowledge of urban runoff control measures increases.

Part B.4. The discharge of pollutants from the Permittee's facilities as identified in Table 1 classified as industrial facilities in accordance with 40 CFR §122.26(b)(14) (e.g., treatment works treating domestic sewage with a design flow of 1 MGD or more, convenience centers, refuse collection yards, corporation yards) shall be reduced to the appropriate discharge limitations subject to the Best Available Technology (BAT)/ Best Conventional Pollutant Control Technology (BCT) discharge requirement, consistent with the CWA and other respective federal and state requirements for such facilities.

Part C. RECEIVING WATER LIMITATIONS, INSPECTIONS, AND CORRECTIVE ACTIONS

Part C.1. The discharge shall comply with the basic water quality criteria which states: "All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including:

Part C.1.a. Materials that will settle to form objectionable sludge or bottom deposits;

Part C.1.b. Floating debris, oil, grease, scum, or other floating materials;

Part C.1.c. Substances in amounts sufficient to produce taste in the water or detectable off flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity or other conditions in receiving waters;

Part C.1.d. High or low temperatures; biocides; pathogenic organisms; toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water;

Part C.1.e. Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life; and

Part C.1.f. Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or industrial developments; or the cultivation and management of agricultural lands."

Part C.2. The discharge shall not cause or contribute to a violation of any of the applicable beneficial uses or water quality objectives contained in Hawaii Administrative Rules (HAR), Chapter 11-54, titled "Water Quality Standards."

Part C.3. The Permittee shall timely visually inspect the receiving state waters, effluent, and control measures and Best Management Practices (BMPs) to detect violations of and conditions which may cause violations of the basic water quality criteria as specified in HAR, Section 11-54-4. (e.g., the Permittee shall look at effluent and receiving state waters for turbidity, color, floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, and inspect for items that may be toxic or harmful to human or other life).

Part C.4. The Permittee shall immediately take action to stop, reduce, or modify the discharge of pollutants as needed to stop or prevent a violation of the basic water quality criteria as specified in HAR, Section 11-54-4.

Part C.5. After the deadline, as identified in the Permittee's TMDL compliance schedule required in Part F.3.b., compliance with the WLAs are required. Any future WLAs adopted and approved by the EPA shall comply with their WLAs within two (2) years of the TMDL approval date.

Part D. STORM WATER MANAGEMENT PLAN (SWMP)

The Permittee shall:

Part D.1. Further develop and improve, implement, and enforce a SWMP designed to address the requirements of this permit and reduce, to the MEP, the discharge of pollutants to and from its MS4 to protect water quality and to satisfy the appropriate water quality requirements of the Act. The SWMP shall include the following information for each of the SWMP components described in Part D.1.a to Part D.1.g below:

- The BMPs, plus underlying rationale, that shall be implemented for each of the program components.
- The measurable standards and milestones for each of the BMPs, plus underlying rationale, including interim measures to aid in determining level of effort and effectiveness of each program component.
- The name or position title and affiliation of the person or persons responsible for implementation or coordination of each program component.
- Monitoring to determine effectiveness of Wasteload Allocation (WLA) controls and of the overall storm water program.

Submittal Date. The SWMP shall be updated and modified per the requirements of this permit and be consistent with the format of this permit, and shall be submitted to DOH within one (1) year from the effective date of this permit, or as otherwise specified, and shall fully implement the SWMP upon submittal to DOH. The Permittee shall continue to implement the existing SWMP until submittal of the revision. The SWMP and any of its revisions, additions, or modifications are enforceable components of this permit.

Part D.1.a. Public Education and Outreach

The Permittee shall further develop and implement a comprehensive education and involvement program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water and illicit discharges and the steps that the public can take to reduce pollutants in storm water runoff. The program should create: changes in attitude, knowledge, and awareness; BMP implementation; pollutant load reduction; and changes in discharge and receiving water quality. The program shall target: locations of illicit discharges, decision-makers, industrial and commercial businesses,

construction operators, homeowners, university students, and school children, and the general public. The SWMP shall include a written public education plan for how the Permittee will reach all targeted audiences and implement the permit requirements described below.

Part D.1.a.(1) *Targeted Groups*. The Permittee shall address the following targeted groups in the public education plan with appropriate messages, and shall describe outreach activities and anticipated frequencies that each activity will be conducted over the permit term:

- City employees
- City consultants
- Construction industry
- Industrial facilities covered by the NPDES permit program
- Visitor industry such as hotels, condominiums, and restaurants in Waikiki
- Commercial businesses such as landscape service and maintenance (e.g., to prevent the use of leaf blowers from blowing material into the drainage structures), automobile detailing, automobile repair and maintenance, retail gasoline outlets, and restaurants
- Businesses involved in fire sprinkler testing, fire department training, and exterior building washing operations
- Any other source that the Permittee determines may contribute a significant pollutant load to its MS4

Part D.1.a.(2) *General Public*. The Permittee shall include in the public education plan the following activities, with anticipated frequencies that each activity will be conducted over the permit term:

- Public Service Announcements (PSAs)
- Adopt-A-Stream Program
- School programs
- Distribution of brochures
- Participation in special events (e.g., Earth Day events) and exhibits
- Web site
- Pesticides, herbicides, and fertilizer use program
- Water conservation
- Proper disposal of grass clippings, leaves, and other green waste
- Proper disposal of household hazardous waste

Part D.1.a.(3) *Evaluation Methods*. The Permittee shall evaluate the progress of the public education program based on the following:

- An annual survey of Oahu residents to measure both behavior and knowledge relating to storm water. The surveys can be conducted in person at events, on the phone, or using Web-based survey tools. The results of the survey shall be compared to past surveys.
- Number of brochures distributed
- Number of people trained
- Participation in events
- Volunteer hours

The results of the evaluation shall be summarized in the Annual Report.

Part D.1.b. Public Involvement/Participation

The Permittee shall include the public in developing, reviewing, and implementing the SWMP. The draft and final SWMP shall be made available to the public on the City Website and at local offices. An informational meeting shall be scheduled and announced prior to finalizing the SWMP to solicit comments and answer questions from the public. Other activities to involve the public may include providing volunteer opportunities that improve water quality, organizing a citizen advisory group to solicit ongoing input from the public about changes to the SWMP and specific SWMP-related projects, or organizing water quality-focused clean-up events to educate the public about storm water impacts.

Part D.1.c. Illicit Discharge Detection and Elimination

The Permittee shall continue to implement the ongoing program to detect and eliminate illicit connections and illegal discharges into its MS4 and shall include an updated program in the revised SWMP. The program shall include:

Part D.1.c.(1) *Improper Discharge Activities*. The Permittee shall develop and implement an improper discharge activities program to reduce to the MEP the unauthorized and illegal discharge of pollutants to its MS4.

Part D.1.c.(2) *Licenses for private drain connections*. The Permittee shall continue to require licenses for private drain connections and maintain a database of all licensed connections to its MS4.

Part D.1.c.(3) *Field Screening.* The Permittee shall continue to implement its written plan for observing major and minor outfalls to screen for improper discharges. The plan shall designate priority areas for screening, specify the frequency for screening, and identify the procedures to be followed if a discharge is observed.

Part D.1.c.(4) *Tracking.* The Permittee shall continue to maintain a database of illicit connections, illegal discharges, and spills that tracks the type of discharge, responsible party, City's response, and resolution of the discharge to the MS4.

Part D.1.c.(5) *Investigate complaints.* The Permittee shall promptly investigate observed, suspected, or reported illicit flows and pursue enforcement actions, as appropriate. Complaints made to the CWB, which discharge to the City's MS4 will be forwarded to the Permittee for their action. The Permittee shall continue to:

(i) Develop a database to identify improper discharge activity by Tax Map Key (TMK). The database shall include information about each suspected improper discharge, the Permittee's investigation of that discharge, follow-up activities, and the resolution of each discharge;

(ii) Implement a program to facilitate public reporting of illicit discharges (i.e., City's Environmental Concern Line and/or website for reporting); and

(iii) Update the "Response Plan for Investigations of Illegal Discharges," dated March 2000, to be consistent with the requirements in this permit.

Part D.1.c.(6) *Enforcement.* The Permittee shall ensure compliance with local ordinances and pursue enforcement actions against property owners with illegal drain connections and persons illegally discharging pollutants to its MS4.

Part D.1.c.(7) *Prevent and Respond to Spills to the City MS4.* The Permittee shall implement a program to prevent, respond to, contain, and clean up all wastewater and other spills that may enter into its MS4 from any source (including private laterals and failing cesspools). This program shall be included in the SWMP. Spill response teams, which may consist of local, state, and/or federal agencies, shall prevent entry of spills into the City's MS4 and contamination of surface water, ground water, and soil to the MEP.

The Permittee shall coordinate spill prevention, containment, and response activities throughout all appropriate departments, programs, and agencies to ensure maximum water quality protection at all times.

The Permittee shall continue to implement a procedure whereby DOH is notified of all wastewater spills or overflows from private laterals and failing septic systems into its MS4. The Permittee shall prevent, respond to, contain, and clean up wastewater from any such notification.

Part D.1.c.(8) *Facilitate Disposal of Used Oil and Toxic Materials.* The Permittee shall continue to implement a program(s) to facilitate the proper management and disposal or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes. Such a program shall include educational activities, public information activities, and establishment of collection sites operated by the Permittee or a private entity.

Part D.1.c.(9) *Training.* The Permittee shall provide annual training to staff on identifying and eliminating illicit connections, illegal discharges, and spills to the MS4. At a minimum, the staff trained shall include Department of Planning and Permitting and Department of Design and Construction inspectors, Department of Facility Maintenance field staff, ENV inspectors and field staff, and code compliance officers.

Part D.1.d. Construction Site Runoff Control

Permittee shall continue to implement a construction site management program to reduce to the MEP the discharge of pollutants from both private and public construction sites. The construction site management program shall include the following minimum elements:

Part D.1.d.(1) *Requirement to implement BMPs.* The Permittee shall continue to require proposed development projects to implement BMPs and standards described in:

- Rules Relating to Storm Drainage Standards
- Rules Relating to Soil Erosion Standards and Guidelines
- BMPs Manual for Construction Sites in Honolulu

These rules and guidance shall be modified as necessary. The Permittee shall notify DOH when modifications will be made.

Part D.1.d.(2) *Inventory of construction sites.* The Permittee shall continue to implement a system to track construction activity that falls within Categories 1-5. Descriptions of each category may be found in the City's "Rules Relating to Soil Erosion Standards and Guidelines (April 1999)." This system shall track information on the project (including permit or file number, if available), status of plan review and approval, inspection dates, and if applicable, enforcement actions and

whether the project has applied for coverage under HAR, Chapter 11-55, Appendix C, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Construction Activity (General Construction Activity Storm Water permit) (unless the project will disturb less than one acre of land) and satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit).

Part D.1.d.(3) *Plan Review and Approval.* The Permittee shall:

(i) Review the applicable Site-Specific BMP Plan or similar document to verify that it fully meets all requirements of the City's Rules relating to Storm Drainage Standards; Rules relating to Soil Erosion Standards and Guidelines; and BMPs Manual for Construction Sites in Honolulu, as applicable, the General Construction Activity Storm Water permit, and any other requirements under the NPDES permit program, as applicable.

(ii) Review the applicable Site-Specific BMP Plan or similar document, prior to approval of local construction and grading permits, to verify that the proposed construction and grading projects will implement measures to ensure that the discharge of pollutants from the site will be reduced to the MEP and will not cause or contribute to an exceedance of water quality standards;

(iii) Ensure that, prior to issuing a grading and/or grubbing permit for any project requiring coverage under the General Construction Activity Storm Water permit and/or any other applicable requirements of the NPDES permit program, the project operator has provided proof of filing a Notice of Intent (NOI) or NPDES application for permit coverage and that a Construction BMPs Plan has been prepared; and

(iv) Not allow construction to commence on any private or public project unless and until it has verified that the project has received from DOH a General Construction Activity Storm Water permit (unless the project will disturb less than one (1) acre of land) and satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit).

The Permittee shall continue to implement a checklist that its reviewers shall use in evaluating the BMPs Plans, including for post-construction BMPs, pursuant to this paragraph and Part D.1.e. The checklist shall be updated to include identifying any deficiencies, including a section, applicable to in-field use, for the date when the corrective actions were completed. A system shall be implemented

to ensure all deficiencies, identified during the review process, has been remedied. The checklist shall be submitted within 90 calendar days from the effective date of this permit for review and acceptance. Copies of this checklist shall be provided to applicants for permits and to contractors for their use in developing construction BMPs Plans for City-contracted construction projects. For in-field use, a site map shall accompany the checklist which notes the locations of the deficiencies.

Part D.1.d.(4) *Inspections*. The Permittee shall conduct inspections in accordance with the City's guidance "Inspection and Enforcement Program for Construction Sites (January 2000)," "Rules Relating to Soil Erosion Standards and Guidelines (April 1999)" and updates accepted by DOH.

Inspections shall include a review of site Erosion and Sediment Controls, good housekeeping practices, and compliance with approved erosion control plans or construction BMPs Plans. Inspectors shall use an inspection checklist, or equivalent, and the Permittee shall track inspection results in a database or equivalent system. The checklist shall, include at a minimum, but not be limited to identifying any deficiencies and the date when the corrective actions were completed.

Part D.1.d.(5) *Enforcement*. The Permittee shall enforce its ordinances (including applicable ordinances in Chapter 14, Public Works Infrastructure Requirements) and permits (grading and other applicable permits) at all construction sites as necessary to maintain compliance with this permit. The Permittee shall further develop and implement written procedures for appropriate corrective actions and follow-up inspections when an inspected project is not in full compliance with the NPDES permit, the General Construction Activity Storm Water permit, or any other applicable requirements under the NPDES permit program.

Part D.1.d.(6) *Process to refer noncompliance and non-filers to DOH.* In the event the Permittee has exhausted its use of sanctions and cannot bring a construction site or construction operator into compliance with its ordinances or this permit, or otherwise deems the site to pose an immediate and significant threat to water quality, the Permittee shall provide oral notification to DOH within one (1) week of such determination. Such oral notification shall be followed by written notification and a copy of all inspection checklists, notes, and related correspondence within two (2) weeks of the determination. In instances where an inspector identifies a site that has not applied for the General Construction Activity Storm Water permit coverage or any other applicable requirements of the NPDES permit program, the Permittee shall provide written notification to DOH within two (2) weeks of the discovery.

Part D.1.d.(7) *Training*. The Permittee shall annually train employees in targeted positions (whose jobs or activities are engaged in construction activities including plan review and construction inspection staff) regarding the requirements of the SWMP and this permit.

Part D.1.d.(8) *Education*. The Permittee shall continue to implement an education program to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the storm water requirements they need to implement.

Part D.1.e. Post-Construction Storm Water Management in New Development and Redevelopment

The Permittee shall further develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that result in a land disturbance of one (1) acre or more and smaller projects that have the potential to discharge pollutants to the City MS4. The Permittee's Land Development Program must ensure that permanent controls are in place to prevent or minimize water quality impacts to the MEP, and shall include, at a minimum, the following elements:

Part D.1.e.(1) *Standards Revision*. The Permittee shall continue with its planned revisions to its standards for addressing post-construction runoff and include Low Impact Development (LID) requirements. Within six (6) months of the effective date of this permit, the Permittee shall submit to DOH for review and acceptance, a plan for requiring LID in the standards to the MEP, including revision to the BMP checklist to include LID. LID refers to storm water management practices which seek to mimic natural processes and protect water quality via infiltration, evapotranspiration or reuse of storm water runoff at the site where it was generated. The standards shall be applicable to all construction projects disturbing at least one (1) acre and smaller projects (e.g., retail gas stations, restaurants, auto repair shops, parking lots) that have the potential to discharge pollutants to the City's MS4. The plan for the implementation of LID provisions in the City's standards shall include at a minimum the following:

- Criteria for requiring implementation.
- Investigation into the development of quantitative criteria for a specific design storm to be managed by LID techniques. Examples of design storm requirements include: 24-hour, 85% storm through infiltration; on-site management of the first inch of rainfall within a 24-hour period; retention of the 100-year, 2-hour storm; or on-site management of the 24-hour, 95% storm.

- Feasibility criteria for circumstances in which a waiver could be granted for the LID requirements.
- When a LID waiver is granted, alternatives such as offsite mitigation and/or non-LID treatment control BMPs could be required.

A draft of the revised standards, shall be submitted to the DOH for review and acceptance within 12 months after the effective date of this permit and include the above (i.e., criteria for requiring implementation, feasibility criteria, alternatives when a LID waiver is granted) at a minimum, and also reflect the conclusion of the investigation of quantitative LID criteria. Within 18 months after the effective date of this permit, subject to adoption by rulemaking, the revised Standards shall be submitted to the DOH. To the extent that the revised Standards have not been adopted, the Permittee shall submit a compliance schedule for adoption, which shall not exceed 24 months after the effective date of this permit.

Part D.1.e.(2) *Review of Plans for Post-Construction BMPs.* The *Permittee* shall continue to ensure that plan reviews for new developments and redevelopments include a review for post-construction BMPs and LID requirements to ensure compliance with this part of the permit. At a minimum, this will include the review of all plans disturbing at least one (1) acre, including smaller projects (e.g., retail gas stations, restaurants, auto repair shops, parking lots) that have the potential to discharge pollutants to the City's MS4 for post-construction BMPs and LID requirements. Project documents for projects that will include installation of permanent post-construction BMPs and LID practices shall also include appropriate requirements for their future continued maintenance.

Part D.1.e.(3) *BMPs, Operation and Maintenance, and Inspection Database.* The Permittee shall further develop and implement a system to compile a database of post-construction BMPs and the frequency of maintenance and inspection of the BMPs. The database shall include both public and private activities or projects which initially discharge into the Permittee's MS4 and shall begin in the plan review stage with a database or geographic information system (GIS). Within 90 calendar days of the effective date of this permit, the Permittee shall provide the plan to map the post-construction BMPs on the GIS. In addition to the standard information collected for all projects (e.g., project name, owner, location, start/end date, etc.), the tracking system shall also include, at a minimum:

- Type and number of LID practices
- Type and number of Source Control BMPs
- Type and number of Treatment Control BMPs
- Latitude/Longitude coordinates of controls using Global Positioning

- Systems (GPS) and NAD83 Datum
- Photographs of controls
- Operation and maintenance requirements, including frequency
- Frequency of inspections

Part D.1.e.(4) *Education and Training*

(i) *Project Proponents. The Permittee shall continue to provide education and outreach material for* those parties who apply for City permits (i.e., developers, engineers, architects, consultants, construction contractors, excavators, and property owners) on the selection, design, installation, operation and maintenance of storm water BMPs, structural controls, post-construction BMPs, and LID practices. The outreach material may include a simplified flowchart for thresholds triggering permits and requirements, a list of required permits, implementing agencies, fees, overviews, timelines and a brief discussion of potential environmental impacts associated with storm water runoff.

(ii) *Inspectors*. All Permittee staff and those contractors under City contract responsible for inspecting permanent post-construction BMPs and LID practices shall receive annual training.

Part D.1.f. Pollution Prevention/Good Housekeeping

The Permittee shall further develop and implement a system maintenance program to reduce to the MEP the discharge of pollutants from all Permittee-owned facilities, roads, parking lots, municipal waste facilities, and the City MS4. The program shall include:

Part D.1.f.(1) Debris Control BMPs Program Plan

(i) *Storm Water System Inventory and Mapping*. The Permittee shall update current records and continue to develop a comprehensive inventory and map of its MS4, including structural and vegetative BMPs and Permittee-owned facilities, roads, and parking lots discharging to the City MS4.

(ii) *Street Sweeping*. The Permittee shall continue to perform frequent, regularly-scheduled street sweeping on all major streets, and in industrial, commercial and residential areas.

(iii) *Litter*. The Permittee shall continue to perform regularly scheduled roadside litter pickup and litter container servicing.

(iv) *Maintenance of Structural Controls*. The Permittee shall submit to DOH within 180 calendar days of the effective date of this permit a priority-based schedule for inspecting and maintaining structural controls, which shall include continuing to inspect debris/boulder basins and detention/retention basins on a monthly schedule and maintain/clean as necessary.

(v) *Maintenance of Storm Drainage System*. The Permittee shall submit to DOH within 180 calendar days of the effective date of this permit a priority-based schedule for inspecting and maintaining storm drain lines, manholes, and inlets/catch basins. At a minimum, all inlets/catch basins will be inspected at least once during the permit term (maintenance/cleaning may be conducted in lieu of inspections to satisfy this requirement). Inlets/catch basins requiring minimal maintenance after two (2) inspections can then be inspected on an as-needed basis.

(vi) *Action Plan for Retrofitting the Existing MS4 with Structural BMPs*. The Permittee shall:

- Continue with the implementation of the activities for Wailupe Stream, Kuliouou Stream, and Niu Stream as described on Pages 10-11 of the "Action Plan: Implementing Feasible Opportunities to Retrofit Structural BMPs," dated October 2001, and submitted to DOH on October 31, 2001, to address retrofitting the existing MS4 with structural BMPs. All structural BMPs as identified in the Action Plan, dated October 2001, shall be completed within five (5) years of the effective date of this permit.
- Evaluate the recommendations of the report titled, "Storm Water Best Management Practices (BMP) Plan for Four Major Outlets at Kaelepupu Pond," Kailua, Hawaii, November 2008.
- Evaluate the recommendations of the draft report titled, "Watershed Based Plan for Reduction of Nonpoint Source Pollution in Wailupe Stream Watershed," dated June 2010.
- Provide the DOH with an updated Action Plan within one (1) year of the effective date of this permit, which shall identify retrofits to be implemented, explanation on the basis for their selection and an implementation schedule, including addressing each of the bulleted items above. The implementation schedule shall cover a five (5) year period and be updated yearly to include additional retrofit projects with water quality protection measures for the 5th year of the schedule. The annual updates to the implementation schedule shall be included in the Annual Report with a description of the projects status. The Action Plan

may include, but not be limited to projects in compliance with any TMDL implementation and reduction plan.

(vii) *Trash Reduction Plan.* Within 12 months of the effective date of this permit, the permittee shall develop and submit to DOH for review and acceptance, a trash reduction plan which assesses the issue, identifies and implements control measures, and monitors these activities to reduce trash loads from the MS4. The plan shall include, at a minimum and be formatted consistent with the following:

- Quantitative estimate of the debris currently being discharged (baseline load) from the MS4, including methodology used to determine the load.
- Description of control measures currently being implemented as well as those needed to reduce debris discharges from the MS4 consistent with short-term and long-term reduction targets.
- A short-term plan and proposed compliance deadline for reducing debris discharges from the MS4 by 50% from the baseline load.
- A long-term plan and proposed compliance deadline for reducing debris discharges from the MS4 to zero.
- Geographical targets for trash reduction activities with priority on waterbodies listed as impaired for trash on the State's CWA Section 303(d) list.
- Trash reduction-related education activities as a component of Part D.1.a.
- Integration of control measures, education and monitoring to measure progress toward reducing trash discharges.
- An implementation schedule.
- Monitoring plan to aid with source identification and loading patterns as well as measuring progress in reducing the debris discharges from the MS4.
- The Annual Report shall include a summary of its trash load reduction actions (control measures and best management practices) including the types of actions and levels of implementation, the total trash loads and dominant types of trash removed by its actions, and the total trash loads and dominant types of trash for each type of action.

The plan shall provide for compliance with the above short-term and long-term discharge limits in the shortest practicable timeframe.

Part D.1.f.(2) Chemical Applications BMPs Program Plan

(i) *Training* - The Permittee shall develop an Authorized Use List of the chemicals the City uses and continue to implement a specific training program for all potential appliers (bulk and hand-held) of the chemicals (e.g. fertilizers, pesticides, and herbicides) in its proper application. The Permittee shall not permit the application of fertilizers, pesticides, or herbicides unless the applier has first received this training.

(ii) *Implement appropriate requirements for pesticide, herbicide, and fertilizer applications*. The Permittee shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides, and fertilizers from municipal areas and activities to its MS4. Municipal areas and activities include, at a minimum, municipal facilities, public right-of-ways, parks, recreational facilities, public golf courses, and landscaped areas.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) chemical application, as needed; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

The Permittee shall ensure that their employees or contractors or employees of contractors applying registered pesticides, herbicides, and fertilizers shall work under the direction of a certified applicator, follow the pesticide label, and comply with any other State, City, or government regulations for pesticides, herbicides, and fertilizers. All Permittee employees or contractors applying pesticides, herbicides or fertilizers shall receive training on the BMPs annually.

Part D.1.f.(3) Erosion Control BMPs Program Plan

(i) The Permittee shall continue to address erosional areas in its SWMP with the potential for significant water quality impact, but with limited public safety concerns, and are also considered a high priority for remediation. Identification of erosional areas with the potential for significant water quality impact shall include areas where there is evidence of rilling, gullying, and/or other evidence of significant sediment transport, and areas in close proximity to receiving waters listed as impaired by either sediment, siltation and/or turbidity. The Permittee shall include procedures to identify

and implement erosion control projects based on water quality concerns while continuing to address high profile public safety projects.

(ii) Require the implementation of temporary Erosion Control Measures (e.g., erosion control blankets and/or fabrics, gravel bag placement and silt fencing/fiber rolls) on erosional areas within City right-of-ways with the potential for significant water quality impact if a permanent solution is not immediately possible. Notwithstanding any other implementation provisions, the SWMP shall require the implementation of such temporary control measures on all applicable areas within one (1) year of the effective date of this permit. For projects which require a CWA Section 401 Water Quality Certification (WQC), the WQC application shall be submitted to DOH within one (1) year of the effective date of this permit and be implemented with six (6) months of the WQC or other regulatory permit(s) issuance date.

(iii) Develop a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control, including controlling any excessive clearing/removal, cutting of vegetation, and application of herbicide which affects its usefulness. This plan shall be submitted to the DOH within 90 calendar days of the effective date of this permit.

(iv) The Permittee shall further develop and implement a program to prevent erosion at its storm drain system outlets. The Permittee shall install velocity dissipaters or other BMPs to reduce erosion at these locations.

Part D.1.f.(4) Municipal Facilities BMPs Program Plan

(i) *BMPs and Field Manual for municipal maintenance activities.* The Permittee shall implement the BMPs as identified in the field manual titled "Municipal Field Guide, First Edition" (Field Manual) for all municipal maintenance activities. Examples of such activities include, but are not limited to: paving and road repairs, saw cutting, concrete work, curb and gutter replacement, buried utility repairs and installation, vegetation removal, street and parking lot striping, flood channel cleaning, etc. The Field Manual shall be updated as necessary or at least once per permit term.

(ii) *Develop and Implement Storm Water Pollution Control Plan (SWPCP).* The Permittee shall develop and implement SWPCPs for municipally-owned industrial facilities identified in the inventory and not covered by a separate NPDES permit within 90 calendar days of the effective date of this permit. At a minimum, SWPCPs shall be developed and implemented for

facilities not covered by a separate NPDES permit and involved in vehicle or equipment maintenance, vehicle or equipment fueling, vehicle or equipment cleaning, chemical storage, recycling, closed landfills, refuse transfer stations, corporation yards, bus facilities, or convenience centers. The Permittee shall conduct annual site inspections at each facility with a SWPCP.

The Permittee shall ensure that appropriate BMPs are implemented for vehicle maintenance shops, vehicle storage areas, equipment cleaning operations, recycling, closed landfills, refuse transfer stations, corporation yards, bus facilities, and convenience centers designed to reduce pollutant loadings to storm water from these facilities.

(iii) *Municipal Facilities*. The Permittee shall continue regular coordination and storm water quality data sharing between the Storm Water Quality Branch, the Division of Refuse, and storm water testing results from wastewater and other facilities.

(iv) *Training*. The Permittee shall further develop and provide annual training to staff on proper municipal maintenance activities to prevent storm water pollution. The training shall cover the Field Manual developed under Part D.1.f.(4)(i) and the SWPCPs.

Part D.1.g. Industrial and Commercial Activities Discharge Management Program

The Permittee shall further develop and implement an industrial and commercial discharge management program to reduce to the MEP the discharge of pollutants from all industrial and commercial facilities and activities which initially discharge into the Permittee's MS4. At a minimum, the program shall include:

Part D.1.g.(1) *Inventory and Map of Industrial Facilities and Activities*. The Permittee shall update and submit, in electronic portable document format (pdf - minimum 300 dpi), the industrial facilities and activities inventory (industrial inventory), sorted by TMK, and map of such facilities and activities discharging, directly or indirectly, to its MS4 within the Annual Report for the fiscal year prior to the expiration year of the permit (also known as the permit renewal application). The industrial inventory update may be based on the following:

- Available information about parcel owners from the City and the State; and/or
- Collection of new information obtained during field activities or though other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits).

The industrial inventory shall include the facility name, street address, TMK, nature of business or activity, Standard Industrial Classification (SIC) code(s) that best reflect the facility product or service, principal storm water contact, receiving State water, and whether a Notice of General Permit Coverage (NGPC) under HAR, Chapter 11-55, Appendix B, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Industrial Activities (General Industrial Storm Water permit) or any other applicable NPDES permit has been obtained, including a permit or file number and issuance date.

At a minimum, the industrial inventory shall include facilities and activities such as:

- Municipal Landfills (open and closed)
- Hazardous waste recovery, treatment, storage and disposal facilities
- Facilities subject to Section 313 of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. 11023
- Facilities subject to General Industrial Storm Water permit coverage or any other applicable NPDES permit coverage
- And any other industrial facility that either the Permittee or DOH determines is contributing a substantial pollutant loading to the City MS4.

Part D.1.g.(2) *Inventory and Map of Commercial Facilities and Activities.* The Permittee shall update and submit, in pdf format (minimum 300 dpi), the commercial facilities and activities inventory (commercial inventory), sorted by priority areas, and map of such facilities and activities discharging, directly or indirectly, to its MS4 within the permit renewal application. The commercial inventory update may be based on the following:

- Available information about parcel owners from the City and the State; and/or
- Collection of new information obtained during field activities or through other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits).

The commercial inventory shall include, by priority area, the facility name, street address, TMK, nature of business or activity, SIC code(s) that best reflect the facility product(s) or service(s), principal storm water contact, and receiving State water.

At a minimum, the commercial inventory shall include facilities and activities such as:

- Retail Gasoline Outlets
- Retail Automotive Services, including Repair Facilities
- Restaurants
- Any other commercial facility that either the Permittee or DOH determines is contributing pollutants to the City MS4 that may cause or contribute to an exceedance of State water quality standards

Part D.1.g.(3) *Prioritized Areas for Industrial and Commercial Facility and Activity Inspections.* The Permittee shall implement the plan, which designates priority areas for industrial and commercial facility and activity inspections. The prioritized area plan shall take into account the number of industrial and commercial facilities in the area, the density of these facilities, previous storm water violations in the area, and water quality impairments in the area. The plan shall identify priority areas and set a schedule for inspections within each area over the duration of this permit. The prioritized area plan shall be submitted to DOH within one (1) year of the effective date of this permit.

Part D.1.g.(4) *Inspection of Industrial and Commercial Facilities and Activities*

The industrial/commercial inspection program shall continue to be implemented and updated as appropriate to reflect the outcomes of the investigations discussed in the following paragraphs.

The Permittee shall ensure that at a minimum 400 industrial and commercial facilities and activities identified in the industrial and commercial inventories required under Parts D.1.g.(1) and D.1.g.(2) are inspected annually. Inspectors shall determine compliance with local ordinances and the terms of this permit. If DOH inspects a facility for compliance with the General Industrial Storm Water permit coverage or any other applicable NPDES permit, then the Permittee does not need to inspect the facility that year.

All industrial facilities within a priority area shall be inspected in accordance with the applicable portions of the "NPDES Compliance Inspection Manual" (EPA 305-X-04-001), dated July 2004. The Permittee shall submit semi-annual inspection report(s) to the DOH by October 31st and April 30th for inspections done within the previous period. The Permittee shall also inspect commercial facilities in the priority area to ensure compliance with local ordinances and the terms of this permit.

Inspections must consist of a review of implementation of BMPs for compliance with local ordinances and this permit to assess potential impacts to receiving waters. Inspections shall also assess potential sources of pollutants to the City MS4 and require controls to prevent discharge of pollutants to the City MS4.

Inspectors shall be trained to identify deficiencies, assess potential impacts to receiving waters, and evaluate the appropriateness and effectiveness of deployed BMPs and SWPCPs, if applicable.

The inspectors shall use an inspection checklist, or equivalent, and photographs to document site conditions and BMPs conditions.

Records of all inspections shall be maintained for a minimum of five (5) years, or as otherwise indicated.

Part D.1.g.(5) *Enforcement Policy for Industrial Facilities and Activities.* The Permittee shall continue to implement its enforcement policy for industrial or commercial facilities which have failed to comply with local ordinances and/or terms of this permit. The policy shall be part of the overall escalating enforcement policy and must consist of the following:

- Issuance of written documentation to a facility representative within two (2) weeks of storm water deficiencies identified during inspection. Documentation must include copies of all field notes, correspondence, photographs, and sampling results if applicable.
- A timeline for correction of the deficiencies.
- Provisions for re-inspection and potential enforcement actions, if necessary.

In the event the Permittee has exhausted all available sanctions and cannot bring a facility or activity into compliance with local ordinances and this permit, or otherwise deems the facility or activity an immediate and significant threat to water quality, the Permittee shall provide email notification to DOH within one (1) week of such determination. Email notification shall be followed by an electronic copy on CD/DVD in pdf format (300 minimum dpi) of all inspection checklists, notes, photographs, and related correspondence within two (2) weeks of the determination. In instances where an inspector identifies a facility that has not applied for the General Industrial Storm Water permit coverage or any other applicable NPDES permit, the Permittee shall provide email notification to DOH within one (1) week of such determination.

Part D.1.g.(6) *Training*. The Permittee shall continue to provide annual training to staff on how to conduct industrial and commercial inspections, the types of facilities covered by the General Industrial Storm Water permit coverage or any other applicable NPDES permit, elements in an SWPCP for industrial facilities, BMPs and source control measures for industrial and commercial facilities, and inspection and enforcement techniques. Any updates to the 2006 Training shall be submitted to DOH for review and acceptance within 90 calendar days of the change.

Part D.2. Revise the SWMP, as necessary, if any discharge limitation or water quality standard established in HAR, Section 11-54-4 is exceeded. The revisions shall include BMPs and/or other measures to reduce the amount of pollutants found to be in exceedance from entering State Waters.

Part D.3. Properly address all modifications, concerns, requests, and/or comments to the satisfaction of the DOH.

Part D.3.a. SWMP Modifications. The storm water pollution control activities described in the SWMP may need to be modified, revised, or amended from time to time over the life of the permit to respond to changed conditions and to incorporate more effective approaches to pollutant control. Minor changes may be proposed by the Permittee or requested by the DOH. Proposed changes that imply a major reduction in the overall scope and/or level of effort of the SWMP must be made for cause and in compliance with 40 CFR §122.62 and Part 124. A written report shall be submitted to the Director of Health (Director) for acceptance at least 30 calendar days prior to the initiation date of the major modification. The Permittee shall report and justify all other modifications made to the SWMP in the annual report for the year in which the modification was made.

Part D.3.b. System Modifications include any planned physical alterations or additions to the permitted separate storm sewer system and any existing outfalls newly identified over the term of the permit. All alterations and/or additions to the City MS4 shall be indicated in the Annual Report. Major alterations and/or additions shall be identified by letter within 30 calendar days of the completion of the alteration and/or addition.

Part E. CITY MUNICIPAL INDUSTRIAL AND SMALL MS4 FACILITIES

Part E.1. City Municipal Industrial and Small MS4 facilities covered under this permit shall comply with the requirements in HAR, Chapter 11-55, Appendix B and Appendix K, respectively.

Part E.2. The Permittee shall submit within 90 calendar days from the effective date of this permit for review and acceptance, the CWB NOI General Form, CWB NOI Form B and SWPCP for each Municipal Industrial facility listed in Table 1 and, CWB NOI General Form, CWB NOI Form K and SWMP for each Small MS4 facility listed in Table 2, which has not yet been submitted. Upon acceptance of the information, the DOH will acknowledge by letter, the inclusion of the facility into this permit. The SWPCPs and SWMPs must be implemented upon the effective date of this permit.

Part E.3. The Permittee may add new or currently existing Municipal Industrial and/or new Small MS4 facilities into this permit by request in writing to the DOH. Along with a written request, the Permittee shall submit the applicable NOI Forms, SWPCP or SWMP, as applicable, and other attachments to the DOH for review and comment. Upon acceptance of the information, the DOH will acknowledge by letter, the inclusion of the facility into this permit. The SWPCP or SWMP must be implemented upon the start-up of the facility or for an existing municipal industrial facility, the SWPCP must be implemented upon submittal of the written request.

Part E.4. For the submittal of facility information, please check the CWB website at http://hawaii.gov/health/environmental/water/cleanwater/index.html or contact the CWB for the current submittal instructions.

Part F. MONITORING REQUIREMENTS

Part F.1. Annual Monitoring Plan

Part F.1.a. The Permittee shall submit the Annual Monitoring Plan to the Director by June 1st of each year for review and acceptance. The Annual Monitoring Plan shall be implemented over the coming fiscal year.

The monitoring program must be designed and implemented to meet the following objectives:

Part F.1.a.(1) Assess compliance with this permit (including TMDL I&M Plans and compliance with Wasteload Allocations);

Part F.1.a.(2) Measure the effectiveness of the Permittee's storm water management plan;

Part F.1.a.(3) Assess the overall health based on the chemical, physical, and biological impacts to receiving waters resulting from storm water discharges and an evaluation of the long term trends;

Part F.1.a.(4) Characterize storm water discharges;

Part F.1.a.(5) Identify sources of specific pollutants;

Part F.1.a.(6) Detect and eliminate illicit discharges and illegal connections to the MS4; and

Part F.1.a.(7) Assess the water quality issues in each watershed resulting from storm water discharges.

Part F.1.b. The plan shall, at a minimum, include the following items:

Part F.1.b.(1) Written narrative of the proposed monitoring plan's objectives, including but not limited to the objectives as identified in Part F.1.a., and description of activities;

Part F.1.b.(2) For each activity, a description of how the results will be used to determine compliance with this permit.

Part F.1.b.(3) Identification of management measures proven to be effective and/or ineffective at reducing pollutants and flow.

Part F.1.b.(4) Written documentation of the following:

(i) Characteristics (timing, duration, intensity, total rainfall) of the storm event(s);

(ii) Parameters for measured pollutant loads; and

(iii) Range of discharge volumes to be monitored, as well as the timing, frequency, and duration at which they are identified;

Part F.1.b.(5) Written documentation of the analytical methods to be used;

Part F.1.b.(6) Written documentation of the Quality Assurance/Quality Control procedures to be used; and

Part F.1.b.(7) Estimated budget to be implemented over the coming fiscal year.

Part F.2. Storm Water Associated with Industrial Activities

The Permittee shall develop a priority based monitoring schedule for each type of Industrial Facility (i.e., convenience center, refuse collection yard, corporation yard, etc.) with the highest priority for facilities with the greatest potential of pollutant discharge. The facilities ranked first within each type shall be annually monitored as other facilities (based on priority), within the same type, are monitored on a rotational basis (i.e., at least two (2) facilities monitored per year per type). Facilities which exceed any of the limitations are required to be monitored during the next year, in addition to the next priority facility. For facilities required to be re-sampled because of a previous exceedance or by request to the Director (on a case by case basis) for facilities which are required to be annually monitored (e.g., wastewater treatment plants), the Permittee may have the option of implementing/installing structural BMP(s) during that year in lieu of sampling. The BMP(s) shall be selected based on targeting the pollutant(s) which were exceeded. The total cost of the BMP implementation shall not be less than the cost of the sampling. Sampling shall continue for the year after which BMPs were installed to measure the effectiveness of the BMPs. The Permittee will not be granted consecutive year BMP implementation in lieu of sampling. The Permittee shall monitor for the parameters as specified below, including any additional parameters, which the Permittee believes to be present in the storm water runoff and the results reported on the Discharge Monitoring Report (DMR) Form.

Effluent Parameter (units)	Effluent Limitation {1}	Type of Sample{2}
Flow (gallons)	{4}	Calculated or Estimated
Biochemical Oxygen Demand (5-Day) (mg/l)	{4}	Composite {3}
Chemical Oxygen Demand (mg/l)	{4}	Composite {3}
Total Suspended Solids (mg/l)	{4}	Composite {3}
Total Phosphorus (mg/l)	{4}	Composite {3}
Total Nitrogen (mg/l) {5}	{4}	Composite {3}
Nitrate + Nitrite Nitrogen (mg/l)	{4}	Composite {3}
Oil and Grease (mg/l)	15	Grab {6}
pH Range (Standard Units)	{9} 5.5-8.0 {10} 7.6-8.6 {11}	Grab {7}
Ammonia Nitrogen (mg/l)	{4}	Composite
Turbidity(0.1 NTU)	{4}	Grab
Dissolved Oxygen (0.1 mg/l)	{4}	Grab
Oxygen Saturation (1%)	{4}	Grab
Temperature (0.1 °C)	{4}	Grab
Salinity (0.1 ppt)	{4}	Grab

Annual monitoring shall continue to be required at the wastewater treatment plants and closed sanitary landfills. Additional monitoring requirements for those Industrial Facilities are indicated below:

Wastewater Treatment Plants

Effluent Parameter (units)	Effluent Limitation {1}	Type of Sample{2}
Copper (µg/l) {8}	6.0 {12} 2.9 {13}	Composite {3}
Zinc (µg/l) {8}	22 {12} 95 {13}	Composite {3}

Refuse –Closed Landfills

Effluent Parameter (units)	Effluent Limitation {1}	Type of Sample{2}
Iron (µg/l) {8}	1,000	Composite {3}

mg/l = milligrams per liter = 1000 micrograms per liter (µg/l)

NOTES:

{1} Pollutant concentration levels shall not exceed the storm water discharge limits or be outside the ranges indicated in the table. Actual or measured levels which exceed those storm water discharge limits or are outside those ranges shall be reported to the CWB required in HAR, Chapter 11-55, Appendix B, Section 10(c).

{2} The Permittee shall collect samples for analysis from a discharge resulting from a representative storm. A representative storm means a rainfall that accumulates more than 0.1 inch of rain and occurs at least 72 hours after the previous measurable (greater than 0.1 inch) rainfall event.

"Grab sample" means a sample collected during the first 15 minutes of the discharge.

"Composite sample" means a combination of at least two (2) sample aliquots, collected at periodic intervals. The composite shall be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to the total flow of storm water discharge flow since the collection of the previous aliquot. The Permittee may collect aliquots manually or automatically.

Samples for analysis shall be collected during the first 15 minutes of the discharge and at 15-minute intervals thereafter for the duration of the discharge, as applicable. If the discharge lasts for over an hour, sample collection may cease.

{3} If the duration of the discharge event is less than 30 minutes, the sample collected during the first 15 minutes of the discharge shall be analyzed as a grab sample and reported toward the fulfillment of this composite sample specification. If the duration of the discharge event is greater than 30 minutes, the Permittee shall analyze two (2) or more sample aliquots as a composite sample.

{4} No limitation at this time. Only monitoring and reporting is required.

{5} The Total Nitrogen parameter is a measure of all nitrogen compounds in the sample (nitrate, nitrite, ammonia, dissolved organic nitrogen, and organic matter present as particulates).

{6} The Permittee shall measure Oil and Grease using EPA Method 1664, Revision A.

{7} The Permittee shall measure pH within 15 minutes of obtaining the grab sample.

{8} The Permittee shall test for the total recoverable portion of all metals. If monitoring results indicate that the discharge limitation was equaled or exceeded, the SWPCP shall be amended to include additional BMPs targeted to reduce the parameter which was in excess of the discharge limitation.

{9} There is no discharge limitation at this time for discharges into Nuupia Pond and Kawainui Marsh. The Permittee shall report only.

{10} This limitation applies to discharge into state waters classified as inland streams.

{11} This limitation applies to discharge into state waters classified as marine open coastal waters.

{12} This limitation applies to discharge into freshwater.

{13} This limitation applies to discharge into saltwater.

Part F.3. WLA Implementation for Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, Kaneohe Stream, and the North and South Forks of Kaukonahua Stream.

Part F.3.a. The Permittee shall submit to DOH implementation and monitoring plans for the Kaneohe Stream and the North and South Forks of Kaukonahua Stream WLAs; and updated plans for the existing Ala Wai Canal, Kawa Stream, Waimanalo Stream, and Kapaa Stream WLAs. The implementation and monitoring plans shall be made available on the Permittee's website for public review and comment. For TMDLs, which include WLAs for the State of Hawaii, Department of Transportation (DOT-HWYs), the plan shall be developed jointly [i.e., only one (1) plan per TMDL watershed] with activities to be implemented by the City and DOT-HWYs concurrently with the purpose of maximizing the effectiveness of the activities. The plans shall be submitted within one (1) year of the effective date of the later, City or DOT-HWYs permit. The plans shall include at a minimum the following:

Part F.3.a.(1) Detailed information on the activities proposed to be implemented.

Part F.3.a.(2) Actual or literature documentation of the estimated effectiveness of the activities targeted to reduce the pollutants of concern such as total nitrogen, total phosphorus, Total Suspended Solids, and turbidity in the Watershed, as applicable, to comply with the WLAs.

Part F.3.a.(3) A detailed and quantitative analysis which demonstrates that the proposed activities would ensure consistency with the WLAs.

Part F.3.a.(4) Information from pre and post monitoring activities to quantitatively demonstrate consistency with the WLAs.

Part F.3.a.(5) A monitoring plan which shall identify representative outfalls within its respective watershed to be monitored, rationale for selecting those outfalls, and description of the water quality monitoring activities to demonstrate consistency with the WLAs.

Part F.3.b. The Permittee shall submit a compliance schedule with a final compliance deadline to comply with the TMDL waste load allocations only, as specified in the following within one (1) year of the effective date of this permit. The compliance schedule shall provide for the implementation of the BMPs, monitoring to evaluate its performance, and time to make adjustments necessary to demonstrate consistency with the WLAs at the earliest possible time. If the schedule extends beyond a year, interim dates and milestones shall be included in the schedule with the time between interim dates not to exceed one year. After the deadline, compliance with the WLAs are required.

Part F.3.b.(1) The Permittee and DOT-HWYs shall work together and comply with the joint WLAs as specified in the following: *Revisions to Total Maximum Daily Loads for the Ala Wai Canal, Island of Oahu, Hawaii* Report (dated June 2002), Table 8: TMDLS, Wasteload Allocations, and Load Allocations for Ala Wai Canal Watershed (Pages 25-26) at http://hawaii.gov/health/about/admin/health/environmental/env-planning/wqm/awtmdlfinal.pdf.

Table 8: TMDLs. Wasteload Allocations, and Load Allocations for Ala Wai Canal Watershed

Source/Allocation	Est. Load (kg/day)	% total load	Allocations (kg/day)	% reduction needed
Total Nitrogen				
Non-urban source load allocation	30	38-51%	13	55%
Urban source wasteload allocation: City and County of Honolulu Department of Transportation	6-26	10-33%	6	~65%
Groundwater/Baseflow load allocation	4	5-7%	2	50%
Cesspools load allocation	19	24-32%	1	95%
Hawaii Marine Ltd. WLA			note 1	
Yacht Harbor Towers WLA			note 1	
Unallocated 10% reserve			3	
Total/TMDL	**69.4**	**100%**	**25.4**	

Table 8 continued

Source/Allocation	Est. Load (kg/day)	% total load	Allocations (kg/day)	% reduction needed
Total Phosphorus				
Non-urban lands load allocation	8	38-48%	4	50%
Urban source wasteload allocation: City and County of Honolulu Department of Transportation	6-10	35-48%	4	~50%
Groundwater/baseflow load allocation	2	5-6%	1	50%
Cesspools load allocation	1	5-6%	0	>95%
Super Hawaii Marine WLA			note 2	
Yacht Harbor Towers WLA			note 2	
Unallocated reserve			1	
Total/TMDL	**21-25**	**100%**	**10**	

All figures have been rounded to the closest whole number in response to a comment concerning the lack of precision in the analytical methods used for the TMDLs.

Note 1: WLA = 150 ug/l total nitrogen

Note 2: WLA = 20 ug/l total phosphorus

Source: Analysis of Freeman. 1993 and CCH. 1999

Part F.3.b.(2) *Allocations of Total Maximum Daily Loads of Total Suspended Solids, Nitrogen and Phosphorus for Kawa Stream, Kaneohe, Hawaii* Report (dated June 2005), Table 10.1 Kawa Stream TMDL Allocations (Page 11) at http://hawaii.gov/health/about/admin/health/environmental/env-planning/wqm/wqm/kawawlarev.pdf.

Table 10.1. Kawa Stream TMDL Allocations

CCH Environmental Services	= Park - Residential + Commercial + CCH Streets
CCH Parks & Recreation	= Kaneohe Community and Senior Center (Park)
DOT Highways	= Highways, DOT
DOE schools	= Schools (Public)
DOD cemetery	= Veterans Cemetery
Nonpoint sources	= Forest + Cemetery (private) + Golf

DRY SEASON BASE FLOW	TMDL (kg)			TMDL (kg/day)		
	TSS	TN	TP	TSS	TN	TP
LA to CCH Environmental Services Large MS4	230	4	1	1.25	0.02	0.00
LA to CCH Parks & Recreation Small MS4	2	0	0	0.01	0.00	0.00
LA to DOT Highways Large MS4	4	0	0	0.02	0.00	0.00
LA to DOE Small MS4	14	0	0	0.07	0.00	0.00
LA to DOD Small MS4	124	5	1	0.67	0.03	0.00
LA to other nonpoint sources	2,427	43	7	13.19	0.23	0.04
Totals	2,800	52	8	15.22	0.28	0.05

WET SEASON BASE FLOW	TMDL (kg)			TMDL (kg/day)		
	TSS	TN	TP	TSS	TN	TP
LA to CCH Environmental Services Large MS4	1,477	17	4	8.16	0.09	0.02
LA to CCH Parks & Recreation Small MS4	7	0	0	0.04	0.00	0.00
LA to DOT Highways Large MS4	24	0	0	0.13	0.00	0.00
LA to DOE Small MS4	113	3	1	0.63	0.01	0.00
LA to DOD Small MS4	369	10	1	2.04	0.06	0.01
LA to other nonpoint sources	6,210	77	15	34.31	0.43	0.08
Totals	8,201	108	21	45.31	0.60	0.12

ANNUAL STORM RUNOFF	TMDL (kg)			TMDL (kg/day)		
	TSS	TN	TP	TSS	TN	TP
WLA to CCH Environmental Services Large MS4	11,995	178	62	32.86	0.49	0.17
WLA to CCH Parks & Recreation Small MS4	15	0	0	0.04	0.00	0.00
WLA to DOT Highways Large MS4	2,035	17	4	5.57	0.05	0.01
WLA to DOE Small MS4	971	16	6	2.66	0.04	0.02
WLA to DOD Small MS4	172	4	2	0.47	0.01	0.01
LA to nonpoint sources	790	20	7	2.17	0.05	0.02
Totals	15,978	234	82	43.77	0.64	0.22

Note for Table 10.1: TMDL allocations in kg day are obtained by dividing dry season kg by 184 days, wet season kg by 181days and annual storm runoff kg by 365 days.

Part F.3.b.(3) *Total Maximum Daily Loads for Total Suspended Solids, Nitrogen, and Phosphorus in Kapa`a Stream, Kailua, Hawaii* Report (dated May 2007), Table 6.10 - Consolidated Dry Season TMDL Allocations to Existing Sources (Pages 6-12) and Table 6.11 - Consolidated Wet Season TMDL Allocations to Existing Sources and Load Reductions Required to Achieve Kapaa Stream TMDLs (Pages 6-13) at http://hawaii.gov/health/environmental/env-planning/wqm/2007_finalkapaastreamreport.pdf .

Table 6.10. Consolidated Dry Season TMDL Allocations to Existing Sources*
and
Load Reductions Required to Achieve Kapaa Stream TMDLs

	TMDLs			Existing			Reductions Required					
Dry Season Baseflow	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
LAs to facility areas	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(%)	(kgd)	(%)	(kgd)	(%)
CCH MS4	5	0.0	0.0	5	0.1	0.0	1	11	0.1	83	0.0	85
CCH Kalaheo Landfill	19	0.1	0.0	24	0.5	0.2	5	20	0.5	85	0.2	87
CCH Kapaa Landfill	27	0.1	0.0	36	0.9	0.3	9	25	0.8	89	0.3	91
CCH Waste Transfer	1	0.0	0.0	23	0.3	0.1	22	95	0.3	94	0.1	96
HI DOT Highways MS4	4	0.0	0.0	4	0.1	0.0	0	4	0.1	79	0.0	81
Ameron Quarry	62	0.2	0.1	69	1.4	0.3	7	10	1.2	85	0.2	81
Industrial Park	22	0.1	0.0	28	0.4	0.1	5	19	0.3	85	0.1	87
LA to other source areas	40	0.3	0.1	41	1.0	0.4	1	2	0.7	70	0.3	71
Totals	180	0.8	0.2	229	4.6	1.4	49	21	3.9	83	1.2	83

	TMDLs			Existing			Reductions					
Dry Season 10% Runoff	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
WLAs	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kg)	(%)
CCH MS4	0.1	0.0	0.0	0.1	0.0	0.0	0.0	13	0.0	10	0.0	15
CCH Kalaheo Landfill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0
CCH Kapaa Landfill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0
CCH Waste Transfer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0
HIDOT Highways MS4	0.2	0.0	0.0	0.3	0.0	0.0	0.0	5	0.0	4	0.0	6
Ameron Quarry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0
Industrial Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0
LA to Nonpoint sources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0
Totals	0.3	0.0	0.0	0.4	0.0	0.0	0.0	7	0.0	5	0.0	7.2

	TMDLs			Existing			Reductions					
Dry Season 2% Runoff	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
WLAs	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kg)	(%)
CCH MS4	81	0.2	0.1	384	0.7	0.5	323	84	0.5	68	0.4	90
CCH Kalaheo Landfill	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0.0	0
CCH Kapaa Landfill	80	0.8	0.1	3586	4.9	1.3	3506	98	4.0	83	1.2	92
CCH Waste Transfer	3	0.1	0.0	49	0.3	0.1	46	95	0.2	71	0.1	85
HIDOT Highways MS4	49	0.5	0.2	68	0.7	0.7	19	28	0.2	22	0.5	76
Ameron Quarry	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0.0	0
Industrial Park	133	0.6	0.1	272	1.7	0.3	139	51	1.1	63	0.3	92
LA to Nonpoint sources	434	2.2	0.3	8545	5.0	3.5	8111	95	2.9	57	3.2	91
Totals	760	4.5	0.7	12904	13.3	6.3	12144	94	8.8	66	5.7	89

*TMDL allocations in kgd (kilograms per day) are obtained by dividing dry season total kg by 184 days.
Loads and Load Reductions are rounded to the nearest 0.1 kg, thus (a) **Totals** may be different than the sum of their parts and (b) **TMDLs, Existing Loads and Reductions Required** may actually be greater than 0.

Acronyms
TMDLs = Total Maximum Daily Loads
LAs = Load Allocations
WLAs = Waste Load Allocations
kgd = kilograms per day
TSS = Total Suspended Solids
TN = Total Nitrogen
TP = Total Phosphorous
CCH = City and County of Honolulu
MS4 = Municipal Separate Storm Sewer System
HIDOT = State of Hawaii Department of Transportation
kg = kilograms

Table 6.11. Consolidated Wet Season TMDL Allocations to Existing Sources
and
Load Reductions Required to Achieve Kapaa Stream TMDLs

	TMDLs			Existing			Reductions Required					
Wet Season Baseflow	**TSS**	**TN**	**TP**	**TSS**	**TN**	**TP**	**TSS**		**TN**		**TP**	
LAs to facility areas	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(%)	(kgd)	(%)	(kgd)	(%)
CCH MS4	7	0.0	0.0	7	0.1	0.0	0	0	0.1	81	0.0	82
CCH Kalaheo Landfill	34	0.1	0.1	34	0.8	0.3	0	0	0.6	82	0.3	83
CCH Kapaa Landfill	39	0.2	0.1	52	1.3	0.5	13	25	1.2	87	0.4	88
CCH Waste Transfer	3	0.0	0.0	27	0.4	0.1	24	89	0.3	92	0.3	95
HI DOT Highways MS4	5	0.0	0.0	5	0.1	0.0	0	0	0.1	78	0.0	76
Ameron Quarry	91	0.3	0.1	91	1.2	0.4	0	0	1.5	82	0.3	75
Industrial Park	31	0.1	0.0	31	0.4	0.1	0	0	0.4	82	0.1	83
LA to other source areas	59	0.5	0.2	59	1.4	0.5	0	0	1.0	69	0.3	66
Totals	**269**	**1.2**	**0.4**	**306**	**6.3**	**1.9**	**37**	**12**	**5.1**	**81**	**1.5**	**79**

Wet Season	TMDLs			Existing			Reductions Required					
10% Runoff	**TSS**	**TN**	**TP**	**TSS**	**TN**	**TP**	**TSS**		**TN**		**TP**	
WLAs	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kgd)	(%)
CCH MS4	22	0.1	0.0	113	0.2	0.2	91	80	0.1	61	0.*	83
CCH Kalaheo Landfill	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0.0	0
CCH Kapaa Landfill	16	0.2	0.0	902	1.2	0.3	886	98	1.1	87	0.3	90
CCH Waste Transfer	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0.0	0
HIDOT Highways MS4	17	0.2	0.1	23	0.2	0.2	6	27	0.1	28	0.1	60
Ameron Quarry	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0.0	0
Industrial Park	63	0.2	0.0	89	0.6	0.1	26	29	0.3	59	0.1	65
LA to Nonpoint sources	119	0.3	0.1	2252	1.2	0.9	2134	95	0.9	74	0.8	92
Totals	**237**	**1.0**	**0.3**	**3379**	**3.4**	**1.7**	**3142**	**93**	**2.5**	**72**	**1.5**	**85**

Wet Season	TMDLs			Existing			Reductions Required					
2% Runoff	**TSS**	**TN**	**TP**	**TSS**	**TN**	**TP**	**TSS**		**TN**		**TP**	
WLAs	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kg)	(%)
CCH MS4	258	1.3	0.4	1926	3.2	2.1	1668	87	2.0	61	1.7	83
CCH Kalaheo Landfill	136	1.4	0.2	3154	4.6	1.3	3018	96	3.3	71	1.1	84
CCH Kapaa Landfill	800	7.1	1.3	22726	30.9	8.2	21926	96	23.8	77	6.9	84
CCH Waste Transfer	42	1.3	0.3	806	4.8	1.3	765	95	3.4	72	1.1	80
HIDOT Highways MS4	212	2.2	1.1	268	2.7	2.7	56	21	0.5	17	1.6	59
Ameron Quarry	0	0.0	0.0	0	0.0	0.0	0	0	0.0	0	0.0	0
Industrial Park	530	3.5	0.4	1239	7.8	1.6	710	57	4.3	55	1.2	75
LA to Nonpoint sources	6516	15.6	3.8	41164	27.3	18.2	34648	84	11.7	43	14.4	79
Totals	**8494**	**323**	**7.4**	**71284**	**81.2**	**35.4**	**62790**	**88**	**48.9**	**60**	**28.0**	**79**

*TMDL allocations in kgd (kilograms per day) are obtained by dividing wet season kg by 181 days.
Loads and Load Reductions rounded to the nearest 0.1 kg, thus (a) Totals may be different than the sum of their parts and (b) TMDLs, Existing Loads and Reductions Required may actually be greater than 0.
Acronyms – see previous dry season table

Part F.3.b.(4) *Total Maximum Daily Loads (TMDLs) for Total Suspended Solids, Nitrogen and Phosphorus in Kaneohe Stream, Kaneohe, Hawaii* Report (dated September 2009), Table 5.10. – Consolidated Dry Season TMDL Allocations to Major Sources and Table 5.11. – Consolidated Wet Season TMDL Allocations to Major Sources (Pages 5-11 and 5-12) at http://hawaii.gov/health/about/admin/health/environmental/env-planning/env-planning/pdf/KaneoheTMDLFinalWeb.pdf.

Table 5.10. Consolidated Dry Season TMDL Allocations to Major Sources

Dry Season Baseflow	Allocations			Existing Loads			Reductions Needed					
	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(%)	(kgd)	(%)	(kgd)	(%)
LA to Hawaii DOT	31	0.38	0.052	31	0 62	0.052	0	0	0 24	38	0	0
LA to Hawaii DOD	1.1	0.02	0.003	1 1	0 04	0.003	0	0	0 02	50	0	0
LA to Hawaii DOE	1.3	0.06	0.003	1 3	0.06	0.003	0	0	0	0	0	0
LA to Hawaii DOH	1.9	0.09	0.005	1 9	0.09	0.005	0	0	0	0	0	0
LA to CCH ENV	253	5.02	0.474	253	5.37	0.474	0	0	0 35	7	0	0
LA to UH WCC	1.5	0.07	0.004	1 5	0.08	0.004	0	0	0 00	5	0	0
LA to Other NPS	354	5.67	0.918	354	9.31	0.918	0	0	3 65	39	0	0
Totals:	643.7	11.31	1.458	644	15.58	1.458	0	0	4 26	27	0	0

Dry Season 10% Runoff	Allocations			Existing Loads			Reductions Needed					
	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kg)	(%)
WLA to Hawaii DOT	65	1.07	0 33	65	1.11	0.36	0	0	0 04	4	0.04	10
WLA to Hawaii DOD	0	0	0	0	0	0	0	0	0	0	0	0
WLA to Hawaii DOE	0	0	0	0	0	0	0	0	0	0	0	0
WLA to Hawaii DOH	0	0	0	0	0	0	0	0	0	0	0	0
WLA to CCH ENV	135	2.00	0.60	135	2.16	0.73	0	0	0 16	7	0.13	18
WLA to UH WCC	0	0	0	0	0	0	0	0	0	0	0	0
LA to NPS	0	0	0	0	0	0	0	0	0	0	0	0
Totals:	199	3.07	0.93	199	3.28	1.09	0	0	0 21	6	0.17	15

Dry Season 2% Runoff	Allocations			Existing Loads			Reductions Needed					
	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kg)	(%)
WLA to Hawaii DOT	784	8.06	1.64	784	14 6	4.56	0	0	6 56	45	2.92	64
WLA to Hawaii DOD	0	0	0	0	0	0	0	0	0	0	0	0
WLA to Hawaii DOE	0.93	0.02	0.003	0.93	0.023	0.006	0	0	0	31	0 002	43
WLA to Hawaii DOH	1.42	0.02	0.003	1.42	0.036	0.009	0	0	0	0	0	0
WLA to CCH ENV	2,733	19 4	4 23	2733	33 7	10	0	0	14.3	42	6.11	59
WLA to UH WCC	1.15	0.02	0	1.15	0 029	0.007	0	0	0.01	45	0 005	68
LA to NPS	536	8.14	1 15	536	16 1	3.22	0	0	7.98	50	2.07	64
Totals:	4,056	35.7	7 03	4,056	64 6	18.1	0	0	28.9	45	11.1	61

Table 5.11. Consolidated Wet Season TMDL Allocations to Major Sources

Wet Season Baseflow	Allocations			Existing Loads			Reductions Needed					
	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(kgd)	(%)	(kgd)	(%)	(kgd)	(%)
LA to Hawaii DOT	34	0.51	0.057	34	0.68	0.057	0	0	0.17	25	0	0
LA to Hawaii DOD	1	0.035	0.004	1	0.054	0.004	0	0	0.02	35	0	0
LA to Hawaii DOE	2	0.076	0.004	2	0.076	0.004	0	0	0	0	0	0
LA to Hawaii DOH	2	0.11	0.006	2	0.11	0.006	0	0	0	0	0	0
LA to CCH ENV	297	6.07	0.557	297	6.31	0.557	0	0	0.24	4	0	0
LA to UH WCC	2	0.090	0.004	2	0.090	0.004	0	0	0	0	0	0
LA to Other NPS	392	7.70	1.017	392	10.33	1.02	0	0	2.63	25	0	0
Totals:	729	14.59	1.648	729	17.65	1.648	0	0	3.07	17	0	0

Wet Season 10% Runoff	Allocations			Existing Loads			Reductions Needed					
	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kg)	(%)
WLA to Hawaii DOT	273	4.21	1.25	273	4.94	1.57	0	0	0.73	15	0.32	20
WLA to Hawaii DOD	0	0	0	0	0	0	0	0	0	0	0	0
WLA to Hawaii DOE	0	0	0	0	0	0	0	0	0	0	0	0
WLA to Hawaii DOH	0	0	0	0	0	0	0	0	0	0	0	0
WLA to CCH ENV	594	6.03	1.89	594	8.42	2.88	0	0	2.39	28	0.99	34
WLA to UH WCC	0	0	0	0	0	0	0	0	0	0	0	0
LA to NPS	0	0	0	0	0	0	0	0	0	0	0	0
Totals:	868	10.2	3.14	868	13.4	4.44	0	0	3.12	23	1.30	29

Wet Season 2% Runoff	Allocations			Existing Loads			Reductions Needed					
	TSS	TN	TP	TSS	TN	TP	TSS		TN		TP	
	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(%)	(kg)	(%)	(kg)	(%)
WLA to Hawaii DOT	1,834	14.5	4.21	1,834	34.5	10.7	0	0	20.0	58	6.50	61
WLA to Hawaii DOD	11.5	0.16	0.03	11.5	0.43	0.07	0	0	0.27	63	0.05	63
WLA to Hawaii DOE	30.0	0.51	0.11	30.0	0.75	0.19	0	0	0.24	32	0.07	39
WLA to Hawaii DOH	41.0	0.47	0.10	41.0	1.02	0.26	0	0	0	0	0	0
WLA to CCH ENV	11,672	88.8	22.1	11,672	148	41.0	0	0	59.7	40	18.9	46
WLA to UH WCC	33.1	0.36	0.08	33.1	0.83	0.21	0	0	0.45	54	0.12	60
LA to NPS	5,889	68.6	13.6	5,889	184	36.6	0	0	115	63	23.1	63
Totals:	19,511	173	40.2	19,511	369	89.0	0	0	196	53	48.8	55

Part F.3.b.(5) *Total Maximum Daily Loads (TMDLs) for the North and South Forks of Kaukonahua Stream, Oahu, Hawaii* Report (dated September 2009), Table 4.4 – Allocations by Land Use Category – Flow Intervals (Page 4-4) and Table 4.5 – Load Allocations by Land Use Category – Major Storm Event (Page 4-5) at http://hawaii.gov/health/environmental/env-planning/env-planning/pdf/UKSTMDLFinalWeb.pdf (14.9 MB).

Table 4-4: Allocations by Land Use Category - Flow Intervals

Turbidity (NTU-tons/d)

	Wet Season			Dry Season		
Flow Duration Curve Interval	High	Elevated	Stable	High	Elevated	Stable
South Fork						
TMDL	8.61	1.23	0.0704	2.24	0.744	0.0196
Waste Load Allocation	0	0	0	0	0	0
Load Allocation	8.61	1.23	0.0704	2.24	0.744	0.0196
Conservation	8.61	1.23	0.0704	2.24	0.744	0.0196
Margin of Safety	0	0	0	0	0	0
North Fork						
TMDL	13.1	2.29	0.094	2.53	0.840	0.0291
Waste Load Allocation	0.612	0.108	0.0031	0.119	0.039	0.0010
Navy MS4	0.219	0.039	0.0011	0.043	0.014	0.0003
CCH MS4	0.393	0.069	0.0020	0.076	0.025	0.0006
Load Allocation	12.47	2.18	0.091	2.41	0.800	0.0281
Agricultural	0.370	0.065	0.004	0.072	0.024	0.0012
Conservation	12.1	2.12	0.087	2.34	0.776	0.0269
Margin of Safety	0	0	0	0	0	0

Total Nitrogen (lb/d)

	Wet Season			Dry Season		
Flow Duration Curve Interval	High	Elevated	Stable	High	Elevated	Stable
South Fork						
TMDL	592	115	7.27	117	30.7	4.97
Waste Load Allocation	0	0	0	0	0	0
Load Allocation	592	115	7.27	117	30.7	4.97
Conservation	592	115	7.27	117	30.7	4.97
Margin of Safety	0	0	0	0	0	0
North Fork						
TMDL (Total)	1,063	135	10.6			
Waste Load Allocation	543	68.8	2.79			
Navy MS4	195	24.6	1.00			
CCH MS4	349	44.1	1.79			
Load Allocation	520	65.8	7.77			
Agricultural	122	15.4	3.69			
Conservation	398	50.3	4.08			
Margin of Safety	0	0	0			

Notes:
TMDL = LA + WLA + MOS
The explicit MOS is zero, the TMDL includes an implicit MOS

Table 4-5: Load Allocations By Land Use Category - Major Storm Events

Turbidity (NTU-tons/d)

	Wet Season			Dry Season		
Storm Recurrence	1-Year Storm	2-Year Storm	Peak	1-Year Storm	2-Year Storm	Peak
South Fork						
TMDL	90.8	134	813	57.3	86.2	570
Waste Load Allocation	0	0	0	0	0	0
Load Allocation	90.8	134	813	57.3	86.2	570
Conservation	90.8	134	813	57.3	86.2	570
Margin of Safety	0	0	0	0	0	0
North Fork						
TMDL (Total)	48.5	71.7	435	30.6	46.1	305
Waste Load Allocation	2.28	3.36	20.4	1.44	2.16	14.3
Navy MS4	0.816	1.20	7.31	0.515	0.774	5.12
CCH MS4	1.46	2.16	13.1	0.922	1.39	9.17
Load Allocation	46.2	68.3	414	29.2	43.9	290
Agricultural	1.38	2.03	12.321	0.868	1.31	8.64
Conservation	44.9	66.3	402	28.3	42.6	282
Margin of Safety	0	0	0	0	0	0

Total Nitrogen (lb/d)

	Wet Season			Dry Season		
Storm Recurrence	1-Year Storm	2-Year Storm	Peak	1-Year Storm	2-Year Storm	Peak
South Fork						
TMDL	5,818	8,591	52,108	3,673	5,525	36,526
Waste Load Allocation	0	0	0	0	0	0
Load Allocation	5,818	8,590	52,108	3,673	5,524	36,526
Conservation	5,818	8,590	52,108	3,673	5,524	36,526
Margin of Safety	0	0	0	0	0	0
North Fork						
TMDL (Total)	5,831	8,613	52,238			
Waste Load Allocation	2,980	4,403	26,702			
Navy MS4	1,068	1,578	9,568			
CCH MS4	1,912	2,825	17,134			
Load Allocation	2,850	4,210	25,536			
Agricultural	669	988	5,991			
Conservation	2,182	3,223	19,546			
Margin of Safety	0	0	0			

Notes: TMDL = LA + WLA + MOS.
The explicit MOS is zero, the TMDL includes an implicit MOS.

Part F.3.b.(6) In accordance with 40 CFR §122.44(d)(1)(vii)(B), where a TMDL has been approved, NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the WLAs in the TMDL. However, in the absence of WLAs being assigned to the Permittee for the TMDLs approved for Waimanalo Stream, the Permittee shall comply with the water quality standards (WQS) as specified in HAR, Chapter 11-54-5.2(b) – Specific criteria for streams, and submit a compliance schedule with a final compliance deadline within one (1) year of the effective date of this permit. The compliance schedule shall provide for the implementation of the BMPs, pre and post activity monitoring to evaluate its performance, and time to make adjustments necessary to demonstrate compliance with the water quality standards at the earliest possible time. If the schedule extends beyond a year, interim dates and milestones shall be included in the schedule with the time between interim dates not to exceed one (1) year. The permittee shall, at a minimum, monitor for compliance with the WQS at the monitoring locations as identified in Figures 1 and 2, below. DOH may consider modification of the permit, if more appropriate monitoring locations are identified by the permittee in the future.

HAR, Chapter 11-54-5.2(b) – Specific criteria for streams

(b) Specific criteria for streams. Water column criteria for streams shall be as provided in the following table:

Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to Exceed the given value more than two per cent of the time
Total Nitrogen (ug N/L)	250.0* 180.0**	520.0* 380.0**	800.0* 600.0**
Nitrate + Nitrite Nitrogen (ug $[NO_3+NO_2]$-N/L)	70.0* 30.0**	180.0* 90.0**	300.0* 170.0**
Total Phosphorus (ug P/L)	50.0* 30.0**	100.0* 60.0**	150.0* 80.0**
Total Suspended Solids (mg/L)	20.0* 10.0**	50.0* 30.0**	80.0* 55.0**
Turbidity (N.T.U.)	5.0* 2.0**	15.0* 5.5**	25.0* 10.0**

* Wet season - November 1 through April 30.
** Dry season - May 1 through October 31.

L = liter
N.T.U. = Nephelometric Turbidity Units. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.
ug = microgram or 0.000001 grams
pH Units - shall not deviate more than 0.5 units from ambient conditions and shall not be lower than 5.5 nor higher than 8.0
Dissolved Oxygen - Not less than eighty per cent saturation, determined as a function of ambient water temperature.
Temperature - Shall not vary more than one degree Celsius from ambient conditions.
Specific Conductance - Not more than three hundred micromhos/centimeter.
(2) Bottom criteria for streams:

(A) Episodic deposits of flood-borne soil sediment shall not occur in quantities exceeding an equivalent thickness of five millimeters (0.20 inch) over hard bottoms twenty-four hours after a heavy rainstorm.

(B) Episodic deposits of flood-borne soil sediment shall not occur in quantities exceeding an equivalent thickness of ten millimeters (0.40 inch) over soft bottoms twenty-four hours after a heavy rainstorm.

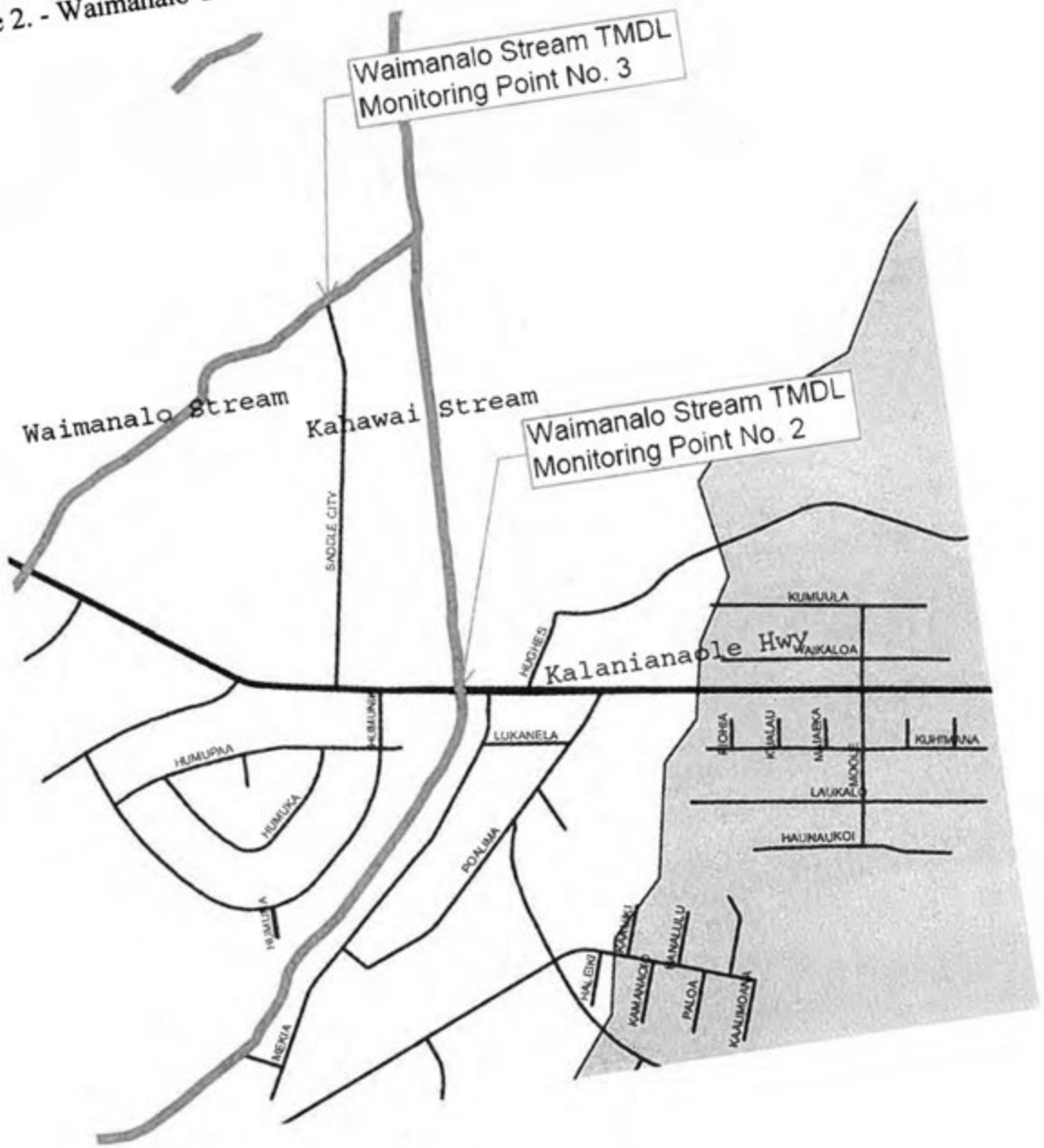
(C) In soft bottom material in pool sections of streams, oxidation-reduction potential (EH) in the top ten centimeters (four inches) shall not be less than +100 millivolts.

(D) In soft bottom material in pool sections of streams, no more than fifty per cent of the grain size distribution of sediment shall be smaller than 0.125 millimeter (0.005 inch) in diameter.

(E) The director shall prescribe the appropriate parameters, measures, and criteria for monitoring stream bottom biological communities including their habitat, which may be affected by proposed actions. Permanent benchmark stations may be required where necessary for monitoring purposes. The water quality criteria for this subsection shall be deemed to be met if time series surveys of benchmark stations indicate no relative changes in the relevant biological communities, as noted by biological community indicators or by indicator organisms which may be applicable to the specific site.

Figure 1. - Waimanalo TMDL Monitoring Point No. 1

Figure 2. - Waimanalo TMDL Monitoring Point Nos. 2 & 3



Part F.4. Other WLAs

As additional WLAs are adopted and approved by the EPA that identify the Permittee as a source, the Permittee shall develop implementation and monitoring plans for a minimum of one (1) additional WLA per year within one (1) year of the approval date. Compliance with their assigned WLAs are required within two (2) years of the TMDL approval date.

Part G. REPORTING REQUIREMENTS

All submittals to DOH shall be in a format consistent with first satisfying the requirements of this permit.

Part G.1. Annual Report

PartG.1.a. The Permittee shall submit the Annual Report by October 31st of each year in pdf format (minimum 300 dpi) on CD/DVD. The Annual Report shall cover the past fiscal year. The Annual Report for the fiscal year prior to the expiration date of the permit shall serve as the permit's renewal application. Submittal of the renewal application shall include a $1,000 filing fee.

PartG.1.b. The Permittee shall revise its SWMP to include a description of reporting procedures and activities, including schedules and proposed content of Annual Reports such that, at a minimum, the following is reported for each storm water program component in each Annual Report:

Part G.1.b.(1) *Requirements*: Describe what the Permittee was required to do (describe status of compliance with conditions of this permit and other commitments set forth in the SWMP).

Part G.1.b.(2) *Past Year Activities*: Describe activities over the reporting period in comparison to the requirements, including, where applicable, progress accomplished toward meeting specific measurable goals, standards and milestones or other specific performance requirements. When requirements were not fully met, include a detailed explanation as to why the Permittee did not meet its commitments for the reporting period. Also describe an assessment of the SWMP, including progress towards implementing each of the SWMP program components.

Part G.1.b.(3) *Future Activities*: Describe planned activities, including, where applicable, specific activities to be undertaken during the next reporting period toward accomplishing specific measurable goals, standards and milestones or other specific performance requirements.

Part G.1.b.(4) *Resources*: Report on the status of the Permittee's resource base for implementing this NPDES permit during the applicable reporting period and an estimate of the resources over and above those required in the current reporting period that will be required in the next reporting period.

PartG.1.c. *Modifications.* In each Annual Report, the Permittee shall describe any modifications made to the SWMP and implementation schedule during the past year, including justifications. The Permittee shall also describe major modifications made to the Permittee's MS4, including, but not limited to, addition and removal of outfalls, drainage lines, and City facilities.

PartG.1.d. *Program Effectiveness Reporting.* Within one (1) year of the effective date of the permit, the Permittee shall submit to DOH a written strategy for determining effectiveness of its SWMP. The strategy shall include water quality monitoring efforts as well as program implementation information and other indicators. The Permittee shall include an assessment of program effectiveness and identification of water quality improvements or degradation beginning with the 2nd Annual Report.

Part G.2. Annual Monitoring Report

Part G.2.a. The Permittee shall submit the Annual Monitoring Report by October 31st of each year in pdf format (minimum 300 dpi) on CD/DVD. The Annual Monitoring Report shall cover the past fiscal year.

Part G.2.b. The monitoring report shall at a minimum, include the following items:

Part G.2.b.(1) Discussion on the activities/work implemented to meet each objective, as outlined in Part F.1.a., including any additional objectives indentified by the Permittee, and the results [e.g. assessment of the water quality issues in each watershed resulting from storm water discharges, refer to Part F.1.a.(7)] and conclusions.

Part G.2.b.(2) Written narrative of the past fiscal year's activities, including those coordinated with other agencies, objectives of activities, results and conclusions.

Part G.2.b.(3) Data gathered on levels of pollutants in non-storm water discharges to the City MS4; and

Part G.2.b.(4) Using rainfall data collected by the Permittee and other agencies, the Permittee shall relate rainfall events, measured pollutant loads, and discharge volumes from the watershed and other watersheds that may be identified from time to time by the Director or Permittee.

Part G.2.b.(5) Lists by highest priority first of each type of municipal industrial facility covered under this permit, as required in Part F.2., and the date when monitoring occurred. The monitoring event indicated on this list shall be of a representative storm event, where results were available for all required parameters following the QA/QC measures as described in your Annual Monitoring Plan.

Part G.2.b.(6) DMRs for Municipal Industrial Facilities shall be included in the Annual Monitoring Report and be submitted via NetDMR once established by the DOH. NetDMR is a Web-based tool that allows NPDES permittees to electronically sign and submit their DMRs to EPA's Integrated Compliance Information System (ICIS-NPDES) via the Environmental Information Exchange Network. A DMR must be submitted for the facility which is scheduled to be monitored even if sampling was not conducted. An explanation as to why sampling was not conducted shall be explained with the submittal.

Part G.3. Memorandum of Understanding (MOU) and Memorandum of Agreement (MOA) - Roles and Responsibilities of the City

Part G.3.a. The Permittee shall continue to maintain and comply with the "Memorandum of Understanding Between the Department of Transportation Highways Division, State of Hawaii, and the Department of Environmental Services and the Department of Facility Maintenance, City and County of Honolulu," signed by the Department of Environmental Services on December 19, 2001; by the Department of Facility Maintenance on December 27, 2001; and the State Department of Transportation, Highways Division on February 1, 2002. Amendments to the MOU, if any, shall be summarized in the Annual Report.

Part G.3.b. The Permittee shall continue to maintain and comply with the "Memorandum of Understanding between the Department of Health, Environmental Management Division, State of Hawaii, and Department of Public Works, City and County of Honolulu," signed by the Department of Public Works on September 28, 1995, and the Department of Health on October 11, 1995. The Permittee shall coordinate MOU revisions where joint cooperation is required, as identified in this permit; and to reflect the reorganization of the City's departments, if applicable. Amendments to the MOU, shall be summarized in the Annual Report.

Part G.3.c. The Permittee shall continue to maintain and comply with the "Memorandum of Agreement Responsibilities under NPDES Permit HI S000002 City and County of Honolulu's Municipal Separate Storm Sewer System and Certain Industrial Facilities" between the Department of Environmental Services, Department of Planning and Permitting, Department of Facility Maintenance, Department of Design and Construction, Department of Parks and Recreation, Department of Enterprise Services, Department of Transportation Services, Honolulu Fire Department, and Honolulu Police Department signed by the Managing Director of the City on October 9, 2007. Any amendments to the MOA, if any, shall be summarized in the Annual Report.

S000002.FNL.11

Appendix E

Kapolei Parkway Urban Core 5 Project
Site Visit Observations

Kapolei Parkway Urban Core 5 – Public Construction Project

On April 24, 2013 the Audit Team visited the active project site. The project included the installation of roads and utilities in support of future development and serves as an extension of Kapolei Parkway. The project included road and utility installation from Kama'aha Avenue to Kamokila Boulevard. The project sponsor, DTS, had applied for coverage under the HDOH construction general permit and had submitted a SSCBMP for HDOH approval in July 2012. As per the SSCBMP, the site included 9.77 acres of disturbance and staging areas. Representatives at the site stated the project was initiated in November 2012 and was scheduled for completion in January 2014. Bowers-Kubota had been hired as the third-party construction manager and the contractor was Royal Contractors. Representatives from both the contractor and construction manager were present during the site visit. A City DTS project engineer had been assigned as project manager but this individual was not present during the site visit.

The SSCBMP plan contains schematics and discussions of the erosion and sediment control BMPs deployed at the site. A complete construction drawing plan set for the project was obtained during the audit. The project Notice of Intent and SSCBMP is provided as Appendix B, Exhibit 1 and 2. As shown in Figure 1, the project site is located immediately southwest of the Kapolei Hale City Hall.

Figure 1. Kapolei Parkway Urban Core 5 project location. Image obtained from Google Maps 2013.

The eastern portion of the roadway construction project intersects and passes over an established waterway. The construction drawing plan set calls for the installation of a detention basin at the downstream boundary of the project site in the existing waterway. The approximate locations of the waterway and detention basin are denoted in the aerial photograph included as Figure 1. Though it is not clear on what date the aerial photograph in Figure 1 was taken, it should be noted that the photo depicts the detention basin had not been installed at a time of active grading. As further described below, the detention basin had only been partially constructed at the time of the site visit.

Importantly, the Site-Specific Best Management Practices Plan (SSCBMP) includes a discussion of the BMPs to be used at the site, but does not mention the detention basin. Section 3.0, "Best Management Practice Specifications/Details," of the SSCBMP provides the installation schedule and maintenance and inspection procedures for other proposed BMPs including controlling stormwater flowing onto and through the project, soil stabilization, slope protection, storm drain inlet protection, and perimeter controls and sediment berms. However, section 3.6 of the SSCBMP plan titled "Sediment Basins and Detention Basins" indicates "n/a". Likewise, the construction drawing plan set fails to include detailed drawings for the detention basin and only depicts it in plan view. Last, Attachment F, "Contingency Plan" of the SSCBMP also fails to mention the detention basin as an area of concern and potential remedy following a significant precipitation event (see Appendix B, Exhibit 2). City and project representatives did not definitively state whether the basin was temporary or it would be a permanent post-construction stormwater management structure for the site. Similarly, the erosion and sediment control sheets only depict the placement of upstream sand bags and a perimeter silt fence in the area surrounding where the existing waterway enters the project site.

A significant precipitation event had occurred during the early morning hours preceding the site visit. At the time of the site visit, a 66-in. concrete culvert had been installed in the waterway. The majority of the culvert had been buried except for the most upstream portion, which remained exposed within the earthen trench. The upstream terminus was exposed in a vertical-wall earthen trench of native soil and compacted fill (see Appendix C, Photographs 1 through 3). At its downstream terminus, the culvert discharged into a crudely constructed detention basin. The contractor stated that the detention basin had yet to be completed and ultimately it would contain 3:1 sloped sides and a constructed outfall to the established waterway. He further stated that only the bottom of the basin had been constructed and additional site work to develop the basin could not be completed due to recent rains and significant water flow into the partially constructed basin. The basin had been in its current condition for several months (see Appendix C, Photographs 20 through 22).

The Audit Team walked the perimeter of the basin and noted that it lacked distinct banks. A rudimentary dam of dredged spoil materials was present at its terminus. These spoils were functioning as a partial dam; however, discharges from the basin were occurring at the time of the site visit. The water within the basin and discharging from the basin was sediment-laden and turbid (see Appendix C, Photographs 23 through 25). Deep tracks from heavy equipment were present along the western border of the basin. In the area immediately surrounding the basin, temporary sediment and erosion controls BMPs consisted of a single silt fence that bordered a portion of the southeastern boundary of the road. The silt fence did not extend to the culvert inlet to the basin and was partially submerged at its terminus (see Appendix C, Photograph 26). The silt fence appeared to be ineffective at controlling sediment discharges to the basin and no additional BMPs were present in the immediate upgradient portion of the earthwork. Exposed soil with gullies and rills were present.

As depicted in the project's approved construction plans and erosion and sediment control sheet (see Appendix B, Exhibit 3), City plan reviewers approved the use of upstream, off-property sand bags as an upstream BMP and the permanent stormwater detention basin as the sole downgradient BMP for the project. The approved construction plan does not specifically indicate work phases or dictate that the detention basin should have been installed and completed before the cut and fill work associated with the culvert installation. Nor does the approved plan consider

or require additional BMPs at the upgradient terminus of the culvert. The approved plan does not include BMPs for excavation or work in waterways. At the time of the site visit, it was evident that additional work was required at the upgradient end of the culvert to complete a headwall/wingwall installation. Neither the contractor or construction manager was aware of the need for additional BMPs currently or during future construction in this area. Sediment loss to the waterway and culvert was evident to the Audit Team (see Appendix C, Photographs 16 through 19).

Importantly, while the contractor and construction manager acknowledged that the water and saturated soils precluded their ability to complete the detention basin (and thus precluded it from functioning as designed), they expressed little concern about the overall site conditions or the lack of BMPs. Nor was concern raised about the ongoing discharge of sediment-laden water from the site to the waterway. Based on records provided by the City during the audit, an inspector from ENV had performed a construction oversight inspection at the site on April 17, 2013, about a week prior to the Audit Team's site visit (see Appendix B, Exhibit 4). The Audit Team did not obtain a copy of the City's construction oversight inspection report from the site visit.

In addition, while there were some BMPs installed and working properly (e.g., concrete washout, storm drain covers, and select spans of silt fencing) (see Appendix C, Photographs 27 and 28), there were numerous instances of uncontrolled sediment stockpiles (see Appendix C, Photographs 29 and 30) and loose soil showing signs of rill and gully formation; and, the overall site boundary was poorly defined.

During the site visit, the contractor provided inspection records demonstrating that the contractor had routinely inspected the site at the schedules specified in the construction general permit. The contractor stated that the City inspector had specifically stated that the oversight of erosion and sediment controls was the responsibility of the City and not the construction manager. This site was said to be the largest active public construction project ongoing in the City and was located immediately adjacent to Kaploei Hale.