

Public Education and Outreach Plan



PROTECT OUR WATER

MĀLAMA I KA WAI

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

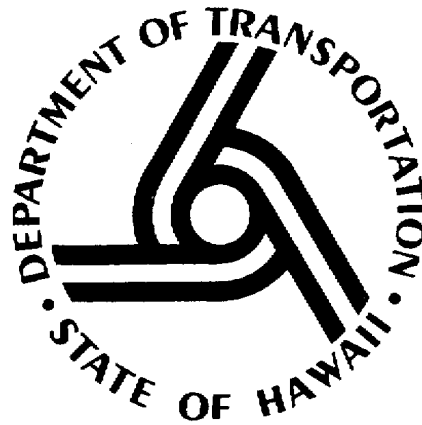
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Hawaii State Department of Transportation
Highways Division, Oahu District
Storm Water Management Program
NPDES Permit No. HI S000001
September 2015

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**State of Hawaii Department of Transportation
Highways Division, Oahu District**



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www.stormwaterhawaii.com

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Record of Revision

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ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practice
City ENV	City and County of Honolulu Department of Environmental Services
DHHL	State of Hawaii Department of Hawaiian Home Lands
DLNR	State of Hawaii Department of Land and Natural Resources
DOA	State of Hawaii Department of Agriculture
DOE	State of Hawaii Department of Education
DOH	State of Hawaii Department of Health
DOT-HWYS	State of Hawaii Department of Transportation, Highways Division, Oahu District
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PSA	Public Service Announcement
SWMPP	Storm Water Management Program Plan
SWPCP	Storm Water Pollution Control Plan
TMDL	Total Maximum Daily Load
WLA	Waste Load Allocation

1. INTRODUCTION

The State of Hawaii Department of Transportation, Highways Division, Oahu District (DOT-HWYS) has been issued a municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) Permit by the State of Hawaii Department of Health (DOH). The permit authorizes the discharge of storm water runoff and allowable non-storm water discharges from DOT-HWYS' MS4 and into State Waters in and around the Island of Oahu, Hawaii. In accordance with the MS4 NPDES Permit No. HI S000001, effective on October 28, 2013, DOT-HWYS is required to develop a written public education plan describing how DOT-HWYS intends to reach its targeted audiences and comply with the permit requirements listed in Part D.1.a.

Nonpoint source pollution poses the greatest threat to water quality within and around our islands. It is not solely caused by discharges from industrial facilities or from wastewater treatment plants, but rather, it is generated by all of us as a product of every day events such as littering, applying pesticides, fertilizing our lawns, and disposing of wastes. While most of our individual actions have a minuscule effect on water quality, collectively they have a big impact. As such, addressing storm water pollution is a community effort.

As an essential component of the Storm Water Management Program Plan (SWMPP), the following plan provides an update to the *Public Education and Training Plan (2007)*, detailing DOT-HWYS' strategy to create awareness about the impacts of storm water pollution and the steps that can be taken to protect and preserve Hawaii's environment.

2. GOALS

DOT-HWYS' goals for this permit term include:

- Protect and improve water quality on the island of Oahu,
- Implement a public education and outreach program that creates measurable changes in the public's attitude, knowledge and awareness,
- Educate target groups about the impacts of storm water pollution on Hawaii's water quality and the steps that can be taken to reduce pollutants in storm water runoff,
- Further enable the public to identify and report pollution-causing activities,
- Promote water conservation as a means to reducing runoff,
- Increase awareness of DOT-HWYS' Protect Our Water brand,
- Create more institutional collaboration to promote storm water pollution prevention,
- Expand the program's target audiences, and
- Satisfy the requirements of the MS4 NPDES Permit No. HI S000001.

3. TARGETED GROUPS

Table 1 presents the targeted groups that DOT-HWYS will address during the permit term and their respective desired behaviors.

Table 1. Targeted Groups

Targeted Group	Desired Behavior
DOT-HWYS' Employees	<ul style="list-style-type: none"> • Comply with and understand the regulatory requirements of the MS4 NPDES Permit No. HI S000001 • Reduce the discharge of pollutants to DOT-HWYS' MS4
DOT-HWYS' Consultants/Contractors	<ul style="list-style-type: none"> • Comply with and understand the regulatory requirements of the MS4 NPDES Permit No. HI S000001 • Implement best management practices (BMP) on construction sites to reduce the discharge of pollutants to DOT-HWYS' MS4 • Understand the new design criteria, specifically as it applies to low impact development techniques
General Public	<ul style="list-style-type: none"> • Understand the basic concepts of storm water • Reduce the amount of trash and litter in DOT-HWYS' MS4
Construction Industry	<ul style="list-style-type: none"> • Comply with and understand the regulatory requirements of MS4 NPDES Permit No. HI S000001 • Comply with and understand the regulatory requirements of the NPDES Permit (General or Individual), if applicable • Implement BMPs in accordance with Site-Specific BMP Plan and/or Storm Water Pollution Control Plan • Minimize the discharge of pollutants to DOT-HWYS' MS4
Industrial Facilities	<ul style="list-style-type: none"> • Comply with and understand the regulatory requirements of the NPDES Permit (General or Individual), if applicable • Implement and maintain BMPs in accordance with Storm Water Pollution Control Plan (SWPCP), if applicable • Minimize the discharge of pollutants to DOT-HWYS' MS4
Commercial Businesses	<ul style="list-style-type: none"> • Understand the basic concepts of storm water • Minimize the discharge of pollutants to DOT-HWYS' MS4
Department of Agriculture (DOA)	<ul style="list-style-type: none"> • Better educate constituencies on the role that farming plays in storm water runoff
Department of Education (DOE)	<ul style="list-style-type: none"> • Better educate constituencies on the basic concepts of storm water
Department of Hawaiian Home Lands (DHHL)	<ul style="list-style-type: none"> • Better educate constituencies on the basic concepts of storm water • Reduce the amount of trash and litter in DOT-HWYS' MS4
Department of Land and Natural Resources (DLNR)	<ul style="list-style-type: none"> • Better educate constituencies on the basic concepts of storm water
Natural Resources Conservation Service (NRCS)	<ul style="list-style-type: none"> • Better educate constituencies on the role that farming plays in storm water runoff
Other: MS4 Permittees	<ul style="list-style-type: none"> • Increase collaboration among MS4 Permittees

4. PUBLIC EDUCATION AND OUTREACH IMPLEMENTATION

The following tools and tactics may be implemented to achieve the desired behaviors from the aforementioned target groups. The implementation schedule for each tool can be found in Table 3 of Section 5.

4.1 COMMUNITY OUTREACH

Community outreach activities provide great opportunities for hands-on learning and can be fun and educational for a variety of target groups. When the community is actively involved at an event, they are more likely to commit to engaging in a sustainable activity at their workplace and at their home.

4.1.1 Events

Events pertaining to the environment are held by various organizations regularly throughout the year. Participation at past events proved to be an effective way to deliver the program's message and increase storm water awareness and education. By targeting events that are hosted in waste load allocation (WLA) watersheds, DOT-HWYS is able to engage with audiences that will likely have a direct impact on its ability to meet its WLA reduction requirements. Typical event activities include an interactive storm water model, prize wheel, photo booth, survey, and the distribution of education material. Events that DOT-HWYS has attended in the past and will likely attend in the future include:

- Building Industry Association Home Building and Remodeling Expo
- Agriculture and Environmental Awareness Day
- First Hawaiian Bank Auto Show
- Kahala Mall Keiki Day
- Hawaii Pacific Health Kids Fest
- Mauka to Makai Clean Water Expo
- Ocean Literacy Day
- World Oceans Day

4.1.2 DOT-HWYS Speaker Series

DOT-HWYS may consider implementing a speaker series as a way to directly provide information and to discuss issues with targeted groups. It also provides an excellent forum for networking and sharing best practices. Future audiences may include trade associations and community groups, for example:

- Pacific Resource Partnership
- Hawaii Farm Bureau, Environmental Stewardship Committee
- Hawaii Building and Construction Trades Council
- General Contractors Association of Hawaii
- American Society of Landscape Architects, Hawaii Chapter
- Chamber of Commerce of Hawaii
- Hawaii TeamAgEd

4.1.3 Industrial and Commercial Facilities Outreach

Industrial and commercial facilities are key members of the community as many of these facilities are located along DOT-HWYS' right-of-way and either physically connect to or

contribute surface flow into DOT-HWYS' MS4. Storm water flowing from industrial and commercial areas is a potential source of pollutants that enter DOT-HWYS' MS4. Therefore, outreach specifically targeted towards the unique activities of industrial and commercial facilities is imperative to encourage businesses to adopt good housekeeping practices. Outreach activities for industrial and commercial facilities include regular inspections, the issuance of warning letters for potential violations, and the distribution of industry-specific brochures. More information on the Industrial and Commercial Activities Discharge Management Program can be found in Chapter 10 of the SWMPP.

4.1.4 Training

The training component provides DOT-HWYS staff and contractors involved in various programs of the SWMPP with the tools necessary to execute their responsibilities safely and efficiently. Training formats vary and include, but are not limited to, webinars, workshops, and on-site. Training activities are directed to the following programs:

- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Storm Water Management in New Development and Significant Redevelopment
- Pollution Prevention and Good Housekeeping
- Industrial and Commercial Activities Discharge Management

4.1.5 Public Involvement

While community outreach is effective in building awareness, public involvement programs provide an opportunity for continual interaction and public service.

4.1.6 Adopt-A-Highway Program

The ongoing Adopt-A-Highway Program, which is administered by DOT-HWYS, is a public service campaign that encourages volunteers to keep a section of a state highway free from litter by “adopting” it for two years. It is an effective way for environmentally conscious citizens to contribute to a cleaner environment. By clearing trash and debris from roadsides, participants help to prevent pollutants from entering into storm drains, streams, and coastal waters. The Adopt-A-Highway Program has been instrumental in reducing the amount of pollutants that accumulate along state highways. DOT-HWYS expects to have over 100 volunteer groups participating in this program on Oahu. To bring recognition to these volunteer groups and to promote the program, DOT-HWYS will identify a quarterly Adopt-A-Highway Champion to be recognized for their exceptional efforts. The Champions will be selected based on their length of commitment and the consistency with which they have cleaned their adopted highway segment. Photos and a brief story on each of the Adopt-A-Highway Champions will be posted on our www.stormwaterhawaii.com website, as well as our Facebook, Instagram, and Twitter accounts.



Figure 1. Adopt-A-Highway Volunteers

4.1.7 Public Review and Comment

DOT-HWYS will provide the public with the opportunity to review and comment on various plans as required by MS4 NPDES Permit No. HI S000001. Plans will be made available on the Resources page of our www.stormwaterhawaii.com website for a minimum of 30 calendar days. DOT-HWYS will respond to all comments received within the review period and provide both comments and responses to the Hawaii State Department of Health (DOH) with its submittal of the final plan.

Following the completion of 2015 SWMPP, DOT-HWYS will make the document available on its website and at various public locations. In addition, a public meeting will be held to solicit comments about the SWMPP or any element of the program.

4.2 PARTNERSHIPS

As previously mentioned, addressing storm water pollution is a community effort and partnerships with like-minded corporations and organizations are essential to reach audiences on a variety of levels. With shrinking budgets and increased regulatory demands, many organizations can benefit from the resources and support that cross-agency and public-private partnerships can offer. DOT-HWYS is committed to its current partnerships and future partnerships with other agencies.

4.2.1 Restaurant Placemats

As an example of an effective public-private partnership, DOT-HWYS will continue to provide keiki placemats to be used in participating family-oriented restaurants. The keiki placemats have proven to be effective in educating the state's youth on storm water pollution sources and encouraging behavior change. To date, DOT-HWYS has partnered with Big City Diner, Zippy's Restaurants, and Ruby Tuesday Hawaii to incorporate the storm water placemat into their placemat rotation. More than 600,000 placemats have been printed and distributed at five Big City Diner locations, twenty-four Zippy's Restaurant locations, and four Ruby Tuesday locations.

on Oahu. DOT-HWYS plans to periodically update the placemat design to continually provide keiki with new educational activities to enjoy.



Figure 2. Ruby Tuesday Placemat

4.2.2 Government and Non-Profit Organizations

DOT-HWYS is committed to its current partnerships, including those with the State of Hawaii Department of Transportation, Airports Division; State of Hawaii Department of Transportation, Harbors Division; City and County of Honolulu Department of Environmental Services (City ENV); and the Waikiki Aquarium, and welcomes future partnerships with other agencies, such as DHHL, DLNR, DOE, and DOA. The City ENV also operates under an MS4 NPDES Permit and shares similar key messages and target audiences. Past collaboration includes cost-sharing on public outreach events and in the development of educational material. Moreover, DOT-HWYS has developed a flier that includes detailed information on the City ENV's household hazardous waste collection program. The flier is distributed at various outreach events. DOT-HWYS plans to continue to build upon this relationship and to seek additional ways to compliment each others' programs. The Waikiki Aquarium has been a key partner in facilitating community outreach events, including World Oceans Day, Ocean Literacy Day, and Storm Water Wednesdays. As an organization whose mission is to inspire and promote understanding, appreciation and conservation of Pacific marine life, the Waikiki Aquarium is a strong supporter of DOT-HWYS' storm water program. DOT-HWYS will continue to build strategic partnerships with like-minded organizations to increase the public's awareness and understanding of storm water related issues.

4.3 COLLATERAL MATERIAL

Collateral material is an effective tool for public outreach, as it can be created relatively easily and the target audience can refer to it again and again. Branding is a crucial element of our collateral material as it provides a visual identity for our organization and our message. In addition to our collateral material, all of the DOT-HWYS baseyards are branded with a “Protect Our Water” poster. Additionally, “Protect Our Water” stickers are prominently displayed on all of DOT-HWYS’ vehicles.



Figure 3. Protect Our Water Logo

4.3.1 Brochures

DOT-HWYS continues to distribute a variety of brochures with information that includes BMPs for a range of audiences including homeowners, businesses, and school children (see Table 2). Brochures are an efficient way to present and explain DOT-HWYS’ storm water message as they can be developed for and distributed to specific target groups.

Table 2. Developed Brochures

Brochure	Description	Targeted Audience
Adopt-A-Highway Brochure	General information on the Adopt-A-Highway program and details how one can volunteer. Brochures are distributed at outreach events and are available via the www.stormwaterhawaii.com website.	<ul style="list-style-type: none"> • General Public • Commercial Businesses
Backyard Conservation Booklet	Provides practices for water conservation and for improving the natural resources found in the backyard. Booklets are distributed at outreach events.	<ul style="list-style-type: none"> • General Public • DOA • NRCS
Children’s Activity Book	Activities include a maze, a crossword puzzle, and pages to color. In doing the activities, children learn how storm water pollution affects our environment. Activity books are distributed at outreach events.	<ul style="list-style-type: none"> • General Public

Table 2. Developed Brochures (Continued)

Brochure	Description	Targeted Audience
Commercial Business Rack Card	Provides information on connection permits and the inspection process performed by DOT-HWYS. Rack cards are distributed at outreach events, are available via the www.stormwaterhawaii.com website, and may be available at certain retail facilities.	<ul style="list-style-type: none"> • Commercial Businesses • Industrial Facilities
Household Hazardous Waste Flier	Details information on the City ENV household hazardous waste collection program. Fliers are distributed at outreach events.	<ul style="list-style-type: none"> • General Public
Household Hazardous Waste Rack Card	Lists many household hazardous items and provides information on proper disposal. Rack cards are distributed at outreach events, are available via the www.stormwaterhawaii.com website, and may be available at certain retail facilities.	<ul style="list-style-type: none"> • General Public
Landscaping Rack Card	Landscaping and agricultural tips on how to conserve water and on the proper disposal of grass clippings, leaves, and other green waste. Rack cards are distributed at outreach events, are available via the www.stormwaterhawaii.com website, and may be available at certain retail facilities.	<ul style="list-style-type: none"> • General Public • DOA • NRCS
Permit Holders Guide Rack Card	General information on types of temporary and permanent BMPs and describes when permanent BMPs are required. Rack cards are available at DOT-HWYS permit counter and via the www.stormwaterhawaii.com website.	<ul style="list-style-type: none"> • DOT-HWYS Consultants/Contractors • Construction Industry
Residents Guide Rack Card	General information on actions to do in the garage, around the house, in the garden, and when improving your home to reduce storm water pollution. Rack cards are distributed at outreach events, are available via the www.stormwaterhawaii.com website, and may be available at certain retail facilities.	<ul style="list-style-type: none"> • General Public
Restaurant and Food Industry Rack Card	Informs employees on how restaurants contribute to storm water pollution and describe various BMPs that can be implemented. Rack cards are distributed during inspections are available via the www.stormwaterhawaii.com website.	<ul style="list-style-type: none"> • Commercial Businesses
Retail Gas Stations and Auto Facilities Rack Card	Guidance on how retail gas stations and auto maintenance facilities can reduce the amount of pollution that results from their operations. Rack cards are distributed during inspections are available via the www.stormwaterhawaii.com website.	<ul style="list-style-type: none"> • Commercial Businesses
Storm Water Brochure	General information on storm water and includes actions that the public can do to improve water quality. Brochures are distributed at outreach events are available via the www.stormwaterhawaii.com website.	<ul style="list-style-type: none"> • General Public

4.3.2 Promotional Items

Branded promotional items are used as leave behinds at public events, presentations, and training workshops. These items have been successful in cultivating and maintaining public awareness of the storm water program. Promotional items show others that the public is actively engaged in

the cause, thereby helping to create social norms and encouraging others to get involved. The following are the promotional items that could be distributed, each branded with the “Protect Our Water” logo:

- Flashlight Key Chains
- Hard Hat Stickers
- Jotters
- Litter Bags
- Lunch Bags
- Magnets
- Oil Change Boxes
- Pencils
- Pens
- Picture Frames
- Post-Its
- Stainless Steel Water Bottles
- Stickers
- T-shirts
- Temporary Tattoos
- Tote Bags
- USB Flash Drives
- Window Decals

4.3.3 Posters

Posters offer an effective option for message delivery as they provide a constant visual to build awareness. To minimize the amount of pollutants entering the MS4, posters are currently placed at DOT-HWYS’ facilities as a reminder of the BMPs to implement during operations.

Additionally, a poster was created and mounted outside of the Kakoi District Office to educate staff on the water quality benefits of the rain garden located there. DOT-HWYS will continue to seek opportunities to develop posters as a tool to reach various target groups.



Figure 4. Kakoi District Office Rain Garden Poster

4.4 SCHOOL OUTREACH

DOT-HWYS’ long-standing partnership with the DOE continues to be mutually beneficial. Elementary schools are an essential channel through which DOT-HWYS is able to successfully outreach to school children. School-aged children are the best subjects to influence long-term change in the way individuals and communities think about storm water. Furthermore, they are able to take home the lessons learned and share them with their parents.

4.4.1 School Presentations

Currently, as a part of the Public Education and Outreach Program, DOT-HWYS actively engages students through school presentations. The school presentations include a PowerPoint presentation, a “Find the Storm Water Pollutants” worksheet, and a hands-on demonstration with a storm water inlet model. DOT-HWYS will aim to deliver five presentations per school year. Scheduled presentations are posted on the www.stormwaterhawaii.com calendar.

4.4.2 Sticker Book Distribution

In addition to visiting schools, DOT-HWYS developed a “Stick It to Storm Water Pollution” sticker book for grade school children. This sticker book includes basic information about storm water, storm drains, and household tips that can help to reduce pollution through the proper disposal of household chemicals. Additionally, the sticker book contains stickers that can be placed over items in the workbook to “cover up” actions detrimental to water quality. A teacher’s guide, which complements the sticker book, assists the teachers in navigating their students through the sticker book’s activities. DOT-HWYS will continue to deliver the sticker books annually to all first graders on the island on Oahu.

4.4.3 Teacher Tote Bags

DOT-HWYS has developed a Teacher Tote Bag that provides material for teachers to develop a storm water lesson plan. With the Teacher Tote Bags, DOT-HWYS is able to educate a greater audience without having to physically be in the classroom. Items provided in the Teacher Tote Bag may include:

- Activity Books
- Storm Water Brochure
- Backyard Conservation Booklet
- Storm Water Quiz
- Pencils
- Magnets
- Temporary Tattoos
- Stickers
- Window Decal

Teacher Tote Bags are distributed at the Waikiki Aquarium and at select outreach events.

4.5 MEDIA OUTREACH

Mass media formats are a cost-effective and efficient alternative to deliver DOT-HWYS’ message. Opportunities for media coverage include informational news stories, human interest stories, guest commentaries, social media, and Public Services Announcements (PSA). Expanding media coverage through a planned, proactive approach can help build and support new attitudes and changes in behavior.

4.5.1 Media Relations

The news media has tremendous reach when it comes to communicating watershed messages to both targeted and broad audiences. DOT-HWYS will continue to actively pitch creative story angles to obtain editorial coverage within print, broadcast, and online media locally. Furthermore, DOT-HWYS will seek to better publicize events by preparing and distributing calendar releases, column items, photo releases, and media advisories to stimulate editorial coverage of storm water activities.

MidWeek

The Wades' Roadwork Is Pau

June 29, 2011
By Midweek Staff



Stewart and Cecil Wade at their familiar spot. Photo from Jennifer Armstrong.

It's hard to give up something special that you've protected and cared for for 20 years, but a Kailua couple decided it was time.

Through the Adopt-A-Highway program, Realtors Stewart and Cecilia Wade have "bequeathed" their assigned 2-mile stretch of Kalanianaʻole Highway between Castle Junction and Castle hospital to its next cleaner-upper, Pacific Dynamics Corp. and its president Harvey Gerwig, another Kailua resident.

{embed="elements/box_ad"}

"Over the years, we have received many thanks for our service to the community, and that is by far the best part of the cleanup," said the Wades, who are getting older and believed it was the right time to retire from the program. "Harvey has come out for the past five years and helped us on cleanup days. As a result, we feel that they deserve it and will work hard to keep the highway clean."

Since their first cleanup, when 20 volunteers collected 60 bags of rubbish, the Wades have had some unique finds. Besides money, for example,

they found a cell phone that had fallen out of a passing car. The owner was so grateful when they called, he took them out to dinner.

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To join the 100 community groups and businesses in the Adopt-A-Highway program, call Ken Teutsch at 831-6815.

Figure 5. Adopt-A-Highway Midweek Article (June 29, 2011)

4.5.2 Online Communications

The internet is a powerful means of communication. A comprehensive and strategic online communications campaign will help to complement public outreach and education efforts. Online communications include the storm water website, social media sites, and the development of a new e-newsletter.

The storm water website was completed and launched in March 2007. The website's URL is <http://www.stormwaterhawaii.com> and it includes information about the SWMPP and its programs. In addition, the website contains information about household toxins awareness, special events, training activities, and outreach material. Regular posts are made to the site to both announce and recap public outreach events. Additionally, periodic updates are made to the resources available to contractors and design consultants. A kids' section featuring the program mascot "Malama" provides general awareness about storm water and offers specific ways that kids and their families can help to reduce storm water pollution. A contact link provides the opportunity for the public to submit a comment or report a violation. Furthermore, the website is embedded with Google analytics to track statistics such as the number of pageviews, pages viewed per session, and bounce rate. DOT-HWYS plans to do a redesign of the www.stormwaterhawaii.com website in Permit Year Three. The redesign will help to make the site more manageable both from the frontend and the backend, as well as to make the website responsive to the increase in mobile users browsing the web.

With the shift in use of online resources, social media has become one of the most powerful marketing tools available. It offers the potential to connect directly with a wide demographic in an efficient and cost-effective manner. It also allows for an on-going conversation with

audiences that demand immediate information in mediums relevant to them. Much of our outreach efforts target children and professionals. However, with the addition of social media avenues, we are now able to reach the gap group of teenagers that were previously overlooked. Moreover, social media allows us to connect more easily with likeminded organizations. Currently, DOT-HWYS utilizes Facebook, Twitter, Instagram, and YouTube as a multifaceted approach to engage the public.

During this permit period, DOT-HWYS plans to develop a strategic e-newsletter campaign to keep target groups informed of storm water news, events, and updates. E-newsletters are particularly efficient in that they can reach a large audience at a low-cost. Furthermore, with e-newsletters, DOT-HWYS can extend beyond building awareness by providing more detailed information. DOT-HWYS has begun the process of gathering email addresses during outreach events in preparation to launch in Permit Year Two. Other potential audiences may include other MS4 permittees, industry associations, and environmental organizations.

4.5.3 Advertising

Advertising is an effective means to reach the passive audience. By placing advertisements in mediums where the audience is likely to encounter it, one can generate awareness. PSAs are a constructive way to use television or radio airtime to raise public awareness about storm water. DOT-HWYS has both a television PSA and a radio PSA in stock and will continue to explore both paid and free options to air the PSAs with plans to run the PSAs on a biannual basis.

Furthermore, DOT-HWYS plans to explore the option of Facebook advertising as another means to generate traffic to its website and social media sites. Facebook advertising has proven to be beneficial for similar organizations. DOT-HWYS plans to embark on a three-month pilot study to do a cost-benefit analysis on the effectiveness of Facebook advertising in Permit Year Four.

5. ROAD MAP

Table 3 presents the proposed road map of target public involvement activities for each permit year. This proposed plan is designed to maintain existing programs while implementing new programs in a systematic way that maximizes the impact of DOT-HWYS' overall program.

Table 3. Public Outreach Road Map

Permit Year	Targeted Activities	Anticipated Frequencies
Year 1	• Continue to attend community events	• Ten events per year
	• Continue to conduct school visitations	• Five visitations per school year
	• Distribute Stick It To Storm Water books	• Annual distribution
	• Develop Public Education and Outreach Plan	
	• Update design of restaurant placemats	
	• Identify and outreach to new partners	
Year 2	• Continue to attend community events	• Ten events per year
	• Continue to conduct school visitations	• Five visitations per school year
	• Distribute Stick It To Storm Water books	• Annual distribution
	• Develop and launch Storm Water Hawaii e-newsletter	• Quarterly distribution
	• Submit Public Education and Outreach Plan	
	• Identify and outreach to new partners	
Year 3	• Continue to attend community events	• Ten events per year
	• Continue to conduct school visitations	• Five visitations per school year
	• Distribute Stick It To Storm Water books	• Annual distribution
	• Continue distribution of Storm Water Hawaii e-newsletter	• Quarterly distribution
	• Run television and/or radio PSA	• Run every other year
	• Develop speakers series program	
	• Update Storm Water Hawaii website	
	• Identify and outreach to new partners	
Year 4	• Continue to attend community events	• Ten events per year
	• Continue to conduct school visitations	• Five visitations per school year
	• Distribute Stick It To Storm Water books	• Annual distribution
	• Continue distribution of Storm Water Hawaii e-newsletter	• Quarterly distribution
	• Launch speakers series program	• Semiannual presentations
	• Implement Facebook advertising pilot study	
	• Identify and outreach to new partners	
Year 5	• Continue to attend community events	• Ten events per year
	• Continue to conduct school visitations	• Five visitations per school year
	• Distribute Stick It To Storm Water books	• Annual distribution
	• Continue speakers series program	• Semiannual presentations
	• Continue distribution of Storm Water Hawaii e-newsletter	• Quarterly distribution
	• Run television and/or radio PSA	
	• Update design of restaurant placemats	
	• Identify and outreach to new partners	

6. MEASUREMENT OF EFFECTIVENESS

Measuring the effectiveness of public outreach activities provides a feedback mechanism for the continual improvement of DOT-HWYS public outreach program. DOT-HWYS' outreach program evaluation reviews the following two sets of indicators:

- Process Indicators – Indicators related to execution of the outreach program itself (e.g. number of organizations involved in the Adopt-A-Highway Program).
- Impact Indicators – Indicators related to achievement of goals and objectives of the program (e.g. number of trash bags filled from Adopt-A-Highway events).

6.1 EVALUATION MATRIX

An evaluation matrix was developed to detail the various evaluation indicators for each tool and tactic. Furthermore, goals were set as benchmarks to evaluate each tool and tactic on the basis of its indicator. The evaluation matrix is provided in Appendix A.

6.1.1 Events

Events will be evaluated on the process indicators of event participation, attendance, and volunteer hours. The impact indicator for events will be the event score. The goal for the event participation metric is 10 events per year, the attendance goal is 2,500 event attendees per year, and the target volunteer hours are 350 hours per year. The event score was a metric developed to prioritize events in order to assist DOT-HWYS in determining which events are best aligned with DOT-HWYS public outreach strategy and for targeted audiences. DOT-HWYS identified six values as the basis for prioritization and each of these values was then weighted in order to develop a cost-benefit relationship. The six values include: (1) MS4 Permit and/or Total Maximum Daily Load (TMDL) requirements, (2) Potential for effecting behavior change, (3) Specific target audience/stakeholders to be addressed, (4) Number of people able to be reached by the event, (5) DOT-HWYS staffing and resource requirements, and (6) Other considerations. The goal is for DOT-HWYS to average a 0.05 event score each year.

Table 4 illustrates the implementation of the event score matrix as the foundation for analysis of all proposed events.

Table 4. Example Event Score Matrix

Value Definition	Weight	Score (0-5)	Total	
V1: Stormwater MS4 permit and/or TMDL requirements	15	3	45	
V2: Potential for effecting behavior change	10	3	30	
V3: Specific target audience(s)/stakeholder addressed	7	4	28	Est. Labor Costs: \$ 1,173.00
V4: Number of people reached overall	3	3	9	Est. Material Costs \$ 100.00
V5: Staffing and resource requirements	6	5	30	Est. Total Costs \$ 1,273.00
V6: Other Considerations:	15	0	0	
Total Benefit: 142				Event Score (Benefit/Cost): 0.11

6.1.2 Speaker Series

Speaker series will be assessed based on the process indicators of number of presentations delivered and attendance. DOT-HWYS' goal is to target two speaker series presentations per

year. Furthermore, while attendance numbers are dependent on the targeted audience, DOT-HWYS set a goal of 30 attendees per year.

6.1.3 Industrial and Commercial Facilities Outreach

Industrial and commercial facilities outreach will be evaluated on the process indicators of inspection frequency and the number of brochures distributed. As direct users of the MS4, industrial and commercial facilities are more likely to change their behavior if regularly inspected. DOT-HWYS has a goal of inspecting highly ranked commercial facilities and industrial facilities with NPDES coverage once every five years and industrial facilities without NPDES coverage twice every five years. Additionally, public education is a key component of the inspection process and therefore DOT-HWYS has also targeted distributing 80 brochures per year.

6.1.4 Adopt-A-Highway Program

Success of the Adopt-A-Highway Program will be measured by the process indicators of the number of volunteer organizations and volunteer hours. The impact indicators for the Adopt-A-Highway Program will be the number of trash bags filled and awareness. DOT-HWYS has a goal of 100 volunteer organizations adopting portions of state routes on Oahu and 1,000 volunteer hours per year. As a measurement of the impact of these volunteer organizations, DOT-HWYS aims to collect over 1,000 trash bags of debris over the course of a year. Moreover, DOT-HWYS hopes to increase awareness about the Adopt-A-Highway Program year over year as measured by the annual survey.

6.1.5 Public Review and Comment

Public review and comment will be measured by the requirements of MS4 NPDES Permit No. HI S000001. DOT-HWYS will make 100% of the plans that are required to be reviewed per the MS4 NPDES Permit publicly available on www.stormwaterhawaii.com.

6.1.6 Restaurant Placemats

Restaurant placemats are assessed based on the process indicators of number of restaurant partnerships and quantity distributed and on the impact indicator of awareness. DOT-HWYS has set a goal of establishing placemat partnerships in five restaurants during the permit term. Additionally, over the course of the permit term, DOT-HWYS has a target of distributing 500,000 placemats. Lastly, DOT-HWYS aims to increase awareness about its restaurant placemats year over year as measured by the annual survey.

6.1.7 Government and Non-Profit Partnerships

The gauge of success for government and non-profit partnerships is based on the process indicator of the number of partnerships established over the permit term. HDOT Highway seeks to establish five strategic partnerships with like-minded organizations over the duration of the permit term.

6.1.8 Brochures

The evaluation tactic for brochures is the process indicator of quantity distributed. It is DOT-HWYS' goal to distribute over 250 brochures each year.

6.1.9 Promotional Material

Promotional material is similarly assessed by the process indicator of quantity distributed. For promotional items, DOT-HWYS has a goal of distributing over 500 items each year.

6.1.10 Posters

Posters will be evaluated on the process indicator of number of locations. DOT-HWYS targets developing posters for five new locations during the permit term. These locations may include DOT-HWYS offices or target audience locations.

6.1.11 School Presentations

School presentations are assessed by the process indicator of number of presentations delivered. DOT-HWYS' goal is to deliver five presentations during each school year.

6.1.12 Sticker Book Distribution

Sticker book distribution will be evaluated annually by the process indicator of number of sticker books distributed. DOT-HWYS aims to distribute 10,000 sticker books each school year.

6.1.13 Teacher Tote Bags

The success of the Teacher Tote Bags is measured by the process indicator of number of Teacher Tote Bags distributed. DOT-HWYS targets distributing 50 Teacher Tote Bags each year.

6.1.14 Media Relations

Media relations will be assessed by the process indicator of number of press releases. A press release is a written statement directed at the media for the purpose of announcing news items including, but not limited to, scheduled events, awards, new projects, and accomplishments. DOT-HWYS will submit at least four press releases each year.

6.1.15 Online Communications

Online communications consists of the storm water website, Facebook, Instagram, Twitter, YouTube, and the development of a new e-newsletter.

The storm water website will be assessed by the impact indicators of number of unique visitors, number of pageviews, pages viewed per session, and bounce rate. DOT-HWYS has set goals to attract 2,000 unique visitors per year, achieve 10,000 pageviews per year, average 2 pages viewed per session, and sustain a bounce rate lower than 55% each year. The website will also be evaluated by the impact indicator of awareness as measured by the annual survey.

DOT-HWYS' Facebook page is assessed by the impact indicators of number of new "Likes" and number of impressions, and by the impact indicator of awareness. DOT-HWYS aims to obtain 15 new "Likes" per year and achieve 45,000 impressions per year. Additionally, DOT-HWYS anticipates increasing awareness about its Facebook page year over year as measured by the annual survey.

The evaluation tactic for DOT-HWYS' Twitter account is the impact indicator of number of new "Followers". DOT-HWYS aims to add 10 new "Followers" each year.

The success of DOT-HWYS' YouTube account is measured by the process indicator of number of new videos and impact indicator of number of views. DOT-HWYS has set a goal to upload one new video each year, with each video obtaining over 50 views.

Lastly, DOT-HWYS' e-newsletter will be assessed on the impact indicators of number of new subscribers and open rate. Open rate is a measure of how many people open the e-newsletter email. DOT-HWYS targets adding 25 new subscribers each year and achieving an open rate greater than 20%.

6.1.16 Advertising

Advertising efforts, including the airing of PSAs, will be evaluated on the impact indicator of awareness. DOT-HWYS aims to increase awareness about its PSA year over year as measured by the annual survey.

6.2 SURVEYS

As a comprehensive measure, an annual survey will be conducted to evaluate the progress of the public education program. Behavior and storm water knowledge will be measured and comparisons with previous surveys will be made to assess the effectiveness of various activities. Surveys are conducted at public events throughout the year and are analyzed annually on the basis of knowledge, perception, awareness, and behavior. The current iteration of the annual survey is provided in Appendix B.

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Public Education and Outreach Plan

APPENDIX A: EVALUATION MATRIX

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Evaluation Matrix

Tool/Tactic	Target Audience	Evaluation Indicators	Goal
Events	<ul style="list-style-type: none"> General Public 	<ul style="list-style-type: none"> Event participation Attendance Volunteer hours Event score 	<ul style="list-style-type: none"> 10 events per year 2,500 event attendees per year 350 volunteer hours per year 0.05 average event score
Speakers Series	<ul style="list-style-type: none"> General Public Construction Industry Industrial Facilities Commercial Businesses Department of Agriculture Department of Education Department of Hawaiian Home Lands Department of Land and Natural Resources Natural Resources Conservation Service 	<ul style="list-style-type: none"> Number of speaker series Attendance 	<ul style="list-style-type: none"> Two presentations per year 30 attendees per year
Industrial and Commercial Facilities Outreach	<ul style="list-style-type: none"> Industrial Facilities Commercial Businesses 	<ul style="list-style-type: none"> Frequency of inspections Number of brochures distributed 	<ul style="list-style-type: none"> Inspect highly ranked commercial facilities and industrial facilities with NPDES coverage once every five years. Inspect industrial facilities without NPDES coverage twice every five years 80 brochures distributed per year
Adopt-A-Highway Program	<ul style="list-style-type: none"> General Public Commercial Businesses 	<ul style="list-style-type: none"> Number of volunteer organizations Volunteer hours Number of trash bags filled Survey 	<ul style="list-style-type: none"> 100 volunteer organizations per year 1,000 volunteer hours per year 1,000 trash bags filled per year Increased awareness
Public Review and Comment	<ul style="list-style-type: none"> General Public 	<ul style="list-style-type: none"> Percent of plans made available for review 	<ul style="list-style-type: none"> 100% of plans requiring review are made available
Restaurant Placemats	<ul style="list-style-type: none"> General Public Commercial Businesses 	<ul style="list-style-type: none"> Number of partnerships Quantity distributed Survey 	<ul style="list-style-type: none"> Five restaurants during permit term 500,000 placemats distributed during permit term Increased awareness
Government and Non-Profit Partnerships	<ul style="list-style-type: none"> General Public Construction Industry Industrial Facilities Commercial Businesses Department of Agriculture Department of Education Department of Hawaiian Home Lands Department of Land and Natural Resources Natural Resources Conservation Service 	<ul style="list-style-type: none"> Number of partnerships 	<ul style="list-style-type: none"> Five partnerships during permit term
Brochures	<ul style="list-style-type: none"> General Public Construction Industry Industrial Facilities Commercial Businesses Department of Agriculture Department of Education Department of Hawaiian Home Lands Department of Land and Natural Resources Natural Resources Conservation Service 	<ul style="list-style-type: none"> Quantity distributed 	<ul style="list-style-type: none"> 250 brochures distributed per year

Tool/Tactic	Target Audience	Evaluation Indicators	Goal
Promotional Material	<ul style="list-style-type: none"> • General Public 	<ul style="list-style-type: none"> • Quantity distributed 	<ul style="list-style-type: none"> • 500 promotional items per year
Posters	<ul style="list-style-type: none"> • HDOT Highways Employees • HDOT Highways Consultants/Contractors • General Public • Construction Industry • Industrial Facilities • Commercial Businesses • Department of Agriculture • Department of Education • Department of Hawaiian Home Lands • Department of Land and Natural Resources • Natural Resources Conservation Service 	<ul style="list-style-type: none"> • Number of locations 	<ul style="list-style-type: none"> • Five locations during permit term
School Presentations	<ul style="list-style-type: none"> • General Public • Department of Education 	<ul style="list-style-type: none"> • Number of school presentations 	<ul style="list-style-type: none"> • Five school presentations per school year
Sticker Book Distribution	<ul style="list-style-type: none"> • General Public • Department of Education 	<ul style="list-style-type: none"> • Number of sticker books distributed 	<ul style="list-style-type: none"> • 10,000 sticker books distributed per school year
Teacher Tote Bags	<ul style="list-style-type: none"> • General Public • Department of Education 	<ul style="list-style-type: none"> • Number of Teacher Tote Bags distributed 	<ul style="list-style-type: none"> • 50 Teacher Tote Bags distributed per school year
Media Relations	<ul style="list-style-type: none"> • General Public 	<ul style="list-style-type: none"> • Number of press releases 	<ul style="list-style-type: none"> • Four press releases per year
Online Communications	<ul style="list-style-type: none"> • HDOT Highways Employees • HDOT Highways Consultants/Contractors • General Public • Construction Industry • Industrial Facilities • Commercial Businesses 	<ul style="list-style-type: none"> • Number of unique visitors (Website) • Number of pageviews (Website) • Pages viewed per session (Website) • Bounce rate (Website) • Number of new "Likes" (Facebook) • Number of impressions (Facebook) • Number of new "Followers" (Twitter) • Number of new videos (YouTube) • Number of views (YouTube) • Number of new subscribers (E-newsletter) • Open rate (E-newsletter) • Survey 	<ul style="list-style-type: none"> • 2,000 unique visitors per year • 10,000 pageviews per year • Two pages viewed per session (average) • Bounce rate below 55% • 15 new "Likes" per year • 45,000 impressions per year • 10 new "Followers" per year • One new video per year • 50 views per new video • 25 new subscribers per year • Open rate greater than 20% • Increased awareness
Advertising	<ul style="list-style-type: none"> • General Public 	<ul style="list-style-type: none"> • Survey 	<ul style="list-style-type: none"> • Increased awareness

**Evaluation indicators and goals are subject to change during the permit term and changes will be disclosed in the Annual Report*

Public Education and Outreach Plan

APPENDIX B: PUBLIC AWARENESS SURVEY

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STORM WATER MANAGEMENT PROGRAM

Public Awareness Survey

PURPOSE

The purpose of this brief survey is to evaluate the progress of the State of Hawaii Department of Transportation, Highways Division, Oahu District's public education program. Our goal is to be proactive in increasing the public's storm water awareness along with educating the public about water quality issues. Please provide constructive feedback that we can incorporate into our strategy to better educate Hawaii's future about how they can keep Hawaii's water clean.

DEMOGRAPHICS

Gender: Male/Female (circle one)

Hawaii Resident: Yes/No (circle one)

If yes, what is the zip code of your residence?: _____

Age (circle one):

- a. Under 18
- b. 18 – 24
- c. 25 – 34
- d. 35 -64
- e. Over 65

For more information, please provide your email address: _____

AWARENESS

1. What is storm water? (circle one)

- a. Excess water that results from overwatering your lawn
- b. Water from rainfall that runs off roads and other surfaces and eventually into the ocean
- c. Water that has been used for industrial or manufacturing processes, and thus contains waste products
- d. Ocean water that evaporates into the clouds, eventually causing rain
- e. Water beneath the Earth's surface that supplies wells and springs

2. Is storm water treated before it enters the ocean?: Yes/No (circle one)

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3. In your opinion, what is the major type of pollution in storm water runoff? (circle one)
- a. Litter, such as cigarette butts, cans, paper or plastic bags
 - b. Chemical pollution, such as detergents, paints or fertilizers
 - c. Green waste, such as leaves, garden clippings or animal droppings
 - d. Soil and sediment from construction projects and poorly vegetated land
 - e. Oil and grease from vehicular traffic and spills
4. Are you familiar with any of the following?:
- a. "No dumping, drains to ocean" placards at storm drains: Yes/No (circle one)
 - b. Adopt-a-Highway volunteer cleanups: Yes/No (circle one)
 - c. Storm Water Hawaii website: Yes/No (circle one)
 - d. Storm Water Hawaii Facebook Page: Yes/No (circle one)
 - e. Stick It To Storm Water activity book: Yes/No (circle one)
 - f. Street sweeping vehicles: Yes/No (circle one)
 - g. Stick It To Storm Water Restaurant Placemats: Yes/No (circle one)
 - h. Storm Water Hawaii Instagram: Yes/No (circle one)
 - i. Public Service Announcement Featuring Jordan Segundo: Yes/No (circle one)
5. The best way to clean up an oil spill on a driveway is to scrub it with detergent and hose it off into the gutter: True/False (circle one)
6. Landscaping your yard can help reduce storm water runoff: True/False (circle one)
7. It is okay to place wastewater or water containing soaps, paint, cleaning products, or grease and oil into streets or storm drains: True/False (circle one)
8. Do you do any of the following?:
- a. Dump waste in storm drains: Yes/No (circle one)
 - b. Prevent grass clippings from going on to the street: Yes/No (circle one)
 - c. Dispose of all household chemicals properly: Yes/No (circle one)
 - d. Sweep your driveway clean: Yes/No (circle one)
 - e. Hose down your driveway: Yes/No (circle one)
 - f. Pick up after your pet: Yes/No (circle one)
9. What do you see as the underlying cause(s) of pollution in our oceans? (circle all that apply):
- a. Lack of education
 - b. Cost to prevent and maintain
 - c. Apathy
 - d. Lack of enforcement
 - e. Other: _____

THANK YOU FOR YOUR PARTICIPATION!