Inspections 101-Pre-inspection checks & Inspections





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Speaker

Claudia Akroyd, CHST, CISEC BOWERS + KUBOTA CONSULTING

Project Inspector

Responsible for conducting independent inspections of DOT-HWYS Contract Construction projects in accordance with DOT-HWYS National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit on Oahu

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New Revised BMP Manual

Construction Best Management Practices Field Manual





State of Hawaii Department of Transportatior Highways Division October 2021

Went into effect October 1, 2021 for all projects

Available for download

- stormwaterhawaii.com
- Resources
- · Contractor & Consultants
- · Contractors
- Look for Manual listing with (Oct 2021) after the title.

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What will be covered





What should be in the SWPPP

How to survive an inspection



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What I will check for in SWPPP

Permits to include 401 or 404	
Certification	
Acreage Disturbed	
Drainage Maps/Outfalls	
Impaired Waters	
Buffer Zone Requirements	
BMP Phasing	
Staging Areas	DOTECT
Solid Waste Disclosure Forms	DURWATER

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Permit Vs. Non-Permit Templates

Permitted Project Template

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

> Project Title: Pali Highway Resurfacing Vineyard Blvd. to Waokanaka St. Project No.: NH-061-1(036)

Non-Permitted Project Template

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Project Title: Traffic Signal Modernization, Oahu - Phase 1 Project No.: STP-0300(163)R

Based on HDOT Permitted SWPPP Template dated 7/24/2017

DOH Individual NPDES Permit File No. HI R10F938 Prepared by: Road and Highway Builders, LLC Date: February 12, 2021

Based on HDOT Permitted SWPPP Template dated 7/24/2017

Based on HDOT Non-Permitted SWPPP Template dated 05/12/2016

Prepared by: Jack Endo Electric, Inc. Date: June 24, 2021

Based on HDOT Non-Permitted SWPPP Template dated 05/12/2



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Permits Required to be Part of SWPPP

NGPC - General or Individual plus the NOI to get the permit

401

404

Other Permits such as Dewatering (Appendix G), Hydrotesting (Appendix F), etc.

READ THE PERMITS

Some permits have specific requirements or require additional plans



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Certification Required for SWPPP and Each Amendment

Certification for SWPPP

Two methods for Certification of Amendments

7.2.17 Certification of the CWB SWPPP

The certifying person and duly authorized representative shall meet the requirements of Hawaii Administrative Rules 11-55, Appendix A, Section 15.

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: MK Madenos

Date: Sep 20, 2021

Person Name: Michael K. Medeiros

Person Position Title: Oahu District Engineer

Person Company or Agency: Department of Transportation

Department: Department of Transportation

Division: Department of Transportation, Highways Division

Phone Number: (808) 831-6700 Ext. 128 Fax No.: (808) 831-6725

Person Email: mike.medeiros@hawaii.gov

SWPPP AMENDMENT 10 (12/14/2020 SWPP Storm Water Best Management Practices Improvements at Maintenance Buseyands on Onthe 1919 0

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Person Company or Agency: Department of Transportation

Department: Department of Transportation

Division: Department of Transportation, Highways Division
Phone Number: (808) 831-6700 ext. 126 Fax No.: (808) 831-6725
Person Email: mike.medeiros@hawaii.gov

Department: Department of Transportation

Signature

Person Name: George Ab

Person Position Title: Oahu District Engineer

Person Company or Agency: Department of Transportation

Division: <u>Department of Transportation, Highways Division</u> Phone Number: <u>(808) 831-6700 ext 126</u> Fax No.: (808) 831-6725

Person Email: George. Abcede@hawaii.gov

AMENDAVENTI No. 2 & 3 Signature Date

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7.2.17 Certification of the CWB SWPPP

Vicinity of Kili Drive to Satellite Tracking Station 9 19 17

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Acreage Disturbed

Corrected Page of Disturbed Area for Paving Project – No Reconstruction

7.0.1 Notes for Contractor/HDOT Construction Personnel

NOTE: Currently, the project does not have an NPDES Permit to authorize discharges of storm water associated with construction activity.

The Contractor shall keep track of the total disturbed area. If the area is one acre or more, it will trigger an NPDES Permit.

RT 7/8/21 Total Disturbed Area (including Staging Areas) = 7.50 Acres 0.25 Acres

Project Disturbed Area = 7.25 Acres 0 Acres RT 7/8/21 Staging Area = 0.25Acres

HDOT SWPPP Template

Page 4 of 87

Rev. 7/24/2017

Projects 1 acre or more require Permit Definition of Disturbed Area per HAR 11-55, App C, Para 1.4

- Penetration, turning, or moving of soil
- Resurfacing or pavement exposing base course, bare soil or ground surface
- Land surface for construction roads
- Baseyards
- Staging Areas
- Demolition
- Headquarters
- Parking Areas
- Grubbing

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Drainage Maps and Outfall

Critical to determining if areas drains to impaired waters

· List of impaired waters found thru Dept of Health, Clean Water Branch website

Should include AMS (Asset Management System) Project and State Water Maps (Outfall locations)

· Should include Discharge Points or the ultimate outfall for drains on the project site

Flow direction is required on the plan sheets

Examples of various forms





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Discharge Map

Pacific ischarge Point #9 uuanu Stream Discharge Point #10 Nuuanu Stream Juuanu Stream Discharge Point # Nuuanu Stream Discharge Point #6 Nuuanu Stream Discharge Point Nuuanu Strean 1ay 23, 2019 Attachment A-3 -Manhole Culvert Entrance CCH Drainage Networ CCH Stern Water Structure **Drainage Mapping** Culvert Entrance 🖕 Inlet Culvert Manhole Catch Basin

Discharge Formap

The stabilization schedule for this project is:

Discharge Points 1 to 3, 5-10, 12-13 and Discharge Point 15 discharge to nutrient or sediment impaired waters. The following applies to construction areas discharging to these outfalls:

Immediately initiate and complete stabilization within 7 calendar days on areas of the site in which earth-disturbing activities have temporarily or permanently ceased.

Discharge Points 4, 11, 14 and 16-18 discharge to waters not impaired for nutrients or sediments. *The following applies to construction areas discharging to these outfalls:*

Immediately initiate and complete stabilization within 14 calendar days on areas of the site in which earth-disturbing activities have temporarily or permanently ceased.

All areas of soil disturbance will be overlaid with concrete, erosion control matting, and/or hydromulch. Nuuanu Stream and all it's tributaries (Mo'ole Stream, Makuku Stream, Niniko Stream, Nuuanu Reservoir, Pauoa Stream, Unnamed Gulch, and Waolani Stream) is an impaired water system for Total Nitrogen, Nitrate+Nitrite-Nitrogen, Total Phosphorus, Turbidity, Total Suspended Solids, and Other Pollutants (Dieldrin, Chlordane and trash). The Contractor will be complying with the deadlines in Section 5.2.1.3.2, with completion of initial plantings within 7 calendar days of completion of prepping the soil for planting. Mulch will be applied to the exposed areas. The Contractor shall notify the Engineer for his agreement if any stabilization practices or timetables to complete stated above will not be followed and document the reasons in the SWPPP below.



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Inlet Maps



Blue number is inventory cleaning number painted in red on each drain

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Drainage with Flow and Disturbed Area



≻Good example

- Shows direction of flow on road (1)
- Shows direction of flow in culvert pipe between inlets (2)
- Shows work area to be disturbed in red (3)
- Will probably need to add additional inlet protection below bottom red line (4)

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Secondary Perimeter Protection – Buffer Zones

HAR 11-55, Appendix C, Paragraph 5.1.2.1 : Requires to provide natural buffer zones <u>and</u> <u>sediment control</u> when a state water is located within 50 feet of the project's earth disturbance.

When an undisturbed natural buffer zone of 50 feet is not possible then double sediment control (e.g. double perimeter control) will be provided spaced a minimum of 5 feet apart.

There are exemptions for linear construction projects such as roads spelled out in the template in Section 7.2.9 – Buffer Documentation. NOT AUTOMATIC

Some linear project will require buffer zones or secondary perimeter protection – checking the exemption box doesn't mean it's not required

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Hawaii Revised Statutes Definition of Shoreline

Hawaii Revised Statutes TITLE 13. PLANNING AND ECONOMIC DEVELOPMENT 205A. Coastal Zone Management defines "shoreline" as "the upper reaches of the wash of the waves, other than storm and seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves."

NOTE: This definition includes King Tides



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Example of Secondary Protection in Lieu of Natural Buffer Zone

Leeward Bikeway: Philippine Sea Rd to Waipahu Depot St

Construct a 8-10 foot-wide bikeway within an existing right of way

Will also include reconstruction of two existing bridges

Total length of the construction area is 3.2 miles

Portion runs by the Pouhala Marsh





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Natural 50-foot Buffer Zone



Must be undisturbed

Must still install sediment control



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No Natural 50 Feet Buffer Zone

BMPs starting to be installed

Secondary protection in place 5 feet from first





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BMPs and Their Installation



What is presented in the Bid documents is NOT a full BMP Plan



Everything installed or phasing plan spelled out

Construction scheduled is not a phasing plan



Provide information on what is to be used and installation instructions Include anything you may want to use Best to include BMP detail sheets from the construction drawings



Any elective change in BMPs must be in an approved/signed amendment prior to implementation



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Contractor's Required to Flesh Out SWPPP from Bid Documents



- Bid documents BMP layout is to "General Intent" not the final plan
- Drawing shows only single compost filter sock at mouth of each side of the culvert.
- No BMPs around site where equipment would work
- Each culvert some distance from the roadway



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Work Area Goes Beyond Culvert Mouth







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Phasing of BMP Installation

\succ Template contains the following statement:

All Perimeter Sediment Control and Inlet Protection BMPs will be installed prior to construction. These BMPs meet Section 5.1.1.3.1 as the inlets protected and the perimeter

> Once installed, must be maintained

➢Phasing can be by site or section – must be spelled out in SWPPP

- Suggest you also include criteria for removal saves another amendment
 - >NOTE: Removal can only be authorized by DOT (Project Engineer), never contractor on their own volition



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Staging Areas By Any Other Name

Staging Areas

Laydown Yards

Baseyards

Stockpile Areas



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General Requirements

Locations identified in the SWPPP

SWPPP must allow stock/spoil piles

If area is not specifically identified – AMEND THE SWPPP

Area included in project disturbed area – Cumulative

Layout



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Location/Layout Examples





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Paving Project Example



Long and linear

Can include a standard layout for shoulder staging area

May not be specifically identified at SWPPP development

Again, must specify areas – Amendments

May need to add acreage to project acreage if not in construction area



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Solid Waste Disclosure Form

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STATE OF HAWAII DEPARTMENT OF HEALTH SOLID WASTE SECTION

Solid Waste Disclosure Form for Construction Sites

The following form shall be filled out for construction projects either identified as under 40 CFR 122.26(b)(14)(x) or produces (or will produce) dredged spoils. A response must be provided for each item. If an item is not IT.

Applicable" (N/A), with a This form helps the Depart identify sources of constr

debris. Property owners, responsible for ensuring t Violators of Chapter 11-58 are subject to enforcement

Mail completed forms to thIII. P.O. Box 3378, Honolulu, H this form should call (80)

Ι. Site Information

- Α. Site Address: K
- В. Name of Owner:
- C. Owner address:
- D. Owner phone num
- Tax Map Key (TM Ε. F. Size of Site (a

- County Permit Information
- Issuing County Agency: N/A Α. Grading permit no .: N/A Β. С. Demolition permit no .: N/A D. Grubbing/Stockpiling permit no.: N/A

Site Activity Information

- State the kinds of site clearing activities to be Α. completed. State final use of site: The scope of work is to resurface & roadway and reconstruct weakened pavement; adjust utility manholes; install pavement striping; and install vehicle detector loops Final use of site is as a paved roadway for public use.
- Describe structures on site (if none, indicate N/A): Β. N/A

If structures exist, are they to be demolished or removed? no. If yes, submit copy of building ves assessment.

Destination of Waste Materials:	
 Building demolition materials. To landfill (name): West Oahu Aggregate or PVT Land Company 	
<pre> concrete (specify) Dirty concrete, dry conc slurry (WOA) scrap metal (specify) </pre>	
<pre>non-ferrous metals (specify)</pre>	
I other (specify) Ex. Aggregate Base or subgrade; excavated mixed materials (P	VT)
To permitted recycling facility (name): West Oahu Aggregate (Clean Concrete); Hawaiian Earth Products (green waste)	
<pre> concrete (specify) manholes green waste (specify) non-ferrous metals (specify) scrap metal (specify) other (specify)</pre>	
For re-use. State what wastes are to be reused and where: Clean cold plane materials will be hauled to National Asphalt plant and be reclaimed (not recycled). The materials will be incorporated into new hot mix aspahlt pavement	ed
2. Dredged spoils: To landfill (name): <u>N/A</u>	
To permitted recycling facility (name):	_
For re-use (list address and TMK No.):	_



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Inspection Steps

Read	Read the SWPPP and any/all Permits and Amendments	
Meet	Meet with DOT Project Staff for project briefing/clarification	
Check on	Check on site documents - First visit I will check the Pre-Construction Verification Inspection Report	
Meet	Meet with Contractor should the DOT Project Staff desire	
Walk	Walk the site looking at BMP placement and topography (with DOT/Project staff if available)	
Take	Take pictures of both good and bad	
Brief	Out brief Project Staff (and contractor if available) This is the date of notification and starts the correction clock, not when the report is received.	
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Write up and transmit	Write up and transmit inspection report	OUR WATER
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Areas Requiring Inspection

Areas that have been cleared, graded, or excavated (Disturbed Areas)

Storm water controls, installed and maintained on site to comply with permit

Areas where sediment and other pollutants may have accumulated or deposited

Areas where storm water typically flows

Points of discharge from the site – even if not raining

Locations where stabilization measures have been initiated

Best time to inspect is when it is raining

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Pre-Inspection Tips



Walk the site – check the BMPs

Best done day before inspection







Bigger stuff – have a crew start the repairs.

Report if repaired during inspection - circle back with inspector



Lay on a standby repair crew during inspection

Report if repaired during inspection – circle back with inspector



Good intentions go a long way with any inspector



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Inspection Strategy

Be upbeat

Be prepared for an inspection everyday

Have an inspection strategy

Document the inspection – take pictures and notes

Don't argue with DOH

Problems – talk to inspector – they may have ideas or examples from other projects

Be up front and honest

Don't make excuses



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Inspection Strategy - Continued



Correct as soon as possible



Document corrections - Take pictures of correction



Don't tell the inspector what you think they want to hear



DON'T WAIT FOR THE INSPECTOR TO COME AND TELL YOU SOMETHING IS WRONG. FIX IT. OWN THE PROBLEM AND THE SOLUTION.



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Questions?



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