

IDDE BUDGET PLANNING AND HAZARDOUS WASTE MANAGEMENT

2022 MS4 Permit Preparation Workshop
February 17, 2022
Online Teams 10 am to 12 pm



TARGET AUDIENCE AND GOALS

TARGET AUDIENCE: Municipal Coordinators and Managers in charge of MS4 budgets and IDDE implementation

GOALS - AFTER THIS WORKSHOP:

1. You will be refreshed on the planning documents you have already created and the 2022 MS4 General Permit requirements.
2. You will understand how to use a model IDDE budget spreadsheet.
 - created for this workshop
 - includes staff hours and expenses, including labs/equipment/contracts, and
 - Focuses on dry weather monitoring requirements (new permit requirement, and potential for hazardous waste generation)
3. You will understand which test kits generate hazardous waste, and what level of effort is required for management and proper disposal.



AGENDA

PLANNING AND BUDGETING FOR IDDE

- Refresh on purpose and content of Plans prepared in 2021
- Review Permit requirements and budget spreadsheet side by side
- Present various options for compliance as we discuss each section, including advantages and disadvantages of each option
- The Spreadsheet and this PowerPoint will be emailed to you after the workshop
- Questions at end of each section or in chat as we go.



YOUR GUIDE: IDDE PLAN & QAPP

- Submitted to DEP in 2021 as part of your Stormwater Management Plan (SWMP)
- Describe frequency of inspections and monitoring procedures for flowing outfalls
- Provide Thresholds for follow up after sampling (investigations based on concentrations detected)
- Basis for your budgeting and implementation
- Small changes can be resubmitted with the updated SWMP spring 2022 (itemize them for DEP)



2022 IDDE REQUIREMENTS

(MINIMUM CONTROL MEASURE 3 IN 2022 MS4 GENERAL PERMIT)



1. OUTFALL INSPECTIONS

Each Outfall must be inspected at least once each permit cycle during dry weather.

New permit text: “... observations of sheen, discoloration, foaming, evidence of sanitary sewage, excessive algal growth, and similar visual indicators, as well as detection of odor.”



2. DRY WEATHER FLOW MONITORING

New permit requirement:
Outfalls that are flowing after 72 hours of no precipitation or no snow melt must be sampled once per permit cycle.



IDDE BUDGETING

Basis: Build from your existing knowledge base

- Check your IDDE Plan for your municipal frequency
- Total # outfalls (piped and ditch outfalls)
- Percentage outfalls with dry weather flow
- How many illicit discharges do you investigate each year?

Staff Time tip for Success

- Assume two people will do the monitoring portion, even if one can do the normal dry weather inspections.
- Schedule the monitoring days in advance (plan to visit ~4 outfalls/day that you suspect will be flowing and be all ready to sample them).

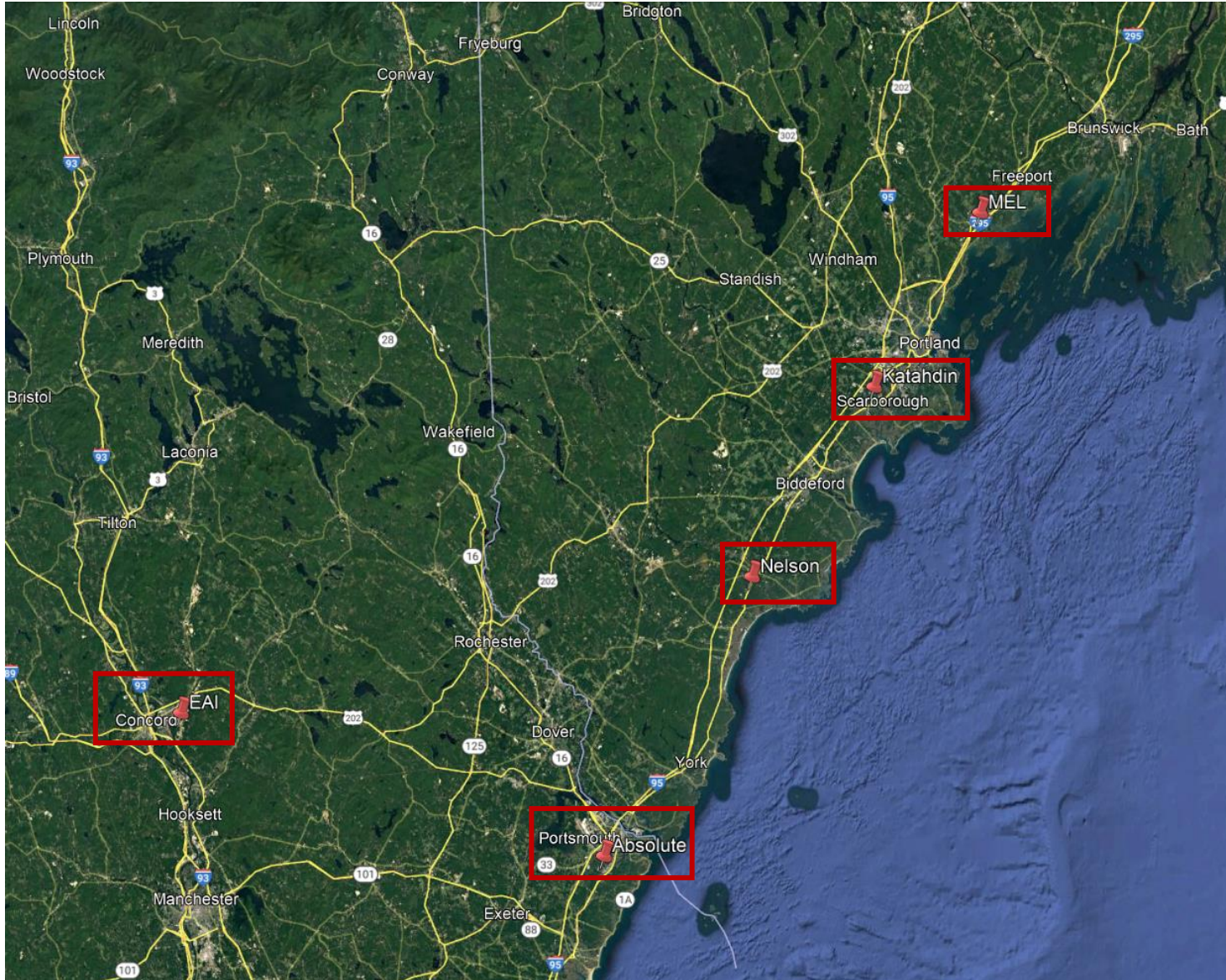


2. FLOW MONITORING PARAMETERS

Outfalls that flow during dry weather must be monitored for the following:

E. coli, enterococci, total fecal coliform or human bacteroides	Lab or WWTP
Ammonia	Field
Total Residual Chlorine	Field
Temperature and conductivity	Field
Optical enhancers or surfactants	Field, Lab or MHB

LAB LOCATIONS



Maine Environmental Lab
1 Main Street
Yarmouth, Maine

Katahdin Analytical
600 Technology Way
Scarborough, Maine

Nelson Analytical Lab
120 York Street
Kennebunk, Maine

Absolute Resource Associates
124 Heritage Avenue #16
Portsmouth, New Hampshire

Eastern Analytical, Inc
51 Antrim Avenue
Concord, New Hampshire



2. LAB PRICING & CONTACTS

	MEL	EAI	Katahdin
E. coli	\$35	\$28 (no courier)	\$30
Enterococcus	\$40	\$28 (no courier)	\$35
Fecal Coliform	NA	\$28 (no courier)	\$35
Ammonia	\$34	\$17.50 ⁽²⁾	\$70 ⁽³⁾
Surfactants	\$93.75 ⁽¹⁾	NA	\$70
Total Phosphorus	\$34	\$17.50	\$35
Total Suspended Solids	\$20	\$10.30	\$25
Biochemical Oxygen Demand	\$40	\$28	\$38
TPH (DRO and GRO)	\$185 ⁽¹⁾	\$112	\$140
Nitrate + Nitrite	\$46 ⁽¹⁾	\$10.50 ⁽²⁾	\$30
Total Kjeldahl Nitrogen	\$50 ⁽¹⁾	\$28	\$40

1. MEL would subcontract these analyses. Can only receive bacteria samples Mon-Thurs 8 am to 4 pm and requests 24-hour prior notice.
2. EAI proposed alternate methods: Ammonia: Timberline Ammonia-001 & Nitrate+Nitrite: EPA 353.2. Courier service would need to be discussed/determined in advance due to short hold times. No courier service available for bacteria samples.
3. Katahdin assumes distillation prep for Ammonia.
4. Nelson Analytical and Absolute Resources did not provide quotes, but do offer these analyses.

Maine Environmental Lab
 Jackie Villinski, Technical Director
jackie@mei-lab.com
 207-846-6569
 Quote # GZA-012522

Katahdin Analytical
 Darrian Lewry
dlewry@katahdinlab.com
 207-874-2400
 Quote to GZA dated 1/26/2022

Eastern Analytical, Inc
 Mike Serard
mica@easternanalytical.com
 603-228-0525
 Quote to GZA dated 1/24/2022



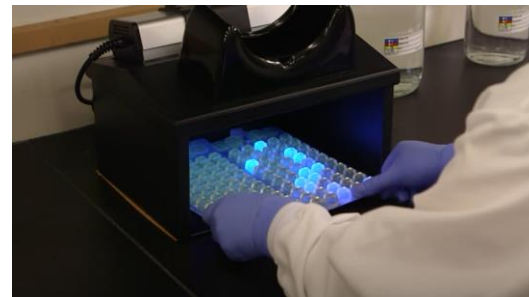
2. FLOW MONITORING PARAMETERS

- ✓ E. coli, enterococci, total fecal coliform or human bacteroides;

Thresholds From QAPP:

Parameter	Thresholds for further investigation	
E. coli	>236 cfu/100 ml (streams/rivers)	>194 cfu/100 ml (great ponds)
enterococcus	>94 cfu/100 ml (Class SC)	>54 cfu/100 ml (Class SA or SB)
fecal coliform	>100 cfu/100 ml (Class SC)	>61 cfu/100 ml (Class SA or SB)
Human bacteroides	>4,000 col/100 ml (marine, for swimming/beach)	Recommend > 500 col/100 ml (all other waters)

or WWTP



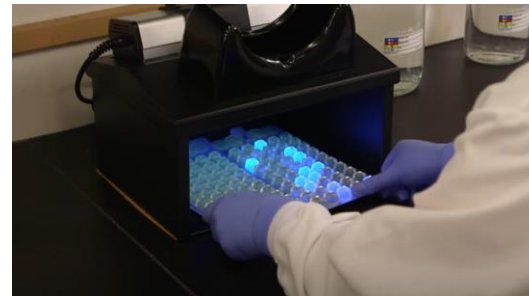
2. FLOW MONITORING PARAMETERS

- ✓ E. coli, enterococci, total fecal coliform or human bacteroides;

Commercial Labs:

Parameter	Method	MEL (Yarmouth)	EAI (Concord, NH)	Katahdin (Scarborough)	Use
E. coli	SM 9223 B or SM 9221 B	\$35	\$28 (no courier)	\$30	Freshwater
enterococcus	SM 9230 B, C or D, EPA 1600	\$40	\$28 (no courier)	\$35	Marine waters
fecal coliform	SM 9222 D or SM 9221 C, E	N/A	\$28 (no courier)	\$35	Either fresh or marine waters
Human bacteroides (see spreadsheet)		N/A	N/A	N/A	Good confirmation if human source

or WWTP



2. FLOW MONITORING PARAMETERS

- Ammonia (Must be able to detect 0.5 mg/L, threshold for investigation)

Commercial Lab:

Parameter	Method	MEL (Yarmouth)	EAI (Concord, NH)	Katahdin (Scarborough)
Ammonia	Laboratory Method EPA 350.1/350.2 or Timberline Ammonia-001	\$34	\$17.50 (Timberline)	\$70 (distillation prep)

Or Test Strips:



Or Hach Ammonia Test Kit

(\$600 and generates Hazardous Waste):



2. FLOW MONITORING PARAMETERS

✓ **Total Residual Chlorine** (must be able to detect 0.05 mg/L, threshold for additional investigation)

Use BOTH Test Strips:



Industrial Test Systems
(0-0.2 mg/L ultra low)



Total Chlorine test strips
(0-5 mg/L shown here)



OR use Hach Pocket Colorimeter and purchase reagents annually:



2. FLOW MONITORING PARAMETERS

✓ Temperature and Conductivity

Meter:



Calibration Reagents
(2 typical shown):



There are many meters available, all around the same price point. Though no permit requirements, you want one that has a temperature of 10 to 100 °F, and conductivity of about 100 to about 2,000 uS/cm.

2. FLOW MONITORING PARAMETERS

- ✓ Optical enhancers (no minimum reporting Concentration) or surfactants (0.25 mg/L)

Commercial Lab (short hold time, requires advance notice):

Parameter	Method	MEL (Yarmouth)	EAI (Concord, NH)	Katahdin (Scarborough)
Surfactants	SM5540C	\$93.75	N/A	\$70

Or Test Kit:



Surfactants advantage: provides a broader range of detergents than optical brighteners (laundry only).

Surfactants disadvantage (kit):



Or Optical Brighteners: Maine Healthy Beaches (requires advanced coordination)



2. FLOW MONITORING PARAMETERS



- ✓ If Surfactant test kits – a few notes
 1. Maine DEP Rules prohibit using surfactant kit in the field (cannot transport hazardous waste without a proper transport license)
 2. Must use test kit at point where hazardous waste will be stored.
 3. Expired, unusable test kits must be disposed of as hazardous waste also.

- Clear 0.25 ml ampules contain n-propanol (has a flash point of 73.4°F)
- Hazardous waste code is D001 Ignitable (FP <140°F)



- Blue double tipped ampules contain 71% chloroform and have a pH of 1.35.
- Hazardous waste codes are D002 Corrosive (pH \leq 2 and D022 for chloroform toxicity).



2. FLOW MONITORING PARAMETERS

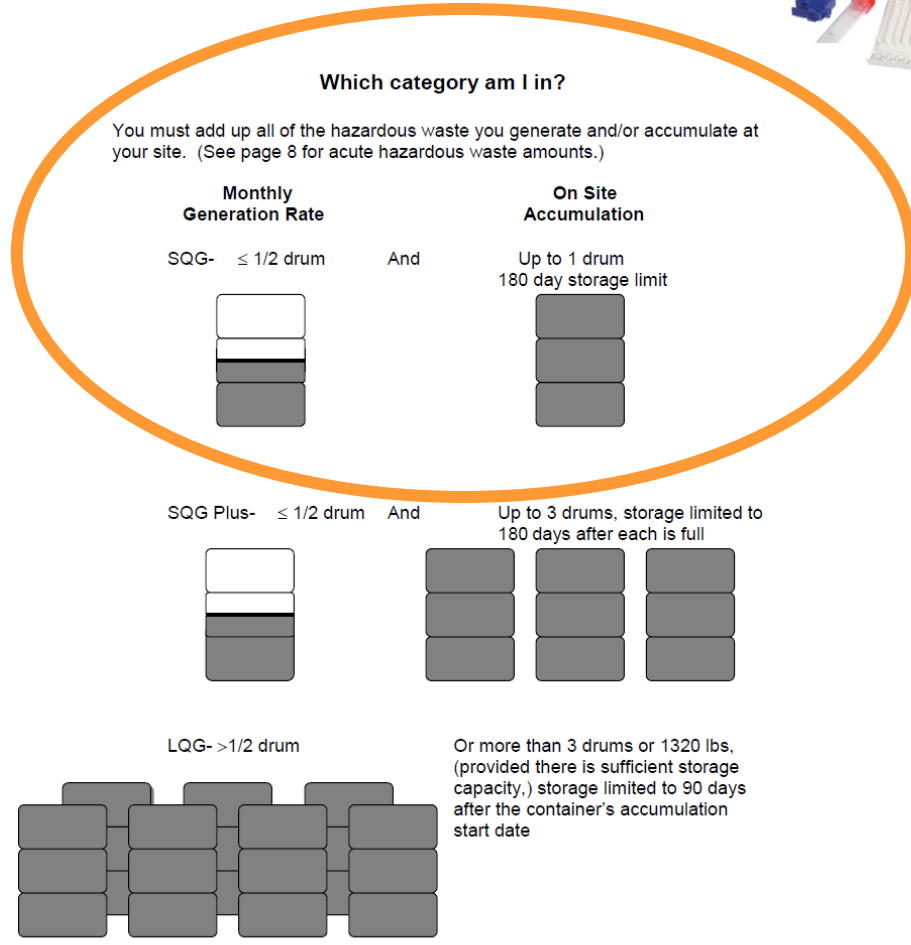
✓ If Surfactant test kits –



State of Maine

Handbook for Hazardous Waste Generators

June 2018



You will generate very little, and would likely be a Small Quantity Generator (Maine SQG)



2. FLOW MONITORING PARAMETERS

✓ If Surfactant test kits –



Maine DEP - Handbook for Hazardous Waste Generators
June 2018

Management Requirements for SQGs

The following requirements must be met by each SQG that stores a total of 55 gallons or less of hazardous waste:

1. Determine which of your wastes are hazardous
For more information, see page 11, paragraph #1 of this handbook
2. Store hazardous wastes in containers of 55-gallon size or less
See the Rules, Chapter 850.3(A)(5)(d)(ii)
3. Label each container "Hazardous Waste"
See page 11, paragraph #2 of this handbook
4. Label each container with the date you first deposit waste in it, and with the date the container becomes full
See the Rules, Chapter 850.3(A)(5)(d)(ii)
5. Ship each full container off site within 180 days of filling
See the Rules, Chapter 850.3(A)(5)(d)(vi)
6. Use a hazardous waste manifest form
See page 11, paragraph #5, and page 18 of this handbook
7. Use a hazardous waste transporter, licensed by the state of Maine
See page 12, paragraph #6 of this handbook
8. Send waste to a licensed, authorized hazardous waste facility
See page 12, paragraph #7 of this handbook
9. Report all hazardous waste & hazardous matter discharges to the DEP
See page 12, paragraph #8 of this handbook
10. Do not treat hazardous waste unless licensed to do so
See page 12, paragraph #9 of this handbook

Note: SQG in this category may use Maine's generic generator ID#, **MEX02000000** on manifests, and need not obtain their own generator EPA ID#. However, if a site already has been previously assigned a site-specific generator EPA ID# number, then it must be used instead of the generic number. For more information, see page 12, paragraph #10 of this handbook, and box 1 on Appendix C.

APPENDIX A

WEEKLY INSPECTION CHECKLIST FOR HAZARDOUS WASTE CONTAINER STORAGE AREAS

DATE: _____ TIME: _____

INSPECTOR: _____

OBSERVATION	YES	NO
ARE ANY CONTAINERS OF WASTE OPEN?		
DO ALL CONTAINERS HAVE A HAZARDOUS WASTE LABEL?		
DO YOU HAVE ACCESS TO EACH CONTAINER AND CAN YOU READ THE LABEL? (36" AISLE)		
WHAT DATE WAS 90 DAYS PRIOR TO TODAY'S INSPECTION DATE?		
IS EACH CONTAINER MARKED WITH THE DATE ACCUMULATION BEGAN, OR IF FROM A SATELLITE ACCUMULATION AREA, THE DATE THE CONTAINER BECAME FULL?		
IS THE DATE ON ANY CONTAINER MORE THAN 90 DAYS OLD?		
ARE CONTAINERS DENTED, BULGING, RUSTED OR LEAKING		
ARE ALL CONTAINERS ON A FIRM WORKING SURFACE?		
IS THERE SUFFICIENT CONTAINMENT TO HOLD 20% OF ALL WASTE OR 110% OF THE LARGEST CONTAINER?		
WAS THE STORAGE AREA LOCKED WHEN YOU ARRIVED?		
DOES THE STORAGE AREA HAVE SIGNS THAT READ "DANGER UNAUTHORIZED PERSONNEL KEEP OUT"?		
WAS LAST WEEK'S INSPECTION COMPLETED?		

PROBLEMS:

REFERRAL TO:	
FOLLOW UP:	
ALL PROBLEMS CORRECTED ON (DATE)	(DATE)

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: _____ 2. Page 1 of 3 3. Emergency Response Phone: _____ 4. Manifest Tracking Number: _____

5. Generator Name and Mailing Address: _____ Generator's Site Address (if different than mailing address): _____

6. Generator's Name: _____ U.S. EPA ID Number: _____

7. Transporter 1 Company Name: _____ U.S. EPA ID Number: _____

8. Designated Facility Name and Site Address: _____ U.S. EPA ID Number: _____

9. Facility's Phone: _____

10. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))

No.	U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit (kg, lb, etc.)	13. Waste Codes
1.						
2.						
3.						
4.						

14. Special Handling Instructions and Additional Information: _____

15. GENERATOR/SUPPLIER'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/carcared, and are in all respects in proper condition for transport pursuant to applicable international and national governmental regulations. If export shipment and I am the shipper, Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste destination statement (identified in 40 CFR 263.20 (b) (1)) is an actual waste generator or that I am a serial waste generator in train.

Generator's Name (Printed/Typed Name): _____ Signature: _____ Month: _____ Year: _____

16. International Shipments: Import to U.S. Export from U.S. Port of embarkment: _____ Date leaving U.S.: _____

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 (Printed/Typed Name): _____ Signature: _____ Month: _____ Day: _____ Year: _____

Transporter 2 (Printed/Typed Name): _____ Signature: _____ Month: _____ Day: _____ Year: _____

18. Discrepancy

18a. Discrepancy Indication Space: Quantity Type Residue Partial Reception Full Reception

18b. Alternate Facility (or Generator): _____ U.S. EPA ID Number: _____

18c. Signature of Alternate Facility (or Generator): _____ Month: _____ Day: _____ Year: _____

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, storage and recycling systems)

20. Designated Facility Owner or Operator. Certification of receipt of hazardous material covered by this manifest (except as noted in item 18a)

Printed/Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

EPA Form 600-22 (Rev. 12-17). Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

2. FLOW MONITORING PARAMETERS

✓ If Surfactant Test Kits – Hazardous Waste Management

Highly recommend you use location where Hazardous Waste is already being generated and stored.

Minimum requirements:

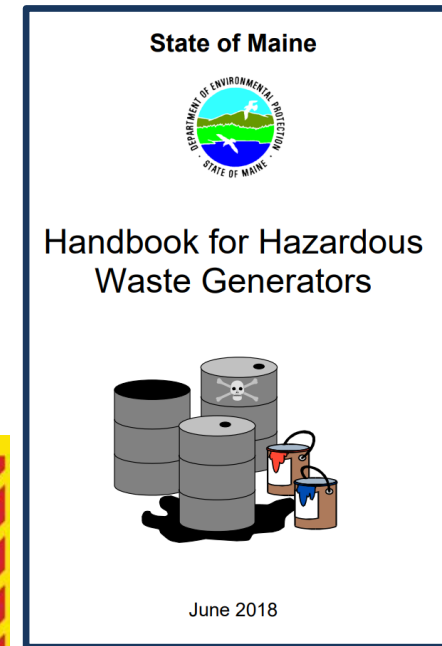
- Obtain contract with transporter/disposal facility and profile the waste with them. (8 hours)
- Storage in brown amber jar (EPA preference)
- Use secondary containment (only required for large quantity Generators, but recommended for all)
- Minimum Weekly inspections of waste (1/4 to 1/2 hour/week)
- Proper labelling of containers and general area required
- Ship within 90 to 180 days of filling container depending on generator status, but recommend annual disposal (\$300 for 5 gallon pail)
- Training for two manifest signers/inspectors (16 hours)

HAZARDOUS WASTE
STATE AND FEDERAL LAWS PROHIBIT IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCE CONTROL

GENERATOR'S INFORMATION
NAME: _____
ADDRESS _____ PHONE _____
CITY _____ STATE _____ ZIP _____
EPA ID NO. _____ MANIFEST TRACKING NO. _____
EPA WASTE NO. _____ CA WASTE NO. _____ ACCUMULATION START DATE _____
CONTENTS, COMPOSITION: _____

PHYSICAL STATE: [] SOLID [] LIQUID | HAZARDOUS PROPERTIES: [] FLAMMABLE [] TOXIC [] CORROSIVE [] REACTIVE [] OTHER _____

[_____]
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX
HANDLE WITH CARE!



2. FLOW MONITORING EQUIPMENT

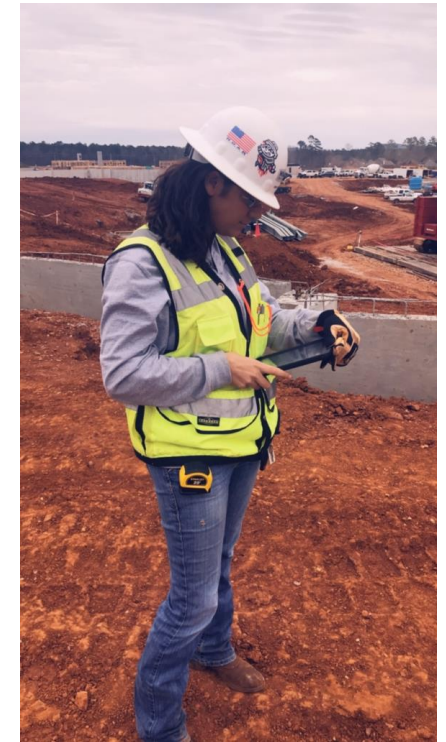
- ✓ QAPP contains list of items useful to conducting the dry weather flow monitoring.
 - Review items and update costs as needed.
 - Include replacement electronic data collection device such as iPad if needed.



ISWG and SMSWG
 Stormwater Monitoring Program QAPP
 2/8/2021
 Revision 1

Table 1 Field Equipment for Monitoring

1 Gallon of Distilled or de-ionized water for rinsing
1 Roll Paper towels
3-5 clean plastic 250 ml beakers for water sample collection in Baggie marked "Clean" or disposable "whirl bags"
Garbage bags
1 long sampling pole and or sampling pump and tubing
Equipment to remove and access catch basin covers if needed (pull, hammer, crowbar)
Field equipment/test kits (see Table 2) and bottles for any laboratory samples or off-site field test kits. Ensure field test kits reagents have not expired typically keep bottles for 3-5 samples available
Non-latex gloves
Box of 1 gallon plastic bags
Cooler with ice
Camera or phone
Safety Vest
Steel toed boots, waterproof
scissors
Sun screen and bug spray
Clip board
3-5 Field Data Sheets (See Addendum 1)
Chain of Custody (Addendum 3)
Sharpies and water-proof pens
Packing tape and Duct tape
Sheet of blank labels for bottles
First aid kit
Small white board with pen to mark outfall ID, date, and time in photo



2. FLOW MONITORING PARAMETERS – RECAP:

Outfalls that flow during dry weather must be monitored for the following:

E. coli, enterococci, total fecal coliform or human bacteroides

Ammonia

Total Residual Chlorine

Temperature and conductivity

Optical enhancers or surfactants

Be sure to account for staff time as well as lab and equipment expenses.



2022 IDDE REQUIREMENTS

(MINIMUM CONTROL MEASURE 3 IN 2022 MS4 GENERAL PERMIT)



3. POTENTIAL ILLICIT DISCHARGES MUST BE INVESTIGATED

With sampling and analysis, you may be investigating more potential IDs than in prior years (threshold exceedances).

Assume 20 % more



4. ILLICIT DISCHARGE SOURCES MUST BE ELIMINATED

New Permit Requirement: Within 60 days of source identification, unless an alternative “expeditious schedule” has been identified.

Ordinance change



5. KEEP YOUR ORDINANCE CURRENT

Non-Stormwater Discharge Ordinances should reference the 2000 and 2010 Census And should correctly state who is the enforcement authority.

Ordinance change



2022 IDDE REQUIREMENTS

(MINIMUM CONTROL MEASURE 3 IN 2022 MS4 GENERAL PERMIT)



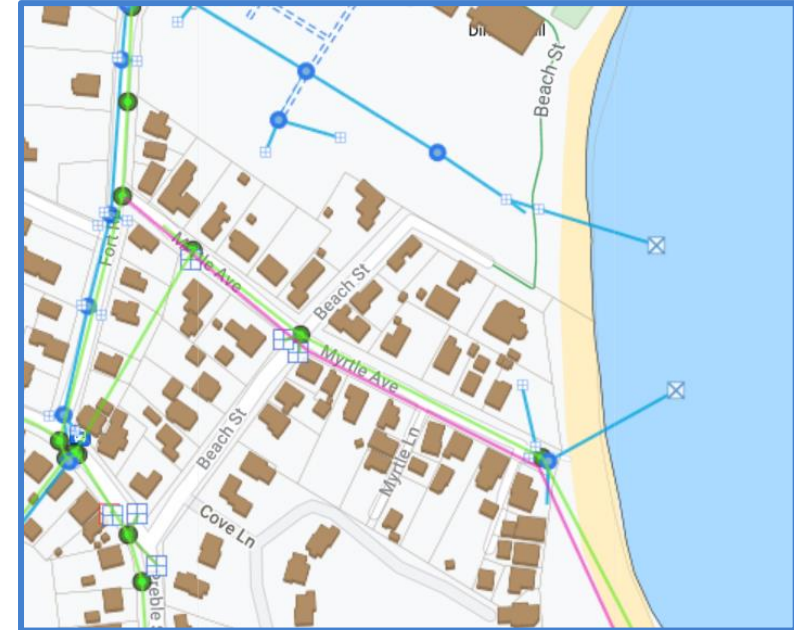
6. KEEP YOUR PLANS AND OR SOPS CURRENT

You already created Plans and SOPs, remember to keep them current.



7. KEEP YOUR STORMWATER MAPS CURRENT

The stormwater infrastructure is always being worked on. Small projects by Public Works and large projects accepted or constructed by municipality (As-builts)



WRAP UP/ OVERVIEW

- Review IDDE Plan and QAPP
- Complete Budget Spreadsheet for your municipality
- Assess if you want to change any items
- Small changes can be resubmitted with the updated SWMP spring 2022 (itemize them for DEP)

Next Workshop: IDDE Practice in the Field

Target Audience: Field personnel

3/31/2022 10 am to 12 Location TBD

(will not be recorded – so you need to come in person)

