



Preparing a Stormwater Pollution Prevention Plan (SWPPP)

- February 24, 2022
 - 10:00 – 11:00 a.m.
 - Tamara Girard, Environmental Specialist
 - Do you need to develop a SWPPP to comply with a National Pollutant Discharge Elimination System industrial stormwater permit? Learn the elements of a SWPPP and mistakes to avoid.
-

Preparing a Stormwater Pollution Prevention Plan (SWPPP)

SWPPP Tips for the NPDES Industrial
Stormwater Permit Program



It's Poll Time



Poll

What's your SWPPP experience?

- a) I have experience developing a SWPPP
- b) I don't have experience developing a SWPPP
- c) SWPPP? What's a SWPPP?

Please select one answer

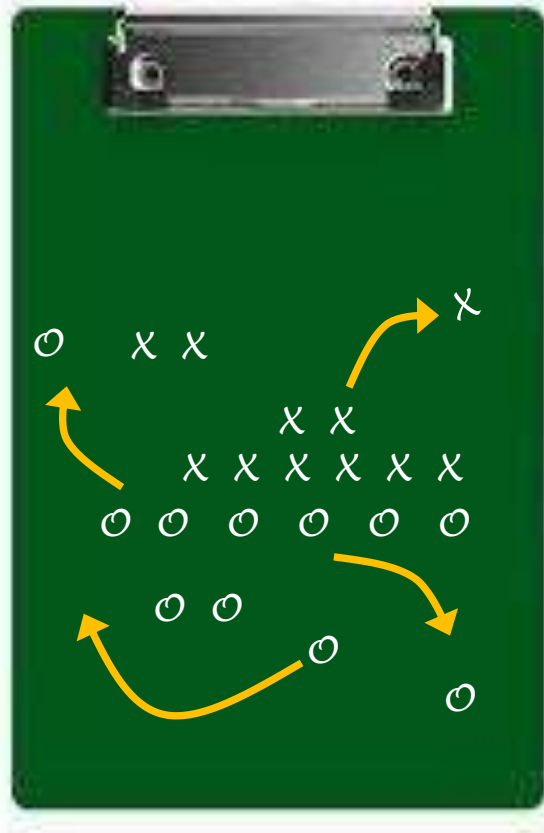
Learning Objectives

This session will help you identify:

- The purpose of a SWPPP
- The basic elements of a SWPPP
- Tips to improve your SWPPP
- Common SWPPP mistakes to avoid

**Under the industrial stormwater permit program*

What is a SWPPP?



- An NPDES permit requirement
- Your written plan to reduce or eliminate stormwater impacts
- Developed before the Notice of Intent (NOI)

A SWPPP is essentially your facility's stormwater playbook

SWPPP Action Plan





PLANNING AND ORGANIZATION

ASSEMBLE YOUR SWPPP TEAM

What is the purpose of the team?

- Develop the SWPPP
- Identify stormwater impacts and control measures
- Implement control measures
- Take corrective action when needed
- Ensure compliance with SWPPP and permit
- Review and modify the SWPPP as needed





SWPPP Team Considerations

Consider people who:

- Are familiar with your facility
- Are on site
- Have the knowledge and skills needed

What to Include in Your SWPPP

- Identify SWPPP team members by name and title
- Clearly define their roles and responsibilities
- Include main and emergency contact information



Make sure your team has access to the SWPPP

SWPPP Team Example

Team Member	Work Title at Facility	Contact Information	Individual Responsibilities
Dave Smith	Safety and Health Officer	Work Phone: 216-201-1818 Mobile Phone: 330-632-1587	<ul style="list-style-type: none"> • Coordinates preparation and review of the SWPPP • Holds overall responsibility for implementing the SWPPP • Conduct weekly inspection of yard and outfall areas • Maintain a comprehensive housekeeping program • Responsible for developing BMPs • Coordinate and oversee employee training • Coordinate and oversee inspection or monitoring activities • Conduct or oversee sampling activities • Ensure SWPPP is updated as needed
Lisa Green	Plant Manager	Work Phone: 216-201-1818 Mobile Phone: 330-518-2997	<ul style="list-style-type: none"> • Accompany Dave Smith on inspection of yard and outfall areas • Responsible for developing BMPs • Conduct or oversee sampling activities • Assist in the preparation of reports
Mike Johnson	Operations Supervisor	Work Phone: 216-201-1818 Mobile Phone: 440-361-1290	<ul style="list-style-type: none"> • Perform stormwater visual inspections • Assist with employee training • Assist with SWPPP review and revisions

Common SWPPP Team Mistakes

- No SWPPP team established
- Roles are not clearly defined or understood
- Members have not been trained on SWPPP
- Members do not have access to SWPPP
- Contact information is not up-to-date
- Team does not meet regularly*

*Minimum should be once per year





ASSESSMENT

ASSESS YOUR SITE CONDITIONS AND DRAINAGE

Assessment Considerations

- Review facility mapping and drainage information
- Conduct a storm and a dry weather walkthrough
- Identify your facility areas and activities
 - Identify industrial activities and areas
 - Are any exposed to stormwater
- Use location apps to easily note lat/long of outfalls, sources, etc. during your walkthrough

Assessment Considerations

Look for industrial activities that are exposed to stormwater



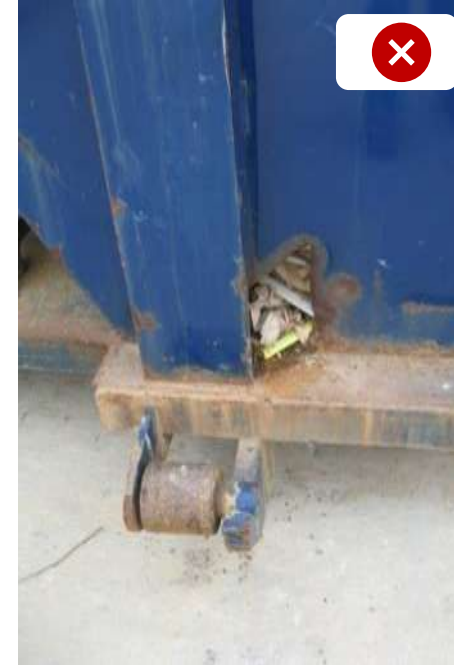
Not Exposed



Not Exposed



Exposed



Exposed

Assessment Considerations

Look for industrial activities that are exposed to stormwater



Not Exposed



Exposed

Assessment Considerations

Look for industrial activities that are exposed to stormwater



Not Associated with Industrial Activity



Not Exposed

Assessment Considerations



- Assess non-stormwater discharges
 - Can use smoke testing, dye testing, etc.
- Eliminate any discharges that are not allowed
- Document your evaluation

U.S. EPA Illicit Discharge Detection and Elimination (IDDE) Manual



Include signed non-stormwater evaluation certification with your SWPPP

Pollutant Source Considerations

- Use your knowledge of the site
 - Identify activities and areas exposed to stormwater
- Consider industry-specific resources

Table 1. Common Activities, Pollutant Sources, and Associated Pollutants at Fabricated Metal Products Manufacturing Facilities

Activity	Pollutant Source	Pollutant
Tool workpiece interface/ shaving, chipping	Used metal working fluid with fine metal dust	Total suspended solids (TSS), chemical oxygen demand (COD), oil and grease
Parts/tools cleaning, sand blasting, metal surface cleaning, removal of applied chemicals	Solvent cleaners, abrasive cleaners, alkaline cleaners, acid cleaners, rinse waters	Spent solvents, TSS, acid/alkaline waste, oil
	Solvents, cold and hot dips, cleaning parts, degreasing	Acid, coolants, clean composition, degreaser, mineral spirits, pickle liquor, spent caustic, sludge.
Making structural components	Cuttings, scraps, turnings, fines	Metals

epa.gov/npdes/industrial-stormwater-fact-sheet-series

Materials Inventory/Pollutant Source Example

Industrial Activity	Exposed	Potential to Spills/Leaks	Potential Pollutants	Outfall
Holding Areas for Incoming Unprocessed Vehicles	Yes	Incoming vehicles are visually checked for leaks upon arrival. Stormwater from this area can be potentially contaminated by leaks or spills that could occur while the vehicle is in the holding area.	Oil and grease, assorted/mixed fluids, metals, suspended solids.	001
Vehicle Dismantling Area	Yes	Vehicles are dismantled on a dedicated concrete pad. Fluids are collected in a 1,000-gallon underground storage tank located to the north of the dismantling pad. Stormwater from this area can be potentially contaminated by residual fluids present on the pad.	Gas, motor oil transmission fluid, washer fluid, brake fluid, power steering fluid, antifreeze, battery acid, used hydraulic fluids, metals	002
Battery Storage Areas	No	Batteries stored on dedicated shelf inside the garage.	None	None

Common Assessment Mistakes

- Site assessment was not comprehensive
- Assessment was not facility-specific
- Did not identify all outfalls
- Did not evaluate non-stormwater discharges





It's Poll Time



Which steps can help you assess your facility?

- a) A thorough facility walkthrough
- b) Reviewing your facility and drainage maps
- c) Reviewing your past facility spills and releases
- d) All of the above

Please select all that apply

SWPPP Map Considerations

- Include general location map and facility maps
- Maps should be comprehensive
- Include all outfalls and drainage areas
- May need several maps to show all relevant information
- Periodically review and update your maps



Label outfalls and use consistent labeling on the NOI

SWPPP Map Considerations

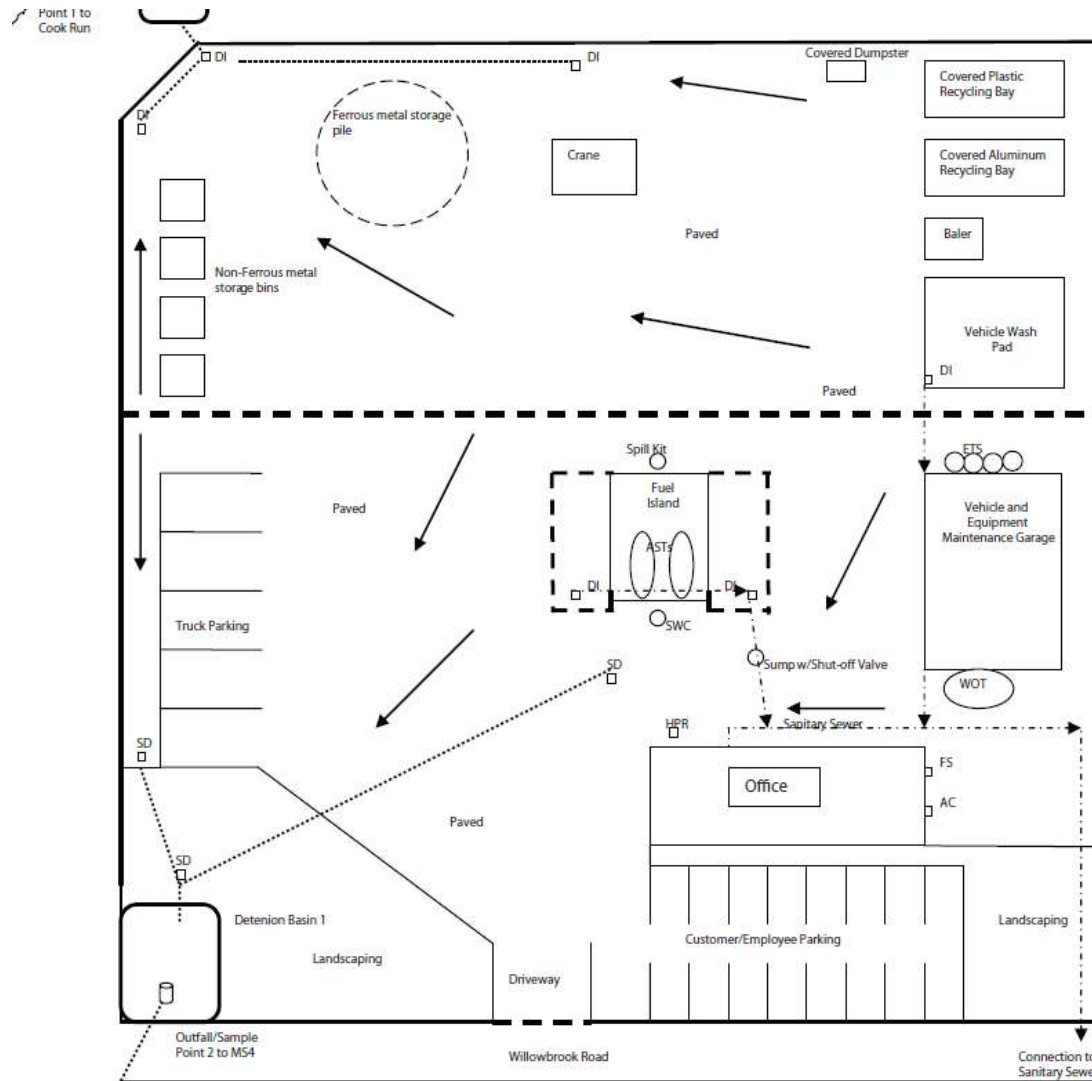
Resources to consider:

- Section 5.1.2 of MSGP
- Existing building drawings
- USGS National Map Advanced Viewer
 - <https://viewer.nationalmap.gov/advanced-viewer/>
- County GIS mapping
- Hiring consultants



Don't forget any sector-specific mapping requirements

Example Facility Map



- Symbols:**
- Speed Bump
 - Concrete Curbing - Approximate Facility Operation
 - Area Boundry
 - Storm Sewer
 - - - Sanitary Sewer
 - Flow Path

Acronym List:

- SD Storm Drain
- DI Drop Inlet
- SWC Solid Waste Can (General Location)
- WOT Waste Oil Tank
- ETS Empty Tank Storage
- AST Above Ground Storage Tank
- MS4 Municipal Separate Storm Sewer System

Authorized Non-Stormwater Discharges:

- HPR Hot Water Heater Pressure Relief Pipe (potable water)
- AC Air Conditioning Condensate
- FS Fire Suppression System Test Discharge (potable water)

Spills:

Minor fuel spill on fuel island – July 20, 2007

Potential Pollutant Source:	Potential Pollutants:
Vehicle and Equipment Maintenance Garage	Fuel , oil, antifreeze, grease, hydraulic Fluid, brake Fluid, solvents, transmission fluid, parts washer, and paint
WOT: Waste Oil Tank	Aboveground 500-gallon waste oil tank
ETS: Empty Tank Storage	Residual oil, lubricants, hydraulic fluid
SWC: Solid Waste Can	
AST: Above Ground Storage Tank	Two 1000 gallon ASTs, Diesel and Gasoline
Covered Aluminum Recycling Bay	Aluminum
Covered Plastic Recycling Bay	Plastic
Baler	Hydraulic fluid, grease, aluminum, plastic
Crane	Hydraulic fluid, oil, grease, fuel
Ferrous metal storage pile	Ferric metals
Non-Ferrous metal storage bins	Non-Ferric metals
Truck Parking	Oil, grease, fuel

Impervious Surface Estimate
 (% of total facility area): 90%
 Total Facility Size (acres): 6.5

Map Notes:

- All interior floor drains, including the vehicle wash area and fuel island, discharge to the municipal sanitary sewer system.
- All SDs are part of the MS4. Contact the City of Anywhere Public Works Department, Stormwater Management Division at (111) 999-0001 concerning significant inspection findings associated with these storm drains



Common SWPPP Map Mistakes

- Maps too small or not legible
- Don't include outfalls or drainage areas
- Don't include drainage structures
- Don't consider or include sector requirements
- Maps are not updated as needed
- Maps not kept with SWPPP





BMP IDENTIFICATION

EVALUATE AND SELECT YOUR CONTROLS

Considerations for Selecting BMPs

- Consider preventative actions first
 - Evaluate pollution prevention opportunities first
 - Evaluate actions to minimize runoff
- Consider the pollutant sources
- Consider feasibility
- Consider cost and maintenance
- Consider any sector-specific requirements

What to Include in Your SWPPP

- Describe nature of BMPs
- Identify where BMPs are implemented
- Describe good housekeeping and maintenance measures
- Describe spill prevention/response measures
- Describe erosion and sediment control measures



Include BMPs on facility maps



Common BMP Mistakes

- BMPs not effective for the pollutants
- BMPs not properly installed or maintained
- BMPs not described in SWPPP
- SWPPP team not familiar with BMPs
- Employees not trained on BMPs





IMPLEMENTATION

IMPLEMENT BMPS AND TRAIN EMPLOYEES



Who should you train?

Train individuals who:

- Implement your SWPPP
- Install, inspect, or maintain your BMPs
- Work in areas of industrial activity subject to the permit
- Conduct inspections, monitoring, etc.

Training Considerations

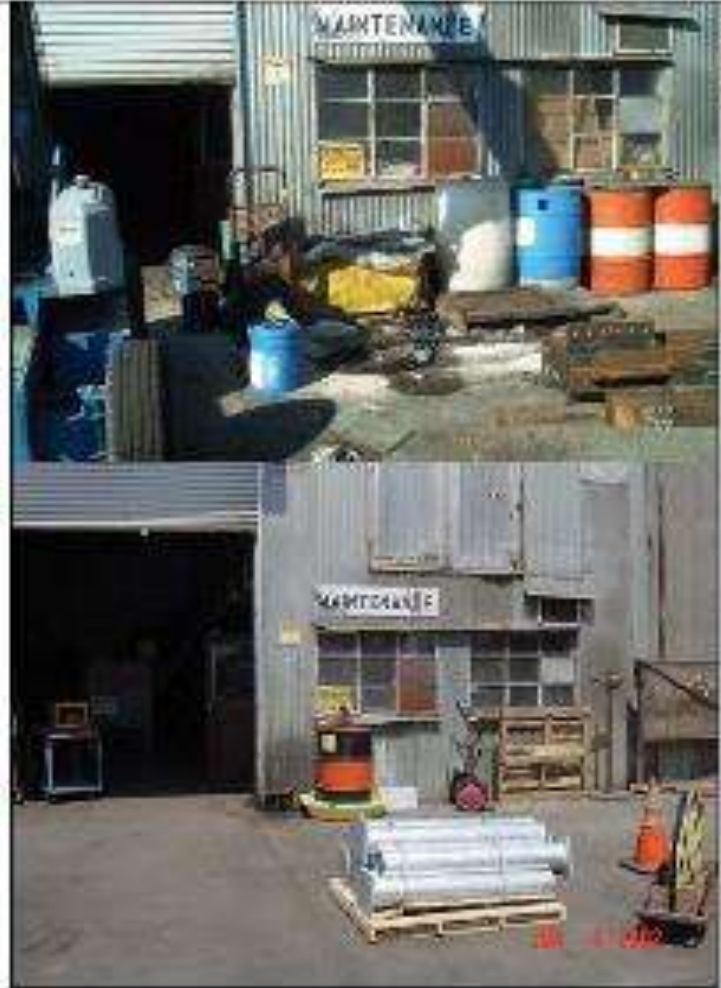
- Include all appropriate personnel
- Customize the training to your facility
- Include the right information
- Train often
- Remember to document your training



Train at least annually

Training Considerations

- Emphasize housekeeping
- Emphasize common sense practices



https://www3.epa.gov/npdes/pubs/industrial_swppp_guide.pdf

Common Training Mistakes

- Not training
- Training infrequently
- Providing irrelevant or inadequate training
- Failing to document training





EVALUATION AND MONITORING

CONDUCT MONITORING AND INSPECTIONS

Monitoring/Inspection Considerations

- Do your homework
 - Have a monitoring/inspection team
 - Have updated maps with sampling/inspection locations clearly defined
- Ensure team is properly trained
- Clearly describe monitoring/inspection plan in SWPPP
- Document your monitoring and inspection findings

What to Include in Your SWPPP

- Procedures and schedule for monitoring and inspections
 - Routine facility inspections
 - Quarterly visual assessments
 - Benchmark monitoring (if applicable)
- Other requirements
- Documentation and reporting procedures

Example SWPPP Monitoring

Sample location:	<p>Samples will be collected from each identified outfall:</p> <ul style="list-style-type: none"> • Outfall 1: Southwest parking area (Drainage Area SW01) • Outfall 2: Northwest corner of the property (Drainage Area SW02) 						
Sample type:	A minimum of 1 grab sample will be collected from each outfall						
Sample schedule:	<p>During the first 3 years of the permit (12 quarterly monitoring periods) a total of 4 benchmark samples will be collected. One sample will be taken during each quarterly monitoring period as identified below:</p> <ul style="list-style-type: none"> • January 1 – March 31 • April 1 – June 30 • July 1 – September 30 • October 1 – December 31 						
Sampling conditions and procedure:	<p>Benchmark samples will be collected during a storm event that results in an actual discharge from the site (i.e. a “measurable storm event”) where at least 72 hours (3 days) has passed since the last measurable storm event. In the case of snowmelt, the monitoring shall be performed at a time when a measurable discharge occurs at the facility.</p> <p>Samples will be collected by Example Name within the first 30 minutes of a measurable storm event. Samples will be collected in dedicated sampling containers provided by the Example Lab. Samples will be provided to the Example Lab for testing within 48 hours of collection.</p>						
Sample analysis:	<p>Benchmark samples will be analyzed for the parameters identified in Section A4 of the MSGP</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Benchmark Monitoring Concentration</th> </tr> </thead> <tbody> <tr> <td>Chemical Oxygen Demand (COD)</td> <td>120 mg/l</td> </tr> <tr> <td>Total Suspended Solids (TSS)</td> <td>100 mg/l</td> </tr> </tbody> </table>	Parameter	Benchmark Monitoring Concentration	Chemical Oxygen Demand (COD)	120 mg/l	Total Suspended Solids (TSS)	100 mg/l
Parameter	Benchmark Monitoring Concentration						
Chemical Oxygen Demand (COD)	120 mg/l						
Total Suspended Solids (TSS)	100 mg/l						

Common Monitoring/Inspection Mistakes

- Failing to perform monitoring or inspections
- Not sampling/monitoring all outfalls or areas
- Not evaluating BMPs
- Not documenting sampling and inspections in SWPPP





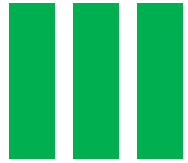
SWPPP AVAILABILITY AND MODIFICATIONS

SWPPP Availability and Modification

- SWPPP is a living document
 - Review and update regularly
- SWPPP must be signed and dated
- SWPPP revisions require a new signed/dated certification statement
- SWPPP must be readily available



Keep a copy of your NOI with your SWPPP



It's Poll Time

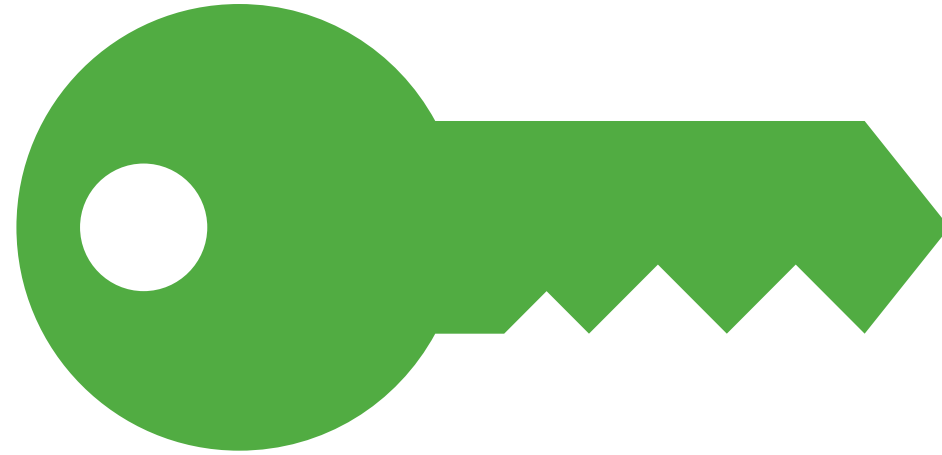


Poll

What are common SWPPP violations?

- a) Not having a written SWPPP document
- b) Failing to review and modify SWPPP as needed
- c) Insufficient facility and drainage maps
- d) Not keeping documentation with SWPPP
- e) All of the above

Please select all that apply



KEY TAKEAWAYS

Key Takeaways

- Don't rush the process
- Use available resources
- Hire help if needed
- Develop good maps
- Be specific but do not include unnecessary information
- Review SWPPP regularly
- Don't forget required documentation and submittals






SWPPP RESOURCES

SWPPP Resources

General SWPPP Guidance

U.S. EPA Developing Your Stormwater Pollution Prevention Plan: A Guide For Industrial Operators

 epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf

U.S. EPA Industrial Sector Fact Sheets

 epa.gov/npdes/stormwater-discharges-industrial-activities-fact-sheets-and-guidance

Sample SWPPP Template

 epa.ohio.gov/static/Portals/35/permits/OHR000006_Template+SWPPP.docx

Sample SWPPP Recordkeeping Forms

 epa.ohio.gov/static/Portals/35/permits/OHR000006_SampleRecordkeepingTemplates.docx


SWPPP Resources

BMP Guidance

Minnesota Pollution Control Agency Industrial
Stormwater Best Management Practices Guidebook

 epa.gov/npdes/stormwater-discharges-industrial-activities#factsheets

Minnesota Pollution Control Agency Best Management
Practice Options of Total Suspended Solids (TSS)

 youtube.com/watch?v=j41vwHg72as&feature=youtu.be

SWPPP Resources

Sampling Guidance

U.S. EPA Industrial Stormwater Monitoring and Sampling Guide

 epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf

Minnesota Pollution Control Agency YouTube Videos

How to Collect A Grab Sample



youtube.com/watch?v=oWKdonc9iDw&feature=youtu.be

How to Collect A Sheet Flow Sample



youtube.com/watch?v=AmEJUNp44aU&feature=youtu.be

SWPPP Resources

Ohio EPA eBusiness Center Reporting

Ohio EPA eBusiness Center

 <https://ebiz.epa.ohio.gov/>

STREAMS Industrial Stormwater General Permit Creating New & Renewal Applications

 [epa.ohio.gov/static/Portals/35/edmr/doc/STREAMSGuide\(IndSW\).pdf](http://epa.ohio.gov/static/Portals/35/edmr/doc/STREAMSGuide(IndSW).pdf)

eDMR Guidance

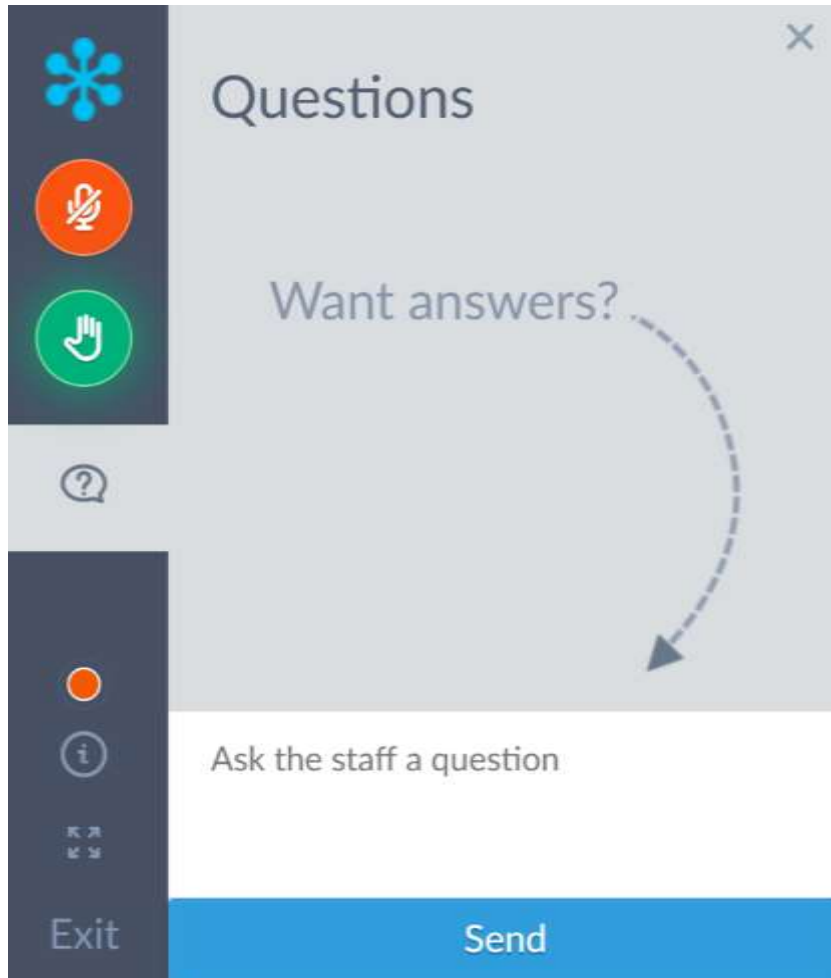
 epa.ohio.gov/divisions-and-offices/surface-water/about/electronic-business-services

Questions?



Thank you for your time

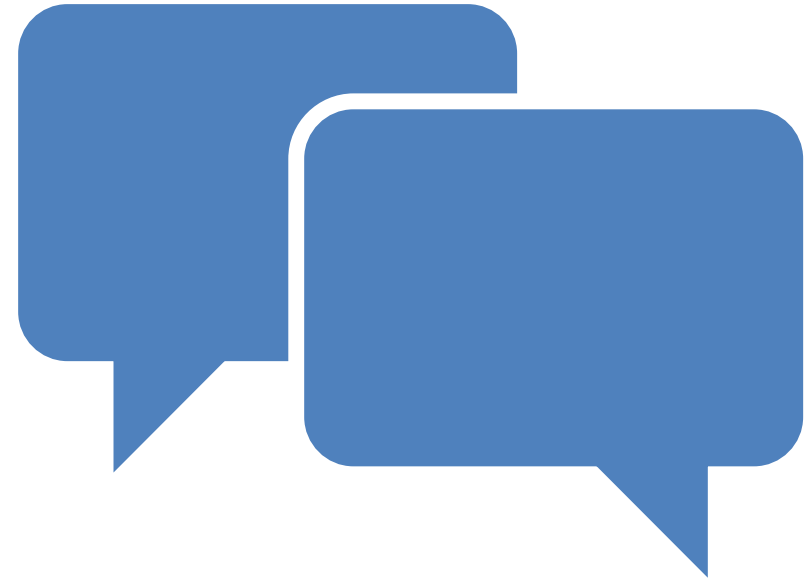
Questions



- Please continue to submit your text questions and comments using the Questions Panel
- For more information, please contact Tamara.Girard@epa.ohio.gov
- Note: Today's presentation is being recorded. The presentation slides can be found by clicking on the Handouts Section of your control panel. A certificate and recording of the webinar will be sent in a follow up email.

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Encouraging Environmental Excellence



For more information, visit epa.ohio.gov/default.aspx and select 'Recognition and Awards' to learn more. Visit our Customer Support Center at ohioepa.custhelp.com/app/apply to apply.

Encouraging Environmental Excellence (E3)

- Recognizes organizations for exceptional achievements in environmental stewardship
- For businesses, trade associations, professional organizations, non-profits, higher education institutions, etc.



Encouraging Environmental Excellence for Communities (E3C)

- Recognizes communities for exceptional achievements in environmental stewardship
- Open to local governments



Encouraging Environmental Excellence in Education (E4)

- Recognizes schools for their achievements in environmental stewardship and efforts to involve students in environmental topics
- Open to K-12 public or private schools



Thank you for attending!

Up Next

- March 8, BWC Safety Congress Environmental Day →
 - [NPDES Construction Stormwater 102](#) (8 a.m. – 9 a.m.)
 - [Decoding RCRA: Navigating the Basics of Hazardous Waste](#) (10 a.m. – 11 a.m.)
 - [Ohio EPA Air Pollution Permit Requirements](#) (1 p.m. – 2:00 p.m.)
 - [What to expect during an Ohio EPA Inspection](#) (3 p.m. – 4:00 p.m.)
- April 5, 2 p.m. – 3:00 p.m. → [Water Resource Restoration Sponsorship Program](#)

Register for Upcoming Sessions

- Visit our website at <https://epa.ohio.gov/about/media-center/events> to see the date and time for upcoming webinars and other Ohio EPA events
- Visit our website at epa.ohio.gov/divisions-and-offices/environmental-financial-assistance/training to view recordings of sessions you may have missed
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