



IOWA DNR: NPDES FORM 2F FOR INDUSTRIAL FACILITIES
FACILITIES THAT DISCHARGE STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITY

Permit Number _____ Facility Name _____

See page 1 of the instructions for the applicability of this form.

1. Outfall Locations

For each outfall that discharges stormwater associated with industrial activity, list its latitude and longitude and the route of flow to the first named stream.

Table with 7 columns: Outfall No., Latitude (Deg., Min., Sec.), Longitude (Deg., Min., Sec.), and Route of Flow.

2. Site Drainage Map

Attach a site drainage map depicting the facility and its outfalls. The map must include:

- Topography (or indicating the outline of drainage areas served by the outfalls);
• Each of the facility's intake and discharge structures (outfalls);
• Paved areas and buildings within the drainage area of each stormwater outfall;
• Each known past or present area used for outdoor storage or disposal of significant materials;
• Each existing structural control measure to reduce pollutants in stormwater runoff;
• Materials loading and access areas;
• Areas where pesticides, herbicides, soil conditioners and fertilizers are applied;
• Each hazardous waste treatment, storage, or disposal unit;
• Each well where fluids are injected underground; and
• Springs and other surface water bodies that receive stormwater discharges from the facility.

3. Description of Pollutant Sources

3.A. For each outfall listed in Item 1, provide an estimate of the area of impervious surfaces drained to the outfall, and an estimate of the total surface area drained by the outfall.

Table with 3 columns: Outfall No., Area of Impervious Surface (include units), and Total Area Drained (include units).



3.B. Provide a narrative description of significant materials that are or have in the past three years been treated, stored, or disposed in a manner to allow exposure to stormwater. Attach additional sheets if necessary. Include:

- Method of treatment, storage, or disposal;
- Materials management practices employed in the last three years to minimize contact by these materials with stormwater runoff;
- Materials loading and access areas;
- The outfalls affected; and
- The location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

3.C. For each outfall listed in Item 1, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in stormwater runoff. Attach additional sheets if necessary.

Outfall No.	Control Measures/Treatment

4. Non-stormwater Discharges

All outfalls that contain stormwater discharges associated with industrial activity must be tested or evaluated for the presence of non-stormwater discharges that are not covered by an NPDES permit. All non-stormwater discharges must be identified in a Form 2, 3, or 4, which must accompany this application. Below, provide a description of the testing or evaluation method used, the date of any testing, and the onsite draining points that were directly observed during a test. Attach additional sheets if necessary.

5. Significant Leaks or Spills

Provide existing information regarding any significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years. Include the approximate date and location of the spill or leak and the type and amount of material released.



Outfall Number: _____

6. Discharge Information

6.A (Common Pollutants) You must provide sampling results for every pollutant in this table. Sampling must occur during a qualifying storm event. Complete one table for each outfall listed in Item 1.

Pollutant	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Source of Pollutants	Certified Laboratory Number
	Grab Sample Taken During 1 st 30 Minutes	Flow-weighted Composite	Grab Sample Taken During 1 st 30 Minutes	Flow-weighted Composite			
Oil and Grease							
Biochemical Oxygen Demand (BOD ₅)							
Chemical Oxygen Demand (COD)							
Total Suspended Solids (TSS)							
Total Kjeldahl Nitrogen (TKN)							
Nitrate plus Nitrite Nitrogen							
Total Phosphorus							

You must also provide data for pH at each outfall.

pH	Minimum	Maximum	Number of Storm events sampled
Grab Sample Taken During 1 st 30 Minutes			



Outfall Number: _____

6.F. (Storm Events)

Provide data for the storm event(s) which resulted in the maximum values for the flow-weighted composite samples. Complete one table for each outfall listed in Item 1.

Date of Storm Event	Duration of Storm Event (minutes)	Total rainfall during storm event (inches)	Number of hours between beginning of storm measured and end of previous measurable rain event	Maximum flow rate during rain event (specify units)	Total flow from rain event (specify units)	Form of precipitation (rainfall, snowmelt)



FORM 2F INSTRUCTIONS
DO NOT SUBMIT – FOR APPLICANT USE ONLY

You must fill out Form 2F if you have stormwater combined with industrial wastewater and sample the combined effluent. You may need to fill out Form 2F if you sample stormwater and industrial wastewater separately but do not have a General Permit #1.

1. Outfall Locations

Provide the location of each outfall. Provide the route of flow of each outfall to the first named stream, e.g., unnamed creek to Des Moines River.

2. Site Drainage Map

Attach a site drainage map depicting the facility and including:

- Topography (or indicating the outline of drainage areas served by the outfalls);
- Each of the facility's intake and discharge structures;
- Paved areas and buildings within the drainage area of each stormwater outfall;
- Each known past or present area used for outdoor storage or disposal of significant materials;
- Each existing structural control measure to reduce pollutants in stormwater runoff;
- Materials loading and access areas;
- Areas where pesticides, herbicides, soil conditioners and fertilizers are applied;
- Each hazardous waste treatment, storage, or disposal unit;
- Each well where fluids are injected underground; and
- Springs and other surface water bodies that receive stormwater discharges from the facility.

3. Narrative Description of Pollutant Sources

3.A.

- For each outfall, provide an estimate of the area drained by the outfall which is covered by impervious surfaces. For the purpose of this application, impervious surfaces are surfaces where stormwater runs off at rates that are significantly higher than background rates. Impervious surfaces include paved areas, building roofs, parking lots, and roadways.
- Include an estimate of the total area (pervious and impervious areas) drained by each outfall.

3.B.

Provide a narrative description of significant materials that in the past three years have been treated, stored, or disposed of in a manner to allow exposure to stormwater. Include:

- Method of treatment, storage, or disposal;
- Materials management practices employed in the last three years to minimize contact by these materials with stormwater runoff;
- Materials loading and access areas;
- The outfalls affected; and
- The location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

The term *significant materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastics pellets; finished materials such as metallic products; raw materials used in foot processing or production; hazardous substances designated under Section 101 (14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA); and fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.



3.C. For each outfall, list the structural and non-structural controls and describe any treatment.

Structural controls include:

- Structures that enclose materials handling or storage areas
- Covering materials
- Berms, dikes or diversion ditches
- Retention ponds, etc.

Nonstructural controls include practices such as:

- Spill prevention plans
- Employee training
- Visual inspections
- Preventative maintenance
- Housekeeping measures

4. Non-stormwater Discharges

Test or evaluate all outfalls with stormwater for the presence of non-stormwater discharges that are not covered by an NPDES permit. Tests for such non-stormwater discharge may include smoke tests, fluorometric dye tests, and analysis of accurate schematics as well as other appropriate tests. Include a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

You must identify all non-stormwater discharges in a Form 2, 3, or 4. The Form 2, 3, or 4 must be included with this application. You must also certify on Form 5 that the outfall(s) covered by this part have been tested or evaluated for the presence of non-stormwater discharges and that all stormwater discharges from the outfalls included in Form 2F are identified in an accompanying Form 2, 3, or 4.

5. Significant Leaks or Spills

Using existing information, provide a description of any significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years.

6. Discharge Information

Items 6.A through 6.F require you to collect and report sample results of the pollutants discharged from each of your stormwater outfalls. Each item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that item. The following general instructions apply to all items.

General Instructions

Reporting

- All results must be reported as concentration.
- Use the following abbreviations in the columns headed “Units”: ppm - parts per million; mg/l - milligrams per liter; ppb - parts per billion; µg/l - micrograms per liter;
- All samples that are representative of your effluent and less than 4 ½ years old must be included when determining long term averages and maximum daily values.

Sampling

- The collection of samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater.



- You must follow any specific requirements contained in the applicable analytical methods for sample containers, sample preservation, holding times, the collection of duplicate samples, etc.
- You should sample at a time that is representative of your treatment system operating properly with no system upsets.
- You must collect samples from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit, or at any site adequate for the collection of a representative sample.
- For most pollutants, you must analyze grab samples collected during the first 30 minutes of the storm event and flow-weighted composites from the entire storm event.
- You must collect only grab samples for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, the volatile organics fraction of the GC/MS, and Escherichia coli (E. coli).

Qualifying Storm Event

- A qualifying storm event is one that is greater than 0.1 inches and at least 72 hours from the previously measurable storm event. When feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50% from the average or median rainfall event in that area.

Analysis

- Analysis of pH, total residual chlorine, settleable solids, and temperature must occur on site.
- All other analyses must be conducted by a laboratory certified in the state of Iowa. Report the number of the certified laboratory in the final column of each table.

Reporting Levels

- All analytical results must be reported using the actual numeric values determined by the analysis. In other words, even where analytical results are below the detection or quantitation level of the method used, the actual data should be reported, rather than reporting “non-detect” (“ND”) or “zero” (“0”).

6.A. (Common Pollutants)

You must complete item 6.A for all stormwater outfalls. You must sample and analyze for each pollutant listed. For oil and grease and pH, use only grab samples. For the other pollutants, you must collect and analyze a grab sample and a 24-hour composite. Grab samples must be collected during the first 30 minutes of the storm event.

6.B. (Effluent Guidelines and NPDES Permit)

You must complete item 6.B. for all stormwater outfalls. List all pollutants listed in your NPDES permit for process wastewater. Also list all pollutants that are limited in an effluent guideline to which the facility is subject. Provide quantitative data for all pollutants that you list. You do not need to include toxicity testing.

Refer to Tables 1, 2, and 3 of these instructions. For any pollutant marked with an asterisk, you must take a grab sample. For all other pollutants, you must collect grab and composite samples. Grab samples must be collected during the first 30 minutes of the storm event.

6.C. (Refer to Table 1)

Refer to Table 1 of these instructions. If you expect any of the pollutants to be present in your stormwater discharge, list them in 6.C. You do not need to repeat pollutants already listed in 6.A. or 6.B. You must provide either quantitative data for each pollutant or an explanation of its presence in your discharge.

For any pollutant marked with an asterisk, you must take a grab sample. For all other pollutants, you must collect grab and composite samples. Grab samples must be collected during the first 30 minutes of the storm event.



6.D. (Refer to Table 2)

Refer to Table 2 of these instructions. If you expect any of the pollutants to be present in your stormwater discharge, list them in 6.D. You do not need to repeat pollutants already listed in items 6.A-C. For pollutants expected to be present in concentrations greater than 10 µg/L (0.010 mg/L), you must provide quantitative data. For other pollutants, you must provide an explanation of their presences in your discharge.

For any pollutant marked with an asterisk, you must take a grab sample. For all other pollutants, you must collect grab and composite samples. Grab samples must be collected during the first 30 minutes of the storm event.

6.E. (Refer to Table 3)

Refer to Table 3 of these instructions. If you expect any of the pollutants to be present in your stormwater discharge, list them in 6.E. You do not need to repeat pollutants already listed in items 6.A-D. Provide either quantitative data or a description why the pollutant is expected to be discharged.

6.F.

See instructions on form.

**Table 1: Pollutant List for Item 6.C**

Bromide	Nitrogen, total Kjeldahl	Barium, total	Manganese, total
Chlorine, total residual*	Radioactivity	Boron, total	Molybdenum, total
Color	Sulfate	Cobalt, total	Tin, total
Escherichia coli (E. Coli)*	Sulfide	Iron, total Sulfite	Titanium, total
Fluoride	Aluminum, total	Magnesium, total	

Table 2: Pollutant List for Item 6.D.**Toxic Pollutants And Total Phenols**

Antimony	Chromium, total	Nickel, total	Zinc, total
Arsenic, total	Copper, Total	Selenium, total	Cyanide, total
Beryllium, total	Lead, total	Silver, Total	Phenols, total
Cadmium, total	Mercury, total	Thallium, total	

Volatile Compounds

Acrolein*	Chloroethane*	1,2-dichloropropane*	Tetrachloroethylene*
Acrylonitrile*	2-chloroethyl vinyl ether*	1,3-dichloropropylene*	Toluene*
Benzene*	Chloroform*	Ethylbenzene*	1,2-trans-dichloroethylene*
Bromoform*	Dichlorobromomethane*	Methyl bromide*	1,1,1-trichloroethane*
Carbon tetrachloride*	1,1-dichloroethane*	Methyl chloride*	1,1,2-trichloroethane*
Chlorobenzene*	1,2-dichloroethane*	Methylene chloride*	Trichloroethylene*
Chlorodibromomethane*	1,1,-dichloroethylene*	1,1,2,2-tetrachloroethane*	Vinyl chloride*

Acid Compounds

2-Chlorophenol	2,6-Dinitro-o-cresol	4-Nitrophenol	Phenol
2,4-Dichlorophenol	2,4-Dinitrophenol	p-Chloro-m-cresol	2,4,6-Trichlorophenol
2,4-Dimethylphenol	2-Nitrophenol	Pentachlorophenol	

Base/Neutral Compounds

Acenaphthene	4-chlorophenyl phenyl ether	Hexachlorobenzene
Acenaphthylene	Chrysene	Hexachlorobutadiene
Anthracene	Dibenzo(a,h)anthracene	Hexachlorocyclopentadiene
Benzidine	1,2-dichlorobenzene	Hexachloroethane
Benzo(a)anthracene	1,3-dichlorobenzene	Indeno(1,2,3-cd)pyrene
Benzo(a)pyrene	1,4-dichlorobenzene	Isophorone
3,4-benzofluoranthene	3,3'-dichlorobenzidine	Naphthalene
Benzo(ghi)perylene	Diethyl phthalate	Nitrobenzene
Benzo(k)fluoranthene	Dimethyl phthalate	N-nitrosodimethylamine
bis(2-chloroethoxy)methane	Di-n-butyl phthalate	N-nitrosodi-n-propylamine
bis(2-chloroethyl)ether	2,4-dinitrotoluene	N-nitrosodiphenylamine
bis(2-chloroisopropyl)ether	2,6-dinitrotoluene	Phenanthrene
bis(2-ethylhexyl)phthalate	Di-n-octylphthalate	Pyrene
4-bromophenyl phenyl ether	1,2-diphenylhydrazine (as azobenzene)	1,2,4-trichlorobenzene
Butylbenzyl phthalate	Fluoranthene	
2-chloronaphthalene	Fluorene	

Pesticides

Aldrin	4,4'-DDE	Endrin aldehyde	PCB-1248
Alpha-BHC	4,4'-DDD	Heptachlor	PCB-1260
Beta-BHC	Dieldrin	Heptachlor epoxide	PCB-1016
Gamma-BHC	Alpha-endosulfan	PCB-1242	Toxaphene
Delta-BHC	Beta-endosulfan	PCB-1254	
Chlordane	Endosulfan sulfate	PCB-1221	
4,4'-DDT	Endrin	PCB-1232	

**Table 3. Pollutant List for Item 6.E.**

1. Acetaldehyde	29. Dinitrobenzene	57. Parathion
2. Allyl alcohol	30. Diquat	58. Phenolsulfate
3. Allyl chloride	31. Disulfoton	59. Phosgene
4. Amyl acetate	32. Diuron	60. Propargite
5. Aniline	33. Epichlorohydrin	61. Propylene oxide
6. Asbestos	34. Ethion	62. Pyrethrins
7. Benzonitrile	35. Ethylenediamine	63. Quinoline
8. Benzoyl chloride	36. Ethylene dibromide	64. Resorcinol
9. Butylacetate	37. Formaldehyde	65. Strontium
10. Butylamine	38. Furfural	66. Strychnine
11. Captan	39. Guthion	67. Styrene
12. Carbaryl	40. Isoprene	68. 2,4,5-T acid (2,4,5- Trichlorophenoxyacetic acid)
13. Carbofuran	41. Isopropanolamine dodecylbenzenesulfonate	69. 2,4,5-TP acid (2,4,5- Trichlorophenoxy propanoic acid)
14. Carbon disulfide	42. Kelthane	70. TDE (Tetrachlorodiphenyl ethane)
15. Chlorpyrifos	43. Kepone	71. Trichlorofan
16. Coumaphos	44. Malathion	72. Triethanolamine dodecylbenzenesulfonate
17. Cresol	45. Mercaptodimethur	73. Triethylamine
18. Crotonaldehyde	46. Methoxychlor	74. Trimethylamine
19. Cyclohexane	47. Methyl mercaptan	75. Uranium
20. 2,4-D acid (2,4- Dichlorophenoxyacetic acid)	48. Methyl methacrylate	76. Vanadium
21. Diazanon	49. Methyl parathion	77. Vinyl acetate
22. Dicamba	50. Mevinphos	78. Xylene
23. Dichlobenil	51. Mexacarbate	79. Xylenol
24. Dichlone	52. Monoethylamine	80. Zirconium
25. 2,2-Dichloropropionic acid	53. Monomethylamine	
26. Dichlorvos	54. Naled	
27. Diethylamine	55. Napthenic acid	
28. Dimethylamine	56. Nitrotoluene	