Iowa State University

Standard Operating Procedures for Development of NPDES Construction Permits

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DEFINITIONS

Discharge – Any addition or release of any pollutant, storm water or other substance whatsoever into the storm drainage system
Construction Example: storm water from a construction site

EH&S – Iowa State University's Environmental Health and Safety Specialist assigned to NPDES coordination

FP&M – Iowa State University's Facilities Planning and Management Project Manager and Construction Manager assigned to a specific project

Hazardous Condition – Any situation involving the actual, imminent or probable spillage, leakage, or release of a hazardous substance onto the land, into a water of the state or into the atmosphere which, because of the quantity, strength and toxicity of the hazardous substance, its mobility in the environment and its persistence, creates an immediate or potential danger to the public health or safety or to the environment.

Hazardous Substance – Any substance or mixture of substances that presents a danger to the public health or safety and includes, but is not limited to, a substance that is toxic, corrosive, or flammable, or that is an irritant or that, in confinement, generates pressure through decomposition, heat, or other means; the following are examples of substances which, in sufficient quantity, may be hazardous: acids, alkalis, explosives, fertilizers, heavy metals (e.g. chromium, arsenic, mercury, lead and cadmium), industrial chemicals, paint thinners, paints, pesticides, petroleum products, poisons, radioactive materials, sludge and organic solvents http://www.cicacenter.com/index.cfm

IDNR – Iowa Department of Natural Resources

NPDES – National Pollutant Discharge Elimination System

PPP – Pollution Prevention Plan

Pollutant – Any type of industrial, municipal, and agricultural waste discharged into water; some examples are dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste

Release – To dump, spill, leak, pump, pour, emit, empty, inject, dispose, or otherwise introduce pollutants into the storm drainage system. Construction example: pouring terazzo wash water into the storm drain.

Storm Water Discharge Associated with Construction Activity – Refers to a discharge of pollutants in storm water runoff from areas where soil disturbing activities (e.g. clearing, grading, or excavation) construction materials or equipment storage or maintenance (e.g. fill piles, borrow areas, concrete truck washout, fueling) or other industrial storm water directly related to the construction process are located

Zero/14-day Rule – Stabilization of disturbed soil must be initiated immediately if clearing, grading, excavating, or other activities will not resume within 14 calendar days.

PROJECT DESIGN DEVELOPMENT STEPS

Overview

SCHEMATIC DESIGN

- Initial determination of need for Pollution Prevention Plan. Identification of 'Best Management Practices' (BMPs) for site plan.
- No documentation of Pollution Prevention Plan (PPP) for NPDES permit is required in this phase of design.

DESIGN DEVELOPMENT

- FP&M will submit a set of Design Development Documents to EH&S for review and comments.
- Preliminary Pollution Prevention Plan is completed in the Design Development project phase and submitted to EH&S for review and comments, example in Exhibit B.

CONSTRUCTION DOCUMENTS

- FP&M will submit a set of Construction Documents to EH&S for review and comments.
- EH&S will comple the Notice of Intent (NOI). Note that the Final Pollution Prevention Plan for the project site is to be developed and submitted for review before the NOI is submitted to EH&S.
- EH&S will prepare a Public Notice for publication in the Iowa State Daily.
- EH&S will complete a Notice of Intent.

Project Summary Checklist

Project Phase	Responsible Team Member	Responsible Department	Task
Schematic Design	Project Manager	FP&M Project Management Services	Consult with EH&S to determine if the project requires NPDES Construction Storm Water Permit. If a permit is required see page 8 – verify.
Design Development	Design Professional	FP&M Project Management Services	Discuss need and approach for PPP as part of Design Development Phase. Using ISU design standards prepare PPP sheet layout, list appropriate details and materials then submit as part of DD documentation (see Exhibit B).
Design Development	Project Manager	FP&M Project Management Services	Direct the completion of the Preliminary Pollution Prevention Plan (coordinate for EH&S and CM to review and comment)
Design Development	Project Manager	FP&M Project Management Services	Submit the project's SWPPP to EH&S for their review and comments

Project Summary Checklist (continued)

Project Phase	Responsible Team Member	Responsible Department	Task
Construction Documents	Design Professional	FP&M Project Management Services	Publish Construction Documents to the Owner's project web site for review by the Owner's Representative. SWPPP can be published prior to 100% review for early feedback. A SWPPP Survey or Project Specific Notes can be referenced by the Design Professional in this document, see page 9. At 100% CD this submission shall include: • SWPPP, see example sheet layout and content in Exhibit B. • Prepare a Notice of Intent Form (NOI).
Construction/Bid Issue Documents	Project Manager	FP&M Project Management Services	Project Manager forwards 100% CD's including SWPPP, and NOI information to EH&S for review and comment. EH&S may request revisions to the NOI and SWPPP documents and will submit to the Project Manager. Revisions shall be re-submitted to EH&S.
Construction/Bid Issue Documents	EH&S	EH&S	• EH&S receives a copy of bid documents • Public Notice of Storm water discharge is published by EH&S in the Iowa State Daily for a one-day run. • EH&S receives a notarized copy of public notice from the Iowa State Daily. • Copies of submittal are filed with EH&S and routed to FP&M for project file. • EH&S will include the Project Manager on all communication with the design professional.

Project Summary Checklist (continued)

Project Phase	Responsible Team Member	Responsible Department	Task
Pre Construction	EH&S	EH&S	EH&S will electronically file the construction permit request with the Iowa DNR.
Pre Construction	Construction Manager	FP&M Construction Management Services	Direct the contractor to certify (by signing) the Pollution Prevention Plan that has been previously developed by FP&M as part of the Storm water discharge permit requirements and maintain a current SWPPP throughout the life of the project.
Pre Construction	Construction Manager & Contractor	FP&M Construction Management Services	Direct the contractor to maintain a working copy of the current Pollution Prevention Plan on site throughout the life of the project to verify compliance. SWPPP shall be modified daily if necessary to reflect changing conditions on the site.
Final Project Close-out	Construction Manager	FP&M Construction Management Services	Contractor shall turn over all SWPPP documents to the FP&M Project Manager. Project manager shall turn over all SWPPP documents to EH&S for archival and required record keeping.
Final Project Close-out	Construction Manager	FP&M Construction Management Services	When all site work has been completed FP&M shall notify EH&S and arrange a meeting to review site conditions and confirm required stabilization has been received.
Final Project Close-out	Construction Manager	FP&M Construction Management Services	At building turn-over, EH&S will be notified and EH&S will take over responsibility for the Inspection Report until Notice of Discontinuation.
Post Project Close-out	EH&S	EH&S	Within 30 days final stabilization of the site submit a Notice of Discontinuation to the IDNR
Post Project Close-out	EH&S	EH&S	EH&S shall retain copies of the Pollution Prevention Plan, the Notice of Intent, and the Inspection Report, copy of discontinuation form and correspondence for at least 3 years after the site is finally stabilized.

STORM WATER POLLUTION PREVENTION PLAN

Overview

A Pollution Prevention Plan will be included as a requirement of the Construction Documents. A complete Pollution Prevention Plan will contain, at a minimum, the following *(see Exhibit B: Sample Pollution Prevention Plan)*: Pollution Prevention Plan will be posted to the project website.

- Define the minimum "Inspection Report" contents
  - Contractor's certification statement
  - Dates when major grading activities occurred and when stabilized
  - Name of the inspector
  - Title of the inspector
  - Date of inspection
  - Scope of inspection
  - Any actions required based on the inspection
- When and how the Inspection Report is submitted, maintained
- Responsibilities for
  - Maintenance of, amendments to and submittal responsibilities for the Pollution Prevention Plan
  - Erosion control measures
  - Inspections and reporting
  - Compliance with IDNR.
- Site description
  - Total area impacted (define current land cover)
  - Soil types
  - Slope
  - Current land use
  - Run-off coefficients
  - Drainage patterns (including designation of potential wetlands) and drainage outlet
- Erosion and Sediment Controls
  - Stabilization
    - Define measures to be taken to control run-off from the site during and following construction
  - Structural Controls
    - Define measures to be taken to stabilize the site during and following construction
  - Other prevention Measures
- Pollution Prevention Plan certification statement with signature blocks

General Notes

The IDNR may notify EH&S at any time that the PPP does not meet minimum requirements. After such notification and direction from EH&S and FP&M, the design professional shall amend the PPP within 7 days of INDR notification. EH&S shall submit to the IDNR a written certification that the requested changes have been made. The PPP shall be amended whenever there is a change in design, construction, operation, or maintenance that has a significant effect on storm water discharges.

ISU EH&S will provide certified construction site pollution prevention inspectors to inspect the permitted project site weekly. All site inspection forms will be posted to the project's specific Centric Project construction NPDES folder. All construction site BMP deficiencies noted on weekly inspections shall be corrected or initiated by the contractor within 24 hours of notification. Weekly inspection reports shall include, at minimum: the name of the inspector, date, time, scope of inspection, actions required, and the signed and dated certification statement by the inspector.

It is the responsibility of the contractor to take all actions necessary for the installation of control measures for compliance with the general permit. The contractor is responsible for any fines/penalties imposed by the IDNR related to failure to enforce pollution prevention plan measures.

Maintenance of all temporary and permanent erosion control measures is the responsibility of the contractor. Cleaning of silt control devices shall begin when they have lost 50% of their capacity.

Project Specific Notes

The following is a checklist of information developed by the design professional for the permit application or PPP.

POLLUTION PREVENTION PLAN SITE SPECIFIC NOTES _____ (project name here)

SITE DESCRIPTION

1. This project includes _____
   _____
   _____
   _____
   (brief description of proposed construction activities and sequence here)

2. The total project area is _____ acres. _____ are the predominant land disturbing activities for the project. The estimated disturbed area for these activities is _____ acres.

3. Existing soils on the site are _____. (soil description from a source such as the Story County Soil Survey or other records). The thickness of the topsoil on site will vary, but can be estimated as _____ inches for a reasonable site average. Current soils on site are estimated to have _____ (high,low,moderate) erosive potential. Current land use is
   _____
   _____
   (describe). Soils on steeper slopes are susceptible to erosion. In general, slopes on the site are _____. (flat 1-3%, moderate 3-9%, steep 10% +) The construction season (April through September) generally has 3 to 5 inches of rain per month, peaking in June. The last freezing temperatures are typically recorded in April, and the first freezing temperatures are typically recorded in October. Heavy snow melts are likely in March.

   An estimate of the run-off coefficient of the site after completion of construction activities is _____.

4. See the Pollution Prevention Plan map for drainage patterns and slopes, locations of disturbed areas, location of structural controls and/or stabilization areas, and surface waters (including potential wetlands).

5. The project site generally drains into _____. (describe outlets) See the Pollution Prevention Plan map for storm drainage outlet locations, as well as general drainage patterns.

EROSION AND SEDIMENT CONTROLS
_____ (project name here)

A. STABILIZATION

   1. Disturbed areas of the construction site that will not be re-disturbed for 21 days or more must initiate stabilization measures by the 14th day after the last disturbance, except as hindered by snow cover.
   2. Minimize disturbed areas. Match existing land contours when possible. Minimize impervious surfaces. Protect natural vegetation and trees outside of construction areas and disturb to a minimum inside construction areas.
   3. The project will use staged construction to minimize the amount of land disturbed at any one time. Y/N

4. Composting or mulching shall be used in conjunction with seeding for erosion control. Y/N
5. Temporary or permanent seeding or sodding will be used _____ (describe) Y/N
6. Jute mesh or mats shall be used on steep slopes in conjunction with seeding. Y/N
7. Buffer strips of existing vegetation will remain adjacent to construction zones. Y/N
8. Geotextile will be used beneath graveled site areas or beneath rip rap. Y/N
9. Stream/ditch bank stabilization such as riprap or gabions will be used_____(describe) Y/N
10. Dust control on the site is required and will consist of _____ (describe). (sprinkling, gravelling, chemical stabilization, etc.)

B. STRUCTURAL CONTROLS

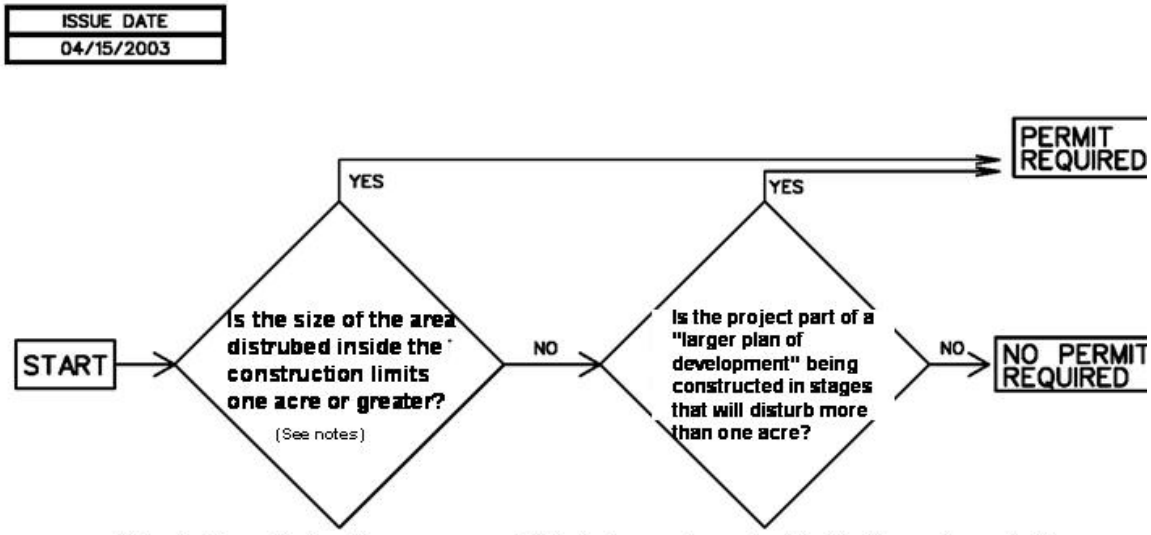
1. Controls shall be placed downstream of disturbed areas as shown on the plan and as required in other areas as determined by ISU or contractor during construction. See the appropriate construction details on the Pollution Prevention Plan.
2. A sediment basin is required for this project if there is more than 10 Acres of disturbed ground in a common drainage area. See the detail on the Pollution Prevention Plan for correct installation of sediment basin. A sediment basin will be used _____(describe) Y/N
3. Inlet and outlet protection of culverts and storm sewer intakes is required. Protect inlets/outlets with silt fence, rip-rap, compost socks, straw bales, sediment traps, or other approved methods. (describe)_____ _____
4. Subsurface drains will be installed to artificially lower the water table during construction. (describe)_____ Y/N
5. A permanent storm water retention/detention structure is to be constructed. (describe)_____ Y/N
6. A permanent wetlands detention feature is to be constructed. (describe)_____ Y/N

OTHER PREVENTION MEASURES

7. Construction entrances adjacent to public/private roads shall be graveled immediately to prevent vehicle tracking. Consider use of geotextiles beneath these graveled areas. The contractor shall promptly clean up site material tracked onto adjacent streets/property.
8. Provide waste receptacles at convenient locations and provide regular collection of wastes, litter including building material wastes and sanitary sewers.
9. Monitor construction vehicle maintenance areas. Washing and fueling operations can generate spills/run-off.
10. Provide designated areas for concrete truck washouts that have controlled outlets.

STORM WATER DISCHARGE PERMIT

Does The Project Need a Storm Water Discharge Permit?



Note 1: Sites with less than one acre of disturbed ground as calculated by the engineer shall be permitted if FPM concludes that there is a reasonable chance the contractor may disturb more than one acre by unforeseen construction events. FPM shall immediately notify the engineer in any such case.

NOTE 2: Areas that will remain paved throughout the construction period or that are otherwise protected from construction activities may be discounted, unless soil or erodible materials are stored on paving.

Items not classified as a land disturbing activity:

1. Geotechnical drilling or construction staking on the site.
2. Material storage and/or construction-related vehicular traffic on pre-existing paved areas.

If FP&M determines the project requires the acquisition of a permit the Team will notify EH&S; the permit is identified as an Iowa Department of Natural Resources NPDES General Permit No.2 “Storm Water Discharge Associated with Industrial Activity for Construction Activities”. The permit expires October 1, 2007.

Notice of Intent

EH&S shall obtain the permit and is responsible for submitting the Notice of Intent (NOI). The NOI must be submitted to the IDNR at least 24 hours before land disturbing construction activities start.

A completed Notice of Intent must include the following:

1. The completed form 1415 entitled “Notice of Intent for NPDES Coverage Under General Permit” A PDF of this form can be found at: http://www.iowadnr.com/water/stormwater/forms.html
2. Proof of public notification from the two newspapers in the area with the highest circulation. A PDF form entitled Public Notice of Storm Water Discharge is used for submitting to the newspapers for publication and can be found at: http://www.iowadnr.com/water/stormwater/forms.html

Prior to the start of construction, the contractor shall certify (by signing) the Pollution Prevention Plan that has been previously developed by FP&M as part of the Storm water discharge permit requirements. A copy of the Pollution Prevention Plan shall be maintained on the job site (if possible) and as part of the project records throughout the life of the project.

Notice of Discontinuation

FP&M will notify EH&S when all site related project activities are complete and the team is ready to vacate the site. At this time the Project Team will notify EH&S and arrange a meeting to review site conditions and officially turn the site over to EH&S.

Within 30 days after final stabilization of the site, EH&S shall submit a Notice of Discontinuation of a Storm Water Discharge No. 2 to the IDNR. See http://www.iowadnr.com/water/stormwater/forms.html for the PDF form. EH&S will make the final determination of when the site has reached the 30 days following final stabilization and submit the Notice of Discontinuation to the IDNR. EH&S will transmit a copy of the Notice of Discontinuation to FP&M.

As a courtesy, the IDNR will send a letter to ISU approximately one month before coverage under the permit expires. This letter will be sent to the person listed under the "contact information" portion of the NOI (EH&S). At this time, EH&S will notify the Project Team and determine if the permit coverage should be extended or prepare to file the notice of discontinuation.

Prohibition on Non-Storm Water Discharges

All discharges authorized by this permit shall be composed entirely of storm water except for the following allowed non-storm discharges: fire fighting activities, fire hydrant flushing, vehicle washing, potable water source flushing, irrigation drainage, routine external building washing (no detergents), pavement washing (free of detergents, toxic and hazardous materials), air conditioning condensate, natural springs, and foundation/footing drains not contaminated by building processes.

RETENTION OF RECORDS

The EH&S shall retain copies of the Pollution Prevention Plan, the Notice of Intent, the Inspection Report and the Notice of Discontinuation and correspondence for at least 3 years after the site is finally stabilized. The Contractor shall provide FP&M a copy of all changes made to the Pollution Prevention Plan during construction and a copy of the Inspection Report for FP&M's records. FP&M will submit these to EH&S as part of the Project Close-Out procedures.

A copy of the current records mentioned above shall be filed on site during project construction and be made readily available to the IDNR upon request.

STANDARD PERMIT CONDITIONS

The contractor is encouraged to view the listing of Standard Permit Conditions that apply to this general permit. The Summary Guidance for General Permit No. 2 can be viewed on-line at the IDNR website at http://www.iowadnr.com/water/stormwater/forms.html

The contractor will be provided a copy of the General Permit upon request.

REFERENCE INFORMATION

Explanations of Environmental Rules: http://www.cicacenter.com/index.cfm

IDNR Storm Water Program: http://www.iowadnr.com/water/stormwater/index.html

IDNR Notice of Intent for NPDES Coverage (Form 1415): http://www.iowadnr.com/water/stormwater/forms.html

Pubic Notice of Storm Water Discharge: http://www.iowadnr.com/water/stormwater/forms.html

Notice of Discontinuation No. 2: http://www.iowadnr.com/water/stormwater/forms.html

Summary Guidance for General Permit No. 2: http://www.iowadnr.com/water/stormwater/forms.html

Stormwater Construction Site Inspection Report

Project Name:	**Inspection Date/Time:**	**NPDES GP#2 Authorization Number:**
Project Location:		**Weather / Temperature / Rainfall:**

Current activity onsite?

Best Management Practice (BMP)	**Implemented**	**Maintained**	**Not Applicable**	**Comments:**
Sediment Control Practices				
Are perimeter controls properly maintained?				
Is there evidence of offsite tracking onto pavement?				
Are storm drain inlets properly protected?				
Is a stabilized entrance properly maintained?				
Are all discharge points free of visible pollutants?				
Are dust control BMPs necessary?				
Has sediment discharge occurred offsite since last inspection? If so, specify cleanup efforts.				
Erosion Control Practices				
Are soil stockpiles in correct locations and vegetated, mulched or covered?				
Are all inactive disturbed areas protected with vegetation, mulch, tarps etc.?				
Are current erosion control practices adequate?				
Is onsite traffic and parking restricted to designated, stabilized areas?				
Are dewatering BMPs used and maintained?				
Pollution Prevention Measures				
Are natural resources protected? (e.g., streams, wetlands, trees)				
Are hazardous materials properly managed?				
Are potential water contaminants covered or stored inside?				
Vehicle cleaning and maintenance areas free of spills/leaks?				
Good Housekeeping				
Concrete washout used and maintained?				
Wet saw cuttings contained and removed?				
Site free of construction debris? Waste dumpsters covered?				

"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 gathered and evaluated 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: _____ **Date:** _____

Inspector Name: **Inspector Phone:** (515) 294-5359 / 294-

EXHIBIT B: Sample Pollution Prevention Plan