Inspection Perspective: What does an inspector look for? Part I: The Paperwork



MEGAN ANDREWS, CPESC RESOURCE CONSERVATIONIST

Presentation Overview

➢Providing the Framework: NPDES Permit No. ILR10

- ➢Inspections 2 Key Parts:
 - <u>The Paperwork</u>: Storm Water Pollution Prevention Plan (SWPPP) Review
 - > The Site: Implementing the plan how are you managing soil erosion & sediment control onsite

▷BMP Resource: Illinois Urban Manual



General NPDES Permit No. ILR10

Illinois EPA website: www2.illinois.gov/epa

Storm Water Requirements: <u>https://www2.illinois.gov/epa/topics/forms/water</u> <u>-permits/storm-water/Pages/default.aspx</u>

Important Navigation Links:

- "Construction" can access permit from here also
- "Storm Water Forms"
- "Storm Water Pollution Prevention Plan"
- "General Permits"
- "Notices of Intent"



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STORM WATER PERMITS

Industrial

Related Links

Storm Water Forms

Prevention Plan

General Permits

Notices of Intent

Contact Us

Urbanized Area List

Storm Water Pollution

Construction

MS4

Q

IEPA + Topics + Forms, Permits, and Fees + Water Permits + Storm Water Permits

Storm Water Requirements

General Information

The Clean Water Act Amendments of 1987 established the NPDES storm water program. The act called for implementation in two phases; Phase I addressed the most significant sources of pollution in storm water runoff. Phase II addresses other sources to protect water quality. The Phase II regulations were published in the December 8, 1999, Federal Register.

Summary of December 8, 1999, Storm Water Phase II Rule:

- Municipalities located in urban areas as defined by the Census Bureau are required to obtain NPDES permit coverage for discharges from their municipal separate storm sewer systems (MS4s). Municipalities located outside of urbanized areas may need to comply within 180 days notice or as determined by the NPDES Permitting Authority.
- Beginning on March 10, 2003, construction sites that disturb one acre or more are required to have coverage under the NPDES general permit for storm water discharges from construction site activities.
- Municipalities under 100,000 population will no longer be exempt from the construction site storm water requirements and the industrial storm water requirements effective March 10, 2003. (WWTPs 1.0 mgd or more will need a General Storm Water Permit for Industrial Activities)
- Definition of industrial storm water has been revised to expand the "no-exposure" exemption to all industrial
 categories except construction.
- NEW Electronic Submission of Notice of Intent is now available for Construction Sites and Industrial Activities.
 Please click on the Construction or Industrial Links for further information.

Policies	Contact Us	State Government
Policies and Disclaimers	1021 North Grand Ave. East	State of Illinois
	D.O. D. 1027/	000 111 0

Illinois Environmental Protection Agency

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p

NPDES Permit For Construction Activities

7. Submit a completed Notice of Intent electronically or by mail.

Construction activities can include road building, construction of residential houses, office be or demolition.	uildings, industrial sites, STORM WATER PERM
Land Disturbance means exposed soil due to clearing, grading, or excavation activities.	Industrial
Larger common plan of development or sale describes a situation in which multiple construct occurring, or will occur, on a contiguous area.	tion activities are Construction M54
An operator is the person or persons with either operational control of construction project p or day-to-day operational control of activities necessary to ensure compliance with storm wa conditions.	plans and specifications, Related Links ter NPDES permit Storm Water Forms
Under Phase I, operators were required to obtain permit coverage for construction activity th land disturbance of 5 acres or more or less than 5 acres if they were part of a "larger commo or sale" with a planned land disturbance of 5 acres or greater. Phase II reduces that project s	hat resulted in a total prevention Plan n plan of development size to 1 acre or more. Contact Us
Construction Permit Requirements:	General Permits
1. Develop and submit an electronic copy of a Storm Water Pollution Prevention Plan (SWF for the projects to: epa.constilr10swpp@illinois.gov.	PPP) along with the NOI Notices of Intent
Stormwater Pollution Prevention Plans for Construction Activities*,	
 a. SWPPP must be retained at the job site from the date of project initiation to the stabilization. b. Initial application fee schedule t. Projects received prior to January 1, 2010 the application fee is \$500. 	date of final

in activities can include road building, construction of residential houses, office buildings, industrial sites, on. bance means exposed soil due to clearing, grading, or excavation activities.	STORM WATER PERMITS Industrial	 Submit a completed Notice of Intent elec a. Unless notified by the Agency with General NPDES permit is automatic, construction sites under the terms a by the Agency, provided the project with endangered species and histori 	(y) y, 2000 which a backs of mote and distances (y) y, 2000 which a backs of mote and distances (y) a holice of incompleteness letter, coverage under and operators are authorized to discharge storm and conditions of the permit 30 days after the date thas received aign-off from 100Rk and HBA that the ic preservation laws and the appropriate application of the perservation laws and the appropriate application of the store and the appropriate application of the store application of the store approximation of the store application of the sto	the Storm Water : water from the NOI Is received e project compiles on fee has been	Dw 10 Sp	sion of Water Pollution Control 21 North Grand Avenue East Post Office Box 19276 ringfield, Illinois 62794-9276 www.cou.stats.il.us	
or will occur, on a contiguous area.	M54	Electronic Submission of NOI f	Electronic Submission of NOI for Construction			NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	
is the person or persons with either operational control of construction project plans and specifications, ay operational control of activities necessary to ensure compliance with storm water NPDES permit e.l., operators were required to obtain permit coverage for construction activity that resulted in a total become of Surger or more or larger than Surger (I than users part of a Tanzer common plan of demonstrate	Related Links Storm Water Forms Storm Water Pollution Prevention Plan	Mail submission of NOI for Construction Incidence of Non-Compliance for Construction General Storm Water Permit For Construction Activities General Storm Water NPDES Permit For Construction Activities: Frequently Asked Questions Regarding Changes to Sites/Projects after a Notice of Intent has been Filed 3. Submit a completed Notice of Termination (NOT)			General NPDES Permit For Storm Water Discharges From Construction Site Activities		
h a planned land disturbance of 5 acres or greater. Phase II reduces that project size to 1 acre or more.	Urbanized Area List	 The permittee must submit a Notice activities are complete and the site 	e of Termination (NOT) to the Agency after the lan	ad disturbing	Expiration Date: July 31, 2023	Issue Date: August 3, 2018	
ction Permit Requirements:	Contact Us General Permits	finally stabilized when all land disturbing activities are complete and a uniform perential vegetative cover with a density of 70 percent of the cover for unpaved areas and areas not covered by permanent				Effective Date: August 3, 2018	
op and submit an electronic copy of a Storm Water Pollution Prevention Plan (SWPPP) along with the NOI e projects to: epa.comtllr10swppp@illinois.gov.	Notices of Intent	structures has been established or equivalent permanent stabilization measures have been used. The Notice of Termination form is available below. • Notice of Termination for Construction			In compliance with the provisions of the Illinois Environmental Subtitle C, Chapter I), and the Clean Water Act, and the regula conditions and attachments herein.	Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 III. Adm. Code, tions thereunder the following discharges are authorized by this permit in accordance with the	
water Pollution Prevention Plans for Construction Activities *.							
SWPPP must be retained at the job site from the date of project initiation to the date of final stabilization. Initial application fee schedule 1. Projects received prior to January 1, 2010 with less than 5 acres land disturbance, the fee is \$250. 3. Projects received after January 1, 2010 with 5 acres or more land disturbance, the fee is \$750. 1. accoundered Water of Insteat electroneically or by mail.		Policies Policies and Disclaimers Notice of Hondiscrimination Notificación Sobre Actos Discriminatorios	Contact Us 1021 North Grand Ave. East P.O. Box 19276 Springfield, IL 62794-9276 (217).782-3392	State Government State of Illinois Office of the Governor Inspector General Illinois Boriness Portal Cett Coursed Illinois		Amy L. Dragovich, P.E. Managor, Permit Section Division of Water Pollution Control	

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NPDES Permit No. ILR10

General NPDES Permit No. ILR10

Illinois Environmental Protection Agency

General NPDES Permit No. ILR10 - Forms

Stormwater Pollution Prevention Plans for Construction Activities*.

stabilization. b. Initial application fee schedule

a. SWPPP must be retained at the job site from the date of project initiation to the date of final

2. Projects received after January 1, 2010 with less than 5 acres land disturbance, the fee is \$250.

3. Projects received after January 1, 2010 with 5 acres or more land disturbance, the fae is \$750

1. Projects received prior to January 1, 2010 the application fee is \$500.

Illinois Environmental Protection Agency **General Storm Water NPDES Permit** For Construction Activities

NPDE

Frequently Asked Questions Regarding Changes to Sites/Projects after a Notice of Intent has been Filed

Background

Owners/Operators of construction sites need to have National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of storm water from construction sites where one or more acres of land is disturbed.1 Many permittees in Illinois obtain permit coverage for their construction projects under the State's General Storm Water NPDES Permit for Construction Activities. In order for storm water discharges from construction sites to be authorized under this General Permit, the owner must submit a Notice of Intent (NOI) in accordance with the requirements of the General Permit. Permittees must develop and implement a Storm Water Pollution Prevention Plan (SWPPP) to effectively manage the discharge of pollutants from the site. The full General Permit, and related information about the requirements for construction sites, is available from Illinois EPA at this web address: http://www.epa.state.il.us/water/permits/storm-water/construction.html

What is required if the operator(s) changes before the project is completed?

A new NOI needs to be filed. The General Permit requires:



The renewal of the NPDES General Permit for Stormwater Discharge from Construction Site Activities was finalized on July 30, 2013 and modified on April 30, 2014 to clarify requirements for Best Management Practices (BMPs) for post-construction. This permit is effective July 31, 2018. Modifications to the new permit include:

- 1. Part II.C.9 has been added to require revised Notices of Intent be submitted when there is a substantial change to a project including: address changes, new contractors, area of coverage, additional discharges to waters of the state, or other substantial modifications.
- 2. Part II.D has been modified to include electronic submissions by registered users.
- 3. Part II.F.2 has been modified to allow for electronic submission of Notices of Termination by registered users.
- 4. Part III.A.3 and Part III.A.4 concerning prohibition of specific non-storm water discharges and groundwater dewatering have been modified pursuant to Federal Regulations under 40 CFR 450.
- 5. Part IV.B.5 requires a copy of the permit coverage letter be posted at the site in a prominent place for public viewing.
- 6. Part IV.D.2 (d) has been added to require the identification of all treatment chemicals used at construction activities.
- 7. Part IV.D.2(f) and Part IV.D.4(e) concerning pollution prevention measures and corrective actions were included due to the requirement of 40 CFR 450.
- 8. Part IV.D.2 (g) (iv) requires the storm water pollution prevention plan include spill response procedures and provisions for reporting releases in excess of reportable quantities.
- 9. The Agency included references to the most current Illinois Urban Manual (2012).



to storm water:

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MS4

IEPA + Topics + Forms, Permits, and Fees + Water Permits + Storm Water Permits Storm Water Pollution Prevention Plan

The Storm Water Pollution Prevention Plan is considered to be the most important requirement of the General Permit. Each facility covered by this permit is required to develop a plan, tailored to the specific conditions and with the primary goal of controlling pollutants that may be discharged into storm water runoff

Components of the Plan: Each storm water plan must include a site map and a description of the measures and controls that will be used to prevent and/or minimize pollution of storm water. The site description must include:

- · Topographic Map: Maps must extend one-fourth mile beyond the property line, showing the facility, surface water bodies, wells, seepage pits, infiltration ponds, storm water discharge points;
- · A Site Map: Maps should include all outfalls and storm water discharges, drainage areas of each storm water outfall, structural storm water pollution control measures (i.e. retention ponds, vegetation swales, sediment traps), name of receiving water/separate municipal storm sever system, locations of exposed significant materials, location of past spills/leaks, location of high risk/waste-generating areas and activities;
- · Narrative Description: Include the activities (industrial) occurring at the facility, significant materials that are treated, stored or disposed of in a manner to allow exposure with storm water; Materials, equipment and vehicle maintenance practices employed to minimize contact of significant materials

Existing structural and non-structural control measures employed to reduce pollutants in storm water

discharges;

Industrial storm water discharge treatment facilities;

- Methods of on-site storage and disposal of significant materials;
- · Material Inventory: A list of all materials, used, stored, or produced on site with emphasis on those materials that are exposed to storm water and have the potential of pollutine storm water runoff:
- · List All Significant Spills or Leaks: Include all spills and leaks that occurred during the past three years; · Storm Water Management Controls: include all methods that will be utilized to control significant pollutants
- in storm water runoff:

General NPDES Permit No. ILR10 - Resources



Related Links Storm Water Forms

Storm Water Pollution Prevention Plan

Urbanized Area List Contact Us

General Permits Notices of Intent

Getting to know the website...

"Storm Water Pollution Prevention Plan"

Helpful Overview of Required Elements ("Cheat Sheet")

- Topographic Map
- Site Map
- Narrative Description
- Material Inventory
- List all Significant Spills or Leaks
- Storm Water Management Controls
- Storm Water Management Practices
- Erosion and Sediment Prevention
- Employee Training
- Inspection Procedure
- Non-Storm Water Discharges
- Other Program Requirements
- Signature Requirements



ILR10 Permit: Quick Review

Issued: August 3, 2018

Effective: August 3, 2018

Expiration: July 31, 2023

Coverage Under this Permit (pg. 1)

Notices of Intent (pg. 2-3)

Notice of Termination (pg. 3)

Non-Stormwater Discharges (pg. 3-4)

TMDL (pg. 4)

SWPPP (pgs. 4-8)

• Where it applies:

• "The permit shall authorize all discharges of storm water...that will result in the disturbance of one or more acres total land area or a construction site less than one acre of total land that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb one or more acres total land area."

• Notice of Intent (NOI) -

- Submit so that storm water discharges from construction sites are authorized
- Signature what it means when you affix your signature
- 30 day review period; authorized to discharge 30 days after NOI received by IEPA
- Discharges covered previously are automatically covered; SWPPP update within 12 months

Notice of Termination

- Non-stormwater discharges: prohibited by the permit
 - Concrete and wastewater from washout of concrete & Dewatering activities = managed by an appropriate control

• TMDL *

• SWPPP (stay tuned)

ILR10 Permit: Quick Review

Issued: August 3, 2018

Effective: August 3, 2018

Expiration: July 31, 2023

Record Retention (pg. 8)

Standard Permit Conditions (pgs. 8-10)

Definitions (pgs. 10-12)

Retention of Records

Standard Permit Conditions

- Signatory Requirements Who & What (NOIs, "all reports required")
- Proper Operation & Maintenance
- Inspection & Entry

Definitions

• "Construction Activities" & "Final Stabilization"

SWPPP: Important Notes

SWPPP (pgs. 4-8)

Storm Water Pollution Prevention Plans (SWPPP)

- Submitted electronically at the time NOI is filed (completed PRIOR to the start of construction activities). *
- Site specific
- Prepared with good engineering practices (technical component)
- Identifying potential sources of pollution resulting from the project
- Describe & ensure the implementation of bmps to reduce pollutants and assure compliance with the terms & conditions of the permit.
- Permittee must implement the provisions of the SWPPP (get familiar with your SWPPP before you begin work); initiate as soon as project begins.
- Plan shall be signed



SWPPP: Important Notes

SWPPP (pgs. 4-8)

Storm Water Pollution Prevention Plans (SWPPP)

- Available onsite or notice given to the plan's location posted. *
- Copy of the letter of notification of coverage (or other) shall be posted at the site in a prominent place for viewing.
- If notified the plan does not meet minimum requirements, within 7 days the permittee must make required changes & submit a written certification that changes have been made.
- <u>Keeping Plans current</u>: Permittee shall amend the plan *



SWPPP: Important Notes Amending the plan

When should you amend the plan?

- Whenever there is a change in design, construction, operation, or maintenance,
- If an item hasn't been addressed previously,
- If the SWPPP proves to be ineffective
- If a new contractor or subcontractor will implement a measure of the SWPPP,
- If the Agency notifies the permittee, at any time, that the plan does not meet the minimum requirements (as identified within the General Permit No. ILR10).
 - Within 7 days, the permittee shall make the required changes to the plan and shall submit to the agency a written certification that the requested changes have been made.
 - Failure to comply shall terminate authorization under this permit.
- SWPPP revisions shall be kept onsite at all times.
- Rule of Thumb: the SWPPP needs to be kept current







Contents of the Plan: > Site Description

Describe:

Nature of construction activity

Sequence of major construction activities that disturb the soil

• Total area of the site; total area expected to be disturbed

Runoff coefficient after activities are completed

• Existing soil data or quality of current discharge

Site Map:

• Drainage patterns

Slopes (before & after major grading)

• Vehicle entrance/exit locations

Areas of soil disturbance

• Major structural and non-structural controls

Areas where stabilization practices will occur

Soil stockpiling

- Surface waters & wetlands (ID receiving waters, ultimate receiving waters, wetland acreage)
- Locations where stormwater discharges to surface water.



> Controls

Erosion & Sediment Controls:

Describe appropriate controls to be implemented

Include details/drawings that show proper installation

- Utilize Illinois Urban Manual (IUM)
- For each major activity describe control and timing of implementation.
- Shall design, install and maintain effective controls to minimize discharge of pollutants. Objectives:

Control SW volume & velocity to minimize erosion

- Control SW discharges to minimize erosion at outlets & downstream
- Minimize amount of soil exposed, soil compaction, disturbance of steep slopes & sediment discharges.
- Minimize track out & dust.
- Provide & maintain natural buffers

SWPPP: Key Components

Contents of the Plan: > Controls



Stabilization Practices:

- Think temporary or permanent seeding, geotextiles, mulching, vegetation buffers, tree protection...
- Describe interim & permanent measures along with scheduling.
- Ensure disturbed portions of the site are stabilized.
- <u>Record</u> dates of activities (major activities occur, activities cease, when stabilization is initiated).
- STABILIZATION TIMELINE: at a minimum, must be initiated immediately when activities have permanently or temporarily (not resume for longer than 14 days) ceased. Initiate within 1 working day but not later than 14 days from initiation of stabilization work in an area.

• Snow cover, as soon as practicable (Note: do not wait for snow fall)

- Can use temporary techniques when temporarily cease.
- Not required for exit points at linear utility construction sites that are used episodically and for short durations.



A quick note on Record Keeping...

Per the General ILR10 Permit:

"A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included in the plan."

Several ways to go about keeping records:

- Mark right onto to the site plan (pens, pencils, markers, crayons)
- Construction Log
- Reports (reference location keep onsite)



> Controls



Structural Practices:

- Think silt fences, drainage swales, temporary sediment traps, check dams, inlet protection, rock outlet protection, basins...
- Divert & store flows, limit runoff & discharge of pollutants from exposed areas.
- Place on upland soils where practicable.
- Note practices might be subject to Section 404 of the CWA.



> Controls

Use of treatment chemicals

• BMPs for impaired waters:

 303(d) listing for suspended solids, turbidity, or siltation, design SWPPP for a storm event greater than a 25-year 24-hour rainfall event.

• Pollution Prevention:

equipment, vehicles, building materials, waste, fuel/oil, etc.

Other Controls

- Post-Construction SW Management
- Approved State or Local Plans
- Natural Buffers



Maintenance

• Include description of procedures to maintain measures

>Inspections

- More to follow...
- **Corrective Action**
 - Must take to address conditions found
- Contractors
 - Identify who will implement
 - Signed certification statement

SWPPP: Key Components Inspections



- ✓ A person "knowledgeable" in the principles of erosion and sediment control measures.
- ✓ "Knowledgeable" =
 - ✓ A person who possesses the skills to assess conditions at the construction site that could impact stormwater quality
 - A person who can assess the effectiveness of erosion and sediment control measures
 - ✓ Permit Examples: P.E., CPESC, CESSWI
 - ✓ NOTE: Who do you want to do inspections? Best way to know what is happening on your site.

≻<u>When:</u>



- ✓ Within 24 hours of the end of a storm that is 0.5 inches or greater
 - \checkmark Or by the end of the following business or work day
- ✓ Exception:
 - ✓ Inspections may be reduced to 1x per month when construction activities have ceased due to frozen conditions (ground and/or air temps are at or below 32 degrees Fahrenheit).
 - ✓ Weekly inspections will recommence when construction activities are conducted, or if there is a 0.5" or greater rain event, or a discharge due to snowmelt occurs.
 - ✓ Important to stay on top of weather conditions!
 - Areas inaccessible during inspections due to flooding or unsafe conditions shall be inspected within 72 hours of becoming accessible.



SWPPP: Key Components Inspections

≻<u>Where:</u>

- ✓ Disturbed areas AND
- ✓ Areas used for storage of materials that are exposed to precipitation

✓ Inspect:

- \checkmark Disturbed areas that have not been finally stabilized
- ✓ Observe erosion & sediment control measures.
- ✓ Previously stabilized areas to ensure still stabilized.
- ✓ Discharge locations.
- ✓ Locations of where vehicles enter and exit the site.

What to look for:

- ✓ Observe erosion & sediment control measures
 - ✓ Are they: Functioning Properly? Adequate? In Need of Maintenance?
- ✓ Discharge locations
 - ✓ Are onsite measures effective in preventing offsite impacts?
- ✓ Where Vehicles enter and exit the site
 - ✓ Evidence of offsite sediment tracking?



SWPPP: Key Components Inspections

Prepare an Inspection Report:

- ✓ Name & Qualifications of personnel making the inspection
- ✓ Date of inspection
- ✓ Scope of Inspection (should include disturbed areas, material storage areas & discharge points)
- ✓ Major Observations relating to the implementation of your SWPPP
 - Measures in place? Installed correctly? Functioning properly? Changes needed?

✓ Actions Taken

- ✓ Signed in accordance with Signatory Requirements (certification statement, signature)
- ✓ Keep onsite

NOTE:

- Based on your inspection, modify erosion & sediment control measures AND your SWPPP.
 - > Within **7 calendar days** of following your inspection



SWPPP: Key Components Incidence of Noncompliance (ION)

Violation of SWPPP or any conditions of the permit

Within 24 Hours:

- ✓ Notify Field Operations Section (Regional Office)
 - ✓ Email (<u>epa.swnoncomp@Illinois.gov</u>), Telephone or Fax

Within 5 Days:

- ✓ Complete and submit ION form report
 - ✓ Specific information on cause of noncompliance
 - ✓ Actions taken to prevent further noncompliance
 - ✓ Explain resulting environmental impact
 - Corrective Action taken to reduce environmental impact from noncompliance
 - ✓ Signature
- ✓ Mail to Illinois EPA Springfield, IL

Illinois Environmental Protection Agency Division of Water Pollution Control Compliance Assurance #19 Post Office Box 19276 Springfield, Illinois 62794-9276

FIELD OPERATIONS HEADQUARTERS Bruce Yurdin, Manager Phone: 217/782-3362 Fax: 217/785-1225 EMAIL: epa.swnoncomp@illinois.gov

Region 1 - ROCKFORD Chuck Corley, Manager Phone: 815/987-7760 Fax: 815/987-7005

Region 2 - DESPLAINES Jay Patel, Manager Phone: 847/294-4000 Fax: 847/294-4058

Region 3 - PEORIA Jim Kammueller, Manager Phone: 309/693-5463 Fax: 309/693-5467

Region 4 - CHAMPAIGN Joe Koronkowski, Manager Phone: 217/278-5800 Fax: 217/278-5808

Region 5 - SPRINGFIELD Bruce Yurdin, FOS Manager Phone: 217/782-3382 Fax: 217/785-1225

Region 6 - COLLINSVILLE Bruce Yurdin, FOS Manager Phone: 217/782-3362 Fax: 217/785-1225

Region 7- MARION Byron Marks, Manager Phone: 618/993-7200 Fax: 618/997-5467



The Paperwork: SWPPP Summary

- Prepare for each construction site
 - Be specific to the site; no two plans should be identical
- > Important to spend time planning and updating.
 - The more time you invest in your plan, the greater the success; less risk of noncompliance.
- > Per IEPA, MOST IMPORTANT requirement of the General NPDES Permit No. ILR10





Illinois Urban Manual



What is Available?

- Illinois Urban Manual:
 - Practice Standards
 - Construction Specifications
 - Materials Specifications
 - Standard Drawings
- Public Review
- Upcoming Training Opportunities
- Sign up to Receive Updates
- CPESC Information
- Field Manual
- Access: <u>www.illinoisurbanmanual.org</u>



Illinois Urban Manual

ILLINOIS URBAN MANUAL PRACTICE STANDARD

DITCH CHECK (MANUFACTURED)



(Source: Winnebago Soil and Water Conservation District)

until permanent stabilization practices

Manufactured ditch checks should be

permanent non-erodible lining, either

Other applications include use of

vegetation is being established.

manufactured ditch checks to slow

applied to ditches that cannot receive a

synthetic or vegetated, due to ongoing

water velocity in a ditch while permanent

The minimum height of manufactured

structures and permeable ditch checks

and shall not exceed a maximum height

ditch checks shall be 10 inches for

of 15 inches for other manufactured

synthetic porous runoff control

can be implemented.

construction activity.

CRITERIA

products.

DEFINITION

A pre-fabricated temporary dam or flow thru device installed across a swale or road ditch to reduce the velocity of water.

PURPOSE

The purposes of these practices are to reduce the velocity of concentrated storm water flows thereby reducing erosion of the swale or road ditch, trap sediment, promote settling of suspended solids behind the check, reduce scour and channel erosion, and promote infiltration when suitable soils are present.

CONDITIONS WHERE PRACTICE APPLIES

The use of manufactured ditch checks applies where grading activity occurs in areas of concentrated flows with slopes less than 8% and flow velocities less than 8 cfs and a temporary measure is needed to control erosion of the channel

814 - 1

Construction Specification 95–Geotextile

1. Scope This work consists of furnishing all material, equipment, and labor necessary for the installation of geotextiles

2. Quality

Geotextiles shall conform to the requirements of Material Specification 592 and this specification.

3. Storage

Before use, the geotextile shall be stored in a clean, dry location out of direct sunlight, not subject to extremes of either hot or cold temperatures, and with the manufacturer's protective cover undisturbed. Receiving, storage, and handling at the job site shall be in accordance with the requirements listed in ASTM D 4873.

4. Surface preparation

The surface on which the geotextile is to be placed shall be graded to the neat lines and grades as shown on the drawings. It shall be reasonably smooth and free of loose rock and clods, holes, depressions, projections, muddy conditions, and standing or flowing water (unless otherwise specified in section 7 of this specification).

5. Placement

Before the geotextile is placed, the soil surface will be reviewed for quality assurance of the design and construction. The geotextile shall be placed on the approved prepared surface at the locations and in accordance with the details shown on the drawings and specified in section 7 of this specification. It shall be unrolled along the placement area and loosely laid, without stretching, in such a manner that it conforms to the surface irregularities when material or gabions are placed on or against it. The geotextile may be folded and overlapped to permit proper placement in designated area(s).

Method 1-The geotextile shall be joined by machine sewing using thread material meeting the chemical requirements for the geotextile fibers or yarn. The sewn overlap shall be 6 inches, and the sewing shall consist of two parallel stitched rows at a spacing of about 1 inch and shall not cross (except for any required re-stitching). The stitching shall be a lock-type stitch. Each row of stitching shall be located a minimum of 2 inches from the geotextile edge. The seam type and sewing machine to be used shall produce a seam strength, in the specified geotextile, that provides a minimum of 90 percent of the tensile strength in the weakest principal direction of the geotextile being used, when tested in accordance with ASTM D 4884. The seams may be factory or field sewn.

folding, wrinkling, or other displacement of the geotextile. Unless otherwise specified, methods of securing shall not cause punctures, tears, or other openings to be formed in the geotextile.

Method 2-The geotextile shall be joined by overlapping a minimum of 18 inches (unless otherwise specified) and secured against the underlying foundation material. Securing pins, approved and provided by the geotextile manufacturer, shall be placed along the edge of the panel or roll material to adequately hold it in place during installation. Pins shall be steel or fiberglass formed as a U.L. or T shape or contain "ears" to prevent total penetration through the geotextile. Steel washers shall be provided on all but the U-shaped pins. The upstream or upslope geotextile shall overlap the abutting downslope geotextile. At vertical laps, securing pins shall be inserted through the bottom layers along a line through approximately the mid-point of the overlap. At horizontal laps and across slope labs, securing shall be inserted

(210-VI-NEH, May 2001)

MATERIAL SPECIFICATION

592. GEOTEXTILE

SCOPE

This specification covers the performance requirements and quality of geotextiles.

GENERAL REQUIREMENTS 2.

1.

Fibers (threads and yarns) used in the manufacture of geotextile shall consist of synthetic polymers composed of a minimum of 95 percent by weight polypropylenes. polyesters, polyethylene, or polyvinylidene-chlorides. They shall be formed into a stable network of filaments or yarns retaining dimensional stability relative to each other. The filaments shall be resistant to delamination. The geotextile shall be uniform in texture, thickness, and appearance, and be free of defects, flaws or tears. The geotextile shall conform to the physical requirements contained in Tables 1 and The geotextile shall be free of any chemical treatment or coating that significantly reduces its porosity. Fibers shall contain stabilizers and/or inhibitors to enhance resistance to ultraviolet light.

Thread used for factory or field sewing shall be of contrasting color to the fabric and made of high strength polypropylene, polyester, or polyamide thread. Thread shall be as resistant to ultraviolet light as the geotextile being sewn.

3. CLASSIFICATION

a.

Geotextiles shall be classified based on the method used to place the threads or yarns forming the fabric. The geotextiles will be grouped into the types described

Woven. Fabrics formed by the uniform and regular interweaving of the threads or yarns in two directions.

Woven fabrics shall be manufactured from slit-tape or monofilament yarn formed into a uniform pattern with distinct and measurable openings, retaining their position relative to each other

The edges of fabric shall be selvedged or otherwise finished to prevent the outer varn from unraveling

Nonwoven. Fabrics formed by a random placement of threads in a mat and b. bonded by heat-bonding, resin-bonding, needle punching, or a combination thereof

Nonwoven fabrics shall be manufactured from individual fibers formed into a random pattern with distinct but variable small openings, retaining their position relative to each other when bonded by needle punching, heat, or resin bonding. The use of nonwovens, other than the needle punched geotextiles, is somewhat restricted (see Note 3 on Table 2).

CERTIFICATION, SAMPLING AND TESTING

Along with each shipment of geotextile, a Certificate of Compliance shall be furnished by the supplier, along with a document stating the manufacturer's minimum average roll values (MARV) for the geotextile. The geotextile shall meet the specified requirements (Table 1 or 2) for the product style shown on the label.

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PLASTIC PERMEABLE CHECK CROSS SECTION



The geotextile shall be temporarily secured during placement of overlying material to prevent slippage,



Illinois Urban Manual

• How do I use the IUM to address erosion and sediment control on a construction site?

- IUM (standards & specifications):
 - Serves as a guide for proper selection, installation and maintenance of soil erosion & sediment control best management practices (bmps)
 - Selection when developing the site plan (Storm Water Pollution Prevention Plan (SWPPP) or equivalent)
 - Installation when implementing a practice onsite
 - Maintenance is the practice adequate to address site conditions? Is the practice functioning properly? Is maintenance needed?
- During an inspection, use IUM Standard to assess practice performance onsite:
 - Is the practice being used properly?
 - Is the practice installed according to specifications?
 - Is the practice being maintained appropriately?

One Final Note: Notice of Termination (NOT)

> When is it appropriate to file an NOT?

- Final stabilization is complete and
 - \checkmark All disturbed soils have been finally stabilized.
 - Temporary erosion and sediment controls have been removed or will be removed at an appropriate time.
- All stormwater discharges from construction activities have been eliminated.
- Submit via mail or electronically (depending on how NOI was submitted)

"Final Stabilization"

- Means that all soil disturbing activities at the site have been completed, and either of the following conditions are met:
 - ✓ A uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, OR
 - Equivalent permanent stabilization measures (such as use of riprap, gabions, or geotextiles) have been employed.

I certify under penalty of law that disturbed soils at the identified facility have been finally stabilized or that all storm water discharges associated with industrial activity from the identified facility that are authorized by an NPDES general permit have otherwise been eliminated. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with industrial activity by the general permit, and that discharging pollutants in storm water associated with industrial activity to Waters of the State is unlawful under the Environmental Protection Act and the Clean Water Act where the discharge is not authorized by an NPDES Permit.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Owner Signature:

Questions?



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