Individual Building Site
Stormwater Pollution Prevention

When individual lot ownership changes from developer to builder, compliance with Iowa Department of Natural Resources (IDNR) General Permit #2 (GP#2) is still required until construction is complete and final vegetation established.

Transfer Agreement Between Developer and Builder

Iowa code contains two provisions for stormwater management after the building site or sites are sold to a builder by a developer. Know where you stand when it comes to stormwater management:

Same authorization: Seller is solely responsible for renewing existing NPDES permit authorization under IDNR's GP#2; buyers must comply with seller's Stormwater Pollution Prevention Plan (SWPPP) and local permits.

Separate authorization: Buyer is solely responsible for IDNR's GP#2 compliance; must develop their own SWPPP, file a Notice of Intent to discharge stormwater under IDNR's GP#2 stormwater permit authorization and comply with local permits.

ON-LINE RESOURCES
NPDES - General Permit No. 2 - SWPPP

Iowa Department of Natural Resources - General Permit No. 2 & SWPPP Guidance Document
http://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Storm-Water/Online-Storm-Water-Application

Environmental Protection Agency - Stormwater Program Information
http://www.epa.gov/npdes/npdes-stormwater-program

Environmental Protection Agency - Individual Site SWPPP Template
http://www.epa.gov/npdes/stormwater-discharges-construction-activities#resources
(Click Resources & Tools box on the right - Scroll down to Tools)

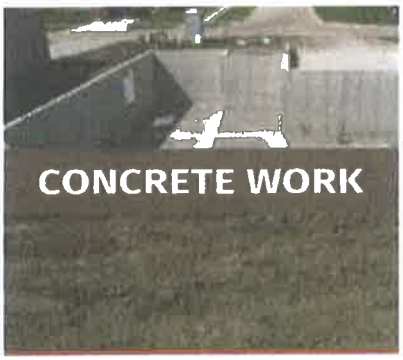
Exposed soil with no controls is the primary source of sediment leaving construction sites. **Lack of site BMPs** can **result in** water pollution and **enforcement action, including monetary fines** (from $500 to $27,500 per day) **and a possible stop work order.**

Best Management Practices

Understanding site drainage patterns, including where and how fast stormwater enters and flows across a site **is critical** when installing the right stormwater controls in the right place. **Each phase of construction** on the individual building site **requires best management practices (BMPs)** to manage construction site runoff in a responsible manner.

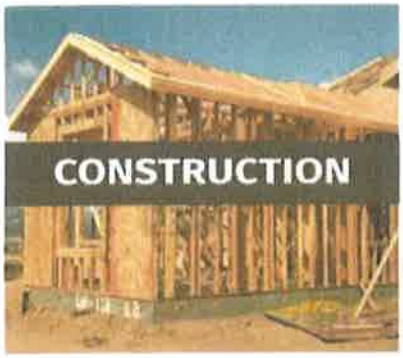
Maintain existing vegetation when possible; install perimeter controls to prevent sediment from leaving construction site.

Install rolled erosion control products (RECP) to prevent erosion and keep streets and sidewalks free of sediment.



Place rock for a construction entrance; replace rock as needed. Do not allow vehicles on bare soil.

Provide concrete washout area, lined if possible, to manage high pH rinse water and prevent soil contamination.



Install Inlet protection controls to capture sediment leaving the site.

Seed or mulch exposed [bare] soil to prevent erosion from happening in the first place.

Stockpile topsoil away from critical areas and flow paths. Mulch or seed to protect against erosion.

Establish an 8" healthy soil profile prior final stabilization (refer to Iowa Stormwater Management Manual.)

Inspection & Maintenance

GP#2 requires construction site inspections by a qualified person, knowledgeable in the principles and practice of erosion and sediment controls and able to determine a site is managed in accordance with the SWPPP.

The SWPPP includes a construction sequence schedule for site activities. Beginning with **installation of perimeter controls** and **ending with final stabilization and removal of sediment and erosion control practices.** Stormwater practices n need of inspection typically include:

- **Erosion & sediment control**
  - Temporary seeding, mulch, rolled erosion control products (RECP)
  - Silt fence, filter socks
  - Inlet protection
  - Rock construction entrance/exit
- **Velocity control, to slow down concentrated flows)**
  - Rock check dams, silt fence, filter socks in combination with RECPs
- **Good housekeeping practices**
  - Concrete washout area for concrete, grout, brick work, etc.
  - Covered dumpster / solid waste disposal
  - Spill kits and spill prevention & response plans
  - Porta-potty, if located on site.
- **Post-construction stormwater management**
  - Eight inch healthy soil profile prior to sodding or seeding

Topsoil stockpile seeded and contained with silt fence perimeter.

Photo credit: sustainablebig.blog

Keep street clean and free of sediment and debris, a good housekeeping practice.

INSPECTION POINTS

- **Cleared, graded and excavated areas of the site**
- **Stormwater controls and effectiveness of practices**
- **Equipment storage and maintenance areas**
- **Areas where stormwater flows within the site**
- **Stormwater discharge points, such as streets**
- **Areas where stabilization has been implemented**

(inspected every 7 calendar days)

Plan credit: successimg.com

Pollution Prevention Inspection forms, along with other resources are available at:
IowaStormwater.Org - Resources - Contractors - Construction Toolbox

Individual Building Site
Common SWPPP "Slips"

When you are responsible for the SWPPP read it, understand it and fully implement it. Following are common "slips" related to SWPPP management that result in enforcement action:

SWPPP is not developed, implemented or maintained.

SWPPP doesn't clearly identify where and when each control in the plan will be installed.

SWPPP contractor and subcontractors haven't signed Certification Statement.

SWPPP isn't amended immediately when changes have been made.

SWPPP isn't on-site or sign communicating it's location is not posted.

SWPPP inspections are not completed every seven calendar days, as required in GP#2.

SWPPP isn't provided within three hours after being requested during on-site inspection.

SWPPP violations not corrected within three business days after deficiencies are identified.

SWPPP violations, resulting in an illicit discharge, not corrected immediately.

SWPPP BMPs not maintained, i.e. silt fence at 50% capacity and in need of cleaning or replacement.

WHEN CORRECTIVE ACTION IS REQUIRED

Corrective action required. Evidence of erosion, sediment and velocity control failure.

If activities are **not in accordance with the SWPPP, or** if the SWPPP **controls are not effective,** the **qualified professional** inspecting the site needs to **recommend corrective actions to the owner/operator.**

Corrective actions required. Evidence of erosion control and sediment control failure; improper chemical/fuel storage, topsoil stockpile should be relocated and covered or vegetated; polluted stormwater runoff is directly connected to stream corridor with no treatment in between.

Corrective action required. Evidence of sediment control and construction site entrance failure.

IowaStormwater.Org

Developed by ISWEP Work Members to inform developers and drivers of their regulatory duties and responsibilities associated with construction site runoff control.

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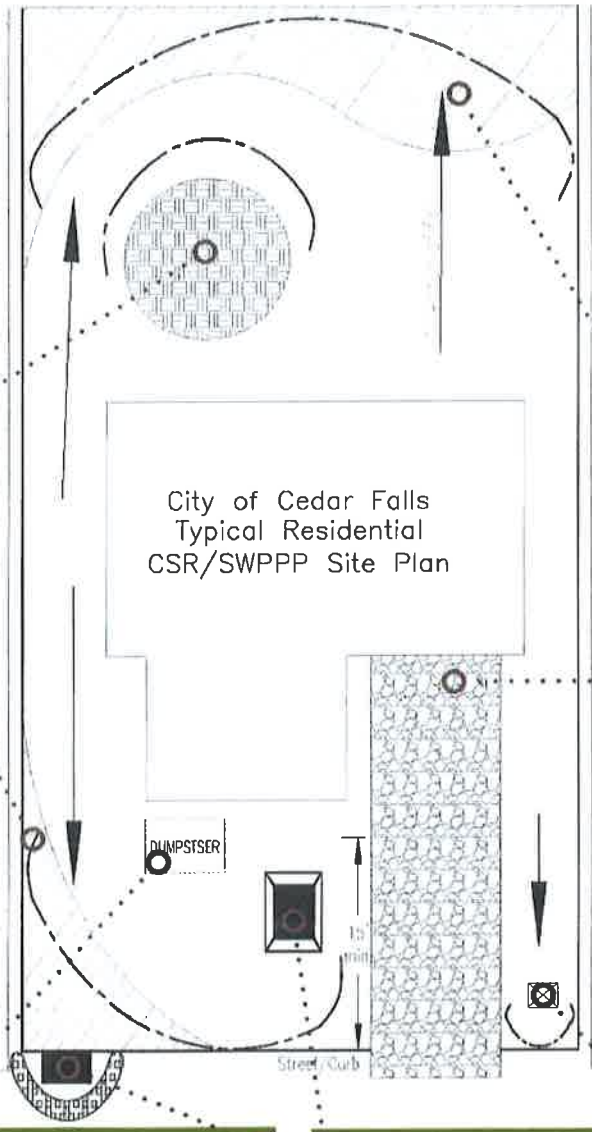
Individual Building Site

Stormwater Pollution Prevention Plan

Best Management Practices

Topsoil stockpile vegetated and protected with silt fence.



Vegetation preserved if possible; remaining areas mulched.

Silt fence installed in strategic locations around perimeter.

Construction entrance / exit stabilized with a rock base.

Dumpster covered to prevent litter.

Inlet protection required to capture sediment.

Wash out area designated and prepared for sub contractors.

Sign posted with contact information.

Post Construction

Soil Quality Restoration (SQR)

Best Management Practice

CORRECTIVE ACTION EXPECTED
Compacted clay should be amended prior to sodding or seeding.

Buyers expect functional soil as part of constructing a new home. This means compacted clay should be amended to create an eight inch healthy soil profile prior to sodding or seeding.

The **Iowa Stormwater Management Manual** defines **healthy soil** as one with a **minimum of 3% organic matter**; **weighs** no more than **2,160 lbs. per cubic yard** (80 lbs. per cubic foot) and **infiltrates at least 1" of rain per hour.**

Of the **eight SQR methods** outlined in the Iowa Stormwater Management Manual, Methods 4 - 7 are viable **for a typical construction site**. Steps involved are: **reduce compaction** through tillage; **re-spread healthy topsoil** (see ISWMM specifications) and **post till as required**.

Re-spread stockpiled topsoil meeting healthy soil specification for stormwater management.

Tilling is required to break up compaction and allow rain water to infiltrate into the ground below.

All steps, when done together, ensure yards infiltrate more and shed less stormwater runoff.

IowaStormwater.Org

Developed for ISWEP MS4 Members to inform developers and builders of their regulatory duties and responsibilities associated with construction site runoff control.

Method 4

Till: 4" depth
Spread: 8" topsoil
Till: as required

Method 5*

Till: 1 - 4" depth
Spread: 4 - 7" depth
Till: minimum 4" depth

*x" till + x" spread = 8"

Method 6

Till: 6" depth
Spread*: 2" depth
(topsoil/ compost blend)
Till: as required

*Minimize compaction

Method 7

Till: as required
Spread: 2" depth
(composted organic matter)
Till: 8" depth