Protect Stormwater Quality
Project and Site Management Training for General Contractors

Presenter
Becky Pearson
Professional Civil Engineer
Part I
Regulations and Compliance
Construction is Regulated
Arizona Pollutant Discharge Elimination System (AZPDES)
Construction General Permit
Today’s Presentation

- Regulatory overview.
- Common construction site problems.
- What are your responsibilities?
- Practical solutions.
- Best Management Practices that work!
- Civil sanctions.
Today’s Plan of Activities

Ground Rules

➤ Be on time from breaks
➤ Pagers/Phones off or vibrate
➤ No sidebar conversations
➤ Questions are encouraged
➤ Have fun, and learn at least one new item today
Construction Site Pollutants

- Concrete compounds
- Asphalt compounds
- Petroleum products: *fuel, oil, and grease*
- Hazardous chemicals: *acids, lime, glues, adhesives, and curing compounds*
- Paints and Solvents
- Pesticides and Herbicides
- Fertilizers
- Detergents
- Plaster or related products

It is **illegal** to discharge these materials into streets, stormdrains, or washes.
And Sediment!

Sediment can be a carrier for many other construction site pollutants.

Control Construction Site Pollutants with AZPDES Stormwater Quality Permitting
How Do Pollutants Leave Your Construction Site?

Contaminated stormwater leaves the site……
... and flows into streets, stormdrains, and washes.
Stop Pollutants from Leaving Your Site!

Implement BMPs
Best Management Practices

An action, program, or device, which helps to reduce pollutants in industrial/construction site runoff.

- Install Erosion Controls
- Install Sediment Controls
- Good housekeeping During Operations
- Implement for the Life of the Project
  Training / Inspection / Maintenance
AZPDES Construction
General Permit

Permit is needed for sites disturbing 1 or more acres

Who Needs to Apply?

➢ Anyone with day-to-day operational control
➢ Anyone with control over plans/specifications
➢ Often, both the owner and the operator
Municipality Role

- Implement public education and involvement programs.
- Develop jurisdictional stormwater maps.
- Develop and implement programs to prevent or reduce pollution in runoff from municipal operations.
- Develop, implement and enforce a program to reduce stormwater pollution and address stormwater runoff from:
  - Construction projects
  - New development and redevelopment projects
Contractor Responsibilities

- Develop or become familiar with the SWPPP.
- Understand how to install and maintain BMP’s.
- Know which BMP’s are relevant to your site.
- Ensure proper installation and maintenance of BMPs while you’re on the job.
- Train your staff (designated site personnel).
- All Sub’s must understand the requirements for your project.
- Submit “NOI” and “NOT” to ADEQ and send copies to appropriate local agencies.
- And…Document, and modify as needed, all pertinent information in the SWPPP.
Construction Permit Steps

1) **Develop a SWPPP**
   Storm Water Pollution Prevention Plan include Best Management Practices (BMPs).

2) **Submit your NOI to ADEQ** *
   Notice of Intent- for coverage under AZPDES Construction General Permit

3) **Implement the SWPPP**
   Prior to, and during, construction....
   Inspect, maintain and update. Keep records on site.

4) **Submit your NOT to ADEQ** *
   Notice of Termination- to document project completion or change in ownership.

* Send copies of NOI and NOT to local municipality.
SWPPP is posted before construction begins
Prepare Stormwater Pollution Prevention Plan (SWPPP)
A site-specific, dynamic plan designed to control the discharge of pollutants from construction sites to streets, stormdrains and washes.
Develop a SWPPP

1) Describe the Project

2) Create a Site Map

3) Assess Potential Impacts

4) Select BMP Controls:
   - Soil Stabilization
   - Sediment Control
   - Tracking and Dust Control
   - Non-Storm Discharges
   - Materials & Waste Management
   - Fed, State & Local Requirements
   - Post Construction Controls
Develop a SWPPP

5) Coordinate BMP Controls with Construction Activities
   - Sequence of Major Activities
   - Include Temporary Stabilization

6) Describe BMP Controls and Locate them on Plan Sheets

7) Prepare the Inspection and Maintenance Plan

8) Certify the Plan

9) Amend SWPPP to meet changing site conditions
SWPPP Preparation
Create Site Map

Identify...

- Major cross roads and receiving waters within 1 mile.
- Off-site & on-site borrow areas and material, waste, and equipment storage areas.
- Stormwater discharge points to streets, stormdrains, and washes.
- Stormwater flow directions and slopes.
Include site maps showing BMP placement and engineering designs
Maps show locations for BMPs

- Headwall Protections
- Ingress/Egress Easements
BMP specifications provided using detail drawings included on site map
Sediment Wattle

Straw Bale Barrier

Detail E1 shows design specifications
For Control Measures, Identify...

- The implementation sequence
- The operator responsible
- Why BMPs were selected
- Potential Pollutants
Identify Pollutants and Describe Control Measures (BMPs) for…

- Each construction activity
- On and off-site construction
- Waste and material storage areas
- Support activities
Prepare Inspection & Maintenance Plan

Specify Inspection Schedule:
- Once per week
- Once per 14 days + within 24 hours of a storm

Identify BMPs in need of repair, replacement, or improper use
- Repair nonfunctioning BMPs
- Implement additional BMPs as needed
- Change BMPs as needed
- Remove accumulated sediment
Describe post construction stormwater controls that will be installed during construction.

Design and install post construction controls consistent with applicable local, state, and federal requirements.

Describe measures to prevent the discharge of any contaminants to waters of the U.S.
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 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 possibilities of fine and imprisonment for knowing violations.
Guidance is available on Preparing a SWPPP

1. ADEQ SWPPP Checklist
   www.azdeq.gov/environ/water/permits/links.html

2. CALTRANS BMP Manual
   www.dot.ca.gov/hq/construc/manual2001/

3. Arizona Dept. of Transportation Erosion & Pollution Control Manual
   www.dot.state.az.us/ADOT_and/Storm_Water/index.asp