

NPDES Construction Permit, 2007 Fall Assessment Results and Erosion Control Strategies

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NPDES Stormwater General Permit for Construction Activities

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- Required for construction projects with 1 or more acres of soil disturbance that discharge to surface waters of the state:
- Permit does not cover in-water work activities

Permit Requirements

- Erosion control (TESC) Plan
(WSDOT creates, Contractor implements)
- Spill (SPCC) Plan
(Contractor creates, WSDOT approves)
- Site Inspections (Contractor)
- Site Log Book (WSDOT)
- Discharge Sampling (WSDOT)
 - Turbidity and pH

Stand-Alone TESC Plan Triggers

- Greater than 7,000 sq feet of land disturbing activities.
- Greater than 2,000 sq ft of new, replaced or new plus replaced impervious surface.

Site Inspections

Standard Specification 8-01.3(1)B.

- Contractor's Certified Erosion and Sediment Control Lead (CESCL) must complete inspection.
- Must occur at least once every week and within 24 hours of a rain event that creates stormwater discharges from the site.

Inspections of temporarily stabilized, inactive site may be reduced to once every calendar month.

Use WSDOT standard form (Form Number 220-030 EF). Keep copies in the Site Log Book.

If TESC site inspection reveals problems, WSDOT and the Contractor must :

- Review and revise the TESC plan sheets (if needed) within 7 days of the inspection; and
- Fully implement and maintain all *BMPs ASAP*, but no later than 10 days; and
- Document BMP implementation and maintenance in the Site Log Book.

Site Log Book

WSDOT staff must maintain a Site log Book containing:

- Erosion (TESC) and spill (SPCC) plans
- BMP installation and maintenance records
- Site inspection reports, and
- Water quality monitoring data.

Water Quality Monitoring

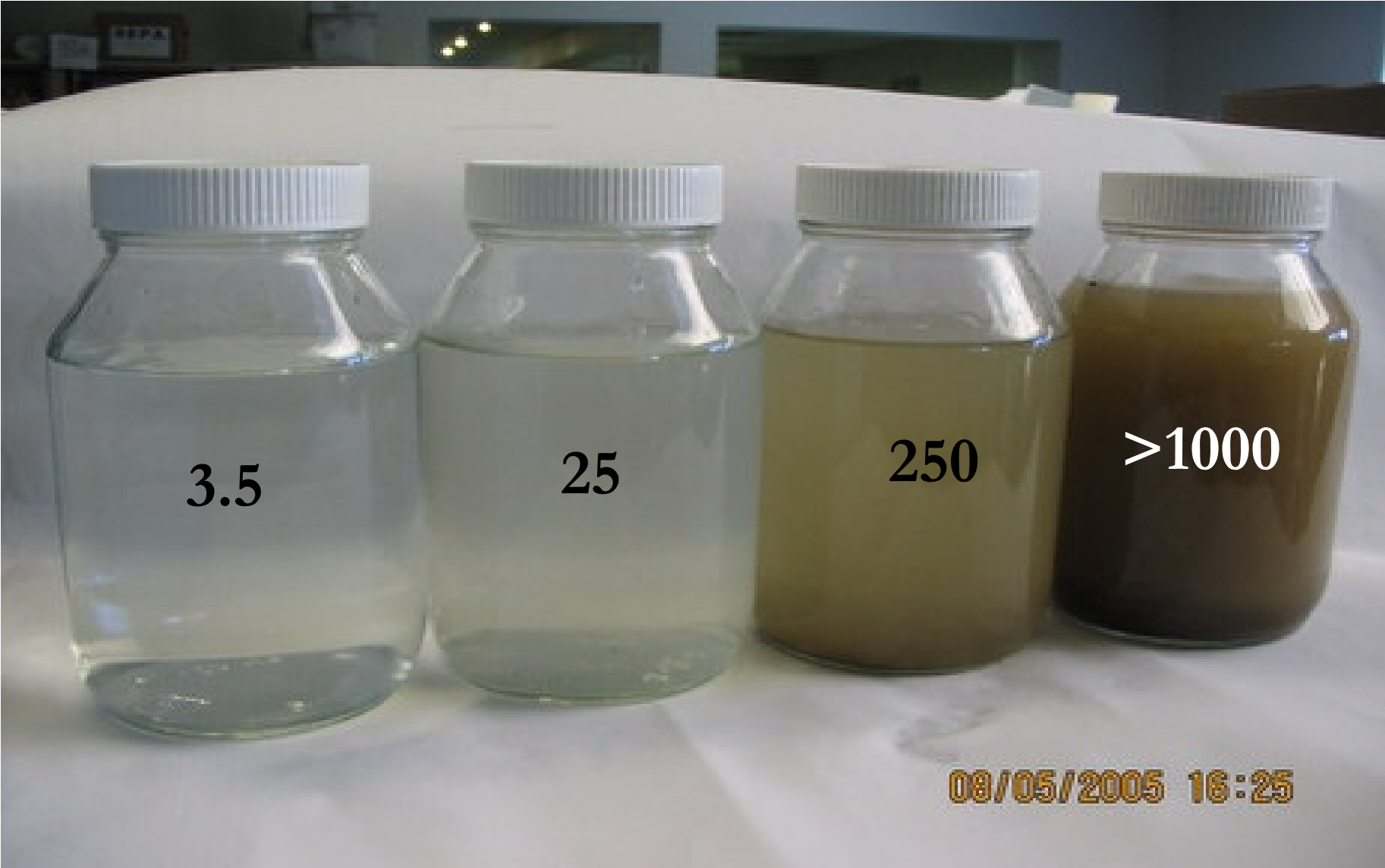
Section 6-4 of the Highway Runoff Manual provides step-by-step protocols for water quality for monitoring per the NPDES permit.

Turbidity Monitoring

5 acres or More – October 1, 2006

1 to 5 acres – October 1, 2008

- At least weekly when there is discharge
- When there is no discharge during a calendar week, sampling is not required.
- Sampling is not required outside of normal working hours or during unsafe conditions.



3.5

25

250

>1000

08/05/2005 16:25

Turbidity Benchmark 0-25 NTU

Presumed not likely to cause an exceedance of state water quality standards under most conditions, and BMPs are thought to be functioning well.

Turbidity Benchmark 26-249 NTU and Required Actions

Indicate BMPs are not functioning properly so action must be taken to correct problems.

- Review the TESC plan and make revisions within 7 days
- Fully implement and maintain BMPs within 10 days and document in the Site Log Book.

Turbidity Benchmark 250 NTU or More

Higher risk of exceeding standards. Ecology must be notified within 24 hours (start ECAP), and immediate corrective actions must be taken.

- Review the TESC plan and make revisions within 7 days
- Fully implement and maintain BMPs within 10 days and document this information in the Site Log Book.
- Continue to sample discharge daily until Turbidity is <25 NTU or the discharge is eliminated.

pH Monitoring

Projects >1 acre that drain to state waters with either:

- **Significant Concrete** ($\geq 1000 \text{ yds}^3$) curing simultaneously during a 30 day period or the use of **recycled concrete**

Frequency: When the concrete is first exposed to precipitation and at least once per week until pH is < 8.5 .

- **Engineered/Cement-Amended Soils**

➤ *Frequency:* When area is first exposed to precipitation and at least once per week until runoff meets water quality standards or the area is covered.

Note: Samples should be collected at least once per week prior to discharge from sediment traps and ponds storing runoff from the areas described above

pH Benchmark Value

Anytime sampling indicates that pH is 8.5 or greater:

- Prevent from the entering waters of the state
- If possible, infiltrate the water. Use soils that neutralize pH.
- Contact Region Environmental staff and/or HQ Environmental Services office for information on neutralizing high pH.

TMDL/303(d) Listed Waters

- Benchmark are not applicable if a project discharges to a category 5 – 303(d) listed water body for pH, turbidity, fine sediment, or phosphorus,
- The state water quality standards are the compliance trigger.
- Contact region and HQ environmental to create a monitoring plan as sampling requirements are different
- This is not very common.

In-water Work

- If a project is performing in-water work under a Water Quality 401 Certification, sample per Ch. 6 of the HRM.
- If a project has an NPDES General Construction Permit and a 401 Certification two different types of sampling may be required.
- Data must be entered in database.

Reporting Data

- Staff should record data in the field on a paper form (available on WSDOT's Erosion Control website),
- Entered data in the Water Quality Monitoring Database promptly (no later than the last day of the month),
- Keep paper form in the Site Log Book,
- ESO will do the quality control check and send data to Ecology each month.

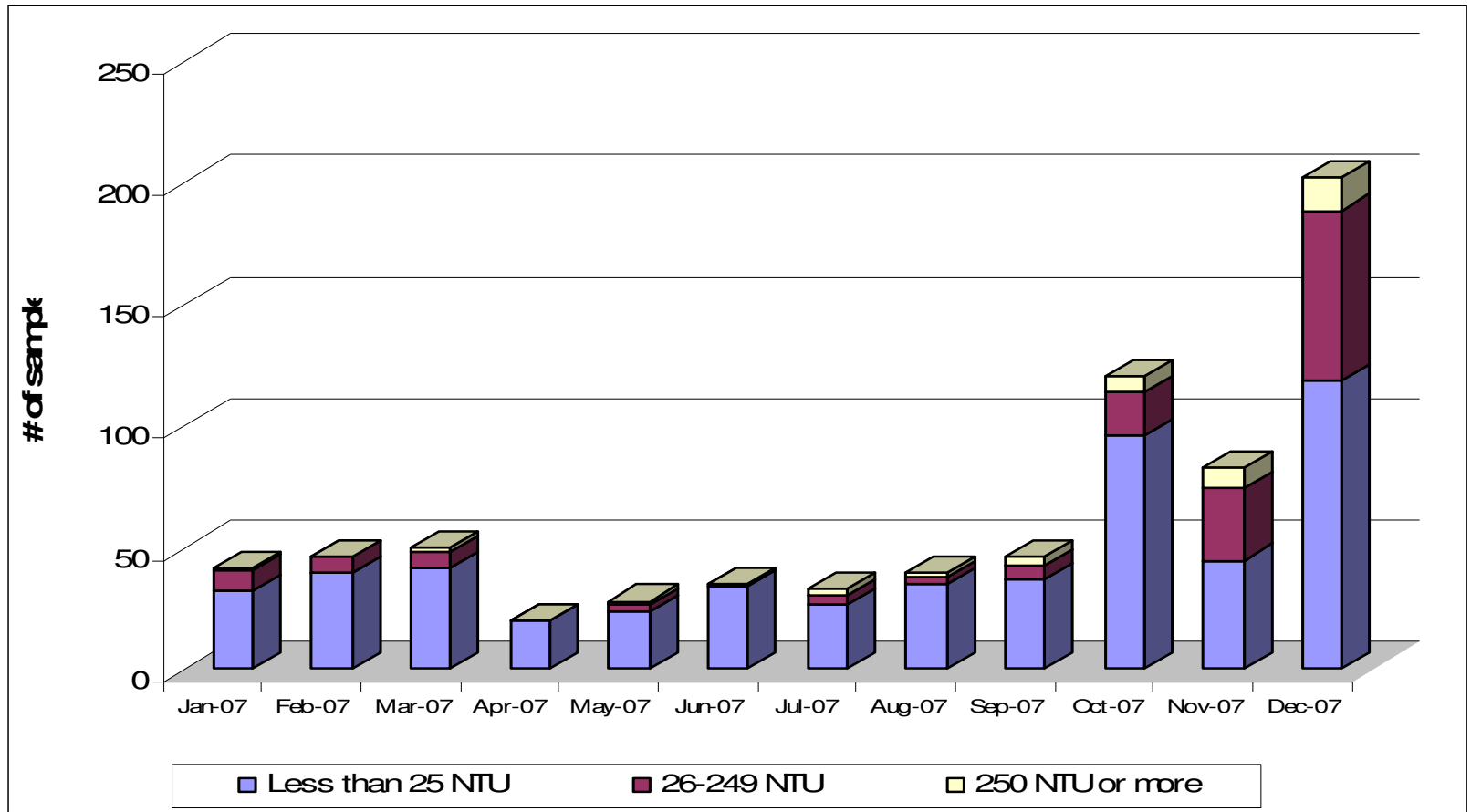
WQ Database Reporting Issues

Items that need improvement:

- BMP information
- ECAP information
- Data entry errors
- Enter data by the first day of each month
- Offsite water
- Naming consistency
- Unnecessary in-stream sampling
- Sampling too often

UCO Compliance with Benchmarks

UCO
<25: 74%
26-249: 21%
250+: 5%



Changing Regulations

- In October 2008 the threshold for water quality monitoring will drop to 1 acre. The pH monitoring trigger will remain the same.
- Sampling on projects between 1 and 5 acres must start September 1, 2008.
- Water Quality Monitoring Training is available through ATMS (course code C1B). For project specific training contact Jana Ratcliff (360-570-6649) directly.

Notice of Termination

- Sent to Ecology when site has achieved final stabilization.
- The Notice is effective 30 days from the date it is received by Ecology, unless we receive word that it was not approved.
- Sampling and site inspections must continue for a month.

Erosion and Sediment Control Assessment Results

Percentage of Activities in Compliance, 2003-2007

Rating	Assessment Measure	2003	2004	2005	2006	2007	Status
Excellent	Dewatering	71	100	100	100	100	Stable ¹
Good	Control flow rates	84	100	95	72	93	Improved
	Control other pollutants from impacting water quality	N/A ²	100	100	89	93	Improved
	Sediment control BMPs ³ installed on time	90	100	95	61	92	Improved
	Storm drain inlet protection	82	83	86	93	92	Stable ¹
	Channels for temporary stormwater conveyance are stabilized	64	73	87	59	92	Improved
	Delineate clearing limits	100	100	95	94	90	Stable ¹
	Manage project erosion/sediment control BMPs ³ proactively	75	80	90	92	90	Stable ¹
	Amount of disturbed soil covered with erosion control BMPs ³	45	65	70	74	83	Improved
	Erosion control BMPs ³ installed on time (stabilize soils)	N/A ²	67	86	56	83	Improved
	Protect cut & fill slopes	50	89	79	56	83	Improved
	Access routes prevent tracking of mud onto streets	69	91	82	94	81	Decreased
	Maintain BMPs ³	70	50	67	44	81	Improved

Data Source: WSDOT Environmental Services

¹ Stable performance status was achieved for all measures that remained within 5% of the previous years' rating.

² Categories added since the 2003 report.

Reasons for Improved Performance in 2007

- Responded to weather forecasts
- Follow-up assessments
- Many projects nearing completion

Only Decreased Performance

Access route stabilization

New option: Steel plates at rock entrances



HQ is creating a GSP for these plates.

Chemical or Electrical Treatment

Only warranted under rare circumstances:

- When large volumes of highly turbid water can't possibly be prevented due to unusual circumstances such as:
 1. Large dewatering operations,
 2. Horizontal drilling operations,
 3. Large slides, and
- When there is no reasonable possibility of effectively employing any standard sediment control BMP or dispersal/infiltration techniques.
- When chemical treatment enables the recovery of costs (about 2 million dollars) by other means such as accelerated construction rates.



FEB 23 2006

Approval For Chemical Treatment

Chemical treatment must be approved by the Statewide Erosion Control Coordinator and Region Environmental. This ensures that the environmental offices can:

- Provide input on whether or not chemical treatment is necessary/appropriate,
- Provide technical assistance,
- Ensure that Ecology is properly notified, and
- Track usage, effectiveness and costs/benefit information.

Questions?