

Module 2



Regulatory Overview of Land Disturbance Activities, Erosion & Sediment Control & Stormwater Management



Module 2a

The legal requirements



How are laws enacted?



Clean Water Act (1972)

Federal Clean
Water Act (CWA)

Environmental
Protection Agency
(EPA)

National Pollutant
Discharge
Elimination System
(NPDES)

Virginia Erosion & Sediment Control (ESC)



- Regulates land-disturbing activities (LDA) of 10,000 sq. ft. and over, or a more stringent area as required by local ordinance



- Regulations specify "minimum standards" (MS) that must be met during and after construction to protect water quality



- First requirement for post-construction BMPs to protect downstream properties and waterways (MS-19)



- DEQ administers the ESC program for state and federal projects, oversees the operation of local ESC programs, and provides training/technical assistance



ESC Regulations (Minimum Standards)

1990

- First Adopted

1995

- Revised

2012

- Integration Bill (House Bill 1065)
- Aligned with VSMP Law and Regulations

2013

- DEQ Move & re-codification



Virginia Stormwater Management Act

1989

Required: State agencies

Optional: Local governments

2014

Cities, counties, and towns with MS4 programs **must** adopt



Implementation Date

(9VAC25-870-45)





General Permit

(9VAC25-870-10)

- The **Construction General Permit** restricts certain stormwater discharges from construction sites (land-disturbing activities) that fall into the regulated acreages.



Regulated Land-Disturbing Activities (LDA)

Land-Disturbing Activities (LDA)

≥ 1 acre or part of a larger common plan of development or sale ≥ 1 acre

≥ 2,500 sq. ft. in Chesapeake Bay Preservation Areas

More stringent area as required by local ordinance



Exemptions (§62.1-44.15:34)





Exemptions (§62.1-44.15:34)

- LDAs < 1 acre
- EXCEPT:
 - Chesapeake Bay Preservation Act LDAs
 - LDAs that are part of a larger common plan of development or sale that is ≥ 1 acre



Exemptions (§62.1-44.15:34)

- Localities subject to the Chesapeake Preservation Act may regulate these single-family residences where land disturbance **exceeds** 2,500 square feet



Exemptions (§62.1-44.15:34)

- Single-family residences:
 - Separately built
 - Disturb < 1 acre
 - Not part of a larger common plan of development or sale

Includes additions or modifications to existing single-family detached residential structures

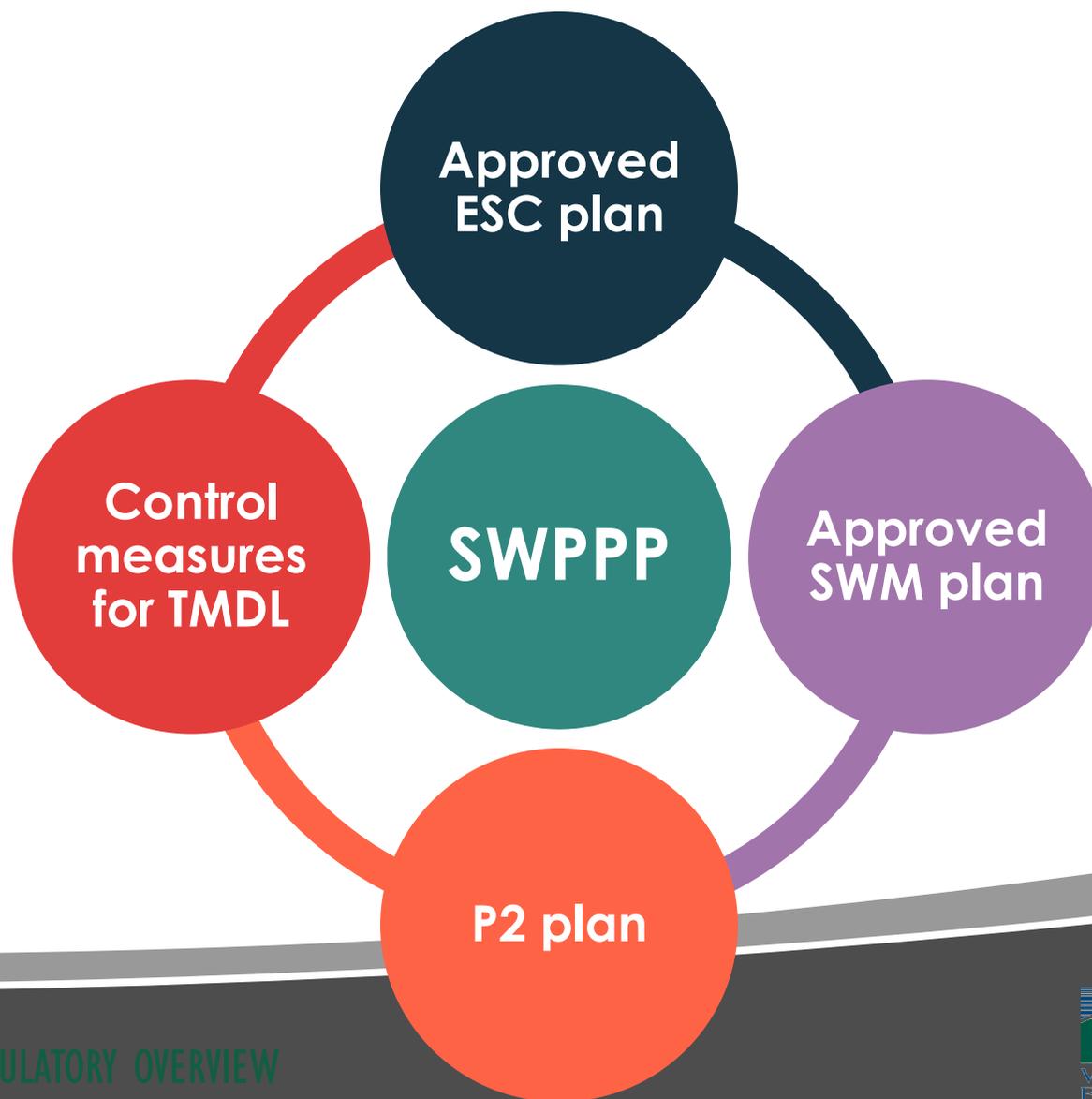


Stormwater Management Plans and the SWPPP (9VAC25-870-55)

Approved
before start of
LDA

Covers post
construction
stormwater
management

SWPPP Requirements (9VAC25-870-54)





9 Performance Requirements of the SWPPP (9VAC25-870-54)

Stormwater volume and velocity

Stormwater discharges

Soil exposure

Steep slopes

Sediment discharges

Natural buffers and vegetated areas

Soil compaction and topsoil

Stabilization

Outlet structures



SWPPP Requirements (9VAC25-870-54)

- **Location**
 - Onsite or notice of location posted near main entrance
- **Amendments**
 - Change that has significant effect on the discharge of pollutants to state waters and not previously included in SWPPP



SWPPP Requirements (9VAC25-870-54)

- End of construction:
 - Construction record drawing for permanent stormwater management facilities (“as-built”) must be submitted to the VSMP authority **with seal and signature of a Virginia registered professional**





SWPPP Requirements (9VAC25-870-54)

- D. SWPPP availability
 1. Operators with day-to-day operational control over SWPPP implementation must have a copy of the SWPPP available at a central location on-site





SWPPP Requirements (9VAC25-870-54)

2. Operator must make SWPPP available upon request to:
 - DEQ
 - VSMP authority
 - VESCP authority
 - EPA
 - Local government officials
 - Operator of an MS4 receiving discharges from the construction activity



SWPPP Requirements (9VAC25-870-54)

3. The operator must make the SWPPP available for public review in an electronic format or in hard copy
 - ✓ Access information posted at main entrance
 - ✓ If not electronic, SWPPP access may be arranged at a public location





SWPPP Requirements (9VAC25-870-54)

B. SWPPP amendments, modifications, & updates

- B1. Change in the design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants to surface waters and not previously addressed in the SWPPP
- B2. Inspections find ineffective control measures
 - If VESCP or VSMP authority approval is needed, revisions to SWPPP must be made within 7 days of approval



SWPPP Requirements (9VAC25-870-54)

- B3. SWPPP must identify contractor(s) that will implement and maintain control measures in SWPPP
 - Amended when new contractor assigned
- B4. SWPPP must be updated within 7 days following modification to its implementation





SWPPP Requirements (9VAC25-870-54)

- B4. Modifications or updates to the SWPPP must include:
 - a) Record of dates for when:
 - Major grading activities occur
 - Construction activities temporarily or permanently stop
 - Stabilization measures are initiated

Helpful hint!

The U.S. EPA maintains a website with guidance on developing and maintaining an effective SWPPP:

<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-Pollution-Prevention-Plans-for-Construction-Activities.cfm>



Overview of 2014 Construction GP

- 9VAC25-880-10

Purpose

- Govern stormwater discharges from construction activities
 - ≥ 1 acre
 - ≤ 1 acre that is part of a larger common plan of development or sale that is ≥ 1 acre





Overview of 2014 Construction GP

- [9VAC25-880-30](#) Authorization to discharge Stormwater
 - A.4.a-b: Before permit coverage, operator needs:
 - ✓ Signed Registration Statement
 - ✓ Approved ESC plan
 - ✓ Approved SWM plan
 - ✓ Developed Pollution Prevention (P2) Plan



Overview of 2014 Construction GP

- 9VAC25-880-30 Authorization to discharge
 - C: Authorization of stormwater discharges from specific support activities on-site or off-site
 - Concrete or asphalt batch plants
 - Equipment staging yards
 - Material storage areas
 - Excavated material disposal areas
 - Borrow areas



Control measures must be in SWPPP



Overview of 2014 Construction GP

- 880-70 Part I – Discharge Authorization and Special Conditions
 - E. Authorized non-stormwater discharges
 - ✓ 1. Discharges from firefighting activities
 - ✓ 2. Fire hydrant flushing
 - ✓ 3. Waters used to wash vehicles or equipment where soaps, solvents, or detergents have not been used and the wash water has been filtered, settled, or similarly treated prior to discharge



Overview of 2014 Construction GP

- ✓ 4. Water used to control dust that has been filtered, settled, or similarly treated prior to discharge
- ✓ 5. Potable water sources, including uncontaminated waterline flushing
- ✓ 6. Routine external building wash down where soaps, solvents or detergents have not been used and the wash water has been filtered, settled, or similarly treated prior to discharge



Overview of 2014 Construction GP

- ✓ 7. Pavement wash waters ... where the wash water has been filtered, settled, or similarly treated prior to discharge
- ✓ 8. Uncontaminated air conditioning or compressor condensate
- ✓ 9. Uncontaminated ground water or spring water



Overview of 2014 Construction GP

- ✓ 10. Foundation or footing drains where flows are not contaminated with process materials such as solvents
- ✓ 11. Uncontaminated excavation dewatering, including dewatering of trenches and excavations that have been filtered, settled, or similarly treated prior to discharge
- ✓ 12. Landscape irrigation



Overview of 2014 Construction GP

Prohibited Discharges:

- Wastewater from washout of concrete
- Wastewater from the washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance
- Oils, toxic substances, or hazardous substances from spills or other releases
- Soaps, solvents, or detergents used in equipment and vehicle washing



VSMP Inspections ([9VAC25-870-114](#))

- During construction, VSMP authority must **periodically** inspect the LDA for:
 - Compliance with approved ESC plan and stormwater management plan
 - Updating and implementing a P2 plan
 - Implementing any additional control measures necessary to address a TMDL



VSMP Inspections

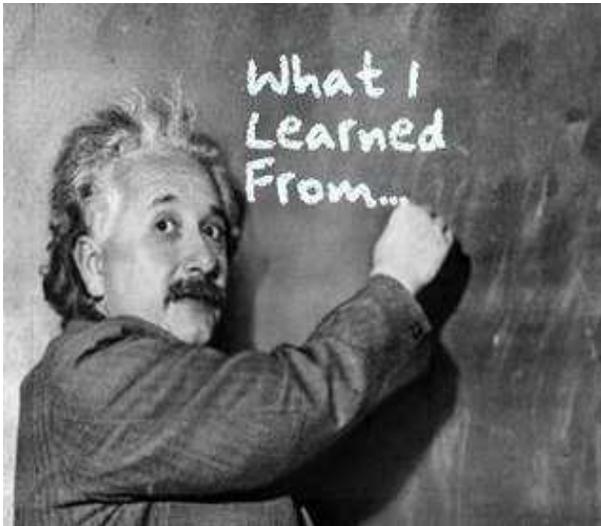


**The Authority may also
require reports by the
land disturber**

Construction Inspections

	Construction GP Regulation (9VAC25-880-70 Part II (F))	ESC Regulation (9VAC25-840-60)	VSMP Regulation (9VAC25-870-114)
Inspector	Designated by operator	VESCP authority	VSMP authority
Frequency	(See Permit)	Per the ESC Regulations	Periodically
Inspection criteria	(See Permit)	Local ordinance and state law and regulations	Local ordinance and state law and regulations

Insert important things
here:



Pollution Prevention Plans

Module 2b



Something new?

The P2 Plan

- Before land disturbance begins, the Operator must prepare a **Pollution Prevention Plan (P2 Plan)** which describes the pollution prevention measures that will take place **during** construction.
- This is also part of the SWPPP



Qualified Personnel Inspections

([9VAC25-880-70](#); Part II, Section F)

- During construction, Qualified Personnel must inspect the LDA for:
 - Compliance with approved ESC plan and SWM plan
 - Implementation of P2 plan
 - Needed updates to the SWPPP and/or P2 Plan





Qualified Personnel

(9VAC25-870-10)

Qualified Personnel means “a person knowledgeable in the principles and practices of erosion and sediment and stormwater management controls who possesses the skills to assess conditions at the construction site for the operator that could impact stormwater quality and quantity and to assess the effectiveness of any sediment and erosion control measures or stormwater management facilities selected to control the quality and quantity of stormwater discharges from the construction activity...”



Qualified Personnel



Qualified Personnel Inspections

(9VAC25-880-70; Part II, Section F)

- What are some of the inspection items that the P2 plan must address?





SWPPP Inspections (9 VAC25-880-70 Part II)

- F. 2.SWPPP Inspections
- At least once every 5 business days; **OR**
- At least once every 10 business days and no later than 48 hours following a measurable storm event

Different requirements for discharges to impaired waterways, TMDL & exceptional waters



SWPPP Inspections (9 VAC25-880-70 Part II)

- Inspection requirements:
 - At least once every 4 business days; **OR**
 - At least once every 5 business days and no later than 48 hours following a measurable storm event



Construction Inspections

- When areas temporarily stabilized or ground frozen inspections can be once per month



Measurable Storm Event

(9VAC25-880-1)



A rainfall event producing 0.25 inches of rain or greater over 24 hours.



SWPPP Inspections (9 VAC25-880-70 Part II)

The qualified personnel will recommend corrections to the operator if, the erosion and sediment controls are not effective or if [pollution prevention] activities are not in accordance with the P2 Plan.



SWPPP Inspections (9 VAC25-880-70 Part II)

If a site inspection required by Part II F identifies a control measure that is not operating effectively, corrective action(s) shall be completed as soon as practicable, but no later than seven days after discovery or a longer period as established by the VSMP authority, to maintain the continued effectiveness of the control measures.



**A word of
advice: Read
the permit!**



Potential pollutant sources/ activities and P2 practices may change over time

Pollutant generating activities on site plan

- Concrete wash
- Dumpster
- Portable toilets
- Stock piles



Pollution Prevention Plans (P2Plan)

Minimize:





Pollution Prevention Plans (P2Plan)

Prohibit discharges from:





P2 Plan

The P2 Plan must describe pollution prevention practices and procedures that will be implemented to:

- 1) Prevent and respond to leaks, spills, and other releases





P2 Plan

- 2) Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities







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P2 Plan

- 3) Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials





P2 Plan

- 4) Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water, and other types of washing



P2 Plan

- 5) Direct concrete wash water into a leak-proof container or leak-proof settling basin





P2 Plan

- ✓ No overflows
- ✓ Hardened concrete waste removed and properly disposed of
- ✓ Liquid concrete waste removed and properly disposed of





P2 Plan

- ✓ No overflows
- ✓ Hardened concrete waste removed and properly disposed of
- ✓ Liquid concrete waste removed and properly disposed of



Helpful Hint!



Stormwater Best Management Practice

Concrete Washout



Have copies of the EPA Fact Sheet, Stormwater Best Management Practice - Concrete Washout www.epa.gov/npdes/pubs/concretewashout.pdf

Description of Concrete Washout at Construction Sites

Concrete and its ingredients

Concrete is a mixture of cement, water, and aggregate material. Portland cement is made by heating a mixture of limestone and clay containing oxides of calcium, aluminum, silicon and other metals in a kiln and then pulverizing the resulting clinker. The fine aggregate particles are usually sand. Coarse aggregate is generally gravel or crushed stone. When cement is mixed with water, a chemical reaction called hydration occurs, which produces glue that binds the aggregates together to make concrete.

Concrete washout

After concrete is poured at a construction site, the chutes of ready mixed concrete trucks and hoppers of concrete pump trucks must be washed out to remove the remaining concrete before it hardens. Equipment such as wheelbarrows and hand tools also need to be washed down. At the end of each work day, the drums of concrete trucks must be washed out. This is customarily done at the ready mixed batch plants, which are

washed out into a roll-off bin, which isn't watertight. Leaking washwater, shown in the foreground, will likely follow similar



Figure 1. Chute washwater being dumped on the ground.



Figure 2. Chute washwater leaking from a roll-off bin being used as a washout container.

paths to nearby surface waters. Rainfall may cause concrete washout containers that are uncovered to overflow and also transport the washwater to surface waters. Rainwater polluted with concrete washwater can percolate down through the



P2 Plan

- 6) Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes



 P2 Plan

Construction Waste



 P2 Plan

- 7) Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, and sanitary wastes



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P2 Plan

- 8) Address any other discharge from the potential pollutant-generating activities



P2 Plan – Generally Speaking...

Vehicle washing good housekeeping tips:

- ✓ Wash offsite at an appropriate facility
- ✓ Locate away from storm drain inlets, drainage facilities and waterways
- ✓ Use filtration and settling devices to remove sediments
- ✓ Direct wash waters to basins, traps or other suitable BMPs

Steps to Prepare a P2 Plan (page 16)



Just some helpful information

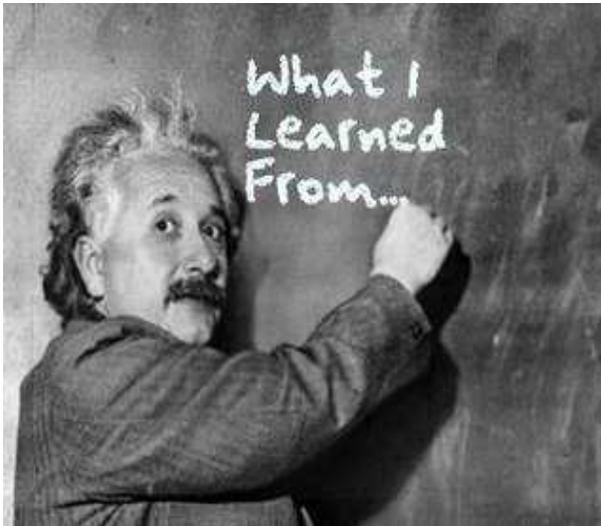


P2 Plan

★ Remember, no discharge of
soaps, solvents or detergents!

See page 17 for some other
considerations about Pollution
Prevention Measures

**Insert important things
here: (Page 18)**





Module 2c

The ESC Program Overview



Erosion and Sediment Control in Virginia

Law (§ 62.1-44.15:51 through §62.1-44.15:66)



Regulations (9VAC25-840-10 through 9VAC25-840-110)

Erosion and Sediment Control Program

Regulated Activities & Overview of the ESC Law

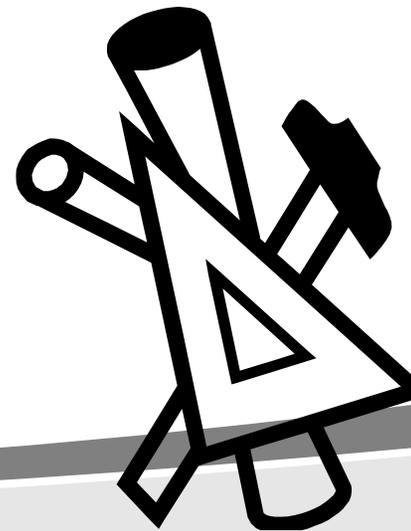
The stated purpose of the law is “for the effective control of soil erosion, sediment deposition, and non-agricultural runoff to prevent the unreasonable degradation of properties, stream channels, waters and other natural resources”



Definitions (Section 62.1-44.15:51.)

Erosion and Sediment Control (ESC) plan →

a document containing conservation practices and policies for controlling erosion on regulated land disturbing activities...

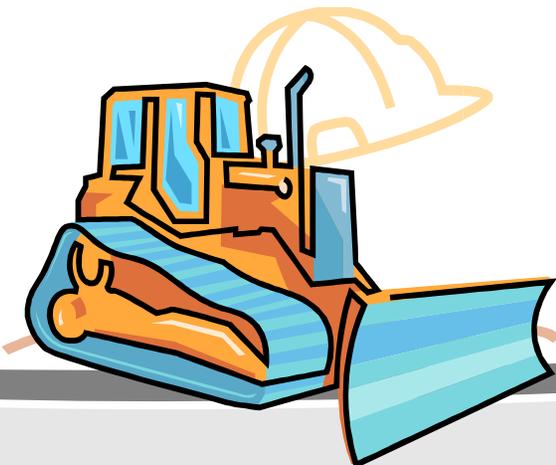


Definitions (Section 62.1-44.15:51.)

Land-disturbing activity →

Any man-made change to the land which may result in soil erosion from water or wind and the movement of sediments into state waters or onto state lands including but not limited to

.....





..... clearing



..... grading,



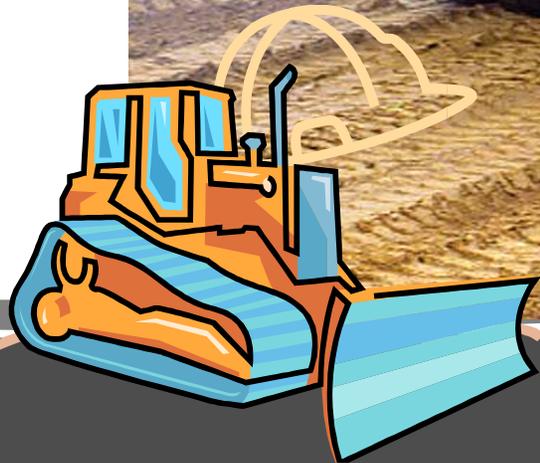


..... excavating,





.....transporting,



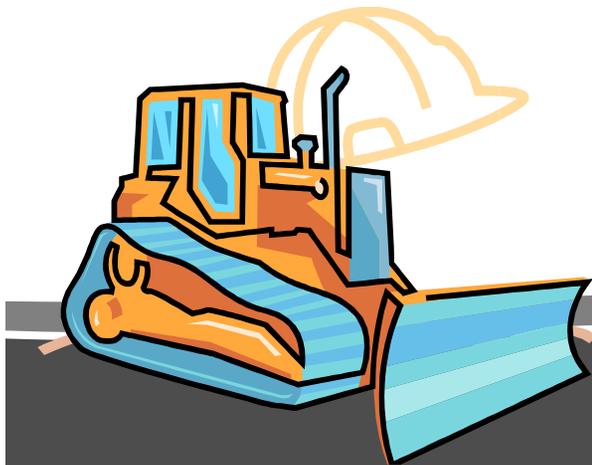
.....and filling of land.



But shall not include:

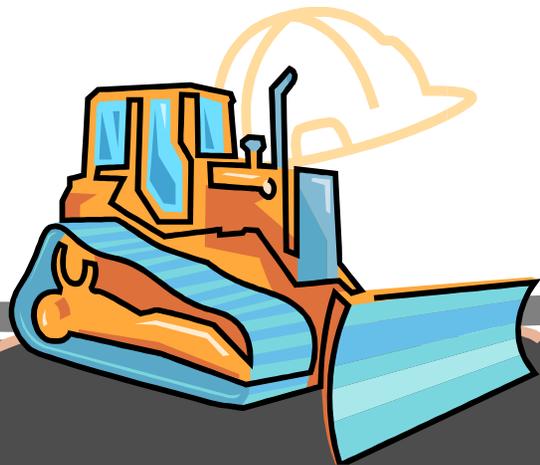
Minor land-disturbing activities such as:

- home gardens
- landscaping
- repairs and maintenance work



But shall not include:

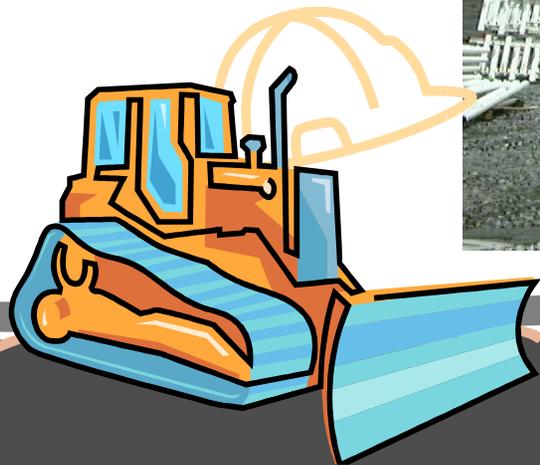
- Individual Service Connections
- Installation, maintenance or repair of any underground public utility lines on an existing hard surface road, street or sidewalk confined to that area
- Septic tank or drainage field lines unless included in an overall plan





But shall not include:

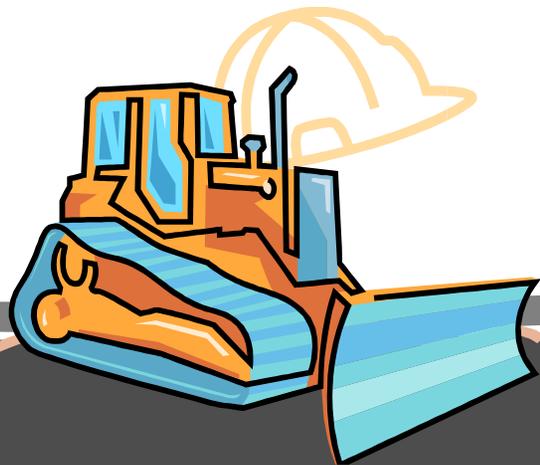
Permitted Surface or deep mining





But shall not include:

Permitted exploration or drilling for oil or gas including the well site, roads, feeder lines and off site disposal





But shall not include:

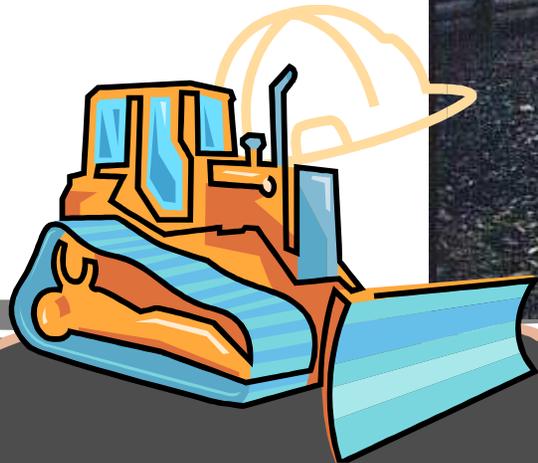
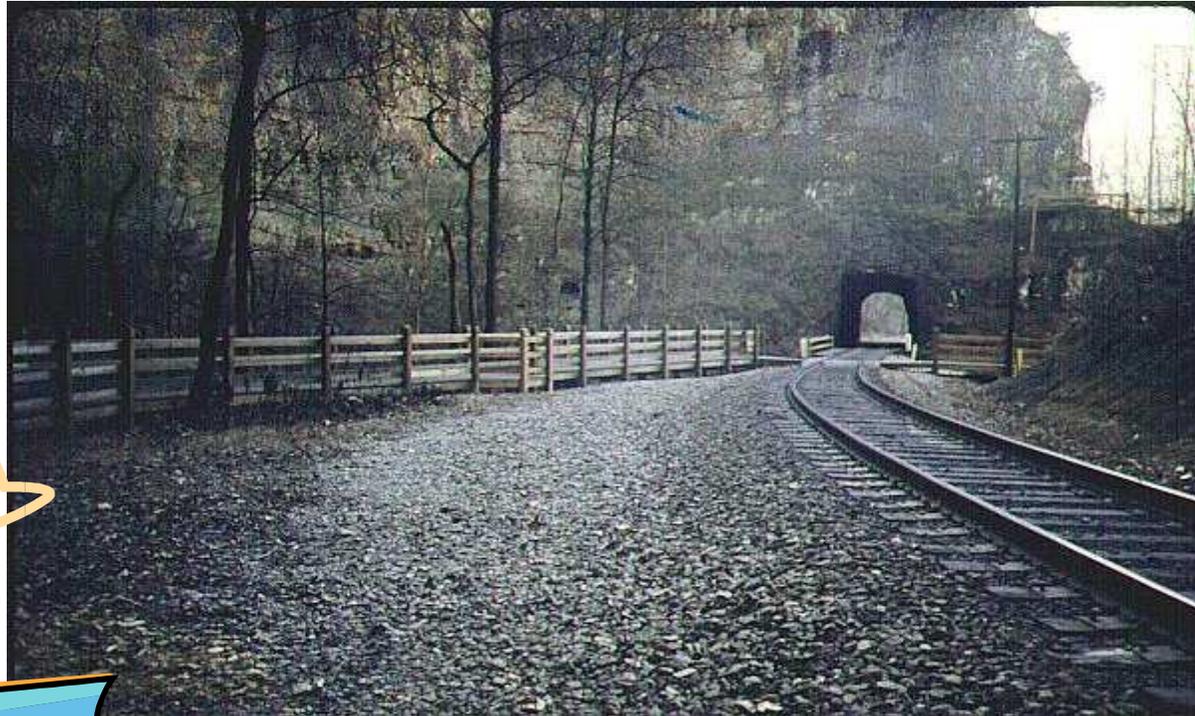
- Tilling, planting, or harvesting of agricultural or horticultural, or forest crops
- Feed lot operations
- Engineering operations
- As additionally set forth by the Board in regulation





But shall not include:

Repairing or rebuilding of tracks, right-of-ways, bridges, etc. of a railroad company





But shall not include:

Agricultural engineering operations →

- Terraces
- De-silting basins
- Contour cultivating
- Irrigation ponds





But shall not include:

If disturbed land:

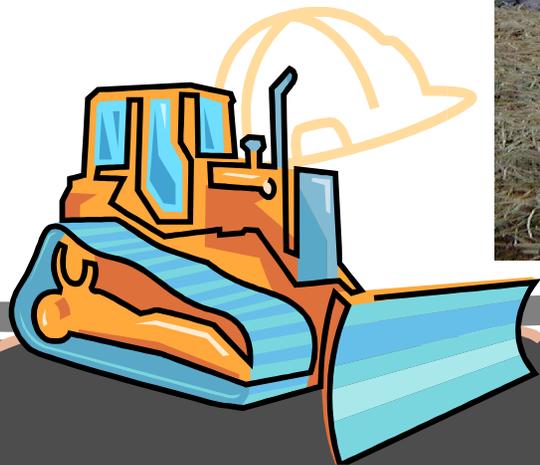
- < 10,000 square feet* (outside Chesapeake Bay Preservation Area (CBPA))
- <2,500 square feet (land subject to CPBA)
- *Authorized by law to reduce this amount





But shall not include:

Installation of fence or sign posts





But shall not include:

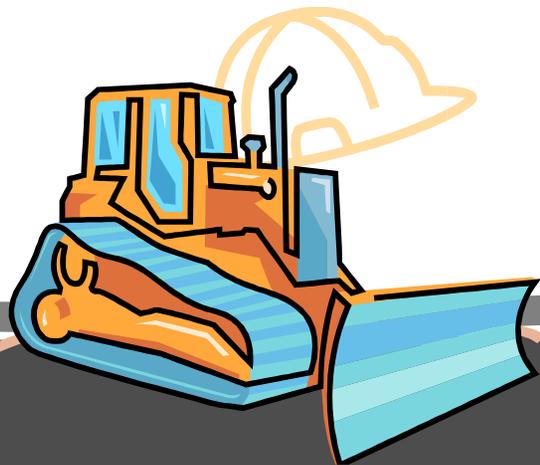
Shore erosion control projects on tidal waters – when within the regulatory authority of local wetlands boards, COE, VMRC





But shall not include:

Emergency work to protect life, limb, or property -
other approval





VESCP

An authority approved by the Board to operate a Virginia Erosion and Sediment Control Program ... including:

- a state entity, including the Department;
- a federal entity;
- a district,
- county, city, or town;
- linear projects subject to annual standards and specifications (electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies, railroad companies)



Inspections

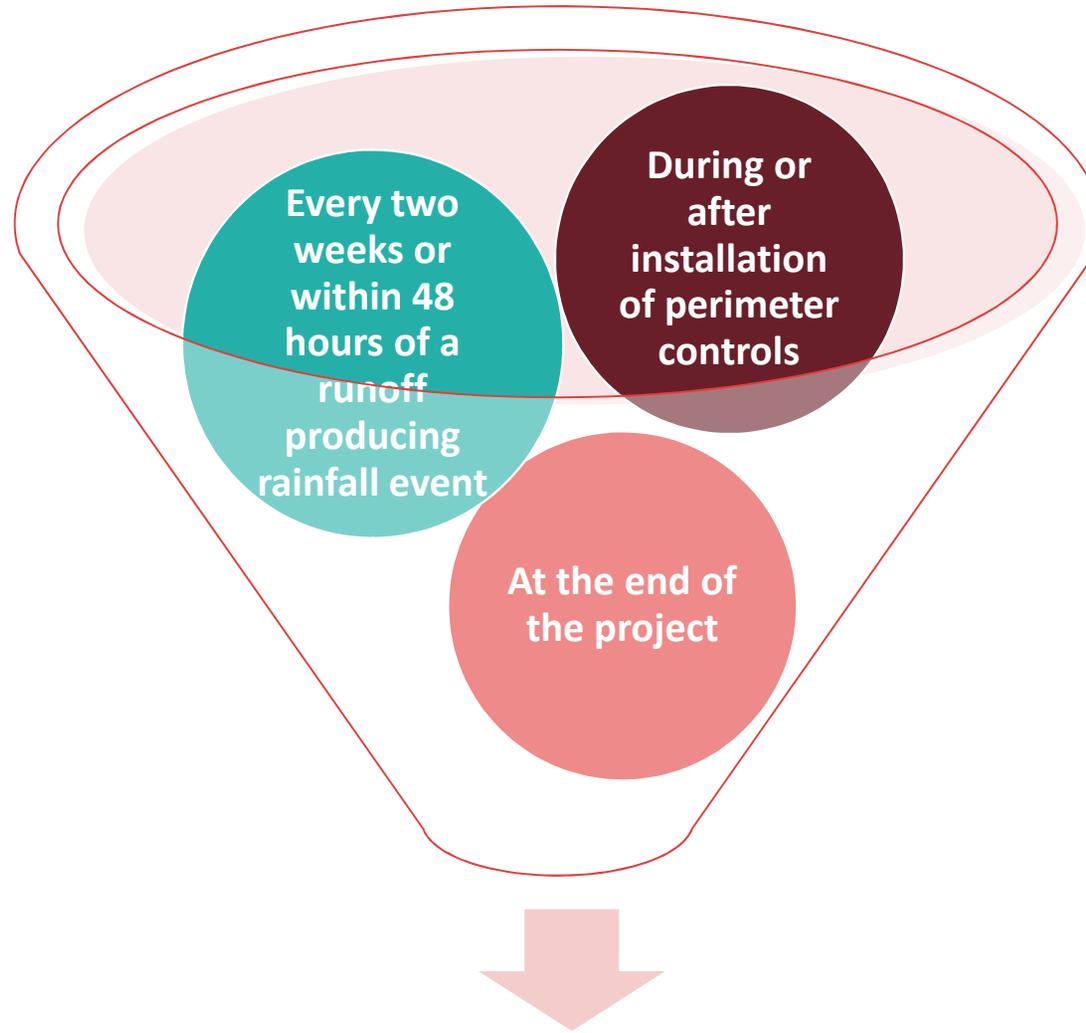


Page 20

Detailed in 62.1-
44.15:58



Requires inspections of land disturbing activities by program authority.



Regulations
Detailed in
9VAC25-840-60

Inspections



Monitoring Reports



Page 20



Detailed in 62.1-
44.15:58

Authority may require monitoring reports from the person responsible for the project (RLD).



Module 2d

Enforcement & Penalties



Notice to Comply (§62.1-44.15:37)

- Failure to comply with permit conditions
 - Notice shall be served upon permittee or person responsible for carrying out the permit conditions by registered or certified mail or at the development
 - Specifies measures needed to comply with the permit conditions and time they be completed



Stop Work Order (§62.1-44.15:37)

- Permittee fails to comply with a notice within the time specified
 - Requires all LDAs stop until permit violation or corrective measures have been resolved





Stop Work Order (§62.1-44.15:37)

- Issued
 - In accordance with local procedures if issued by a locality VSMP authority
 - After a hearing held in accordance with the requirements of the Administrative Process Act if issued by the Department





Civil Penalties

Civil Penalties (Misdemeanor)

ESC	Penalty	SWM	Penalty
<p>Violated, failed, neglected or refused to obey any of the following:</p> <ul style="list-style-type: none"> VESCL Regulations or order of the Board Local VESCP authority order, notice or requirement DEQ order, notice or requirement Permit 	<p>Civil penalty = \$100 to 1,000 per day, with a max. <u>total</u> of \$ 10,000</p>	<p>Violated, failed, neglected or refused to obey any of the following:</p> <ul style="list-style-type: none"> VSML Regulations or order of the Board Local VSMP authority order, notice or requirement DEQ order, notice or requirement Permit 	<p>Civil penalty = max. <u>total</u> of \$32,500/day</p>

Criminal Actions

Misdemeanor (Comparison of Erosion & Stormwater)

Behavior	Punishment for individuals	Punishment for non individuals
Violated, failed, neglected or refused to obey any of the following any of the following: VESCL Regulations or order of the Board Local VESCP authority ordinance or order Department order Permit Order of a court	A fine between \$100 and \$1,000 per day. Maximum total = \$10,000	
	Each day of violation of each requirement constitutes a separate offense	
Violated, failed, neglected or refused to obey any of the following any of the following: VSMA Regulations or order of the Board Local VSMP authority ordinance or order Department order Permit Order of a court	Jail for up to 12 months and/or a fine between \$2,500 and a maximum of \$32,500.	Fine ≥ \$10,000
	Each day of violation of each requirement constitutes a separate offense	Each day of violation of each requirement constitutes a separate offense



Penalties, injunctions, legal actions

(§ 62.1-44.15:48)



Misdemeanor (SWM Violation)

Behavior	Punishment Individuals	Punishment Non individuals
Willfully or negligently violates: <ul style="list-style-type: none"> • VSMA • Regulations • Order • Permit • Ordinance 	Jail for up to 12 months and/or fine between \$2,500 and \$32,500	Fine ≥ \$10,000

Penalties, injunctions, legal actions (§ 62.1-44.15:48)

Felony (SWM Violation)

Action	Punishment Individuals	Punishment Non individuals
Knowingly violates: <ul style="list-style-type: none">• VSMA• Regulations• Order• Permit• Ordinance	Imprisonment 1-3 years and \$5,000 - \$50,000 fine	Fine ≥ \$10,000
Knowingly makes a false statement in required form		
Knowingly renders inaccurate a monitoring device or method		

Penalties, injunctions, legal actions (§ 62.1-44.15:48)



Felony (SWM Violation)

Action	Punishment Individuals	Punishment Non individuals
Knowingly violates provision of VSMA and knows at the time they are placing another person in imminent danger or death or serious bodily harm	Imprisonment 2-15 years and/or fine up to \$250,000 Maximum fine and imprisonment doubled for subsequent convictions of same person	Fine up to the greater of \$1 million or 3x economic benefit as a result of the offense Maximum fine and imprisonment doubled for subsequent convictions of same non individual

See pages 25-30
for examples
how to and how
NOT to on P2
measures



END OF MODULE 2



QUESTIONS?