

A photograph of a river in winter. The water is dark and turbulent, with white foam from rapids. The banks are covered in snow, and the trees are bare. A large log is partially submerged in the water. The sky is overcast.

DelDOT
E&S and Stabilization
2017 Civil Rights Summit



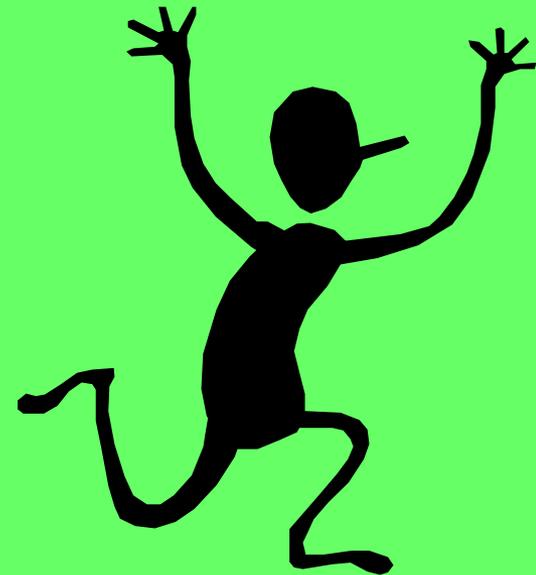
DelDOT's Erosion & Sediment Control Team

Vince Davis - Stormwater Engineer

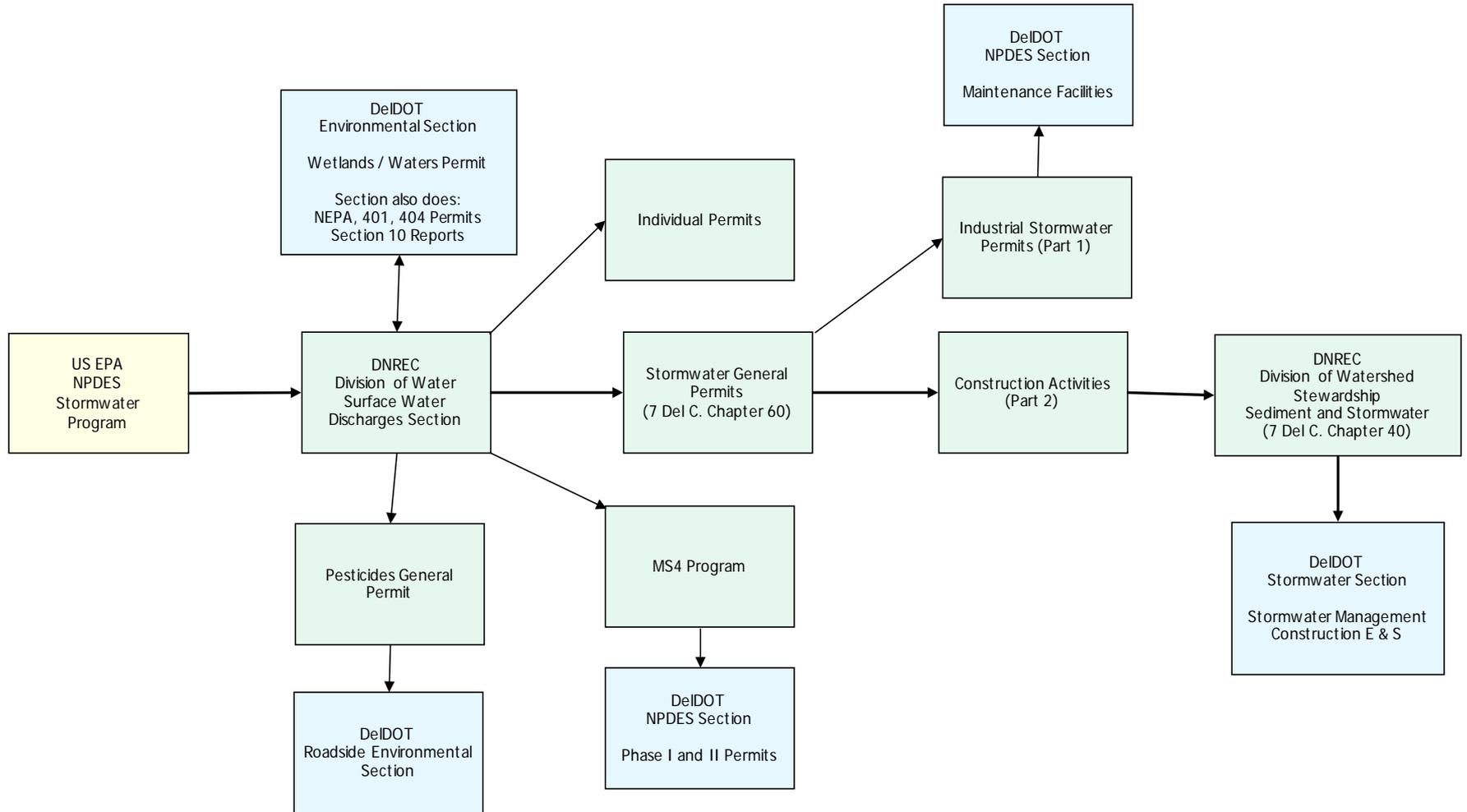
vince.davis@state.de.us (760-2180)

Ting Guo – Assistant Stormwater Engineer

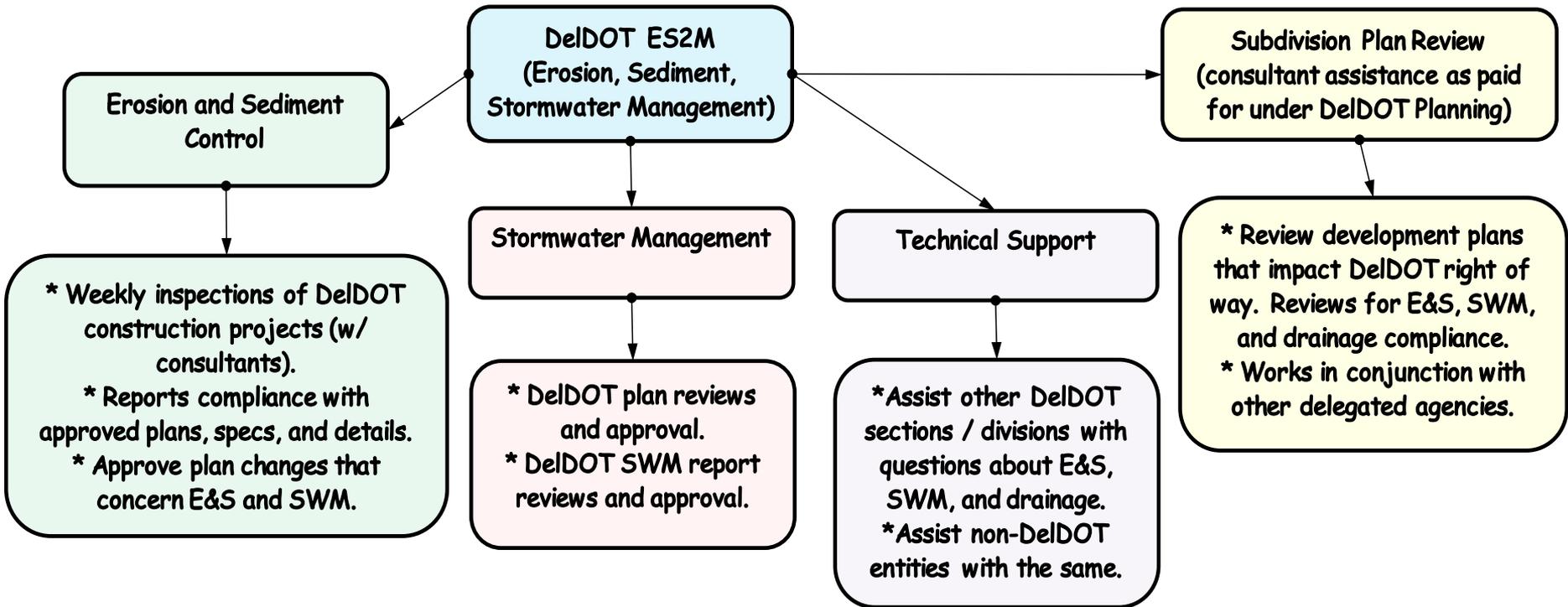
Mary Hamilton – Environmental Compliance
Manager



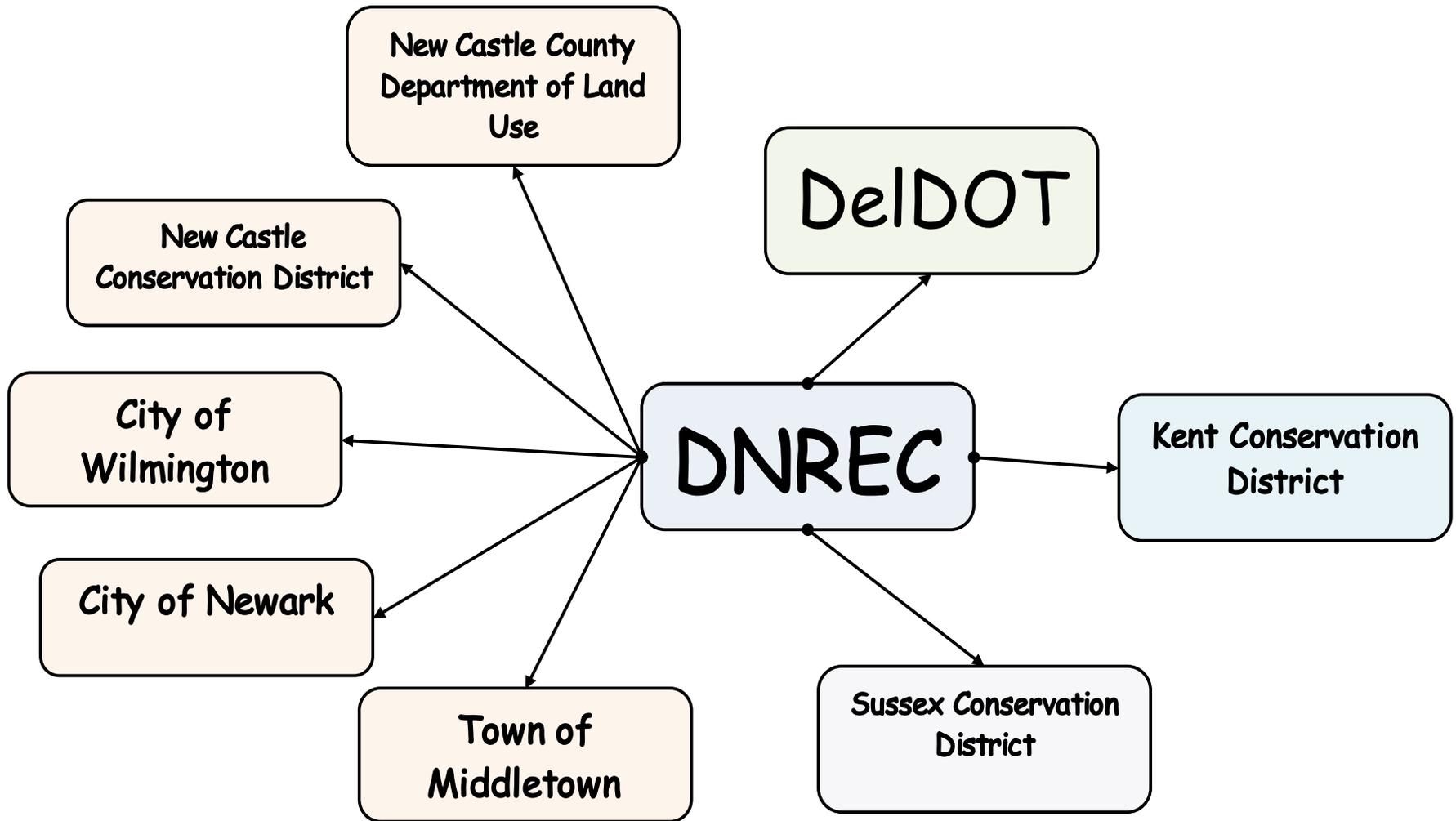
DNREC - DeIDOT Environmental Associations



DeIDOT ES2M Basic Job Duties



Delegated Agencies Under DNREC



The following agencies have delegation of Sediment and Stormwater Program elements consisting of plan review, construction inspection, and maintenance inspection for their geographic boundaries. Re-delegation occurs every 5 years.

Current Law and Regulations



Delaware Law

TITLE 7

Conservation

Agricultural and Soil Conservation; Drainage and Reclamation of Lowlands

CHAPTER 40. EROSION AND SEDIMENTATION CONTROL

Delaware Sediment and Stormwater Regulations (DSSR)

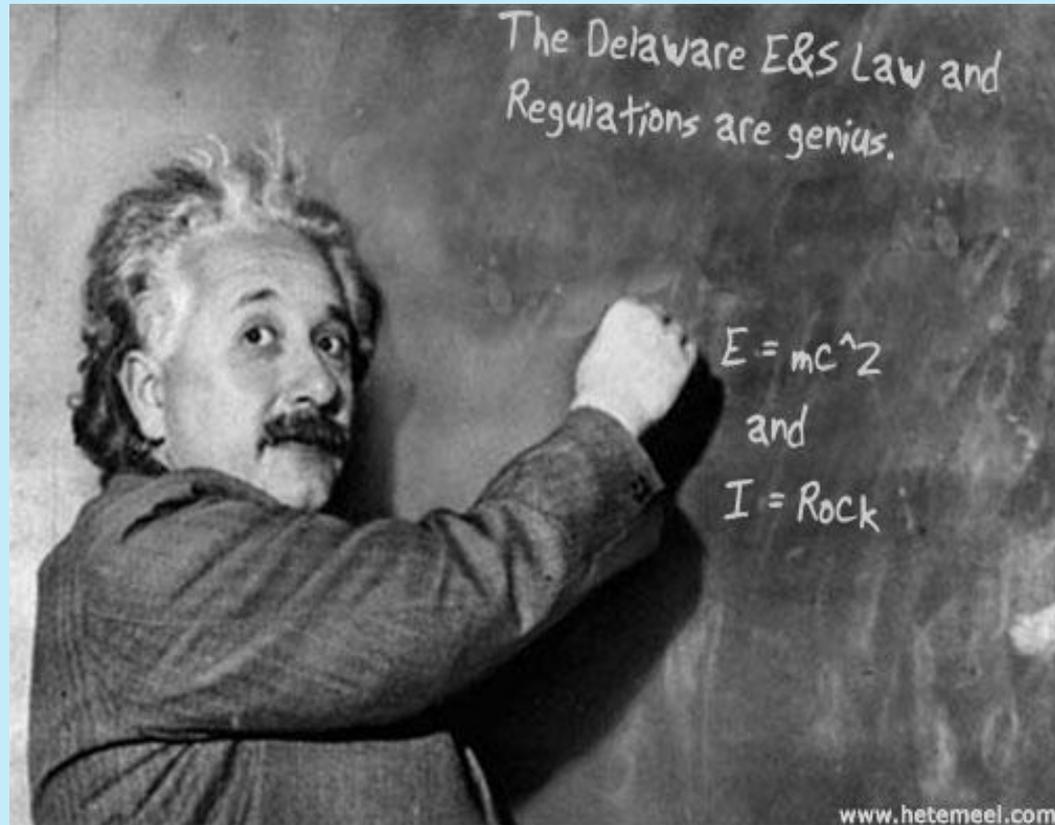
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

Division of Watershed Stewardship

Statutory Authority: 7 Delaware Code,
Chapter 40 (7 Del.C. Ch.40)

7 DE Admin. Code 5101

5101 Sediment and Stormwater
Regulations



Construction General Permit

- Applies to any disturbances > 1 acre (NOI / NOT)



Governor Executive Order No. 41

- Signed Sep 12, 2013
- Avoiding & minimizing flood risk due to sea level rise



House Joint Resolution No. 11

DIRECTING THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL TO ALLOW A DELIBERATIVE PROCESS TO REVIEW ALTERNATIVE STORMWATER MANAGEMENT REGULATIONS AND SATISFY THE REGULATORY IMPACT REQUIREMENTS CONTAINED IN THE REGULATORY FLEXIBILITY ACT.



President Executive Order No. 13508

- Signed May 12, 2009
- Chesapeake Bay Protection and Restoration

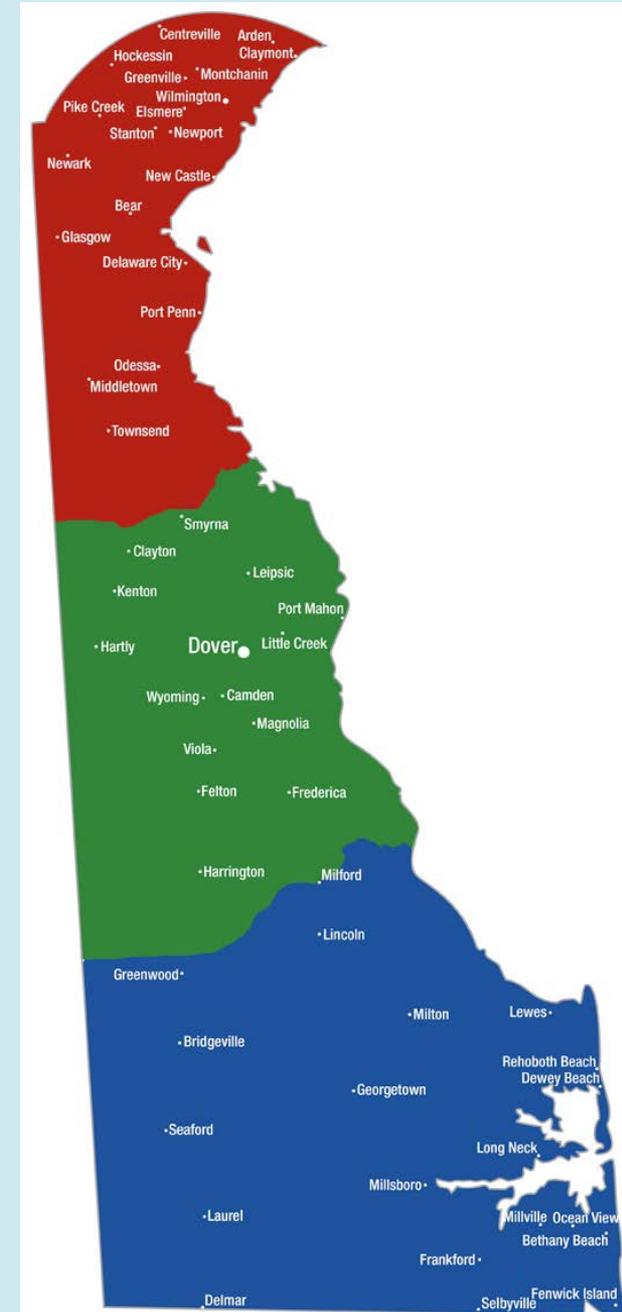
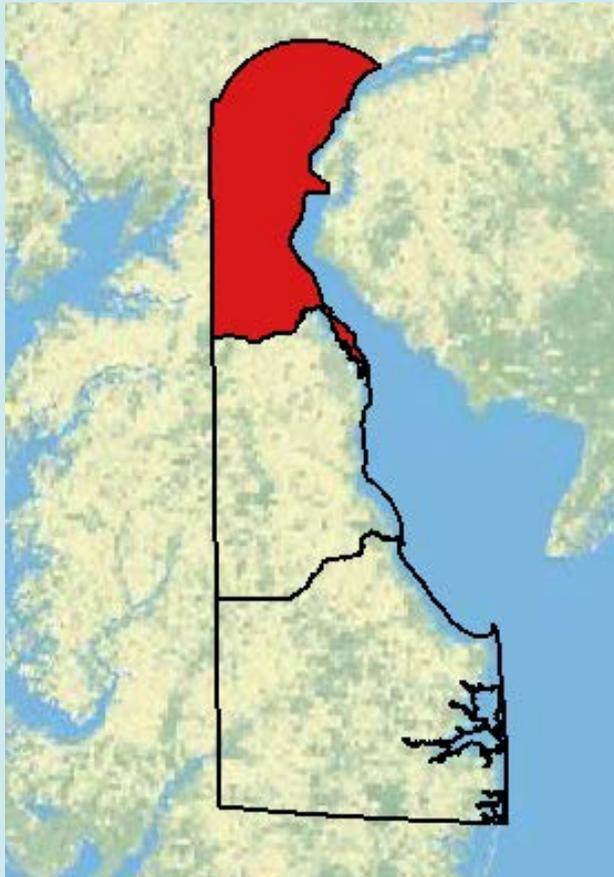


Chesapeake Bay Bridge



MS4 Permit

- Phase I – New Castle County
- Phase II – Kent & Sussex County

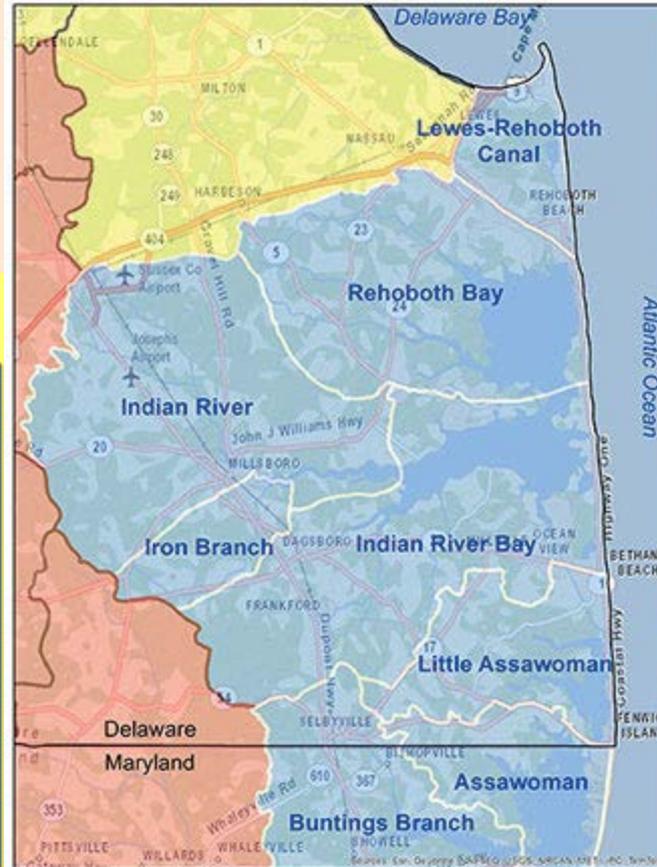
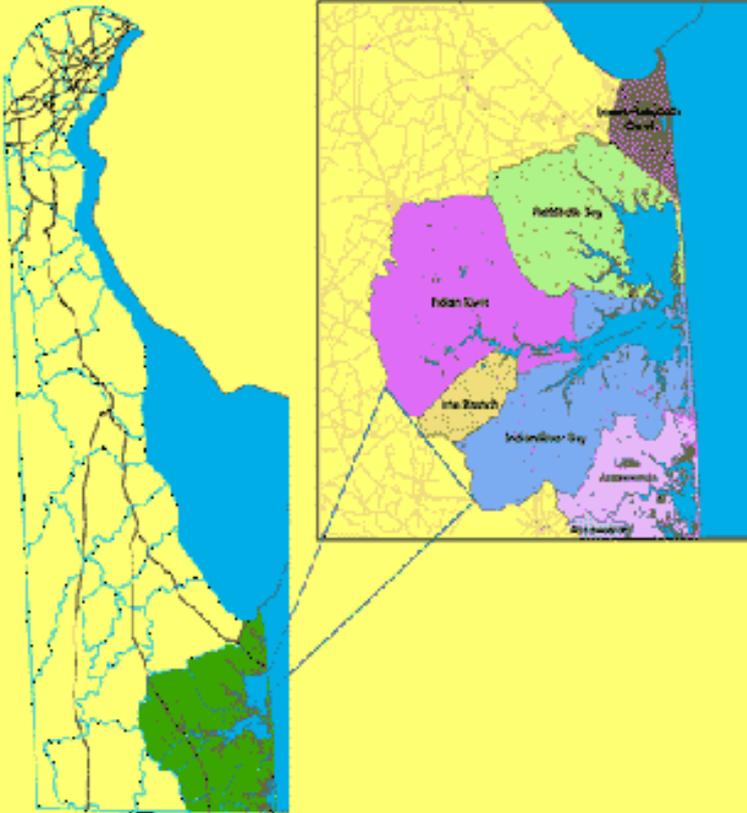


Inland Bays PCS

*Nov 2008

*TMDL's

Inland Bays Watershed



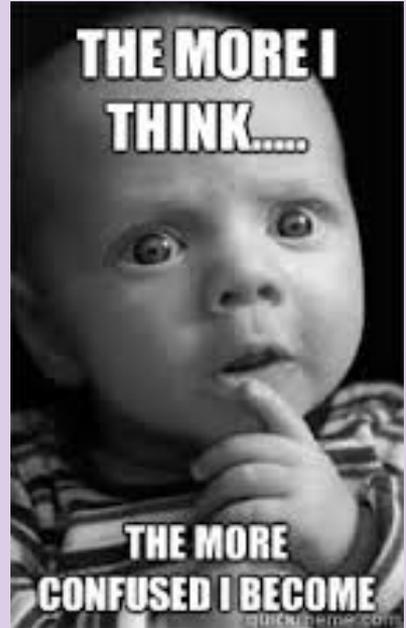
DelDOT Specifications & Standard Construction Details

- * **Specifications** – DIVISION 900 – EROSION, SEDIMENT AND STORMWATER MEASURES
- * **Construction Details** – Section IV – Erosion (E-1 through E-21)



Confusing, but need to be aware

* EPA Fines



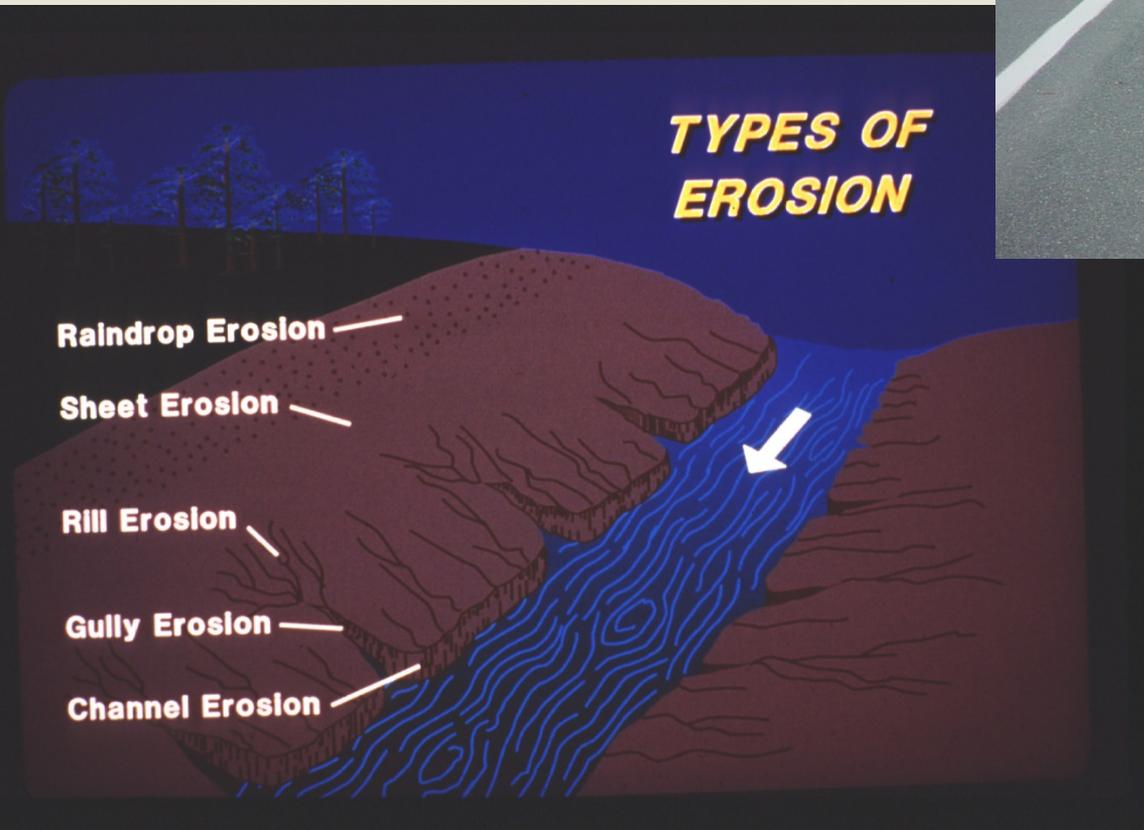
DNREC v DeIDOT

- DNREC geared mostly towards development work
- DeIDOT is the owner of the project



Erosion & Sediment Control

- WHY
 - Mandated by Law and Regs
 - Good for the Environment
 - Saves Money



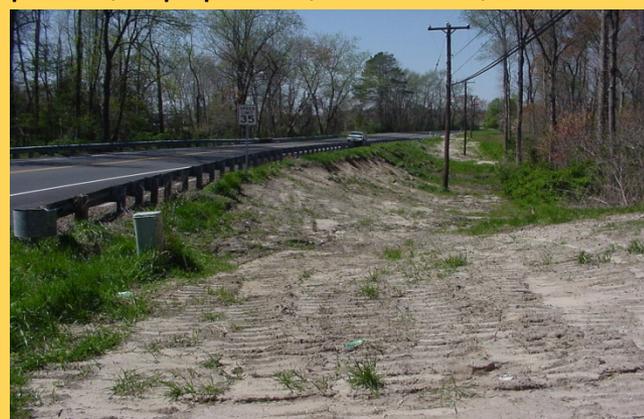
Erosion and Sediment Control

Environmental Considerations

- Brown water blocks out sunlight, which in turn disrupts the natural food chain in water bodies, which in turn leads to fish population decline (butterfly affect)
- Sediment fills up pipes and catch basins, which increases risks of flooding (environmental, money, safety)
- Nutrients transported by sediment can activate algae blooms
- Soil particles picked up during wind erosion is a source of air pollution

Cost Savings

- Sediment pollution costs \$16 billion (est.) in environmental damage annually
- Sediment increases the cost of treating drinking water
- An unprotected construction site can lose soil at a rate of 100 tons/acre/year. (Seeding and mulching / stabilization can reduce this number by 90 – 99%)
- Don't have to go back and fix areas that have eroded
 - Costs for MOT, manpower, equipment, materials, time



Erosion & Sediment Control

- Erosion Control is soil stabilization
- Sediment Control is after soil moves



Erosion Control



DelDOT Seeding Specifications

- Temporary Seeding
 - Soil Binders
- Permanent Seeding
 - Performance based



Mulching Applications

- Straw Mulch
- Hydromulch
- Erosion Control Blanket
- Turf Reinforcement Mat



Blanket Mulches

- Approved Product List
 - ECB and TRM



Sediment Control



Flocculants

- A substance that promotes the clumping of particles.
 - PAM (polyacrylamide)
- Many products available



Construction Site Inspection for E&S

- *3rd Party E&S Inspectors (Consultant CCR's)

 - Paid for under Construction Engineering funding set up at the time of the project
 - ~130 individual projects inspected over the last 6 years

- *Rating Form

 - Similar to Maryland's

 - Different sections carry a weighted percentage

- *Specifications

 - List of actions that Construction must take if Contractor receives a low score

 - Incentive Specification

- *Facility Construction Checklist



Challenges & Opportunities















??? QUESTIONS ???

