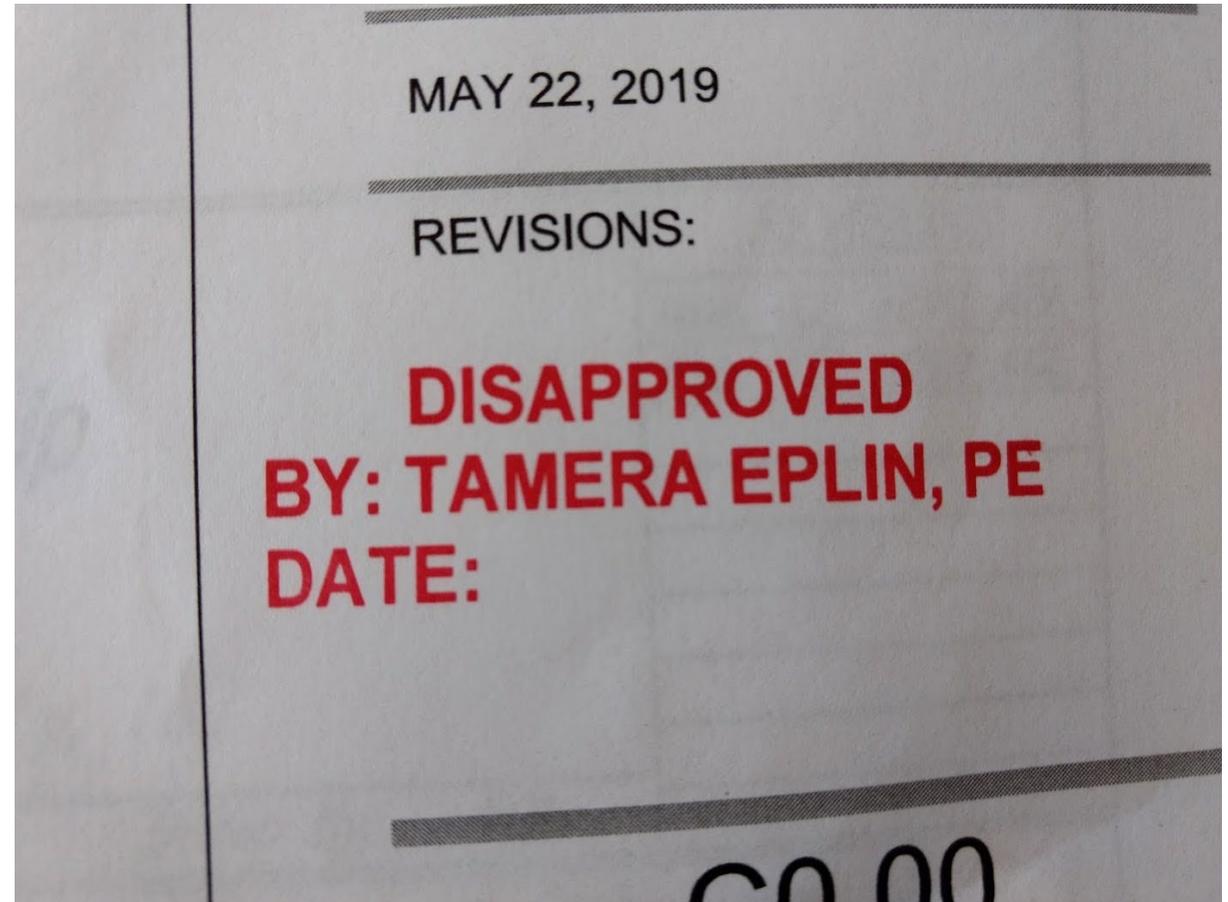


Best Practices to Avoid ESC Plan Disapproval Letters

*Tamera Eplin, PE, CPESC
Regional Engineer, NCDEMLR, Winston-Salem Regional Office*

*North Carolina Erosion and Sediment Control Workshop
Raleigh, NC
December 3, 2019*

“What’s the best way to avoid getting a disapproval letter for my ESC plan?”



Let's ask the experts! They took a survey:

- 12 survey participants
- Over 100 years experience combined
- Over 17,500 plan reviews combined
- 3 Regional Engineers
- At least 4 Express Engineers
- All 7 DEMLR regions represented
- 3 local programs represented

Our panel was asked 3 questions:

1. If you had one thought you could get across to the ESC plan designer community, what would it be?
2. What are the most common reasons ESC plans are disapproved?
3. Important takeaway thoughts?

A Floodgate of Responses – Lessons Learned

1. Enough responses to outline a book.
2. This presentation is evolving based on your feedback.
3. Most useful responses follow, counting down to the most common advice/comment.



Checklists

Use the checklist available on our website.

Yes, most sites require a full design involving the majority of information on the checklist.



Assumptions

“Be aware of your assumptions. Every engineer has the software to do the math correctly. It’s the assumptions that make the data wrong.”



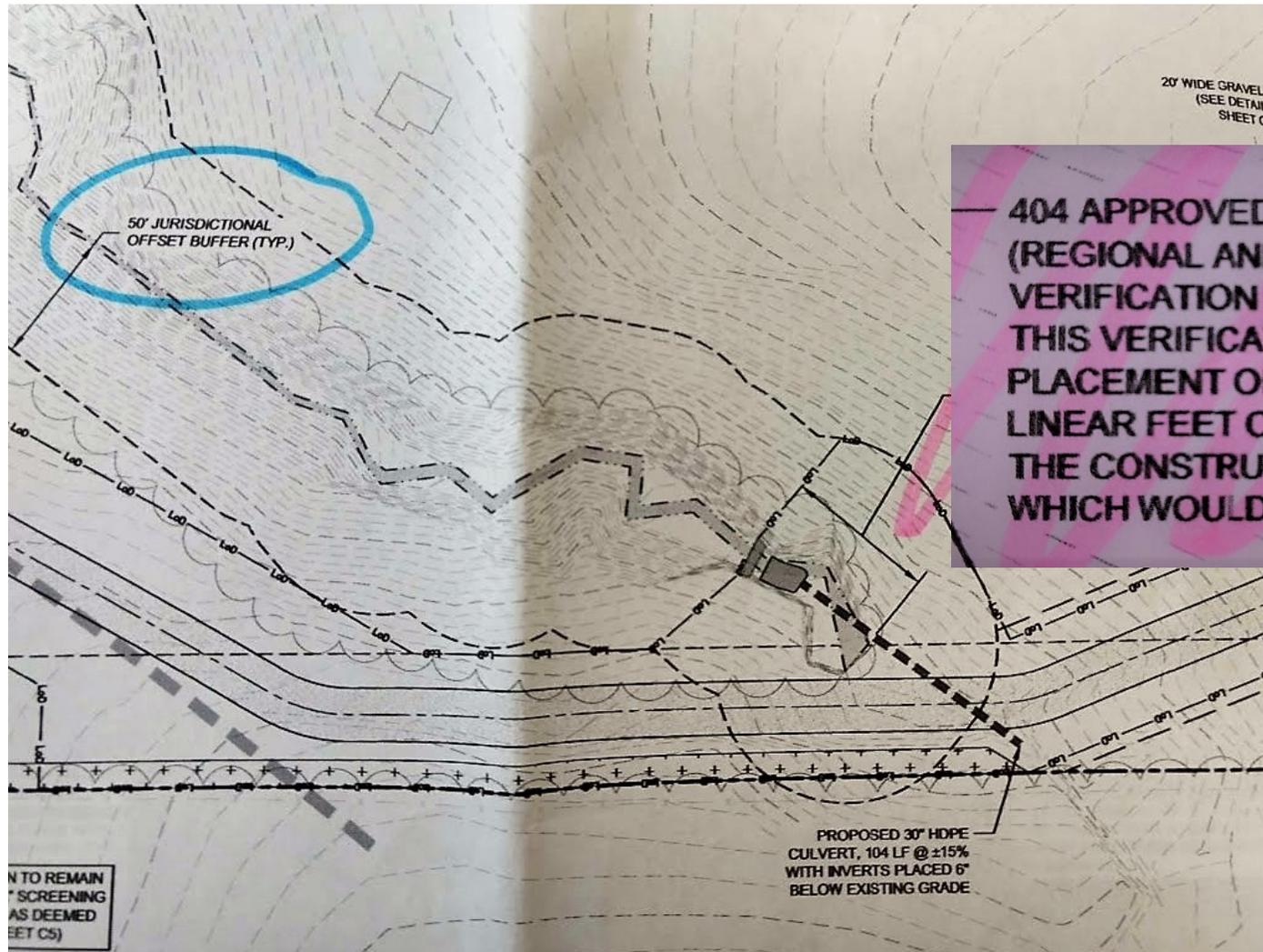
Failure to Include all potentially disturbed areas in LOD



- All construction areas
- All area equipment may travel over
- Staging areas
- Haul roads
- Areas of access
- Areas of erosion control measures
- All tree clearing areas
- All landscaping areas
- Borrow and fill locations, if not already on an ESC plan



Clearly show all riparian buffers, and areas of 401/404 temporary and/or permanent impact



404 APPROVED GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION SAW-2015-02491: THIS VERIFICATION AUTHORIZES THE PLACEMENT OF FILL MATERIAL IN 58 LINEAR FEET OF STREAM TO FACILITATE THE CONSTRUCTION OF A ROADWAY WHICH WOULD ACCESS A SOLAR FARM.



Poor Design / Phasing

Proposing a sediment storage device in a location that requires weeks of grading in order to get the site stormwater runoff to that location.



Stone Outlets

- Stone outlets are NOT treatment devices!!
- They offer no filtration value



Improper use of a stone outlet



Failure to Consider Applicable Post-construction Stormwater and Buffer Requirements

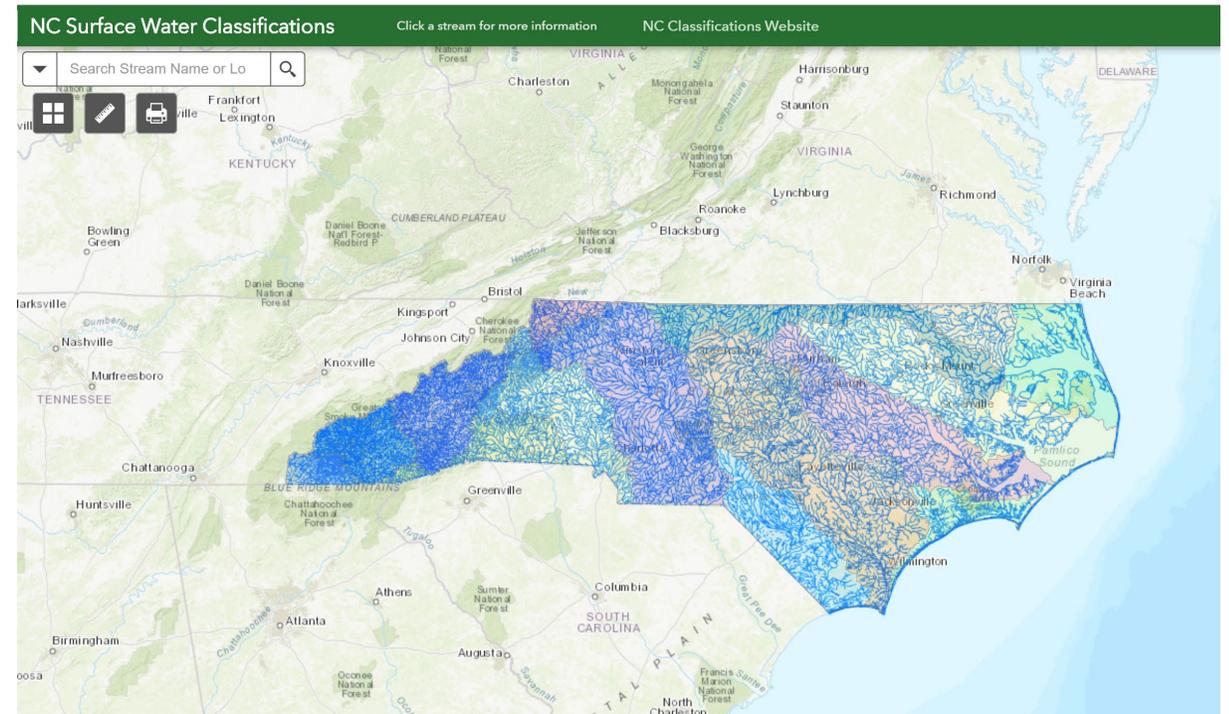
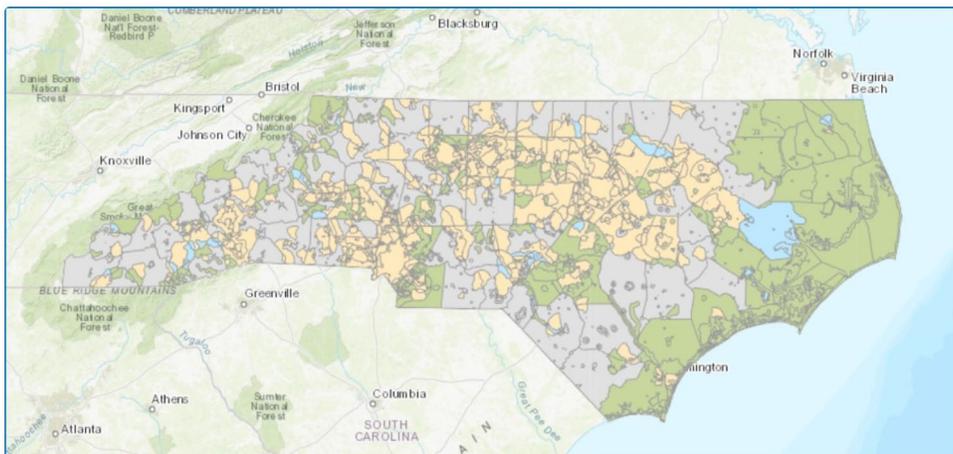
deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-data/stormwater-maps-gis-resources

AM Beacon Secretary of State USGS Real-Time W... Web Soil Survey - H... LQ-Internal Website North Carolina Fo

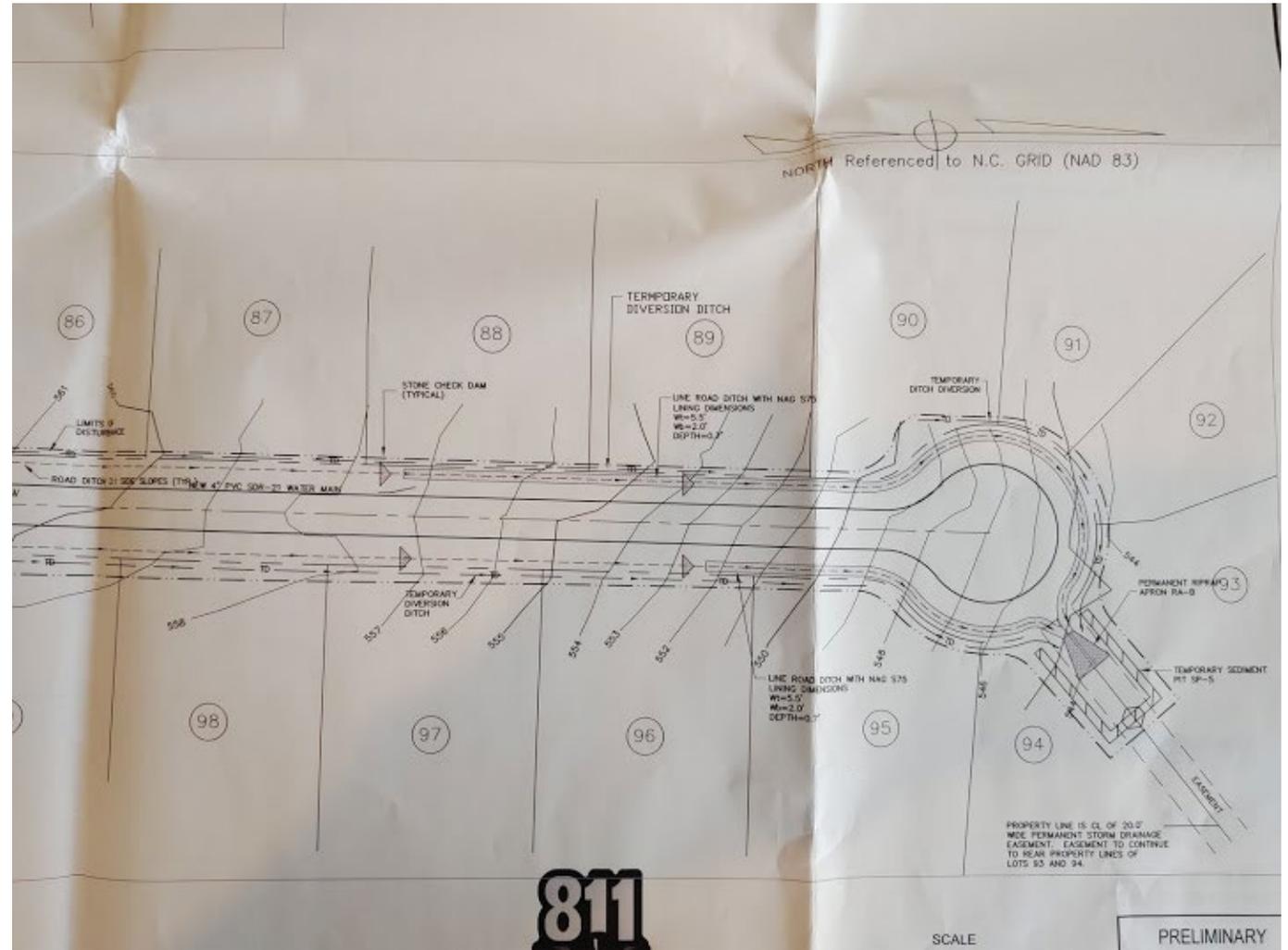
Home Permits & Rules Outreach & Education Energy & Climate

Stormwater Maps & GIS Resources

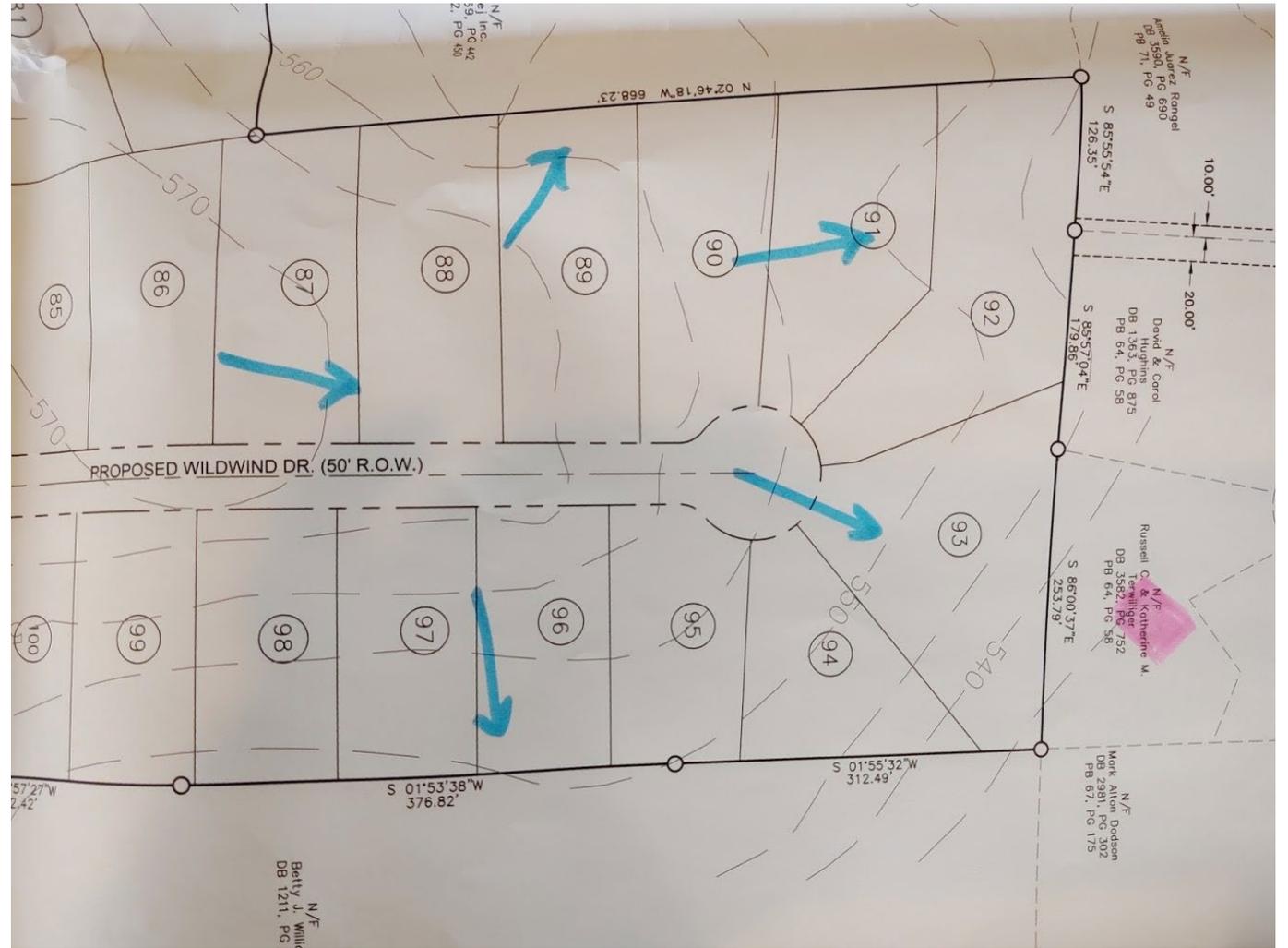
[Stormwater Permitting Interactive Map](#)



*Roads Only
Plans – Fail
to Consider
the Entire
Tract*



*Roads Only
Plans – Fail
to Consider
Cleanwater
and Offsite
Flow*



Not Considering Impact of Other Permits on Your ESC Plan

Failure to have other permits in hand, such as 401/404 permits, and expecting approval of the ESC plan without adequate phasing or implementation before/after obtaining applicable permits.



Failure to Design with Methods Standardly Used in NC

- Failure to design in accordance with our ESC Planning and Design Manual.
- Failure to understand local soil performance.
- Closely related to not understanding basic principals of erosion and sedimentation



Inaccurate Financially Responsible/Ownership Forms

- Landowners aren't the individuals listed on GIS/Deed.
- Deed not included.
- Signer needs documentation that they can legally sign for the company or have a company officer sign all financial paperwork.
- Missing Landowner-Builder agreement from the landowner giving the responsible party permission to obtain an ESC plan approval and to perform construction on their property.



Sky-Drop ESC Plans

Final development grading plan with associated ESC controls, without regard to transition from undeveloped to transitioning to final development and site stabilization.



Construction Sequences

- Poor construction sequence.
- Not site-specific.
- Vague.
- Does not address problem/critical areas. For example, how exactly are you going to install that sewer line and have the sediment basin in the same area?





Sediment basin design is becoming less and less rational. Use conservative sediment basin design



Diversion Berms

Avoid long diversion berms. Use multiple basins.

Mat and vegetate all diversion berm that will remain in place longer than 30 days

Address clean water diversions with immediate matting and vegetative stabilization. Their installation should be specified in the construction sequence.

Diversions with sharp turns will blow out.

Review Time Constraints

- New ESC plans must be reviewed within 30 days.
- As workload allows, we strive to avoid disapprovals by providing comments during the review. Often, these comments go **unanswered** and drag out the review turnaround until a Letter of Disapproval has to be issued.
- If you don't provide an E-mail address on the FRO/transmittal memo, snail mail will slow down the process and make a disapproval more likely.
- **All ESC plans are reviewed in the order received.** Calls and texts within hours of dropping off an ESC plan to inquire about review status are premature and result in review delays.



*The most
common
reason for
ESC Plan
Disapprovals
is....*



The True Cost of ESC Plan Disapprovals

- Lost capital interest accruing on idle property.
- Delays in mobilization and putting people to work.
- Consultant fees.
- 2 to 10+ times the review time needed to reach a workable plan.
- The environmental costs for plans not fully prepared for field conditions [i.e. stream impacts]
- The costs for “field adjustments” that could have been considered in the design phase.



NC Sediment Regulations Have 6 Basic Control Objectives that are Examined During the Review:

- Identify critical areas
- Limit exposed areas
- Limit time of exposure
- Control surface water
- Control sedimentation
- Manage stormwater runoff

Refer to 15A NCAC 04B .0106



Site Management

- **How much area can you manage and meet the 7/14 day stabilization requirements and meet all ESC control objectives?**
- **It is your responsibility to demonstrate through design, phasing, construction sequence, and implementation of your ESC plan that the open area can be effectively managed to meet the stabilization requirements.**



NCG010000 Permit Conditions affecting your ESC Plan

The new NCG01 Permit effective April 1, 2019 requires you to print and add 2 sheets to your ESC plan. They are found at deq.nc.gov/NCG01 and summarize ground stabilization and materials handling, as well as self-inspection, record keeping, and reporting requirements.



ESC Design Considerations

This guidance is not meant to be exhaustive.
For further guidance, please refer to our DEMLR
Website:

<https://deq.nc.gov/about/divisions/energy-mineral-land-resources>



Panel Participants

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Questions?

- **North Carolina Erosion and Sediment Control Design Workshop**
- December 3, 2019



**Crop & Soil
Sciences**



- **Please Remember to Complete the End of Workshop Evaluation**
- (separate from the PDH sponsor evaluation)
- bit.ly/Raleigh2019-ESC-Eval