

Wake County
Collaborative Stormwater Management Evaluation
Stormwater Task Force Meeting # 9

Overall Ranking of Tools

Tools and Strategies	Category
Public Education for Good Housekeeping (residential, non-residential & municipal)	Public Education
Hydrologic and hydraulic modeling of drainage system (volume, velocity, elevation, etc.)	Assesment & Forecasting
Design and maintenance standards for sedimentation and erosion control devices	Sediment & Erosion Controls
Inspection and enforcement for sedimentation and erosion control devices	Sediment & Erosion Controls
Conserve land through open space acquisition, buffers, conservation easements, etc.	Preservation, Restoration, Rehabilitation and Replacement
Monitoring requirements for stormwater facility performance and operations	Inspections, Operations and Maintenance
Material use, exposure and disposal for municipal operations	Inspections, Operations and Maintenance
Inspection and maintenance for stormwater facilities	Inspections, Operations and Maintenance
Strategies to reduce impervious surfaces required for new development	Development & Redevelopment Standards
Water quality modeling for watershed (pollutant loadings)	Assesment & Forecasting
Illicit discharge detection and elimination**	Inspections, Operations and Maintenance
Inspect, maintain and rehabilitate the sanitary sewer system**	Preservation, Restoration, Rehabilitation and Replacement
Real estate disclosure of structural flooding**	Public Education
Site-level flood controls**	Development & Redevelopment Standards
Development or watershed-level water quality controls**	Development & Redevelopment Standards
TOP 15 TOOLS LISTED ABOVE; REMAINING TOOLS LISTED BELOW	
Inspect, maintain and rehabilitate the sanitary sewer system	Preservation, Restoration, Rehabilitation and Replacement
Material use, exposure and disposal for non-municipal operations	Inspections, Operations and Maintenance
Illicit discharge detection and elimination	Inspections, Operations and Maintenance
Application of S&E for agricultural operations	Sediment & Erosion Controls
Hazardous material spill prevention/containment and enforcement	Inspections, Operations and Maintenance
Stream Stewardship	Public Education
Hazardous material spill response and clean-up	Inspections, Operations and Maintenance
Strategies to reduce impervious surfaces for existing development	Development & Redevelopment Standards
Replace the stormwater drainage system to address capacity issues	Preservation, Restoration, Rehabilitation and Replacement
Site-Level Water Quality Controls	Development & Redevelopment Standards
Rehabilitate the stormwater drainage system to address age and condition	Preservation, Restoration, Rehabilitation and Replacement
Minimize changes to the existing FEMA floodplain	Development & Redevelopment Standards
Site-Level Flood Controls	Development & Redevelopment Standards
Development or Watershed-Level Flood Controls	Development & Redevelopment Standards
Development or Watershed-Level Water Quality Controls	Development & Redevelopment Standards
Restore in-stream habitat and stream banks	Preservation, Restoration, Rehabilitation and Replacement
Restore wetlands	Preservation, Restoration, Rehabilitation and Replacement
Floodproof properties in the flood plain	Preservation, Restoration, Rehabilitation and Replacement
Purchase properties located in the flood plain and remove from flood plain	Preservation, Restoration, Rehabilitation and Replacement

Note:

** designates tools that were added at the suggestion of the task force

Assessment and Forecasting Tools - Hydrologic and Hydraulic Modeling

Activity (Choose One)		Coverage (Choose One) FEMA limits 100-acre limit			Uses (Choose all that apply)	
Votes		No Model	(1 sq. mi.)	limit	Votes:	
2. Floodplain Modeling						
2A.	No model required				8	Use to determine the extent of the floodplain for notification/disclosure purposes.
2B.	Existing Conditions Floodplain	3		3	13	Use to determine the extent of the floodplain for assessment of impacts of proposed development.
2C.	Future Conditions Floodplain	11	4	6		

Comments and Notes:
The future conditions (build-out) floodplain is the floodplain because homes aren't built with the idea that they won't last. We want a home to be there for generations.

Assessment and Forecasting Tools - Hydrologic and Hydraulic Modeling

Activity (Choose One)		Coverage (Choose One) FEMA limits (1 sq. 100-acre mi.) limit			Uses (Choose all that apply)	
Votes		No Model			Votes:	
1 Drainage Basin Planning						
1A. No model required					4	Develop Capital Improvement Plan (CIP) of infrastructure capacity needs.
1B. Existing Conditions Assessment	4			4	10	Develop Capital Improvement Plan (CIP) of infrastructure capacity needs.
1C. Existing and Future Conditions Assessment	11		3	8	10	Identify areas prime to streambank erosion.
					12	Use to review and approve proposed development projects.
					6	Require model be developed to determine structural flooding impacts of proposed development at downstream point where project site is 10% of the contributing watershed.
					9	Require model be developed to determine structural flooding and infrastructure impacts of proposed development at downstream point where project site is 10% of the contributing watershed.

Comments and Notes:
 Dependent on impervious area (Line 5).
 I think further conditions modeling still leaves too many variables out (aggregation, degradation, lateral hygration) and is not yet proven itself as far as effectiveness.

Assessment and Forecasting Tools - Water Quality Modeling

Activity (Choose One)		Coverage (Choose One)					Uses (Choose all that apply)	
Votes		No Model	Water-Sheds	Water Supply Listed	All 303(d) Streams	All Streams	Votes:	
3. Water Quality Modeling								
3A.	No model required	1				1	9	Use to identify existing water quality conditions.
3B.	Existing Conditions Annual Loading Model	7	1	3	2	1	11	Use to identify possible impacts to water quality from new development.
3C.	Existing and Future Conditions Annual Loading Model	6		1	2	3	12	Use to assess possible management strategies to address existing water quality impacts
3D.	Existing Conditions Daily Loading Model (Continuous Simulation)	1		1	1		9	Use to assess possible management strategies to address predicted water quality impacts due to new development.
3E.	Existing and Future Conditions Daily Loading Model (Continuous Simulation)	3			1	2	8	Use to review and approve proposed development projects.

Comments and Notes:
Prefer to choose 303(d) and H2O Supply H2O Sheds.
Update modeling every 5 years?
3E. No!

Sediment and Erosion Control Tools

Activity		Options				Feedback
1. Design Standards	Vote	(Choose one)				Comments
A. Threshold for Permit Requirement	19	1-acre disturbed	1/2 acre disturbed	1/4 acre disturbed	All land disturbance	Should be somewhat dependent on soil type/location. Not sure if this matters...but I think it should be at least 1/4 acre.
		2	4	8	5	
B. Sediment Control Device Design	19	Adopt new State Stds	Apply most restrictive local standards	Study more effective measures		What if local standards are less than state? Control w/vegetative cover. They've put a lot of research into this and have pretty good data. Fine, but I'd rather see requirements that prohibit mass grading.
		7	6	6		
2. Maintenance & Reporting	Vote	(Choose one)				Comments
A. Contractor Inspection Frequency	18	2 X/ month + after rain	1 X/ week + after rain	2 X/ week + after rain	Daily	One per week and <u>before</u> rain. Designer needs to inspect. After storms. Varies, ones with actual level disturbance requirement inspection in Wake Co. Should provide some flexibility based on staff experience and risk-based strategies (slope, location) near water bodies, etc.
		4	9	4	1	
B. Device Maintenance/Cleanout Frequency	16	When device is half-full	1 X/ month	1 X/ week	After every 0.5" rain	Or some rainfall event. Prefer standard 11/hr. Contractors tend to really mess things up when they check it out. As needed. Every run-off producing rain. I have no idea, but think frequency is easier to enforce, less frequent with/larger basins.
		6	1	1	8	
C. Maintenance Log/Reporting	18	No report req'd	Maintain log on-site	Submit quarterly report to Town/County	Submit monthly report to Town/County	Check what Phase II requires. Keep on-site and can be requested at anytime. Should do both (maintain log onsite and submit quarterly report to town/county). Signed by designing engineer.
			7	3	8	
3. Enforcement	Vote	(Choose one)				Comments
A. Staff Inspection Frequency	18	2 X/ month	1 X/ week	2 X/ week	Daily	Finding \$\$ for staff difficult. Plus after storm events.
		6	11	1		
B. Method of Enforcement	22	Flexibility to work with Contractor	Stop work order for any offense	Heavy fines as deterrent	Heavy fines only for repeat offenders	Have to employ all tools, not just one. Stop work and fine. All → carrots and sticks.
		5	9	5	3	

Extra Notes:
Need an erosion control tool!!!
Where do I vote to work on streambank erosion as a higher priority?