

North Carolina Department of Transportation
Division of Highways

Sediment and Erosion Control Program



December 2, 2003

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Sediment and Erosion Control Program Delegation of 1991

Copied from the Original Agreement

Statutory Authorities:

Whereas North Carolina General Statutes (G.S.) Section 113A-54(a) provides that the North Carolina Sedimentation Control Commission (Commission) "shall in cooperation with the Secretary of Transportation and other appropriate State and Federal agencies, develop, promulgate, publicize, and administer a comprehensive State erosion and Sedimentation control program"; and

Whereas G.S. 113A-54(d) (2) provides that the "Commission shall assist and encourage other State agencies in developing erosion and sedimentation control programs to be administered in their jurisdictions, and to approve, approve as modified, or disapprove such programs submitted pursuant to G.S. 113A-56 and from time to time review such programs for compliance with regulations issued by the Commission and for adequate enforcement"; and

Whereas G.S. 113A-56(b) provides that the "Commission may delegate the jurisdiction conferred by G.S. 113A-56(a), in whole or in part, to any other State agency that has submitted an erosion control program to be administered by it, if such program has been approved by the Commission as being in conformity with the general State program"; and

Whereas the Commission intends to delegate to the Department of Transportation, Division of Highways (Department of Transportation), the authority to administer a sedimentation and erosion control program within the Department of Transportation's jurisdiction which consists of the responsibility for preparation, review, and approval prior to construction of erosion and sediment control plans for all land-disturbing activities associated with highway construction of one or more contiguous acres; and

Whereas the Commission does not intend to delegate to the Department of Transportation the responsibility for external monitoring of the program and any necessary legal actions.

Therefore in accordance with the statutory requirements of the Sedimentation Pollution Control Act of 1973, G.S. 113A-50, *et seq.*, as may be amended and pursuant to the statutory authority in G.S. 143B-348, as may be amended, the Department of Transportation submits the following sediment and erosion control program to the Commission for approval and delegation.

General Conditions of Program:

- A. The Department of Transportation's Standard Specifications for Roads and Structures, as may be amended, shall provide the basic erosion and sedimentation control requirements to be implemented by the Department of Transportation.
- B. The Department of Transportation will prepare, or have prepared, erosion and sediment control plans consistent with Commission standards governing all land disturbing activity it undertakes which uncovers one or more contiguous acres of erodible surface.

- C. Consistent with its plan requirements, the Department of Transportation shall provide adequate rights of way or easements to accommodate installation and maintenance of appropriate sediment and erosion control measures.
- D. The Department of Transportation will take all reasonable measures to protect all public and private property from siltation damage caused by any Departmental activity consistent with its policies and procedures developed pursuant to its statutory authorities and responsibilities. In the event damage does occur, satisfactory restoration of property shall be made.
- E. The Department of Transportation will utilize designs and design criteria for application of its erosion and sediment control program that are consistent with minimum standards promulgated by the Sedimentation Control Commission.
- F. The Department of Transportation will develop appropriate training manuals, Courses, etc., that will provide sufficient technical administrative guidance to its employees or agents such that the objectives of the program are fulfilled.
- G. Basic Objectives of Program

Erosion and sedimentation control plans prepared by and for the Department of Transportation will address the following control objectives:

1. **Identification of Critical Areas** – On-site areas which are subject to severe erosion, and off-site areas which are especially vulnerable to damage from erosion and/or sedimentation, will be identified and receive special attention.
 2. **Limited Time of Exposure** – All land-disturbing activity is to be planned and conducted to limit exposure to the shortest feasible time consistent with good construction and maintenance practices.
 3. **Limit Exposed Areas** – All land-disturbing activity is to be planned and conducted to minimize the size of the areas to be exposed at any one time.
 4. **Control Surface Water** – Surface water runoff originating upgrade of exposed areas will, to the extent practical, be controlled to reduce erosion and sediment loss during the period of exposure.
 5. **Control Sedimentation** – All land-disturbing activity is to be planned and conducted so as to prevent off-site sedimentation damage.
 6. **Manage Stormwater Runoff** – When the increase in the velocity of storm water runoff resulting from a land-disturbing activity is sufficient to cause accelerated erosion of the receiving watercourse, plans will include measures to control the velocity up to and including the discharge point so as to control accelerated erosion of the site and increased sedimentation of watercourse.
- H. The Department of Transportation acknowledges its obligation to implement its program consistent with the standards for land-disturbing activities promulgated by the Sedimentation Control Commission. Please refer to the DENR, Division of Land Resources web page <http://www.dlr.enr.state.nc.us/eros.html> to view the referenced and incorporated herein by reference Sedimentation Pollution Control Act of 1973, as amended, and the administrative rules codified at Title 15A of the NC Administrative Code, Chapter 4, 15A NCAC, 4(a), et seq., as amended. In urgent conditions involving public safety, flexibility in the application of Sedimentation Control Commission standards may be required and in those situations, the Department of Transportation and the Commission and their authorized representatives will cooperate in the best public interest.

Specific Conditions of Program:

- A. The administration of borrow sources obtained by the Department of Transportation or its agents will be in accordance with the requirements of the State Mining Act.
- B. Waste areas furnished as a part of the Department of Transportation's construction activities will have erosion and sediment control planning and measures addressed as part of the stabilization and maintenance plans developed under the contract requirements.

- C. Erosion and sediment control plans prepared by agents for the Department of Transportation will be prepared consistent with the Department of Transportation's program requirements and the Department of Transportation will review such plans to assure compliance before acceptance of them.
- D. Erosion and sediment control plans and waste areas stabilization and maintenance plans prepared in the field divisions will be prepared consistent with the Commission's standards and with the objectives of this program. Routine review by the staff of the Roadside Environmental Unit will be made to assure that program objectives and requirements are satisfied. Approximately 25% of the plans will be reviewed on a quarterly basis to assure compliance with the program delegation.
- E. As part of its operational policies, the Department of Transportation has issued to its field forces guidelines entitled Modifications to Erosion Control Plans (Appendix 1) that expressly limit field modifications to erosion and sediment control plans that can be made on the project level without prior consultation or approval from a higher level of management of the unit originating the design. These guidelines are attached hereto and are incorporated herein by reference. Any proposed significant amendments to the guidelines for Modifications to Erosion Control Plans (Appendix 1) will be submitted to the Sedimentation Control Commission for approval, and the Commission will respond as quickly as legally possible.
- F. As part of its operational policies, the Department of Transportation has issued to its field forces guidelines entitled Sedimentation Inspection Process (Appendix 2) that establish and control the inspection process. This guideline will outline the various responsibilities and accountabilities associated with the monitoring of the program. These guidelines are attached hereto and are incorporated herein by reference. Any proposed significant amendments to the guidelines for Sedimentation Inspection Process (Appendix 2) will be submitted to the Sedimentation Control Commission for approval, and the Commission will respond as quickly as legally possible.
- G. The Department of Transportation will furnish, if requested by the Commission or its authorized staff, a copy of any erosion control plans prepared under this program. The Commission agrees to waive any fee charges, etc., associated with the review of these plans and of the Department of Transportation's program.

Self-Monitoring Program:

The Department of Transportation will perform a self-monitoring program (Appendix 3) for contract construction, force account construction, and routine maintenance activities to insure compliance with program requirements and to evaluate and rate levels of field implementation of the program. Any proposed significant amendments to the self monitoring program will be submitted to the Sedimentation Control Commission for approval, and the Commission will respond as quickly as legally possible.

Program Review and Evaluation:

The Commission shall review and evaluate the Department of Transportation's Sedimentation and Erosion Control Program at least on an annual basis.

Existing Uncovered Areas:

The Department of Transportation has implemented and will continue a program that will, subject to the availability of funds, provide corrective treatment to all existing uncovered areas that exceed one contiguous acre and are experiencing continued accelerated erosion. The treatment provided will consist of the establishment of vegetation cover or other protective measures, structures, or devices to control off-site sedimentation. The program places priority on those areas that are contributing to off-site damage.

Maintenance:

During development of a site the Department of Transportation shall install and maintain all temporary and permanent erosion and sedimentation measures as required by the plans, the rules, and the Sedimentation Pollution Control Act. After Site development the Department of Transportation shall install and/or maintain all necessary and reasonable permanent erosion and sedimentation control within highway right-of-way or easements that the Department has secured for maintenance.

Annual Report to the Sedimentation Control Commission:

The Department of Transportation will present an annual report to the Commission. The report shall include but not be limited to the estimated number of acres of land-disturbing observed and planned emphasis areas for the next twelve months. This report will be presented at the first scheduled Commission meeting of each calendar year.

Approval:

The North Carolina Sedimentation Control Commission hereby approves the program of erosion and sedimentation control associated with highway construction submitted by the North Carolina Department of Transportation as conforming to the general state program as provided for the G.S. 113A-56(b) and except for external monitoring and any necessary legal action delegates the jurisdiction conferred on the Commission by G.S. 113A-56(a) to the Department of Transportation to carry out the approved Erosion and Sedimentation Control Program. The responsibility for the external monitoring of the program and any necessary legal actions is not delegated to the Department of Transportation but is retained by the Commission.

Approved for the Sedimentation Control Commission.

Joseph A Phillips

Joseph A. Phillips, Ph.D., Chairman

February 25, 1991



Appendix 1: Modifications to Erosion Control Plans

On March 15, 1991 Mr. D. W. Bailey, PE issued a memorandum to Division Engineers outlining the criteria for modifications to the Erosion Control Plans. The following is a copy of that memorandum with updated language.

March 15, 1991

Memorandum To: Division Engineers
From: Mr. D. W. Bailey, PE
Chief Engineer
Subject: Modifications to Erosion Control Plans

Recently the N.C. Sedimentation Commission and the Land Quality Section of the Department of Environment and Natural Resources reviewed NCDOT's erosion and sedimentation control program delegation. One of their major concerns was alteration of erosion control plans without consultation and/or approval from the plan designers. Due to this concern, and as a condition of redelegation, NCDOT has agreed to prepare guidelines for field forces that limit field modifications to erosion and sediment control plans that can be made on the project level without consultation with the designers.

With regard to these guidelines, below is a list of erosion control devices which require consultation with the Roadside Environmental Unit prior to being modified or altered in the field.

1. **Riser Basins** (Silt Basin Type-A) – Roadside Environmental Unit will consult Hydraulics Unit
2. **Temporary Rock Sediment Dam Type-A**
3. **Temporary Rock Sediment Dam Type-B** Located at stream crossings or drainage turnouts
4. **Temporary Rock Silt Check Type-A** Located at stream crossing or drainage turnouts
5. **Culvert Construction Sequence** Roadside Environmental Unit will consult Hydraulics and PD&EA
6. **Channel Changes** (Temporary or Permanent) Roadside Environmental Unit will consult Hydraulics and PD&EA

It is intended that the remainder of the items which may appear on the erosion control plans be installed according to the plans as applicable however modification will be allowed on these items without consultation to meet actual site conditions.

The Department has also made changes in plan preparation procedures to offer more detailed and descriptive drawings of temporary and permanent stabilization strategies. Additional focus on the temporary erosion control measures and devices that should be in place after clearing and before grubbing of major grading begins. Specifications will be prepared that will require the contractor to follow the sequence and measures identified on those plan sheets unless he request a modification to the construction sequence. If a modification of the sequence is requested, appropriate revisions to the erosion control plans must be proposed by the Contractor and if acceptable, appropriate revisions will be made to the temporary measures shown to accommodate the changes. This will provide a base working document (temporary erosion

control plans) that can be utilized or modified continuously until the regular erosion control plans become applicable or until project stabilization is achieved by vegetation.

Hopefully, the consultation required for the six specific features will allow for exchanges of information that allow for better plan design to fit field conditions and better field implementation of the intended designs.



Appendix 2: Sedimentation Inspection Process

On March 15, 1991 Mr. D. W. Bailey, PE issued a memorandum to Division Engineers outlining the criteria for Sedimentation Inspection Process. The following is a copy of that memorandum with updated language.

March 15, 1991

Memorandum To: Division Engineers

From: Mr. D. W. Bailey, PE
Chief Engineer

Subject: Sedimentation Inspection Process

Great success has been achieved in a short period of time in delivering our highway fund and trust fund programs, but as we continue to deliver these programs a strengthening of our environmental commitment is required. The Department's Erosion and Sedimentation Program has been operation under the 1974 Delegation Agreement issued by the North Carolina Sedimentation Commission. This delegation has been under study to assess compliance with the North Carolina Sedimentation Pollution Control Act since the passage of the Trust Fund Law. The study conducted by the Department of Environment and Natural Resources Land Quality Section recommended to revise the 1974 delegation and modify specific aspects of the Department's Erosion and Sedimentation Program. The specifics of the program delegation have been finalized and a new agreement or authorization to manage our own program has been signed. As a part of the new delegation we have agreed to modify our self-monitoring program. This program applies to all contracted work as well as land-disturbing activities performed by our own forces.

Currently, the Roadside Environmental Field Operations Engineer (FOE) performs regular sedimentation inspections on land disturbing activities. If during a regular inspection a project is found to not be I compliance with the Sedimentation Pollution Control Act, the project receives an Immediate Corrective Action (I.C.A.).

In order to strengthen the procedure as a part of the new delegation, the hopefully to avoid our projects being in a position that Land Quality staff would be required to issue a formal Notice of Violations, it is necessary to modify our own in-house procures to assure that proper corrective actions are taken and that as system of accountability exists. When the I.C.A. is issued, the project will enter a project status classification called **Immediate Corrective Action**. The ICA status will remain in effect until a completed sedimentation inspection report is submitted for the subject project without the ICA. The ICA policy and process are outlined as follows:

A. ICA Status:

The ICA should be viewed by all personnel as non-compliance with the Sedimentation Pollution Control Act and a potential site for a Notice of Violation (NOV) as issued by DENR. The ICA will put the project in Immediate Corrective Action status. The FOE will conduct a series of sequential inspections and consultation with the Division. ICA inspections will be conducted on frequent intervals until the erosion and sedimentation problem is corrected.

B. Division Responsibility for ICA Status Projects:

After receipt of a ICA report, the Engineer responsible for the project will prepare an outlined plan to correct the FOE detailing corrective measures that will be instituted and an anticipated completion date.

C. ICA Distribution to DENR:

In the event a project would enter ICA status, copies of all correspondence and inspection forms will be forwarded to the appropriate DENR Land Quality Regional Office and to the Sedimentation Specialist in Land Quality per the new delegation agreement.

D. Suspension of Project Activities:

Contract Construction: If the FOE's review of the project activities under and ICA notice leads to the determination that proper corrective actions are not or will not be taken within a reasonable period of time they will immediately contact the Division management. This contact will portray the seriousness of the situation and will recommend that the Division management immediately review the project to cause proper corrective activities to begin. If the FOE does not feel that proper corrective actions are being initiated and that the severity of the situation warrants, they will immediately contact the appropriate Roadway Construction Engineer. Of the Central Construction Unit and recommend that all activation on the project be suspended until such time as appropriate corrective activities have been taken to abate the sedimentation problem. Following appropriate review the Roadway Construction Engineer will suspend activities on the project if they feel that conditions warrant. The office of the State Construction will be notified if a project is shut down and this office will in turn advise all appropriate parties.

Division Activities: (Purchase Order Contracts, Division Construction Projects, and Maintenance Activities): If the FOE's review of a specific land disturbing activity within this category that has been issued an ICA conclude that reasonable corrective activities have not or will not begin within a reasonable period of time, he will immediately contact the Division management. This contact will portray the seriousness of the situation and will recommend that the proper corrective activities to begin. If the FOE does not feel that proper corrective activities are being initiated and the severity of the situation warrants, he is delegated the authority by the Chief Engineer to issue a written order to the Division Engineer suspending all activities on the project until proper corrective actions have been taken. The office of the State Roadside Environmental Engineer will be advised of this suspension order and that office will notify other appropriate parties. The Chief Engineer will determine when activities may resume on the project.

E. Lifting of ICA

The ICA status will be lifted after such time that a inspection occurs and the project does not receive a ICA. At this time the FOE will issue a report to the responsible project engineer indicating the project is in compliance and the lifting of the ICA status.

The ICA policy and process outlined above should allow the sedimentation inspection program to operate more effectively and efficiently and represent a better reflection of NCDOT's commitment for environmental protection through the Department's delegation agreement with the Sedimentation Control Commission. These changes offer additional accountability toward managing our highway projects and the result should be the intensification of timely and appropriate action. It is the intent of this office that sedimentation problems be avoided by proper prior planning that sedimentation problems be avoided by proper prior planning and the application of appropriate sediment control devices and erosion control measures. Suspending operations on a project should not become necessary if all parties take on positive attitudes to fulfill the responsibilities our Department has under our program delegation. This office will take a very dim view of a situation where a "Bad Attitude" or a negligent approach to sediment control causes a suspension of work activities.

Our Department has one of the largest land disturbing activities in the State and we must accept the challenge of providing better roads while minimizing damage to our natural resources during construction and maintenance activities. We feel this procedure will allow us to manage our own problems in-house and should make it a rare exception when the DENR would find it necessary to issue a Notice of Violation to our Department.



Appendix 3: N.C. DOT Sedimentation Control Program Monitoring and Enforcement Procedure

The Department of Transportation places responsibility for the monitoring and enforcement of its sedimentation and erosion control activities in several key functions. The general areas of Contract Construction (Transportation Improvement Program Projects) and Division Activities (purchase order contracts, division construction projects, and maintenance activities) are described below.

Contract Construction Projects

These projects have detailed sedimentation control plan sheets included in the construction plans when the project is let to contract. The Resident Engineer is designated as the person responsible to assure that the Contractor constructs the project in accordance with governing contract requirements and plan details. A staff of construction technicians is kept on the project full time to assist him with this responsibility. This is the first line effort of maintaining correct and proper sedimentation control devices. The Resident Engineer is responsible directly to a Division Construction Engineer (Assistant Division Engineer) who reviews all projects within a Division generally weekly or more often depending upon the nature and complexity of the project. Both of these positions answer directly to the Division Engineer who reports to the Chief Engineer and who is responsible for all construction and maintenance activities within his Division. The implementation of effective sedimentation control on projects is a major responsibility of these two positions (Resident Engineer and Division Construction Engineer) and they are accountable to the Division Engineer and the Chief Engineer in this area.

In addition, there are two, there are two separate other functional areas that are within the Divisions' chain of authority but rather report to a separate area responsible to the Chief Engineer and who have major responsibilities associated with the sedimentation control efforts on projects.

The Roadside Environmental Field Operations Engineer (F.O.E.) is charged with the direct responsibility to review all land disturbing activities on projects to monitor compliance with the Department's Sedimentation Control Program requirements and to bring to management's attention problem areas, attitudes, unique situations, etc., that prohibit proper and effective sedimentation control efforts. This position issues a report resulting from its monitoring and evaluation project reviews and has the authority to designate a project as requiring Immediate Corrective Action (ICA) and certain follow up efforts on the part of Division Personnel. Placing a project in the Immediate Corrective Action (ICA) status triggers a series of actions (described in a separate document) that are designed to bring the project back into compliance as soon as practicable. Although the F.O.E. is not designated with the authority to immediately suspend all operations on a project for failure to maintain a satisfactory sediment control posture, this position can cause the same result by direct and immediate communication with the Resident Engineer or Division management staff. If for some reason a proper response is not received from the Resident Engineer or Division Management then a direct and immediate contact will be made with the appropriate Roadway Construction Engineer who is vested with the authority to suspend operations on a project of any reason deemed appropriate in their judgement. The Roadway Construction Engineer is an expert in construction assigned out of the Central Office in Raleigh. The position is staffed to the State Construction Engineer who is at the same level as a Division Engineer and who reports through a Branch Manager to the Chief Engineer in a functional area of responsibility separate and apart from a Division Engineer.

The Roadway Construction Engineer's main function is to operate in an audit mode and check and balance role to assure procedures are consistent with the intent of the Department. This position accepts the project from the Contractor on behalf of the Department and has certain approval authorities in contract administration matters not delegated to the Divisions. This

position operates as the "eyes and ears" of the Chief Engineer in Construction matters and is assigned special investigative and troubleshooting roles as appropriate.

Both the Roadway Construction Engineer and the Field Operations Engineer are assigned in the Construction Branch and do not fall in any way under the supervision and control of the Division Staff. Both sets of positions have been vested with certain responsibilities and authorities associated with implementing an effective Sediment Control Program and constantly review project activities to assure the program is working as intended.

Division Activities: Purchase Order Contracts, Division Construction Projects, & Maintenance Activities:

These activities and projects are usually less complex in nature and type and in general would have less relative risk of sedimentation damage to adjacent properties although certainly damages can occur if proper sedimentation control techniques are not applied. The sedimentation plans utilized with these projects can vary from a series of plan sheets similar in type to what is contained in the larger construction project plans (particularly in the case of Division designed projects) to straight diagrams with sediment devices drawn on the sheets at intended locations. These plans are usually prepared in the Division and District offices with central unit functions of Design, Hydraulics, and Roadside Environmental being called upon for advice and input as needed.

The District Engineer is responsible for either letting these smaller projects to contract through the purchase order process or constructing the project with his own forces and equipment. It is noted that by statute no purchase order contract can exceed \$500,000.00 and most are much smaller than that maximum limit. The District Engineer has a staff of Highway Maintenance Engineers and Maintenance Technicians, which assist him with these projects. Review of these projects by the District office staff can vary from a full time person on site to a ride-thru of the project every several days depending upon the nature of the project. The District Engineer reports directly to the Division Maintenance Engineer (Assistant Division Engineer) who is responsible to the Division Engineer for all of these activities. These activities in the past have not placed the same emphasis on sediment control that the construction project phase has but are not being brought up to the same level of expectation and performance. Training efforts have been made and additional training is in the process of being implemented.

The Roadside Environmental Field Operations Engineer (FOE) also review and monitor these Division activities and have certain authorities delegated by the Chief Engineer to cause them to be in compliance with the Department's Sedimentation Control Program responsibilities. The FOE is delegated the authority to suspend grading activities on these types of projects subject to appropriate remedial actions being taken to bring the project in to compliance. If a FOE does not get a proper response from the project or District office level, he will make immediate contact with Division Management and advise them of the situation on the project that if Immediate Corrective Actions are not undertaken he will suspend the land disturbing activities of the project subject to proper actions being taken. If no action is taken within a reasonable time depending upon the severity of the situation, they will issue a written directive to the Division Engineer advising that the land disturbing activities on the project are being suspended under the authority of the Chief Engineer until further notice. He will immediately advise the State Roadside Environmental Unit Head of their action who in turn will advise both the Branch Manager and Chief Engineer. The decision as to when activities will resume will be made in the office of the Chief Engineer.

This should be the exceptional situation as every effort is made to resolve issues at the lowest level and to operate in compliance with the Department's program and objectives.

In summary, the Department believes that the Roadside Environmental Field Operations Engineers operating in concert with both the Roadway Construction Engineers and the Division Management in a system designed to ensure compliance with Departmental policies is sufficient to implement it program responsibilities. The Department believes that these functions, not being under the supervisory chain of the Division Engineer and having a direct reporting link p to the Chief Engineer, can fulfill the intent of the Commission that the Department have a monitoring and check and balance system in place to assure proper compliance wit the statute.



Appendix 4: Erosion and Sediment Control Practices on Contract Construction Projects

On January 21, 2000 Mr. J. D. Goins, PE issued a memorandum to Division Engineers outlining the criteria for Erosion and Sediment Control Practices on Contract Construction Projects. The following is a copy of that memorandum with updated language.

January 21, 2000

Memorandum To: Division Engineers

From: J. D. Goins, PE
Chief Engineer – Operations

Subject: Erosion and Sediment Control Practices on Contract Construction Projects

In July of 1992, then Chief Engineer Wayne Bailey, issued a memorandum establishing a policy for erosion and sediment control on construction projects. Since that time, the Department has undergone a significant amount of turnover in personnel. As a result, it seems appropriate to reissue the policy and revise any areas that may have been unclear.

Erosion and Sediment Control Practices on Contract Construction Projects

Preconstruction Activity:

The Resident Engineer is expected to review the erosion control plans with the inspection technician and engineering personnel who will be assigned to the project. This review should be accomplished prior to the pre-construction conference, such that any questions raised may be properly and expeditiously answered so a complete understanding of the plans is presented to the Contractor when questions arise. The Resident Engineer shall conduct this review. The Roadside Environmental Field Operations Engineer is to be asked to participate in the Resident Engineer's review of the plans with his project staff whenever the contract contains phased erosion control plans. If there are questions as to concept, intent phasing, etc., the Roadside Environmental Unit in the Central Office should be consulted to obtain necessary clarification.

Preconstruction Conference:

The Division Engineer shall include the Regional Land Quality Engineer on the list of invited attendees for preconstruction conferences for projects involving significant land disturbing activities. As a part of the conference activity, erosion control shall be discussed in depth. It is important that subcontractors that disturb land as a part of their operations also attend the preconstruction conference. Particular emphasis shall be placed on the expectations of the Department with regard to individual and corporate attitudes toward erosion control. The Contractor and subcontractors should understand at the conclusion of the erosion control discussion that the Department will demand timely implementation of each erosion control measure or activity and that failure to respond in such a manner may lead to sanctions imposed under the provisions of Article 102-16 and/or Article 107-13 of the Standard Specification.

Beginning of Construction:

For each project involving land disturbing activities of one acre or more, the Resident Engineer shall notify the Regional Land Quality Engineer when construction has begun. As a part of the notifications, the Resident Engineer shall advise the Regional Land Quality Engineer the name of the technician who

will be on the project and be responsible of inspection sediment and erosion control activities and who will be maintaining the continuously updated erosion control plans in accordance with the Department's program delegation. The Resident Engineer shall include as a part of the transmittal to the Regional Land Quality Engineer one set of erosion control plans for the project.

In as much as it is the policy of the Land Quality Section to contact the project personnel when visiting NCDOT projects, other than semiannual rating visits, it is important that the person identified to the Regional Land Quality Engineer be consistently on the project. Should personnel requirements necessitate a change of assignment, the Regional Land Quality Engineer shall be notified. It is important that the technician selected to represent the Engineer be a person who will be on the project the majority of the time; be a person who champions timely, proper and effective erosion control techniques; and be a person who, most importantly, will portray a positive image to the Land Quality staff.

During Construction

During construction of the project, the Resident Engineer shall take the necessary measures to ensure that the project is constructed and maintained in accordance with the erosion control plans. Any modifications to the erosion control plans necessary to meet field conditions shall be clearly indicated on the set of erosion control plans maintained on the project. In order to ensure that all measures are installed and maintained as necessary, the following procedures shall be followed.

1. Before any land-disturbing activity begins, the Contractor shall be specifically advised that he must install all the required perimeter controls and/or other appropriate measures must be installed before beginning grubbing on the project site and creating erodible surfaces. Grubbing is not to begin until proper sediment control devices are in-place.
2. Periodic erosion control reviews of the project site are imperative. These shall be weekly, at a minimum, and after every significant rainfall. The Resident Engineer shall take into considerations such factors as exposed acreage and the phase of construction during this evaluations.
3. After each erosion control review the Contractor shall be notified in writing of any deficiencies. A deadline for corrective action shall be included in this notification.
4. The Resident Engineer shall develop a follow-up process to ensure that corrective measures are implemented. Failure on the part of the contractor to complete the items noted on any erosion control list by the established deadline may result in suspension of the work until all items have been completed.
5. Early establishment of permanent vegetation ground cover is an essential step in the erosion control process. This shall be accomplished by staged seeding. Any exposed areas shall be seeded within 15 calendar days from completion of the work.
6. Fertilizer top dressing shall be applied to all permanent stands of grass each spring and fall for the duration of the project.

Whenever an Immediate Corrective Action (ICA) or a Notice of Violation (NOV) is issued for a project, all land disturbing activities on the project shall cease. In addition, should the Contractor not institute immediate corrective action, all work on the project may be suspended.

The Contractor shall begin corrective action within 24 hours of notification of an ICA or NOV. Should the Contractor not institute such corrective action, the Resident Engineer shall contact the Division Engineer. The Division Engineer will arrange for the use of state forces, trained in the proper installation of erosion and sediment control devices, to implement the corrective measures necessary to bring the project into compliance.

Additionally, when a NOV is received, the Resident Engineer shall write the Chief Engineer – Operations, through the Division Engineer, describing the deficiencies that caused the NOV to be issued, the actions taken to satisfy the NOV, and the measures the Resident Engineer has taken to ensure that there will be not reoccurrence.

Final Notification:

The Resident Engineer shall notify the Roadway Construction Engineer three weeks prior to the anticipated completion of any project involving major land disturbing activities. Serving as facilitator, The Roadway Construction Engineer is cooperation with the Resident Engineer, Division Construction Engineer, and The Roadside Environmental Field Operations Engineer will review the project, including

the waste and borrow sites. The review shall address the retention of temporary measure status of permanent measure, supplemental and repair seeding, and fertilizer topdressing. Borrow and waste sites shall be treated in the same manner as the project itself.

This review is intended to identify a plan to accept the project from the Contractor in a condition that will satisfy the Department's sediment and erosion control responsibilities. A mature stand of vegetation on all previously disturbed areas is the ultimate objective for acceptance of the project for maintenance. This will require the cooperation of the Contractor in finishing graded slopes as soon as feasible, such that seeding and mulching can occur. This objective needs to be built into all planning on the project from the time of the preconstruction conference.

Consistent emphasis from the Resident Engineer is essential to ensure that all erosion control responsibilities are met.