Volume 23 No 1 • January 2020 - June 2020

Newsletter of the North Carolina Sedimentation Control Commission

SEDIMENTS

State of North Carolina
Department of Environmental Quality

Division of Energy, Mineral, and Land Resources
Brain Wrenn, Active Director

ABOUT SEDIMENTS

SEDIMENTS is a newsletter published by the North Carolina Sedimentation Control Commission to provide information and assistance to the regulated community and to facilitate communication among personnel of state and local erosion and sedimentation control programs.

SEDIMENTS is available in electronic form at:

https://deq.nc.gov/SEDIMENTS

And via the WRRI Sediments listserv. To subscribe follow the directions at:

https://wrri.ncsu.edu/contact-us/listservs/

Send comments to the Sediment Education Specialist.

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Changes to the NC Administrative Code Title 15A Chapter 4: Sedimentation Control

The purpose of the NC Administrative Code Title 15A Chapter 4: Sedimentation Control (Code), is to help implement the Sedimentation Pollution Control Act of 1973 (SPCA). The SPCA was created to prevent pollution by sedimentation while still allowing development within our state. The SPCA is the enabling legislation that gives authority to the Sedimentation Control Commission (Commission) and the Department of Environmental Quality (DEQ) Division of Energy, Mineral, and Land Resources' (DEMLR) Land Quality Section (LQS) whilst the Code provides the administrative overview.

Legislation adopted in the 2013 session of the NC General Assembly required state agencies to review their rules according to specific procedures. The law specifies that the agencies, in this case, the Commission, go through its rules and present the revised rules for public review. With the help of the DEMLR staff and a workgroup of involved parties, the Commission developed proposed rule revisions and took them through the public involvement and hearing process. The rules were modified, based on comments received, and approved by the Commission on November 4, 2019. As specified in the statutes, the proposed rule changes were sent to the NC Rules Review Commission (RRC) for approval. At their March 19, 2020 meeting, the RRC approved all the proposed rule changes except for two rules. The RRC objected to rule 15A NCAC 04C .0103 WHO MAY ASSESS and to rule 15A NCAC 04C .0106 CRITERIA. At their May 12, 2020 meeting the Commission voted in agreement with the RRC's objections and repealed both rules.

In addition to the two rules recommended for repeal by the RRC, the Commission repealed 11 other rules including: 15A NCAC 04C .0108 REQUESTS FOR ADMINISTRATIVE HEARING, 04C .0110 ADMINISTRATIVE HEARING, 04C .0111 FURTHER REMEDIES, 04D .0102 MODEL ORDINANCE, 04E .0101 GENERAL PURPOSE, 0.4E .0102 DEFINITIONS, 04E .0203 DISPOSITION OF PETITIONS, 04E .0403 WRITTEN SUBMISSIONS, 04E .0405 STATEMENT OF REASONS FOR DECISION, 04E .0406 RECORD OF PROCEEDINGS 04E, .0504 RECORD OF DECISION. Most of the repeals recommended by the staff of the Rule Review Commission were because of changes in Statutes making them obsolete.

Many of the modifications to the rules were administrative in nature or to provide clarity for the understanding of the rule requirements. According to the Regulatory Impact Analysis completed for the proposed

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The North Carolina Sedimentation Control Commission

The Sedimentation Control Commission (SCC) was created to administer the Sedimentation Control Program pursuant to the NC Sedimentation Pollution Control Act of 1973 (SPCA). It is charged with adopting rules, setting standards, and providing guidance for the implementation of the Act. The composition of the Commission is set by statute to encompass a broad range of perspectives and expertise in areas related to construction, industry, government, and natural resource conservation and quality. All members are appointed by the Governor and serve three-year terms, except for the Director of the Water Resources Research Institute of the University of North Carolina, who serves as long as they remain Director. The chairman of the SCC is named by the Governor.

Chair:
Dr. Susan White
Water Resources Research Institute

Commissioners:
Ms. Susan Foster
NC Home Builders Association

Ms. Marion Deerhake
NC Environmental Management Commission

Mr. Jonathan K. Bivens
Associated General Contractors

Mr. Michael D. Willis
NC Soil and Water Conservation Commission

Ms. Natalie J. Berry
NC League of Municipalities & Association of County Commissioners

Dr. Rich McLaughlin
NCSU, Dept. of Soil Science

Mr. Mark A. Taylor
Professional Engineers of NC

Mr. Hartwell E. Carson
Non-governmental Conservation

Ms. Heather Jacobs Deck
Non-governmental Conservation

Ms. LeToya F. Ogallo
NC Public Utilities

Mr. Robert Jason Conner
NC Mining Commission

NC Sedimentation Control Commission: February Actions

At its meeting on February 20, 2020 the NC Sedimentation Control Commission (SCC) took the following actions:

Internal Operating Procedures for the Commission

Voted to approve internal operating procedures for the Commission. These can be found online at: https://deq.nc.gov/about/divisions/energy-mineral-land-resources/sedimentation-control-commission

Delegations of Authority and Guidelines for Remissions

The Commission voted to adopt the following guidelines and delegation of authorities:

- Adopted remission guidelines for the DEMLR
- Adopted remission guidelines for local programs.
- Adopted delegation of authority for the DEMLR to act on behalf of the Commission to resolve remission requests made from penalty assessments.
- Adopted delegation of authority for local programs to act on behalf of the Commission to resolve remission requests made from penalty assessments.

Durham City/County Ordinance Reviews

Voted to approve ordinance contingent upon Durham making the modifications discussed at the meeting.

Delegated Local Programs

- County of Wake: Voted to continue delegation authority.
- County of New Hanover: Voted to continue delegation authority.
- County of Guilford: Voted to place on probation for nine months with a status report to be provided at the Nov. 5 2020 meeting.

Standing Committee Members

Erosion and sedimentation control plan review committee members:

- Ms. Susan Foster
- Dr. Rich McLaughlin
- Mr. Jason Conner
- Chairperson: Ms. Foster
- Vice-chairperson: Dr. McLaughlin

Civil penalty remissions committee members:

- Ms. Marion Deerhake
- Ms. LaToya Ogallo
- Mr. Mark Taylor
- Chairperson: Ms. Deerhake
- Vice-chair: Ms. Ogallo
- [*Dr. Susan White (ex-officio)]

NC Sedimentation Control Commission: May Actions

At its meeting on May 12, 2020 the NC Sedimentation Control Commission (SCC) took the following actions:

Sediment Control Rules Adoption

Voted to adopt the Rules Review Commission's recommendation that the rules 15A NCAC .0103and .0106 be repealed.

Delegated Local Programs

- City of Asheville: Voted to continue delegation authority.
- County of Orange: Voted to continue delegation authority.

(continued on page 3)

NC Sedimentation Control Commission: May Actions

(continued from page 2)

Memorandum of Agreement Template

Voted to approve the changes proposed by DEMLR staff with the one revision that continued notification by local programs to the DEMLR regional offices of issuance of Notices of Violation.

North Carolina Environmental Management Commission Members Liaison to River Basins

By Marion Deerhake, EMC, SCC

North Carolina Environmental Management Commission Members Liaison to River Basins

Our State is comprised of 17 major river basins which host unique natural resources that are often intimately connected to small streams, rivers, and coastal estuaries. Each river basin requires its own basin-specific water resources plan to describe surface and groundwater supply needs, the protection of aquatic life, wastewater discharge, public health, and recreational interest. North Carolina has been a national leader for decades in managing water quality and quantity on a holistic, basinwide scale. The North Carolina Department of Environmental Quality's Basinwide Planning Program's mission is "to ensure that the waters of North Carolina are protected, developed, maintained and managed in a sustainable manner for the benefit of all water users".

The North Carolina Environmental Management Commission (comprised of 15 volunteer members appointed by the Governor, House Speaker, or Senate President Pro Tempore) is responsible for "adopting rules for the protection, preservation, and enhancement of the state's air and water resources". The Commission reviews, comments on, and approves each of the 17 river basins' management plans periodically. In 2017, sitting EMC Chairman J.D. Solomon encouraged each Commissioner to volunteer to serve as a liaison for one or more of the 17 river basins. The purpose of the liaison initiative is to enable one Commissioner to become especially knowledgeable about a basin, so that when an EMC action such as policy, regulation, or compliance-related decision-making arises, he or she can provide other Commissioners with a more in depth, contextual perspective about the basin. Also, while any and all EMC members can choose to visit any of the 17 basins, the EMC member liaisons initiative presents the opportunity for one of the members to visit the basin to see firsthand water quality projects such as stream restorations. The liaison can be available to meet with stakeholders and also get acquainted with DEQ regional staff to learn more about the issues they consider important to protecting and managing the basin's natural resources such as reducing water quality impacts due to sedimentation and erosion.

Current EMC Chairman Dr. Stan Meiburg recently enthusiastically expressed his support for continuation of the EMC's river basin liaison initiative, and he announced Commissioners' liaison assignments which can be found at https://files.nc.gov/ncdeq/Environmental%20Management%20Commission/EMC%20Meetings/2020/march2020/BPB-Schedule-Final-March1-2020-EMC-Version.pdf

Highlighting the DEMLR Director

Brian Wrenn accepted the position of Acting Director of the Division of Energy, Minerals and Land Resources, effective February 1, 2020. Brian is a native North Carolinian with over 26 years of experience in environmental work including 18 years with the NC Division of Water Resources (DWR). He has significant experience with many water quality programs including CAFO inspections, spray irrigation and land application inspections, 401 water quality certifications and buffer authorizations, and NPDES permitting. Brian also has eight years of experience with stormwater and erosion control inspection programs. Prior to assuming the Director's position Brian supervised DWR's Ecosystems Branch coordinating programs such as algal and aquatic plants, state-wide ambient monitoring system, water quality monitoring coalitions, statistical water quality analysis, quality assurance, wetlands program development, and numeric nutrient criteria development.

LQS's Education Packets are Available Online

Packets for Professionals :

Designer Sediment Info Packet

Inspector Sediment Info Packet

Planner Sediment Info Packet

Packets for Students & Teachers :

Student/Teacher Info Packets

Erosion Patrol - 3rd Grade

Where is All Our Soil Going? - Middle School

https://deq.nc.gov/E&SCedu

Changes to the NC Administrative Code Title 15A Chapter 4: Sedimentation Control

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changes the impact would have only minor, if any, effect on the operation of the state or delegated sediment control programs. A summary of noteworthy changes of the rules follows:

15A NCAC 04B .0106 BASIC EROSION AND SEDIMENTATION CONTROL PLAN OBJECTIVES
Elaborated on who can limit the time of exposure. Specified that plans shall be designed to manage storm water runoff within the project boundary as well as at the point of discharge.

15A NCAC 04B .0107 MANDATORY STANDARDS FOR LAND-DISTURBING ACTIVITY
The "15 working day" was repealed and it was clarified that the "90 calendar days" applied only to "permanent" ground cover. Reference to the 7 or 14-day temporary ground cover requirement in the NCG01 permit was added since they would take precedence over the 15-day provision.

15A NCAC 04B .0108 DESIGN AND PERFORMANCE STANDARD
Allows for methodologies equivalent to NRCS's National Engineering Handbook 360 to be used when planning and designing erosion and sediment control measures, structures, and devices.

15A NCAC 04B .0118 APPROVAL OF PLANS
Filing requirement of three copies repealed and specified that a paper copy is to be kept on file at the job site. The option to approve a plan with performance reservations was repealed.

Note: To determine specific plan filing requirements contact the approving authority that you are submitting the plan to.

15A NCAC 04B .0120 INSPECTIONS AND INVESTIGATIONS
Expanded that written statements that may be required include NOVs, Stop Work Orders or the filing of reports under oath, such as self-inspection and design reports. Specified that when a preconstruction conference is proposed, that it must be included on the plan.

15A NCAC 04B .0124 DESIGN STANDARDS IN SENSITIVE WATERSHEDS
Provided specific conditions for an applicant to meet under which the Director will consider when applying to uncovered areas of disturbance larger than 20 acres within HQW zones. The provisions for requiring basin sizing based on settling the "70% of the 40-micron particle" in HQW zones was replaced by specific sizing and design criteria. Sediment basin design criteria is now similar to that included within the E&SC Planning & Design Manual. Also allows for alternative basin designs or control measures to be used upon written request and documentation by the applicant. Sub-item (e) ground cover rule of "15 working days or 60 calendar days" was removed since the mandatory groundcover standards apply to work within HQW zones.

15A NCAC 04B .0127 CERTIFICATE OF PLAN APPROVAL
Certificate of approval can now be issued electronically. Documentation of the approval can now be posted at either the primary entrance of the job site or at another location that is observable to the public and inspectors.

15A NCAC 04B .0131 SELF-INSPECTIONS
Entirely re-written for clarity. Phases of the plan were re-defined and what constitutes significant deviations was clarified. Requires weekly and rain-event inspections under the NCG01permit. Documentation of inspections has been clarified as to what is to be measured, and what is considered to be visual-only inspections. Significant deviations from the plan which will enhance the performance of the measure are allowed.

15A NCAC 04E .0201 FORM AND CONTENT OF PETITION (formerly PETITION FOR RULEMAKING HEARINGS)
Entirely re-written. Specifies what shall and may be included within a petitioner's request.

15A NCAC 04E .0502 PROCEDURE FOR REQUESTING DECLARATORY RULINGS (formerly SUBMISSION OF REQUEST FOR RULING)
The requirements set forth for requesting declaratory rulings were expanded.

15A NCAC 04E .0503 DISPOSITION OF REQUEST(S)
Outlines the roles and responsibilities of the Commission, Department and parties requesting a declaratory ruling. Refers to newer requirements under G.S. 150B.

The sediment control rules as they are now in effect can be found at:

http://reports.oah.state.nc.us/ncac.asp?folderName=\Title%2015A%20-%20Environmental%20Quality\Chapter%2004%20-%20Sedimentation%20Control

A Long History of Erosion

By Dr. Rich McLaughlin, NCSU, SCC

There have been many papers and books written about the long, sad history of how humans have negatively impacted the natural environment. This is especially true when we consider our soil resources. It seems that for millennia we have considered soil an inexhaustible resource and allowed vast amounts of it to wash or blow away. According to some, this has actually brought about the downfall of whole civilizations. David Montgomery wrote a book, Dirt: The Erosion of Civilizations, in which he strongly argued that soil erosion was the key factor in the downfall of many societies from Greece to Rome and even on Easter Island. The Mayans noticed that land newly cleared for cultivation eroded down to bedrock in just a decade. Rome was served by the Tiber River port of Ostia, where much of its grain was brought in from Egypt. The Tiber was so full of sediment eroded from farm land that now the original Ostia is four miles from the coast.

How about in North America? Native Americans cultivated crops for thousands of years before the Europeans arrived, creating population centers that disappeared several centuries before the Europeans. While there is evidence that sediment in streams increased during that period, it is not clear if soil erosion and the resulting crop production decline was a factor in the disappearance of these population centers. Once Europeans arrived with their plows and row-crop agriculture, there is ample evidence that soil erosion rates skyrocketed. The following is an account of this impact published in 1945 by L. C. Gottschalk, describing the effects on the Chesapeake Bay. In 1634, the Potomac River was described as "the sweetest and greatest river," with mature woods and no swamps, and a foot of "black mould" soil above a reddish subsoil. As Europe's desire for tobacco increased, ports sprouted up all along the Chesapeake to export the crop and even large ships could navigate far up rivers. Crop production expanded farther up into the Piedmont, typically by growing crops for a few years on newly cleared land before abandoning them due to erosion and loss of productivity. The eroded soil ended up in the streams and rivers and the ports found themselves far from navigable water as their harbors filled in. Only Baltimore remains a port today, and substantial dredging is needed still to keep it open. George Washington and others recognized that the soil filling up their creeks and rivers was topsoil and valuable enough to dredge it and add it to their fields. Others have pointed out that the legacy of this period is large deposits of sediment in our valleys that are evident in most Piedmont stream banks. These banks are often unstable with steep sides, and if you look carefully you can see many feet of reddish brown soil deposited on top of the original, darker soil. The soil eroded from the Piedmont farm fields settled behind the mill dams which were built up and down most streams but have since mostly washed away, leaving deep deposits of sediment.

Around the start of the 20th century, people began to think more about soil conservation on farms. Hugh Hammond Bennett from Stanly County, North Carolina, famously testified before congress during the Dust Bowl times, and, after pointing out the cloud of soil arriving in Washington from the wind-swept Plains states, secured funding for the creation of the Soil Conservation Service. Many soil conservation practices were and continue to be developed to greatly reduce soil losses associated with agriculture. In the southern Piedmont and Blue Ridge region, erosion rates before those efforts have been estimated to have been 100X the natural rate, but have since fallen to much lower levels (Reusser et al., 2015). However, just as the conservation efforts were beginning to reign in erosion on farms, another source of sediment was beginning to be evident as people moved from farms to the cities: land disturbance associated with development. That will be discussed in a future article.

References

Montgomery, D. R. 2012. Dirt: The Erosion of Civilization. Univ. of California Press, Berkley and Los Angeles, CA, USA.

Gottschalk, L. C. 1945. Effects of Soil Erosion on Navigation in Upper Chesapeake Bay. Geographical Review, Vol. 35 (2): 219-238.

Reusser, L., P. Bierman, and D. Rood. 2015. Quantifying human impacts on rates of erosion and sediment transport at a landscape scale. Geology 43 (2): 171-174.

Dotterweich, M. 2013. The history of human-induced soil erosion: Geomorphic legacies, early descriptions and research, and the development of soil conservation—A global synopsis. Geomorphology 201 (2013) 1–34. http://dx.doi.org/10.1016/j.geomorph.2013.07.021.

Record Attendees in Raleigh for International Erosion Control Association (IECA) Conference

By Ted Sherrod, PE, CPESC, CPSWQ, CPMSM
IECA Southeast Chapter, North Carolina Representative

Approximately 1500 engineers, scientists, regulators, contractors, vendors, and construction stormwater practitioners attended the IECA Annual Conference at the Raleigh Downtown Convention Center February 23-26. Feedback from attendees "makes this one of the best events yet" over the three-decade history of the organization. Preconference and field tours participation was at an all time high. Folks from North Carolina rolled out the red carpet for colleagues and visitors from across the nation and world for this international event!

The Southeast IECA chapter served as host. The chapter is comprised of approximately 300 members from NC, SC, TN, KY, GA, FL, AL, and MS. Several chapter scholarships were awarded this year to students and professionals to assist them in presenting posters and papers and attending the annual conference. A chapter social was held at "The Pit" with standing room only attendance and great networking opportunities. All photography during the conference was provided by NCDEQ colleagues.

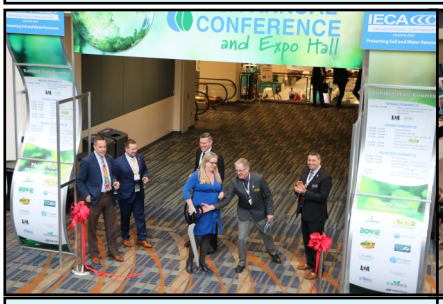
IECA recognized several Industry Leaders during the awards session. Dr. Rich McLaughlin's NCSU Erosion, Sediment, and Turbidity Control Program received IECA's most prestigious award for environmental excellence. Three additional awards were presented to Southeast Chapter members from Alabama.

The Expo Hall was also a big hit! Over 140 exhibitors filled the floor space with industry products and solutions and included an IECA Learning Lab, a Contractor's Corner, and a Rainfall Simulator demonstrating management practices to improve infiltration and detention. The Expo Hall closing event featured "Taste of Raleigh" with southern food specialties.

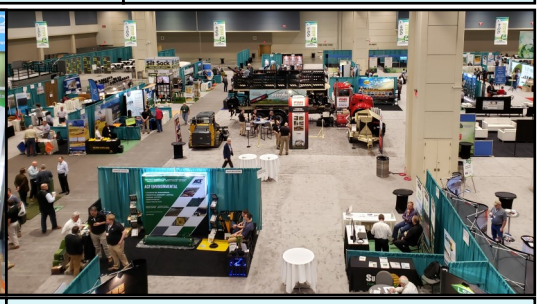
Much appreciation to all the North Carolina professional who participated in this event. The 2021 IECA Annual Conference is planned for February 21-24 in Kansas City, Missouri.

Opening Keynote with Dr. Kevin Snyder

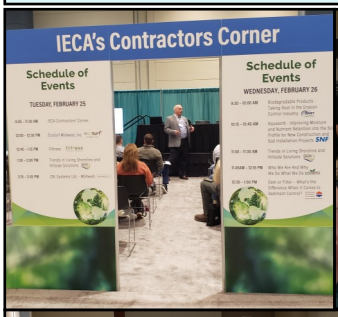
Awards Luncheon



Opening of the Expo Hall



Expo Hall Floor



The conference hosted a variety of presentations, from traditional technical sessions, vendor showcases, to hands on presentations and panel discussions. Many of the speakers were professionals from NC, representing the state, local and private sectors. These pictures are only a small snapshot of what was offered at this year's conference.

2020 North Carolina E&SC Workshops Update

Due to the impacts of Covid-19 the following in-person E&SC workshops in NC have been cancelled, postponed, or moved to an online medium.

2020 Annual Local Programs Workshop and Awards Luncheon

About the workshop:
This event is specifically for the local government programs that have delegated erosion and sediment control programs; registration and workshop information will be sent directly to these programs.

Workshop status:
This workshop has been postponed, make-up date of the workshop is to-be-determined.

2020 Design Workshop

About the workshop:
This workshop is meant to educate and familiarize design professionals, contractors, and developers with new erosion and sediment control requirements and practices, and also fulfills professional development hours. Currently, this workshop is presented by NC DEQ – Land Quality Section in partnership with the Southeast Chapter of the International Erosion Control Association and NCSU Department of Crop & Soil Sciences.

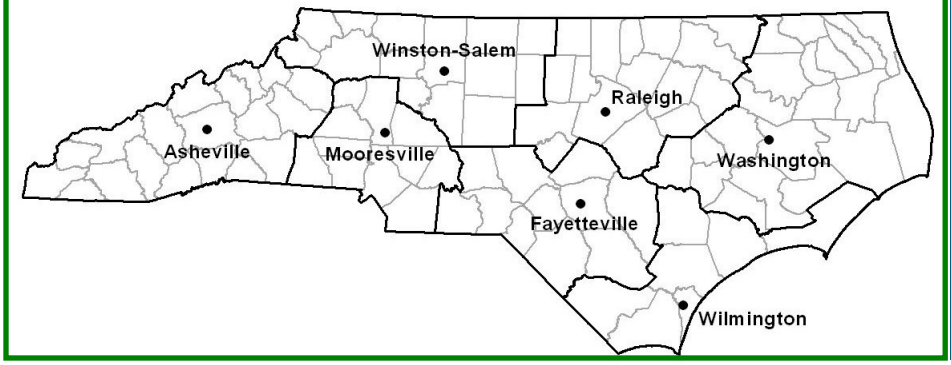
Workshop Status:
The in-person workshops originally scheduled for October 1 in Hickory and December 3 in Raleigh have been canceled. In its place, a series of free one hour weekly webinars is being planned and will run from the beginning of October through mid December. More information will be posted to the workshop's event page as it becomes available: https://events.reporter.ncsu.edu/innovative-erosion-and-sediment-control-design-workshop/

Who Do I Call?

If you have questions or concerns related to erosion and sedimentation control or off-site sedimentation from construction in NC contact the appropriate local program, regional office, our central office or the toll-free hotline.

Local program information:
https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/local-government-programs

Toll-Free Hotline:
1-866-STOPMUD



Personnel of the Land Quality Section of the NC Department of Environmental Quality provide information and assistance for the implementation of the NC Erosion and Sedimentation Control Program. For assistance, please contact the appropriate Regional Office or the Raleigh headquarters listed below:

Asheville Regional Office
Phone: (828) 296-4500

Regional Engineer:
Stanley Aiken

Fayetteville Regional Office
Phone: (910) 433-3300

Regional Engineer:
Tim LaBounty

Mooresville Regional Office
Phone: (704) 663-1699

Regional Engineer:
Zahid Khan

Raleigh Regional Office
Phone: (919) 791-4200

Regional Engineer:
Bill Denton

Washington Regional Office
Phone: (252) 946-6481

Regional Engineer:
Samir Dumpor

Wilmington Regional Office
Phone: (910) 796-7215

Regional Engineer:
Dan Sams

Winston-Salem Regional Office
Phone: (336) 776-9800

Regional Engineer:
Tamera Eplin

Raleigh Central Office
Archdale Building
Phone: (919) 707-9220