



2022 HBCU INTERNSHIP PROJECTS

- 1. Geographic Information System (GIS):** This position is assigned to the Wilson Maintenance Yard in Wilson, N.C. The primary purpose of this position is to update GIS records. Responsible for project planning (RMIP, HMIP) and managing departmental budgets. Management Preference: currently attending an accredited Historically Black College or University or Minority Serving Institution. Use of GIS systems, spreadsheets, Civil Engineering, Construction Management.
- 2. Information Technology I:** This position is assigned to the NCDIT Transportation - DMV Systems - Traffic Records Systems Raleigh. The primary purpose of this position is to update GIS records. The internship candidate will be responsible for project planning (RMIP, HMIP) and managing departmental budgets. Management Preference: A graduate from an accredited Historically Black College or University or Minority Serving Institution. Use of GIS systems, spreadsheets, Civil Engineering, Construction Management.
- 3. Engineering Intern I:** This position is assigned to the district/resident engineer's office in Clinton, N.C. The primary purpose of this position is to assist with driveway, encroachment and subdivision plan review. The candidate will also assist with construction inspections including asphalt paving and bridge construction. Management Preference: Graduate from an accredited Historically Black College or University or Minority Serving Institution. Civil engineering majors with computer skills including MS Word and Excel.
- 4. Safety & Risk Management:** This position is assigned to the district and resident engineer's office in Raleigh, N.C. The primary purpose of this position is to create a draft of the annual 2023 safety calendar and planner. Possible trips to field sites to take photographs of safety focused items for inclusion in calendar and planner. Equipment Damage Claims- Prepare documents for attachment in SAP, enter claim information in SAP system, verify all required documents and forms are complete and upload to SAP. Surplus Property, scan and store disposal records to shared drive, Complete Data entry of items for disposal to DOA SSP data page and submit for approval. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Business Administration, Excel, Word, Publisher is a plus, (SAP not required but desirable). The candidate should be able to work independently on tasks after receiving instructions.
- 5. Engineering Intern II:** This position is assigned to the Division of Highways - Division 3 - Wilmington Resident Engineers Office in Wilmington, N.C. The primary purpose of this position is to perform contract inspection, review plans, contracts, environmental documents and participate in monthly meetings. The candidate will also participate in pay record book calculations and reviews and work on construction projects throughout multiple counties. Management Preference: Currently enrolled student in an associates, bachelors, or masters level program at an accredited institution for civil engineering, construction management, or other construction related majors at an accredited Historically Black College or University or Minority Serving Institution. A valid N.C. Class C driver's license and ability to operate a State Vehicle to navigate construction sites.



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- 6. Driver Services:** This position is assigned to the Department of Motor Vehicles in Rocky Mount, N.C. The primary purpose of this position is to create and work on the unit's communications plans project (internal and external communications, website and Contact Us), implement administrative programs, create and update, open and close reports, etc. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Advanced computer software that includes database programs, Microsoft Office applications and the ability to quickly adapt to internal systems.
- 7. License and Theft Bureau:** This position is assigned to the Department of Motor Vehicles in Rocky Mount, N.C. The intern will be assigned time within each of the major sections of the Bureau. During their time within the sections, they will obtain a working knowledge of the day-to-day operations, and either be assigned small projects or one large project depending on the needs of the Bureau at the time of the internship. Management Preference: Currently attending at an accredited Historically Black College or University or Minority Serving Institution. All majors are accepted: criminal justice, business administration or information technology preferred.
- 8. Integrated Mobility Division:** This position is assigned to the Integrated Mobility Division section of Public Transportation in Raleigh. The primary purpose of this position is to assist with an annual survey of innovative transportation technology and mobility pilots. This project will involve: 1) developing and updating a contact list, 2) designing and building a survey questionnaire in Smartsheet, 3) deploying the survey questionnaire and monitoring responses, 4) summarizing and analyzing responses, 5) scheduling and conducting follow up semi-structured interviews, and 6) creating a synthesis document based on the survey and interview results. This internship will provide an opportunity for the intern to develop skills in research, data collection and analysis, information synthesis, verbal and written communication and software (Smartsheet). This internship will also expose the intern to the latest developments in innovative and emerging transportation technology. Management Preference: Currently attending at an accredited Historically Black College or University or Minority Serving Institution. Experience with Microsoft Office 365, including Excel, Word and PowerPoint; experience with or ability to learn Smartsheet; experience with basic data analysis (e.g., gathering, organizing, and summarizing data through reports or visualizations).
- 9. Transportation Management Systems and Operations (TSMO) Unit:** This position is assigned to the ITS & Signals Management Section in Raleigh, N.C. The primary purpose of this position is for the intern to attend meetings relative to ongoing ITS projects, field visits with engineers, ITS projects involving Dynamic Message Signs (DMSs) and CCTVs, writing technical documents, some introductory CADD work, preparing final plans for letting and reading ITS plans from various groups. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. A junior or senior level civil or electrical engineering major is preferred. Computer skills are necessary, such as Microsoft applications.
- 10. Roadway Design Unit:** This position is assigned to the Roadway Design Unit within the Division of Highways in Raleigh, N.C. The primary purpose of this position is for the



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intern to learn how roadway design plans are developed. The intern will gain that knowledge and will be given a small project where they will: develop design criteria using technical resources, learn roadway design concepts and clever design practices, and apply these as they use the Bentley software platform to generate the foundational plan set that other units use to develop their recommendations and designs. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Rising junior or senior, who has had some exposure to courses in civil engineering. Must have a willingness to learn, effective communication skills and show initiative.

- 11. Customer Compliance Services:** This position is staffed to the Department of Motor Vehicles (Rocky Mount, N.C.). The primary purpose of this position is to provide support to field hearings, process liability insurance verification documents, process correspondence to various external stakeholders, distribute mail to all units in CCS, answer phones in the unit call center. Management Preference: Current attendance at an accredited Historically Black College or University or Minority Serving Institution. MS Office knowledge, strong verbal & written communication skills, majoring in Business, Communications.
- 12. Engineering Intern III:** This position is assigned to the Division 4 -Smithfield Resident Engineer Division of Highways in Smithfield, N.C. The primary purpose of this position is to assist the assistant resident engineers with contract administration. Assist project inspectors with inspection and material testing and sampling. Performing surveying tasks. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Applicants should be pursuing a degree in one of the following: Civil Engineering, Environmental Science, or Construction Management. Work will occur outdoors with exposure to the elements.
- 13. Safety Department NCDOT Shipyard:** This position is staffed to the Ferry Division in Manns Harbor, N.C. The primary purpose of this position is conduct procedure development and review including Electrical Safety, Control of Hazardous Energy (LOTO) and Confined Space. Conduct safety inspections throughout shipyard departments. Assist and conduct OSHA compliance safety training. Participate in safety committee meetings. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Majors: Safety, Health, and Environmental Applied Sciences, safety sciences, occupational safety, and environmental health.
- 14. Office of General Counsel:** This position is assigned to the Office of General Counsel in Raleigh, N.C. The primary purpose of this position is to assist counsel on all subject matter areas by providing input on legal and strategic advice on the interpretation of applicable federal and state laws, regulations, and case law. Respond to public record law requests. Participate in contract negotiations and/or interpretation of internal policy and procedure. Advise the Secretary, Senior Staff, Human Resource Department, and employees on issues related to federal and state employment and labor laws. Perform traditional case law research, draft legal memorandum, review agreements, survey state



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law and research legislative history. Intern may attend meetings, hearings and mediations as needed. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Ability to perform legal research and writing, ability to read, analyze and apply statutes and case law; critical thinking; strong oral and written interpersonal communication skills; ability to work in a group and independently.

- 15. Roadside Environmental Unit:** This position is assigned to the Aesthetic Engineering Section in Raleigh, N.C. The primary purpose of this position is to create and update CAD Development, Quantity & Estimates, and Assets Management. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. CADD-Sketchup, Adobe Creative Suites.
- 16. Engineering Intern IV:** This position is assigned to the Division of Highways, District 2 in Nashville, N.C. The primary purpose of this position is to resurface data collection, DW and Encroachment permit inspection, Scanning Road Files, and Resurfacing package assembly. Management Preference: Currently attending at an accredited Historically Black College or University or Minority Serving Institution. GIS, Excel, MS Word. Civil Engineering, construction management or business majors.
- 17. Driver Services Central Issuance Quality Assurance/MIU:** This position is assigned to the Department of Motor Vehicles in Rocky Mount, N.C. The primary purpose of this position is to update Workflow, SOPS, and filing system, generating tracking sheet for RQ etc. Assist in creating training material and manual(s) for the department. Complete administrative duties such as filing, typing, copying, binding, scanning etc. Inventory management. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. All majors accepted. Skills include reporting, excellent written communication, and MS Office.
- 18. Engineering V:** This position is assigned to the Division 10/ Stanly and Mecklenburg Counties Division Engineer Division of Highways in Albemarle, N.C. The primary purpose of this position is to provide applicants an understanding of the inspection & engineering concepts of DOT projects via work with construction staff who will help interns gain an understanding of day-to-day operations of a DOT project. Management Preference: Current attendance at an accredited Historically Black College or University or Minority Serving Institution. Engineering Technician experience. Majoring in Civil Engineering.
- 19. Right of Way:** This position is staffed to the Division 12 Right of Way Section (Shelby, N.C.). The primary purpose of this position is to provide exposure to plan sets, inquiries from the public and general office assistance. The intern will accompany the agents to appointments and meetings to get an idea of how the plans and documents play into the entire picture of acquiring right of way for the project. The intern will learn the duties of a Right of Way agent by taking calls, filing NCDOT Highway project plans, and



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reviewing current files for accuracy of filing. Assisting right of way agents in preparing documents of conveyance for claims on projects, participate in meetings on plans review (for exposure to the way right of way and NCDOT work), assist with maintaining calendars, agent schedules as well as helping with general office duties on a day-to-day basis. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. All majors accepted. Computer, analytical skills and effective verbal and written communication skills.

- 20. Traffic Engineer:** This position is staffed to the Highway Division 7 Traffic Section (Greensboro, N.C.). The primary purpose of this position is to work on Cost Estimates, Traffic Counts, Accident Analysis, CADD programs, site visits, roadway analysis. The Intern will learn how develop Traffic Engineering safety studies, put together cost estimates for projects, learn CADD from a NCDOT perspective, and learn about Traffic Signals. Management Preference: Current attendance at an accredited Historically Black College or University or Minority Serving Institution. All majors accepted. Positive attitude, curiosity, and a willingness to learn.
- 21. Inspector:** This position is staffed to the Highway Division 4, District 1 (Halifax, N.C.). The primary purpose of this position is to aid engineers in highway and bridge inspections. Management Preference: Current attendance at an accredited Historically Black College or University or Minority Serving Institution. All majors accepted. Positive attitude, curiosity, and a willingness to learn and work outdoors.
- 22. Inspector II:** This position is staffed to the Highway Division 13, District 1 + District 2 Engineer's office in Asheville, N.C. The primary purpose of this position is to provide the intern an opportunity to shadow unit head and learn (hands on) how to complete necessary tasks (testing, sampling, inspection, etc.). Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. All majors accepted. Positive attitude, curiosity and a willingness to learn.
- 23. Information Technology II (STARS):** This position is assigned to NCDIT-Transportation State Titling and Registration System (STARS) Raleigh, N.C. The primary purpose of this position is for the intern to develop project management skills, be introduced COBOL and DB2 from a business perspective. Management Preference: Current attendance at an accredited Historically Black College or University or Minority Serving Institution. Programming skills (Computer Science, information technology or Engineering Majors).
- 24. Project Delivery:** This position is assigned to Highway Division 5, Project Delivery, Division Design Construction in Durham, N.C. The primary purpose of this position is for the intern to assist the DDC surveyor by scanning road maps to be uploaded onto SharePoint. They will also help the surveyors with field work, and right of way agents in locating right of way files. They will learn about survey file creation, survey data collection, right of way acquisition process, and roadway plan development process. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Basic computer skills, well organized, good technical background, and work well in small groups. Preferred majors: engineering, engineering technology, surveying, GIS, CADD and drafting.



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- 25. Photogrammetry:** This position is assigned to technical services branch, Photogrammetry in Raleigh. The primary purpose of this position is to develop an ArcGIS Database with the historic NCDOT Aerial Photography limits and NCDOT project mapping limits for the period 2013 through 2022. This process will include creating and tagging MicroStation design files that show boundary limits for the historic data using ImageStation Photogrammetric Manager (ISPM) project files and Bentley GeoPak software. The project also includes helping with development of the ArcGIS Feature classes and the future maintenance workflow for this database. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Geomatics major (NC A&T) or graduate student (NC Central) with ArcGIS experience.
- 26. Materials and Tests:** This position is assigned to the Materials and Tests Unit, Manufactured Products Group in Raleigh, N.C. The Materials and Tests Unit installs monitoring boxes into each wall that are used to annually monitor the corrosion potential of the reinforcing steel to ensure the stability of the walls. The primary purpose of this position is for the intern to participate in the annual survey of MSE walls, enhance their knowledge of electrochemical corrosion, precast concrete design, inspection, and construction, geotechnical engineering, statistical analysis, team building, policy development, and standards/procedures writing. Once the intern understands the process and data acquired during the survey, he/she will perform a statistical analysis of the database; participate in discussions and make recommendations for a revision to the monitoring program. It is anticipated that the intern will perform the actual editing of the document under the direction of the Manufactured Products Engineer. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Computer Skills, specifically Microsoft Office (Word/Excel/Outlook). Preferred majors: Statistical Analysis/Math, Technical Writing/Public Speaking/Interpersonal Communications, Chemistry, Chemical Engineering, Civil Engineering, Geotechnical Engineering.
- 27. Geographic Information Systems (GIS) – Rail:** This is assigned to the Rail Division's Inventory & Data Analysis Unit in Raleigh. The primary purpose of this position is work with a range of Geographic Information Systems (GIS) technologies to develop, analyze, and report on geographic data for the rail division. Gain experience creating mapping products. Assist in conducting supervised quality control/assurance on data including automated data integrity operations. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Working knowledge of methods, standards, & techniques regarding Cartography, ArcGIS, and MS Office suite (Word, Excel, PowerPoint). Freight and Logistics, Systems Engineering, Civil/Transportation Engineering, Industrial Engineering, or GIS Certificate/degree program.
- 28. Project Development Engineer VI:** This position is assigned to the Highway Division 6, Project Development, Construction and Maintenance Unit in Fayetteville, N.C. The primary purpose of this position is for the interns to participate in daily activities associated with project development (project development/design), construction (project inspection/management) and maintenance operations (system management and planning).



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Management Preference: Current attendance at an accredited Historically Black College or University or Minority Serving Institution. Civil engineering technology, civil engineering, or construction management programs.

- 29. Engineer VII – Corridor Development:** This position is assigned to Highway Division 10, Corridor Development Engineering in Charlotte, N.C. The primary purpose of this position is to work with Study Project Prioritization (SPOT) Programming and State Transportation Improvement Plan (STIP) maintenance. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. All majors accepted. Traffic / Crash / ADT Study would be helpful, but not required. Positive attitude, curiosity, and a willingness to learn.
- 30. Value Management:** This position is assigned to Division of Highways, Construction Unit, Value Management Section in Raleigh, N.C. Highway Division 10, Corridor Development Engineering in Charlotte, N.C. The primary purpose of this position is to assist in creating/compiling annual training for Value Management programs, assist with additional programs as needed to include the CLEAR program, assisting the set-up of Value Engineer (VE) Studies, helping manage VE Proposals, etc. The intern would be expected to hone skills in program management, presenting key information to various audiences, developing worksheets to track work/project processes, and general problem-solving skills as we look for creative ideas to manage a diverse set of programs and projects. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Microsoft Office Suite: displays confidence and willingness in learning innovative programs and skills rapidly and is outgoing. An intern that has previous experience in training, developing graphics, and presentation building would be helpful as well.
- 31. Structures Management:** This position is assigned to Division of Highways, Structures Management Unit. The primary purpose of this position is to review designs, calculations, plans, and construction practices submitted by contractors or fabricators for compliance with the contract plans, standard specifications, project special provisions, and various national specifications including, but not limited to: AASHTO Bridge Design and Construction Specifications, AISC, ACI, PCI, ASTM, and NDS. Evaluates existing bridges and culverts on the state highway system to determine their ability to safely carry overweight vehicles. These tasks are at a beginner level of difficulty. Management Preference: Currently attending an accredited Historically Black College or University or Minority Serving Institution. Civil Engineering majors preferred. Basic level of knowledge and proficiency in structure analysis and design.
- 32. Hydraulics Unit:** This position is assigned to the Division of Highways, Hydraulics Unit in Raleigh, N.C. The primary purpose of this position is to participate in projects that are assigned within the Hydraulics Unit. The responsibilities of the job will include research related to hydraulic services and devices; website development; data analysis; GIS data analysis; training module development; storyboard creation; data collection, both physical (in the field) and online; report geo-referencing and archiving; multi-discipline collaboration; minor project design; site visits; online tool development; peer exchange; video production, public outreach, and communications. Management Preference:



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Currently attending an accredited Historically Black College or University or Minority Serving Institution. The hydraulics unit provides hydrologic and hydraulic design recommendations and expertise to all DOT personnel for surface drainage and stormwater quality matters that are required for the development of the department's multimodal projects during the stages of planning, design, permitting, construction, and maintenance. The unit also manages two statewide Federal compliance programs: National Pollutant Discharge Elimination System (NPDES) and National Flood Insurance Program (NFIP).