



Town of Southern Shores Planning and Design Services For Juniper/Trinitie Trail Bridge Replacement Statement of Qualifications



November 4, 2022

TGS Engineers
706 Hillsborough Street, Suite 200
Raleigh, North Carolina 27603



November 4, 2022

Town Clerk
Town of Southern Shores
5375 N. Virginia Dare Trail
Southern Shores, NC 27949
Electronic version to skane@southernshores-nc.gov

RE: Planning and Design Services for the Juniper/Trinitie Trail Bridge Replacement Project

Chapter 1 – INTRODUCTION

Dear Ms. Kane:

TGS Engineers (Thompson Gordon Shook Engineers, Inc.) is very interested in providing the requested services outlined in the recent advertisement for the project listed above. TGS Engineers (TGS) has been providing professional engineering services to municipalities and NCDOT since our founding in 1978.

TGS is owned and operated by North Carolina Registered Professional Engineers and Surveyors and is properly registered with the North Carolina Board of Examiners for Engineers and Land Surveyors [License Number C-0275]. TGS Engineers is properly registered as a corporation with the North Carolina Secretary of State's Office. Our accounting system is audited annually and found to be adequate for identifying contract chargeable costs.

TGS is a North Carolina firm with extensive structure design, bridge inspection and bridge replacement planning and design experience with more than 44 years of significant and complex projects. TGS is among the oldest top ten firms headquartered in North Carolina that is totally dedicated to the planning and design of transportation facilities. TGS Engineers is currently on register with the NCDOT, most recently dated May 19, 2022.

The TGS team members are all located within North Carolina and have the flexibility to be deployed across the state. This Statement of Qualifications outlines our capabilities, team structure and experience with similar projects.

TGS Engineers does not have any interests that could in any way be construed as a conflict of interest for any assignment received under this contract. To the best of my knowledge, there are no relationships, familial or otherwise, that could be construed as a conflict in project selection or negotiations.

I will serve as the local point of contact and can be reached via araynor@tgsengineers.com or 919.773.8887 ext. 115 or 706 Hillsborough Street, Suite 200, Raleigh, North Carolina 27603.

We sincerely appreciate your consideration of TGS Engineers for this contract.

Warmest Regards,

Robert A. (Allen) Raynor, Jr., PE, MBA
Vice President | Office Manager
919.773.8887 ext. 115
araynor@tgsengineers.com

PHONE (919) 773-8887 FAX (919) 773-8839

706 Hillsborough St.
SUITE 200
Raleigh, NC 27603

TGS Engineers

A: Biographical Information

Thank you for considering TGS Engineers for this bridge replacement project. TGS has provided outstanding bridge engineering design services to many municipalities across the state as well as to NCDOT, Norfolk Southern Railroad and private clients for more than four (4) decades. Our dedication to our clients and our diligence in design, schedule and budget management is proven by the repeat business we have achieved. With over 44 years of transportation projects in our portfolio, we believe we are expertly suited for this project. It is our intent to showcase the best of the similar projects and our veteran team of experts in this response.

Our team of structural engineers with decades of experience will provide the Town with the ideal solution, complete construction drawings and documents as well as a final cost estimates.

Office Locations

Headquarters – Raleigh – 706 Hillsborough Street, Suite 200, Raleigh, NC 27603 – 919.773.8887

Branches:

Shelby – 201 W. Marion Street, Suite 200, Shelby, NC 28150 – 704.476.0003

Morganton – 107-A Mica Avenue, Morganton, NC 28655 – 828.437.4681

Year Founded:

1978

Principal Officers:

Leonard Fletcher, PE, PLS - 46 years of experience
NC PE #011279; NC PLS #L-2974

Jeff Brittain, PE - 33 years of experience
NC PE #020116

- **Structure Design & Inspection**
- **Multi-Modal Transportation Planning & Design**
- **Project Development**
- **Feasibility Studies**
- **Environmental Compliance & Assessments**
- **Water Resources/Hydraulic Engineering**
- **Site Development/Infrastructure**
- **Rail Engineering**
- **Surveys & Subsurface Utility Engineering**
- **Construction Engineering & Inspection**
- **Cost Estimating**

Headquarters:

Raleigh, NC

Areas of Specialization:

Bridge Design & Inspection

Roadway Design

Multi-Use Path Design

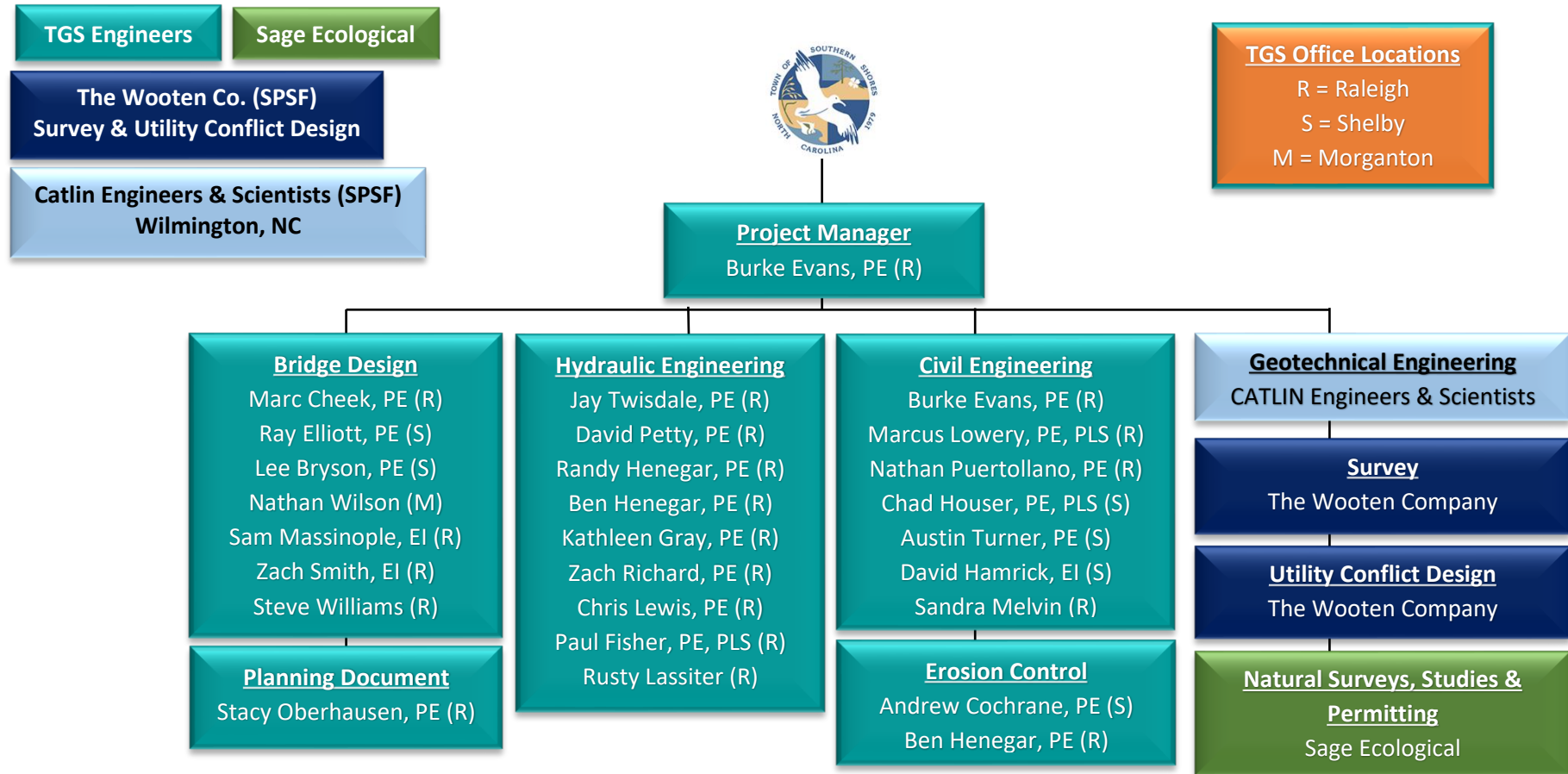
Our **experienced team** of engineers and designers at TGS have performed on hundreds of multi-modal transportation projects across the state, are highly capable and have the capacity to assist the Town in meeting its goals. Our Raleigh staff is supported by team members in our Morganton and Shelby offices.



Our team is comprised of seasoned experts. Our experienced staff of engineering professionals include many **NCDOT retirees**: Jay Twisdale, PE (*Hydraulics*); Randy Henegar, PE (*Hydraulics*); Paul Fisher, PE, PLS (*Hydraulics*); Rusty Lassiter (*Hydraulics*); Marc Cheek, PE (*Structures*); Steve Williams (*Structures*); Dan Grissom, PE (*Construction Administration*); and, Stacy Oberhausen, PE (*Public Involvement/Environmental Documentation*).

Team Organization

This organizational chart, displayed by discipline, showcases the areas of specialty that each team member will provide on the City’s pedestrian bridge project.



B: Projects Within Last 10 Years

Similar Projects

The list of projects our team of talented professionals have designed over the last forty-four years is long, but we hope the following snapshot provides insight into recent relevant examples. TGS has been providing turnkey design services to NCDOT and numerous municipalities throughout North Carolina for more than four (4) decades.

- Emergency Express Design-Build Bridge Replacements in Caldwell and Alexander Counties
- Express Design-Build Bridge Replacement projects total more than one hundred (100) in the last ten (10) years
- **Cored Slab Bridge Replacements in the last five years total more than fifty (50)**
 - B-4607 – over Swift Creek in Pitt County – Design completed in 2022
 - B-5303 – over Island Creek in Duplin County – Design completed in 2020
 - B-4788 – over Johnson Mill Run in Pitt County – LET in 2018
 - B-4605 – over Chicod Creek in Pitt County – Design completed in 2020
 - B-4433 – over Durham Creek Tributary in Beaufort County – Design completed in 2019
 - B-4709 – over Branch Durham Creek in Beaufort County - Design complete in 2021
- Current projects include:
 - Three bridges in Northampton County – over Occoneechee Creek, Wiccacanee Swamp & Potescasi Creek
 - Two bridges in Wayne County – over Dam Creek and The Slough
 - B-5835 – over Elk River in Avery County
 - B-4603 – over Swift Creek in Pitt County
 - BP4.R013.1 – over Deep Creek in Halifax County



Bridge over Coweeta Creek in Macon County 2016-2017

This project involved the replacement of bridge #53 on SR 1119 (McClure Mill Road) over Coweeta Creek in the community of Otto, North Carolina. The original structure was a timber bridge that was washed out by heavy rains on December 24, 2015. TGS provided surveys, hydraulic design, roadway, and structure design on this fast-track project. The existing right of way was slightly increased, and the structure was replaced with a **cored slab bridge**. There were no utilities in conflict on this bridge. This \$1M bridge replacement project in a **residential community** was completed in 2019.

We invite you to reach out to Josh Deyton, Assistant Division Construction Engineer (was Division Bridge Manager at the time of this project), jbdeyton@ncdot.gov or 828.488.0902.



B-5988 - Bridge Replacement for the Town of Wadesboro

2019 – 2022

This bridge (#030316) is located on Burns Street over Lampley Creek in Anson County, North Carolina. A single span 55' long by 30' wide structure was proposed to replace an existing single span 25' long by 29' wide structure in Wadesboro. The replacement is necessary to improve on the existing structure that was built in 1973 that is no longer deemed sufficient. The grade will increase by approximately one foot to maintain low chord. The proposed bridge does not overtop in the base flood event per HEC-RAS model results and will satisfy a No Rise for floodplain management purposes.

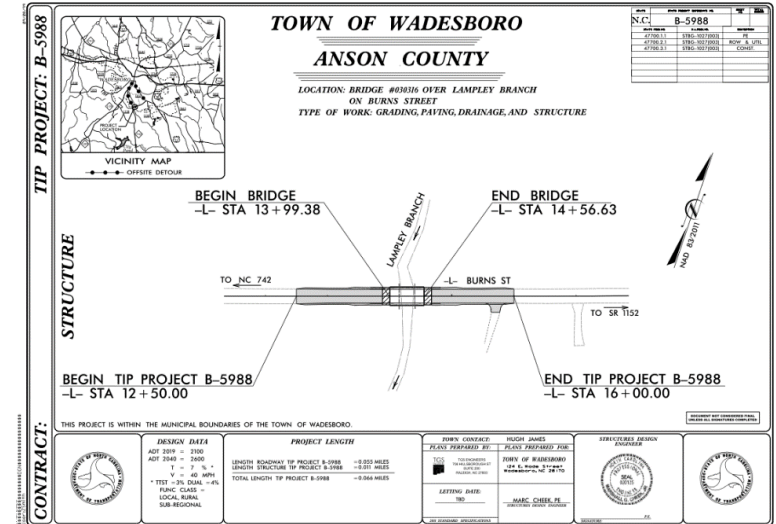
TGS provided hydraulic design engineering services for this project over a FEMA Limited Detailed studied stream. Performed HEC-RAS modeling and adjusted to successfully obtain a **No-Rise Certification**.

The TGS team provided turnkey planning and design services on this bridge replacement project included preparation of a Categorical Exclusion, surveys, natural resource surveys, roadway and structure design, hydraulic design, environmental permitting, traffic control plans and pavement design. Carolinas Geotechnical Group performed all geotechnical tasks. TGS staff members Jimmy Terry, PE, Marc Cheek PE, and David Petty, PE were all heavily involved in this project for roadway, structure, and hydraulic design, respectively.

Permitting on this project includes Nationwide Permit 3 and NC General Certifications 4132 without written notification. Agency coordination for this bridge replacement included USACE, NCDWR, Anson County Floodplain Administrator, Town of Wadesboro Floodplain Administrator, NCDOT, and NCDCR.

We invite you to reach out to Mr. Hugh James with the Town of Wadesboro.

Mr. Hugh James, Public Works Director
 Town of Wadesboro, 124 E. Wade Street, Wadesboro, NC 28170
towwaterplant@windstream.net or 704.694.5171



Bridge over French Broad River for Biltmore Farms in Buncombe County 2019 – 2022

The TGS Engineers team provided surveys, structural, roadway, geotechnical and hydraulic design, obtained permits, prepared the construction estimate for roadway approaches and a bridge on new location including a multi-use path over the French Broad River about 1,000 feet downstream of the Blue Ridge Parkway crossing.

There was extensive coordination with USACE, NCDENR, USFWS, and NCWRC. TGS prepared documents and drawings to successfully obtain 401/404 permits and a Biological Opinion from USFWS to satisfy the Endangered Species Act. TGS also managed the bid advertisement and is currently providing contract administration services. TGS has been on time and on budget with this project. Active staff members include Jimmy Terry, PE performed roadway approach design; Leonard Fletcher, PE, PLS and Ray Elliott, PE for structure design; John Thomas, PLS for surveys; and David Petty, PE on hydraulic modeling, design and permitting efforts.

FEMA modeling efforts were an important component. The French Broad River crossing involved fill in the floodway on a FEMA Detailed (Redelineated) studied stream. Upon due diligence with NC Floodplain Mapping, it was determined that a truncated Existing Conditions model would be created in HEC-RAS to extend up and down stream to cover the area of revision. Then a revised model was created to analyze the proposed bridge within the floodplain. Successful coordination and stakeholder input resulted in a design that ultimately avoided impacting any insurable structures in the floodplain. Applications were prepared and extensive coordination performed with NC Floodplain Mapping, Buncombe County Floodplain Administrator, Asheville Floodplain Administrator and FEMA to obtain a CLOMR as well as a County Floodplain Development Permit. A post construction LOMR will be required.

We invite you to reach out to Mr. Lee Thomason with Biltmore Farms.

*Mr. Lee Thomason, VP Commercial and Residential Development, Biltmore Farms, One Town Square Boulevard, Suite 330, Asheville, NC 28803
828.209.2000 or lthomason@biltmorefarms.com*



Emergency Express Design-Build Replacement of Bridge over Old Mill Pond 2017

On February 21, 2017, the North Carolina Department of Transportation opened bids for the **Emergency Replacement of Bridge #262 in Caldwell County**. The existing 400' bridge, built in 1949, had already been identified for repairs. The existing structure was built using timber piles and short spans to cross Old Mill Pond/Gunpowder Creek in the Town of Granite Falls. Over time, the timber piles decayed and deteriorated to the point of splitting and failure. In fact, the bridge was closed to traffic on October 4, 2016, while the Structures Management Unit worked with Inspections and local Bridge Maintenance staff to develop plans for the much-needed repairs. One impact of this closed, now collapsed, bridge was the six (6) plus mile detour that not only inconvenienced area residents but also increased volumes on two nearby major secondary routes. Obvious now that the bridge needed replacing versus repairing, the Department decided to deliver this project using the Design-Build method.

Setbacks did occur during this project. With limited ability to control the pond elevation, the construction efforts were flooded out several times making accessibility a challenge thus jeopardizing the schedule. This stream-fed pond filled up following some significant rain events, even with the open valve. Another challenge to overcome was the limited access to the bridge ends that occurred when the concrete was placed in the bridge deck. In order to accomplish that task, over 200 feet was pumped. Even with the largest concrete pumps available, the crews had to handle the extended pump lines by hand to reach the furthest points in the deck.

The final challenge, a big setback, came on October 23, 2017, when the area was hit by a tornado. There was extensive damage to the bridge deck overhang forming system. The crews quickly cleared the debris and rebuilt the forms to further limit the delays.



Despite the setbacks, the goal of opening the bridge to traffic prior to Christmas 2017 was met! The bridge was opened to vehicular traffic on December 22, 2017. This was a fast-track design project.

Mark Johnson was the Division Bridge Manager at the time of this project and Virginia Mabry was the Manager of Priority Projects. Both have retired.

Catlin Engineers and Scientists Relevant Projects

Geotechnical Investigations



B-4414 – Replace Bridge 43 over Pungo Creek, Beaufort, NC

Subsurface investigation and foundation design for proposed 150-foot, 3 span bridge over Pungo Creek in Beaufort County, NC. Project scope included: subsurface investigation, prepare a subsurface inventory report, selection of an appropriate and cost-effective foundation type, pile bearing capacity analysis, pile lateral stability analysis, pile drivability analysis and range of hammer energy, design scour for stream crossing, slope stability analysis, embankment settlement analysis, waiting period and settlement monitoring. The original investigation was completed in 2018, NCDOT asked for revised report for re-design in 2019. Contact: Tyler Bottoms, PG @ 252.439.2872 or tcbottoms@ncdot.gov.

B-4590 - Replace Bridge No. 29 over Smith Creek on SR 2812 / US 117 / NC 133, New Hanover County, NC

Bridge Subsurface Inventory Investigation and Foundation Design for a 275-foot three span bridge over Smith Creek. Field activities consisted of development of boring plans, boring layout, utility clearance coordination, two (2) SPT end bent borings 60 feet deep, two (2) SPT interior bent borings to 100 feet and two (2) SPT interior bent borings with core to 100 feet with 35 feet of rock coring for a total of 450 feet of SPT footage and 70 feet of core. CATLIN completed all field activities, geotechnical soil lab testing and prepared a scour memo, load request, Subsurface Bridge Inventory Report and Bridge Foundation Recommendations Report. Project completed in April 2018. Contact: Tyler Bottoms, PG @ 252.439.2872 or tcbottoms@ncdot.gov.



Wooten Company Relevant Projects

Utility Conflict Plans



NCDOT Project B-571—Rockingham County—Bridge 140 Replacement

The Wooten Company performed work for Mott MacDonald on this project. For the project, TWC performed Utility Coordination for conflicts due to Electric Distribution, Communications, Water, Sewer, and Gas. This project also involved Historic Property and a recreational area beside the Dan River. Completion Status: Ongoing. NCDOT contact for this project: Tim Powers, PE, NCDOT Division 7 Bridge Program Manager @ 336.487.0000 or tpowers@ncdot.gov.

NCDOT Project BP2.R024—Craven County—Bridge 160 Replacement

For this project, The Wooten Company will be performing Utility Coordination for a bridge replacement with conflicts due to Electric Distribution, Phone, CATV, Gas, Water and a Vacuum Sewer line attached to existing bridge. Completion Status: Ongoing. NCDOT contact for this project: Michael Aman, PE, NCDOT Division 2 Bridge Program Manager @ 252.439.2812 or mcaman@ncdot.gov.

Surveys

Middlesex Corporate Centre Infrastructure

The Wooten Company assisted with the funding acquisition and prepared the necessary preliminary study. The County selected The Wooten Company to design water, sewer, and roadway infrastructure needed to not only serve the new shell building but also for future tenants. This included topographic survey of approximately 9,500 linear feet and one acre for an elevated tank. The contact for this project is Jonathan Boone, PE, Public Utilities Director @ 252.462.2436 or Jonathan.boone@nashcountync.gov

C: Team Experience

Professional Staff

The TGS team includes more than 100 professionals located in North Carolina. By partnering with our proposed subconsultants it is our belief that this team is strongly suited for this project. The following resumes of our key team personnel highlight relevant experience.



Burke Evans, PE – Project Manager | Design Engineer

TGS Engineers

Raleigh, NC

NC PE #019724

Experience: 32 years

Burke has more than 30 years of experience with engineering and planning projects, developing functional, right of way and construction bridge replacement and roadway plans. His expertise includes the design of rural and urban projects from widening secondary roads to major interchange/interstate design. His experience also includes multi-use trail / greenway design, bridge replacement projects, interchange design, intersection improvements, superstreet design, traffic management, construction phasing, construction estimating and overall project management.

Recent similar projects include:

- ✓ **B-4607 – replace bridge #143 in Pitt County – Project Manager**
- ✓ **Replace bridge #34 over Upper Little River in Lee County – Project Manager**
- ✓ **Replace 3 bridges in Northampton County – Project Manager**
- ✓ **Replace 2 bridges in Wayne County – Project Manager**
- ✓ **B-5850 – replace bridge #44 in Lincoln County – Project Manager**
- ✓ **W-5704E – roadway improvements to Covered Bridge Road in Johnston County – Project Manager**
- ✓ **R-5705B – roadway widening of NC 55 in Harnett & Wake Counties – Co-Project Manager**
- ✓ **R-2307B – roadway improvements to NC 150 in Iredell & Catawba Counties – Project Manager**



Jay Twisdale, PE – Hydraulic Design | QA/QC

TGS Engineers

Raleigh, NC

NC PE #024897

Experience: 32 years

After 29 years with the NCDOT, Jay retired from his position of Assistant State Hydraulics Engineer to join TGS two years ago. With more than 30 years of experience with engineering and planning projects involving hydrologic/hydraulic design, his expertise includes design, project management, coordination of project development and merger projects, bridge, and culvert design, permitting, stormwater management, stream design, erosion control and interpretation of drainage laws. Due to his technical experience, he has served as an expert witness for the State Attorney General's office. Having spent

a great deal of time in Western North Carolina in both his previous and current roles, Jay brings a wealth of knowledge and experience to this project from a hydraulic perspective.

Recent similar projects include:

- ✓ **Bridge over French Broad River for Biltmore Farms** – Provided hydraulic design QA/QC for this connectivity project in Asheville.
- ✓ **EB-6038 – City of Hickory Multi-Use Trail and Pedestrian Bridge over US 321** – Provided hydraulic design QA/QC for the pedestrian bridge over US 321 project in Hickory, NC.
- ✓ **I-4700 – I-26 Improvements** – Performed drainage design reviews and project oversight for the NCDOT Hydraulic Unit.



David Petty, PE – Hydraulic Design | Permitting
TGS Engineers
Raleigh, NC
NC PE # 038697
Experience: 17 years

David has more than 17 years of experience with engineering and planning projects that have primarily been focused on water resources. One of TGS' lead Hydraulics Engineers, David has worked on bridge replacement projects along with rail and roadway improvement projects for the past nine (9) years. David leads the environmental permitting efforts at TGS, and his expertise includes FEMA submittal packages such as CLOMR/LOMR and NCDOT / NCFMP MOA submittals. Permitting experience includes buffer impacts, CAMA & 404 wetland impacts, trout streams and other environmentally sensitive areas.

Recent similar projects include:

- ✓ **Bridge over French Broad River for Biltmore Farms** – David provided hydraulic design engineering services for this connectivity project in Asheville. Bridge and roadway approaches on new location included five lanes of traffic as well as a multi-use path over a FEMA Detailed (Redelineated) studied stream. Performed HEC-RAS modeling, adjusted design to avoid impacting any insurable structures in the floodplain, prepared requests, and guided efforts to successfully obtain a Conditional Letter of Map Revision (CLOMR) and Floodplain Development Permit.
- ✓ **EB-6038 – Multi-Use Trail Connector & Pedestrian Bridge over US 321 for City of Hickory** – Provided hydraulic design engineering services for this multi-use trail connector and pedestrian bridge project. Developed drainage design and permit drawings and completed the 401/404 permit application for a 3-mile multi-use path including pedestrian bridge over US 321 and a wetland. The project also included a boardwalk and roadway improvements through urban and historic areas. Additional complexities included design and coordination for numerous railroad crossings and design of storm drainage under embankments of significant heights.
- ✓ **B-5988 Bridge Replacement for the Town of Wadesboro** – Provided hydraulic design engineering services for this project over a FEMA Limited Detailed studied stream. Performed HEC-RAS modeling and adjusted to successfully obtain a No-Rise Certification.
- ✓ **Cleveland County Rail Trail for the City of Shelby** – Provided hydraulic design and environmental permitting for the Shelby portion of the Cleveland County Rail Trail project. This project is in design phase, on schedule and on budget.

**Ray Elliott, PE – Structural Engineer**

TGS Engineers

Shelby, NC

NC PE #022992

Experience: 29 years

Ray has more than 29 years of progressive experience with all aspects of structural engineering projects – from inception to completion including maintenance and repair. As Project Engineer, Ray excels in understanding project goals, strict code adherence, technical details and certainly client relationships. His experience includes hundreds of projects for the many municipalities, NCDOT, US Forest Service and the Norfolk Southern Railroad. Ray's expertise on both bridges and culverts includes surveys, planning, plan production, design, plan review, construction engineering, in-service bridge inspections, in-service bridge load ratings, bridge repair design and design repair construction engineering.

Recent similar projects include:

- ✓ **Bridge over French Broad River for Biltmore Farms** – Provided design engineering services for this connectivity project in Asheville.
- ✓ **EB-6038 – City of Hickory Multi-Use Trail and Pedestrian Bridge over US 321** – Provided design engineering services for the pedestrian bridge over US 321 in Hickory, NC.
- ✓ **RADTIP Pedestrian Bridge, City of Asheville** – Ray provided drafting services for the design of bridge bents for a pedestrian bridge for the City of Asheville on the River Arts District Transportation Project (RADTIP) in 2019 as a subconsultant to the contractor.
- ✓ **Bald River Falls Bridge Replacement, USDA Forest Service** – Ray provided structural design engineering services for this bridge replacement in the Cherokee National Forest near Tellico Plains, NC. The new structure is currently under construction.
- ✓ **B-5549 – Falling Creek Road Bridge Replacement, City of Hickory** – Provided design engineering services for bridge replacement in Hickory, NC.
- ✓ **Structural engineering design services on more than 100 design-build bridge replacement projects in the last few years.**
- ✓ **Structural engineering design services on hundreds of bridge replacement projects in Western North Carolina for NCDOT.**

**Marc Cheek, PE – Structural Engineer**

TGS Engineers

Raleigh, NC

NC PE #020125

Experience: 32 years

Marc joined TGS Engineers following his retirement from NCDOT in 2017 after 28 years of service, his last 18 of which he spent as project design engineer managing a design team preparing contract plans for the replacement of highway structures. Now Marc is a senior project engineer focused on structure design at TGS. His expertise with preservation and rehabilitation of existing structures is extensive as well as design and quality assurance in plan review. Milestone projects at NCDOT include U-4909 – SR 2643 over I-40 in Forsyth County (Diverging Diamond Interchange); R-2233AA & AB – US 221 Bridge Replacement in Rutherford County, and I-5746C & D – I-277 Rehabilitation/Preservation in Mecklenburg County.

Recent similar projects include:

- ✓ **Bridge over French Broad River for Biltmore Farms** – Provided engineering design services for this connectivity project in Asheville.

- ✓ **Bald River Falls Bridge replacement, USDA Forest Service** – Marc provided structural design engineering and review services for this bridge replacement in the Cherokee National Forest near Tellico Plains, NC. The new structure is currently under construction.
- ✓ **B-5988 Bridge Replacement for the Town of Wadesboro** – Provided structure design engineering services for this project.
- ✓ **Structural engineering design services on dozens of design-build bridge replacement projects in the last few years.**
- ✓ **A-0009C – Corridor K Improvements, Graham County** – Marc is providing structural design engineering services for a unique structure on this project that involves the Appalachian Trail.
- ✓ **Structural engineering design services on hundreds of bridge replacement projects across North Carolina for NCDOT.**



Stacy Oberhausen, PE – Planning / Environmental Document Compliance
TGS Engineers
Raleigh, NC
NC PE #023033
Experience: 35 years

Stacy has more than 35 years of experience in engineering, NEPA/SEPA compliance and project development documentation. Stacy excels in project scoping and negotiation, development of alternative solutions and management and coordination of complex projects with local, state, and federal agencies. Stacy's retired from the PDEA unit of NCDOT with 30 years of service.

Recent similar projects include:

- ✓ **A-0009C – Corridor K in Graham County** – Project Management
- ✓ **EB-6038 – Multi-Use Trail & Pedestrian Bridge over US 321 for the City of Hickory** – Environmental Compliance
- ✓ **Shelby Rail Trail to the SC State Line for the City of Shelby** – Environmental Compliance
- ✓ **U-5839 – US 276 Improvements in Haywood County** – Project Management
- ✓ **U-5774 – NC 54 in Orange / Durham Counties** – Project Management
- ✓ **R-5839B – NC 28 in Swain / Graham Counties** – Project Management
- ✓ **B-5837 – Bridge Replacement in Surry County** – Environmental Compliance
- ✓ **R-2588B – NC 191 Roadway Widening in Henderson County** – Environmental Compliance

Proposed Subconsultant Partners



Catlin Engineers and Scientist – Geotechnical Investigations

Key staff members include Lee Stone, PG as the Senior Engineering Geologist; Steve Hudson, PG, CWC as the Senior Geologist; and Ben Lackey, Jr., PE and Cindy Liu, PhD, PE as the Geotechnical Engineers.



Sage Ecological – Natural Systems Studies & Environmental Permitting

Key staff members include Sean Clark, PWS as the Project Manager. Kim Hamlin, PWS with more than 9 years of experience in natural resource identification, technical writing and permitting; and, Ryan Elliott. Cory Darnell, PWS has over 10 years of experience in natural resources, environmental regulation, and 404/401/10 and CAMA permitting. Abigail Sheffey is an environmental scientist with over 5 years of experience in natural resource identification and environmental regulation and permitting. David Gainey has more than 18 years of experience in natural resource identification, stream and wetland restoration monitoring and plan preparation.



The Wooten Company – Surveys & Utility Conflict Plans

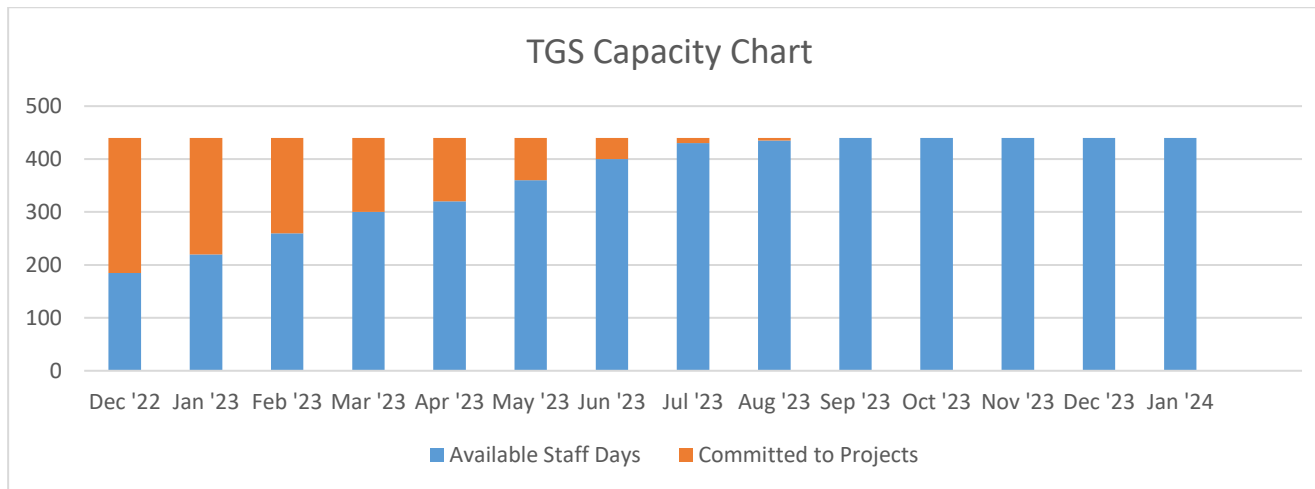
Team members for utility conflict plans include Ed Reams with over 30 years of experience; Webb White with more than 25 years of experience; and, Tommy Martin with almost 40 years of experience. Tommy's previous experience includes 30 years with the NCDOT. The team members to provide the survey efforts include Tim Ingold, PLS, CFS, Mike Davis, and Mark Hussey. Tim has more than 25 years of experience, Mike over 20 years and Mark over 30 years of experience. Their survey technician, Rick Denny, has almost 20 years of experience in land surveys and project management.



D: Current Workload

We understand the importance of maintaining project schedules. The TGS Capacity Chart below shows the workload availability of the key professional staff to be utilized for the project. Additional staffing is available through TGS as required by project demands. Our team will work together with the City to make sure that the schedules are met. Staff day estimate is based on an average of 20 working days per month. Total key staff days equals 440 days per month.

TGS staff as well as our proposed subconsultant partners have the bandwidth for the Town’s bridge replacement project.



TGS Engineers is a progressive-minded firm with employees who look for opportunities for project innovation and new technologies as a part of the project development process towards client success. Our experience and relationships with numerous agencies allow us to make good decisions at early stages as projects develop, providing opportunities to investigate innovative alternatives and solutions to situations that arise.

E: Cored Slab Bridge Design Experience

As mentioned on page 4, just in the last five (5) years, TGS has designed more than 50 cored slab bridges for replacement projects in North Carolina and more than one hundred (100) express design-build bridge replacement projects. Our team of senior engineers, many with years of NCDOT experience as well, can provide the Town of Southern Shores the most effective solution for the Juniper/Trinitie Trail bridge replacement.

The TGS team understands the need to significantly reduce local settlement and the need for gradual transition between roadway and bridge deck. With a cored slab bridge, the formwork is simpler and less expensive, and are excellent candidates for using prefabricated bridge elements. Cored slab bridges are very resilient and usually have very low maintenance costs depending on the environment. The reinforced slab bridges have a decreasing substructure configuration and a polished appearance while distributing the applied loads in all directions. This type of structure is generally suitable for bridges with individual span lengths of up to 75 feet.

F: Proprietary Property

TGS Engineers acknowledges that any work product developed under contract for or on behalf of the Town of Southern Shores, will be retained and submitted to the Town or its specified agent or contract consultant.

G: References

In addition to those **references included in section B**, please feel free to reach out to the following NCDOT representatives associated with our design efforts for their projects.

David Stutts, PE
NCDOT Structures Management Unit
1581 Mail Service Center
Raleigh, NC 27699-1581
dstutts@ncdot.gov
919.707.6442

Michael Aman, PE
NCDOT Highway Division 2
2815 Rouse Road Extension
Kinston, NC 28504
mcaman@ncdot.gov
252.439.2812

H: Defining Scope

As hydraulic design is such an important component, TGS envisions that the following hydraulic design and environmental regulatory coordination/compliance activities will be required during the drainage design of the desired replacement structure.

The proposed bridge replacement structure will require coordination with NCDEQ Division of Coastal Management (NCDQM) as well as the US Coast Guard. Due to this crossing of Jean Guite Creek most likely being considered a navigable waterway, a US Coast Guard Bridge Permit will likely be required, and the existing navigation clearance will have to be maintained.

Additionally, coordination with the Division of Marine Fisheries (DMF) and the Wildlife Resource Commission (WRC) is recommended prior to proceeding with the General CAMA Permit process. Permit Drawings for any project related environmental impacts as well as a General CAMA Permit Application will have to be prepared, submitted, and approved by NCDQM prior to construction of new structure beginning. General CAMA Permit Application would cover any required construction activities associated with the removal of the existing roadway embankment and structure as well as construction of the new bridge and associated roadway approaches/embankment.

Also, if an increase in built upon area is part of the associated adjacent roadway approaches /embankments and proposed replacement structure, a stormwater management plan will have to be submitted to NC Division of Water Resources (NCDWR) for review and approval before NCDQM can issue a CAMA Permit. Finally, until actual environmental impacts can be quantified and finalized, the need to prepare and submit an electronic Pre-Construction Notification (ePCN) to USACE and NCDWR cannot be determined. However, anticipated construction activities are likely to fall under a Nationwide Permit - most likely a NWP 3 or possibly a NWP 33.

Also, if an increase in built upon area is part of the associated adjacent roadway approaches /embankments and proposed replacement structure, a stormwater management plan will have to be submitted to NC Division of Water Resources (NCDWR) for review and approval before NCDQM can issue a CAMA Permit. Finally, until actual environmental impacts can be quantified and finalized, the need to prepare and submit an electronic Pre-Construction Notification (ePCN) to USACE and NCDWR cannot be determined. However, anticipated construction activities are likely to fall under a Nationwide Permit - most likely a NWP 3 or possibly a NWP 33.

We look forward to further defining the scope of this project!

