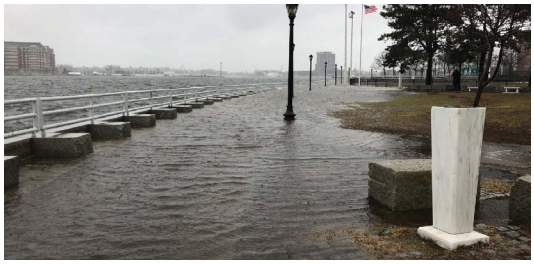
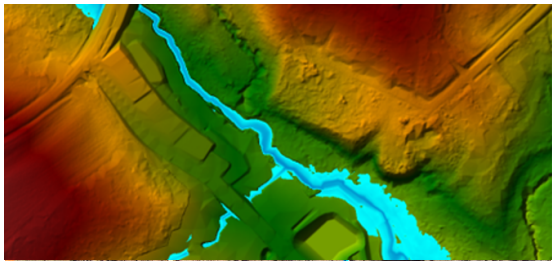


Qualifications For

Engineering Services For Development of a Citywide 2025 Stormwater Master Plan







Prepared for:

City of Brevard

Attn: Mr. David Todd, Assistant City Manager

95 West Main Street, Brevard, North Carolina 28712

Prepared by:

TRC Engineers, Inc.

705 Dogwood Rd, Asheville, NC 28806

March 14, 2025

TRC

Weston & Sampson℠

EQUINOX

balance through proper planning

March 14, 2025

City of Brevard
Attn: Mr. David Todd, Assistant City Manager
95 West Main Street
Brevard, NC 28712

Subject: Statement of Qualifications for Stormwater Master Plan

Dear Mr. Todd,

With increasing development, storm intensity, and aging infrastructure, it is more critical now than ever to understand our community's drainage systems condition and plan for its maintenance, improvement, and resiliency.

For over fifty years, TRC Engineers, Inc. (TRC) has provided various professional engineering services for municipalities across North Carolina, from the Appalachians to the Outer Banks. Our municipal-focused team takes pride in assisting the places we call home. Understanding stormwater systems differs greatly based on location within the state. Our recent experiences working in the Town of Boone and assisting with recovery efforts from Tropical Storm Fred gives us a unique understanding of stormwater systems in our mountain areas. We look forward to the opportunity to assist the City of Brevard (City), while enhancing its infrastructure with innovative and resilient solutions.

TRC is committed to supporting the City of Brevard in this important endeavor by offering the following:

- **Your Local Community Experts.** With nearby offices in Asheville, Greenville, SC and Cary, our team includes professionals who bring a hands-on approach to meeting the day-to-day needs of stormwater, water, and wastewater utilities. TRC is dedicated to providing technical support with responsiveness and service.
- **All-inclusive Services.** Our dedicated team of professionals stands ready to collaborate with the Town with all services requested. Our local staff includes surveyors, water resource engineers, geologists, civil and structural engineers, community specialists, and more. To augment our team and provide the best, local expertise, we have partnered with **Equinox Environmental** and **Weston & Sampson** for watershed analyses, flood modeling, and green infrastructure planning. Our team has the local expertise and bench strength to meet your needs, schedule, and budgets.
- **A Municipal-Focused Experience.** Our team includes professionals who have brought a hands-on approach to meeting the day-to-day needs of local governments for decades. TRC has worked with over 50 towns, cities, and counties in North Carolina in recent years, to assist with a diverse array of projects, from disaster recovery to wastewater treatment parks, and more. We possess a wealth of experience in assisting you and your peers to solve the unique needs you confront daily in a variety of ways.

We look forward to this opportunity to serve the City of Brevard and working with you to protect and enhance our community for years to come. Should you have any questions, please feel free to contact us directly.

Sincerely,

TRC Engineers, Inc.

Luke Baker, PG
Project Manager
919.582.7288
LBaker@trccompanies.com

C. Tyrus Clayton, PE
Principal in Charge
919.827.0909
TClayton@trccompanies.com

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2025 Stormwater Master Plan

Contents

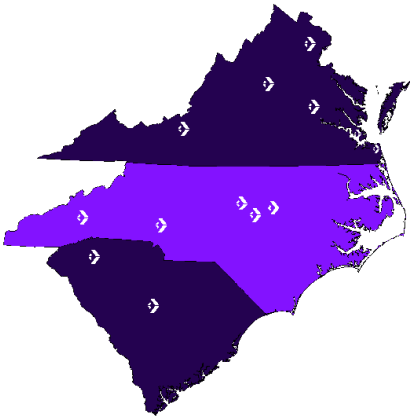
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1. Section 1 | Introduction: Team Profile

Legal Entity Name:	TRC Engineers, Inc. (TRC)
Website:	https://www.TRCCompanies.com/
Founded:	1923
Key Management:	David S. Glass — President/CEO Jason S. Greenlaw — Chief Financial Officer and Sr. Vice President Catherine M. Bragg — Secretary and Sr. Vice President Marc S. Faecher — Chief Risk Officer and Sr. Vice President
NC License Number:	F-0591
Office Locations Performing Work:	▪ 705 Dogwood Road, Asheville, NC 28806 (26 miles from City) ▪ 114 Edinburgh S. Drive, Suite 200, Cary, NC 27511 (271 miles from City) ▪ 50 International Drive, Suite 150 Greenville, SC 29615 (51 miles from City)
Point of Contact:	Luke Baker, PG – Project Manager 919.582.7288 | LBaker@trccompanies.com C. Tyrus Clayton, Jr., PE – Director – North Carolina Civil Engineering 919.827.0909 | TClayton@trccompanies.com
Total Staff:	Approximately 7,500

TRC is a full-service engineering firm delivering environmentally focused, technology-driven solutions throughout our communities. For over 50 years, we have provided expert engineering, planning, disaster recovery, construction, and management services, combining science and technology to deliver lasting results. TRC supports public and private clients in guiding complex projects from start to finish.



TRC is recognized by Engineering News-Record year after year for excellence in design services and performance in the markets we serve. TRC is ranked #9 of the Top 100 Pure Designers and #16 in the Top 500 Design Firms across the country.

Our team includes professionals who have brought a hands-on approach to meeting the day-to-day needs of local governments for decades. TRC has worked with over 50 North Carolina towns, cities, and counties. From stormwater, water and wastewater, community centers, roads, sidewalks, and more, we possess a wealth of experience in assisting you and your peers in solving the unique needs you confront daily.

In North Carolina and the Mid-Atlantic, TRC has built a strong reputation over five decades as a leader in engineering, surveying, and environmental services for public entities. With five offices across North Carolina, and 13 across the region, we drive local projects that support disaster recovery, resilient infrastructure, environmental sustainability, renewable energy, and more. TRC is proud to provide the following in-house services:

TRC In-House Services		
▪ Civil Engineering	▪ Traffic Planning / Roadway Design	▪ Geotechnical Engineering
▪ Structural Engineering	▪ Environmental Services	▪ Disaster Recovery Support
▪ Public Infrastructure	▪ Construction Management / Inspections	▪ GIS / Geomatics
▪ Surveying/SUE	▪ Material Testing	▪ Funding and Grant Administration
▪ Water Resources	▪ Solid Waste Engineering	▪ Resiliency
▪ Utilities Engineering		

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For this project, TRC has teamed with the following partners to augment our staff and provide the City with the best local knowledge, hands-on approach, and responsiveness necessary during a master planning effort:

Green Infrastructure Design and Landscape Architecture:

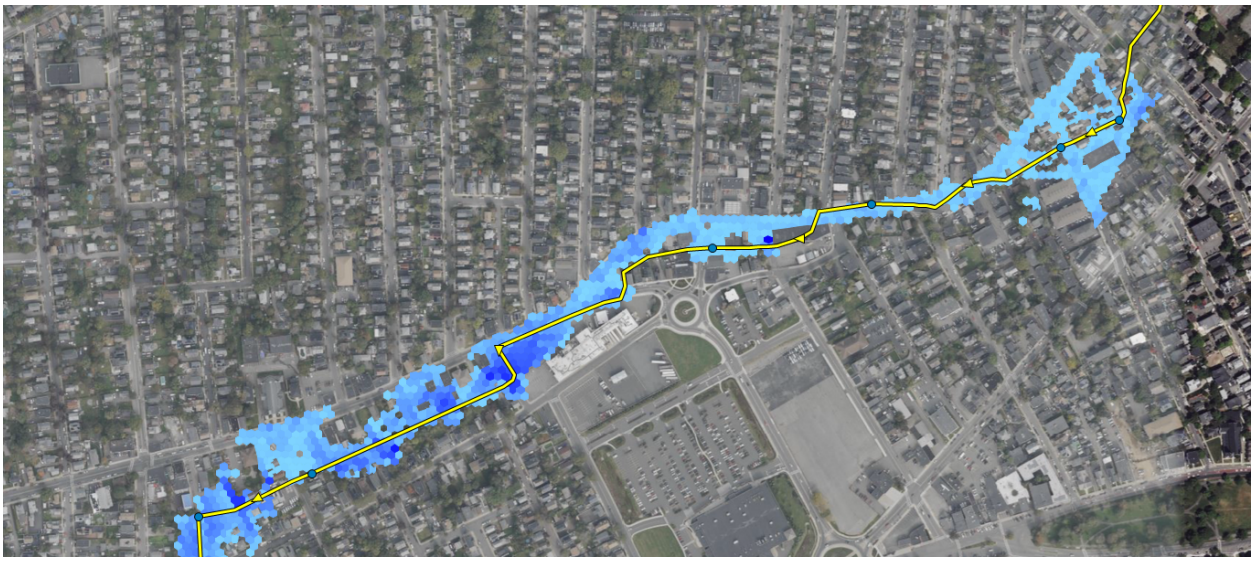
Equinox is an award-winning firm that provides sustainable solutions for a full range of planning and services. The principles of environmental stewardship, ecology, and resource conservation are deeply embedded into all aspects of our work. Equinox provides the tools and expertise to help clients protect land and water resources, implement sustainable strategies, create healthy living opportunities and develop land in an environmentally responsible way. What sets them apart is that they integrate environmental science and ecology into their planning and design solutions. Equinox can produce tangible benefits for the environment, for the communities in which they work, and for their clients.

Like many regions throughout the country, the southern Appalachian Mountains and the southeast region – where Equinox is located, is home to extraordinary environmental and cultural treasures. These treasures are assets that often face serious challenges and environmental pressures from poorly planned development patterns, air and water pollution, and impacts from climate change. Equinox collaborates with our public, private, and non-profit clients to turn environmental pressures into opportunities. Employing a 'balance through proper planning' approach, we operate from a vision that there are sustainable solutions to these challenges that are beneficial for the environment, economy, and quality of life all at the same time. Together, they foster and develop these solutions and to put them to work for the benefit of our clients and the community.

Watershed Analysis and Hydraulic Modeling:

Since 1899, Weston & Sampson has been providing municipalities, public agencies, and private sector clients with cost-effective and innovative solutions to their infrastructure and environmental challenges. With over 900 professionals along the East Coast, Weston & Sampson offers capabilities ranging from project development and planning through design, construction, and long-term operation and maintenance.

TRC and Weston & Sampson have partnered on numerous watershed analysis, hydraulic studies, and drainage projects across North Carolina. Weston & Sampson's water resources team in North Carolina is led by Matt Burnette, PG, PH, CFM. His team will be assisting with hydraulic modeling and watershed master planning.



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2. Section 2 | Experience

TRC, and our assembled Team, have the capacity, expertise, and knowledge to execute the scope of work anticipated with this project. Our Water Resources Team has completed hundreds of projects across North Carolina. From asset management and capital planning to flood mitigation and disaster recovery, our team is uniquely experienced with stormwater management across our state.

In fact, as a testament to our services, TRC has served as the water resources engineer for the City of New Bern (City) for over 20 years! TRC has assisted the City with numerous projects, including administering their Municipal Separate Storm Sewer (MS4) program, master planning for stormwater projects, flood studies and design, disaster recovery, and green infrastructure. As well, TRC has been successful in helping the City obtain over $35 million in funding alone!

Our firm has decades of experience providing engineering for a diverse selection of municipal projects across North Carolina and Virginia. We have supported cities and towns similar in size, near, and around the City with projects similar in scope to this. ***These experiences mean we understand the unique economic challenges that face municipalities, and understand the importance of capital planning, resiliency, and community engagement necessary to establish a sustainable, stormwater program.*** From project conception through construction, our goal is to implement realistic budgets and timelines, coupled with sound designs that provide a lasting, positive impact for you and your community.

Water Resources and Drainage Engineering

TRC and Weston & Sampson's staff of civil and environmental engineers are well experienced with water resources and stormwater management projects to protect infrastructure and life, improve water quality, and mitigate flooding. From large scale watershed planning and modeling to localized flood mitigation, TRC's staff has experience with a range of project scales and are committed to bringing our expertise to this project.



Duffyfield Stormwater Enhancement Project Master Plan - City of New Bern, NC

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TRC Staff performing assessments along the Pigeon River following Tropical Storm Fred – Cruso, NC

Drainage Engineering and Watershed Analyses

Our Team has performed diagnostic analyses, feasibility studies, and flooding mitigation for numerous watersheds and their associated streams, creeks, lakes, ponds, and river systems. We recognize that drainage and the unique management challenges for western North Carolina are not the same as they are in other parts of our state. To that end, our North Carolina-based water resources professionals are well versed with watershed planning and flood mitigation across North Carolina.

With years of experience navigating the region's diverse topography, from steep mountain slopes to rolling valleys, we have developed innovative solutions tailored to the area's challenging landscape. Our deep understanding of local hydrology, combined with cutting-edge techniques, allows us to design drainage systems that not only mitigate erosion and flooding risks but also enhance long-term environmental sustainability. Our Team's commitment to collaboration with local communities and regulatory agencies ensures that each project meets both functional and ecological needs.

Surveying and Subsurface Utility Designation

TRC provides a full range of right-of-way and survey solutions to support our design projects, as well as our clients. ***From topographic and boundary surveys, easement acquisition support, to subsurface utility designation, TRC's in-house survey team has the capabilities to support a wide variety of capital projects.*** TRC's North Carolina survey team consists of professional surveyors, crew chiefs, project managers and drafters that have supported drainage improvements projects across North Carolina.

TRC offers all Quality Levels (QL) of subsurface utility engineering (SUE) (QL-A — QL-D), each of which can be an effective way to determine the location of underground utilities in certain situations. ***As well, our SUE team includes in-house vacuum trucks and closed-circuit television equipment capable of locating and inspecting your infrastructure in complex or inaccessible areas.***



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Capital Planning Expertise

TRC's civil engineering team is unique from other engineering firms. While most firms keep teams siloed within their own disciplines, we find that a true collaborative effort between our civil engineering, water resources, and planning professionals to provide a more comprehensive and valuable capital plan. To that end, the team that will be preparing flood models, infrastructure assessments, and watershed analyses will be the same team helping to prioritize your capital improvements and plan how to get them done. Understanding your benefiting population, level of protection that can be obtained, and any sensitive issues or communities help us guide our prioritization process. Throughout this process, we also regularly meet and discuss potential projects with Town staff. This allows us to guide our planning approach and ensure we hit our mark.



TRC uses RS Means Cost Estimating software, which provides regionally accurate pricing for a diverse range of construction services and infrastructure. As well, TRC can draw on a wealth of previously bid projects through our internal bid database. We also confirm rates with publicly available data, such as NCDOT tabulations. Lastly, we utilize local contractors to review plans and cost estimates as another means to verify our cost estimates and identify gaps. All this comes together to provide an accurate cost that you can bank on!

Funding and Municipal Support



Common with most smaller municipalities, finding a way to fund capital projects is often a large hurdle. The cost for large or complex capital projects can be difficult to fund internally with a smaller tax base. While understanding your communities' needs is vital, finding a way to fund them is equally important.

TRC maintains close-working-relationships with public-sector funding agencies to be well-positioned to help our local government clients secure funding and successfully complete infrastructure projects.

Our familiarity with local and federal funding programs, and our relationships with these funding agencies, have enhanced our ability to prepare successful funding applications and to meet the program requirements for loan and grant funds.

We have prepared successful funding applications through NCDEQ, FEMA, NC Department of Water Infrastructure, NC Dept of Agriculture, NC Department of Commerce, Golden Leaf Foundation, and more. Our staff has experience managing the requirements of these programs including monitoring American Iron and Steel requirements and Davis Bacon wage rates. We can also coordinate the funding and compliance requirements throughout project construction.



TRC and Weston & Sampson have an outstanding track record securing over $90 million dollars in funding for municipal and public sector clients in the last 5 years!

The following table represents a selection of our recent funding and grant wins, from flood mitigation and stormwater management planning to wastewater treatment plants, across North Carolina:

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FUNDING SOURCE	PROJECTS
Resilient Coastal Communities	Town of Vandemere Waterfront Park Living Shoreline – Design (2024) City of New Bern East Rose Basin Restoration - Construction (2023) Town of Vandemere Drainage Improvements - Construction (2023)
NC Land and Water Fund Flood Mitigation Program	Town of Maysville Maple Avenue Green Stormwater (2024)
NCDEQ Division of Water Infrastructure Local Assistance for Stormwater Infrastructure Investments (LASII)	Town of Princeton Stormwater Management Plan (2023) Town of Walstonburg Stormwater Management Plan (2023) Town of Selma Stormwater Asset Inventory and Assessment (2022)
NC Dept of Agriculture Stream Rehabilitation Assistance Program (StRAP)	Town of Vandemere Phase 2 Drainage Improvements (2024) Town of Louisburg Streamflow Rehabilitation Project (2022) Town of Princeton Beaverdam Creek Phase 2 Improvements (2022)
FEMA Public Assistance	Town of Maysville WWTP Outfall Road Culvert Repairs (2020) City of New Bern Hurricane Florence FEMA Project (2020)
Golden LEAF Foundation Grant	City of New Bern Elizabeth Avenue Drainage Improvements (2024) Town of Princeton Beaverdam Creek Drainage Improvements (2021) Town of Princeton Downtown Drainage Improvements (2021) Town of Erwin East Drainage Improvements (2019)
NC Collaboratory Highly Treated Wastewater Pilot Program	Town of Ansonville WWTP Improvements (2023) Town of Boonville WWTP Improvements (2023) Town of Maysville WWTP Improvements (2023)
USDA Rural Development	Town of Princeton WWTP Expansion and Improvements (2024) Town of Princeton WWTP PER Assessment (2021) Town of Maysville WTP Improvements and Distribution System Repairs (2021) Town of Princeton Water System and WWTP Improvements (2018) Town of Princeton Water System and WWTP Improvements PER (2017) Town of Maysville Wastewater Treatment Plant Improvements (2017)
NCDEQ Division of Water Infrastructure State Reserve Project (SRP) Loan/Grant	Town of Boonville Water System AIA (2024) Town of Boonville Sewer System AIA (2024 Town of Princeton Water System AIA (2024) Town of Princeton Sewer System AIA (2024) Town of Walstonburg Water System AIA (2024) Town of Oriental Water System Improvements (2023) Town of Pine Level WTP Improvements & Sewer Capacity (2023) Town of Princeton WWTP Expansion (2023) Town of Walstonburg I/I Inspection (2020) Town of Maysville Radio Read Water Meters (2018)
NCDEQ Division of Water Infrastructure State Reserve Project ARPA (SRP-ARPA)	Town of Boonville Water System Improvements (2022) Town of Boonville Collection System Improvements (2022) Town of Pine Level New Well and WTP Improvements (2022) Town of Pine Level I&I Remediation (2022) Town of Pine Level I&I Remediation Phase II (2023) Town of Princeton Martin Livestock Rd Sewer Extension (2022)
NCDEQ Division of Water Infrastructure Viable Utility Reserve ARPA (VUR-ARPA)	Town of Maysville Water System Improvements (2022) Town of Maysville I&I Remediation (2022) Town of Maysville Water & Sewer SCADA (2022) Town of Newton Grove Water AIA (2022) Town of Newton Grove Sewer AIA (2022)
NCDEQ Division of Water Infrastructure Clean Water State Revolving Fund (CWSRF) Grant	Town of Princeton Holts Pond Road Lift Station (2023) Town of Maysville Water Model and GPS Locating System (2022) Town of Walstonburg Asset Inventory Assessment and Water Model (2022) Town of Walstonburg Phase 2 I/I Improvements (2021) Town of Maysville PFAS Water Treatment System (2021)
NCDEQ Division of Water Infrastructure Lead Service Line Inventory Funding	Town of Newton Grove (2024) Orange Alamance Water (2024) Town of Ansonville (2023) Town of Boonville (2023) Town of Maysville (2023) Town of Pine Level (2023) Town of Princeton (2023) Town of Walstonburg (2023)

TRC is also experienced with helping municipalities plan and analyze existing utility rate structures. This can be done to fund capital projects and maintenance internally or help with responding in emergencies. TRC has developed rate studies, helped with the sale of public infrastructure systems, and supported the implementation of utility fees for numerous municipalities across the Mid-Atlantic.

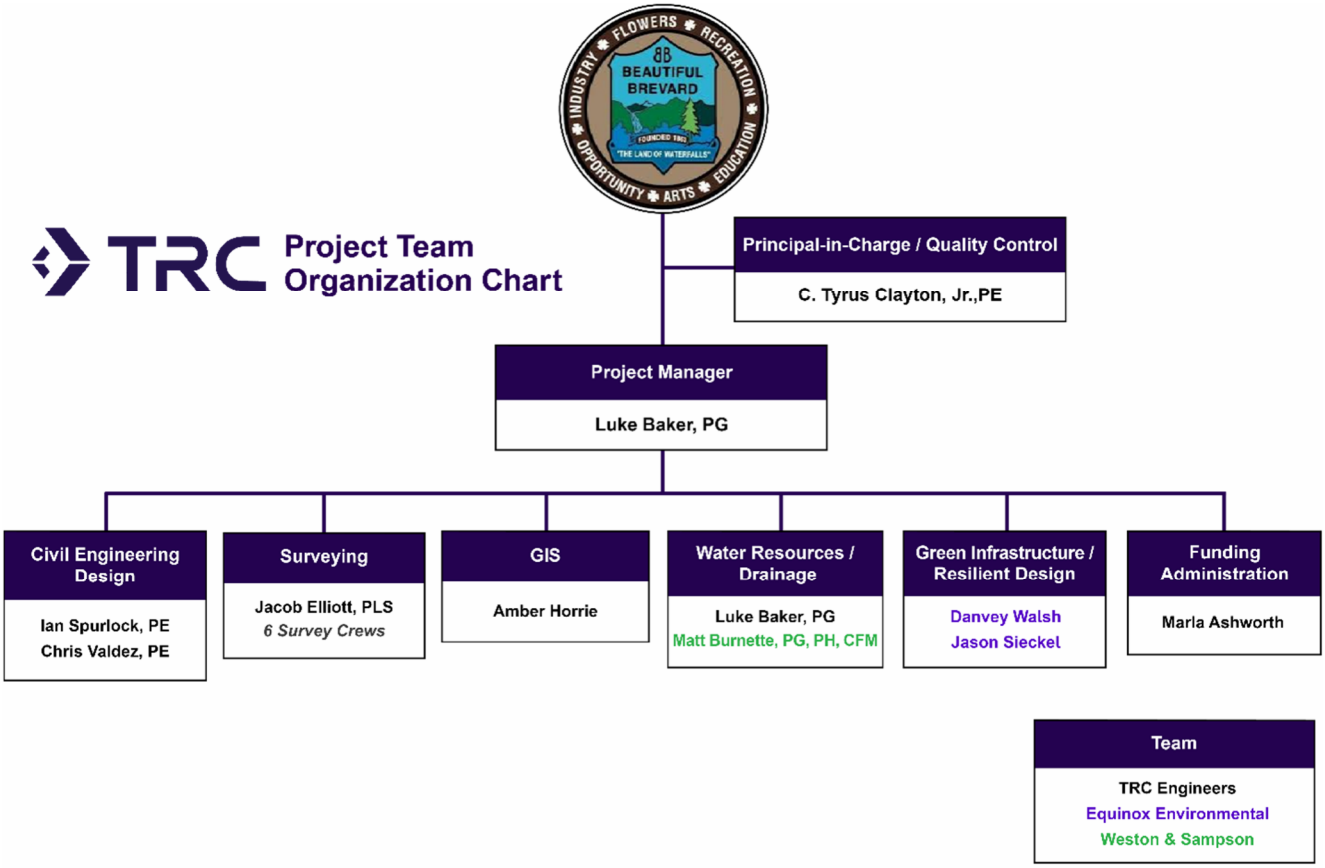
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2.1. Management & Team Location

Your project team will be led by TRC's Principal-in-Charge **Tyrus Clayton, PE**, and Project Manager **Luke Baker, PG**, with a combined 35 years of experience in water resources engineering, including asset inventory assessments, planning, and municipal engineering projects. They will lead a specialized local team of local engineers, surveyors, and municipal funding experts. We can also draw upon the bench strength of our nationwide staff of 7,500 employees, including civil, geotechnical, and utilities engineers; surveyors; grant/funding specialists; environmental scientists, construction administrators, and more.

Our team includes ***Equinox Environmental*** and ***Weston & Sampson***. Equinox, an award winning, Asheville-based environmental planning firm, offers sustainable solutions for a full range of planning, green infrastructure and ecological needs. Weston & Sampson is an East Coast, multidisciplined engineering firm with experiencing providing complex watershed analyses and hydraulic modeling services. TRC has successfully teamed with Weston & Sampson in the past and are proud to continue our strong relationship assisting the City of Brevard!

The below table, and resumes, outline our proposed key personnel that will assist with this project. Additional support professionals, such as surveyors, engineers, draftsmen, and administrative specialists not explicitly named will support the discipline leads identified in the execution of your project.



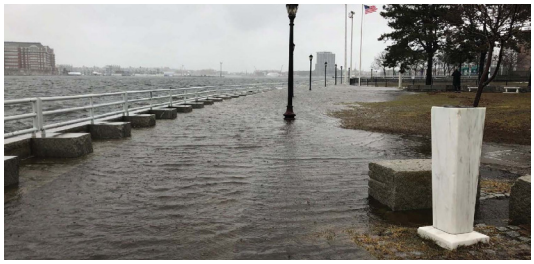
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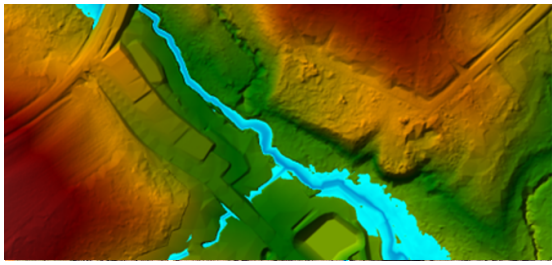


Qualifications For

Engineering Services For Development of a Citywide 2025 Stormwater Master Plan







Prepared for:

City of Brevard

Attn: Mr. David Todd, Assistant City Manager

95 West Main Street, Brevard, North Carolina 28712

Prepared by:

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705 Dogwood Rd, Asheville, NC 28806

March 14, 2025

TRC

Weston & Sampson℠

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ARCHITECT – ENGINEER QUALIFICATIONS

PART I – CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION *(City and State)*

2025 Citywide Stormwater Master Plan (Brevard, NC)

2. PUBLIC NOTICE DATE	3. SOLICITATION OR PROJECT NUMBER
February 18, 2025	

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE: C. Tyrus Clayton, PE, Managing Principal

5. NAME OF FIRM: TRC Engineers, Inc.

6. TELEPHONE NUMBER	7. FAX NUMBER	8. E-MAIL ADDRESS
919.827.0864	910.897.6767	tclayton@trccompanies.com

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

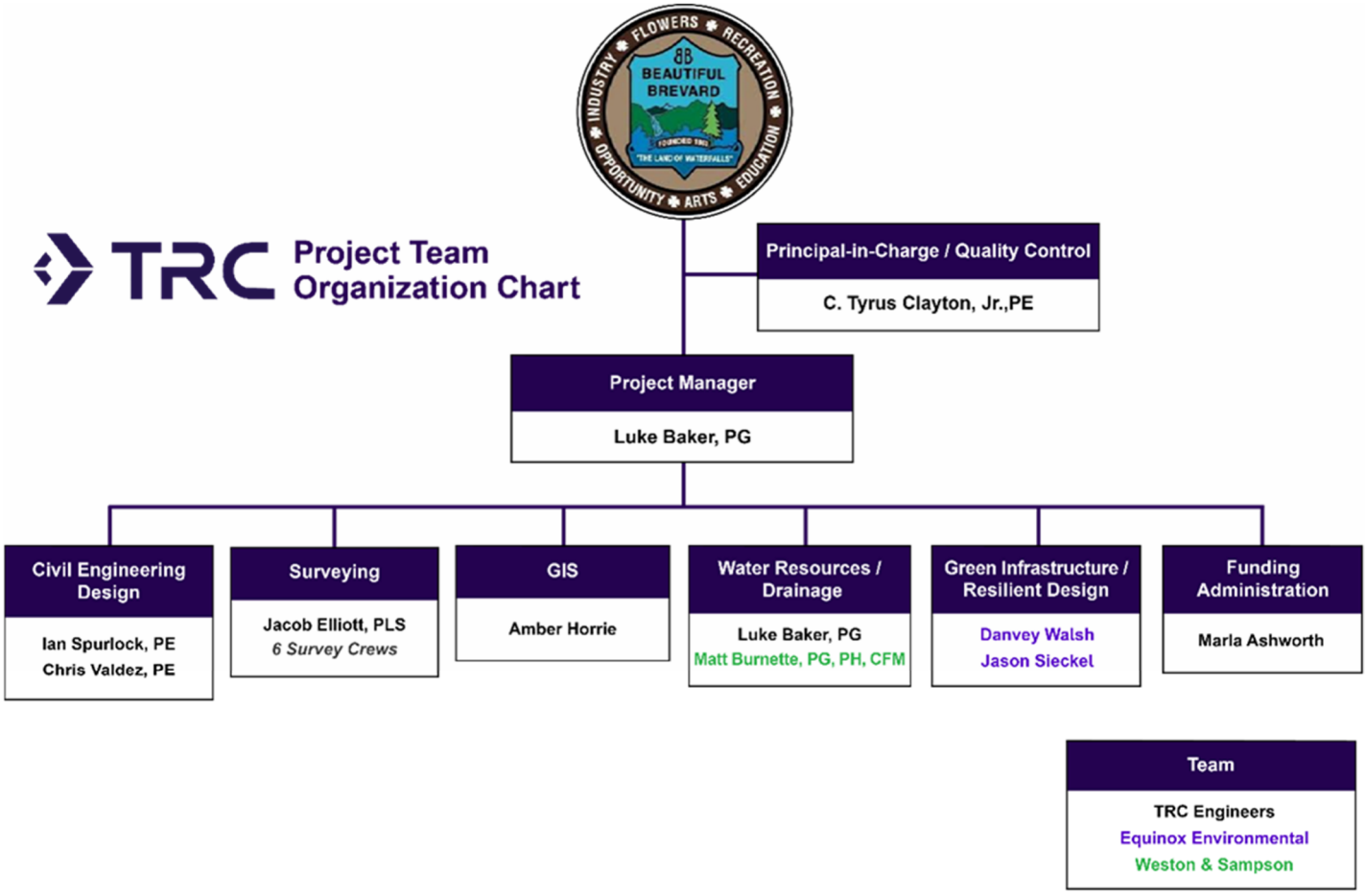
	(Check) PRIME	(Check) J-V PARTNER	(Check) SUBCON-TRACTOR	9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
a.	X			TRC Engineers, Inc. [X] CHECK IF BRANCH OFFICE	Asheville Branch: 705 Dogwood Road, Asheville, NC 28806 Cary Branch: 114 Edinburgh South Drive Suite 200 Cary, NC 27511	Prime Civil Engineer, Survey, SUE, GIS Mapping, CCTV, Capital Planning and Funding Support, Cost Estimating
b.			X	Equinox Environmental [ ] CHECK IF BRANCH OFFICE	14 O'Henry Avenue Suite 206 Asheville, NC 28801	Green stormwater design, conceptual planning, landscape architecture
c.			X	Weston & Sampson of NC, P.C. [X] CHECK IF BRANCH OFFICE	2052 Energy Drive Apex, NC 27502	Hydraulic and hydrologic modeling, stormwater system design
d.				[ ] CHECK IF BRANCH OFFICE		
e.				[ ] CHECK IF BRANCH OFFICE		
f.				[ ] CHECK IF BRANCH OFFICE		

D. ORGANIZATIONAL CHART OF PROPOSED TEAM — [X] *(Attached)*

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TRC

Proposed Project Team Organization Chart



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
C. Tyrus Clayton, Jr., PE	Managing Principal	24	10

15. FIRM NAME AND LOCATION *(City and State)*

TRC, Cary, North Carolina

16. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S./1998/Civil Engineering
M.S./2000/Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

NC/Professional Engineer 028909

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Certified Stormwater BMP Reviewer by NC State/NCDENR-DEQ
Stormwater SCM Inspection and Maintenance Certification NC State/NCDEQ #4648
Certified Manager of Landfill Operations (MOLO)-Technical Associate by Solid Waste Association of North America
Qualifier- NC General Contractor License

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*
Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Feb. 2024 – Ongoing (June 2024)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Managing Principal. TRC provided survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

b.

(1) TITLE AND LOCATION *(City and State)*
Stormwater Asset Inventory and Assessment.
Town of Selma, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Jan. 2024 – July 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Managing Principal. TRC provided survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town. TRC provided our completed geodatabase to the Town on time and on budget.

c.

(1) TITLE AND LOCATION *(City and State)*
Beaverdam Creek Master Planning, Phases 1, 2, and 3 Improvements
Town of Princeton, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2017 - Ongoing	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Managing Principal. Developed masterplan for the Beaverdam Creek, identifying multiple areas for improvements within the Town limits. Oversaw construction implementation of Phase 1 and 2 improvements.

d.

(1) TITLE AND LOCATION *(City and State)*
Duffyfield Stormwater Enhancements Master Plan
City of New Bern, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Aug. 2019 – Sept. 2019	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Managing Principal. TRC, then Draper Aden Associates, provided professional engineering and landscape architecture services for the preliminary evaluation and assessment of stormwater improvement measures within the Duffyfield Community in the City of New Bern.
Engineering services included performing the overall drainage area delineation, estimating peak flow and runoff volumes for various storms from the drainage area, and quantifying the amount of water quality benefits so the City could understand potential stormwater improvement measures within the Duffyfield Community.

e.

(1) TITLE AND LOCATION *(City and State)*
Tropical Storm Fred Damage Inventory, Assessments, & Repairs
Counties of Buncombe, Haywood, and Transylvania

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Oct. 2021 – Jan. 2022	March 2022 – March 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Managing Principal. TRC completed inspections and assessments of private residential property accesses that were damaged or affected by the significant flooding. After approximately four weeks of assessments, a total of 604 sites were surveyed and data forms completed. After completion of assessments, projects of critical and emergency need entered the design and construction phase immediately. TRC completed several task orders related to the recovery. These task orders included culvert replacements, bridge repairs, and land slide repairs. TRC services included survey, geotechnical, civil and water resources engineering, as well as construction administration.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
Luke Baker, PG	Project Manager	a. TOTAL: 9	b. WITH CURRENT FIRM: 8

15. FIRM NAME AND LOCATION *(City and State)*

TRC, Cary, North Carolina

16. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S./2016/Geology and Environmental Science

17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

NC/Professional Geologist

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Qualifier/General Contractor License

Stormwater SCM Inspection and Maintenance Certification/NC State/NCDEQ/#4625

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Feb. 2024 – Ongoing (June 2024)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Project Manager. TRC provided survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

b.

(1) TITLE AND LOCATION *(City and State)*

Beaverdam Creek Master Planning, Phases 1, 2, and 3 Improvements
Town of Princeton, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2021 - Ongoing	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Project Manager. Developed masterplan for the Beaverdam Creek, identifying multiple areas for improvements within the Town limits. Oversaw construction implementation of Phase 1 and 2 improvements.

c.

(1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Assessment.
Town of Selma, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Jan. 2024 – July 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Project Manager. TRC provided survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town. TRC provided our completed geodatabase to the Town on time and on budget.

d.

(1) TITLE AND LOCATION *(City and State)*

Duffyfield Stormwater Enhancements Master Plan
City of New Bern, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2019	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Project Engineer. TRC, then Draper Aden Associates, provided professional engineering and landscape architecture services for the preliminary evaluation and assessment of stormwater improvement measures within the Duffyfield Community in the City of New Bern.
Engineering services included performing the overall drainage area delineation, estimating peak flow and runoff volumes for various storms from the drainage area, and quantifying the amount of water quality benefits so the City could understand potential stormwater improvement measures within the Duffyfield Community.

e.

(1) TITLE AND LOCATION *(City and State)*

Tropical Storm Fred Damage Inventory, Assessments, & Repairs
Counties of Buncombe, Haywood, and Transylvania

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Oct. 2021 – Jan. 2022	March 2022 – March 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Project Manager. TRC completed inspections and assessments of private residential property accesses that were damaged or affected by the significant flooding. After approximately four weeks of assessments, a total of 604 sites were surveyed and data forms completed. After completion of assessments, projects of critical and emergency need entered the design and construction phase immediately. TRC completed several task orders related to the recovery. These task orders included culvert replacements, bridge repairs, and land slide repairs. TRC services included survey, geotechnical, civil and water resources engineering, as well as construction administration.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Ian Spurlock, PE	Civil Engineering Lead	11	1

15. FIRM NAME AND LOCATION *(City and State)*

TRC, Cary, North Carolina

16. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S./2011/Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

NC/Professional Engineer
FL/Professional Engineer

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Feb. 2024 – Ongoing (May 2025)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Civil Lead. TRC provided survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

b.

(1) TITLE AND LOCATION *(City and State)*

Beaverdam Creek Phase 2 Improvements
Town of Princeton, NC

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Dec. 2023 – July 2024	Oct. 2024 – Jan. 2025

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Civil Lead. TRC provided surveying, civil engineering, environmental permitting, and construction administration services for debris removal and bank stabilization activities along approximately 1 mile of the lower Beaverdam Creek.

c.

(1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Assessment.
Town of Selma, NC

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Jan. 2024 – July 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Civil Lead. TRC provided survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town. TRC provided our completed geodatabase to the Town on time and on budget.

d.

(1) TITLE AND LOCATION *(City and State)*

Vandemere Drainage Improvement Plan and Phase 1 Improvements
Town of Vandemere, NC

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Jan. 2024 – July 2025	Ongoing (July 2025)

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Civil Lead. TRC provided survey, civil engineering, environmental permitting, bidding, and construction administration for debris removal and bank stabilization activities throughout the Town's drainage network.

e.

(1) TITLE AND LOCATION *(City and State)*

NC Department of Justice
Salemburg Campus Drainage Improvements

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
July 2023 - Ongoing	November 2024 – Ongoing (August 2025)

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Civil Lead. TRC provided survey, civil engineering, stormwater control measure retrofit design, bidding, and construction administration for the improvement of the NC DOJ's Salemburg campus drainage improvements. Design included new subsurface drainage infrastructure, stormwater detention basin design, SCM retrofit design, and utility coordination.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Chris Valdez, PE	Civil Engineer	7.5	3.5

15. FIRM NAME AND LOCATION *(City and State)*

TRC, Asheville, North Carolina

16. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S./2017/Biological Engineering, Minor in Environmental Engineering

17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

NC/Professional Engineer

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Forty-Hour HAZWOPER Training

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

(2) YEAR COMPLETED	
PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Feb. 2024 – Ongoing (June 2024)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Staff Engineer. Provided civil engineering and quality review of collected stormwater assets. TRC provided survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

b.

(1) TITLE AND LOCATION *(City and State)*

Reynolds School Road Pre-Regulatory Landfill Rehabilitation
Canton, NC

(2) YEAR COMPLETED	
PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
	2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Staff Engineer. Provided civil engineering and construction observation/inspections associated with the rehabilitation of a pre-regulatory landfill in Canton, NC. Work involved excavating and consolidating waste onto one parcel, installing a geotextile demarcation layer, stormwater management, and utility coordination.

c.

(1) TITLE AND LOCATION *(City and State)*

AAF Washington Stormwater Control Measure
Smithfield, NC

(2) YEAR COMPLETED	
PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
May 2022 – August 2022	October 2024

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Staff Engineer. Provided civil engineering, stormwater design, and construction observation/inspections associated with the retrofit of an existing, failing stormwater wet detention basin in Smithfield, NC.

d.

(1) TITLE AND LOCATION *(City and State)*

Confidential Site Remediation Site Design and Stormwater Management
Huntersville, NC

(2) YEAR COMPLETED	
PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2022 - Ongoing	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Project Engineer. TRC prepared civil site development and stormwater management portion of the remediation site management at the petroleum product release site. The site is one of the work areas for remediation activities. Chris is responsible for erosion and sediment control design, stormwater management planning and calculation, site layout coordination, site grading, site development plan production, and technical reporting.

e.

(1) TITLE AND LOCATION *(City and State)*

Renewable Natural Gas Pipeline Civil Design and Permitting
Multiple Counties, Eastern NC

(2) YEAR COMPLETED	
PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2021 - 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Project Engineer. TRC provided civil engineering and permitting for the 2-phase, ~75-mile renewable natural gas pipeline connecting ~20 hog farm spanning four North Carolina counties. Mr. Valdez is responsible for pipeline erosion and sediment control design, construction permitting, stormwater management planning, and land clearing mitigation.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jacob Elliot, PLS	Survey Lead	17	2

15. FIRM NAME AND LOCATION *(City and State)*

TRC, Cary, North Carolina

16. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S./2020/Surveying Engineering Technologies
B.A./2008/Biology

17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

NC/Professional Land Surveyor/2003/#L-5510

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

FAA Part 107 UAS Remote Pilot Certification
NCDOT Division of Aviation Commercial UAS

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Feb. 2024 – Ongoing (June 2024)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Survey Lead. TRC provided survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

b.

(1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Assessment.
Town of Selma, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Jan. 2024 – July 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Survey Lead. TRC provided survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town. TRC provided our completed geodatabase to the Town on time and on budget.

c.

(1) TITLE AND LOCATION *(City and State)*

Sparta Earthquake Retaining Wall Repair
Town of Sparta, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
August 2023 – April 2024	January 2024 – April 2024

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Survey Lead. TRC provided survey, geotechnical engineering, structural and civil engineering services for the repair of a 130-foot retaining wall damaged by the Sparta Earthquake. TRC also provided bid assistance and construction administration as a turn-key project for the Alleghany County school system.

d.

(1) TITLE AND LOCATION *(City and State)*

Robeson Community College Drainage Improvements
Lumberton, North Carolina

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
July 2023 – July 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Survey and SUE Lead. TRC provided survey, CCTV, and civil engineering associated with the repair and retrofit of the Robeson Community College's drainage system. CCTV identified several blind connections, collapsed structures, and pipe blockages critical in understanding the subsurface condition of the drainage network and prioritize repairs with a limited repair budget.

e.

(1) TITLE AND LOCATION *(City and State)*

Princeton Stormwater Asset Inventory and Management Plan
Town of Princeton, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
March 2024 – Ongoing (July 2025)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Survey Lead. TRC provided survey, asset inventory and assessment, and stormwater management planning services for the Town's stormwater drainage system. TRC is currently preparing a town-wide drainage model and capital improvement plan. Services also include development of a stormwater utility implementation plan.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Amber Horrie	GIS Lead	17	5

15. FIRM NAME AND LOCATION *(City and State)*

TRC, Madison, Wisconsin

16. EDUCATION *(DEGREE AND SPECIALIZATION)*

M.S./2011/Geography and Environmental Resources
B.S./2006/Geography; Minor in Environmental Studies

17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*
Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Feb. 2024 – Ongoing (June 2024)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

GIS Lead. TRC provided survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

b.

(1) TITLE AND LOCATION *(City and State)*
Stormwater Asset Inventory and Assessment.
Town of Selma, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Jan. 2024 – July 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

GIS Lead. TRC provided survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town. TRC provided our completed geodatabase to the Town on time and on budget.

c.

(1) TITLE AND LOCATION *(City and State)*
Princeton Stormwater Asset Inventory and Management Plan
Town of Princeton, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
March 2024 – Ongoing (July 2025)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

GIS Lead. TRC provided survey, asset inventory and assessment, and stormwater management planning services for the Town's stormwater drainage system. TRC is currently preparing a town-wide drainage model and capital improvement plan. Services also include development of a stormwater utility implementation plan.

d.

(1) TITLE AND LOCATION *(City and State)*
Stormwater Asset Inventory and Management Plan
Town of Walstonburg, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
March 2024 – Ongoing (July 2025)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

GIS Lead. TRC provided survey, asset inventory and assessment, and stormwater management planning services for the Town's stormwater drainage system. TRC is currently preparing a town-wide drainage model and capital improvement plan. Services also include development of a stormwater utility implementation plan.

e.

(1) TITLE AND LOCATION *(City and State)*

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Danvey Walsh	Green Stormwater Design	15	9

15. FIRM NAME AND LOCATION *(City and State)*

Equinox Environmental Consultation & Design, Inc.

16. EDUCATION *(Degree and Specialization)*

M.S Environmental Chemistry, Western Carolina University;
B.S. Geology, Western Carolina University

17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Miller, J.R.; Walsh, D.; Villarroel, L.F. Use of Paleoflood Deposits to Determine the Contribution of Anthropogenic Trace Metals to Alluvial Sediments in the Hyperarid Rio Loa Basin, Chile. *Geosciences* 2019, 9, 244

Miller, J.R.; Sinclair, J.T.; Walsh, D. Controls on Suspended Sediment Concentrations and Turbidity within a Reforested , Southern Appalachian Headwater Basin. *Water* 2015, 7, 3123-3148

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: Scotts Creek Watershed Plan

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2019 | CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Equinox developed a plan describing watershed management actions to address stormwater runoff within the Scotts Creek Watershed. Implementation of the plan is expected to lead to improved water quality and conditions that will allow Scotts Creek to be removed from North Carolina's 303(d) impaired waters list. Equinox recommended numerous stormwater management projects at specific locations, one of which (a large scale bioretention area) was design by Equinox and installed in 2024 at Bridge Park in Sylva. Project Size = 53 sq. miles; Cost $73,358; Role: Project Manager

b.

(1) TITLE AND LOCATION *(City and State)*: Greenius Way In-fill, LID, Green Infrastructure, Asheville, NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2024 | CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Equinox planned, designed and permitted a 17 lot, 4.3AC LID and net-zero carbon infill development off of Emma Road in Asheville. The plan utilizes a low profile and curbless road cross-section and diverts all road water and roof water into bioswales and drop pools running along the road. Project Size = 4.3 acres; Cost $71,587.00; Role: GIS

c.

(1) TITLE AND LOCATION *(City and State)*: Riverside Park and Whitewater Wave, Woodfin, NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2024 | CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Equinox designed this park project to include nature based and green infrastructure design. Equinox also provided interpretive educational signage and environmental permitting for a whitewater wave that is being constructed in the French Broad River. Project Size = 6.7 acres; Cost $543,509.00; Role: GIS & Hydrologic Modeling

d.

(1) TITLE AND LOCATION *(City and State)*: Jonas Ridge Convenience Center & Cranberry Bog Nature Park, Burke Co. NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2023 | CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Equinox designed this park project to include nature based and green infrastructure design. Equinox also provided interpretive educational signage and environmental permitting for a whitewater wave that is being constructed in the French Broad River. Project Size = 9.5 acres; Cost $127,630.00; Role: GIS & Hydrologic Modeling

e.

(1) TITLE AND LOCATION *(City and State)*: Buncombe County Schools Stormwater Inspections

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2024 | CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Equinox provides yearly monitoring of stormwater measures throughout the Buncombe County Schools properties. A report includes recommended actions to improve the function of the stormwater systems. Project size = county wide; Cost $11,086.00 Annually; Role: Inspections

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jason Seickel	Landscape Architecture	7	7

15. FIRM NAME AND LOCATION *(City and State)*

Equinox Environmental Consultation & Design, Inc.

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
Master of Landscape Architecture, University of Florida; B.S. Secondary Education - Physics, University of Central Florida	Professional Landscape Architect, North Carolina

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: Silverline Park, Woodfin, NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2022; CONSTRUCTION *(If applicable)*: 2022

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Equinox designed a community park along the French Broad River for resiliency utilizing green infrastructure and innovative stormwater control measures. The project features constructed wetlands, restoration of an existing wetland and grading to allow natural flood cycles of the river to minimize impacts. Project Size = 5.4 acres; Cost $310,575.00; Role: Project Manager

b.

(1) TITLE AND LOCATION *(City and State)*: Willow Pond at the NC Arboretum, Buncombe County, NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2020; CONSTRUCTION *(If applicable)*: 2020

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

This project located at the North Carolina Arboretum received an award for integrating stormwater design into an experiential outdoor classroom and habitat creation for the rare mole salamander. Project Size = 12 acres, Cost $78,800.00; Role: Grading

c.

(1) TITLE AND LOCATION *(City and State)*: Riverside Park and Whitewater Wave, Woodfin, NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2024; CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Equinox designed this park project to include nature based and green infrastructure design. Equinox also provided interpretive educational signage and environmental permitting for a whitewater wave that is being constructed in the French Broad River. Project Size = 6.7 acres; Cost $543,509.00; Role: Project Manager

d.

(1) TITLE AND LOCATION *(City and State)*: Jonas Ridge Convenience Center & Cranberry Bog Nature Park, Burke Co. NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: ; CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Equinox designed this park project to include nature based and green infrastructure design. Equinox also provided interpretive educational signage and environmental permitting for a whitewater wave that is being constructed in the French Broad River. Project Size = 9.5 acres; Cost $127,630.00; Role: Project Manager

e.

(1) TITLE AND LOCATION *(City and State)*: Black Bear Campground LID Regenerative Stormwater Conveyance, Marion, NC

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: 2023; CONSTRUCTION *(If applicable)*: 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Equinox designed a day use area and campground utilizing Low Impact Development techniques which included numerous stormwater control measures. One innovative application for the mountainous terrain of the site included a regenerative stormwater conveyance system with drop pools. Project Size = 80 acres; Cost $84,075.00; Role; Project Manager

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Matt Burnette, PG, PH, CFM	Water Resources Lead	11	1

15. FIRM NAME AND LOCATION ***(City and State)***

Weston & Sampson of NC, P.C. , Apex, North Carolina

16. EDUCATION ***(DEGREE AND SPECIALIZATION)***

M.S., Hydrology, North Carolina State University
B.S., Hydrology, Western Carolina University

17. CURRENT PROFESSIONAL REGISTRATION ***(STATE AND DISCIPLINE)***

Professional Geologist, North Carolina (#2599)
Professional Hydrologist (#100-SW-728)
Certified Floodplain Manager, North Carolina No. NC-20-0799

18. OTHER PROFESSIONAL QUALIFICATIONS ***(Publications, Organizations, Training, Awards, etc.)***

Surface Water Training and Identification Certification, North Carolina (#977T-1117)

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*

Beaverdam Creek Master Planning, Phase 1 Improvements
Town of Princeton, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
October 2021	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Project Manager. Developed masterplan for the Beaverdam Creek, identifying multiple areas for improvements within the Town limits. A key culvert crossing at Pearl Street and Center Street was identified as being undersized and in-need of replacement. As well, multiple other crossings were undersized or had been replaced with smaller culverts when the roads were lost from Hurricane Matthew. The Beaverdam Creek had also become incised, causing slope erosion and introducing debris, further restricted the drainage system. One of the worst areas was adjacent to the Town's wastewater treatment plant (WWTP), where a bank failure had undermined the power source for the plant which served the entire Town.

b.

(1) TITLE AND LOCATION *(City and State)*

Duffyfield Stormwater Enhancements Master Planning
City of New Bern, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
October 2019	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Project Manager. TRC, then Draper Aden Associates, provided professional engineering and landscape architecture services for the preliminary evaluation and assessment of stormwater improvement measures within the Duffyfield Community in the City of New Bern. Engineering services included performing the overall drainage area delineation, estimating peak flow and runoff volumes for various storms from the drainage area, and quantifying the amount of water quality benefits so the City could understand potential stormwater improvement measures within the Duffyfield Community.

c.

(1) TITLE AND LOCATION *(City and State)*

Vandemere Drainage Improvement Plan
Town of Vandemere, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
October 2019	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Project Manager. In 2019, TRC, then Draper Aden Associates, was retained to analyze the stormwater infrastructure throughout the Town. Our services included a field survey of Town and private stormwater infrastructure, hydraulic and hydrologic analysis of existing infrastructure, and preliminary recommendations to improve drainage and mitigate sunny day flooding. TRC's deliverable consisted of an inventory of driveway culverts and drainage piping along Town streets, as well as grading recommendations for roadside drainage.

e.

(1) TITLE AND LOCATION *(City and State)*

Neuse River and Lumber River Flood Study and Dam Assessment Support
Various Counties, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
March 2020	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Project Manager. As part of the North Carolina's recovery and resiliency effort, the North Carolina Department of Environmental Quality solicited support for flooding and dam assessments for numerous dams throughout Wake, Johnston, Durham, Wayne, Wilson, Moore and Montgomery counties. TRC Engineers (then Draper Aden Associates) was selected to provide surveying and engineering services related to the assessment of fifty dams (25 in each river basin) as part of this effort. Utilizing the Army Corp of Engineer's Hydrologic Modeling System (HEC-HMS), TRC determined approximate peak flow discharges for the 25-, 50-, 100-, 200-, 500-, and 1,000-year storm event.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS PROJECT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Marla Ashworth	Funding Administration	25	3

15. FIRM NAME AND LOCATION *(City and State)*

TRC, Cary, North Carolina

16. EDUCATION *(DEGREE AND SPECIALIZATION)*

B.S./2006/Science

17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

19. RELEVANT PROJECTS

a. (1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Feb. 2024 – Ongoing (June 2024)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Funding Administration. TRC provided survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

b. (1) TITLE AND LOCATION *(City and State)*

Beaverdam Creek Master Planning, Phases 1, 2, and 3 Improvements
Town of Princeton, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2021 - Ongoing	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Funding Administration. Developed masterplan for the Beaverdam Creek, identifying multiple areas for improvements within the Town limits. Oversaw construction implementation of Phase 1 and 2 improvements.

c. (1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Assessment.
Town of Selma, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Jan. 2024 – July 2024	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Funding Administration. TRC provided survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town. TRC provided our completed geodatabase to the Town on time and on budget.

d. (1) TITLE AND LOCATION *(City and State)*

Princeton Stormwater Asset Inventory and Management Plan
Town of Princeton, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
March 2024 – Ongoing (July 2025)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Funding Administration. TRC provided survey, asset inventory and assessment, and stormwater management planning services for the Town's stormwater drainage system. TRC is currently preparing a town-wide drainage model and capital improvement plan. Services also include development of a stormwater utility implementation plan.

e. (1) TITLE AND LOCATION *(City and State)*

Stormwater Asset Inventory and Management Plan
Town of Walstonburg, NC

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
March 2024 – Ongoing (July 2025)	

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Funding Administration. TRC provided survey, asset inventory and assessment, and stormwater management planning services for the Town's stormwater drainage system. TRC is currently preparing a town-wide drainage model and capital improvement plan. Services also include development of a stormwater utility implementation plan.

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 1

21. TITLE AND LOCATION *(City and State)*
Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
February 2024 to May 2025 (Ongoing)	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Town of Boone	George Santucci	828.268.6200

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



TRC was selected by the Town of Boone to provide survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. Spread across six square miles of the Blue Ridge Mountains, the Town of Boone's drainage system consists of a complex mixture of pipes, inlets, and channels that includes Appalachian State University. The Town maintained two individual GIS-data sets for their stormwater infrastructure. This is existing data was a mixture of survey and mapping grade, from multiple inspections, and had multiple data gaps.

TRC utilized ESRI's UtilityNetwork geodatabase schema as the basis for the Town's new stormwater inventory. Once acceptable to the Town, TRC developed an ESRI Field Maps application that would populate the UtilityNetwork-ready database with information on the spatial location, material, size, and structure conditions at each location.

TRC deployed a team of experienced surveyors to collect information on stormwater infrastructure, including pipe size, material, and elevations, structure type, multiple condition inspection points, and photographs. Each structure was collected utilizing a Trimble R12i GPS, which provided survey grade accuracies in both the vertical and horizontal datums. Due to efficiencies in TRC's field collection, we were able to provide additional structure assessments and surveys above the guaranteed total within the proposal as a value-added service. TRC collected information on over 2,000 stormwater structures, approximately 30% more than originally anticipated at no additional cost to the Town!

TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

Design Contract Value - $385,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	TRC Engineers, Inc.	Cary, NC	Civil Engineering, Surveying, SUE

TRC EQUINOX balance through proper planning Weston & Sampson

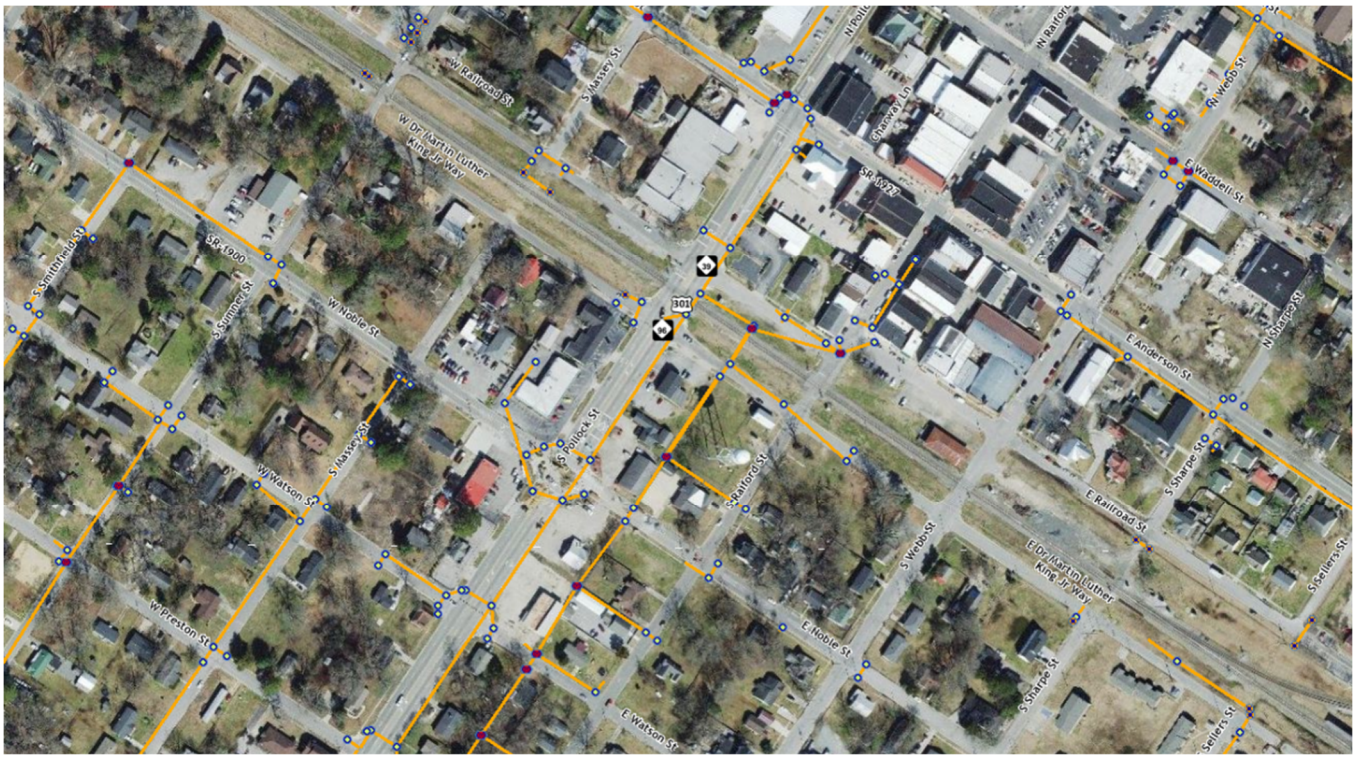
F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER 2

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Stormwater Asset Inventory **Town of Selma, NC**	January 2024 to July 2024	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Town of Selma	Chief Phillip McDaniel	919.524.6579

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



In 2022, TRC assisted the Town of Selma with applying for a Department of Water Infrastructure Local Assistance for Stormwater Infrastructure Investments (LASII) program. Utilized to provide planning funding to municipalities who have demonstrated water quality and quantity problems, TRC's application was successful in helping the Town obtain $345,000!

TRC, as part of a team, was selected by the Town of Selma to provide survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. These storms impact roads and homes, with the Town having multiple flood rescues during unnamed storms.

Utilizing a geodatabase schema acceptable to the Town, TRC developed an ESRI Field Maps application that would populate the geodatabase with information.

TRC deployed a team of experienced surveyors to collect information on stormwater infrastructure, including pipe size, material, and elevations, structure type, multiple condition inspection points, and photographs. Each structure was collected utilizing a Trimble R12i GPS, which provided survey grade accuracies in both the vertical and horizontal datums.

TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town.

TRC provided our completed geodatabase to the Town on time and on budget.

Design Contract Value - $105,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	TRC Engineers, Inc.	Cary, NC	Civil Engineering, Surveying, SUE

TRC EQUINOX balance through proper planning Weston & Sampson

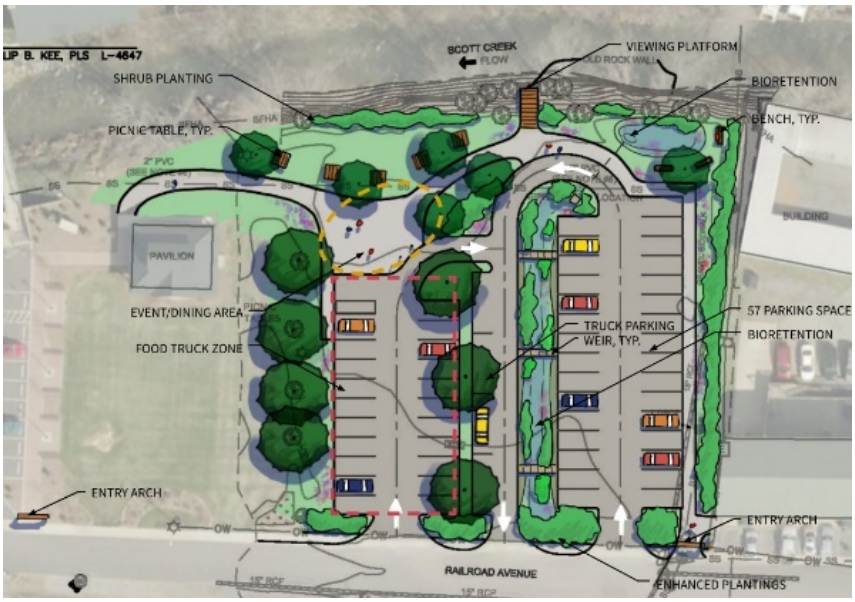
F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER 3

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Bridge Park Conceptual Plan Town of Sylva, NC	2021	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Town of Sylva	Paige Dowling, Town Manager	828.586.2719

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



As a part of the Scott's Creek Watershed Action Plan that Equinox developed in 2018, Bridge Park was listed as an important location to implement stormwater control measures to help improve water quality in Scott's Creek.
In 2021, the Town of Sylva hired Equinox to develop a plan for creating a stormwater control measure within the parking area for the existing community park. This plan includes a system of interconnected bioretention cells, a more functional parking arrangement, a variety of native plantings, and an accessible sidewalk connection to the park. The project involved data collection, a topographical survey, conceptual design, and construction documents.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	Equinox Environmental	Asheville, NC	Stormwater Design, Planning, Landscape Architecture

TRC EQUINOX balance through proper planning Weston & Sampson

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 4

21. TITLE AND LOCATION *(City and State)*
New Belgium Brewery Stream and Stormwater Project
Asheville, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2016	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT EMAIL
New Belgium Brewery	Sarah Fraser, Sustainability Specialist	sfraser@newbelgium.com

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*







This award winning project included stream restoration, wetland creation, and green infrastructure design to create a park-like setting while addressing water quality enhancements.

The project included site analysis, environmental permitting, design, plan preparation, construction oversight, construction for the innovative stormwater BMPs, and restoration of Penland Creek. Penland Creek was a degraded urban ditch that flowed through the center of the site. The restoration of the creek that serves as a central feature of the New Belgium Brewery landscape, involved re-constructing Penland Creek as a rapid-cascade and step-pool stream through the urban setting of the brewery. Site constraints, client needs, and environmental concerns provided numerous challenges for this project. These concerns resulted in requiring the stream channel bed to be undercut to remove contaminated soil and installation of underlining to prevent potential future groundwater contamination seepage. The stream restoration incorporated the surrounding infrastructure, reestablished a natural channel and riparian corridor within a confined valley, and provided public connection to naturalized areas.

The interconnected stormwater BMPs were designed for water quality benefit while being located within a Brownfields site. The BMPs were designed with native plants to increase the infiltration of water and clean it through the microbial activity of plant roots and soils, while also providing habitat.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	Equinox Environmental	Asheville, NC	Stormwater Design, Planning, Landscape Architecture

TRC EQUINOX balance through proper planning Weston & Sampson

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 5

21. TITLE AND LOCATION *(City and State)*
Climate Ready Resilient Stormwater Plan
Towns of Richmond & West Stockbridge, MA

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
June 2023	

23. PROJECT OWNER'S INFORMATION

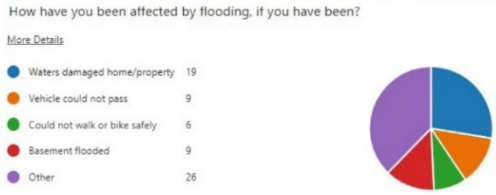
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT PHONE
Municipal Vulnerability Preparedness Program	Carrieanne Petrik, Regional Coordinator	617.875.0911

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*











The Towns of Richmond and West Stockbridge are facing increasingly extreme riverine and stormwater flooding events on roads, floodplains, and adjacent properties, which already experience flood and erosion impacts. Using grant funds from the Massachusetts Municipal Vulnerability Preparedness (MVP) Program, the towns retained Weston & Sampson to prepare a Resilient Stormwater Action & Implementation Plan for the region. The goal of the plan was to determine the climate factors driving flooding and stormwater runoff that impact the towns today and could in the future; identify opportunities for nature-based and green infrastructure (GI) solutions within three watersheds; and provide a prioritized list of evaluated and implementable projects to help minimize future flooding and stormwater impacts.

Weston & Sampson implemented a field data collection program to minimize current data gaps and validate existing information. They also performed climate projection modeling to help predict future climate rainfall over multiple design storm events, using the stormwater model to identify potential flood-prone areas and evaluate the potential benefit of various green and gray stormwater management practices under existing and future climate conditions. Based on this data, they identified 56 potential projects that utilize bioretention, stream restoration, green infrastructure, dam removal, culvert redesign, and more.
Input on stormwater problem areas and priority solutions was gathered through community survey, tabling events, and public meetings. A demonstration rain garden was installed at West Stockbridge's Town Hall, and a web-based story map was created to help residents learn about existing green infrastructure projects in the county. Engagement activities associated with the project, including webinars targeting waterfront landowners, interviews with agricultural operators, and community education, also helped inform and mobilize members of the community to address stormwater on their own properties.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	Weston & Sampson	Lowell, MA	Community EngagementStormwater Master Planning

TRC EQUINOX balance through proper planning Weston & Sampson

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 6

21. TITLE AND LOCATION *(City and State)*
Beaverdam Creek Master Planning, Phase 1 and 2 Improvements
Town of Princeton, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
November 2017 to November 2019	November 2019 to July 2024

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Town of Princeton	Michael King, Town Administrator	919.936.8171

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



When multiple culvert crossings were lost due to floodwaters from Hurricane Matthew, the Town of Princeton selected TRC to develop a master plan for improvements of the Town's northern drainage system, identifying possible upfits and rehabilitation projects to assist with flood resiliency.

This masterplan for the Beaverdam Creek identified multiple areas for improvements within the Town limits. A key culvert crossing at Pearl Street and Center Street was identified as being undersized and in-need of replacement. As well, multiple other crossings were undersized or had been replaced with smaller culverts when the roads were lost from Hurricane Matthew. The Beaverdam Creek had also become incised, causing slope erosion and introducing debris, further restricted the drainage system. One of the worst areas was adjacent to the Town's wastewater treatment plant (WWTP), where a bank failure had undermined the power source for the plant which served the entire Town.

Following our planning efforts, TRC assisted the Town with multiple grant applications to help fund the project. Due to the scale of the project, the improvements were split into multiple phases, based upon the funding sources identified. In 2018, TRC prepared a GoldenLEAF Foundation grant application, resulting in approximately $500,0000 in grant funding for the project for Phase 1 improvements.

In 2022, TRC assisted the Town with obtaining a grant from Johnston County and the NC Department of Agriculture's StRAP program, totaling in an additional $702,288 of funding for a second phase of improvements, focusing on reinforcing the Beaverdam Creek bank at the WWTP and removing debris throughout the downstream portion of the creek to the Town's limits.

TRC provided surveying, design, environmental and road permitting, bidding assistance, grant assistance, easement acquisition support, and construction administration throughout Phase 1 and 2 of the rehabilitation project. Phase 1 consisted of stabilizing approximately 510 feet of the Beaverdam Creek, the main drainage system for much of the Town. The existing dual culvert system, as well, was replaced with a large aluminum box culvert and headwall system. Phase 2 included removal of vegetative debris and sediment from approximately one mile of the lower Beaverdam Creek. As well, the slope adjacent to the Town's WWTP grit chamber was reinforced with concrete, riprap, and the power pole relocated.
In 2024, TRC assisted the Town with applying for a FEMA Building Resilient Infrastructure and Communities (BRIC) grant through a competitive process led by the NC Department of Public Safety. Totaling in over $2.1 million dollars, the Town's application moved into the more detailed round of review in August 2024. TRC is proud to have assisted the Town with applying for and obtaining millions of dollars to help fund their resiliency and flood mitigation goals!
Design Contract Value (Combined) - $210,260

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	TRC Engineers, Inc.	Cary, NC	Civil Engineering, Surveying, SUE

TRC EQUINOX balance through proper planning Weston & Sampson

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 7

21. TITLE AND LOCATION *(City and State)*
Duffyfield Community Stormwater Enhancements Master Planning
City of New Bern, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
August 2019 to September 2019	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of New Bern, NC	George Chiles, Public Works Director	252.636.4000

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



TRC provided professional engineering and landscape architecture services for the preliminary evaluation and assessment of stormwater improvement measures within the Duffyfield Community in the City of New Bern.
The preliminary evaluation and assessment were conducted to support the City's Development Services Department in various grant applications to fund overall project development and construction. Our engineering services included performing the overall drainage area delineation, estimating peak flow and runoff volumes for various storms from the drainage area, and quantifying the amount of water quality benefits so the City could understand potential stormwater improvement measures within the Duffyfield Community.
After performing the preliminary engineering analyses, we developed a preliminary conceptual design for proposed stormwater enhancements. The conceptual design considered the many site constraints within the area, including the railroad, public utilities, roadways, and location of properties already purchased by the City.
Additionally, we worked with both the City's Development Services and Public Works Departments to develop a conceptual design that would not only improve the overall quality of the Duffyfield Community but could be easily maintained by City staff.
Finally, TRC developed planning level cost estimations and construction sequencing for the overall transformation of the Duffyfield Community. This would allow for the City to complete phases of the project based on the availability of funding.

Design Contract Value (Combined) - $15,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	TRC Engineers, Inc.	Cary, NC	Civil Engineering

TRC EQUINOX balance through proper planning Weston & Sampson

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 8

21. TITLE AND LOCATION *(City and State)*
Tropical Storm Fred Damage Inventory, Assessments, & Repairs
Buncombe, Haywood, & Transylvania Counties, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
October 2021 to January 2022	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
NC Office of State Budget Management	John Donachie, Operations Manager	984.236.0734

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



In August 2021, Tropical Storm Fred swept through the western region of North Carolina dropping a historical amount of rainfall in a very short period. This caused significant and damaging flooding in Haywood, Transylvania, and Buncombe Counties. Tremendous damage occurred to private property, roadways, and critical infrastructure throughout the region.

Through a partnership with the North Carolina Office of State Budget Management – Disaster Recovery Unit, TRC was selected to complete inspections and assessments of private residential property accesses that were damaged or affected by the significant flooding. These assessments were focused on private bridges and culverts within ditches, creeks, and streams not considered to be maintained by NCDOT.

TRC quickly mobilized a dedicated group of skilled survey crews and managers to attack this emergency work. Within 10 days of notice- to-proceed, a mobile GIS data acquisition survey was developed, tailored specifically to this project, allowing six survey crews to mobilize into the area in October 2021 and begin field assessments. Data collection included a description of the damage, severity, the number of impacted homes, site address, GPS location, preliminary construction cost estimates, and photographs. Data was collected and available for review by the stakeholders in real time, with a final printed report and GIS geodatabase to be provided upon completion of the assessments at the end of 2021.

After approximately four weeks of assessments, a total of 604 sites were surveyed and data forms completed. After completion of assessments, projects of critical and emergency need entered the design and construction phase immediately.
TRC completed several task orders related to the recovery. These task orders included culvert replacements, bridge repairs, and land slide repairs. TRC services included survey, geotechnical, civil and water resources engineering, as well as construction administration.

Design Contract Value - $125,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	TRC Engineers, Inc.	Cary, NC	Civil Engineering

TRC EQUINOX balance through proper planning Weston & Sampson

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: n/a

PART G – Key Personnel Participate in Example Projects

Names of Key Personnel	Role in This Contract	Example Projects Listed in Section 3.									
		1	2	3	4	5	6	7	8	9	10
Tyrus Clayton, Jr., PE	Principal-in-Charge	X	X				X	X	X		
Luke Baker, PG	Project Manager	X	X				X	X	X		
Ian Spurlock, PE	Civil Engineering Lead	X	X				X				
Chris Valdez, PE	Civil Engineer	X									
Jacob Elliot, PLS	Survey Lead	X	X				X				
Amber Horrie	GIS Lead	X	X								
Danvey Walsh	Green Infrastructure Design			X	X						
Jason Sieckel	Green Infrastructure Design			X	X						
Matt Burnette, PG, PH, CFM	Water Resources					X	X	X			
Marla Ashworth	Funding Administration		X				X				

Example Projects Key

No.	Title of Example Project from Section 3	No.	Title of Example Project from Section 3
1	Boone, NC – Stormwater Asset Inventory & Master Planning	6	Beaverdam Creek Master Plan, Phase 1 and 2 Improvements
2	Selma, NC – Stormwater Asset Inventory	7	Duffyfield Stormwater Enhancements Master Plan
3	Sylva, NC – Bridge Park Conceptual Plan	8	Tropical Storm Fred Inventory, Assessments, and Repairs
4	New Belgium Brewery Stream & Stormwater Project	9	
5	Climate Ready Resilient Stormwater Plan	10	

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE

March 14, 2025

c. NAME AND TITLE

C. Tyrus Clayton, Jr., PE
Director – NC Site Development and Civil

Project Approach

Begin With the End in Mind

As with all our successful projects, the TRC team crafts our methodology from the beginning with the client's end goals in mind. With this focus, TRC will meet with the City and any local stakeholders prior to beginning the project to identify problem areas and known data gaps. This will enable the TRC team to focus our scope of work, as well as minimize the risk of change orders, and plan our approach in the most efficient and comprehensive manner.

TRC will review any existing information — such as existing inventories, as-builts, drainage studies, or plans — to identify gaps and areas of focus. If digital information does not exist, TRC will perform a desktop review to identify the approximate location of infrastructure. This allows our field effort to be more targeted during the later inventory and assessment phase. The field assessment is often the most labor intensive and costly portion of any asset inventory and assessment project. By identifying these gaps and understanding critical areas, we can focus on our goals of reducing timelines and providing better value to the City. We are committed to assisting the Town in procuring the maximum amount of data with the available funding.

Prior to engaging our field personnel, TRC's water resources professionals will utilize publicly available data, such as LiDAR or USGS Topographic Maps, to develop a preliminary subbasin map of the City's corporate limits. This allows us to more easily identify where contributing drainage infrastructure may be, eliminate overlap of field services, and provide a more detailed assessment in our known problem areas.

In-House Geomatics, Surveying, and SUE

Following initial engagement and data review, TRC's in-house geomatics team will assemble a field data collection application utilizing ESRI's Field Maps, Survey123, or similar application, which will include a web application to allow the Town to track progress throughout the field efforts. TRC can also provide this application to the Town's organizational account upon project completion to allow future collection of stormwater assets by Town staff.

TRC will deploy members from our geomatics and surveying team to collect information within our project areas. TRC will utilize a GNSS Trimble R12i GPS receiver for this work, capable of achieving survey-grade (less than 0.1') accuracies in both the vertical and horizontal datums. This receiver will be paired with the ESRI inspection application generated, operated through an iPad or similar device, to collect infrastructure condition comments, pipe size, material, asset photos, and other notes, in addition to spatial information. In areas with poor GPS connectivity, TRC can provide traditional survey methods in order to accurately locate your stormwater infrastructure.

All of our collected data is uploaded instantly to the web map for review and tracking, with access provided both to Town staff as well as TRC's and Weston & Sampson's water resources team.

In addition to survey information, TRC's subsurface utility team are available to perform closed circuit TV inspection of drainage infrastructure. This can help identify blockages, failures, or blind connections to help fill in areas missing information.

Finger on the Pulse

Concurrent with field data collection, TRC's community resource specialists will begin a community engagement phase. Shortly after kickoff, a community survey will be assembled and published for City residents to provide input on concerns, problem areas, and desired outcomes and other information to help guide our planning process. Responses will be compiled and prioritized based on repeated entries or sensitive communities. Throughout the planning process, community meetings will be held. These meetings, held in-person in the community, will be open to residents to come and review prepared concepts, offer additional feedback, and participate in the design process.

Condition Assessment Expertise

TRC's staff includes professionals with experience assisting municipalities across North Carolina and Virginia with assessing public infrastructure. Our field assessment allows our inspectors to step through every element of the asset, with key questions in mind. Is the inlet damaged or offset? Are there signs of infiltration through the structure walls? Has debris or sediment accumulated in the pipes, restricting flow?

TRC's tailor-made stormwater infrastructure inspection tool allows our inspectors to be laser-focused in their assessment. Following the assessment, we will photograph each asset, including the structure approach (with identifiable background features), the inlet, the bench, and each invert. This data will be stored within the project geodatabase, which will be a final deliverable we will provide to the City.

Increasing Resiliency

While the knowledge of the location and condition of an asset on a sunny day is worthwhile, a comprehensive condition assessment requires an understanding of that asset on a rainy day. TRC and Weston & Sampson's water resources professionals will develop hydraulic and hydrologic models of the study area to assess stormwater infrastructure capacity and flooding extents.

Our Team is prepared to provide as detailed of analysis as desired for each area. Using the field information collected, our Team can provide flood models for urban drainage systems to streams, creeks, and rivers.

With increasing development, storm intensity, and aging infrastructure, it is vital that a capital improvement plan understand the Town's problem

areas, while identifying where those may be in 5, 10, or 20 years. TRC's water resources professionals have experience with HEC-RAS, CivilStorm, PCSWMM, and other stormwater modeling software that can be used to model the existing drainage system and identify improvements that provide the Town more resiliency.

While the knowledge of the location and condition of an asset on a sunny day is worthwhile, a comprehensive condition assessment requires an understanding of that asset on a rainy day. TRC and Weston & Sampson's water resources professionals will develop hydraulic and hydrologic models of the study area to assess stormwater infrastructure capacity and flooding extents.

Nature-Based Solutions & Green Infrastructure

As we have seen from recent storms, the need to plan for nature's integration into our resiliency strategies has never been more critical. The key is to design and implement solutions that mimic the natural water cycle, enhancing a community's ability to adapt to climate change and extreme weather events. This can include strategies like permeable pavements, green roofs, rain gardens, and bioswales, all of which help manage stormwater onsite, increase groundwater recharge, and reduce peak discharge rates. Green infrastructure also provides an opportunity to improve water quality by filtering pollutants before they reach waterways, mitigating flood risks, and reducing pressure on traditional drainage systems. Integrating green stormwater into urban landscapes can make cities more resilient to flooding, droughts, and rising temperatures, while also offering long-term cost savings compared to conventional stormwater infrastructure. This holistic approach not only addresses immediate water management challenges but also supports a sustainable, adaptive future. Our team of landscape architects, planners, and engineers are experienced with identifying, planning, and enacting nature-based solutions from the conceptual level through construction and restoration monitoring.

Master Planning Expertise

A successful stormwater management project does not end with the collected data and analysis. Following completion of our field inventory and analyses, TRC will prepare a report, discussing the state of the drainage system and any deficiencies identified.

We will provide a printout of each inspection report, identifying pipe size, materials, any damage, debris, or other elements for consideration. In addition to physical damages, TRC will utilize the results of our analyses to include improvements to help mitigate or eliminate flooding. The provided capital improvement plan will discuss our assessment procedures, modeling results, ranking methodology and priority ranking. Conceptual improvements or layouts can also be prepared to support the plan. Each improvement will include a preliminary construction cost estimate.

A comprehensive capital improvement and system master plan is vital in understanding current and future needs, as well as planning to fund those expenditures. In addition, a capital improvement plan can be critical in obtaining future grant or loan funding. TRC maintains a local staff of municipal and funding specialists who can provide expertise in applying, obtaining, and administering grants or other funding opportunities.

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE | **b. DATE**



March 14, 2025

c. NAME AND TITLE

C. Tyrus Clayton, Jr., PE
Director – NC Site Development and Civil

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (*or Branch Office*) NAME TRC Engineers, Inc.	3. YEAR ESTABLISHED 1923
	4. UNIQUE ENTITY IDENTIFIER GA9NC9RFYU35
2b. STREET 705 Dogwood Road	5. OWNERSHIP a. TYPE C-Corporation
2c. CITY: Asheville 2d. STATE: NC 2e. ZIP CODE: 28806	b. SMALL BUSINESS STATUS N/A
6a. POINT OF CONTACT NAME AND TITLE C. Tyrus Clayton Jr., PE – Director, NC Site Development and Civil	7. NAME OF FIRM *(If Block 2a is a Branch Office)*
6b. TELEPHONE NUMBER 919.795.6302 6c. EMAIL ADDRESS TClayton@trccompanies.com	
8a. FORMER FIRM NAME(S) *(If any)*	8b. YEAR ESTABLISHED 8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. Number of Employees (1) FIRM	c. Number of Employees (2) BRANCH
02	Administrative	1576	
05	Archeologist	182	
06	Architect	18	
07	Biologist	29	
08	CADD Technician	59	
12	Civil Engineer	320	1
13	Communications Engineer	7	
14	Computer Programmer	227	
21	Electrical Engineer	715	7
23	Environmental Engineer	204	1
24	Environmental Scientist	454	
29	GIS Specialist	195	
30	Geologist	94	
15	Construction Inspector	353	
38	Land Surveyor	27	
48	Project Manager	833	
57	Structural Engineer	31	
58	Technician/Analyst	1848	
	Others	303	9
	Total	7475	18

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
C11	Community Facilities	5
C14	Conservation and Resource Management	3
C15	Construction Management	8
C16	Construction Surveying	1
E09	Environmental Impact Studies, Assessments	8
E10	Environmental and Natural Resource Mapping	1
E11	Environmental Planning	2
E12	Environmental Remediation	6
E13	Environmental Testing and Analysis	7
G04	Geographic Information System Services: Development, Analysis, and Data Collection	6
H03	Hazardous, Toxic, Radioactive Waste Remediation	5
H07	Highways; Streets; Airfield Paving; Parking Lots	7
H13	Hydrographic Surveying	1
L02	Land Surveying	1
S10	Surveying; Platting; Mapping; Flood Plain Studies	8
S13	Stormwater Handling & Facilities	5
T03	Traffic & Transportation Engineering	10
W02	Water Resources; Hydrology; Ground Water	8
Z01	Zoning; Land Use Studies	1

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	10
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE

March 14, 2025

c. NAME AND TITLE

C. Tyrus Clayton, Jr., PE
Director – NC Site Development and Civil

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: n/a

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (*or Branch Office*) NAME: TRC Engineers, Inc.		3. YEAR ESTABLISHED: 1969	4. UNIQUE ENTITY IDENTIFIER: 05-418-3884
2b. STREET: 114 Edinburgh South Drive, Suite 200		5. OWNERSHIP	
2c. CITY: Cary	2d. STATE: NC / 2e. ZIP CODE: 27511	a. TYPE: C-Corporation	
6a. POINT OF CONTACT NAME AND TITLE: C. Tyrus Clayton Jr., PE – Director, NC Site Development and Civil		b. SMALL BUSINESS STATUS: N/A	
6b. TELEPHONE NUMBER: 919.827.0864	6c. EMAIL ADDRESS: TClayton@trccompanies.com	7. NAME OF FIRM *(If Block 2a is a Branch Office)*	
8a. FORMER FIRM NAME(S) *(If any)*: Draper, Marks, Aden and Associates		8b. YEAR ESTABLISHED: 1972	8c. UNIQUE ENTITY IDENTIFIER: 06-235-5177

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. Number of Employees (1) FIRM	c. Number of Employees (2) BRANCH
02	Administrative	1576	2
08	CADD Technician	59	2
12	Civil Engineer	320	6
23	Environmental Engineer	204	3
24	Environmental Scientist	454	6
29	GIS Specialist	195	1
30	Geologist	94	2
15	Construction Inspector	353	3
38	Land Surveyor	27	4
48	Project Manager	833	1
57	Structural Engineer	31	1
58	Technician/Analyst	1848	7
	Others	1,481	3
	Total	7475	41

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
E01, E09, E10, E11, E12, E13, S07, W02	Environmental Services	9
C15, C16, S05, T02	Geotechnical Engineering and Construction Testing, Inspections	10
P09	Site Development and Infrastructure	6
S09	Structural Engineering	5
A02, H13, L02, P03, S10, T04	Surveying, Scanning, Aerial	6
S04, W03	Utilities Engineering	8

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	10
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE: March 14, 2025

c. NAME AND TITLE

C. Tyrus Clayton, Jr., PE
Director – NC Site Development and Civil

TRC EQUINOX balance through proper planning Weston & Sampson

ARCHITECT – ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*

PART II – GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Equinox Environmental Consultation & Design, Inc.	3. YEAR ESTABLISHED 1998
2b. STREET 14 O'Henry Ave, Suite 206	4. UNIQUE ENTITY NUMBER M2KMHDZ8GML7
2c. CITY Asheville	2d. STATE NC
	2e. ZIP CODE 28801
6a. POINT OF CONTACT NAME AND TITLE David Tuch, President	5. OWNERSHIP a. TYPE Corporation
6b. TELEPHONE NUMBER 828.253.6856 ext. 202	6c. E-MAIL ADDRESS David@Equinoxenvironmental.com
	b. SMALL BUSINESS STATUS SBE
	7. NAME OF FIRM *(If block 2a is a branch office)*

8a. FORMER FIRM NAME(S) *(If any)*	8b. YR. ESTABLISHED	8c. DUNS NUMBER
N/A	N/A	N/A

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	(2) BRANCH	a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
02	Administrator	1	1	C01	Cartography	1
07	Biologist	1	1	C14	Conservation & Resource	1
08	CADD Technician	1	1	E01	Ecological & Archeological	1
19	Ecologist	1	1	E09	EIS, Assessments & Statements	1
24	Environmental Scientist	2	2	E10	Environment & Natural Resource	2
29	GIS Specialist	1	1	E11	Environmental Planning	1
39	Landscape Architect	4	3	G04	GIS Services	1
47	Planner Urban/Regional	2	2	G06	Graphic Design	1
				L03	Landscape Architecture	2
				P05	Planning (Community, Regional, etc)	1
				P06	Planning (Site, Installation, & Project)	2
				R04	Recreation Facilities	4
				S13	Storm Water Handling & Facilities	1
				W02	Water Resource; Hydrology;	1
				Z01	Zoning; Land Use Studies	1
	Other Employees					
	Total					

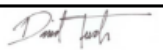
11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work	
b. Non-Federal Work	5
c. Total Work	5

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE 3/10/2025
c. NAME AND TITLE David Tuch, President	

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (*or Branch Office*) NAME
WSE of North Carolina, PC

3. YEAR ESTABLISHED: 2019

4. UNIQUE ENTITY IDENTIFIER: UERUKNFQN3D5

2b. STREET: 2052 Energy Drive

2c. CITY: Apex

2d. STATE: NC

2e. ZIP CODE: 27502

5. OWNERSHIP
a. TYPE: Privately Held Corporation
b. SMALL BUSINESS STATUS: Not Applicable

6a. POINT OF CONTACT NAME AND TITLE: Kevin Hutchens, PE, Regional Manager

6b. TELEPHONE NUMBER: 919-297-0220

6c. EMAIL ADDRESS: hutchens.kevin@wseinc.com

7. NAME OF FIRM *(If Block 2a is a Branch Office)*: Weston & Sampson

8a. FORMER FIRM NAME(S) *(If any)*	8b. YEAR ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Robert Spurr Weston	1899	Not Applicable
Weston & Sampson (partnership)	1916	Not Applicable
Weston & Sampson Engineers, Inc.	1976	UERUKNFQN3D5

9. EMPLOYEES BY DISCIPLINE

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Function Code	b. Discipline	c. Number of Employees (1) FIRM	c. Number of Employees (2) BRANCH	a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
02	Administrative	120	5	B02	Bridges	7
06	Architect	28	1	C14	Conservation & Resource Management	6
08	CADD Technician	7		C15	Construction Management	4
10	Chemical Engineer	3		C18	Cost Estimating; Cost Engineering & Analysis; Parametric Costing; Forecasting	3
11	Chemist	1		D02	Dams *(Earth; Rock)*; Dikes; Levees	7
12	Civil Engineer	128	3	E09	Environmental Impact Studies; Assessments or Statements	7
14	Computer Programmer	5	1	E12	Environmental Remediation	7
15	Construction Inspector	27		H07	Highways; Streets; Airfield Paving	6
16	Construction Manager	12		H12	Hydraulics	6
18	Cost Engineer/Estimator	1		G04	Geographic Information System Services	5
21	Electrical Engineer	12		I06	Irrigation; Drainage	6
23	Environmental Engineer	67	1	L03	Landscape Architecture	10
24	Environmental Scientist	28		P02	Petroleum & Fuel (Storage & Distribution	7
27	Foundation/Geotechnical Engineer	10		P04	Pipelines (Cross-Country- Liquid & Gas)	6
29	Geographic Information System Specialist	6		P06	Planning (Site, Installation, & Project)	7
30	Geologist	24	1	R04	Recreation Facilities (Parks, Marinas, Etc.)	8
32	Hydraulic Engineer	2		R11	Rivers; Canals; Waterways; Flood Control	8
34	Hydrologist	10		S04	Sewage Collection, Treatment, & Disposal	10
38	Land Surveyor	1		S05	Soils & Geologic Studies; Foundations	1
39	Landscape Architect	42		S07	Solid Wastes; Incineration; Landfill	7
42	Mechanical Engineer	12		S09	Structural Design; Special Structures	7

46	Photogrammetrist	1		S12	Swimming Pools	10
47	Planner: Urban/Regional	21		S13	Storm Water Handling & Facilities	8
48	Project Manager	35		T02	Testing and Inspection Services	6
50	Risk Assessor	1		T03	Traffic & Transportation Engineering	10
51	Safety/Occupational Health Engineer	3		U03	Utilities (Water and Sewer)	10
52	Sanitary Engineer	78		W02	Water Resources; Hydrology; Ground Water	10
53	Scheduler	1		W03	Water Supply; Treatment & Distribution	10
55	Soils Engineer	1				
56	Specifications Writer	1				
57	Structural Engineer	11				
58	Technician/Analyst	33				
60	Transportation Engineer	34	4			
62	Water Resources Engineer	43				
63	Electrician	9				
64	Mechanic	28				
65	Foreman	7				
67	Laborer	13				
68	General Manager	12				
69	Waterworks Operator	7				
70	Wastewater Operator	25				
71	UAS Specialist	3				
72	Visualization	1	1			
73	Aquatics Engineer	4				
76	Driller	2				
77	Well & Pumps	20				
	Total	**940**	17			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

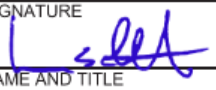
a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less Than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE



b. DATE
November 1, 2024

c. NAME AND TITLE
Kevin Hutchens, PE, Regional Manager

STANDARD FORM 330 (REV. 7/2021)

TRC EQUINOX balance through proper planning Weston & Sampson



Luke Baker, PG – Project Manager **TRC Office: Cary, NC**

Mr. Baker oversees the technical performance and construction management of various water resources and disaster recovery projects. He is responsible for stormwater design, hydrologic and hydraulic analyses, flood mitigation benefit-cost analysis, and GIS data collection. Mr. Baker has led the assessment of damages from Tropical Storm Fred and Hurricane Florence for municipalities across the State. Luke is also experienced with cost estimating, including FEMA's Benefit-Cost Analysis toolkit and Cost Estimating Format for FEMA Public Assistance programs.

Education:

North Carolina State University/BS/Geology and Earth Science/2016

Licenses / Certifications:

Professional Geologist/NC/2020/#2698
Qualifier/General Contractor License
Stormwater SCM Inspection and Maintenance Certification/NC State/NCDEQ/#4625

Relevant Project Experience:

- **Section 3 Example Project:** Beaverdam Creek Master Planning and Phase 1, 2, and 3 Improvements, Town of Princeton, NC
- **Section 3 Example Project:** Town of Boone Stormwater Asset Inventory and Stormwater Master Planning, Town of Boone, NC
- **Section 3 Example Project:** Duffyfield Stormwater Enhancements Master Planning, City of New Bern, NC
- **Section 3 Example Project:** TS Fred Damage Inventory, Assessments, and Repairs – Buncombe, Haywood, Transyvania Counties
- **Section 3 Example Project:** Town of Selma Stormwater Asset Inventory and Assessment, Town of Selma, NC
- Vandemere Drainage Master Planning, Assessment, and Improvements, Town of Vandemere, NC



Tyrus Clayton, PE – Principal / Quality Control **TRC Office: Cary, NC**

Mr. Clayton has utilized his engineering experience on a broad range of projects, including municipal infrastructure, stormwater management, site design, geotechnical investigations, construction administration, solid waste design, and solid waste construction quality assurance. He is responsible for directing numerous environmental, geotechnical, and civil engineering projects for municipalities, counties, private enterprises, general contractors, and state agencies.

Education:

North Carolina State University/ MS/Civil Engineering/2000
North Carolina State University/BS/Civil Engineering/1998

Licenses / Certifications:

Professional Engineer/NC/2003/#28909
Certified Stormwater BMP Reviewer, NC State/NCDEQ
Stormwater SCM Inspection and Maintenance Certification NC State/NCDEQ/#4648
Qualifier/NC General Contractor License

Relevant Project Experience:

- **Section 3 Example Project:** Town of Boone Stormwater Asset Inventory and Stormwater Master Planning, Town of Boone, NC
- **Section 3 Example Project:** Town of Selma Stormwater Asset Inventory and Assessment, Town of Selma, NC
- **Section 3 Example Project:** Beaverdam Creek Master Planning and Phase 1, 2, and 3 Improvements, Town of Princeton, NC
- **Section 3 Example Project:** Duffyfield Stormwater Enhancements Master Planning, City of New Bern, NC
- **Section 3 Example Project:** TS Fred Damage Inventory, Assessments, and Repairs – Buncombe, Haywood, Transyvania Counties
- Sparta Earthquake Retaining Wall Repair, Town of Sparta, NC

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Ian Spurlock, PE – Civil Engineering and Design — **TRC Office: Cary, NC**

Mr. Spurlock has over 10 years of experience performing and overseeing the design, permitting, and construction of land development and public infrastructure projects across North Carolina. Ian serves as the Team Leader for the Cary, North Carolina Infrastructure Group and leads a staff of engineers, designers, and other support staff.

Education:

University of Central Florida/BS/2011/Civil Engineering

Licenses / Certifications:

Professional Engineer/NC/047275
Professional Engineer/FL/84257/2017

Relevant Project Experience:

- **Section 3 Example Project:** Town of Boone Stormwater Asset Inventory and Stormwater Master Planning, Town of Boone, NC
- **Section 3 Example Project:** Beaverdam Creek Phase 2 Rehabilitation and Debris Removal, Town of Princeton, NC
- **Section 3 Example Project:** Town of Selma Stormwater Asset Inventory and Assessment, Town of Selma, NC



Chris Valdez, PE – Civil Engineering and Design — **TRC Office: Asheville, NC**

Mr. Valdez has 6 years of experience and progressive responsibility in civil and environmental engineering consulting. His qualifications include engineering design for civil and environmental projects consisting of environmental remediation, civil site design, civil grading, and stormwater management design, permitting, and inspection.

Education:

Penn State University/ B.S., Biological Engineering, Minor in Environmental Engineering /2017

Licenses / Certifications:

Professional Engineer/NC/055229
Forty-Hour HAZWOPER Training

Relevant Project Experience:

- Reynolds School Road Pre-Regulatory Landfill Rehabilitation – Canton, NC
- AAF Washington Stormwater Control Measure – Washington, NC
- **Section 3 Example Project:** Town of Boone Stormwater Asset Inventory and Stormwater Master Planning, Town of Boone, NC



Jacob Elliot, PLS – Surveying — **TRC Office: Cary, NC**

Mr. Elliott has over 15 years of experience and progressive responsibility in land surveying. Mr. Elliott's background includes extensive service to public and private-sector clients. He currently serves as survey team leader for the Cary, NC TRC office.

Education:

New Jersey Institute of Technology/BS/2020/Surveying Engineering Technologies
University of North Carolina at Chapel Hill/ BA/2008/Biology

Licenses / Certifications:

Professional Land Surveyor/NC/2003/#L-5510
FAA Part 107 UAS Remote Pilot Certification
NCDOT Division of Aviation Commercial UAS

Relevant Project Experience:

- **Section 3 Example Project:** Town of Boone Stormwater Asset Inventory and Stormwater Master Planning, Town of Boone, NC
- **Section 3 Example Project:** Town of Selma Stormwater Asset Inventory and Assessment, Town of Selma, NC
- McCrimmon Parkway and Carpenter Fire Station Parks – Town of Cary, NC
- Sparta Earthquake Retaining Wall Repair, Town of Sparta, NC

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Amber Horrie - GIS — TRC Office: Madison, WI

Ms. Horrie is an expert in GIS and data management systems and is the Technical Director of GIS Services at TRC, leading a group of geospatial and visualization experts. Amber and her team bring diverse experience in the development of data visualization tools to inform planning and decision making. Her experience includes project management, geospatial analysis, database management, technical training for staff at all levels, and building community and stakeholder collaboration around geospatial technologies.

Education:

M.S., Geography and Environmental Resources, Southern Illinois University, Carbondale, Illinois, 2011
B.S., Geography; Minor in Environmental Studies, Illinois State University, Normal, Illinois, 2006

Relevant Project Experience:

- **Section 3 Example Project:** Town of Boone Stormwater Asset Inventory and Stormwater Master Planning, Town of Boone, NC
- **Section 3 Example Project:** Town of Selma Stormwater Asset Inventory and Assessment, Town of Selma, NC
- Princeton Stormwater Inventory and Management Plan, Town of Princeton, NC
- Walstonburg Stormwater Inventory and Management Plan, Town of Walstonburg, NC



Danvey Walsh – Green Infrastructure — EQUINOX balance through proper planning

Mr. Walsh's expertise includes process geomorphology, surface and groundwater hydrology, and environmental geochemistry. At Equinox, Danvey often works on land use planning projects applying his multidisciplinary background in science to provide environmental assessments, resilience planning, flood hazard risk and mitigation, and watershed planning.

Education:

M.S., Environmental Chemistry, Western Carolina University
B.S., Geology (Hydrology), Western Carolina University

Licenses / Certifications:

Rosgen Stream Restoration Certification Levels 1-3
NC DWQ Stream Identification Certification
NC DWQ Wetland Assessment Methodology Certification

Relevant Project Experience:

- **Section 3 Example Project:** Bridge Park Conceptual Plan and Design – Sylva, NC
- Scotts Creek Watershed Action Plan – Sylva, NC
- NC DMS Fletcher Stream & Wetland Restoration – Fletcher, NC
- NC DMS Harrell Stream & Wetland Restoration – Cullowhee, NC
- **Section 3 Example Project:** New Belgium Brewery Stream & Stormwater Project – Asheville, NC



Jason Seickel, RLA, CEPSCI – Green Infrastructure / Planning — EQUINOX balance through proper planning

Mr. Seickel is a landscape architect with 7 years of professional landscape architecture experience. He has expertise in planning, site design, and site engineering for parks, greenways, outdoor recreation, and land development projects from conceptual design through construction documents, and construction administration. Jason focuses on the design of innovative stormwater control measures and integrating these into private and public projects. Jason is a Certified Erosion Prevention and Sediment Control Inspector, a stormwater control measure inspector, and is a member of the City of Asheville Stormwater Task Force and Planning and Zoning Board.

Education:

MLA, Landscape Architecture, University of Florida
B.S., Physics Education, University of Central Florida

Licenses / Certifications:

Professional Landscape Architect, North Carolina (2270)
Certified Erosion Prevention and Sediment Control Inspector

Relevant Project Experience:

- Riverside Park Expansion & Wave Master Plan and Natural Play - Woodfin, NC
- **Section 3 Example Project:** Bridge Park Conceptual Plan and Design – Sylva, NC
- **Section 3 Example Project:** New Belgium Brewery Stream & Stormwater Project – Asheville, NC

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Matthew Burnette, PG, PH, CFM – Water Resources

Weston & Sampson

Mr. Burnette serves as the Southeast Water Resource Leader for Weston & Sampson and has 12 years of experience helping state, municipal, and private clients address water resources-related concerns. His experience includes the development and application of advanced hydrologic, hydraulic, and water quality computer models to support dam breach and downstream consequences analyses, reservoir operations, spillway design, and stormwater and watershed master planning efforts. Matthew has assisted clients as a program manager, project manager, and technical director for projects ranging from river basin-scale assimilative capacity studies to the rehabilitation of aging or failing neighborhood drainage infrastructure.

Education:

M.S., Hydrology, North Carolina State University
B.S., Hydrology, Western Carolina University

Licenses / Certifications:

Professional Geologist, North Carolina (#2599)
Professional Hydrologist (#100-SW-728)
Certified Floodplain Manager, North Carolina No. NC-20-0799
Surface Water Training and Identification Certification, North Carolina (#977T-1117)

Relevant Project Experience:

- **Section 3 Example Project:** Beaverdam Creek Master Planning and Phase 1 Improvements, Town of Princeton, NC
- **Section 3 Example Project:** Duffyfield Stormwater Enhancements Master Planning, City of New Bern, NC
- South Princeton Stormwater Plan and Improvements, Town of Princeton, NC
- Drainage Planning, Inventory, and Improvements, Town of Vandemere, NC
- Lumber River Basin Flood Study, NCDEQ, Montgomery & Moore Counties, NC
- Neuse River Basin Flood Study, Wake, Wayne, and Wilson Counties, NC
- South Ellerbe Restoration Project, Durham, NC



Marla Ashworth – Municipal and Grant Support

TRC Office: Cary, NC

Ms. Ashworth has 25 years of experience as Town Administrator before joining TRC as a Municipal Community Resource Specialist. Ms. Ashworth has successfully administered over $15 million in federal, state, and private funding for various projects. She has expertise in the technical, administrative, and financial requirements of grant administration. Her goal is to use her experience to assist smaller municipalities with finance-related matters including planning, applying, obtaining, and administering grant funds to improve infrastructure and promote economic development.

Education:

Mount Olive College/BS/2006/Science

Training:

Effective Supervisory Management, UNC-Chapel Hill School of Government

Relevant Project Experience:

- **Section 3 Example Project:** Town of Selma Stormwater Asset Inventory and Assessment, Town of Selma, NC
- Town of Walstonburg Stormwater Management Plan and Inventory, Town of Walstonburg, NC
- Town of Princeton Stormwater Management Plan and Inventory, Town of Princeton, NC
- **Section 3 Example Project:** Beaverdam Creek Master Planning and Phase 1 Improvements, Town of Princeton, NC
- South Princeton Stormwater Plan and Improvements, Town of Princeton, NC

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2.2. Project Team & Resources

TRC is committed to maintaining a maximum of 75% workload capacity for our local project managers and technical leaders. This allows us to be more responsive and accessible, despite the firmwide workload. To promote this focus and responsiveness, TRC provides multiple points of contact that are familiar with the project status, so you can be kept always informed.

In addition to local team members, TRC has a bench of nearly 7,500 employees nationwide and frequently collaborates with other offices to meet project timelines. If selected, TRC and our assembled team will be able to dedicate sufficient staff to meet the Town's timelines, based upon an agreed project schedule.

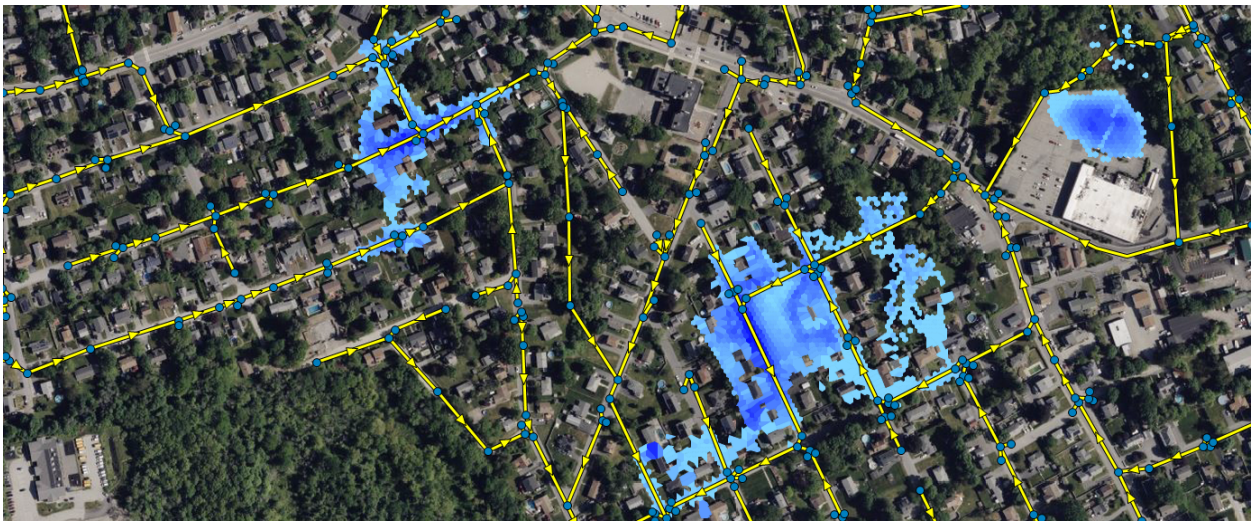
The below table identifies our key project members and their current workload percentages:

Key Project Members	Current Workload
C. Tyrus Clayton, Jr., PE	50%
Luke Baker, PG	60%
Ian Spurlock, PE	75%
Chris Valdez, PE	55%
Danvey Walsh	60%
Jason Seickel	60%
Matt Burnette, PG, PH, CFM	60%
Jacob Elliot, PLS	50%
Amber Horrie	50%
Marla Ashworth	50%

Team member organization: TRC Engineers
Team member organization: Equinox Environmental
Team member organization: Weston & Sampson

CAPACITY

Project Managers and key project personnel meet regularly to review planned milestones and progress, make schedule adjustments, and align commitments to accommodate the completion of project deliverables in a timely manner.



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3. Section 3 | Team Experience & Qualifications

Stormwater Asset Inventory and Stormwater Master Planning
Town of Boone, NC



TRC was selected by the Town of Boone to provide survey, asset inventory and assessment, and stormwater master planning services for the Town's stormwater drainage system. Spread across six square miles of the Blue Ridge Mountains, the Town of Boone's drainage system consists of a complex mixture of pipes, inlets, and channels that includes Appalachian State University. The Town maintained two individual GIS-data sets for their stormwater infrastructure. This is existing data was a mixture of survey and mapping grade, from multiple inspections, and had multiple data gaps.

TRC utilized ESRI's UtilityNetwork geodatabase schema as the basis for the Town's new stormwater inventory. Once acceptable to the Town, TRC developed an ESRI Field Maps application that would populate the UtilityNetwork-ready database with information on the spatial location, material, size, and structure conditions at each location.

TRC deployed a team of experienced surveyors to collect information on stormwater infrastructure, including pipe size, material, and elevations, structure type, multiple condition inspection points, and photographs. Each structure was collected utilizing a Trimble R12i GPS, which provided survey grade accuracies in both the vertical and horizontal datums. Due to efficiencies in TRC's field collection, we were able to provide additional structure assessments and surveys above the guaranteed total within the proposal as a value-added service. ***TRC collected information on over 2,000 stormwater structures, approximately 30% more than originally anticipated at no additional cost to the Town!***

Dates
Start: February 2024
Complete: Ongoing (June 2025)

Completed on Time
Ongoing

Original Proposed Cost
$385,000

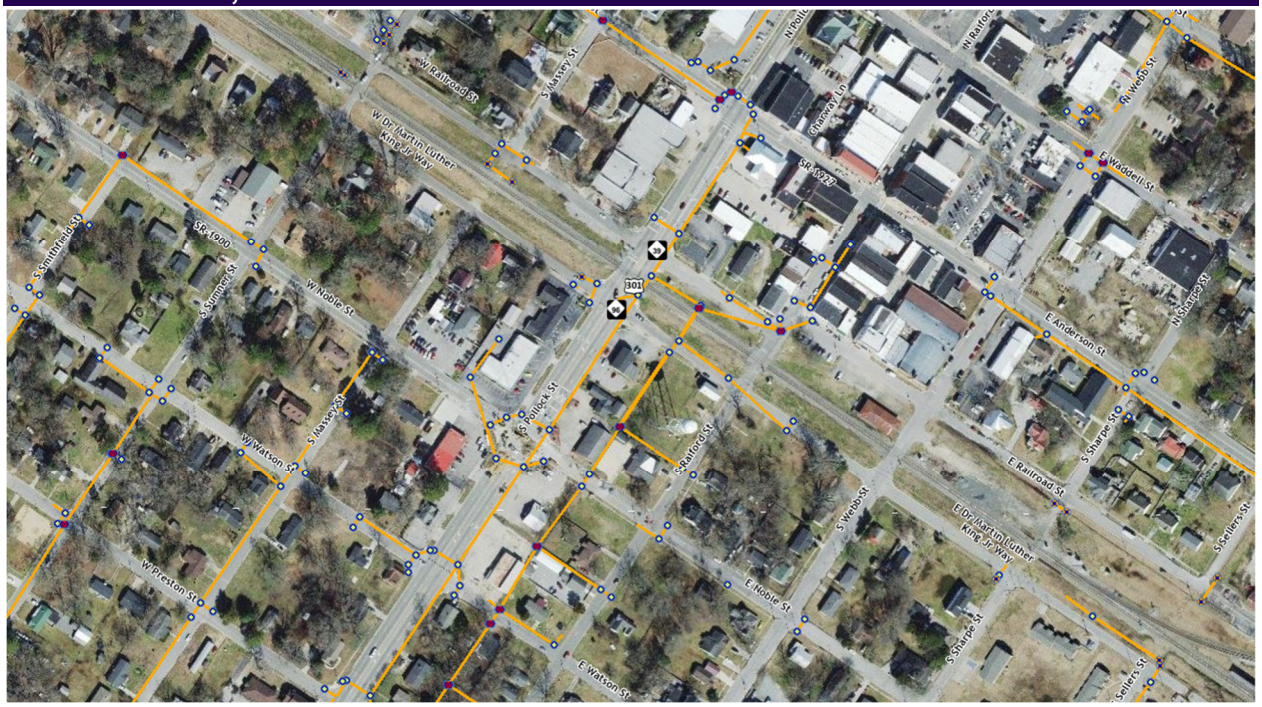
Final Cost
Ongoing (anticipated under budget)

Reference Contact Information
Town of Boone
George Santucci – Sustainability and Special Projects Manager
567 King St.
Boone Town Hall,
Boone, NC 28607
828.268.6200

TRC is currently working with the Town to identify areas of concern for stormwater modeling, green stormwater infrastructure planning, stakeholder engagement, and resiliency planning, as well as framework for the Town to develop a stormwater utility, with a draft plan anticipated to be submitted the summer of 2025.

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Stormwater Asset Inventory and Assessment
Town of Selma, NC



In 2022, TRC assisted the Town of Selma with applying for a Department of Water Infrastructure Local Assistance for Stormwater Infrastructure Investments (LASII) program. Utilized to provide planning funding to municipalities who have demonstrated water quality and quantity problems, TRC's application was successful in helping the Town obtain $345,000!

TRC, as part of a team, was selected by the Town of Selma to provide survey, asset inventory and assessment services for the Town's stormwater drainage system. Just north of Smithfield, NC, the Town of Selma experiences flooding from various size storms. These storms impact roads and homes, with the Town having multiple flood rescues during unnamed storms.

Utilizing a geodatabase schema acceptable to the Town, TRC developed an ESRI Field Maps application that would populate the geodatabase with information.

TRC deployed a team of experienced surveyors to collect information on stormwater infrastructure, including pipe size, material, and elevations, structure type, multiple condition inspection points, and photographs. Each structure was collected utilizing a Trimble R12i GPS, which provided survey grade accuracies in both the vertical and horizontal datums.

Dates

Start: January 2024
Complete: July 2024

Completed on Time

Yes

Original Proposed Cost

$105,000

Final Cost

$105,000

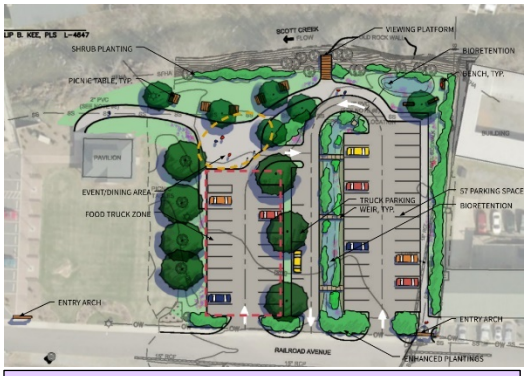
Reference Contact Information

Town of Selma
Chief Phillip McDaniel
Deputy Town Manager / Fire Chief
212 North Raiford Street
Selma, NC 27576
919-524-6579
PMcDaniel@selma-nc.com

TRC surveyed approximately 987 stormwater structures, such as pipe ends, culverts, inlets, and manholes throughout the Town. TRC provided our completed geodatabase to the Town on time and on budget.

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Bridge Park Conceptual Plan and Design
Sylva, NC



Dates

Completed: 2021

Reference Contact Information

Town of Sylva, NC
Paige Dowling, Town Manager
828-586-2719

As a part of the Scott's Creek Watershed Action Plan that Equinox developed in 2018, Bridge Park was listed as an important location to implement stormwater control measures to help improve water quality in Scott's Creek.

In 2021, the Town of Sylva hired Equinox to develop a plan for creating a stormwater control measure within the parking area for the existing community park. This plan includes a system of interconnected bioretention cells, a more functional parking arrangement, a variety of native plantings, and an accessible sidewalk connection to the park. The project involved data collection, a topographical survey, conceptual design, and construction documents.

New Belgium Brewery Stream and Stormwater Project
Asheville, NC

This award winning project included stream restoration, wetland creation, and green infrastructure design to create a park-like setting while addressing water quality enhancements.

The project included site analysis, environmental permitting, design, plan preparation, construction oversight, construction for the innovative stormwater BMPs, and restoration of Penland Creek. Penland Creek was a degraded urban ditch that flowed through the center of the site. The restoration of the creek that serves as a central feature of the New Belgium Brewery landscape, involved re-constructing Penland Creek as a rapid-cascade and step-pool stream through the urban setting of the brewery. Site constraints, client needs, and environmental concerns provided numerous challenges for this project. These concerns resulted in requiring the stream channel bed to be undercut to remove contaminated soil and installation of underlining to prevent potential future groundwater contamination seepage. The stream restoration incorporated the surrounding infrastructure, reestablished a natural channel and riparian corridor within a confined valley, and provided public connection to naturalized areas.

The interconnected stormwater BMPs were designed for water quality benefit while being located within a Brownfields site. The BMPs were designed with native plants to increase the infiltration of water and clean it through the microbial activity of plant roots and soils, while also providing habitat., conceptual design, and construction documents.







Dates

Completed: 2016

Reference Contact Information

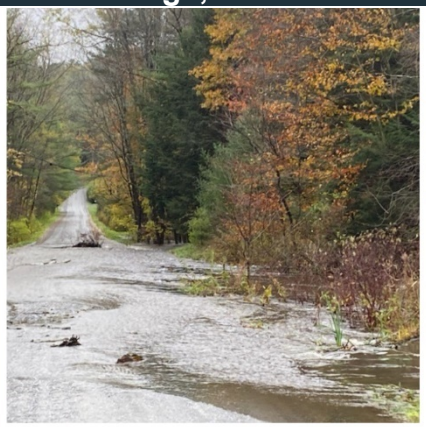
New Belgium Brewery
Sarah Fraser, Sustainability Specialist
sfraser@newbelgium.com

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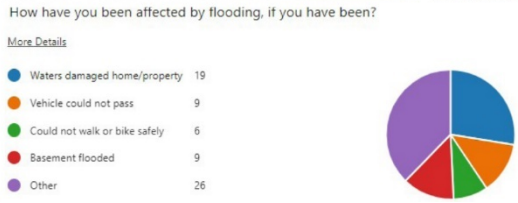
Climate Ready Resilient Stormwater Plan
Towns of Richmond & West Stockbridge, MA

Weston & Sampson











Dates

Complete: June 2023

Reference Contact Information

Regional Coordinator Municipal Vulnerability Preparedness (MVP) Program: Berkshires & Hilltowns Region
Carrieanne Petrik
617-875-0911
carrieanne.petrik@mass.gov

The Towns of Richmond and West Stockbridge are facing increasingly extreme riverine and stormwater flooding events on roads, floodplains, and adjacent properties, which already experience flood and erosion impacts. Using grant funds from the Massachusetts Municipal Vulnerability Preparedness (MVP) Program, the towns retained Weston & Sampson to prepare a Resilient Stormwater Action & Implementation Plan for the region. The goal of the plan was to determine the climate factors driving flooding and stormwater runoff that impact the towns today and could in the future; identify opportunities for nature-based and green infrastructure (GI) solutions within three watersheds; and provide a prioritized list of evaluated and implementable projects to help minimize future flooding and stormwater impacts.

Weston & Sampson implemented a field data collection program to minimize current data gaps and validate existing information. They also performed climate projection modeling to help predict future climate rainfall over multiple design storm events, using the stormwater model to identify potential flood-prone areas and evaluate the potential benefit of various green and gray stormwater management practices under existing and future climate conditions. Based on this data, they identified 56 potential projects that utilize bioretention, stream restoration, green infrastructure, dam removal, culvert redesign, and more.

Input on stormwater problem areas and priority solutions was gathered through community survey, tabling events, and public meetings. A demonstration rain garden was installed at West Stockbridge's Town Hall, and a web-based storymap was created to help residents learn about existing green infrastructure projects in the county. Engagement activities associated with the project, including webinars targeting waterfront landowners, interviews with agricultural operators, and community education, also helped inform and mobilize members of the community to address stormwater on their own properties.

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TRC EQUINOX balance through proper planning Weston & Sampson

Beaverdam Creek Master Planning, Phase 1 and Phase 2 Improvements
Town of Princeton, NC



Dates

Start: November 2017
Complete:
Phase 1 – September 2022
Phase 2 – July 2024
Phase 3 – Ongoing

Completed on Time

Yes

Original Proposed Cost

$198,860 (Design – Combined)

Final Cost

$210,260 (Design Combined –additional Mussel Survey Required by USACE)

Reference Contact Information

Town of Princeton
Michael King
Town Administrator
PO Box 67
Princeton, NC 27569
919.936.8171

When multiple culvert crossings were lost due to floodwaters from Hurricane Matthew, the Town of Princeton selected TRC to develop a master plan for improvements of the Town's northern drainage system, identifying possible upfits and rehabilitation projects to assist with flood resiliency.

This masterplan for the Beaverdam Creek identified multiple areas for improvements within the Town limits. A key culvert crossing at Pearl Street and Center Street was identified as being undersized and in-need of replacement. As well, multiple other crossings were undersized or had been replaced with smaller culverts when the roads were lost from Hurricane Matthew. The Beaverdam Creek had also become incised, causing slope erosion and introducing debris, further restricted the drainage system. One of the worst areas was adjacent to the Town's wastewater treatment plant (WWTP), where a bank failure had undermined the power source for the plant which served the entire Town.

Following our planning efforts, TRC assisted the Town with multiple grant applications to help fund the project. Due to the scale of the project, the improvements were split into multiple phases, based upon the funding sources identified. In 2018, TRC prepared a GoldenLEAF Foundation grant application, resulting in approximately $500,0000 in grant funding for the project for Phase 1 improvements.

In 2022, TRC assisted the Town with obtaining a grant from Johnston County and the NC Department of Agriculture's StRAP program, totaling in an additional $702,288 of funding for a second phase of improvements, focusing on reinforcing the Beaverdam Creek bank at the WWTP and removing debris throughout the downstream portion of the creek to the Town's limits.

TRC provided surveying, design, environmental and road permitting, bidding assistance, grant assistance, easement acquisition support, and construction administration throughout Phase 1 and 2 of the rehabilitation project. Phase 1 consisted of stabilizing approximately 510 feet of the Beaverdam Creek, the main drainage system for much of the Town. The existing dual culvert system, as well, was replaced with a large aluminum box culvert and headwall system. Phase 2 included removal of vegetative debris and sediment from approximately one mile of the lower Beaverdam Creek. As well, the slope adjacent to the Town's WWTP grit chamber was reinforced with concrete, riprap, and the power pole relocated.

In 2024, TRC assisted the Town with applying for a FEMA Building Resilient Infrastructure and Communities (BRIC) grant through a competitive process led by the NC Department of Public Safety. Totaling in over $2.1 million dollars, the Town's application moved into the more detailed round of review in August 2024. TRC is proud to have assisted the Town with applying for and obtaining millions of dollars to help fund their resiliency and flood mitigation goals!

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Duffyfield Community Stormwater Enhancements Master Planning
New Bern, NC



TRC provided professional engineering and landscape architecture services for the preliminary evaluation and assessment of stormwater improvement measures within the Duffyfield Community in the City of New Bern.

The preliminary evaluation and assessment were conducted to support the City's Development Services Department in various grant applications to fund overall project development and construction. Our engineering services included performing the overall drainage area delineation, estimating peak flow and runoff volumes for various storms from the drainage area, and quantifying the amount of water quality benefits so the City could understand potential stormwater improvement measures within the Duffyfield Community.

After performing the preliminary engineering analyses, we developed a preliminary conceptual design for proposed stormwater enhancements. The conceptual design considered the many site constraints within the area, including the railroad, public utilities, roadways, and location of properties already purchased by the City.

Additionally, we worked with both the City's Development Services and Public Works Departments to develop a conceptual design that would not only improve the overall quality of the Duffyfield Community but could be easily maintained by City staff.

Finally, TRC developed planning level cost estimations and construction sequencing for the overall transformation of the Duffyfield Community. This would allow for the City to complete phases of the project based on the availability of funding.

Dates

Start: August 2019
Complete: September 2019

Completed on Time

Yes

Original Proposed Cost

$15,000

Final Cost

$15,000

Reference Contact Information

City of New Bern
George Chiles, Public Works Director
300 Pollock St.
New Bern, NC 28560
252.636.4000

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Tropical Storm Fred Damage Inventory, Assessments, and Repairs Buncombe, Haywood, and Transylvania Counties, NC



In August 2021, Tropical Storm Fred swept through the western region of North Carolina dropping a historical amount of rainfall in a very short period. This caused significant and damaging flooding in Haywood, Transylvania, and Buncombe Counties. Tremendous damage occurred to private property, roadways, and critical infrastructure throughout the region.

Through a partnership with the North Carolina Office of State Budget Management – Disaster Recovery Unit, TRC was selected to complete inspections and assessments of private residential property accesses that were damaged or affected by the significant flooding. These assessments were focused on private bridges and culverts within ditches, creeks, and streams not considered to be maintained by NCDOT.

Dates

Start: October 2021
Complete: January 2022

Original Proposed Cost

$100,000 (Assessments Only)

Final Cost

$125,000 (Additional Inspections Added)

Reference Contact Information

NC Office of State Budget Management
Disaster Recovery Section
John Donachie, Operations Manager
430 N Salisbury Street – Room 4002
MSC20320 – Raleigh NC 27699-0320
(984) 236-0734
john.donachie@osbm.nc.gov

TRC quickly mobilized a dedicated group of skilled survey crews and managers to attack this emergency work. Within 10 days of notice- to-proceed, a mobile GIS data acquisition survey was developed, tailored specifically to this project, allowing six survey crews to mobilize into the area in October 2021 and begin field assessments. Data collection included a description of the damage, severity, the number of impacted homes, site address, GPS location, preliminary construction cost estimates, and photographs. Data was collected and available for review by the stakeholders in real time, with a final printed report and GIS geodatabase to be provided upon completion of the assessments at the end of 2021.

After approximately four weeks of assessments, a total of 604 sites were surveyed and data forms completed. After completion of assessments, projects of critical and emergency need entered the design and construction phase immediately.

TRC completed several task orders related to the recovery. These task orders included culvert replacements, bridge repairs, and land slide repairs. TRC services included survey, geotechnical, civil and water resources engineering, as well as construction administration.

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4. Section 4 | Project Approach

Begin With the End in Mind

As with all our successful projects, the TRC team crafts our methodology from the beginning with the client's end goals in mind. With this focus, TRC will meet with the City and any local stakeholders prior to beginning the project to identify problem areas and known data gaps. This will enable the TRC team to focus our scope of work, as well as minimize the risk of change orders, and plan our approach in the most efficient and comprehensive manner.

TRC will review any existing information — such as existing inventories, as-builts, drainage studies, or plans — to identify gaps and areas of focus. If digital information does not exist, TRC will perform a desktop review to identify the approximate location of infrastructure. This allows our field effort to be more targeted during the later inventory and assessment phase. The field assessment is often the most labor intensive and costly portion of any asset inventory and assessment project. By identifying these gaps and understanding critical areas, we can focus on our goals of reducing timelines and providing better value to the City. We are committed to assisting the Town in procuring the maximum amount of data with the available funding.

Prior to engaging our field personnel, TRC's water resources professionals will utilize publicly available data, such as LiDAR or USGS Topographic Maps, to develop a preliminary subbasin map of the City's corporate limits. This allows us to more easily identify where contributing drainage infrastructure may be, eliminate overlap of field services, and provide a more detailed assessment in our known problem areas.

In-House Geomatics, Surveying, and SUE

Following initial engagement and data review, TRC's in-house geomatics team will assemble a field data collection application utilizing ESRI's Field Maps, Survey123, or similar application, which will include a web application to allow the Town to track progress throughout the field efforts. TRC can also provide this application to the Town's organizational account upon project completion to allow future collection of stormwater assets by Town staff.

TRC will deploy members from our geomatics and surveying team to collect information within our project areas. TRC will utilize a GNSS Trimble R12i GPS receiver for this work, capable of achieving survey-grade (less than 0.1') accuracies in both the vertical and horizontal datums. This receiver will be paired with the ESRI inspection application generated, operated through an iPad or similar device, to collect infrastructure condition comments, pipe size, material, asset photos, and other notes, in addition to spatial information. In areas with poor GPS connectivity, TRC can provide traditional survey methods in order to accurately locate your stormwater infrastructure.

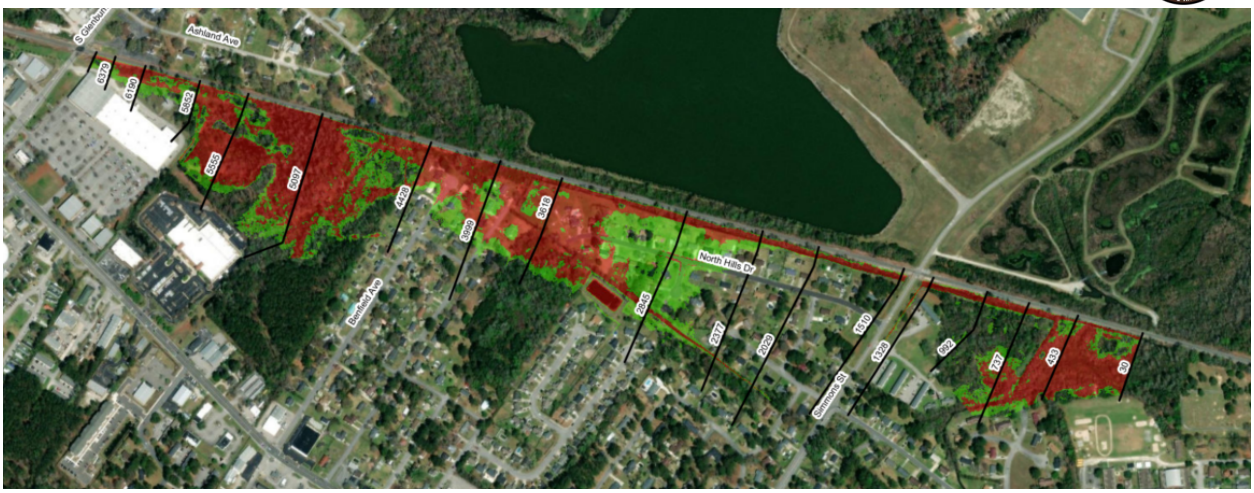
All of our collected data is uploaded instantly to the web map for review and tracking, with access provided both to Town staff as well as TRC's and Weston & Sampson's water resources team.

In addition to survey information, TRC's subsurface utility team are available to perform closed circuit TV inspection of drainage infrastructure. This can help identify blockages, failures, or blind connections to help fill in areas missing information.



Stormwater Asset Inventory and Assessment Data – Town of Boone, NC

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North Hills Neighborhood Flood Mitigation Study Results – City of New Bern, NC

Finger on the Pulse

Concurrent with field data collection, TRC's community resource specialists will begin a community engagement phase. Shortly after kickoff, a community survey will be assembled and published for City residents to provide input on concerns, problem areas, and desired outcomes and other information to help guide our planning process. Responses will be compiled and prioritized based on repeated entries or sensitive communities. Throughout the planning process, community meetings will be held. These meetings, held in-person in the community, will be open to residents to come and review prepared concepts, offer additional feedback, and participate in the design process.

Condition Assessment Expertise

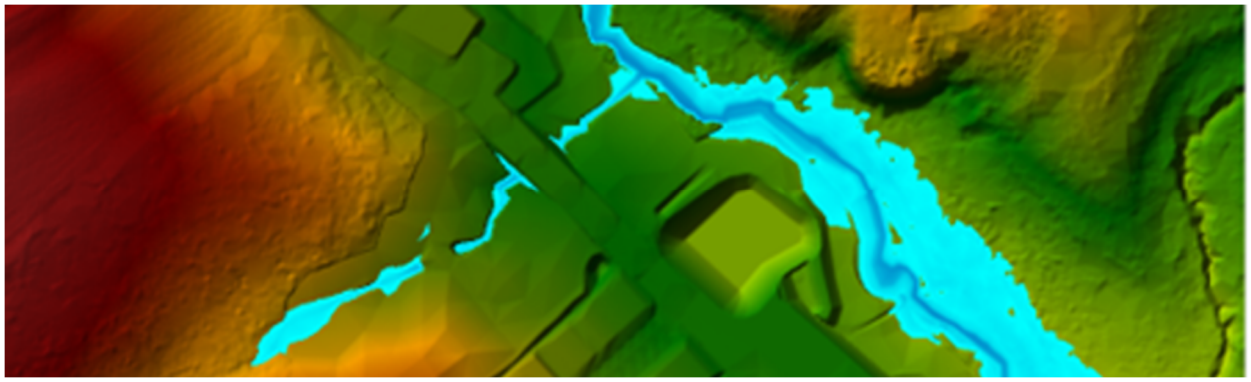
TRC's staff includes professionals with experience assisting municipalities across North Carolina and Virginia with assessing public infrastructure. Our field assessment allows our inspectors to step through every element of the asset, with key questions in mind. Is the inlet damaged or offset? Are there signs of infiltration through the structure walls? Has debris or sediment accumulated in the pipes, restricting flow?

TRC's tailor-made stormwater infrastructure inspection tool allows our inspectors to be laser-focused in their assessment. Following the assessment, we will photograph each asset, including the structure approach (with identifiable background features), the inlet, the bench, and each invert. This data will be stored within the project geodatabase, which will be a final deliverable we will provide to the City.

Increasing Resiliency

While the knowledge of the location and condition of an asset on a sunny day is worthwhile, a comprehensive condition assessment requires an understanding of that asset on a rainy day. TRC and Weston & Sampson's water resources professionals will develop hydraulic and hydrologic models of the study area to assess stormwater infrastructure capacity and flooding extents.

Our Team is prepared to provide as detailed of analysis as desired for each area. Using the field information collected, our Team can provide flood models for urban drainage systems to streams, creeks, and rivers.



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Nature-Based Solutions & Green Infrastructure

As we have seen from recent storms, the need to plan for nature's integration into our resiliency strategies has never been more critical. The key is to design and implement solutions that mimic the natural water cycle, enhancing a community's ability to adapt to climate change and extreme weather events. This can include strategies like permeable pavements, green roofs, rain gardens, and bioswales, all of which help manage stormwater onsite, increase groundwater recharge, and reduce peak discharge rates. Green infrastructure also provides an opportunity to improve water quality by filtering pollutants before they reach waterways, mitigating flood risks, and reducing pressure on traditional drainage systems. Integrating green stormwater into urban landscapes can make cities more resilient to flooding, droughts, and rising temperatures, while also offering long-term cost savings compared to conventional stormwater infrastructure. This holistic approach not only addresses immediate water management challenges but also supports a sustainable, adaptive future. Our team of landscape architects, planners, and engineers are experienced with identifying, planning, and enacting nature-based solutions from the conceptual level through construction and restoration monitoring.

Master Planning Expertise

A successful stormwater management project does not end with the collected data and analysis. Following completion of our field inventory and analyses, TRC will prepare a report, discussing the state of the drainage system and any deficiencies identified.

We will provide a printout of each inspection report, identifying pipe size, materials, any damage, debris, or other elements for consideration. In addition to physical damages, TRC will utilize the results of our analyses to include improvements to help mitigate or eliminate flooding. The provided capital improvement plan will discuss our assessment procedures, modeling results, ranking methodology and priority ranking. Conceptual improvements or layouts can also be prepared to support the plan. Each improvement will include a preliminary construction cost estimate.

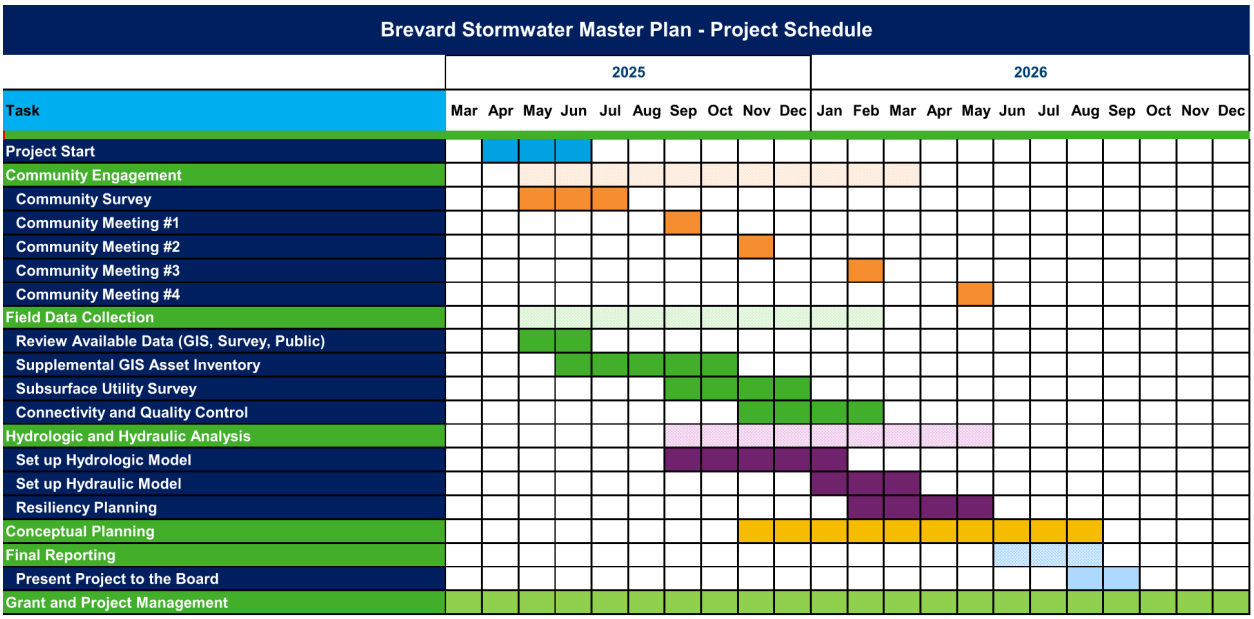
A comprehensive capital improvement and system master plan is vital in understanding current and future needs, as well as planning to fund those expenditures. In addition, a capital improvement plan can be critical in obtaining future grant or loan funding. TRC maintains a local staff of municipal and funding specialists who can provide expertise in applying, obtaining, and administering grants or other funding opportunities.

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5. Section 5 | Schedule, Deliverables, Insurance

5.1. Schedule

Based upon the potential scope of work included in the request for qualifications, TRC anticipates performing those services within the below schedule. Should this not meet your expectations or scope items change, we are happy to discuss a revised schedule that meets your expectations.



5.2. Deliverables

As part of the project, TRC will establish a project-specific SharePoint site. TRC anticipates that final deliverables may include:

- GIS Geodatabases
- CCTV Video Recordings
- Stormwater Models (EPA SWMM or HEC-RAS)
- Community Survey, Results, Presentations, and Summaries
- Conceptual Plans for Gray and Green Infrastructure Improvements
- Stormwater Master Plan, including summary of above deliverables, cost estimates, and considerations.

5.3. Insurance Requirements

TRC makes no exceptions to the requested insurance requirements and will provide the City with documentation of the necessary insurance requirements issuance of an executed contract.

5.4. Past Work with the City of Brevard

While TRC has not yet had the opportunity to work with the City of Brevard, we trust that any of the below references, with projects similar in scope and location to the City, would be happy to provide a reference to the quality and responsiveness of our assembled Team:

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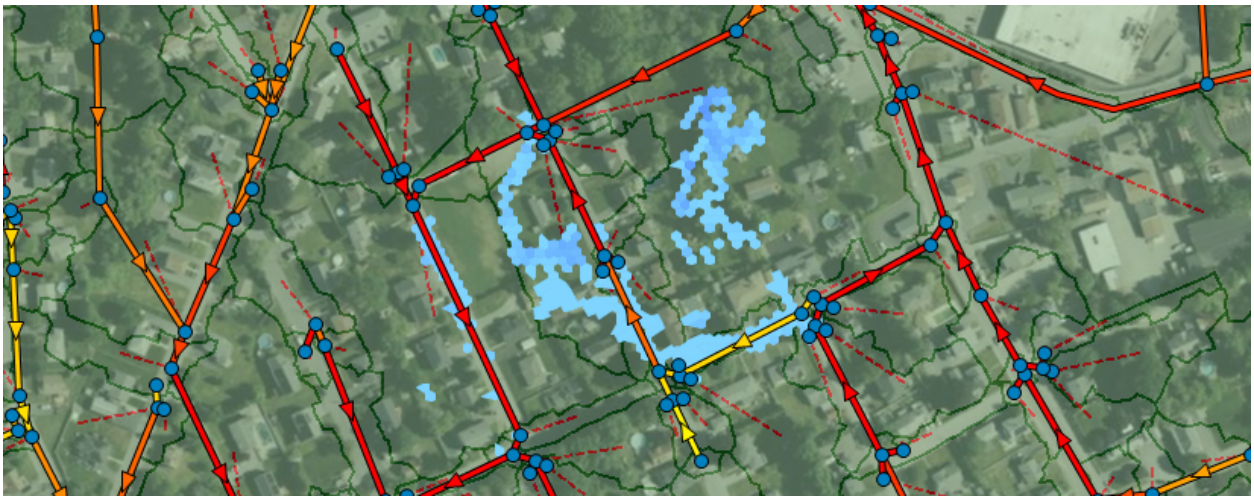
TRC Engineers Reference	
NC Office of State Budget Management Disaster Recovery Section John Donachie, Operations Manager 430 N Salisbury Street – Room 4002 MSC20320 – Raleigh NC 27699-0320	Phone: 984.236.0734 Email: john.donachie@osbm.nc.gov
Projects: Tropical Storm Fred Damage Inventory, Assessments, and Repairs, Sparta Earthquake Repairs, Guilford County Floodplain Demolitions	

TRC Engineers Reference	
City of New Bern George Chiles, Public Works Director 300 Pollock St., New Bern, NC 28560	Phone: 252.636.4000 Email: ChilesG@newbernnc.gov
Projects: Hurricane Florence Recovery, Multiple Water Resources Engineering and Feasibility Studies, Stormwater Control Measure Asset Management	

TRC Engineers Reference	
Town of Boone George Santucci, Sustainability and Special Projects Boone Town Hall 567 King St., Boone, NC 28607	Phone: 828.268.6200 Email: george.santucci@townofboone.net
Projects: Stormwater Asset Inventory and Master Planning	

Equinox Environmental Reference	
Town of Sylva Paige Dowling, Town Manager	Phone: 828.586.2719 Email: townmanager@townofsylva.org
Projects: Bridge Park	

Weston & Sampson Reference	
Regional Coordinator Municipal Vulnerability Preparedness (MVP) Program: Berkshires & Hilltowns Region Carrieanne Petrik	Phone: 617-875-0911 Email: carrieanne.petrik@mass.gov
Projects: Climate Ready Resilient Stormwater Plan	



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ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*
n/a

PART G – Key Personnel Participate in Example Projects

Names of Key Personnel	Role in This Contract	Example Projects Listed in Section 3.									
		1	2	3	4	5	6	7	8	9	10
Tyrus Clayton, Jr., PE	Principal-in-Charge	X	X				X	X	X		
Luke Baker, PG	Project Manager	X	X				X	X	X		
Ian Spurlock, PE	Civil Engineering Lead	X	X				X				
Chris Valdez, PE	Civil Engineer	X									
Jacob Elliot, PLS	Survey Lead	X	X				X				
Amber Horrie	GIS Lead	X	X								
Danvey Walsh	Green Infrastructure Design			X	X						
Jason Sieckel	Green Infrastructure Design			X	X						
Matt Burnette, PG, PH, CFM	Water Resources					X	X	X			
Marla Ashworth	Funding Administration		X				X				

Example Projects Key

No.	Title of Example Project from Section 3	No.	Title of Example Project from Section 3
1	Boone, NC – Stormwater Asset Inventory & Master Planning	6	Beaverdam Creek Master Plan, Phase 1 and 2 Improvements
2	Selma, NC – Stormwater Asset Inventory	7	Duffyfield Stormwater Enhancements Master Plan
3	Sylva, NC – Bridge Park Conceptual Plan	8	Tropical Storm Fred Inventory, Assessments, and Repairs
4	New Belgium Brewery Stream & Stormwater Project	9	
5	Climate Ready Resilient Stormwater Plan	10	

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE **b. DATE**



March 14, 2025

c. NAME AND TITLE

C. Tyrus Clayton, Jr., PE
Director – NC Site Development and Civil

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ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: n/a

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (*or Branch Office*) NAME TRC Engineers, Inc.		3. YEAR ESTABLISHED 1923	4. UNIQUE ENTITY IDENTIFIER GA9NC9RFYU35
2b. STREET 705 Dogwood Road		5. OWNERSHIP a. TYPE C-Corporation	
2c. CITY Asheville	2d. STATE NC	2e. ZIP CODE 28806	b. SMALL BUSINESS STATUS N/A
6a. POINT OF CONTACT NAME AND TITLE C. Tyrus Clayton Jr., PE – Director, NC Site Development and Civil			7. NAME OF FIRM *(If Block 2a is a Branch Office)*
6b. TELEPHONE NUMBER 919.795.6302	6c. EMAIL ADDRESS TClayton@trccompanies.com		
8a. FORMER FIRM NAME(S) *(If any)*		8b. YEAR ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. Number of Employees (1) FIRM	c. Number of Employees (2) BRANCH
02	Administrative	1576	
05	Archeologist	182	
06	Architect	18	
07	Biologist	29	
08	CADD Technician	59	
12	Civil Engineer	320	1
13	Communications Engineer	7	
14	Computer Programmer	227	
21	Electrical Engineer	715	7
23	Environmental Engineer	204	1
24	Environmental Scientist	454	
29	GIS Specialist	195	
30	Geologist	94	
15	Construction Inspector	353	
38	Land Surveyor	27	
48	Project Manager	833	
57	Structural Engineer	31	
58	Technician/Analyst	1848	
	Others	303	9
	Total	7475	18

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
C11	Community Facilities	5
C14	Conservation and Resource Management	3
C15	Construction Management	8
C16	Construction Surveying	1
E09	Environmental Impact Studies, Assessments	8
E10	Environmental and Natural Resource Mapping	1
E11	Environmental Planning	2
E12	Environmental Remediation	6
E13	Environmental Testing and Analysis	7
G04	Geographic Information System Services: Development, Analysis, and Data Collection	6
H03	Hazardous, Toxic, Radioactive Waste Remediation	5
H07	Highways; Streets; Airfield Paving; Parking Lots	7
H13	Hydrographic Surveying	1
L02	Land Surveying	1
S10	Surveying; Platting; Mapping; Flood Plain Studies	8
S13	Stormwater Handling & Facilities	5
T03	Traffic & Transportation Engineering	10
W02	Water Resources; Hydrology; Ground Water	8
Z01	Zoning; Land Use Studies	1

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	10
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

Less than $100,000
$100,000 to less than $250,000
$250,000 to less than $500,000
$500,000 to less than $1 million
$1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE

March 14, 2025

c. NAME AND TITLE

C. Tyrus Clayton, Jr., PE
Director – NC Site Development and Civil

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ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: n/a

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (*or Branch Office*) NAME: TRC Engineers, Inc.		3. YEAR ESTABLISHED: 1969	4. UNIQUE ENTITY IDENTIFIER: 05-418-3884
2b. STREET: 114 Edinburgh South Drive, Suite 200		5. OWNERSHIP	
2c. CITY: Cary	2d. STATE: NC / 2e. ZIP CODE: 27511	a. TYPE: C-Corporation	
6a. POINT OF CONTACT NAME AND TITLE: C. Tyrus Clayton Jr., PE – Director, NC Site Development and Civil		b. SMALL BUSINESS STATUS: N/A	
6b. TELEPHONE NUMBER: 919.827.0864	6c. EMAIL ADDRESS: TClayton@trccompanies.com	7. NAME OF FIRM *(If Block 2a is a Branch Office)*	
8a. FORMER FIRM NAME(S) *(If any)*: Draper, Marks, Aden and Associates		8b. YEAR ESTABLISHED: 1972	8c. UNIQUE ENTITY IDENTIFIER: 06-235-5177

9. EMPLOYEES BY DISCIPLINE

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Function Code	b. Discipline	c. Number of Employees (1) FIRM	c. Number of Employees (2) BRANCH	a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
02	Administrative	1576	2			
08	CADD Technician	59	2			
12	Civil Engineer	320	6			
23	Environmental Engineer	204	3	E01, E09, E10, E11, E12, E13, S07, W02	Environmental Services	9
24	Environmental Scientist	454	6	C15, C16, S05, T02	Geotechnical Engineering and Construction Testing, Inspections	10
29	GIS Specialist	195	1	P09	Site Development and Infrastructure	6
30	Geologist	94	2	S09	Structural Engineering	5
15	Construction Inspector	353	3	A02, H13, L02, P03, S10, T04	Surveying, Scanning, Aerial	6
38	Land Surveyor	27	4	S04, W03	Utilities Engineering	8
48	Project Manager	833	1			
57	Structural Engineer	31	1			
58	Technician/Analyst	1848	7			
	Others	1,481	3			
	Total	7475	41			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	10
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

Less than $100,000	6. $2 million to less than $5 million
$100,000 to less than $250,000	7. $5 million to less than $10 million
$250,000 to less than $500,000	8. $10 million to less than $25 million
$500,000 to less than $1 million	9. $25 million to less than $50 million
0. $1 million to less than $2 million	10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE

March 14, 2025

c. NAME AND TITLE

C. Tyrus Clayton, Jr., PE
Director – NC Site Development and Civil

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ARCHITECT – ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*

PART II – GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Equinox Environmental Consultation & Design, Inc.	3. YEAR ESTABLISHED 1998
	4. UNIQUE ENTITY NUMBER M2KMHDZ8GML7
2b. STREET 14 O'Henry Ave, Suite 206	5. OWNERSHIP a. TYPE Corporation
2c. CITY Asheville	2d. STATE NC
	2e. ZIP CODE 28801
	b. SMALL BUSINESS STATUS SBE
6a. POINT OF CONTACT NAME AND TITLE David Tuch, President	7. NAME OF FIRM *(If block 2a is a branch office)*
6b. TELEPHONE NUMBER 828.253.6856 ext. 202	6c. E-MAIL ADDRESS David@Equinoxenvironmental.com
8a. FORMER FIRM NAME(S) *(If any)* N/A	8b. YR. ESTABLISHED N/A
	8c. DUNS NUMBER N/A

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	(2) BRANCH	a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
02	Administrator	1	1	C01	Cartography	1
07	Biologist	1	1	C14	Conservation & Resource	1
08	CADD Technician	1	1	E01	Ecological & Archeological	1
19	Ecologist	1	1	E09	EIS, Assessments & Statements	1
24	Environmental Scientist	2	2	E10	Environment & Natural Resource	2
29	GIS Specialist	1	1	E11	Environmental Planning	1
39	Landscape Architect	4	3	G04	GIS Services	1
47	Planner Urban/Regional	2	2	G06	Graphic Design	1
				L03	Landscape Architecture	2
				P05	Planning (Community, Regional, etc)	1
				P06	Planning (Site, Installation, & Project)	2
				R04	Recreation Facilities	4
				S13	Storm Water Handling & Facilities	1
				W02	Water Resource; Hydrology;	1
				Z01	Zoning; Land Use Studies	1
	Other Employees					
	Total					

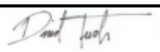
11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work	
b. Non-Federal Work	5
c. Total Work	5

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE 3/10/2025
c. NAME AND TITLE David Tuch, President	

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ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*:

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (*or Branch Office*) NAME	WSE of North Carolina, PC
3. YEAR ESTABLISHED	2019
4. UNIQUE ENTITY IDENTIFIER	UERUKNFQN3D5
2b. STREET	2052 Energy Drive
2c. CITY	Apex
2d. STATE	NC
2e. ZIP CODE	27502
5. OWNERSHIP a. TYPE	Privately Held Corporation
b. SMALL BUSINESS STATUS	Not Applicable
6a. POINT OF CONTACT NAME AND TITLE	Kevin Hutchens, PE, Regional Manager
7. NAME OF FIRM *(If Block 2a is a Branch Office)*	Weston & Sampson
6b. TELEPHONE NUMBER	919-297-0220
6c. EMAIL ADDRESS	hutchens.kevin@wseinc.com

8a. FORMER FIRM NAME(S) *(If any)*	8b. YEAR ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Robert Spurr Weston	1899	Not Applicable
Weston & Sampson (partnership)	1916	Not Applicable
Weston & Sampson Engineers, Inc.	1976	UERUKNFQN3D5

9. EMPLOYEES BY DISCIPLINE

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Function Code	b. Discipline	c. Number of Employees (1) FIRM	c. Number of Employees (2) BRANCH	a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
02	Administrative	120	5	B02	Bridges	7
06	Architect	28	1	C14	Conservation & Resource Management	6
08	CADD Technician	7		C15	Construction Management	4
10	Chemical Engineer	3		C18	Cost Estimating; Cost Engineering & Analysis; Parametric Costing; Forecasting	3
11	Chemist	1		D02	Dams *(Earth; Rock)*; Dikes; Levees	7
12	Civil Engineer	128	3	E09	Environmental Impact Studies; Assessments or Statements	7
14	Computer Programmer	5	1	E12	Environmental Remediation	7
15	Construction Inspector	27		H07	Highways; Streets; Airfield Paving	6
16	Construction Manager	12		H12	Hydraulics	6
18	Cost Engineer/Estimator	1		G04	Geographic Information System Services	5
21	Electrical Engineer	12		I06	Irrigation; Drainage	6
23	Environmental Engineer	67	1	L03	Landscape Architecture	10
24	Environmental Scientist	28		P02	Petroleum & Fuel (Storage & Distribution	7
27	Foundation/Geotechnical Engineer	10		P04	Pipelines (Cross-Country- Liquid & Gas)	6
29	Geographic Information System Specialist	6		P06	Planning (Site, Installation, & Project)	7
30	Geologist	24	1	R04	Recreation Facilities (Parks, Marinas, Etc.)	8
32	Hydraulic Engineer	2		R11	Rivers; Canals; Waterways; Flood Control	8
34	Hydrologist	10		S04	Sewage Collection, Treatment, & Disposal	10
38	Land Surveyor	1		S05	Soils & Geologic Studies; Foundations	1
39	Landscape Architect	42		S07	Solid Wastes; Incineration; Landfill	7
42	Mechanical Engineer	12		S09	Structural Design; Special Structures	7

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46	Photogrammetrist	1		S12	Swimming Pools	10
47	Planner: Urban/Regional	21		S13	Storm Water Handling & Facilities	8
48	Project Manager	35		T02	Testing and Inspection Services	6
50	Risk Assessor	1		T03	Traffic & Transportation Engineering	10
51	Safety/Occupational Health Engineer	3		U03	Utilities (Water and Sewer)	10
52	Sanitary Engineer	78		W02	Water Resources; Hydrology; Ground Water	10
53	Scheduler	1		W03	Water Supply; Treatment & Distribution	10
55	Soils Engineer	1				
56	Specifications Writer	1				
57	Structural Engineer	11				
58	Technician/Analyst	33				
60	Transportation Engineer	34	4			
62	Water Resources Engineer	43				
63	Electrician	9				
64	Mechanic	28				
65	Foreman	7				
67	Laborer	13				
68	General Manager	12				
69	Waterworks Operator	7				
70	Wastewater Operator	25				
71	UAS Specialist	3				
72	Visualization	1	1			
73	Aquatics Engineer	4				
76	Driller	2				
77	Well & Pumps	20				
	Total	**940**	17			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less Than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE

b. DATE
November 1, 2024

c. NAME AND TITLE
Kevin Hutchens, PE, Regional Manager

STANDARD FORM 330 (REV. 7/2021)

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