

01 INTRODUCTION

August 18, 2023

Attn: Marcus Jones, PE

Henderson County | 1 Historic Courthouse Square, Hendersonville, NC 28792
email: mjones@hendersoncountync.gov

Re: Request for Letters of Interest for Engineering Services for Henderson County Ecusta Rail-Trail West

TRANSYSTEMS

216 EXECUTIVE PARK
ASHEVILLE, NC 28801
919.789.9977
WWW.TRANSYSTEMS.COM

Dear Mr. Jones + Selection Committee Members,

TranSystems is pleased to submit our qualifications to Henderson County (County) for engineering services for the Henderson County Ecusta Rail-Trail West.

TranSystems is an award-winning, turnkey infrastructure planning, design, and construction consultancy serving both the public and private sectors across the Southeastern United States. SEPI merged with TranSystems in September 2022 increasing the services offered to our Clients and expanding our already deep pool of technical experts.

Joining our Team as Subconsultants are **Terracon** Consultants, Inc., to provide geotechnical and historic architectural surveys of standing structures services; **TELICS** to provide right-of-way services if needed; and **Palacio** to provide cost estimating services if needed. We have assembled an outstanding team of professionals who all share a passion, and demonstrated history, for improving the communities in which we work and play.

EXPERIENCED PROFESSIONALS | The TranSystems Team shares a passion for public projects and brings the technical expertise; extensive NCDOT and LAPP project experience; familiarity with multiple funding sources including federal, state and grant sources; successful partnerships; diverse capabilities; and organizational capacity to build a positive and lasting relationship with the County. Our professionals will partner with the County to design and long awaited multi-use trail that serves to transform the existing rail grade into a multi use facility that can be used by locals and visitors for exercise, a peaceful evening stroll or simply a fun outing with the family. All the while preserving the natural beauty of the area. **Kellie Tasselli, PE** will serve as the Project Manager and Primary Point-of-Contact for the length of the contract.

CONFLICT OF INTEREST | The TranSystems Team does not have any known conflicts of interest with the County for this contract.

SUMMATION | Thank you for the opportunity to share our qualifications and we would be honored to partner with you on this significant community project. Should you have any questions regarding our qualifications, please do not hesitate to contact me by phone at 919.573.9915 or via email at rramkumar@transystems.com.

Sincerely,



Rajit Ramkumar, PE, LEED AP
Vice President | NC Transportation Lead

PRIMARY POINT OF CONTACT



Kellie Tasselli, PE

1 Glenwood Avenue
Suite 600, Raleigh, NC 27603
P: 919.451.0531
E: ktasselli@transystems.com

TEAM REGISTRATIONS

A PARTNERSHIP WITH A DEPTH OF EXPERIENCE + RESOURCES

TRANSYSTEMS TEAM

TRANSYSTEMS

- Secretary of State (#0591120)
- NC Engineers and Land Surveyors (#F-0453)
- NC Landscape Architects (#C-685)
- NCDOT Prequalified through 7/31/2023
(renewal in process)

TERRACON

- Secretary of State (#0716722)
- NC Engineers and Land Surveyors (#C-2639)
- NCDOT Prequalified through 5/31/2024

TELICS

- Secretary of State (#0145813)
- NC Engineers and Land Surveyors (#F-1324)
- NCDOT Prequalified through 4/30/2024

PALACIO

- **DBE/MBE/HUB**
- Secretary of State (#1375309)
- DUNS #79079808

TEAM QUALIFICATIONS

TRANSYSTEMS SIMILAR PROJECTS

Our Team is experienced working with municipalities having completed numerous successful projects for clients across North Carolina. TranSystems has the common goal to transform the old railroad into a vibrant multi-use facility that can be used by the community and visitors alike and cater to all skill levels from Senior citizens to the youngest child. We have been intentional in assembling this team, counting on internal units and each firm's specific strengths, expertise, and experience on similar projects.

City of Charlotte, **On-Call Complete Streets: Rail Trail Gaps**



Description TranSystems provided on-call sidewalk design services in accordance with the Charlotte Sidewalk Retrofit Policy. One of the projects for this on-call contract was the Rail Trail Gaps project, which is located in South End, an active multimodal community with dense residential and commercial zoning fronting a light rail. A multi-use trail has been constructed in pieces as apartment complexes have developed along the corridor. TranSystems is completing gaps in areas that are not anticipated to develop in the near future. This project

includes geometric design, drainage, retaining walls, and utilities.

COMPLETION DATE: 2022 **CONTACT:** Scott Curry, City of Charlotte, 704.432.4638

EXPERIENCE

- ✓ Urban Design
- ✓ Planning
- ✓ Environmental
- ✓ Traffic Plans /PMP
- ✓ Landscape Design
- ✓ Hydraulic Design
- ✓ Utility/Rail Coordination
- ✓ Construction Cost Estimates

City of Winston-Salem, **Little Creek Greenway Phase II**



Description TranSystems provided greenway design services for the Winston-Salem Little Creek Greenway Phase II. The project includes the design and permitting for approximately 0.67-miles of ten-foot-wide greenway along Little Creek in the FEMA regulated floodplain from the existing greenway terminus to Somerset Road. As part of this project, TranSystems completed, greenway design, environmental investigation, hydraulic design ("No-Rise" certification), surveys, SUE, drainage design, permitting, bid documents, and bid support.

COMPLETION DATE: 4/2022- Design **CONTACT:** Robert Prestwood, City of Winston-Salem, 336.747.6985

EXPERIENCE

- ✓ Greenway Design
- ✓ Environmental Services
- ✓ Public Involvement
- ✓ Stream + Wetlands Delineation
- ✓ Endangered Species Surveys
- ✓ FEMA Coordination

City of Charlotte, **Toby Creek Greenway Phase II**



Description Toby Creek Greenway-Phase II consisted of a greenway project approximately 1.3-miles in length connecting Blue Rock Road to Rockland Drive and providing connectivity to UNCC and surrounding businesses. TranSystems provided surveying; wetland and stream delineation; mapping; wetlands, stream, and buffer permitting; Categorical Exclusion; Flood Study; and Stream Modeling design services.

The greenway is a combination of asphalt, concrete, and boardwalk greenway surfaces with a pedestrian bridge(s) over the creek. The pedestrian bridge crossing occurs at a wide location in the floodplain which was considered during the flood study of the proposed improvements. TranSystems coordinated with the site designer to recommend excavation and bridge elevations in order to achieve a No-Rise certification and obtain a Floodplain Development Permit from Mecklenburg County Stormwater Services.

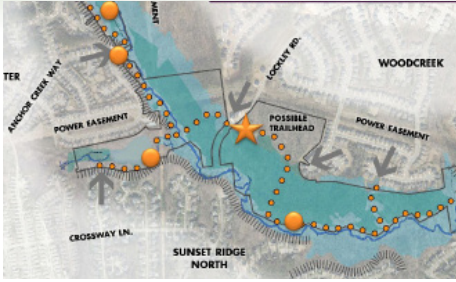
This project was funded in part by a Congestion Mitigation and Air Quality Improvement (CMAQ) grant and thus must follow the requirements outlined by NCDOT for design and project review. TranSystems stayed on schedule and within budget for this important greenway link.

COMPLETION DATE: 11/2014 **CONTACT:** Gwen Cook, Mecklenburg County, 980.314.1036

EXPERIENCE

- ✓ Greenway Design
- ✓ Surveying
- ✓ Environmental Services
- ✓ Permitting
- ✓ Stream + Wetlands Delineation
- ✓ Flood Study
- ✓ Stream Modeling Design
- ✓ Categorical Exclusion
- ✓ FEMA Coordination
- ✓ NCDOT Administered Project

Town of Holly Springs, **Arbor Creek Greenway Extension**



Description TranSystems is designing a new three-mile greenway extension for the Town of Holly Springs. The project corridor is along Middle Creek between Sunset Lake and Holly Springs Road. The scope of work for the greenway design includes all phases from schematic design through construction drawings and permitting; technical specifications and bid documents; bidding assistance; and construction administration. This project also includes existing conditions mapping through aerial photography and field survey; stream and wetland delineation; aquatic surveys for Freshwater Mussel, Carolina Madtom, and Neuse River Waterdog species;

greenway easement mapping; and floodplain modeling. TranSystems is also providing land surveying services for the greenway project.

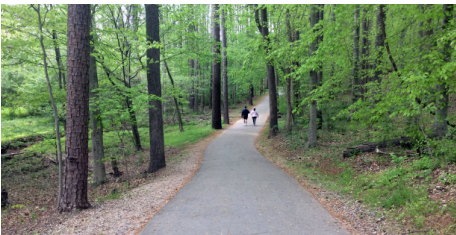
Prior to the pandemic, a public participation process that included an Open House forum in addition to a day dedicated for Stakeholder Walks, was included with the project, allowing those interested to see how the early greenway trail routing is evolving. With the limitation on public gatherings due to COVID-19, we shifted the methodology for public engagement to include an online presentation to describe the status of work and provide an update on the proposed greenway routing. TranSystems was also selected for the Construction Engineering Inspection and Contract Administration in 2022.

COMPLETION DATE: 5/2022- Design **CONTACT:** Matt Beard, Town of Holly Springs, 919.567.4018

EXPERIENCE

- ✓ Greenway Design
- ✓ Landscape Architecture
- ✓ Site/Civil
- ✓ Environmental Services
- ✓ Public Involvement
- ✓ Stream + Wetlands Delineation
- ✓ Endangered Species Surveys
- ✓ FEMA Coordination
- ✓ Construction Administration
- ✓ NCDOT Administered Project

City of Raleigh, **Lake Lynn Greenway Feasibility Study/Trail Design**



Description Through an on-call contract awarded by the City of Raleigh, TranSystems provided design services for the City of Raleigh for the repaving of the existing Lake Lynn Greenway; a total of approximately 2.8-miles of the trail including the connection to the Community Center. This project also included a feasibility study of the entire 2.8-mile loop to catalog the existing conditions of the trail, identify areas with significant root damage, and propose solutions to drainage issues. Based on the outcome of the feasibility study,

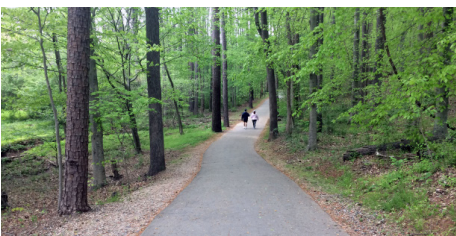
TranSystems produced construction drawings for the corridor. In addition to the trail repaving efforts, these plans provided design for storm drainage improvements to address trail erosion and /or flooding concerns. TranSystems worked with the City to facilitate a public information session regarding the proposed work. This project was led by our Landscape Architecture team, in collaboration with our Environmental and Land Surveying departments. TranSystems' Environmental team performed stream and wetland delineations along Hare Snipe Creek where it intersects the trail and in areas of proposed trail improvements. Surveys were also performed for the federally endangered red-cockaded woodpecker and Michaux's sumac.

COMPLETION DATE: 1/2022- Design **CONTACT:** David Bender, City of Raleigh, 919.996.4798

EXPERIENCE

- ✓ Greenway Design
- ✓ Landscape Architecture
- ✓ Site/Civil
- ✓ Environmental Services
- ✓ Public Involvement
- ✓ Stream + Wetlands Delineation
- ✓ Endangered Species Surveys

Town of Cary, **White Oak Greenway/American Tobacco Trail**



Description TranSystems provided CEI services for the construction of several new greenways through Federally Administered Projects Funding for the Town of Cary. The White Oak Greenway/American Tobacco Trail includes a 10' wide asphalt and concrete paved greenway trail over 1.9-miles with wooden boardwalk construction and associated clearing, drainage, erosion control, and pavement marking. The northernmost section includes categorical wetlands, environmentally sensitive areas, and a sanitary sewer right-of-

way. TranSystems provided construction inspections, materials testing, density testing, nuclear gauge density/asphalt core testing, sedimentation/erosion control, traffic control, utility conflict management/ relocations, and project documentation including claims avoidance, project closeout, and Federal funding certification.

COMPLETION DATE: 2018 **CONTACT:** Sarah Yu-tung Alexander, PLA, Town of Cary, 919.462.2075

EXPERIENCE

- ✓ Construction Administration
- ✓ Traffic Control
- ✓ Utility Coordination
- ✓ Environmental Services
- ✓ Pavement Marking
- ✓ Hydraulic Design
- ✓ Materials Testing
- ✓ NCDOT Administered Project

Town of Carolina Beach, **Carolina Beach Island Greenway Extension**



Description TranSystems provided the Town of Carolina Beach with geomatics and engineering services to develop plans and specifications for the construction of approximately 6,390-LF of a 10-foot wide paved multi-use path from Mike Chappell Park to Alabama Avenue along the Military Ocean Terminal at Sunny Point (MOTSU) boundary, and for approximately 4,500-LF of bicycle boulevard on the existing pavement on each side of Harper Avenue from Dow Road to Lake Park Boulevard.

TranSystems also provided professional services to complete Environmental and Programmatic Categorical Exclusion (PCE)

requirements as defined by tasks. Field survey operations were also required within the boundary limits of the MOTSU facility. Field surveying tasks included: control surveys using Global Navigation Satellite System (GNSS) to establish state plane coordinates on-site control points; boundary surveys, topographic surveys, and location surveys of existing utilities within the project area. Survey and construction plan information was processed utilizing ESRI ArcGIS ArcView to provide GIS shapefiles to MOTSU for progress approvals.

COMPLETION DATE: 2018 **CONTACT:** Jerry Haire, Project Manager, 910.458.8380

EXPERIENCE

- ✓ Greenway Design
- ✓ Landscape Architecture
- ✓ Site/Civil
- ✓ Environmental Services
- ✓ Public Involvement
- ✓ Stream + Wetlands Delineation
- ✓ Endangered Species Surveys
- ✓ Construction Administration

City of Asheville, **Airport Road Sidewalk**



Description TranSystems is providing sidewalk design for approximately one mile of sidewalk along Airport Road. Work includes adding wheelchair ramps, guardrail modifications, traffic signalization coordination, transit shelters and utility relocation. The project runs from Birch Circle to Hendersonville Road along Airport Road and is being designed within existing right of way while reducing the number of impacts to existing utilities. The existing right of way is narrow in many locations requiring the use of walls and creative design to meet the needs of the city.

TranSystems conducted a design walkthrough to get an actual “eyes and boots on the ground” look to better understand potential risk areas and identify obstacles that may be missed during the 10% design of the project. During the walkthrough, the sidewalk location required a large utility pole with several utilities be moved. Relocation of the pole was estimated to cost an additional \$80,000. The TranSystems team suggested construction of a small retaining wall allowing the sidewalk to be rerouted in this area to avoid the pole, saving a substantial amount to the project cost.

TranSystems is also completing complete streets design, environmental review, hydraulic design, bid documents, and bid support as needed.

COMPLETION DATE: 1/2022 **CONTACT:** Lora Sepion, City of Asheville, 828.575.4385

EXPERIENCE

- ✓ Sidewalk + ADA Design
- ✓ Complete Streets Design
- ✓ Environmental Review
- ✓ Hydraulic Design
- ✓ Bid Documents
- ✓ Bid Support

City of Asheville, **Wilma Dykeman Riverway RADTIP**



Description TranSystems provided construction administration and inspection oversight for the first phase of the Federally-funded Wilma Dykeman Riverway RADTIP (River Arts District Transportation Improvement Project) project. It included riverfront improvements along a 2.2-mile multi-modal corridor. The project included road construction-relocation/alignment of a portion of roadway along with upgrades to existing roadway and installation of bridges, culverts, and retaining walls. The project also included construction of two roundabouts, intersection

improvements to enhance pedestrian traffic; water, sewer, and utility improvements; traffic signal upgrades; curb and gutter; off-road stormwater improvements; special signage; pavement markings; on-road bicycle facilities; a parallel greenway trail; on-street parking; sidewalks; streetscape amenities; street furniture; and public art.

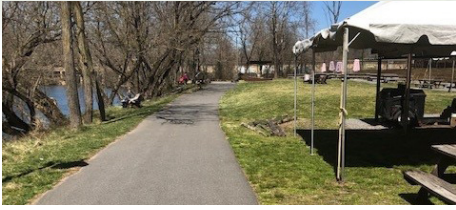
TranSystems provided construction materials testing; quantity verification; document control; daily reporting of activities; sedimentation and erosion control monitoring; traffic control monitoring; claims avoidance; and project closeout.

COMPLETION DATE: 6/2021 **CONTACT:** Dustin Clemens, City of Asheville, 828.232.4580

EXPERIENCE

- ✓ CEI & Construction Administration
- ✓ Pedestrian Improvements
- ✓ Materials Sampling + Testing
- ✓ Public Involvement
- ✓ Utility Improvements
- ✓ Environmental Stewardship

City of Asheville, Wilima Dykeman Greenway North Design



Description This one mile greenway along Riverside Drive (NC 251) in Asheville NC is a continuation of the existing River Arts District Greenway. TranSystems was selected to design this section consisting of a multi-use path in close proximity to rail along the French Broad River. The design is required to closely mimic the aesthetic feel of the existing greenway. It consist of a 10-foot multi-use path and two structures to span existing streams. TranSystems is involved in the environmental

permitting of the site, design, utility relocation, right-of-way coordination, public involvement, stakeholder involvement, coordination with NCDOT projects crossing the corridor, and emergency access.

COMPLETION DATE: Ongoing **CONTACT:** Anna Sexton, City of Asheville, 828.259.5966

EXPERIENCE

- ✓ Greenway + Multi-Use Path Design
- ✓ Environmental Services
- ✓ Public Involvement
- ✓ Structures
- ✓ Utility Relocation
- ✓ Right-of-Way Coordination

NCDOT, Division 2, B-4926 Bridge 20 & 34 Replacement



Description This project consists of two 2,900' bridge replacements over the Neuse River. The replacement structures are both multi-span concrete girder bridges 540' and 215' long, respectively. The project will permanently impact between 1.5 and 2.0 acres of wetlands requiring compensatory wetland mitigation at a 2:1 ratio.

COMPLETION DATE: Ongoing **CONTACT:** Casey Whitley, PE, PLS, NCDOT, 252.439.2827

EXPERIENCE

- ✓ Planning/design for bridge replacement
- ✓ Roadway design
- ✓ Hydrology/hydraulics
- ✓ Environmental documentation
- ✓ Utility coordination
- ✓ Traffic management
- ✓ Public involvement

NCDOT, Division 2, B-4495, B-4596, & B-4483 Low Impact Bridge Replacements

Description TranSystems recently completed planning and design for three low impact bridge replacements in Division 2. Services included project management, Categorical Exclusion (CE), structure design, 100% roadway design, planning and final hydraulics, erosion control, utility coordination, WZTC/PMP, and permitting.

COMPLETION DATE: Ongoing **CONTACT:** Michael Aman, PE, NCDOT, 252.439.2812

SUBCONSULTANTS SIMILAR PROJECTS

PROJECT INFORMATION

TERRACON

Town of Huntersville, Torrence Creek Greenway - Tributary II

This project included a new segment of the Torrence Greenway between Rosewood Meadow Lane and Statesville Road, which is part of the Cross-Charlotte Trail project. The project also included two pedestrian bridges, a pedestrian underpass through the existing culvert beneath Interstate I-77, and numerous elevated boardwalk structures. Overall, this project was approximately 1.3 miles in length.

Terracon provided geotechnical engineering and wetland delineation services for this project. Geotechnical engineering services included field investigations, laboratory testing, and reporting that provided recommendations for earthwork and pavement and foundation recommendations for the proposed greenway trail, pedestrian bridges and boardwalks. Wetland delineation services included field surveys and permitting submittal/coordination for Army Corps approvals. Terracon's close coordination with our client and the Town of Huntersville allowed us to be responsive and attentive to the needs of the project throughout the design process.

COMPLETION DATE: 2020 **CONTACT:** Tristan McMannis, PLA, LEED AP, Dewberry, tmcmanis@dewberry.com

TELICS

City of Charlotte, Lakeview/Reames Road Intersection and Roadway Improvements

This federal funded project will improve the intersection of Lakeview Road and Reames Road by constructing a roundabout and providing a sidewalk on Lakeview Road from Reames Road to Beatties Ford Road. The second phase of the project was the Farm to Market section that widened the roadway from Statesville Road to Reames Road including pavement and sidewalk improvements to create a multi-use path for better vehicle and pedestrian travel experience. TELICS provided and completed all necessary Right-of-Way services in 2020, including negotiation and acquisition of the easements needed for construction. 78 Acquisitions and 3 Sign Relocations.

COMPLETION DATE: 2020 **CONTACT:** Greg Crawford, City of Charlotte, 704.336.7031, gcrawford@ci.charlotte.nc.us

PALACIO

Town of Morrisville, Crabtree Creek Nature Park

Palacio provided cost management for a 4,875-SF expansion that featured a new parking lot, a pavilion with restrooms and educational signage, a fully inclusive ADA playground, and walking trails and boardwalks through the woods with interpretive signage.

COMPLETION DATE: 2021 **CONTACT:** Lauren Dickson, CLH Design, 919.319.6716

03 TEAM EXPERIENCE

ORGANIZATION CHART

The TranSystems Team provides a staff of highly-qualified professionals consisting of individuals with the necessary experience, education, and certifications required for this contract. In the event that our Team encounters personnel changes or any other changes of significance, the County will be notified immediately.

TEAM KEY

- **TRANSYSTEMS [FORMALLY SEPI] (Prime)**
- **TERRACON (Subconsultant)**
- **TELICS (Subconsultant)**
- **PALACIO (Subconsultant)**
- 🔑 **KEY INDIVIDUAL**



Randy McKinney PE, CPM
Principal in Charge 🔑

Danny Gardner PE
QA/QC Manager 🔑

PRIMARY POINT OF CONTACT

Kellie Tasselli PE
Project Manager 🔑

THIS TEAM BRINGS

- EXPERIENCE WITH MULTIPLE NC MUNICIPAL STAKEHOLDERS ON HIGH-PROFILE PUBLIC PROJECTS
- EXTENSIVE LOCAL KNOWLEDGE AND GREENWAY EXPERIENCE WITH LAPP PROJECTS
- RANKED 9TH IN NATION IN BRIDGE DESIGN & HAVE EXPERIENCE WITH RAILROAD STRUCTURES.

Multi-Use Trail Design (316)

- Danny Gardner** PE 🔑
Will Pope PE
Ben Richardson PE
Hannah Brown EI
Tyler Neal EI

Erosion Control/Hydrologic & Hydraulic Design (70, 433, 434)

- Brian Steffen** PE 🔑
Brian Mazzochi PE
Tyler Overby PE
Taylor Williams PE

Landscape & Streetscape Architecture (132)

- Lauren Dickson** PLA, ASLA 🔑
Christine Dunn ASLA
Katherine Gottsegen MLA, ASLA

Bridge Structure Design (23, 24)

- Matt Rekers** PE 🔑
Kenny Wagner PE

Pavement Marking/Traffic Control Plans & Urban Roadway Design (155, 247, 269)

- Steve Miller** PE 🔑
Danny Gardner PE
John Bauman PE

Signal Design (207)

- Buddy Murr** PE 🔑
Billy Wynn PE

Survey (199)

- Mike Case** PLS 🔑
Eric Case

Utility Coordination (270)

- Davidian Byrd** 🔑
Will Pope PE

T&E Species & Wetland Delineation (243, 280)

- Anna Reusche** PWS 🔑
Chris Sheats PWS
Bob Lepsic PWS
Jennifer Harrod PWS

Categorical Exclusions & Environmental Assessment/ FONSI (32, 63)

- Michelle Suverkrubbe** AICP 🔑
John Wisdom GISP
Phil Harris PE, CPM
Alex McCarn

Public Involvement (171)

- Lauren Dickson** PLA, ASLA 🔑
Michelle Suverkrubbe AICP
Phil Harris PE, CPM

VALUE ADDED SUPPORT

Right-of-Way (TELICS)

- Andrew Ponder** SR/WA
Janice Rogers R/W-RAC

Cost Estimating (Palacio)

- Tony Murphy**

Historic Architectural Surveys of Standing Structures (106)

- Mills Dorn** MHP 🔑

Geotechnical (294, 295, 296, 297)

- Jeremy Dierking** PE 🔑

NBIS Bridge Inspection (143)

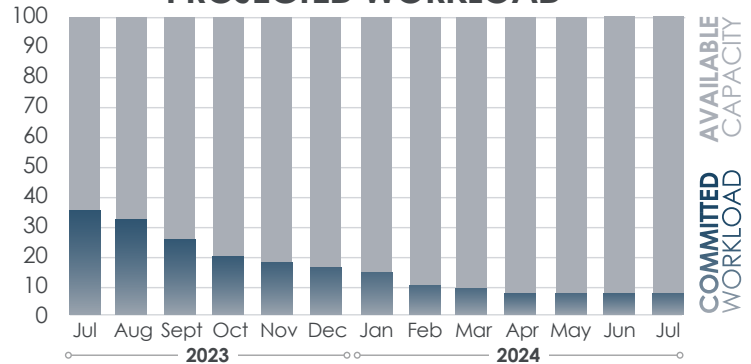
- Tommy Graham** PE 🔑
Dillon Winters EIT
Parker Graham EIT

CURRENT WORKLOAD

TranSystems employs a staff of more than 276 professionals in North Carolina with sufficient available staff capacity required to provide timely and responsive services and meet project schedules for multiple delivery orders that may be required under this contract.

We understand that the nature of this work often requires delivering certain tasks and deliverables on an accelerated schedule and have the ability to mobilize quickly in order to meet tight deadlines. Our proposed team members are locally sourced and will be available upon NTP.

PROJECTED WORKLOAD



AVAILABILITY/LOCATION

Name	Location	Availability
Randy McKinney, PE, CPM	Asheville	75%
Rajit Ramkumar, PE, LEED AP	Raleigh	45%
Kellie Tasseli, PE	Raleigh	75%
Danny Gardner, PE	Raleigh	55%
Will Pope, PE	Wilmington	60%
Ben Richardson, PE	Wilmington	75%
Hannah Brown, EI	Charlotte	75%
Tyler Neal, EI	Charlotte	75%
Brian Steffen, PE	Raleigh	55%
Brian Mazzochi, PE	Raleigh	60%
Tyler Overby, PE	Raleigh	65%
Taylor Williams, PE	Raleigh	60%
Lauren Dickson, PLA, ASLA	Raleigh	55%
Christine Dunn, ASLA	Raleigh	75%
Katherine Gottsegen, MLA, ASLA	Raleigh	75%
Matt Rekers, PE	Charleston, SC	60%
Kenny Wagner, PE	Charleston, SC	60%
Steve Miller, PE	Raleigh	70%
John Bauman, PE	Raleigh	65%
Buddy Murr, PE	Raleigh	75%
Billy Wynn, PE	Raleigh	75%
Mike Case, PLS	Charlotte	70%
Eric Case, PLS	Charlotte	70%
Davidian Byrd	Raleigh	75%
Anna Reusche, PWS	Raleigh	65%
Chris Sheats, PWS	Raleigh	60%
Bob Lepsic, PWS	Raleigh	50%
Jennifer Harrod, PWS	Raleigh	75%
Michelle Suverkrubbe, AICP	Raleigh	65%
John Wisdom, GISP	Raleigh	65%
Phil Harris, PE, CPM	Raleigh	75%
Alex McCarn	Raleigh	60%
Mills Dorn, MHP	Columbia, SC	65%
Jeremy Dierking PE	Asheville	60%
Tommy Graham PE	Charlotte	70%
Dillon Winters EIT	Charlotte	75%
Parker Graham EIT	Charlotte	75%
Andrew Ponder SR/WA	Statesville	70%
Janice Rogers R/W-RAC	Statesville	70%
Tony Murphy	Durham	60%

PREQUALIFIED NCDOT CODES BY FIRM

NCDOT Codes	Firm Name			
	TRANSYSTEMS	TERRACON	TELICS	PALACIO
Bridges-Spans Over 200' (23)	✓			
Bridges-Spans Under 200' (24)	✓			
Categorical Exclusion (32)	✓			
Environmental Assessment / Finding of No Significant Impacts (63)	✓			
Erosion Control (70)	✓			
Historic Architectural Surveys of Standing Structures (106)		✓		
Landscape and Streetscape Design (132)	✓			
NBIS Bridge Inspection (143)	✓			
Pavement Marking Plans (155)	✓			
Public Involvement (171)	✓			
Route Location Survey (199)	✓			
Signal Design (207)	✓			
Threatened & Endangered Species Survey (243)	✓			
Traffic Control Plans (247)	✓			
Urban Roadway Design (269)	✓			
Utility Coordination (270)	✓			
Wetlands and Stream Delineation (280)	✓			
Roadway Foundation Investigation & Design (294)		✓		
Structure Foundation Investigation & Design (295)		✓		
Retaining Wall Investigation & Design (296)		✓		
Pavement Design Investigation (297)		✓		
Multi-Use Trail Design, Survey & Layout (316)	✓			
Basic Hydrologic and Hydraulic Design (433)	✓			
Tier II Complete Hydrologic and Hydraulic Design (434)	✓			
Value Added Support Services				
Right-of-Way			✓	
Cost Estimating				✓

KEY TEAM MEMBER RESUMES



RANDY MCKINNEY PE, CPM Principal in Charge

REGISTRATIONS PE, NC (#24889);
Certified Public Manager

RELEVANT PROJECT EXPERIENCE Randy has 30 years of experience in transportation construction management including project program development, planning, transportation design, construction, contract administration, and FHWA. He completed his career in Division 13 as the Division Construction Engineer. Randy has construction management oversight experience with large signature transportation projects, as well as smaller localized projects including greenways, ADA compliance projects, traffic management projects, pavement repair/rehabilitation projects, resurfacing, and bridges.



RAJIT RAMKUMAR PE, LEED AP QA/QC Manager

EDUCATION MS, Civil Engineering;
Bachelor of Technology Civil Engineering

REGISTRATIONS PE, NC (#036810); LEED

Accredited Professional

RELEVANT PROJECT EXPERIENCE Rajit has 19 years of transportation planning and engineering experience and is proficient in state and federal policies and procedures and has completed numerous projects involving multimodal design, Complete Streets, and streetscapes utilizing AASHTO and NACTO guidelines as well as greenway facilities, feasibility studies, cost estimates, public engagement, SEPA/NEPA, urban planning, environmental screening, permitting, parking, traffic noise analysis, and grant assistance.



KELLIE TASSELLI PE Multi-Use Trail Design

EDUCATION BS, Civil Engineering

REGISTRATION PE, NC (#055592)

RELEVANT PROJECT EXPERIENCE Kellie is experienced in plan production of highway construction projects involving a wide variety of transportation projects, including urban highway widening, bicycle and pedestrian facilities, bridge replacement, resurfacing, restoration, and rehabilitation projects, and ADA curb ramp retrofits. Kellie has experience in project scoping efforts for upcoming STIP cycles, preliminary design, final design through to construction support.

- **Town of Garner, Garner Road and Aversboro Road Sidewalk.** Transportation Engineer responsible for overseeing new sidewalk project; coordination of a multi-disciplinary design team; and providing communication with City staff.
- **City of Asheville, Airport Road Sidewalk.** Transportation Engineer responsible for leading the project design team for a sidewalk in-fill project; providing design solutions to conflicts with proposed sidewalk, such as guardrail and utilities; and communicating with City staff.



DANNY GARDNER PE Multi-Use Trail Design

EDUCATION AAS, Civil Engineering

REGISTRATION PE, NC (#033871)

RELEVANT PROJECT EXPERIENCE Danny has over 35 years of experience as a transportation engineer for a wide variety of interstate, roadway, bridge, and civil engineering projects. His skills encompass highway design, transportation plan development, noise analysis, intersection/roundabout design, and bicycle/pedestrian neighborhood connectivity improvement. Prior to joining TranSystems, he worked with NCDOT for 29 years.

- **Town of Cary, Intersection Improvements + Pedestrian Connectivity.** Senior Roadway Project Manager responsible for conceptual designs.
- **City of Kannapolis, Little Texas Road Sidewalk.** Senior Roadway Project Manager responsible for 2.1-mile sidewalk and intersection realignment project which includes approximately 900-LF of full roadway reconstruction, conversion of the roadway to a to curb and gutter closed drainage system.



BRIAN STEFFEN PE Erosion Control/Hydrologic & Hydraulic Design

EDUCATION BS, Environmental Engineering

REGISTRATION PE, NC (#043890)

RELEVANT PROJECT EXPERIENCE Brian has over 10 years of experience as a Hydraulic Engineer. His experience includes stormwater related projects including multiple design-build and traditional NCDOT projects. He has experience with GEOPAK drainage design, FEMA and NC Floodplain Mapping coordination, and HEC-RAS stream modeling. His professional experience includes developing multiple CLOMR and MOA Packages for FEMA and NCFMP and preparing 401/404 Permit submittals including permit modifications.

- **City of Raleigh, Shelley Road Bridge Replacement.** Hydraulic Engineer responsible for tasks that include completing the drainage design for the bridge replacement, the No-Rise Flood Study, environmental permit drawings, and erosion control.
- **City of Charlotte, Sidewalk On-Call.** Hydraulic Engineer responsible for drainage design and calculations on the Bryant Farms project.



LAUREN DICKSON PLA, ASLA Landscape Architecture/Public Involvement

EDUCATION Bachelor, Landscape Architecture

REGISTRATIONS PLA, (#1816); American Society of Landscape

Architects

RELEVANT PROJECT EXPERIENCE Lauren has over 14 years of landscape architecture experience. She recently joined TranSystems, bringing with her experience on various types of projects including park master plans, site analysis, greenways, streetscapes, libraries, and various public facilities. Her experience includes taking a leading role in site analysis, design, preparation of master plans, construction documents, and construction administration. She has a passion for public spaces and promoting environmental awareness and stewardship.

- **City of Raleigh, Lake Lynn Greenway.** Landscape Architect responsible for final design and permitting support. TranSystems provided design services for the repaving of the existing Lake Lynn Greenway; a total of approximately 2.8-miles of the trail including the connection to the Community Center.

- **Zebulon Greenway & Pedestrian Master Plan.** Project Planner and involved in all aspects of the development of this greenway master plan. She was responsible for conducting site analysis, producing conceptual designs and graphics, and participating in public meetings. *(Worked performed prior to TranSystems)*



MATT REKERS PE

Bridge Structure Design

EDUCATION MS, Civil Engineering; BS, Civil and Environmental Engineering

REGISTRATION PE, NC (#050087)

RELEVANT PROJECT EXPERIENCE Matt has eight years of structural and civil engineering design experience in bridge design and design-build projects. His experience includes finite element modeling, staged construction analysis, including construction stage and final stage analysis, superstructure design including: curved steel plate girder, bolted splice design, cross frame / diaphragm design, prestressed concrete design, elastomeric bearing design and deck design, steel plate girder design, AASHTO girder design, semi integral abutment design, substructure design including: jointless philosophy abutment design, multi-column and wall piers, pile and drilled shaft design and spread footing design, and bridge load ratings under the LRFR and LFR methodologies.

- **Greenville County, Hampton Avenue Pedestrian Bridge, SC.** Lead Structural Engineer responsible for designing a pedestrian bridge over the Norfolk Southern Railway.
- **All Aboard Florida, FL.** Engineer of Record for more than 15 headwalls and retaining walls that were designed adjacent to All Aboard Florida track.



STEVE MILLER PE

Pavement Marking/Traffic Control Plans & Urban Roadway Design

EDUCATION: BS, Civil Engineering

REGISTRATIONS: PE, NC (#037026)

RELEVANT EXPERIENCE: Steve has 19 years of experience and has served as the SEPI project manager for over 75 projects including interchange modifications, urban and rural widening, roundabouts, bridge replacements, and municipal improvements. Steve is also highly skilled in the design and coordination of Signing Plans, Pavement Marking Plans, and Transportation Management Plans. Steve's experience with Work Zone Traffic Control design has given him broad exposure to various constructibility issues that span multiple disciplines. Prior to joining SEPI, Steve held civil engineering positions in the private sector and with the NCDOT's Work Zone Traffic Control Unit.

- **City of Raleigh, Complete Streets and Widening Project.** Project Manager responsible for design of traffic control plans, pavement marking plans, and signing plans.
- **Town of Cary, Intersection Improvements + Pedestrian Connectivity.** Transportation Engineer responsible for coordinating a multi-disciplinary team through the planning and design of five intersections. Solid communication with the Town, various agencies, and subcontractors are crucial elements of this project's success.



BUDDY MURR PE

Signal Design

EDUCATION BS, Civil Engineering

REGISTRATION PE, NC (#014543)

RELEVANT PROJECT EXPERIENCE Buddy has more than 39 years of experience, 32 of which were spent with NCDOT. He is proficient in the design and operations of traffic signals as well as preparation of traffic signal plans, specifications, and estimates (PS&E). He is also knowledgeable in the preparation of signal communications PS&Es. He has experience managing engineering staff and ensuring compliance with state and federal regulations.

- **Town of Cary, Intersection Improvements + Pedestrian Connectivity.** Traffic Engineer responsible for traffic signal design support along with QA/QC services.
- **NCDOT, US 15-501 Traffic Signal Design.** Traffic Engineer responsible for traffic signal design support along with QA/QC services.



MIKE CASE PLS

Survey

EDUCATION AAS, Civil Engineering

REGISTRATION PLS (#L-2828)

RELEVANT PROJECT EXPERIENCE Mike has extensive knowledge and over 48 years of experience in various areas of land surveying services. His areas of practice include transportation, environmental, residential land development, water/waste water resources, and telecommunications. His responsibilities include project management, budgetary control, and overall QA/QC for a variety of boundary, topographic, construction, control, and GPS survey projects for private, public, and federal clients. In addition, his personal experience encompasses planning studies, mapping, quality assurance, and construction layout as well as review of numerous large and complex public, municipal, residential, commercial, and industrial projects.

- **City of Charlotte, Toby Creek Greenway Phase II.** Survey Manager responsible for surveying of approximately 1.3-miles of proposed greenway.
- **City of Charlotte, Survey On-Call.** Survey Manager responsible for performing property boundary locations as well as topographic and utility survey of an 800-foot section of Nations Ford Road for the development of a new sidewalk.



DAVIDIAN BYRD

Utility Coordination

EDUCATION AAS, Architectural Technology

RELEVANT PROJECT EXPERIENCE Davidian has more than 43 years of work experience in both the public and private sectors, including design and management of preconstruction highway projects and utility and relocation coordination. He has extensive coordination with internal and external clients, including the Federal Highway Administration, Triangle Transit Authority, local municipalities, counties, units within NCDOT, private engineering firms, and NC citizens. Prior to joining SEPI, Davidian worked for 37 years with NCDOT.

- **Triangle Transit Light Rail Project.** Utility Coordinator that served as liaison to private power, telephone, telecom, and gas companies to evaluate impacts to existing facilities and to identify relocation options to facilitate construction of light rail project and associated multimodal improvements in station areas and along the corridor. *(Worked performed prior to TranSystems)*



ANNA REUSCHE PWS
T&E Species/Wetland Delineation & Permitting

EDUCATION Natural Resources Mgt.; Water Resources Mgt.

REGISTRATION PWS (#2242)

RELEVANT PROJECT EXPERIENCE Anna has over 17 years of environmental and technical experience. She has considerable knowledge of scientific principles related to the preservation, restoration, and mitigation of wetlands and streams as well as the function and importance of these systems in the ecosystem. She is experienced in the completion of wetland and stream delineation, stream identification, 404/401 Nationwide permit applications/ Individual Permit applications, NC Division of Water Resources Buffer and Variance applications, vegetative monitoring, endangered species surveys, and critical habitat assessments. In addition, she has experience with AutoCAD, MicroStation, GPS data collection, and GIS analysis mapping.

- **Town of Holly Springs, Arbor Creek Greenway.** Environmental Project Manager responsible for for the environmental field services, interagency coordination, permitting, mitigation services and QA/QC.
- **City of Raleigh, Barwell Road Widening & Complete Street.** Environmental Project Manager responsible for provided QA/QC on all aquatic habitat assessments and surveys, terrestrial protected species surveys, wetland and stream delineations, buffer determinations, NCSAM and NCWAM assessments.



MICHELLE SUVERKRUBBE AICP
Categorical Exclusions & Environmental Assessment/FONSI/ Public Involvement

EDUCATION BS, Biological Sciences

REGISTRATION American Institute of Certified Planners (#022801)

RELEVANT PROJECT EXPERIENCE Michelle has over 30 years of local government and consulting experience managing and preparing feasibility studies, land use plans, multimodal plans, environmental plans, and EIS/EA/CE documents under NEPA/SEPA for DOT transportation projects, as well as many other types of public and private projects. She is certified in conflict resolution and experienced with leading public involvement programs.

- **Town of Carolina Beach, Carolina Beach Island Greenway Extension.** Planning Lead responsible for working to ensure the Programmatic Categorical Exclusion document meets regulatory requirements; reviewing the Programmatic Categorical Exclusion document; and coordinating with MOTSU and regulatory agencies.
- **Town of Elon, Haggard Avenue Corridor Plan Phase 1-3.** Planning Lead responsible for developing all three phases of a Corridor Plan and 2.7-mile multimodal study. She also led all public involvement activities.



MILLS DORN MHP
Historic Architectural Surveys of Standing Structures

EDUCATION Master of Historic Preservation; BS, History

RELEVANT PROJECT EXPERIENCE Mills is an architectural historian and has gained experience through working as an architectural field surveyor in Georgia as well as helping with the development of preservation plans and historic structure reports.

- **Phase I Cultural Resources Survey of Approximately 10 Miles of Recreational Trails for the Proposed 2018 Recreational Trail Program SORBA Mountain Bike Trails Project – Hamilton County, Tennessee.** Architectural Historian for the architectural survey and evaluation of two historic resources in Hamilton County, SC. Completed architectural descriptions for potential above ground cultural resources located in and around the project area.



JEREMY DIERKING PE
Geotechnical

EDUCATION BS, Geological Engineering

REGISTRATION PE, NC (#015692)

RELEVANT PROJECT EXPERIENCE Jeremy is a Senior Geotechnical Engineer with 20 years of diverse geotechnical engineering experience performing field investigations, laboratory testing, and geotechnical analysis and design.

- **NCDOT, R-2829B – NC540, Wake County.** Senior Geotechnical Engineer provided bridge foundation analyses and retaining wall analyses for this Design-Build project during technical proposal phase for this section of new construction including two interchanges and two bridge crossings.
- **NCDOT, I-2513B & D, Buncombe County.** Senior Geotechnical Engineer provided bridge foundation analyses and retaining wall analyses for this Design-Build project during technical proposal phase for this section of new construction including multiple interchanges and bridge crossings.



TOMMY GRAHAM PE
NBIS Bridge Inspection

EDUCATION BS, Civil Engineering

REGISTRATION PE, NC (#030976)

RELEVANT PROJECT EXPERIENCE Tommy has over 20 years of experience and has performed NBI inspections for NCDOT and multiple municipalities statewide since 2010 inspection cycle. He was previously responsible for overall NCDOT contract management and distribution of all inspection and WIGINS technical notices.

- **2022 SCDOT On-Call Bridge Inspection Statewide, SC**
- **2010-2020 Statewide Biennial Inspection of NCDOT & Municipal NBIS Bridges, Culverts & Ancillary Structures, NC**
- **2018 SCDOT On-Call Bridge Inspection Statewide, SC**
- **2019 SCDOT Load Rating Contract, SC**
- **2019-2020 SCDOT Bridge Inspection & Evaluation, SC**

TECHNICAL APPROACH

PROJECT UNDERSTANDING

This is an approximately 5 mile section of the Western Portion of the Ecusta Rail to Trail in Henderson County. This section is a portion of the larger 19 mile trail extending all the way to Brevard. The trail following the existing rail corridor will be converted to a multi use trail for locals and visitors alike to enjoy. The project has an aggressive schedule and will require a proactive approach to environmental permitting and design. All project activities will have to work simultaneously in order to achieve this schedule. Along the way existing rail bridges will need to be converted to pedestrian facilities..

DESIGN APPROACH

We are dedicated to providing effective designs that overcome mobility obstacles and improve recreation in local communities and maintain continuity with the rest of the trail. Our Team of engineers, designers, landscape architects, planners, and specialists provide a high level of technical knowledge and problem-solving to provide innovative solutions within regulatory and design standards. Through a collaborative approach, we prepare design solutions that accommodate pedestrians and bicyclists. We work to meet the needs of the community while improving safety, accessibility, and aesthetics while ensuring economic development and rewarding user experiences.

As the project lead, TranSystems' design team will serve as the primary point-of-contact for all communication. It will be our responsibility to keep team members informed of the current project status. We will work closely with the entire design team and stakeholders to maintain open communication with the County. We are diligent in our efforts to answer questions and resolve issues and concerns quickly and efficiently to maintain a project's schedule and progress.

The TranSystems Team will work together with County staff and key stakeholders to analyze and verify design feasibility in a logical manner. Beginning with the initial kick-off meeting, TranSystems will confirm the overall scope of work, identify major milestones, and create a project schedule that establishes the expectations for the overall team. By following a deliberate process of project management, we help ensure the project meets the time and budget expectations.

We are committed to maintaining project schedule and budget. Timely and effective decisions will be realized through:

- A clear understanding of project priorities
- Conceptual designs that provide realistic solutions
- Clear communication and providing the County with information in a timely fashion
- Meeting with permitting agencies early and often throughout our process
- Examination of probable construction costs early in the process

Our team of engineers, designers, landscape architects, planners, and specialists is dedicated to providing innovative design solutions that will fit within the existing site context. We are committed to preserving the integrity of the existing landscape and continue to cultivate the sense of place the Henderson County represents. We will explore ways to maximize connectivity, address public safety, incorporate art, respond to environmental features, and create a corridor that fits within the existing fabric and identity of the County.

Our approach is collaborative. We incorporate community, stakeholder, owner, and other teammates into the design process so we can fully capitalize on insight provided and meet project goals and budget. We will consider not only the aesthetic of the trail, but also the environmental impact, maintenance, and wayfinding while seeking innovative ways to address each item. Our team brings together specialized and seasoned experience in greenway and planning along with the local knowledge required to successfully permit this project.

PHASE I | PRE-DESIGN

TranSystems is passionate about addressing safety, aesthetics, connectivity, and accessibility while also forming a unified, functional, and unique experience for users. Our designs will respond to the site context as well as the needs and desires of the County and key stakeholders. We begin the project by defining a planning and design outline that addresses the specific goals and objectives of our client.



PROJECT KICKOFF | A kickoff meeting with County staff will confirm the scope of work, further detail the project schedule, and develop a plan for the public process. We will also work with the County to fully flesh out an initial vision for the project and define key criteria and goals to help guide the project. At this meeting, we will discuss the goals and objectives of this project, any project history that the County feels is relevant to the process and identify key stakeholders who need to be coordinated with throughout the process.

We will visit the site with County staff to discuss the proposed design, potential obstetrical that need early attention to maintain schedule, and any special conditions to be considered. We will also want to identify the goals and objectives of the project that can be used to evaluate any design concepts that are generated. Our key team members will attend the kickoff meeting and site visit.

SITE INVENTORY + ANALYSIS | As soon as the project is scoped, the Project Team will perform a detailed natural systems survey, ground survey, and geotechnical investigation of the corridor. The team will continue our information gathering activities and use and use this information to begin a conceptual design. We will also produce a list of milestone dates to create a detailed schedule for County approval.

GEOMATICS | Our surveyors routinely perform boundary and RW surveys to support our public and private sector clients. They will begin to survey the corridor and identify existing features such as structures, streams, wetlands, Right-of-Way limits, etc. In areas where utilities may be present our SUE group can help to identify the type and location of the utilities to allow for a more informed design. A good survey and utility location is critical in achieving a design that best fits the existing topography while dodging costly conflicts with structures, environmental sensitive areas and utilities.

In conjunction with surveying, a geotechnical investigation of the corridor will be performed to obtain information about the physical properties of the soil. This information will be used to design subgrade recommendations, pavement designs, bridge and retaining wall foundation recommendations, and undercut recommendations.

ENVIRONMENTAL SERVICES | TranSystems' industry leading environmental regulatory team is led by Phil Harris, former N.C. Department of Transportation's statewide environmental director, Bill Biddlecome, retired U.S. Army Corps of Engineers Wilmington District Chief, and Anna Reusche, with over 19 years of direct experience with the 404/401 regulatory process. Ms. Reusche, PWS, will serve as the environmental lead for the project and is well-versed in navigating complex multidisciplinary projects through the finish line. Our team is highly qualified in the completion of all the natural resource surveys, aquatic and terrestrial species surveys, stream restoration, interagency coordination and permitting that will be required for this project.

The project corridor is located in the heart of the Blue Ridge Mountains. Topography in this area is generally characterized by isolated mountain ridges, rolling valleys and stream floodplains including that of the French Broad River. The area is comprised of highly valued natural communities that sustain a diverse amount of flora and fauna, many of which are federally and state regulated.

Based on a review of the project corridor, approximately ten major stream crossings are anticipated to be required for the project including the French Broad River. Due to the sensitivity of this area, and to expedite an aggressive schedule, early identification of the potential environmental constraints and inter-agency coordination and will be critical to ensure the success of the project. As such, a detailed inventory of all federal, state and locally regulated resources will be required at the start of the project including streams, wetlands and protected species. This information will serve to identify potential environmental constraints and allow the project to progress on schedule.

PHASE 2 | CONCEPT DEVELOPMENT

The TranSystems Team will use the information obtained from the research and site work, along with FEMA and GIS data to perform a feasibility analysis of the trail alignment. During this process, the Team will identify and study the proposed alignment and provide information related to anticipated environmental and property impacts.

As part of this exercise, the Team will perform a SWOT (strengths/weaknesses/opportunities/threats) analysis of the alignment, identify environmental impacts, required permits, and generate construction cost estimates for review the County.

CONCEPT LAYOUT | Basic trail alignment determined this leads the reader down the path of many costly alternatives. As the basic general alignment is established there will be areas where the trail may need to be shifted to eliminate impacts to environmental areas, eliminate the need to purchase additional Right-of-Way, and maximize accessibility to the trail. In these areas we will explore alternatives with the team and County that help to reduce cost and additional delays due to added permit requirements.

Our commitment to controlling costs begins early in the design process. We will evaluate project costs at the conceptual level. We will present our design concepts and estimates to County staff to confirm that they respond to the project goals and objectives and gather comments relative to the strengths and weaknesses of proposed alternatives.



TranSystem's team of licensed Professional Wetland Scientists (PWS), led by Ms. Anna Reusche, will traverse the project area, including all access routes, on foot to conduct a field evaluation that will include stream and wetland delineations, and an inventory of natural communities. Identified streams and linear drainages will be evaluated using the current approved North Carolina Division of Environmental Quality (NCDEQ)

and US Army Corps of Engineers (USACE) methodologies. Concurrent with the stream delineation, we will assess areas within the project boundaries for the presence of wetlands using the appropriate regional supplements to the USACE's 1987 Wetland Delineation Manual.

Interagency coordination and engagement will also be initiated at the start of the project with the USACE, NCDEQ, NC Wildlife Resources Commission and US Fish and Wildlife Service. TranSystems' unique team of biological survey experts are adept at completing these time critical tasks concurrently and expediting delivery.

In addition to the potential environmental constraints discussed above, Shaw Creek's and French Broad River's stream bank scouring will need to be addressed as part of the proposed trail construction. The multi-disciplinary team at TranSystems will develop a restoration and/or enhancement design that will achieve multiple objectives while also considering site-specific constraints.



TranSystems stream restoration team is led by Bob Lepsic, PWS.

Bob has over 24 years of experience managing and conducting stream and wetland restoration and monitoring projects for various public and private clients throughout the eastern United States.

We will take the following objectives into consideration, in addition to optimizing potential mitigation credits: improved water quality, reduction of sediment load to the downstream watershed, enhanced terrestrial and aquatic habitat, restoration of historic floodplain function, flood reduction, and the reestablishment of riparian vegetation.

Furthermore, our staff is well-versed in identifying creative mitigation solutions for project impacts to Waters of the U.S. that may offset project costs. In addition to an established working relationship with private mitigation bankers and state-run mitigation programs, our team has extensive experience with natural channel design methodology and can assist in identifying and designing alternative on-site mitigation solutions for project-related impacts including bank stabilization, riparian buffer enhancement, etc.

Considering the proposed trail will utilize the existing rail corridor and right-of-way, impacts to federally and state regulated waters are anticipated to be minimal. Therefore, the project is anticipated to be permitted under a Section 404 Nationwide Permit 14 and corresponding Individual 401 General Water Quality Certification. Working closely with the design team, we will secure the necessary plan sheets and all required environmental documentation needed to complete the Pre-Construction Notification (PCN) form required for the permit application. Prior to submittal, we will hold the required formal pre-application meeting with the regulatory and resource agencies. Based on the results of this meeting, our team will identify a mitigation strategy and/or secure credits, revise permit application based on comments from applicant/agencies and submit to Henderson County for review and approval.

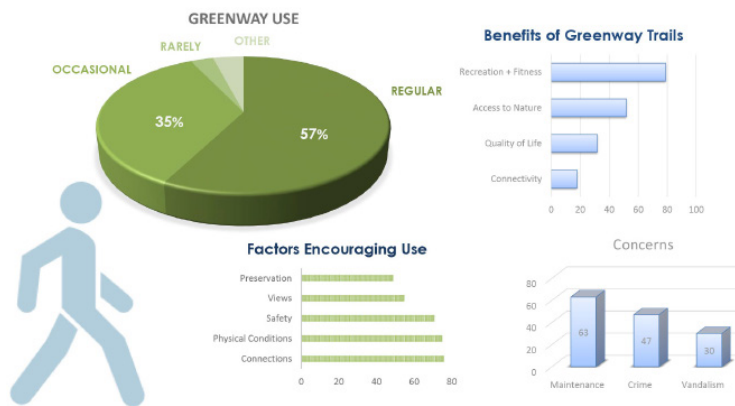
Our team has a thorough understanding of federal and state regulations and knows what is needed to be successful. Our proactive coordination and strong, positive working relationship with the regulatory agencies has proven beneficial to our clients in procuring project permits in a timely manner. We are able to prepare a complete application by anticipating agency project specific requests. Thereby eliminate potential permitting delays.

HYDRAULICS ENGINEERING | Portions of this project will likely be located within the FEMA Regulated floodplain. Through our prior greenway experience, the TranSystems Team of trail designers and floodway modelers have developed an iterative design process and work closely to locate structure designs along the project and develop greenway designs that are resistant to flood damage.

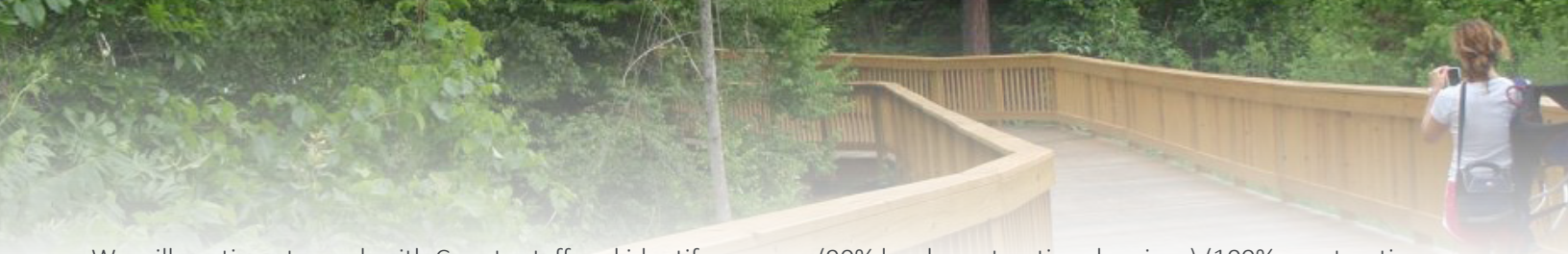
Our designers are flood modelers and are keenly aware of the sensitivity of the FEMA model and the time frame that modeling and approval will take. Our Team will draw on this experience and the previous models developed for the stream to efficiently locate the structures and trail in the floodplain areas at locations that will minimize impacts to the floodplain.

ADA COMPLIANCE | Design of alignment and grading plan will be coordinated with the hydraulic design to ensure proper drainage of the new Greenway. Any wheelchair ramps included in the project will be designed with positive drainage, limiting sediment build-up at the level landing areas. The design team will coordinate with maintenance staff to allow for vehicular access to be incorporated into the design, and wider-than-standard or multi-use path widths will be evaluated as appropriate.

Bollards can be placed at entrances to restrict non-authorized motorized vehicular access. Typical section will be selected with adequate berm width to allow for possible vegetative maintenance along the Greenway. Pavement section will be designed to accommodate maintenance vehicles as needed. Per PROWAG guidance, truncated domes will be limited to locations where the Pedestrian Accessible Route crosses vehicular traffic.



PUBLIC INVOLVEMENT PLAN | The best designs will foster input and garner feedback to incorporate community knowledge and goals into the process and create a sense of ownership. Early engagement with the community, nearby institutions, and stakeholders is crucial to ensuring design solutions are inclusive. An essential part of public engagement is communication, and we are committed to working closely with the County and any key stakeholders or steering committee(s) throughout the process.



We will continue to work with County staff and identify a process that allows many voices to feel they have been heard. Stakeholders are an important part of this project and we anticipate having multiple checkpoints during the design schedule for feedback. Our team is structured so that team members involved in early assessments, public engagement, and design activities are involved throughout the entire process and spanning into compliance and construction activities to ensure continuity throughout the life cycle of the project.

TranSystems is skilled at developing clear public involvement materials suitable for presentations or web and electronic sharing. We utilize a variety of visualization and rendering graphics to demonstrate future improvements and that will communicate the conceptual designs.

The conceptual design developed with County staff will be used for public meetings/presentations and inform the final corridor development. These types of visualizations often help to communicate the concepts of a project and will start to showcase the County’s vision for the corridor and the proposed design features, including destinations, public art, and key viewsheds.

Additionally, we have the ability to utilize our in-house specialists to help build project websites to assist with public engagement. TranSystems’ GIS team can utilize GIS storyboards to create an interactive, mapping-based platform to collect public input and feedback including voting, comments, and other engagement options. These landing pages are important to help communicate the latest project information and can provide a platform for continuous public.

GREENWAY CORRIDOR PLAN | Once we’ve heard from staff and stakeholders, we will develop a singular concept which is often a combination of multiple concepts presented. We will then develop a final conceptual cost estimate and work with County staff to evaluate the correlation between short-term and long-term costs. The final step in this phase is to verify that the initial list of permits required is accurate based on the final concept design and revisit the project schedule to make any necessary adjustments. Success in meeting the project schedule will require coordination with permitting agencies early in the process.

Once a concept plan has been developed, our team will schedule a pre-submittal meeting with the County to review the project and garner any feedback from the planning department. We will also prepare a Geotech report at this time based on the chosen concept.

PHASE 3 | DESIGN

We pride ourselves on producing comprehensive and concise documents. We will provide the County with construction drawings for review and comment as an owner as the plans are developed. Typical milestones for these owner reviews are at Schematic Design (30% level construction drawings), Design Development (60% level construction drawings) + Permitting, Construction Drawings

(90% level construction drawings) (100% construction plans). We will also provide the owner with opinions of probable costs for review at these milestones to ensure the project is on track with the budget. We will develop allowances for unsuitable soils, any rock that may be encountered during construction and any other potential unforeseen conditions.



UTILITY COORDINATION | Like most greenway projects, portions of the proposed corridor contain utilities that may be impacted by its construction. The utility coordination process will need to begin as the preliminary plans are being developed.

Following the existing conditions and constraints identification, the TranSystems Team will begin assembling a list of impacted utilities and reaching out to the utility providers along the corridor. The TranSystems Team will work diligently to develop a design that minimizes utility relocation to reduce costs. We are familiar with the utility relocation requirements as well as with the local utility provider contacts. Members of our Team have worked on utility relocations associated with design builds across the state, and understand the urgency of completing this task.

It can take several weeks for a utility provider to review the plans and respond with their relocation designs. Duke Energy in particular has specific guidelines related to trail construction in their easements that will have to be met and encroachment agreement will be required for trails that cross their easements.

SCHEMATIC DESIGN | This task will finalize the Ecusta Rail-Trail West that identifies the trail centerline, access points along the length, and identify the preliminary extents for bridges, boardwalks, and potential impacts to environmental features (wetland and stream crossings).

During this task we will develop the preliminary opinion of probable cost for the overall project based on the schematic plans. This cost estimate will initiate the discussion regarding preferred material selections, to be continued over the life of the project. Additionally, we will develop a Preliminary Greenway Alignment Analysis Report. This report will summarize the findings from the pre-design and public engagement phases as well as document the process for establishing the alignment from conceptual through the final alignment approval.



DESIGN DEVELOPMENT + CONSTRUCTION DRAWINGS | A successful built project begins with the preparation of accurate and detailed construction documents. Building on information developed during previous task, as well as feedback received from the County staff and the Public Engagement, TranSystems will further develop detailed greenway/multi-use trail construction plans. We will explore options to decrease new infrastructure costs and improve upon existing infrastructure where possible. We have extensive experience coordinating with the various permitting agencies that will be required for this project. Whether working with Henderson County, NCDOT, NCDENR, or NCDENR for Erosion Control, our design team’s expertise will ensure a smooth permitting process.

PHASE 4 | BIDDING + CONSTRUCTION ADMINISTRATION

While permitting is being completed, we will prepare bid documents and schedule a pre-bid meeting. We will help the County conduct a smooth and fair bidding process. We are familiar with the local market and local contractors in our market. We will hold the pre-bid meeting as well as provide the County with a certified bid tab and check references of the lowest bid contractor. We believe that the staff involved during the design process, should follow a project through construction so there is continuity of the design and an understanding of why decisions were made. This understanding of the project will allow our team to respond appropriately to RFI’s and any changes that arise during construction.

Our experience has shown that construction oversight is a critical part of the success of any project. No matter how concise the plans and specifications are, there are always unanticipated field conditions or construction logistics that the contractor and design team need to work through together. We have the knowledge and critical problem-solving skills to work with the contractor to successfully trouble-shoot any issues that arise during construction. Staying on schedule and on budget during construction is a function of clear communication and availability of the consultant when issues arise.

We will hold bi-weekly construction meetings as well as review shop drawings, product submittals, and pay applications. If field conditions warrant a change in the design or construction process, the team will immediately work with the contractor to develop a solution and explore all avenues to keep the project on time and under budget.

PHASE 5 | PROJECT CLOSEOUT

We will work with the County and contractor to ensure that record drawings are submitted to the County as an owner as well as any required documentation is submitted to appropriate permitting agencies in order to close out permits. Our team will conduct an on-site punchlist inspection prior to issuing substantial completion to the contractor. Once notified that this punchlist has been completed by the contractor, our team will perform a final walk through to ensure that all punch list items were addressed/resolved and provide final acceptance of the project.

SCHEDULE

