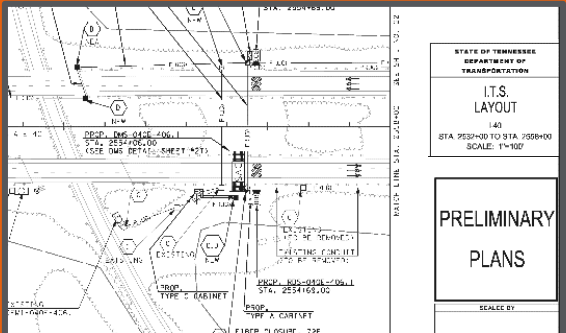


Statement of qualifications for **TRANSPORTATION ENGINEERING SERVICES** TDOT Local Program Development Office

July 18, 2018



Ms. Whitney Britt
Local Programs Development Office
Program Development and Administration Division
Tennessee Department of Transportation
James K. Polk Building, Suite 600
505 Deaderick Street
Nashville, Tennessee 37243-0344

Arcadis U.S., Inc.
1210 Premier Drive
Suite 200
Chattanooga
Tennessee 37421
Tel 423 756 7193
Fax 423 756 7197
www.arcadis.com

Subject:

TDOT Form DT-0330 Part II for Transportation Engineering Services Contract for Local Programs Development Office

July 18, 2018

Dear Ms. Britt:

Contact:
Clint Butler, PE
Extension: 423.954.8742
Clint.Butler@arcadis.com

TDOT and Arcadis share a common goal – to provide a safe, mobile and efficient transportation infrastructure while fostering economic development and job growth for the people of Tennessee. From concept to construction, our staff understands the entire TDOT project development process and the need to provide cost-effective and strategic transportation solutions. We are your partner in lowering costs, increasing efficiency, and expediting the project lifecycle.

Arcadis' history working across all TDOT Divisions—Roadway Design/Survey, Strategic Transportation Investments, Environmental, Long Range Planning, Traffic Operations, Construction, Structures, Right of Way and Maintenance—extends to the present. Through our current work with TDOT, we are performing a variety of services on projects in Regions 1, 2, 3 and 4 including environmental services/permitting, surveying, CEI, conceptual designs and producing construction documents.

Palmer Engineering joins to team to provide structural and roadway engineering. They have a wealth of experience with local program and municipal projects and currently hold several TDOT on-call contracts including Bridge Inspection and Repair, Right of Way, Roadway Design, and Permitting.

S&ME, another firm with a long and rich history of service to TDOT, completes our team of with experienced CEI professional providing materials testing and geotechnical services.

Well versed and experienced in the TDOT process, this team will deliver these local projects to TDOT standards and specifications with no learning curve. Our team members have worked closely with many local agencies on their federally funded projects providing planning, design, construction administration services and inspection services. With our extensive TDOT background, Arcadis can help TDOT mitigate or avoid roadblocks and project setbacks commonly encountered in the Local Programs process.

Please advise us if you have any questions or require any additional information.

Sincerely,

Arcadis U.S., Inc.

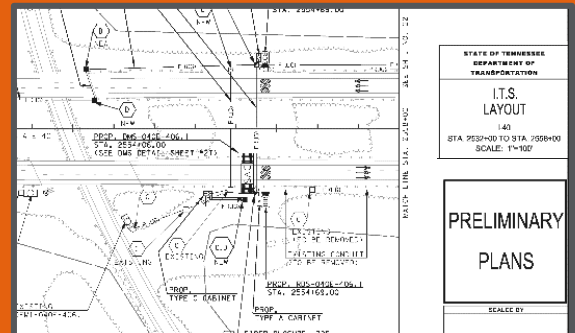


Clint Butler, PE
Associate Vice President/Principal in Charge



Fritz Brogdon, PE
Project Manager

SECTIONS A-D



ARCHITECT - ENGINEER QUALIFICATIONS

PART II - CONTRACT - SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. ADVERTISEMENT ITEM NUMBER AND DESCRIPTION

Transportation engineering services on various small projects for the Local Programs Development Office, as needed, on a continuing contractual basis

2. ADVERTISEMENT DATE

April 27, 2018

3. N/A

B. ARCHITECT - ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Clint Butler, Tennessee Operation Manager

5. NAME OF FIRM



6. TELEPHONE NUMBER

423.756.7193

7. FAX NUMBER

423.756.7197

8. E MAIL ADDRESS

clint.butler@arcadis.com

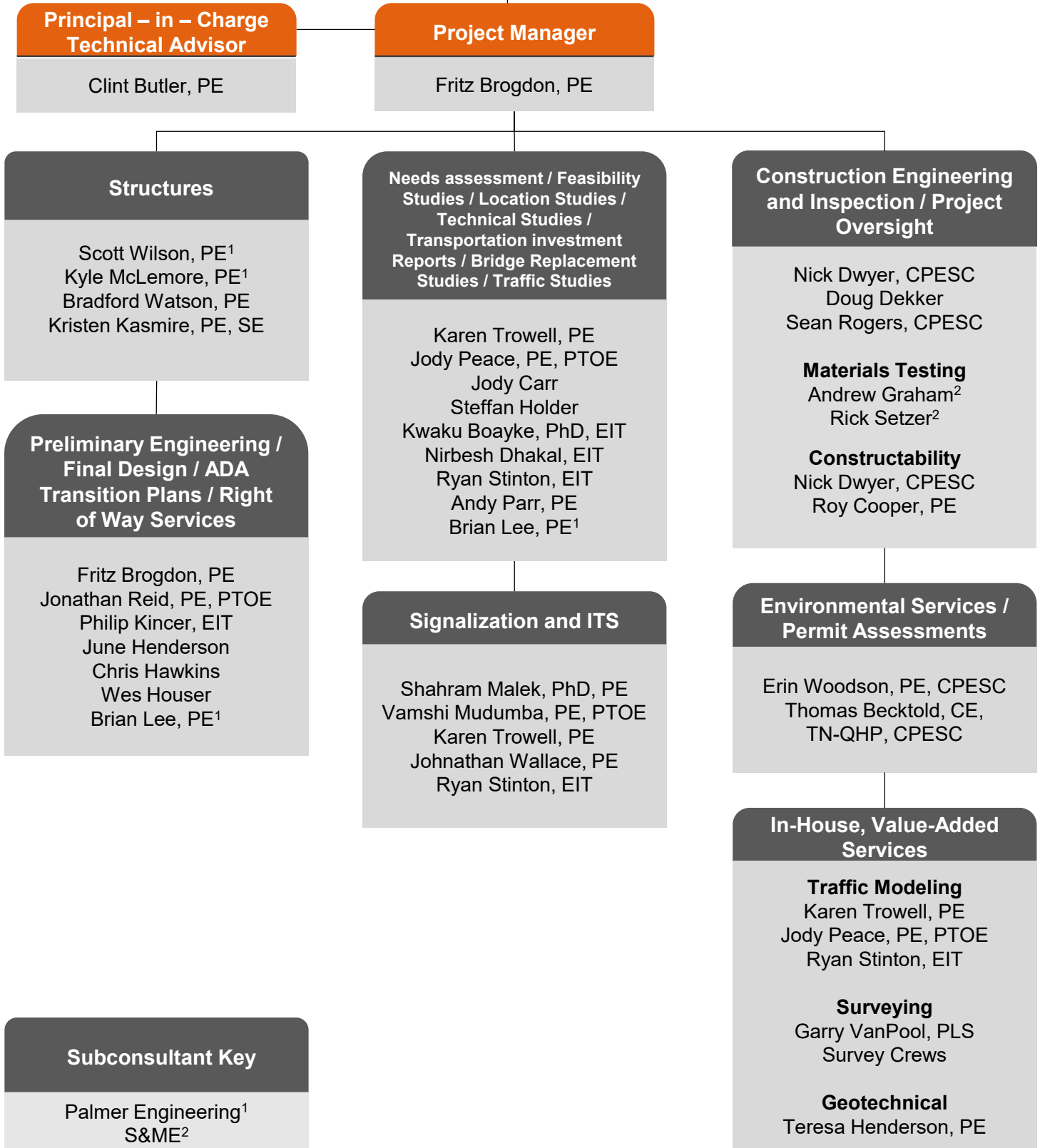
C. PROPOSED TEAM

(Check)				9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	J-V PARTNER	SUBCON-TRACTOR			
a.	X				1210 Premier Drive, Suite 200 Chattanooga, TN 37421 423.756.7193	Prime Consultant
				<input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE		
b.	X				3310 West End Ave, Suite 575 Nashville, TN 37203 615.970.6500	Prime Consultant
				<input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE		
c.	X				2849 Paces Ferry Road, Suite 400 Atlanta, GA 30339 770.431.8666	Prime Consultant
				<input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE		
d.	X		X		2416 21st Ave. S., Suite 306 Nashville, TN 37212 615.297.8957	Subconsultant
				<input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE		
e.	X		X		4291 Highway 58, Suite 101 Chattanooga, TN 37416 423.499.0957	Subconsultant
				<input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE		
f.						
g.						

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

(Attached)

D. ORGANIZATIONAL CHART



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Clint Butler, PE		Principal in Charge		a. TOTAL	b. WITH CURRENT FIRM
				21	21
15. FIRM NAME AND LOCATION (City and State)					
– Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Civil Engineering, Tennessee Technological University			Professional Engineer: TN, NC, GA, AZ CPESC		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. Butler has more than 21 years of civil engineering and project management experience in transportation investments, roadway and drainage design, and traffic engineering. He understands what is necessary to run a successful, on-time, and on-budget project. Clint is currently the Arcadis project manager for this Strategic Transportation Investments Division on-call contract. His background with TDOT includes EPD reports, TIRs, IMSs, IJSs, RSAs, Ramp Queue Studies, technical reports and roadway design. He is knowledgeable in the application of the MUTCD, Highway Capacity Manual (HCM), Highway Safety Manual, Roadside Design Guidelines, and the AASHTO A Policy on the Geometric Design of Highways and Streets. Clint is also very knowledgeable in the application of several software programs including HCS+, Synchro/SimTraffic, Microstation and GEOPAK.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-40 at U.S. 64/SR 15 Interchange Interstate Access Request (IAR) TDOT, Shelby County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project manager for this interchange modification. This interchange is located just outside of Memphis in a heavily congested area. This interchange modification was required due to a substandard vertical clearance and also queuing at the ramp terminal intersections. Two alternatives were developed, a standard diverging diamond and diverging diamond interchange, to remove substandard vertical clearance and improve safety and operations. Both alternatives have received FHWA approval, allowing TDOT to select the best option during the design phase.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Roadway Safety Audit (RSA) Reports TDOT, Regions 1 and 2, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project manager and engineer for over 50 RSAs in Regions 1 and 2. Many of the projects were eligible for HRRR or HESP funds as part of the HSIP. Projects included pre-brief meeting, field review, post meeting, cost estimating, crash rate calculations and conceptual plans in support of the RSA program.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Ramp Queue Projects TDOT, Region 1 & Region 2, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project manager for developing 12 RSA ramp queue reports for TDOT. Five Phase I reports were completed in both Regions 1 and 2. Phase 1 examined the possible presence of existing queue encroachments onto the mainline of interstate highways or state routes. Once mainline impacts are identified, an RSA ramp queue report investigates specific causes and recommends solutions for improvements to eliminate ramp queue issues.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-75 IMS Hamilton Place TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2013	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project manager for developing the IMS report for the proposed interchange modification on I-75 at Hamilton Place Boulevard. The proposed project expanded the interchange to a full access facility by providing for a southbound I-75 exit to and a northbound I-75 access from Hamilton Place Boulevard. This project reduces surface street delay, provides a full interchange, significantly improves operations at Hamilton Place Boulevard and Shallowford Road ramp termini and improves regional use along the corridors.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Bridge Transportation Investment Reports, TDOT, Various Counties, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project manager for multiple Bridge TIRs including, but not limited to SR 39 over Middle Creek, McMinn County; SR 320 bridge over CSX Railroad, Hamilton County; and SR 40 bridge over Ocoee River, Polk. County. Conducted site visits for each bridge and prepared final reports including location maps, U.S.G.S. topographic maps, TIR Worksheets summarizing existing conditions and proposed recommendations, memorandums summarizing all project considerations and recommendations, conceptual layout schematic, and conceptual bridge profile schematics. Detour maps and cost estimates were developed. Stream calculations, checklist of early environmental considerations and photos were also provided.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Fritz Brogdon, PE		Project Manager		a. TOTAL	b. WITH CURRENT FIRM
				23	3.75
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
MS, Civil Engineering, Tennessee Technological University, TN BS, Civil Engineering, Tennessee Technological University, TN			Professional Engineer: TN TDEC Level I & II		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Fritz has more than 23 years of experience in roadway and conceptual design. He is proficient in the use of Microstation and Geopak and has extensive experience in both design work and the preparation of plan sets for the Tennessee Department of Transportation. His experience includes the development of geometric alignments, cross section production, drainage design, right-of-way acquisition and quantity calculations. He is very knowledgeable in the application of TDOT Standards and Specifications, TDOT Design Guidelines, the Manual on Uniform Traffic Control Devices and the AASHTO Green Book. Fritz is responsible for a variety of projects including interstate interchanges, intersection improvements, roadway widenings, roundabout, and pedestrian enhancement projects.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	TDOT, Hamilton Co CDBG Sidewalk Program City of Chattanooga, Chattanooga, TN		PROFESSIONAL	CONSTRUCTION (if applicable)	
			2016	2017	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Manager for an on-call contract for sidewalk construction in the CDBG areas of the City of Chattanooga. This contract included the evaluation of existing sidewalk facilities for repairs, ADA upgrades, and the need for new sidewalk facilities. From the evaluations, construction plan sets were prepared for new sidewalk and sidewalk improvement/repair projects. As Project Manager, Fritz was responsible for overseeing the preparation of sidewalk construction plan sets, construction quantities, construction cost estimates, and bidding documents.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Roundabout at Intersection of SR 321 (Ooltewah Ringgold Road) and Standifer Gap Road TDOT, Hamilton County, TN		PROFESSIONAL	CONSTRUCTION (if applicable)	
			2015	2016	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Roadway design engineer for a TDOT Local Programs Project to implement a roundabout at heavily congested intersection. Arcadis completed preliminary, ROW, and construction plans for this project. Fritz provided quality control/quality assurance for the design and plans preparation on this project. He also administered the bidding and award phase of the project.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 15 Intersection at University Avenue Tennessee Department of Transportation, Franklin County, TN		PROFESSIONAL	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Manager for a road diet project featuring enhanced pedestrian facilities at the existing two-way stop-controlled intersection of SR-15 and University Avenue in Sewanee, TN. The project includes lane reductions/reconfigurations, curb and gutter, sidewalks and implementation/integration of a new closed drainage system. Due to University Avenue being envisioned as a new entrance to the University of the South, extensive coordination with TDOT, Franklin County and the University of the South has been required throughout the design of the project. Preliminary and ROW plans have been submitted. Construction plans will be completed late of 2018.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Hamill Road Pavement Reconstruction City of Chattanooga, Chattanooga, Tennessee		PROFESSIONAL	CONSTRUCTION (if applicable)	
			2013	2013	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Project Manager for a major pavement reconstruction project on Hamill Road. This project included 0.70 miles of full depth pavement reclamation, safety improvements, and drainage upgrades. Services include surveying, site investigation, roadway design, pavement design, erosion control, permit compliance, project documentation, utility coordination, construction inspection, and final records preparation.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 2 (US 11) at 25th Street - Intersection Improvement TDOT, Bradley County, TN		PROFESSIONAL	CONSTRUCTION (if applicable)	
			2005	2007	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
This project was the development of roadway plans for an intersection improvement in Cleveland, TN. It involves the design of additional left and dedicated right turn facilities, signalization upgrades, and the widening of a multi-span box culvert. As Project Manager, Mr. Brogdon was responsible for the design of horizontal and vertical alignments, drainage, signalization upgrades, retaining walls, signing and marking, and right-of-way and construction plan sets.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Karen Trowell, PE		Transportation Studies, Traffic Modeling, and ITS and Signalization		a. TOTAL	b. WITH CURRENT FIRM
				18	5
15. FIRM NAME AND LOCATION (City and State)					
– Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
MS, Civil Engineering, University of Tennessee, Knoxville, 2000 BS, Civil Engineering, University of Tennessee, Knoxville, 1999			Professional Engineer: TN		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Ms. Trowell has more than 18 years of experience in roadway design, traffic signal design, lighting design, planning, construction and maintenance of transportation projects in Tennessee. Her background with TDOT includes a wide array of contracts and projects involving the following TDOT Divisions: Strategic Transportation Investments, Traffic Operations, Construction, Roadway Design, and Maintenance. She is very knowledgeable in the application of the MUTCD, Highway Capacity Manual (HCM), Highway Safety Manual, Roadside Design Guidelines, TDOT Standards and Specifications, ITE Trip Generation Manual and ITE Parking Generation Manual, the AASHTO A Policy on the Geometric Design of Highways and Streets and AASHTO's Guide for Roadway Lighting. She is proficient in the application of HCS2010, SIDRA, SYNCHRO/SimTraffic, AGI32, Microstation and GEOPAK. She is also familiar with TDOT Design Guidelines, TDOT Standard Drawings, and the TDOT Traffic Design Manual.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Strategic Transportation Investments Division On-Call Contract TDOT, Region 1, 2, 3, and 4, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Transportation Engineer for developing Road Safety Audit (RSA) reports, RSA ramp queue reports, Bridge Transportation Investment Reports (TIRs), Interchange Interstate Access Request (IAR), Technical Reports, Expedited Project Delivery (EPD), and Operational Studies for TDOT. Projects include pre-brief meetings, site field visits, post meetings, cost estimating, crash rate analysis, conceptual improvement plans, and traffic analysis using Synchro or HCS Software.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-40 ITS Expansion Project Knox and Sevier Counties, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Manager for the I-40 ITS expansion project from Strawberry Plains (Exit 398) to SR 66 (Exit 407) in Knox and Sevier Counties. The project limits total approximately 11.5 miles. This project includes the design and installation of two Dynamic Message Signs (DMS), twelve Closed-Circuit Televisions (CCTV), thirty Radar Detection Systems (RDS), two local Hub Cabinets, and 72F fiber optic main trunk line along the entire length of project. The project will include Preliminary, ROW and Construction ITS Design Plans, Survey, Geotechnical Reports, Electrical Design, Specifications and Special Provisions.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Roundabout at Intersection of SR 321 (Ooltawah Ringgold Road) and Standifer Gap Road, TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Transportation Engineer for the TDOT Local Programs safety improvement project ultimately helping traffic flow towards and away from the new high school. Responsible for all design elements from preliminary plans to construction plans. These elements included roadway geometrics, drainage, erosion control measures, traffic control plans, pavement marking and signing plans for a roundabout at the intersection. Multiple public involvement meetings were conducted to inform and receive public comments.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 58 Transportation Enhancement Project, Chattanooga, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Transportation Engineer for providing engineering and construction phase services for the intersection improvement project at Hickory Valley Road and SR 58. This is one of several intersection improvement projects being constructed in anticipation of the completion of the Volkswagen manufacturing facility. Infrastructure improvements will be required to accommodate vehicle traffic generated by the estimated 2,000 employees, as well as freight traffic servicing the plant. This was a TDOT Local Program Project.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	ITS System – Traffic Signal Controller Upgrades, City of Chattanooga, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2014	2014	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Transportation Engineer tasked to use an existing wireless mesh network as a method of communication for traffic applications. The project included 381 signal upgrades (86 inside the CBD). The project also included signal timing development for all intersections using Synchro8. An in-depth Systems Engineering Analysis (SEA), approved by FHWA, documented system improvements, system maintenance and three Adaptive Signal Control options.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Nick Dwyer, CPESC		CEI Manager		a. TOTAL	b. WITH CURRENT FIRM
				18	17
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
AAS, Civil Engineering, Chattanooga State Technical Community College, 2002			Certified Professional in Erosion and Sediment Control (CPESC)		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
<p>Nick has been the CEI project manager at Arcadis since 2014 and has 17 years of experience as a CEI and EPSC inspector on TDOT projects. He has been a senior CEI inspector on several Region 2 roadway, bridge and paving projects and has been the EPSC inspector on nine different TDOT projects. Nick has served as the project manager on several CEI and EPSC projects including final records review, GDOT SR-299/I-24 slide bridge, TDOT Local Programs Ooltewah-Georgetown Road Roundabout project and TDOT SR 60 bridge repair in Meigs/Rea Counties. Nick's certifications include:</p> <ul style="list-style-type: none"> • TDOT Concrete Field Technician • TDEC Level 1 & 2 • 10 Hr. OSHA Construction Safety • ACI Concrete Field Technician (Grade 1) • OSHA Confined Spaces • Radiation Safety • TDOT Local Programs CEI • CSX, NS, FRA Railroad Roadway Worker Protection • Work Zone Traffic Control/Flagging • Arcadis H&S Training include: <ul style="list-style-type: none"> ○ Excavations ○ Fall Protection 					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for TDOT Local Programs, Ooltewah-Georgetown Road Roundabout, Hamilton County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2018	2018
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Manager for CEI services on the TDOT Local Programs project converting a four-way intersection to a roundabout in Hamilton County, TN. He conducted pre-construction and progress meetings, provided monthly estimates for contractor payment, oversaw CEI inspection and Materials and Testing services, performed bi-weekly EPSC inspections, coordination of change orders, RFI's and project record keeping.					
b.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Construction Final Records QA/QC Review TDOT Region 2 Various Locations			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2018	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project manager responsible for providing QA/QC reviews of final records for a variety of TDOT construction projects including bridge replacements, paving and roadway widening in Region 2. He performed a thorough review of project records including material certifications, paid quantities, proper documentation, DBE information, payrolls, etc. Communicating any deficiencies to TDOT personnel so records can be corrected and brought up to Federal standards and specifications. Review of other Arcadis staff members to assure accuracy. Nick was embedded at TDOT Region 2 Final Records Office for over two years.					
c.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for GDOT OID, SR-299 ABC Slide Bridge over I-24, Dade County, GA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2017	2017
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Manager for CEI services for bridge replacement of SR 299 over I-24 in Dade County, GA. The bridge replacement was performed using ABC (Accelerated Bridge Construction) methods. Nick oversaw CEI inspections, coordinating project records, assisted with monthly estimates, attended bi-monthly progress meetings, SiteManager entries for daily work reports and pay quantities and assisted with structural inspections.					
d.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for City of Chattanooga, Highland Park Green Infrastructure Demonstration Project, Hamilton County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2018	2018
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project Manager for CEI services on City of Chattanooga Highland Park green infrastructure demonstration project in Hamilton County, TN. Responsibilities include overseeing CEI services including earth fill, sanitary and storm sewer installation, EPSC installation, bioswale construction, pervious asphalt pavement, permeable paver installation, traffic control, and pavement striping. Coordinates with the City project manager for payment on monthly estimates.					
e.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for GDOT OID, FY16 Design-Build Bridge Replacements, Various Counties, GA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Construction Manager for 25 off-system bridge replacements across the state of Georgia. Responsibilities include overseeing CEI services including footing construction, bent construction, placement of beams, deck construction, earth fill, concrete testing, paving, guardrail, signing and striping, EPSC installation and reinforcement steel installation. Assists Arcadis Project Manager with scheduling bridge inspectors and providing QA/QC support for critical phases of bridge construction.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Bradford Watson, PE		Structures		a. TOTAL	b. WITH CURRENT FIRM
				14	4
15. FIRM NAME AND LOCATION (City and State)					
– Nashville, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Civil Engineering (Structural Emphasis), Tennessee Technological University, 2004			Professional Engineer: TN, OH, FL, GA		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. Watson is a senior structures engineer with more than 13 years of professional experience focused on bridge design, rehabilitation and load rating projects including two years in the design of buildings and general structures. He is experienced in the design of pre-tensioned concrete superstructures, concrete slab bridges, rolled steel girder bridges, covered timber bridge rehabilitation, steel plate girder bridges as well as the load rating of many bridge structures including some complexly framed steel bridges. A majority of Mr. Watson's design experience is under the AASHTO LRFD design specifications. He is also well-versed in the design of highway-related appurtenances such as retaining walls, soldier pile walls with and without lagging, three- and four-sided culverts, and has updated drainage structure standards to LRFD across multiple states. He is proficient in MathCAD, MicroStation, AutoCAD, MIDAS Civil, CFRAME, SupportIT, and many more. Project Engineer responsible for updating, editing, and quality assurance of the Tennessee Department of Transportation Design Guidelines as well as the TDOT Drainage Manual.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	TDOT Drainage Structures Update to LRFD TDOT, Statewide, Tennessee			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2011-2012	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Lead Design Engineer responsible for updating the design and standard drawings for TDOT's reinforced concrete drainage structures; including endwalls, catch basins, junction boxes, spring drains, and manholes.					
b.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Chapman Highway Widening Project Tennessee Department of Transportation, Knox County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Structural engineer for the upgrade of an existing four-lane roadway to a five-lane roadway to improve safety and operations in rolling terrain. The project involves maintaining the existing roadway horizontal and vertical alignment. The widening will involve sections with proposed curb and gutter as well as open drainage. Project length is approximately 1.0 mile, including the layout of multiple retaining walls and one side road closure. Bradford provided retaining wall design.					
c.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-85 Express Lanes Extension Design-Build GDOT, Gwinnett County, GA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2016-2017	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Engineer of record for all sound barriers and design engineer of two prestressed concrete bridges. The design plans propose to completely replace the southbound bridge over I-985; constructing one new bridge to transport the I-85 northbound managed lane over the general purpose lanes; and widening the I-85 north and southbound bridges over SR 20.					
d.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Parker Lane over Standing Rock Creek TDOT, Stewart County, Tennessee			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2005	2005
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Design Engineer for a TDOT standard concrete box bridge. The bridge consisted of 2 x 10' barrels with a cell height of 8' on a 60 degree skew. This project involved design of vertical and horizontal roadway alignments, guardrail, and erosion and sediment control measures. Also responsible for all drafting.					
e.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Plantation Oaks Boulevard over Branam Field / Chaffee Road, FDOT, Clay County, Florida			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2009-2010	2009-2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Design Engineer for this two-span bridge with skewed and curved geometry. Bridge included a prestressed concrete Florida I-beam (FIB) superstructure. The substructure included a three-post reinforced concrete bent on pile footings and reinforced concrete end bents supported by prestressed concrete piles.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Kristen Kasmire, PE, SE		Structures		a. TOTAL	b. WITH CURRENT FIRM
				22	3
15. FIRM NAME AND LOCATION (City and State)					
– Atlanta, GA					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Civil Engineering, Georgia Institute of Technology & MS, Civil Engineering, Georgia Institute of Technology			Professional Engineer: GA, FL, MA, CT, NC Structural Engineer: IL		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Ms. Kasmire has over 20 years of experience designing structures including bridges, retaining walls, and other transportation facilities; and managing transportation projects from concept through construction. She has worked for a variety of clients including state departments of transportation (DOTs), counties, cities, contractors and private developers. She has experience in both design-bid-build and design-build projects. She uses her diverse experience to deliver innovative solutions.					
19. RELEVANT PROJECTS					
	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-285 at SR 400 Interchange Concept GDOT, Fulton County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
2016			2016		
a.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
	Lead Bridge Engineer responsible for costing plans for 26 bridges in this major interchange reconstruction. Worked closely with GDOT for this design-build-finance project. The majority of the bridges on this project are prestressed concrete beam bridges with a maximum span length of 165 feet, supported on reinforced concrete bents with steel pile foundations. Several ramp bridges will be curved steel plate girders on concrete hammerhead piers. Span lengths for the ramps range up 250 feet. This 5-level interchange has complex geometry and staging considerations with some bridges requiring span-by-span staging to maintain traffic throughout the construction duration.				
	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-85 Express Lanes Extension Design-Build GDOT, Gwinnett County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
Ongoing			Ongoing		
b.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
	Bridge lead produced design plans for impacted bridges to accommodate the expansion of a congested Metro Atlanta interstate. The design plans propose to completely replace the southbound bridge over I-985; constructing one new bridge to transport the I-85 northbound managed lane over the general purpose lanes; and widening the I-85 north and southbound bridges over SR 20.				
	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Panola Road at I-20 GDOT, DeKalb County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
2014			N/A		
c.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
	Bridge lead for the reconstruction of a heavily utilized DeKalb County interchange. Proposed improvements include roadway widening, reconstruction of Panola Road overpass, reconstruction of I-20 ramps, installation of raised median and access management along Panola Road. During the concept phase, Kristen worked closely with the roadway designers to determine how the existing bridge could best be utilized for the proposed Diverging Diamond Interchange. As a result, several alternates were evaluated including reusing the existing bridge with minimal modification, widening the bridge, and replacing the bridge. The scope includes conceptual design and preliminary plans.				
	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-16/I-95 Interchange Widening GDOT, Chatham County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
2016			2016		
d.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
	Lead Bridge engineer responsible for the preparation of costing plans for 13 bridges associated with the reconstruction and widening of a heavily utilized interchange and interstate segment in Chatham County. Proposed improvements include the construction of fly-over ramps at the I-95 interchange and widening of I-16 to provide one additional lane in each direction. Plans were prepared for new bridges, bridge replacements utilizing staged construction, bridge widenings and bridge repair and maintenance.				
	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Encore Parkway Bridge over GA 400 North Fulton CID, Fulton County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
2016			2016		
e.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
	Bridge lead for this infrastructure improvement and beautification project. Kristen was responsible for the final design of a new 2-span PSC beam bridge to replace an existing 2-lane bridge. The bridge crossed SR 400, Metro Atlanta's busiest freeway, and incorporated multi-modal design elements to balance the needs of automobiles, bicycles and pedestrians. The bridge also features aesthetic elements, including custom-designed fencing, planters, and hardscaping.				

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE		
Roy Cooper, PE		CEI/ Constructability		a. TOTAL	b. WITH CURRENT FIRM	
				30	21	
15. FIRM NAME AND LOCATION (City and State)						
ARCADIS – Middletown, CT						
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)			
MBA, University of Connecticut BS, Civil Engineering			Professional Engineer: CT, FL, MD, NJ, NY, RI, TX			
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)						
Roy leads Arcadis' construction claims services in North America. He has more than 30 years of construction experience, including the analysis and review of complex construction claims from the beginning stages through trial support and expert testimony. Roy has led large-scale claims evaluation assignments of almost every type, including the evaluation of schedule impacts, cost impact analysis, mediation, and claims negotiation. He has also been qualified as an expert on both horizontal and vertical project types. Prior to joining Arcadis, Roy was a project superintendent and engineer on high profile projects, several of which he was responsible for all aspects of construction.						
19. RELEVANT PROJECTS						
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	US 27, SR 29 Tennessee Office of the Attorney General; Chattanooga, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			2016	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
	Project executive / Testifying expert: Provided expert services to the client regarding a dispute on road widening project in Chattanooga. The project was the largest contract ever let by the department. The contractor made a \$14.6-million differing site condition claim. The contractor claimed it encountered differing site conditions during the installation of several large retaining walls along each side of the roadway widening. The contractor alleged that because of the differing site conditions, it was forced to mobilize different, more expensive equipment and also incurred additional cost as part of performing the work. Mr. Cooper made an assessment of the contractor's alleged damages and presented in mediation on behalf of the client. The case settled during mediation.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	Constructions Claims for SR 8 Signal Mountain Blvd TDOT/ Attorney General's office, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			2006	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
	Roy provided expert services to the Tennessee Office of the Attorney General regarding a dispute on a 3.5-mile road widening project in Hamilton County. The contractor made a \$4.8-million delay claim and a 232-day time extension request. The contractor claimed it lost productivity, suffered delays and experienced idle equipment damages because of issues related to traffic staging changes, right of ways, utility relocations and quantity overruns. He made an assessment of the issues and delays on the project along with the contractor's alleged damages. Presented on behalf of TDOT at mediation and assisted in settlement discussions.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	I-65 Davidson County Tennessee Office of the Attorney General, Nashville, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			2010	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
	Project executive and testifying expert. Provided expert services regarding a dispute on a road and bridge project. The contractor made a \$2.5-million delay claim and a 1,379-day time extension request. Provided an assessment of the issues and delays on the project along with the contractor's alleged damages, and also provided expert testimony at trial.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	I-40 Memphis Cofferdam Failure Tennessee Office of the Attorney General, Memphis, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			2014	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
	Roy provided expert services to the Tennessee Office of the Attorney General regarding a delay dispute on a cofferdam project in the Mississippi River in Memphis, Tennessee. The contractor made a \$3.8-million delay claim and a 301-day time extension request. The contractor claimed issues related to differing site conditions and failure of a tremie concrete seal. He assisted in the evaluation and assessments of the issues and delays on the project. Roy also assisted the TDOT during settlement discussions.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	On-Call Construction Claims Services Connecticut Department of Transportation, Statewide, CT		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			Ongoing	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
	Executive-In-charge for the on-call construction claim services contract that has been in place since 1991, during which time Arcadis has worked on over 80 assignments. Roy serves as a Senior Claims Analyst for selected assignments, leading the evaluation of contractor's claims and Arcadis' involvement in the resolution of the claims.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Jonathan Reid, PE, PTOE		Roadway Design		a. TOTAL	b. WITH CURRENT FIRM
				21	1
15. FIRM NAME AND LOCATION (City and State)					
– Atlanta, GA					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
MS, Civil Engineering, North Carolina State University, 1999 BS, Civil Engineering, Lawrence Technological University (Michigan) 1994			Professional Engineer: North Carolina, 2002 (#27930) Georgia, 2008 (#32806) Professional Traffic Operations Engineer, 2005 (#1588)		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Jonathan is a professional traffic operations engineer with 20+ years of experience. His background includes traffic modelling, intersection design, managed-lane facilities investment, corridor studies, roundabout design, toll roads, transit projects, sports/entertainment facility investment, highway signing/marketing, traffic impact analysis, signal warrants and design, and traffic calming studies. Jonathan has managed traffic operations and investment projects for state, federal and municipal clients and developers both in the United States and abroad. His core skills include roadway, intersection and roundabout design, traffic modeling, transportation investment, and traffic studies and analyses.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-40 / I-81 Corridor Improvement Study TDOT, Statewide, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2010	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Assisted in the development short-term operational improvements and long-term improvement plans for a statewide 560-mile corridor study in Tennessee. Short term recommendations included minor interchange and intersection improvements, truck climbing lanes, warning systems and ITS deployment. Long term recommendations included interstate widening, HOV/HOT/managed-lane improvements, and by-pass routes.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Gateway Boulevard EIS Metro Nashville Public Works, Nashville, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2012	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Lead traffic engineer in the development of traffic analysis and concept design for the extension of Gateway Boulevard from 4th to 8th Streets in Downtown Nashville, TN. Developed traffic forecasts, traffic analysis models and recommended mitigation and developed intersection geometric concepts for dual-lane urban roundabout project. Project was recipient of the Grand Award for Engineering Excellence from the American Council of Engineering Companies (ACEC) of Tennessee.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Operational Improvement Program, Statewide GA: Georgia Department of Transportation		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Technical specialist supporting statewide operational improvement project by evaluating, analyzing and providing conceptual solutions to problematic intersections. Typical projects included development of conventional and innovative intersection alternatives, use of traffic analysis tools to determine operational benefits, develop conceptual drawings of recommended improvements, develop preliminary cost estimates, determine B/C ratios, and a project write-up for submittal to the task force committee for review and allocation of State transportation funding.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-440 Widening from I-40 to I-24, Design Build Owners TDOT, Representative, Davidson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Traffic engineer for the I-440 Design Build project from Interstate 40 to Interstate 24 in Davidson County. Project includes the removal of deteriorated concrete pavement, widening the roadway and three bridges to provide at least three travel lanes in each direction. Performing work under expedited project delivery to advertise this DB contract in 6 months from NTP.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Historic Gateway Improvement Project, Roswell GA City of Roswell GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Project manager for study to perform public involvement, traffic analysis, design concept, environmental study and EA document preparation, and preparation of preliminary plans to improve Atlanta Street between SR 120 and the Chattahoochee River (1.5 miles) by removing a current reversible lane system. Study included innovative solutions to solve controversial project needs. Solutions include multi-lane roundabouts, non-traditional interchange and context sensitive design to minimize impact to adjacent National Park Service and historic properties - while enhancing business development opportunities in this important historic corridor. Project received the 2012 GPTQ award for Best Context Sensitive Design and Public Participation.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Philip Kincer, EIT		Roadway Design		a. TOTAL	b. WITH CURRENT FIRM
				1	<1
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND		
BS, Civil Engineering, Tennessee Technological University, 2017			Engineering Intern: TN		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Philip is a new graduate. He is proficient in the use of Microstation, Geopak, Geopak Drainage, and FHWA drainage software. He also has experience in both roadway design and the preparation of plan sets for the Tennessee Department of Transportation. His experience includes the development of horizontal and vertical alignments, cross section production, and quantity calculations. He is knowledgeable in the application of TDOT Standards and Specifications, TDOT Design Guidelines, the MUTCD and the AASHTO, "A Policy on the Geometric Design of Highways and Streets".					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-440 Interstate Widening Design Build Owners Representative TDOT, Davidson County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Transportation Engineer for the Design Build Contract Package Development for the widening and reconstruction of I-440 from Interstate 40 to Interstate 24 in Davidson County. Project includes the removal of the existing concrete pavement and widening the roadway and three bridges to provide three continuous travel lanes in each direction along the 7.6-mile corridor. The project includes ITS upgrades, noise wall construction and repairs, numerous ramp repairs, and implementing two ramp safety projects. Performing work under expedited project delivery to advertise this DB contract in 6 months from NTP. Philip has worked on typical sections, preliminary horizontal and vertical alignments, and cross-section production.					
b.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-24 Interchanges at SR-2 (Broad St.) and SR-58 (Market St.) TDOT, Hamilton County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	2019 (Anticipated)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Transportation Engineer for the upgrade of an existing interstate system interchange. This project involves the complete redesign of the eastbound entrance and exit ramps for the Broad Street and Market Street interchanges. A three-lane Connector Road is designed to provide a new west to east connector route between two major arterial roadways in Chattanooga's central business district. The project also includes an emergency detour design that allows both eastbound ramps and the Connector Road to carry I-24 eastbound traffic during emergency closures. Philip has worked on drainage design, traffic control, and construction quantities on this project.					
c.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	SR 15 Intersection at University Avenue TDOT, Franklin County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Transportation Engineer for a road diet project featuring enhanced pedestrian facilities at the existing two-way stop-controlled intersection of SR-15 and University Avenue in Sewanee, TN. The project includes lane reductions/reconfigurations, curb and gutter, sidewalks and implementation/integration of a new closed drainage system. Due to University Avenue being envisioned as a new entrance to the University of the South, extensive coordination with TDOT, Franklin County and the University of the South has been required throughout the design of the project. Preliminary plans have been submitted. ROW plans will be completed Spring of 2018. Philip has worked on drainage design and construction quantities on this project.					
d.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	SR 336 from Montvale Station Road to SR-73 Preliminary Plans, TDOT, Blount County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Transportation Engineer for 0.6 mile widening of SR 336 from Montvale Station Road/Boardman Avenue to SR-73 (US-321/Lamar Alexander Parkway) in Maryville. The project widens an existing two-lane roadway to add a continuous two-way left turn lane. This project presents extensive challenges to minimized impacts while adding pedestrian and greenway facilities in a tight urban corridor. This project is currently in the preliminary plans phase. Philip has worked on driveway design and cross-section production on this project					
e.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Hamilton County Water and Wastewater Treatment Authority, Chattanooga, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2015-2016	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm	
Served as an intern to assist design engineers with tasks related to sewer design, capacity analysis, and flow monitoring. Philip entered information and drawings into the Hamilton County GIS database, placed work orders for various sewer projects, and surveyed sewer lines for GIS.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
June Henderson		Roadway Design		a. TOTAL	b. WITH CURRENT FIRM
				25	4
15. FIRM NAME AND LOCATION (City and State)					
– Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND		
AS Civil Engineering, Chattanooga State Technical Community College, 1980 Tennessee Tech University, 1982 Chattanooga State Technical Community College, 1993			N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
June Henderson has more than 25 years of experience in roadway design and drafting. She is proficient in the use of Microstation and Geopak and has extensive experience in both design work and the preparation of plan sets for the Tennessee Department of Transportation. Her experience includes the development of horizontal and vertical alignments, cross section production, drainage design, right-of-way acquisition and quantity calculations. She is very knowledgeable in the application of TDOT Standards and Specifications, TDOT Design Guidelines, the Manual on Uniform Traffic Control Devices (MUTCD) and the AASHTO, "A Policy on the Geometric Design of Highways and Streets". She is responsible for a variety of projects including interstate interchanges and roadway widening projects. Her certifications include TDEC Level 1 & 2, and 10 HR OSHA Construction Safety.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 71 (Chapman Highway) from South of Simpson Road to Hendron Church Road, TDOT, Knox County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Project designer for this Region 1 project involves upgrading an existing four-lane roadway to a five-lane roadway to improve safety and operations in rolling terrain. Project involves maintaining the existing roadway horizontal and vertical alignment. The widening will involve sections with proposed curb and gutter as well as open drainage. Project length is approximately 1.0 mile, including the layout of multiple retaining walls and one side road closure. Preliminary plans have been submitted.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 336 from Montvale Station Road to SR-73 Preliminary Plans, TDOT, Blount County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Project Designer for 0.6 mile widening of SR 336 from Montvale Station Road/Boardman Avenue to SR-73 (US-321/Lamar Alexander Parkway) in Maryville. The project widens an existing two-lane roadway to add a continuous two-way left turn lane. This project presents extensive challenges to minimized impacts while adding pedestrian and greenway facilities in a tight urban corridor. This project is currently in the preliminary plans phase. June has worked on horizontal and vertical alignments, drainage design, right-of-way calculations, cross-sections, and side road and driveway design on this project.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	MLK Pedestrian and Bike Enhancements City of Atlanta, Fulton County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
This project was designed for the City of Atlanta. The project created a gateway corridor MLK Blvd. for the new Atlanta Falcons stadium. This project provides streetscaping, enhanced sidewalks, pedestrian intersection improvements, median refuge islands, lighting, and mid-block crossings with HAWK pedestrian signals. June worked on streetscape and bike/ped improvement design, plans preparation, cross-sections production, mid-block crossing design, sideroad design and construction quantity calculations.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Bridge and Standard Transportation Investment Reports (TIRs) TDOT, Regions 2, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Project designer for the development of bridge TIR projects in Region 2. Projects included pre-brief meeting, field review, post meeting, location/vicinity maps, site inspection notes, bridge analysis work sheet, hydrology/hydraulic analysis, cost estimating and conceptual plans. Most recent projects include State Route 40 Bridge over the Ocoee River in Polk County, State Route 39 Bridge over Middle Creek in McMinn County, and State Route 320 over the CSX Railroad in Hamilton County.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR-58 at Birchwood Pike TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	2018 (Anticipated)	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Design Engineer for safety improvements to incorporate J-turns on a four-lane divided roadway. As part of the roadway design project, the existing turn lanes and median crossovers will be converted to a series of J-turns. This conversion will also require the redesign of existing drainage facilities, the design of additional truck turning areas, modification of existing commercial driveways, and enhanced signing and pavement markings. Arcadis is responsible for preliminary, utility, and final construction plans.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Chris Hawkins		Roadway Design		a. TOTAL	b. WITH CURRENT FIRM
				23	23
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND		
Advanced Drafting Diploma, Northwestern Technical College			TN EPSC Level 1		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. Hawkins is an engineering technician and designer with 23 years of experience in computer-aided drafting and site design (CADD). His experience includes design and drafting for diverse rail, industrial, commercial, and retail establishments across the United States. He has been part of design teams for rail projects from offloading facilities in refineries to freight rail main line capacity expansion projects and has worked on projects for multiple Class 1 freight lines. He has drafted topographic surveys, including as-builts, coordinated CADD services, and provided site designs for more than 200 cellular tower sites. His experience also includes using a variety of three-dimensional CADD programs to successfully produce site grading and drainage plans, erosion and sediment control plans, earthwork calculations, structural analysis, and site surveys. Certifications/Training: E-Rail Certification - E-Rail US; OSHA 10-Hour Construction Safety Training					
19. RELEVANT PROJECTS					
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Revive285: Plan2040 Travel Modeling Georgia Department of Transportation, Atlanta, Georgia			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2016	N/A
a.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
	CADD drafter for EIS for one of the most heavily congested corridors in Atlanta, the top end of I-285. The project scope included conducting traffic operational analysis, ITS evaluation, air quality analysis, and noise analysis for the no-build and all build scenarios. Simulation modeling effort included analysis of 102 intersections (89 of which were signalized), 22 interchanges and 98 center miles of the freeway and arterial network. Other project responsibilities included development and evaluation of several improvement scenarios, including different combination of managed lanes, Bus Rapid Transit (BRT), and Light Rail Transit (LRT) alternatives. CUBE/VOYAGER, a macroscopic model, and VISSIM, were utilized to develop origin destination demand matrices and route assignments, respectively, for many vehicle modes, including passenger vehicles, trucks, and transit vehicles.				
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-24 Interchanges at SR-2 (Broad St.) and SR-58 (Market St.) TDOT, Hamilton County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
b.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
	CADD drafter for the upgrade of an existing interchange including developing a three-lane connector road that diverges from I-24 eastbound to provide access to Broad, Williams and Market Streets. Project includes new traffic signals, one road closure and one roadway converted from one-way to two-way traffic and resulting northbound ramp modifications. Project length is approximately 1.7 miles. Services being provided include public involvement, preliminary plans, ROW plans, final construction plans including drainage improvements, traffic control plans, EPSC plans, and pavement markings and signing plans.				
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	SR-29 (US-27) From SR-61 near Harriman to South of Whetstone TDOT, Roane and Morgan Counties, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2016	Ongoing
c.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
	CADD drafter for expansion of two-lane roadway to four-lane divided and 5-lane highway near Harriman, TN. The project encompasses 5 miles of roadway through mountainous terrain involving large cut areas and significant drainage modifications. Services included roadway and drainage design, geotechnical, retaining wall design, environmental permit sketches and natural stream design for stream relocations.				
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-85 N Express Lanes Extension Design Build GDOT, DeKalb and Gwinnett Counties, GA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	Ongoing
d.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
	CADD drafter to prepare design and construction plans according to an expedited schedule. Arcadis provided services to design and construct one managed lane northbound and southbound from north of Old Peachtree Road to Hamilton Mill Road (approximately 10 miles). Additionally, two new auxiliary lanes will also be constructed, one southbound between SR 20/Buford Drive and SR 317/Lawrenceville Suwanee Road and one northbound between SR 20/Buford Drive and SR 324/Gravel Springs Road.				
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	GDOT South Barrett Parkway Reliever Cobb County, GA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
e.	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
	Roadway designer providing roadway design layouts, drainage, cross sections, profiles, signing and marking, and staging for the South Barrett Reliever Phase 3. This project serves as a mobility and congestion reliever to Barrett Parkway by providing an alternate route for vehicles traveling to highly developed commercial areas. Proposed improvements include a bridge over I-75 connecting Roberts Ct and Greers Chapel Rd, a roundabout at the end of Roberts Ct to connect with the proposed bridge, the realignment and widening of Greers Chapel Rd to accommodate increased traffic, and the installation of a traffic signal at the intersection of Greers Chapel Rd and Shiloh Valley Rd.				

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE		
Wesley Houser		Roadway Design		a. TOTAL	b. WITH CURRENT FIRM	
				3	2	
15. FIRM NAME AND LOCATION (City and State)						
ARCADIS – Chattanooga, TN						
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)			
BS, Civil Engineering, Tennessee Technological University BS, Mathematics – Minor Physics and Coaching						
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)						
Wesley has three years of experience in roadway design. He is proficient in the use of Microstation, Geopak, Geopak Drainage, and FHWA drainage software. He also has experience in both design work and the preparation of plan sets for the Tennessee Department of Transportation. His experience includes the development of horizontal and vertical alignments, cross section production, drainage design, traffic control plans and quantity calculations. He is knowledgeable in the application of TDOT Standards and Specifications, TDOT Design Guidelines, the MUTCD and the AASHTO, "A Policy on the Geometric Design of Highways and Streets". Wesley was an intern for TDOT Region 1 office in 2015 where he gained experience working with MicroStation and Geopak and was tasked with a project to design side roads and driveways. During his internship, he also worked on a TDOT survey crew for six weeks.						
19. RELEVANT PROJECTS						
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	I-24 Interchanges at SR-2 (Broad St.) and SR-58 (Market St.) TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			Ongoing	2019 (Anticipated)		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
	Transportation Engineer for the upgrade/redesign of an existing urban interchange. This project involves the complete redesign of the eastbound entrance and exit ramps for the Broad Street and Market Street interchanges. A three-lane Connector Road is designed to provide a new west to east connector route between two major arterial roadways in Chattanooga's central business district. The project also includes an emergency detour design that allows both eastbound ramps and the Connector Road to carry I-24 eastbound traffic during emergency interstate closures. Wesley has assisted with drainage design, erosion control, traffic control plans and phasing, construction quantities, and cross-section production.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	I-440 Interstate Widening Design Build Owners Representative TDOT, Davidson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			Ongoing	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
	Transportation Engineer for the Design Build Contract Package Development for the widening and reconstruction of I-440 from I-40 to I-24 in Nashville, TN. Project includes the removal of the existing concrete pavement and widening the roadway and three bridges to provide three continuous travel lanes in each direction along the 7.6-mile corridor. The project includes ITS upgrades, noise wall construction and repairs, numerous ramp repairs, and implementing two ramp safety projects. Wes assisted in the development of preliminary ramp horizontal and vertical alignments, cross-section production, preliminary quantity calculations, and preparation of preliminary costing plans.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	SR 336 from Montvale Station Road to SR-73 Preliminary Plans, TDOT, Blount County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			Ongoing	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
	Transportation Engineer for 0.6 mile widening of SR 336 from Montvale Station Road/Boardman Avenue to SR-73 (US-321/Lamar Alexander Parkway) in Maryville. The project widens an existing two-lane roadway to add a continuous two-way left turn lane. This project presents extensive challenges to minimized impacts while adding pedestrian and greenway facilities in a tight urban corridor. This project is currently in the preliminary plans phase. Wesley has worked on preliminary layouts and alignments, drainage design, right-of-way calculations, cross-sections, and side road and driveway design on this project.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	SR-58 at Birchwood Pike TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			Ongoing	2018 (Anticipated)		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
	Design Engineer for safety improvements to incorporate J-turns on a four-lane divided roadway. As part of the roadway design project, the existing turn lanes and median crossovers will be converted to a series of J-turns. This conversion will also require the redesign of existing drainage facilities, the design of additional truck turning areas, modification of existing commercial driveways, and enhanced signing and pavement markings. Arcadis is responsible for preliminary, utility, and final construction plans.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED			
	SR 71 (Chapman Highway) from South of Simpson Road to Hendron Church Road, TDOT, Knox County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
			Ongoing	N/A		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
	Transportation Engineer for a 1 mile widening of an existing four-lane roadway to add a continuous two-way left turn lane. The continuous left-turn lane is expected to improve safety and operations along this heavily traveled corridor. The first half the project will include sections with curb and gutter and the other half will include shoulders and roadside ditches. Project length is approximately 1.0 mile. Wesley has worked on drainage design, right-of-way calculations, traffic control layout, and construction quantities on this project.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Jody Peace, PE, PTOE		Transportation Studies		a. TOTAL	b. WITH CURRENT FIRM
				9	8
15. FIRM NAME AND LOCATION (City and State)					
– Atlanta, GA					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
MS, Civil Engineering, Georgia Institute of Technology, 2008 BS, Civil Engineering, Georgia Institute of Technology, 2007 BS, Physics, Berry College, 2007			Professional Engineer – TN, GA Professional Traffic Operations Engineer		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. Peace has more than 9 years of experience in transportation engineering, investment, data collection, and GIS experience. He has extensive traffic modeling knowledge at both the demand and operational levels, and he understands the importance of data collection plays to the project development process. Jody has a full understanding of capabilities and limitations of different data sources, as well as FHWA requirements. He also has practical experience in preparing data for use in traffic analysis and organization of large datasets. Jody leads our traffic modeling team and is responsible for travel demand modeling, traffic simulation, current and future traffic analysis, and traffic and corridor studies.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Ramp Meter Feasibility Study SR 386 from SR 6 to I-65 TDOT, Nashville, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
As a senior traffic modeler, Mr. Peace led the development of a screening tool for testing ramp meter feasibility across Tennessee. Using Vietnam Veterans Boulevard (SR 386) as a test corridor, the spreadsheet based tool assists in identifying the impact of various ramp metering strategies and of capacity improvements. The project included literature review of best practices, developing ramp meter screening tools, and applying tools to SR 386 as a pilot study.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Tennessee Department of Transportation (TDOT) VISSIM Training TDOT, Nashville, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2014	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Mr. Peace led the preparation of training materials for the VISSIM training and served as one of two instructors for the three-day advanced VISSIM training session for TDOT staff. The hands-on training used real-life example projects to assist in further develop TDOT's traffic modeling capabilities and to arm them with the skills necessary to evaluate benefits of various traffic strategies using advanced traffic models.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-24 Congestion Mitigation Report TDOT, Region 3		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
As part of a larger study to evaluate ITS improvements along I-24, Mr. Peace is leading the operational modeling and scenario testing effort. As part of this effort, he has overseen the development of a VISSIM model for approximately 6.2 miles of I-24 and assisted with the development of traffic animations which will assist in explaining the benefits of each improvement.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-65 Corridor Feasibility Study TDOT, Nashville, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Mr. Peace is leading the data collection and modeling tasks for the evaluation of short and long-term projects along the full extent of I-65 in Tennessee. As lead modeler, he has worked with TDOT and Nashville MPO staff to obtain and compare the differences between respective travel demand models, and will be running alternative growth scenarios to evaluate the impact of growth on the corridor. Mr. Peace is also responsible for developing an operational model and evaluating improvements for key portions of the corridor.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-440 Widening from I-40 to I-24, Design Build Owners TDOT, Representative, Davidson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Traffic engineer for the I-440 Design Build project from Interstate 40 to Interstate 24 in Davidson County. Project includes the removal of deteriorated concrete pavement, widening the roadway and three bridges to provide at least three travel lanes in each direction. Performing work under expedited project delivery to advertise this DB contract in 6 months from NTP. Jody is providing construction traffic control plans.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Jody Carr		Transportation Studies		a. TOTAL	b. WITH CURRENT FIRM
				24	24
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
AA, Construction Engineering Technology, Chattanooga State Technical Community College, 1991					
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Jody Carr is a GIS and CADD technician with 24 years of experience developing transportation construction plans creating GIS maps for TIRs and environmental documents. Jody has experience creating maps and figures for TIRs, IMSs, IJSS, EPD reports, RSAs, technical reports and roadway design. He is skilled and trained in MicroStation, ESRI ARCGIS, and AutoCAD drafting environments and is knowledgeable in survey/engineering software such as GEOPAK. Jody is familiar with TDOT CADD Standards, MUTCD, and TDOT Design Guidelines.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	IMS for I-75/Hamilton Place Boulevard TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2013	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
CADD technician for an IMS encompassing the existing interchange on I-75 at the exit road for Hamilton Place Boulevard onto southbound I-75. There were five build alternatives plus a no-build for the interchange modification and the preferred alternative significantly improved the junction of the I-75 northbound off-ramp and Concord Road, Hamilton Place Boulevard, Hamilton Place Ring Road and Hamilton Place Driveway. This project utilized TDOT CADD standards.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Roadway Safety Audit (RSA) Reports TDOT Regions 1 and 2, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2016	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
CADD technician for 44 RSAs in Regions 1 and 2. Many of the projects were eligible for HRRR or HESP funds as part of the HSIP. Projects included pre-brief meeting, field review, post meeting, cost estimating, crash rate calculations and conceptual plans in support of the RSA program.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Rural State Route Shoulder Widening Initiative for SR 35 TDOT, Blount County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2014	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
CADD technician for Phase 1 of a shoulder widening project in Blount County along a 7-mile section of SR 35. This Phase involves surveying approximately three roadway cross sections per mile, ecology field review, developing plan sheets and a cost estimate for the shoulder improvements. Following the completion of Phase 1, Phase 2 consists of developing ROW plans.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Technical Report for I-40 Lane Additions from Central Pike to East of SR 109 TDOT, Wilson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2011	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
CADD technician for the expansion of I-40 from a 4-lane divided to 8-lane divided interstate for approximately 8 miles. Services included conceptual level roadway plans with proposed signing and striping, analysis of vertical clearances at three existing overpasses, and draft of design exceptions.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Ramp Queue Projects TDOT, Region 1 and Region 2, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
CADD technician for developing 12 RSA ramp queue reports for TDOT. Five Phase I reports were completed in both Regions 1 and 2. Phase 1 examined the possible presence of existing queue encroachments onto the mainline of interstate highways or state routes. Once mainline impacts are identified, an RSA ramp queue report investigates specific causes and recommends solutions for improvements to eliminate ramp queue issues.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Steffan Holder		Transportation Studies		a. TOTAL	b. WITH CURRENT FIRM
				5	5
15. FIRM NAME AND LOCATION (City and State)					
– Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
AA, Computer Drafting & Design, ITT Technical Institute, 2012			N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Steffan Holder is proficient in MicroStation, GEOPAK, InRoads, AutoCAD, and AutoCAD Civil 3D. He is skilled in computer-aided drafting with conventional methods of graphic communication and has the ability to solve drafting and basic design-related problems. He has developed conceptual plans for TIRs, IMSs, IJSs, EPD reports, RSAs, technical reports and roadway design plans. He is familiar with the Manual on Uniform Traffic Control Devices (MUTCD) as well as TDOT CADD and Design Standards.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Roadway Safety Audit (RSA) Reports TDOT, Regions 1 and 2, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
CAD Technician for RSAs in Regions 1 and 2. Projects included pre-brief meeting, field review, post meeting, cost estimating, crash rate calculations and conceptual plans in support of the RSA program. Conceptual Plans provide a range of improvements including guardrail installation, sign installation/replacement, new pavement markings, snowplowable pavement marking installation and other types of roadway delineation.					
b.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-40 at US 64/SR 15 Interchange Interstate Access Request (IAR) TDOT, Shelby County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
CAD Technician for IAR report at the I-40 at SR 15 (U.S. 64) (Exit 18) interchange. This project provided two alternatives including a standard diamond interchange and a diverging diamond interchange (DDI) to remove the substandard vertical clearance of the existing bridge over SR 15 (U.S. 64). Both alternatives provided improvements to safety and operations of the interchange and received approval from FHWA, allowing TDOT to choose the best option.					
c.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Ramp Queue Projects TDOT, Region 1 and Region 2, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
CAD Technician for developing RSA ramp queue reports for TDOT. These reports examined the possible presence of existing queue encroachments onto the mainline of interstate highways or state routes. Once mainline impacts are identified, an RSA ramp queue report investigates specific causes and recommends solutions for improvements to eliminate ramp queue issues. Steffan is responsible for developing the report including maps and conceptual layouts.					
d.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	SR 60 Technical Report TDOT, Bradley, Hamilton, Meigs Counties, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2017	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
CAD Technician for the Technical Report for State Route 60 from south of State Route 306 to north of State Route 58 in Bradley, Hamilton, and Meigs County. This report provided preliminary conceptual design for feasible, cost-effective solutions while improving safety and mobility along the route. Total project length was 6.5 miles. Steffan was responsible for all mapping and conceptual plan layouts for this project.					
e.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-40 ITS Expansion Project Knox and Sevier Counties, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2018	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
CAD Technician for the I-40 ITS expansion project is an extension of an existing ITS system. The project limits total approximately 11.5 miles. This project includes the design and installation of two (2) Dynamic Message Signs (DMS), twelve (12) Closed-Circuit Televisions (CCTV), thirty (30) Radar Detection Systems (RDS), two (2) local Hub Cabinets, and one (1) 72F fiber optic main trunk line along the entire length of project. The project will include Preliminary ITS Design Plans, Utility/ROW ITS Design Plans, Construction ITS Design Plans, Survey, Geotechnical Reports, Electrical Design, Specifications and Special Provisions.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Kwaku Boakye, PhD, EI		Transportation Studies		a. TOTAL	b. WITH CURRENT FIRM
				1	1
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)				17. CURRENT PROFESSIONAL	
BS, Civil Engineering, Kwame Nkrumah University of Science, and Technology, 2009 MS, Civil Engineering, University of Kansas (Transportation) (GPA 3.97), 2014 PhD, Civil Engineering (Transp.), & MS, Statistics, University of Tennessee (GPA 4.0), 2017				Engineering Intern: TN	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Kwaku has 1 year of experience in roadway and conceptual design. He is becoming more proficient in MicroStation, InRoads, Geopak, TORUS, GuidSign, and Synchro modeling. He is familiar with the AASHTO, "A Policy on the Geometric Design of Highways and Streets", the Highway Capacity Manual (HCM), the Manual on Uniform Traffic Control Devices (MUTCD), GDOT Standards and Specifications, and TDOT Standards and Specifications. Kwaku earned several honors and awards prior to working at Arcadis including: Jayhawk Transportation Scholar (2013); Tennessee Section ITE Scholarship (2015); Engineering VOLunteers for Ninth Graders (eVOL9) service award (2015); Lifesavers Traffic Safety Scholar Award (2016); Intelligent Transportation Society of Tennessee (ITSTN) Scholarship (2016); and the Outstanding Ghanaian Student at TRB Conference (award from GTP-NA) (2017).					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-440 Interstate Widening Design Build Owners Representative TDOT, Davidson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Traffic/staff engineer for the Design Build Contract Package Development for the widening and reconstruction of I-440 from Interstate 40 to Interstate 24 in Davidson County. Project includes the removal of deteriorated concrete pavement and widening the roadway typical section and three bridges to provide three travel lanes in each direction along the 7.6-mile corridor. The project includes ITS upgrades, noise wall construction and repairs, numerous ramp repairs, and implementing two ramp safety projects. Kwaku was responsible for performing a queue analysis during construction to determine viable traffic control measures.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Statewide Safety Improvements GDOT, Georgia		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Staff engineer for the upgrade of several existing interchanges throughout Georgia. Some of the new interchange designs will include the removal of the loop ramps, widening of ramps, new traffic signals, construction of diverging diamond interchange, and providing dual left turn lane. Kwaku is responsible for the conceptual design and preliminary plans for GDOT.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	City of Atlanta – Detection Upgrades Atlanta, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Staff engineer for the upgrade of 44 intersections throughout the City of Atlanta area. This project included cabinet modifications as well as installation of radar and loop detection at existing signalized intersections. Advanced detection was installed in locations that currently did not have detection.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Local Route 2814 (Perkins Rd) at Mallory Rd Signal Design TDOT, Shelby County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Staff engineer providing assistance for signing, marking, and signal design for Local Route 2814 (Perkins Road) at Mallory Road intersection in Shelby County, Tennessee. This project includes mast arm design, ROW takes for signal equipment, and fiber installation for interconnecting signals.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	State Route 58 Intersection at State Route 312 TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Staff engineer assisting in the development of construction plans for State Route 58 at State Route 312 (Birchwood Pike). This project included roadway design for two "J" turns along the median of State Route 58. All other driveways were converted to right-in/right-out configured intersections. Kwaku was responsible for using GuidSign software to design all new signs directing traffic to the proposed median openings.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Nirbesh Dhakal, EIT		Transportation Studies		a. TOTAL	b. WITH CURRENT FIRM
				3	1
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND		
MS, Civil Engineering, University of Tennessee, Knoxville, 2017 BS, Civil Engineering, Tribhuvan University, Nepal, 2014			Engineering Intern: TN Registered Engineer, Nepal Engineering Council – 6065 “A” Civil.		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Nirbesh has more than 3 years of experience in roadway and conceptual design. He is proficient in Spatial and Network analysis using ArcGIS, Microstation, Geopak and InRoads and has experience in Tennessee Department of Transportation plans preparation. He is familiar with the AASHTO, “A Policy on the Geometric Design of Highways and Streets”, the Highway Capacity Manual (HCM), the Manual on Uniform Traffic Control Devices (MUTCD) and TDOT Standards and Specifications. Nirbesh has co-authored and published “Factors influencing single-bicycle crashes at skewed railroad grade crossing” for the <i>Journal of Transport & Health</i> (2017). He was awarded several honors and awards including the Chancellor’s Citation Award for Extraordinary Professional Promise in 2017 and was a member of the University of Tennessee’s Traffic Bowl competition winners in 2017 for the Tennessee Section of ITE. Nirbesh is a registered Engineer, Nepal Engineering Council – 6065 “A” Civil.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Statewide Safety Improvements GDOT, Georgia		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
As part of the statewide safety improvements project, Nirbesh has served as support design engineer for multiple projects identified by the State of Georgia as safety concerns. Some projects include two roundabouts at the I-575 at SR 5 ramps, two roundabouts at the I-20 at SR 348 ramps, a roundabout at SR 81 at New Morn Drive, and a Diverging Diamond Interchange (DDI) at SR 22 at Bradley Park Interchange. Nirbesh has been responsible for conceptual design and plans for each project using TORUS software to design the roundabouts, provide fastest path movements and truck turning movements.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 42 at I-20 Interchange Conceptual Plan GDOT, DeKalb County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Staff engineer for the upgrade of an existing interchange. The new interchange design will include the removal of the westbound loop ramp, widening of the eastbound on-ramp, two new traffic signals and providing dual left turn lanes along SR 42. Nirbesh is responsible for the conceptual design and preliminary plans for GDOT.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-40 ITS Expansion Project Knox and Sevier Counties, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input type="checkbox"/> Check if project performed with current firm		
Staff engineer for the I-40 ITS expansion project is an extension of an existing ITS system. The project limits total approximately 11.5 miles. This project includes the design and installation of two (2) Dynamic Message Signs (DMS), twelve (12) Closed-Circuit Televisions (CCTV), thirty (30) Radar Detection Systems (RDS), two (2) local Hub Cabinets, and one (1) 72F fiber optic main trunk line along the entire length of project. The project will include Preliminary ITS Design Plans, Utility/ROW ITS Design Plans, Construction ITS Design Plans, Survey, Geotechnical Reports, Electrical Design, Specifications and Special Provisions.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 70/SR 92/SR 154/Fairburn Road at SR 166/Duncan Memorial Highway, Douglas County, Georgia		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input type="checkbox"/> Check if project performed with current firm		
Staff engineer assisting in roadway design layouts, drainage, cross sections, profiles, signing and marking, and staging plans for the Douglasville Roundabout. Proposed improvements include bringing three major state routes together at a single intersection and accommodating future traffic volumes. Design also includes floodplain management for a no rise/no impact certification to insure no increase in the base flood elevation.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	TDOT State Route 48 at State Route 100 Signal Design Hickman County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Staff engineer providing assistance for roadway design layouts, drainage, cross sections, profiles, signing and marking, and signal design for State Route 48 at State Route 100 intersection in Hickman County, Tennessee. This project includes the widening for an exclusive right turn lane, mast arm signal design, and heavy utility coordination as a result of the large number of overhead and underground utilities at this intersection.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Ryan Stinton, EIT		Transportation Studies, Traffic Modeling, and Signalization and ITS		a. TOTAL	b. WITH CURRENT FIRM
				2	2
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND		
MBA/MS, Civil Engineering, University of Tennessee Knoxville, 2016 BS, Civil Engineering, University of Tennessee Knoxville, 2014			Engineering Intern: TN		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Ryan has more than 2 years of experience in roadway and conceptual design. He is proficient in the use of Microstation, Geopak and InRoads and has experience in both design work and the preparation of plan sets for the Tennessee Department of Transportation and Georgia Department of Transportation. His experience includes the development of horizontal and vertical alignments, cross section production, drainage design, traffic control plans and quantity calculations. He is knowledgeable in the application of TDOT Standards and Specifications, TDOT Design Guidelines, the Manual on Uniform Traffic Control Devices (MUTCD) and the AASHTO, "A Policy on the Geometric Design of Highways and Streets". Ryan is also proficient in using the Highway Capacity Manual (HCM), Roadside Design Guide, SYNCHRO/SimTraffic and the TDOT Traffic Design Manual.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 155 (Briley Parkway) Operational Study TDOT, Davidson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Staff Engineer for the evaluation of traffic operations along State Route 155 (Briley Parkway) at three (3) interchanges including McGavock Pike, Opry Mills Drive and Two Rivers Parkway. Weave and Merge analysis was performed using the Highway Capacity Software (HCS2010). This project also included the evaluation of six signalized intersections along McGavock Pike using SYNCHRO and SimTraffic modeling. Ryan was responsible for the initial set-up of the SYNCHRO models and the input of existing signal timing plans.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Bridge and Standard Transportation Investment Reports (TIRs) TDOT, Regions 1, 2 and 3, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Staff Engineer for the development of bridge TIR projects in Regions 1 and 2 and standard TIRs for TDOT in Region 2 and 3. Projects included pre-brief meeting, field review, post meeting, location/vicinity maps, site inspection notes, bridge analysis work sheet, hydrology/hydraulic analysis, cost estimating and conceptual plans. Example projects include State Route 40 Bridge over the Ocoee River in Polk County and State Route 320 over the CSX Railroad in Hamilton County. Ryan was responsible for attending the site visits, meeting minutes, and preparing reports.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 70/SR 92/SR 154/Fairburn Road at SR 166/Duncan Memorial Highway, Douglas County, Georgia		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Roadway engineer providing roadway design layouts, drainage, cross sections, profiles, signing and marking, and staging plans for the Douglasville Roundabout. Proposed improvements include bringing three major state routes together at a single intersection and accommodating future traffic volumes. Design also includes floodplain management for a no rise/no impact certification to insure no increase in the base flood elevation.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	South Barrett Parkway Reliever Cobb County DOT, Cobb County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Roadway engineer providing roadway design layouts, drainage, cross sections, profiles, signing and marking, and staging for the South Barrett Reliever Phase 3. This project serves as a mobility and congestion reliever to Barrett Parkway by providing an alternate route for vehicles traveling to highly developed commercial areas. Proposed improvements include a bridge over I-75 connecting Roberts Ct and Greers Chapel Rd, a roundabout at the end of Roberts Ct to connect with the proposed bridge, the realignment and widening of Greers Chapel Rd to accommodate increased traffic, and the installation of a traffic signal at the intersection of Greers Chapel Rd and Shiloh Valley Rd.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 71 (Chapman Highway) from South of Simpson Road to Hendron Church Road, TDOT, Knox County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Staff engineer for the upgrade of an existing four-lane roadway to a five-lane roadway to improve safety and operations in rolling terrain. The project involves maintaining the existing roadway horizontal and vertical alignment. The widening will involve sections with proposed curb and gutter as well as open drainage. Project length is approximately 1.0 mile, including the layout of multiple retaining walls and one side road closure. Responsibilities included all aspects of the development of preliminary roadway plans, including design and drafting. Preliminary plans have been submitted. Right-of-way and construction plans including staged EPSC plans will continue following the design hearing.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Andrew Parr, PE		Transportation Studies		a. TOTAL	b. WITH CURRENT FIRM
				7	0.5
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Civil Engineering, University of Kentucky			Professional Engineer – TN #121197, KY #32480		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Andrew Parr, PE has 7 years of civil engineering experience in the construction, reconstruction, widening, and rehabilitation of many classes of roadway—city streets, low-volume local roads, major arterials, and Interstate highways—in urban and rural environments. He has also been involved in the design of bridge replacement projects, as well as grade-separated crossings. His project responsibilities have included the development of roadway geometry, alignments, typical sections, and auxiliary lane configuration; the design of drainage facilities, ADA access ramps, and shared use paths and trails. He also has experience in documenting right of way acquisition information, setting right of way limits, researching existing deeds, and creating new deeds. He is proficient in the use of a variety of industry software packages, including Microstation, InRoads, Geopak, AutoTurn, HY-8, and Hydraulic Toolbox.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-24 Interchanges at SR-2 (Broad St.) and SR-58 (Market St.) TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	2019 (Anticipated)	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Design engineer for the upgrade of an existing interchange. New Connector Road traffic signals will be provided at the Broad and Market Street intersections. Long Street will be closed and William Street will be converted from one-way to two-way traffic. The US-27 northbound ramp from Williams Street will be modified due to the two-way operations. Project length is approximately 1.7 miles. Services being provided include public involvement, preliminary plans, ROW plans, final construction plans including drainage improvements, traffic control plans, EPSC plans, and pavement markings and signing plans. Andrew worked on roadway geometrics, roadside design, roadway lighting, traffic control and permanent striping.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR-115 (US 129) (Relocated Alcoa Highway) TDOT, Blount County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm	
The Alcoa Highway project involved the conversion of SR-115 to a fully controlled access highway converting the intersection of SR-115 and Tyson Boulevard to a grade separated interchange. SR-115 will be relocated from Hunt Road to Singleton Station Road. New interchanges between Hunt Road and Singleton Station Road will provide access to Tyson McGhee Airport, Wright Road, I-140 (Pellissippi Parkway), and Singleton Station Road. The I-140 interchange is a full system to system interchange and is a hybrid between a turbine interchange and a clover leaf. From Singleton Station Road to the Little River SR-115 will consist of a frontage road system utilizing slip ramps to access Alcoa Highway. Project length is approximately 7.4 miles. Andrew developed the interchange geometrics and alternatives, designed drainage structures, determined retaining wall locations, developed roundabouts, prepared greenway locations, and assisted with plan development and traffic control.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-440 Widening from I-40 to I-24, Design Build Owners Representative, TDOT, Davidson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Design engineer for the Design Build Contract Package Development for the widening and reconstruction of I-440 from Interstate 40 to Interstate 24 in Davidson County. Project includes the removal of existing concrete pavement and widening the roadway typical section and three bridges to provide three continuous travel lanes in each direction along the 7.6-mile corridor. Andrew has been involved in roadway design and the development of preliminary plans, developing geometric solutions for locations with sight distance issues, verifying vertical clearances for overhead structures, and determining repair quantities for existing noise walls.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Mountain Parkway Widening KYTC, Wolfe & Morgan Counties, KY		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2016	Ongoing	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm	
The Mountain Parkway project involved widening the existing two-lane facility to four lanes with a depressed median and included the reconstruction of the KY 205 interchange. The project length is approximately 3.1 miles. Andrew assisted with plan development, traffic control, construction quantities and developing the project cost estimate.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	I-40 ITS Expansion Project Knox and Sevier Counties, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm	
Design engineer for the I-40 ITS expansion project is an extension of an existing ITS system. The project limits total approximately 11.5 miles. This project includes the design and installation of two (2) Dynamic Message Signs (DMS), twelve (12) Closed-Circuit Televisions (CCTV), thirty (30) Radar Detection Systems (RDS), two (2) local Hub Cabinets, and one (1) 72F fiber optic main trunk line along the entire length of project. The project will include Preliminary ITS Design Plans, Utility/ROW ITS Design Plans, Construction ITS Design Plans, Survey, Geotechnical Reports, Electrical Design, Specifications and Special Provisions.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Shahram Malek, PhD, PE		Signalization/ ITS		a. TOTAL	b. WITH CURRENT FIRM
				29	9
15. FIRM NAME AND LOCATION (City and State)					
– Atlanta, GA					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
PhD, Transportation Engineering, Georgia Institute of Technology, 1992			Professional Engineer: GA		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Dr. Malek has 25 years of experience in project management and development of intelligent transportation systems (ITS)/transportation engineering services with hands-on experience in planning, design, deployment, operation and system maintenance. He served as project manager on numerous Georgia DOT (GDOT) projects including RTOP, the ATC Hardware/Software Specifications, ATC Deployment On-Call, and Fast Forward Signal Upgrade programs. As curriculum developer and principal instructor for FHWA's Demonstration Project 105, Dr. Malek provided instructional presentations on traffic operations practices to 2,000+ local, state and federal transportation professionals in 48 states.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Regional Traffic Operations Program (RTOP) GDOT, Metro Atlanta, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	NA	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Dr. Malek is the project manager for operating and maintaining the RTOP contract of 540+ traffic signals across 12 regionally significant corridors in Metro Atlanta. The program architecture allowed for a unique regional system to communicate with the traffic control and monitor assets in all 12 participating agencies through a single system housed at the GDOT TMC. Arcadis was responsible for routine and preventative maintenance to meet the required program thresholds for operation uptime for the various assets.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Chattanooga Regional ITS System TDOT, City of Chattanooga, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2010	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Dr. Malek served as an ITS designer for this multi-faceted system upgrade project. Arcadis was tasked to use an existing wireless mesh network installed by the City of Chattanooga as a method of communication for traffic applications. The project includes 381 signal upgrades (86 inside the CBD). The system upgrades included eight-phase Eagle EPAC M-52 controllers, Malfunction Management Units (MMUs), and NEMA TS-2 cabinets. The team used <i>Synchro8</i> to develop signal timing for intersections and upgraded equipment including Flashing Yellow Turn Signals, Wavetronics radar detection, and loop detection.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	GDOT ITS Maintenance GDOT, Atlanta, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	NA	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Dr. Malek is the project manager supervising design and implementation processes. Arcadis took over responsibility for ITS maintenance assets associated with the GDOT NaviGator system. The project involved system component engineering design, which includes video transport, video detection, CMS site design, microwave data, video transport analysis and design, and inventory and inspecting NaviGator assets.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	ITS Design-Build, Phase 2 LADOTD, Multiple Parishes, LA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2009	2011	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Dr. Malek served as a senior ITS engineer for the project to improve traffic, incident, and emergency management capabilities on 122 roadway miles. The one-year contract included designing, installing, integrating, and accepting fiber optic and wireless communication along with 13 CCTV Cameras, 13 RVDs, four DMSs, and two HARs on I-10, I-49, US 90 and US 190 between Baton Rouge and Lafayette, Louisiana.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Atlanta Traffic Signal System Upgrade City of Atlanta Downtown Progress (CAP), Atlanta, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	2014	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Dr. Malek was the project manager and technical lead for the upgrade of 100+ traffic signals in the downtown district. He oversaw concept, design, integrations, signal timing, operation and maintenance of traffic signal control and monitoring assets. Mr. Malek worked with the City's transportation and IT divisions to evaluate wireless and wireline communications technologies that could support not only the traffic control needs, but also the Atlanta Police Department's needs for transmitting video back to its video management center.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Vamshi Mudumba, PE, PTOE	Signalization/ ITS	a. TOTAL	b. WITH CURRENT FIRM
		14	4

15. FIRM NAME AND LOCATION (City and State)

ARCADIS – Chattanooga, TN

16. EDUCATION (DEGREE AND SPECIALIZATION)

MS, Civil Engineering, Louisiana State University
 BE, Civil Engineering, Osmania University, India

17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)

Professional Engineer- GA, FL and MI
 Professional Traffic Operations Engineer

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

Mr. Mudumba is an experienced transportation engineer with more than 14 years of experience. Mr. Mudumba has managed and designed numerous projects, including ITS/ATMS projects, traffic signal projects, intersection improvement projects, traffic and corridor studies and roadway concept developments. He has hands on experience with MicroStation V8i ProjectWise environment, VISSIM 10.0, Synchro Plus Sim Traffic 9.0, TSIS/CORSIM, HCS 2010, ArcGIS 10.4.

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
a.	Sevierville Smartway I-40 Expansion, Region 1, TDOT		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	ITS Technical Lead for the design of I-40 SmartWay Expansion along I-40 Strawberry Plains Pike (Exit 398) interchange to SR-66 (Sevierville, Exit 407) interchange, in Knox and Sevier Counties. The project shall deploy fiber optic communication along I-40 corridor along with DMS signs, CCTV cameras, RDS systems and other ancillary equipment for the management of the freeway system.		
b.	CityLink Tulla Widening Project, Vic Roads, Melbourne, Australia		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	ITS Design Engineer for the development of the Citylink Tulla Widening ITS packages. Supported the design team in developing the designs through to IFC stage including but not limited to designing ITS asset locations, ramp metering design, developing typical cross section details, ITS asset schedules, coordinating with Highways and Structures teams to facilitate the integration of ITS assets into the design packages.		
c.	Wekiva Parkway from Old McDonald Rd to Osprey Hammock Trail Design-Build, FDOT District 5, Lake/ Seminole County, FL		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	ITS Project Manager for the Wekiva Parkway Section 6 limited access system with Toll Lanes from Old McDonald Rd to Osprey Hammock Trail.		
d.	SR 417 Widening from Orange County to North of SR 434, FDOT Florida's Turnpike Enterprise, Seminole County, FL		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	ITS Task Manager for the development of the ITS RFP/Concept Plans for the procurement of widening of SR 417 (Seminole Expressway) from the Orange County Line to north of SR 434.		
e.	SR 9B (US 1 to I-95) Design-Build, FDOT District 2, St. Johns/Duval County, FL		
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	ITS Task Manager for the SR 9B extension of limited access system from I-95 to County Road 2209 that includes two interchange locations and several signalized intersections.		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Jonathan Wallace, PE		Signalization/ ITS		a. TOTAL	b. WITH CURRENT FIRM
				11	11
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Atlanta, GA					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Civil Engineering, Southern Polytechnic State University, 2008			Professional Engineer: VA		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. Wallace is a Traffic/ITS Engineer with approximately nine years of experience in transportation engineering. His current responsibilities include signal and signing/marketing design, Intelligent Transportation System (ITS) design, traffic analysis/simulations, traffic and corridor studies, and accident analysis. His experience includes regional knowledge of standards and preferences for a variety of cities and counties.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Statewide Signal Upgrade Georgia DOT (GDOT), Fulton and DeKalb Counties, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	Ongoing	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
As traffic engineer, Mr. Wallace is responsible for creating updated signal plans for twelve intersections. The project included field review to develop equipment inventory plans, developing signal plans per new Georgia standards, coordinate right-of-way plans, develop wireless and fiber optic interconnect plans, and creating quantity take-off and quantity summary sheets.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Panola Rd Improvements DeKalb County Public Works (GDOT), DeKalb County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2016	Ongoing	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Mr. Wallace served as the traffic engineer responsible for creating signal, signing/marketing, and ITS plans for two and a half miles with six intersections. The project included field review and developing signal, signing/marketing, and ITS plans per new Georgia standards, develop fiber optic interconnect plans, and creating quantity take-off and quantity summary sheets.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Regional Traffic Operations Program (RTOP) Georgia Department of Transportation (GDOT), Metro Atlanta, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Mr. Wallace served as a traffic engineer handling the intersection permitting for this regional program that shifted the responsibility of the operation and maintenance several hundred traffic signals along 12 regionally significant corridors. Responsibilities include drafting all necessary intersections, modifying plans to bring signal heads into GDOT compliance, and permitting to obtain work orders.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Franklin Road Hawk Signal City of Marietta, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2014	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Mr. Wallace served as a traffic engineer for pedestrian improvements along Franklin Road which included the installation of a pedestrian hybrid beacon (Hawk Signal). Responsibilities include pedestrian data collection, analysis, traffic engineering report, signing/marketing design, signal design, and ATMS design for the pedestrian signal.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Martin Luther King Blvd Multi-Modal Improvements City of Atlanta Public Works, Atlanta, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	Ongoing	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Mr. Wallace was a traffic engineer for this multi-modal improvement project. He performed the traffic analysis for 3.5 miles and signal design for 15 signals. The project included data collection for traffic analysis to determine if a road diet was feasible. Analysis also included roundabouts at freeway off ramps. Design responsibilities included developing signal and ITS plans for all impacted signalized intersections.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Doug Dekker		CEI/ Project Oversight		a. TOTAL	b. WITH CURRENT FIRM
				27	2
15. FIRM NAME AND LOCATION (City and State)					
– Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
Associates Degree, Indian River Community College – Civil Drafting					
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Doug has more than 27 years of experience as a CEI inspector. He has served as a senior inspector for twenty of those years on various roadway and bridge projects providing inspection services including concrete testing, structural inspection, asphalt paving, earth fill, guardrail, asphalt and concrete plant inspection. Other professional qualifications include: <ul style="list-style-type: none"> • TDEC, EPSC Level 1 • OSHA 10 - Hour • TDOT Soils & Aggregates • TDOT Asphalt Plant Technician • TDOT HMA Roadway Inspector • Work Zone Traffic Control/ Flagging • TDOT Local Programs CEI • ACI Concrete Field Testing Technician (Grade I) • Radiation Safety and HAZMAT • TDOT Concrete Field Technician 					
19. RELEVANT PROJECTS					
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for TDOT Local Programs, Ooltewah-Georgetown Road Roundabout, Hamilton County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
a.				2018	2018
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project CEI senior inspector for conversion of a four-way intersection to a roundabout. Responsibilities include overseeing CEI services including earth fill, asphalt paving, concrete testing, concrete curb, sidewalks, signs, pavement markings and striping, traffic control, storm drain installation, guardrail, and EPSC installation. Provides measurements of daily quantities, assists with monthly pay estimates for the contractor and attends monthly progress meetings.					
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for GDOT OID, FY16 Design-Build Bridge Replacements, Various Counties, GA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
b.				Ongoing	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project CEI senior inspector for 25 off-system bridge replacements across the state of Georgia. Responsibilities include overseeing CEI services including footing construction, bent construction, placement of beams, deck construction, earth fill, concrete testing, paving, guardrail, signing and striping, EPSC installation and reinforcement steel installation. Provides QA/QC to other inspectors, measurement of daily quantities and daily work reports.					
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for GDOT OID, SR-299 ABC Slide Bridge over I-24, Dade County, GA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
c.				2017	2017
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Project CEI senior inspector for bridge replacement of SR-299 over I-24 in Dade County, GA using ABC methods. Responsibilities included overseeing CEI services including drilled shaft foundations, bent construction, beam erection, deck construction, earth fill, retaining wall construction, EPSC installation, asphalt paving, traffic control, reinforcement steel installation, guardrail, and pavement striping. Provided measurement of daily quantities and input into SiteManager for payment on monthly estimates.					
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for TDOT Region 2 SR-311, Bradley County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
d.				2017	2017
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project CEI senior inspector for a new interchange on SR-311 between I-75 and US-11/64 in Cleveland, TN. Responsibilities included CEI services including inspection of drilled shaft foundations, construction of bents, abutments, bridge decks, beam erection, and concrete deck. Provided concrete testing, reinforcement steel inspection, backfill placement and asphalt paving. Provided measurement of daily quantities and input into SiteManager for payment on monthly estimates.					
	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	CEI Services for TDOT Region 1, SR-29 Roadway and Bridge Construction, Roane and Morgan Counties, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
e.				2016	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input type="checkbox"/> Check if project performed with current firm		
Project CEI senior inspector for 2-lane to 4-lane divided facilities with 6 bridges, 12 box culverts, with retaining walls, drainage, and roadway construction; (3 Miles). Responsibilities included overseeing CEI services including drilled shaft foundations, bent construction, beam erection, deck construction, beam erection, reinforcement steel installation and concrete testing. Provided measurement of daily quantities and input into SiteManager for payment on monthly estimates.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Sean Rogers, CPESC, TN-QHP		CEI/ Project Oversight		a. TOTAL	b. WITH CURRENT FIRM
				7	3.5
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Environmental Science: Chemistry, University of Tennessee Chattanooga, 2010			Certified Professional in Erosion and Sediment Control (CPESC) TN Qualified Hydrologic Professional – (TN-QHP)		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Sean has more than 7 years of experience as a CEI and EPSC inspector on TDOT Region 2 construction projects. He has worked on several roadway and bridge projects providing inspection services including concrete testing, structural inspection, asphalt paving, earth fill, guardrail and concrete plant inspection. He also provides administrative support and QA/QC on final records for Region 2 construction and maintenance projects to maintain FHWA compliance. Other professional qualifications include: TDEC Level 1 & 2 10 Hr. OSHA Construction Safety TDOT Concrete Plant Technician TDOT Concrete Field Technician TDOT Work Zone Traffic Control/ Flagging TDOT Soils & Aggregate Technician TDOT HMA Roadway Inspector Radiation Safety Officer Density Gage & Hazardous Material Certification CSX, NS, FRA Railroad Roadway Worker Protection ACI Concrete Field Technician (Grade 1) NHI Guardrail Installation TDOT Local Programs CEI					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	CEI Services for City of Chattanooga, Highland Park Green Infrastructure Demonstration Project, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2018	2018	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current		
Project CEI inspector for Highland Park green infrastructure demonstration project in Hamilton County, TN. Responsibilities include overseeing CEI services including earth fill, sanitary and storm sewer installation, EPSC installation, bioswale construction, pervious asphalt pavement, permeable paver installation, traffic control, and pavement striping. Provides measurement of daily quantities and review provided to City project manager for payment on monthly estimates.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	CEI Services for GDOT OID, SR-299 ABC Slide Bridge over I-24, Dade County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	2017	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current		
Project CEI inspector for bridge replacement of SR-299 over I-24 in Dade County, GA using ABC methods. Responsibilities included overseeing CEI services including drilled shaft foundations, bent construction, beam erection, deck construction, earth fill, retaining wall construction, EPSC installation, asphalt paving, traffic control, reinforcement steel installation, guardrail, and pavement striping. Provided measurement of daily quantities and input into SiteManager for payment on monthly estimates.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	CEI and EPSC Services for TDOT Region 2, SR-311, Bradley County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	2017	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current		
Project CEI and EPSC inspector for a new interchange on SR-311 between I-75 and US-11/64 in Cleveland, TN. Responsibilities included inspection of earth fill, concrete paving, guardrail, asphalt paving, signing and striping and EPSC installation. EPSC services included bi-weekly EPSC inspections, revisions to SWPPP, attending QA inspections and a baseline survey prior to construction. Provided measurement of daily quantities and input into SiteManager for payment on monthly estimates.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Construction Final Records QA/QC Review TDOT Region 2 Various Locations		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2017	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current		
Administrative assistant responsible for providing QA/QC reviews of final records for a variety of TDOT construction projects including bridge replacements, paving and roadway widening in Region 2. He performed a thorough review of project records including material certifications, paid quantities, proper documentation, DBE information, payrolls, etc. Communicating any deficiencies to TDOT personnel so records can be corrected and brought up to Federal standards and specifications.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	CEI and EPSC Services for TDOT Maintenance Division, SR-28 Pyrite Encapsulation Cell Repair, Fentress County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	2015	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current		
Project CEI/EPSC inspector for the repair of a pyrite encapsulation cell and associated borrow area. Responsibilities included reviewing the construction documents, attending pre-construction meeting, providing CEI/EPSC oversight including data placed within Site Manager, and providing daily communication with the Project Supervisor. CEI oversight duties included verifying the project layout, earthwork, quantities, drainage, traffic control, etc.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Erin Woodson, PE, CPESC		Environmental Services/ Permit Assessments		a. TOTAL	b. WITH CURRENT FIRM
				15	15
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Civil Engineering, University of Akron, 2003 MS, Civil Engineering, University of Illinois, 2016			Professional Engineer, OH, TN, PA, KY Certified Professional in Erosion and Sediment Control (CPESC)		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Ms. Woodson has 15 years of experience as a transportation engineer and environmental specialist, responsible for hydraulic analysis and stormwater infrastructure design including storm sewers, culverts, post-construction Best Management Practices (BMPs), and detention basins. She has been involved in all aspects of project design from study phases through construction with an extensive background in preparation and implementation of EPSC plans. She has been involved in over 60 NPDES permitting projects for roadway, railroads and utilities, and has a strong understanding of environmental regulations and permitting related to roadway and stormwater improvements. She has extensive experience in design and plan preparation for public and private projects, with background in various design programs including Microstation, GEOPAK, AutoCAD, Civil 3D, SWMM and HEC-HMS.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	South Barrett Parkway Reliever Cobb County, GA		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Drainage engineer for design of intersection improvements at South Barrett Reliever and Barrett Lakes Boulevard. Evaluated various improvement alternatives at this high crash intersection including realignment of intersection with signalization and a multi-lane roundabout. The roundabout was chosen as the preferred alternative. Additional right of way acquisition and roundabout circulatory diameter allow this project to be tied to a future roadway extension with minimal reconstruction and simple restriping within the roundabout to accommodate future traffic needs.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SWPPP/Permitting Services On-Call Contract TDOT Environmental Division, Statewide, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project manager responsible for the preparation of SWPPPs for roadway projects. Work includes conducting field site visits to review existing site conditions including hydrology, adjacent land uses, soils, jurisdictional features, proper placement of EPSC measures, investigating receiving water and watershed classification (303d impaired or ETW), reviewing EPSC plans prepared by others and participating in ROW and construction field reviews, providing constructive comments and recommendations to the					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 396/ Saturn Parkway Extension DB Maury Co., TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Environmental Compliance Manager/ Environmental Project manager for the construction of three projects involving roadway improvements and a new location roadway. The new roadway will create a direct route from I-65/SR 396 to SR-247, allowing truck traffic direct access to a General Motors plant. Project work includes survey, ecological studies, stream design, permitting, EPSC design and lighting design. The project involves relocation of 200' of stream and mitigation, new culvert and bridge crossings, re-evaluation of a D-List Categorical Exclusion Document, and extensive permitting including a USACE Section 404 Permit, TDEC Individual Aquatic Resource Alteration Permit and three NPDES Construction General Permits.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	POR-14-12.55 Roadway Improvements ODOT, Portage County, Ohio		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	2016	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Project engineer for safety improvements to the SR 14, SR 59 and Newton Falls Road (Cotton Corners) intersection. Final project design consists of eliminating one leg from a 5-legged intersection and construction of a connector road. It included the widening and resurfacing of 0.55 miles, including vegetated swales for post construction management. As part of the environmental planning, completed a Red Flag Summary, a Level 3 Categorical Exclusion Document (2013), environmental justice coordination, and coordinated public involvement activities. Project would be considered a D-list CE under current ODOT identification.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	12th Street Bridges Ohio Department of Transportation & City of Canton, Ohio		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2016	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Hydraulic engineer and environmental document writer for approximately 0.5 miles of this Scenic Byway and major east-west corridor. Two bridges were replaced with aesthetically pleasing, lower maintenance structures. Full depth pavement reconstruction was designed. Improvements included installation of new storm sewer drainage, curb and gutter, signage and pavement markings, and a "complete streets" design with new widened sidewalks and streetscaping. In addition, drive improvements were made at the Mercy Medical Center, two new SARTA bus stops with concrete pads, shelters and bike racks were installed. As part of the environmental planning, Ms. Woodson completed a C-Level Categorical Exclusion document, a Section 4(f) de minimis determination for recreational properties, environmental justice coordination and coordinated public involvement activities.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Thomas Bechtold, TN-QHP, CE, CPESC		Environmental Services/ Permit Assessments		a. TOTAL	b. WITH CURRENT FIRM
				14	12
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
MS, Environmental Science, UT Chattanooga BS, General Studies (Minor in Geography and Appalachian Studies: Regional Environment and Ecology), ETSU			Certified Ecologist (CE) Certified Professional in Erosion and Sediment Control (CPESC) TN Qualified Hydrologic Professional (TN-QHP)		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. Bechtold has performed ecological studies, including wetland delineations, stream determinations, habitat assessments, species inventories, water quality monitoring, and associated document preparations for TDOT, GDOT, TVA, CSX, and various municipalities and private land developers. Results from the ecological studies are used to obtain applicable construction and environmental permits, as well as provide information used for design and, if needed, mitigation requirements. He also provides environmental compliance services. Thomas has extensive experience within the QA/QC and EPSC programs for TDOT Regions 1-3 with regards to active roadway construction projects.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Early Environmental Screening for the Rural State Route Shoulder Widening Initiative for SR 35 TDOT Blount County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2014	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided preliminary ecological surveys to the Strategic Transportation Investments Division for jurisdictional features, which could be impacted in the process of proposed shoulder improvements. He completed a review of available desktop resources to identify areas which may contain potential jurisdictional waters. Features identified during this process, as well as others not present on mapping and imaging resources, were quickly assessed and documented in the field. Findings from the surveys were recorded on the most up-to-date data forms required for permitting purposes and displayed over a USGS topo and aerial imagery using the latest mapping software.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SIA Servicing Volkswagen TDOT / City of Chattanooga, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Lead Project Scientist for environmental boundary survey of jurisdictional waters, including 57-acre Exceptional Tennessee Water (ETW) designated wetland; assisted with investment and oversight of survey for the federally-endangered Indiana bat (<i>Myotis sodalis</i>); prepared ecological report and supporting documentation (EA and EBR); identified on-site areas for mitigation and provided assistance in mitigation design; assisted with the preparation of the water quality permits (TDEC, USACE, & TVA); installed groundwater monitoring wells and provided full construction oversight during the wetland restoration process; conducted pre-construction sweeps for the state-listed Chickamauga crayfish (<i>Cambarus extraneus</i>); currently performing bi-annual wetland mitigation monitoring.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Early Environmental Screening for I-75 Exit 1 for Bass Pro Shop TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided a preliminary ecological survey for jurisdictional features for a proposed Interstate 75 interchange improvement project. A review of available desktop resources was first completed to identify areas which may contain potential jurisdictional waters. Features identified during this process, as well as others not present on mapping and imaging resources, were quickly assessed and documented in the field. Findings from the survey were recorded on the most up-to-date data forms required for permitting purposes and displayed over a USGS topo and aerial imagery using the latest mapping software.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Environmental Boundaries Studies TDOT, Various Locations, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Senior Project Scientist for reviewing resources (including project plans; maps; regulatory agency websites and correspondence) and performing field investigation to identify and document all natural resources and/or features which may require avoidance, protection, and/or mitigation as a result of proposed TDOT-related construction activities. Provided identification, documentation, and preliminary planning of all mitigation needs. Performed field investigation regarding the presence/absence of state and federally listed species and/or their habitats and assessment of the potential impacts as a result of the proposed construction activities. Thomas has participated in multiple regulatory agency site confirmation visits following the field assessments.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Garry VanPool, PLS, PSM		Survey Manager		a. TOTAL	b. WITH CURRENT FIRM
				33	3
15. FIRM NAME AND LOCATION (City and State)					
ARCADIS – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Industrial Technology-Survey Option, East Tennessee State University, 1979			Professional Land Surveyor: TN, AL, FL, KY, NC, SC, TX, VA		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. VanPool has more than 33 years of experience in managing and performing survey services on transportation projects for multiple state departments of transportation, including our current TDOT Field Surveying On-Call Contract. Garry knows your expectations and has a thorough understanding of the TDOT Survey Manual and the Design Division's CADD Standards, resulting in high quality submittals in the format you need. Garry's experience includes transportation design surveys, GPS surveys, SUE, high definition/laser scanning (HD surveys), ROW mapping, construction stakeout, and control surveys, as well as on-call contracts. Garry has also managed several survey on-call contracts with various DOTs, universities and municipalities. Garry, along with all crew members, is e-RAILSAFE certified and CSX Roadway Worker Protection Contractor Safety certified. He has also completed OSHA 10-hour and first aid/CPR training.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Technical Report for I-40 Lane Additions from Central Pike to East of SR 109 TDOT, Wilson County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2011	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Survey Project Manager responsible for conducting field surveys from Central Pike to East of SR 109 to provide as-built surveys at each of the bridge crossings along the project corridor. Field surveys obtained profile data along the eastern and western side of each bridge, and created profile and cross-section drawings to show existing bridge limits. All surveys were conducted in accordance with the TDOT Survey Manual and the Design Division's CADD standards. All field crews working along the project corridor followed the FHWA MUTCD.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Rural State Route Shoulder Widening Initiative (SR 35) TDOT, Blount County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2014	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Survey Project Manager for a Phase 1 shoulder widening project in Blount County along a 7-mile section of SR 35. This project involves surveying approximately three roadway cross sections per mile, ecology field review, developing conceptual plan sheets and a cost estimate for the shoulder improvements.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Survey for I-75 at SR 8/US 41 (Ringgold Road) TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2011	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Survey Project Manager responsible for conducting field surveys for the I-75 southbound ramp at SR 8 for the design of safety improvements at the interchange. Garry developed a safety plan to keep survey staff clear of hazard areas on this high traffic volume project area. Survey tasks include property surveys, topographic surveys, DTM surveys, utility surveys and horizontal and vertical control.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	SR 153 and Shepherd Road Interchange Survey for SIA TDOT Region 2, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2014	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Survey Project Manager responsible for conducting field surveys for the SR 153 and Shepherd Road interchange. Surveys included surveys to detail the existing SR 153 bridge and provide topographic, property, topographic and utility surveys for the entire interchange and existing ramps. Project was completed under a TDOT On-Call Survey Contract.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Roundabout at SR 321 (Ooltawah Ringgold Road) and Standifer Gap Road, Hamilton County TDOT, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm		
Survey Project Manager for design survey and base mapping for the design of a roundabout. Survey limits extended for 500 feet in each direction of the intersection for a total of 2,000 feet of surveys. Survey tasks included deed research, property surveys, topographic surveys, DTM surveys, utility surveys and horizontal and vertical control.					


E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Teresa Henderson, PE		Geotechnical Engineer		a. TOTAL	b. WITH CURRENT FIRM
				9	2
15. FIRM NAME AND LOCATION (City and State)					
– Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS, Civil & Environmental Engineering			Professional Engineer: VA		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Ms. Henderson is proficient with SLOPE/W, gINT 8, Datamine 3, CWALLSHT, Trimble Business Center, LPILE 5.0, AutoCAD 2013, and AASHTO Pavement Design. She has 11 years of geotechnical experience, including work with the USACE for hurricane mitigation projects. Responsibilities included levee design, slope stability analysis, tailings storage facility design, soil profiles, retaining walls, pile and shallow foundations, pavement analysis, and quality control/quality assurance review for concrete, density, and welding construction material testing. She also completed surveys using Trimble R6 GNSS Rover and TSC3 data recorder for GPS based surveying.					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Data Center – Building Foundation/Electrical Yard Confidential Client (Clarksville, TN)			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead field engineer for a quality control project for 800 drilled shafts working with multiple contractors and managing a staff of 10. Owner's representative for the installation of drilled piers for the foundation of building and electrical yard in the Tennessee Valley. Inspected and analyzed the installation according to specifications from the design engineer while noting any discrepancies that may have occurred during construction. Managed multiple inspectors on-site while working closely with the client, general contractor, and subcontractors to create a safe and efficient work environment.					
b.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Mesa/Instrumentation Reports and Data Analysis Kentucky Utilities – EW Brown (Danville, KY)			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2016 - 2017	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Geotechnical engineer writing instrumentation data reports and dam history reports. Performed analysis of instrumentation data. Also responsible for performing field work at TVA dams, including reading instrumentation and collecting GPS coordinates of instrumentation.					
c.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Field Investigation and Safety Factor Assessment Kentucky Utilities – EW Brown (Danville, KY)			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2016	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Responsible engineer for managing geotechnical drilling for analyses of embankments at EW Brown Auxiliary Pond. Maintained a safe and efficient working environment during the geotechnical drilling at the Auxiliary Pond. Proficient in the use of Geostudio Software to determine failure methods and factors of safety for different sections along the embankments of the pond. Responsible for coordinating safety factor assessment reports with staff and communicating directly with the client. All reports were finalized and submitted on time.					
d.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	M.R.G.O. Closure New Orleans, LA			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2013	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Design bank protection for berms along the M.R.G.O. in New Orleans, LA and perform QA/QC for soil density and concrete placement for the closing of the M.R.G.O. Perform slope stability analysis using method of planes and SLOPE/W to ensure the bank protection met with the required factor of safety.					
e.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Tailings Storage Facility Design Iluka Resources (Stoney Creek, VA)			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				2015	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Geotechnical Engineer responsible for design and certification of tailings storage facilities (TSFs) for heavy minerals sand surface mining waste to comply with company regulations, perform slope stability analyses, prepare requests for proposals for geotechnical and construction material testing, write standard operating procedures, design procedures, and construction standards for TSFs, review contractor reports, inspect daily construction of TSFs, conduct monthly inspections of all existing TSFs, and design and supervise TSF repairs as needed. Manage contractors for on-site work including surveying, density testing, and geotechnical soil testing.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT


(Complete one Section E for each key person.)

12. NAME Scott Wilson, PE, CPESC		13. ROLE IN THIS CONTRACT Structures		14. YEARS EXPERIENCE	
				a. TOTAL 21	b. WITH CURRENT FIRM 20
15. FIRM NAME AND LOCATION <i>(City and State)</i> Palmer Engineering Company, Nashville, TN					
					
16. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> Tennessee Technological University MS, Civil Engineering, 1998 BS, Civil Engineering, 1995			17. CURRENT PROFESSIONAL REGISTRATION <i>(STATE AND DISCIPLINE)</i> PE--TN-106509; GA-32066; IN-10607294; KY-24628; SC-25164; TN-106509-2001; WV-016908 CPESC--National-3355		
18. OTHER PROFESSIONAL QUALIFICATIONS <i>(Publications, Organizations, Training, Awards, etc.)</i>					
Publications: "Forensic Investigation of the Route 61 Bridge," ASCE Structures Congress, 2015			Training: NHI Seismic Design and Retrofit for Highway Bridges; NHI Safety Inspection of In-Service Bridges		
Organizations: ASHE, AISC, ASCE, NSPE, TSPE, SAME					

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
a.	TN Bridge Rehabilitation and Repair Projects Various Counties, TN	Current	
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE This work has included bridge repair projects for 200 bridges in multiple counties and has involved detailed field inspections, construction plan preparation, project phasing, traffic control, construction cost estimate preparation, and shop drawing review. Served as Project Manager, Inspector, Designer, and Engineer of Record.		
	<input checked="" type="checkbox"/> Check if project performed with current firm		
b.	SR 302 over Clear Creek Rhea County, TN	2016	2017
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE A complete superstructure replacement for this four-span bridge originally designed in 1961. Cast-in-place concrete beams were replaced with prestressed concrete spread box beams. Lightweight concrete was used in the design to prevent overloading of the substructures, which were modified for the new superstructure. Construction was phased to allow traffic flow throughout the duration of the project. Served as Project Manager and Engineer of Record.		
	<input checked="" type="checkbox"/> Check if project performed with current firm		
c.	SR 73 over Pigeon River Cocke County, TN	2016	2017
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE A concrete deck overlay and new, wider overhangs with updated barrier rails provided functional and drainage improvements to the superstructure. Lightweight concrete was utilized to allow benefits to the bridge's live load carrying capacity. Detailing at the bridge ends created semi-integral abutments and new pavement at bridge ends. Scour repair and prevention measure were placed at two piers. Served as Project Manager and Engineer of Record.		
	<input checked="" type="checkbox"/> Check if project performed with current firm		
d.	I-40 over SR 24 Cumberland County, TN	2016	2019 Letting
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE In order to maintain two lanes of traffic in each direction during repairs, the bridges for both eastbound and westbound traffic were widened by adding a line of prestressed concrete box beams - increasing the deck width from 44'-0" to 52'-6." The concrete deck for both bridges was replaced. Substructures were widened to accommodate the new superstructure width. Served as Project Manager and Engineer of Record.		
	<input checked="" type="checkbox"/> Check if project performed with current firm		
e.	SR 8 over Collins River Warren County, TN	2017	2019 Letting
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Bridge Engineer of Record for rehabilitation of this this five-span prestressed concrete beam bridge. To address piers caps that were under capacity, a center column founded on micropiles was added to two of the piers. In addition to substructure repairs and improvements, the entire bridge deck was replaced with lightweight concrete eliminating open joints at the supports. All work was phased to maintain one lane of traffic.		
	<input checked="" type="checkbox"/> Check if project performed with current firm		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

NAME Kyle McLemore, PE, SE	ROLE / TITLE Structures	YEARS EXPERIENCE	
		TOTAL 6	WITH CURRENT FIRM 6
FIRM NAME AND LOCATION (City and State) Palmer Engineering Company, Nashville, TN			
EDUCATION (DEGREE AND SPECIALIZATION) Vanderbilt University University of Florida MS, Structural Engineering, 2012 BS, Civil Engineering, 2010		CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) PE - TN (#118345) SE - IL (#081.008063)	


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

ASCE
Young Engineer Award – ASCE Nashville Branch, 2018

19. RELEVANT PROJECTS

a.	(1) TITLE AND LOCATION (City and State) SR 8 over Collins River Warren County, TN	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Engineer for rehabilitation of a five-span 300+ foot long bridge over the Collins River. Performed design of new concrete deck utilizing lightweight concrete. Performed design of bent modifications to increase the load carrying capacity of the substructures which included the addition of a column and footing supported by micropiles at each bent.	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If applicable) 2019 Letting
		<input checked="" type="checkbox"/> Check if project performed with current firm	
b.	(1) TITLE AND LOCATION (City and State) I-40 over SR 24 Cumberland County, TN	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Engineer for the rehabilitation and widening of a five-span 300+ foot long bridge in East Tennessee. Performed design of widened structure which included extending abutments and bent caps as well as adding new columns and spread footings. The project has complex geometry including a horizontal curve, substructures with variable skews, and four different beam types utilized in the existing superstructure.	PROFESSIONAL SERVICES 2016	CONSTRUCTION (If applicable) 2019 Letting
		<input checked="" type="checkbox"/> Check if project performed with current firm	
c.	(1) TITLE AND LOCATION (City and State) SR 302 over Clear Creek Rhea County, TN	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Engineer for the rehabilitation of a four-span 114 foot long bridge over Clear Creek. Assisted in the design and the preparation of plans for a full superstructure replacement using precast concrete beams and a lightweight concrete deck. The project has complex geometry including skews and a horizontal curve, and utilizes phased construction.	PROFESSIONAL SERVICES 2016	CONSTRUCTION (If applicable) 2017
		<input checked="" type="checkbox"/> Check if project performed with current firm	
d.	(1) TITLE AND LOCATION (City and State) Underwater Bridge Inspections Various Counties, TN	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Engineer for multiple underwater bridge inspections throughout Tennessee. Duties included performing field inspections in conjunction with dive crew and producing inspection reports. The project utilized multiple underwater inspection techniques (e.g., wading, surface supplied, SCUBA) and involved a wide variety of structures, from single barrel culverts to multi-span truss bridges on deep pile foundations.	PROFESSIONAL SERVICES 2013 and 2016	CONSTRUCTION (If applicable) N/A
		<input checked="" type="checkbox"/> Check if project performed with current firm	
e.	(1) TITLE AND LOCATION (City and State) US 68/ KY 80 over Kentucky Lake & Lake Barkley Marshall/Trigg Counties, KY	(2) YEAR COMPLETED	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Engineer for new design replacing the Eggner's Ferry Bridge & Henry R. Lawrence Memorial Bridge in the Land Between the Lakes National Recreation Area. The two bridges have configurations of 11-span 3611 foot total length and 13-span 3805 foot total length respectively. Assisted with advanced seismic analysis (including time history analysis) using finite element models. Assisted in design of deep foundations utilizing large diameter pipe piles and drilled shafts which are in highly liquefiable soils and subject to both seismic and vessel impact loads.	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If applicable) 2018
		<input checked="" type="checkbox"/> 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 Brian Lee, PE, CPESC, CPSWQ	13. ROLE IN THIS CONTRACT Roadway Design and Transportation Studies	14. YEARS EXPERIENCE	
		a. TOTAL 21	b. WITH CURRENT FIRM 21
15. FIRM NAME AND LOCATION (City and State) Palmer Engineering Company, Nashville, TN			
16. EDUCATION (DEGREE AND SPECIALIZATION) TN Technological University BS-Civil Engineering-1997	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) PE--Civil--TN-107296; GA-032368; CPESC--National, 2913; CPSWQ--National, 0260		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Local Government Guidelines Manual & Right-of-Way Training, Meeting Facilitation and Consensus Building; Context-Sensitive Solutions; OSHA 10 Hour Training Member--IECA, ASCE, NSPE, TSPE, and ASHE			

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
a.	LPA -City of Gallatin Safe Routes to School project at Rucker Stewart Middle School	Active	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Palmer Engineering is working with the City of Gallatin to perform survey and design services for the LPA project involving a Safe Routes to School grant at Rucker Stewart Middle School. The project will provide new pedestrian signals and crosswalk at the intersection of SR-109 and Hancock Street. There will be additional signing, crosswalks, and sidewalk improvements installed along Green Wave Drive. The existing sidewalk along Hancock Street will be extended to near Lock 4 Road along with a new pedestrian bridge crossing and a new crosswalk at Trev Lane.		
b.	SR-63 Claiborne County, TN	Active	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for the design of the widening of 6.2 miles of SR-63 from a two-lane roadway section to a three-lane section with a continuous center turn lane that converts to a passing/truck climbing lane in steep grade locations. The project also involves the design of a shared use bicycle/pedestrian path to extend the current path that ends at the HY Livesay Middle School up to Londonderry Road, intersection improvements at locations to schools, and traffic signal design. The construction cost estimate is \$16 million.		
c.	I-65 & SR-109 Robertson & Sumner Counties, TN	2011-2015	Currently Active
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for the design of widening I-65 to a six lane section with median barrier walls for 1.72 miles including a new single-loop ParClo-B interchange with CD road at SR-109. The project also involved the relocation of 2.11 miles of SR -109 on new alignment. Duties included project management as well as design of horizontal & vertical alignments, drainage, EPSC, traffic control & quantity calculations. Estimated construction cost was \$33 million.		
d.	Mars Petcare SIA Williamson County, TN	2017	2017
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for the design of widening SR-6 (Columbia Pike) for the Mars Petcare SIA and a new pedestrian underpass for a future greenway connection. Associated with the roadway design work was also the completion of a Feasibility Study for a bicycle/pedestrian underpass on SR-6 for a future greenway of the Town of Thompsons Station, planning and alternative alignment study for the new Critz Lane intersection with SR-6 along with a traffic signal warrant analysis and design.		
e.	Storm Water Pollution Prevention Plan Preparation & TDOT SWPPP Manual Development	2005-Current	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for the development of SWPPP's for TDOT projects, including plans review, comments distribution, and site-specific investigation. Also performed research and development for preparation of the TDOT SWPPP Preparation Manual for the Natural Resource Office. The manual's 275 pages include explanation and examples for preparing a SWPPP, compliant with current NPDES requirements, for TDOT projects. This manual is used by TDOT and consultants in training new staff on how to prepare a SWPPP.		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



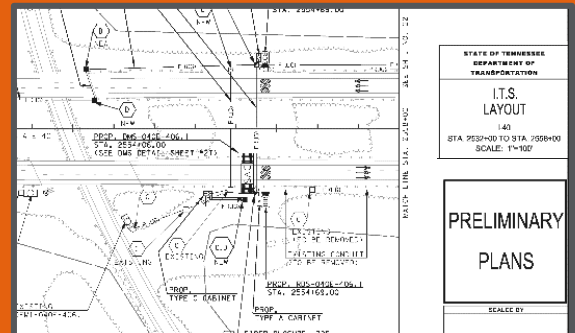
12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Andrew Graham		CEI/ Materials Testing		a. TOTAL	b. WITH CURRENT FIRM
				7	5
15. FIRM NAME AND LOCATION (City and State)					
S&ME, Inc. – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
BS Geology			N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
<ul style="list-style-type: none"> • TDOT HMA Plant Inspector • TDOT Concrete Plat Inspector • PTI Level II Un-bonded Post Tensioning Inspector • Nuclear Gauge Radiation Safety 		<ul style="list-style-type: none"> • ACI Concrete Field Testing Technician, Grade 1 • OSHA 10 Hour Training • OSHA 30 Hour Training • OSHA 40 Hour HAZWOPER 			
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Dayton Pike Improvements Soddy Daisy, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			NA	2018	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided asphalt plant inspection for the widening of Dayton Pike from Veterans Park to Pottery Lane. The project consists of adding a center turn lane to Dayton Pike and Harrison Lane at the intersection with Dayton Pike. The project received funding through TDOT's Local Projects and required CEI.					
b.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Ooltewah-Georgetown Roundabout Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			NA	2017	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided asphalt plant inspection for the new roundabout at the intersection of Ooltewah-Georgetown Road and Mountain View Road in Chattanooga, TN. This project received local projects funding from TDOT and required CEI.					
c.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Riverwalk Expansion Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2016	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided asphalt plant inspection as well as concrete testing and inspection for the three-mile walking path in Chattanooga, TN. This project received local projects funding from TDOT and required CEI.					
d.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	McMinnville Resurfacing Warren County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			NA	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided asphalt plant inspection for the resurfacing of North Spring and West Colville Streets in McMinnville, TN. This project received local projects funding from TDOT and required CEI.					
e.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	McMinn County Airport Athens, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			2015	2017	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided asphalt plant inspections for the taxiway paving associated with the sinkhole repairs.					
f.	(1) TITLE AND LOCATION (County)		(2) YEAR COMPLETED		
	Cleveland Regional Jetport Cleveland, TN		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
			NA	2017	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm		
Provided concrete batch plant inspection services for the Cleveland Runway extension project.					

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
 (Complete one Section E for each person.)



12. NAME		13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Rick Setzer		CEI/ Materials Testing		a. TOTAL	b. WITH CURRENT FIRM
				11	11
15. FIRM NAME AND LOCATION (City and State)					
S&ME – Chattanooga, TN					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
High School			none		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
<ul style="list-style-type: none"> • TDOT Asphalt Roadway Technician • TDOT Concrete Field Technician • TDOT Workzone Traffic Control/Flagging • TDEC Level I Erosion Control Inspector • Nuclear Gauge Radiation Safety • OSHA 10 Hour • OSHA 40 Hour HAZWOPER 					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Dayton Pike Widening Hamilton County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				N/A	2018
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Provided base stone and asphalt density testing and inspection for the widening of Dayton Pike at Harrison Lane in Soddy Daisy, Tennessee. This project received local projects funding from TDOT and required CEI.					
b.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Riverwalk Expansion Hamilton County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				N/A	2016
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Provided subgrade soils and fill testing as well as asphalt testing and inspection for the three mile walking path in Chattanooga, Tennessee. This project received local projects funding from TDOT and required CEI.					
c.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	McMinnville Resurfacing Warren County, TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				N/A	2015
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Provided density testing and inspection for the asphalt placement during the resurfacing of North Spring and West Colville Streets in McMinnville, Tennessee. This project received local projects funding from TDOT and required CEI.					
d.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Mountain Goat Trail Franklin Co., TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				N/A	2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Performed base stone and asphalt density testing and inspection for the 2.3 mile long walking path. This project received local projects funding from TDOT and required CEI.					
e.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	I-40 Widening Nashville, Davidson Co., TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				N/A	2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Provided QC density testing and inspection for asphalt placement for the 8.3 mile widening project for I-40 in Lebanon, on the west side of Nashville, Tennessee.					
f.	(1) TITLE AND LOCATION (County)			(2) YEAR COMPLETED	
	Town Creek Parkway Extension Lenoir City, Loudon Co., TN			PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
				NA	2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE			<input checked="" type="checkbox"/> Check if project performed with current firm	
Provided QA density testing and inspection of asphalt pavement for the extension of Town Creek Parkway.					

SECTION F



F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)	22. YEAR COMPLETED	
TDOT Local Program Projects Chattanooga, Hamilton County, TN	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	1. 2014 2. 2015	1. 2016 2. 2016
23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
1. City of Chattanooga / TDOT 2. Hamilton County / TDOT	1. Blythe Bailey 2. John Agan	1. 423.643.5950 2. 423.209.7810
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		

1. SR 58 Transportation Enhancement Project, Chattanooga, TN



SR-58 multi-use path as constructed.

This project was one phase of the larger plan to improve the SR 58 corridor in Chattanooga, TN. SR 58 is a heavily traveled, 4- to 6-lane roadway with curb and gutter, and mostly commercial development along the corridor. The City's objective for this project was to provide safe and aesthetically pleasing pedestrian and bicycle facilities along with the application of green infrastructure design elements. Funding was provided from Transportation Enhancement Program funds and was managed by the TDOT Local Program Development Office project.

- Arcadis Added Value:**
- Full understanding of local program project development process.
 - Innovative storm water solutions to improve water quality
 - Utilized GEOPAK Drainage for drainage system design
 - Multi-use path design with multiple driveway crossings
 - Traffic signal design including re-aligning an adjacent business entrance
 - Improved safety by reducing number of driveways
 - Public involvement conducted to achieve a consensus on the project
 - Performed Environmental Boundaries
 - Prepared SWPPP and obtained NPDES permit
 - Design multiple ADA ramps

Arcadis' design incorporated a 10-foot multi-use path along SR 58 with sidewalk extensions to serve the local Post Office and Lakeside Academy. The design included curb and gutter, sidewalk, multi-use path, retaining walls, ADA ramps and multiple driveway crossings. Arcadis also completed the traffic analysis of an upgraded traffic signal at SR 58 and Jersey Pike. Additionally, we designed innovative storm water solutions to improve water quality including the application of bioswales and rain gardens

To improve safety, Arcadis worked with TDOT, City of Chattanooga and local property owners to modify driveways and improve access management along this section of roadway.

Through a separate contract with the City of Chattanooga, Arcadis developed the latest storm water regulations for the City including the application of green infrastructure. The SR 58 project allowed us to combine our transportation expertise with our in-depth knowledge of storm water planning and design.

For the SR 58 project, Arcadis designed a multi-use path for bicyclists and pedestrians; streetscaping elements including lighting, seating, and a pocket park; and a new traffic signal at Jersey Pike.

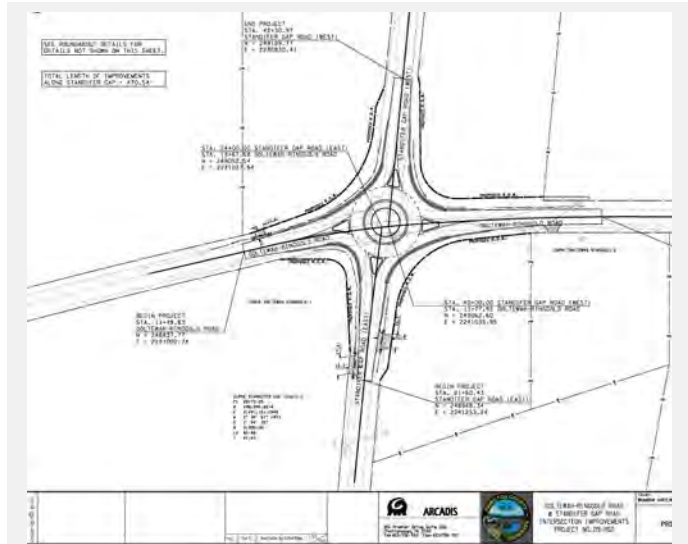
F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

2. Roundabout at Intersection of SR 321 (Ooltewah Ringgold Road) and Standifer Gap Road, Hamilton County, TN

Arcadis provided comprehensive engineering and environmental services to improve safety at the intersection of Ooltewah Ringgold Road and Standifer Gap Road. We worked closely with stakeholders including local government officials to develop project alternatives (roundabout or traffic signal). A major safety concern was to keep traffic flowing near the new East Hamilton High School during peak hours. Consensus was realized through public involvement that a proposed roundabout was the best alternative for the project.

Arcadis provided the following services on this project:

- TDOT Local Program Project coordination
- Conceptual alternative plans for intersection improvements including traffic analyses
- Public outreach and coordination with local government officials
- NEPA documentation and ecological assessment
- Field surveying including topographic, planimetric and the establishment of existing ROW
- Preliminary plans development for proposed roundabout
- ROW plans development
- Utility coordination
- Final construction plans, including drainage improvements, traffic control plans, EPSC plans and pavement marking and signing plans
- Contract documents and specifications
- Prepared SWPPP and obtained NPDES permit



Another example of Arcadis' long-term commitment of supporting local Tennessee municipalities by delivering value-added and cost-effective engineering and environmental services to solve our client's transportation safety challenges.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Arcadis	Chattanooga, TN Atlanta, GA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)	22. YEAR COMPLETED	
CDBG Sidewalk Program City of Chattanooga, Hamilton County, TN	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2016	2017

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Chattanooga	Tony Madewell	423.643.6365

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

Arcadis Added Value:

- Implemented a client focused approach to understanding the needs and desired outcomes at each individual sidewalk site
- Detailed understanding of NATCO and ITE standards for sidewalks and the creation of walkable communities
- Provided a focused approach to create sidewalk designs that maximized limited construction funding
- Provided ROW/easements services for acquisitions related to the project

This project provides for the implementation of Community Development Block (CDBG) Grant funding for new sidewalk construction in the CDBG areas of the City of Chattanooga. The project is administered by the Chattanooga Department of Transportation (CDOT). It involves the evaluation of existing sidewalk facilities repairs, replacement and **ADA compliance**. It also involved the planning and design of new sidewalk facilities.



The Arcadis team worked with CDOT to design and implement cost-effective new sidewalk designs and sidewalk improvements in the CDBG areas utilizing limited funding. At the start of the project, the team

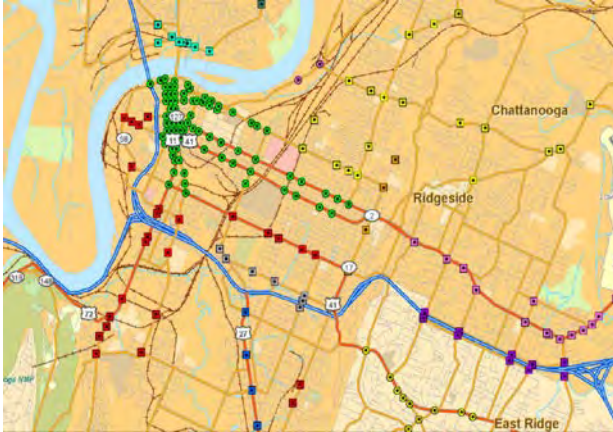
met with CDOT staff to discuss each project site in detail. The discussion proved critical for the team to understand the purpose and need of each sidewalk. This knowledge allowed us to produce sidewalk designs that met the City's desired outcomes. The Arcadis team worked closely with the CDOT staff to identify and utilize existing elements of infrastructure, where possible, at the selected project sites to maximize precious construction dollars. Close coordination with the City of Chattanooga Stormwater Department was also critical. Developing sidewalk designs with minimal impact on the existing stormwater infrastructure helped to minimize costly relocations and conflicts. The team utilized their detailed experience with both **NACTO and ITE** best design practices to develop sidewalk designs that provided the best walking environment possible for the citizens utilizing these facilities. At the end of the construction phase, several of CDBG sidewalks designed by Arcadis were highlighted on Mayor Andy Berke's Twitter feed.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Arcadis	Chattanooga, TN Atlanta, GA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)		22. YEAR COMPLETED	
ITS System – Traffic Signal Controller Upgrades City of Chattanooga, Hamilton County, TN		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		2014	2014
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
City of Chattanooga	Tommy Trotter	423.643.5950	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			
<p>Arcadis Added Value:</p> <ul style="list-style-type: none"> • Development of plans • Signal Timing • Standards and specifications • ITS related studies • Shop drawing review • Network design assistance • Other related traffic/design services • Project scoping • Pre-bid services • Construction submittal review 		<p>The City of Chattanooga installed a city-wide wireless mesh network that created a unique opportunity to upgrade its traffic signal system in the Central Business District (CBD) and throughout the region (city and county). The project team, which included both Arcadis and Volkert, was tasked to use this existing wireless mesh network as a method of communication for traffic applications. The project included 381 signal upgrades (86 inside the CBD). The system upgrades included eight-phase Eagle EPAC M-52 controllers, Malfunction Management Units (MMUs), and NEMA TS-2 cabinets. Additionally, pole-mounted cabinets were replaced by pad-mounted cabinets (unless there were ROW constraints). We enlarged several controller cabinet foundations to accommodate future UPS (uninterrupted power supply) installations. All cabinets were equipped with an Ethernet switch, wireless radio and an antenna.</p> <p>Other equipment upgrades included the following:</p> <ul style="list-style-type: none"> • Tested and replaced all loop detection (if necessary) • Tested Wavetronics wireless radar system detection equipment in one location (Rossville Blvd) • Installed System Detection throughout the project using SENSYS wireless equipment • Installed Adaptive Control along SR-153 using InSync from Rhythm Engineering (13 intersections) • Installed Flashing Yellow Turn Signals along SR-153 in Hixson (13 intersections) <p>The project also included signal timing development for all intersections using</p>	
<p><i>Synchro8</i>. An in-depth Systems Engineering Analysis (SEA), approved by FHWA, documented system improvements, system maintenance and three Adaptive Signal Control options. The City of Chattanooga and local county jurisdictions developed interagency agreements. The City of Chattanooga claimed responsibility for maintenance and signal timing for the following communities: Ooltewah, Red Bank, Soddy Daisy, East Ridge and Signal Mountain. The City of Chattanooga's Traffic Operations Center (TOC) uses TACTICS software by Siemens to monitor and control the local system using the wireless mesh network. The City of Chattanooga previously completed the CBD which included 86 signals. Phase I of the region-wide signal system was completed and included 115 signals at a cost of \$4,500,000. The project team also provided assistance with project scope, bidding phase services, shop drawing review, and attendance at contractor project meetings. There are 170 traffic signal upgrades remaining as funding allows.</p>		<p><i>Traffic Signal System in the Central Business District in Chattanooga, Tennessee</i></p> 	
25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Arcadis	Chattanooga, TN and Atlanta, GA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)		22. YEAR COMPLETED	
TDOT Construction Engineering and Inspection (CEI) Programs, Various Counties		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		1. 2018	1. 2018
		2. 2018	2. 2018
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
1. Hamilton County, TN	1. Autumn Friday, Engineering Project Manager	1. 423.209.7821	
2. TDOT	2. Ken Flynn, Region 2 Director of Operations	2. 423.510.1217	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

Arcadis Added Value

- Full service CEI provider: CEI inspectors, EPSC inspectors, surveying, construction management, record keeping, administrative support and materials/testing.
- Extensive knowledge of both TDOT and FHWA project records requirements that results in project records that will be complete, thorough and accurate.
- Mitigated a potential claim by the contractor through our construction claims experience at no additional cost to Hamilton County keeping the project moving forward with no construction delays or litigation.
- Identified construction quantities associated with pay items that were not balanced prior to construction beginning to manage overruns, change orders and schedule.

1. Ooltewah-Georgetown Road Roundabout, Hamilton County, TN

This TDOT Local Programs

project, at a construction cost of over \$1.4 million, consists of constructing a roundabout at the intersection of Ooltewah-Georgetown Road, Mountainview Road and Blanche Road in Hamilton County, TN. This intersection has a large volume of traffic due to large subdivisions adjacent to the project, a high school south of the project and a middle school north of the site. Additionally, the project is located adjacent to the Ooltewah-Georgetown Road bridge over I-75 and a Tri-Community Fire Department station. The project required three separate phases of traffic control to construct the roundabout while not closing any of the affected roads, detouring traffic and maintaining full access for the fire station.



The project consists of demolition, earthwork, asphalt paving, concrete curb and gutter, storm sewer installation, guardrail, traffic control, signing and pavement markings. Arcadis is currently providing construction management, construction engineering and EPSC inspections, and surveying services. Our CEI staff prepare daily work reports, measure and record daily quantities, perform concrete testing, check traffic control and perform bi-weekly EPSC inspections. The surveying services include establishing construction control, conducting topographical surveys to verify earthwork quantiles and prepare as-built drawings. Additionally, for documentation, we have a licensed drone pilot that has

taken aerial photos at various phases of construction to include in our complete package of project records.

Our construction management responsibilities include conducting the pre-construction meeting, preparing monthly estimates for contractor payment, processing change order requests, reviewing RFIs, conducting monthly project progress meetings, administrative and record keeping and coordinating with Hamilton County. Our construction manager, Nick Dwyer, works closely with both TDOT Region 2 and Hamilton County to ensure that the project meets all state and FHWA regulations and specifications and that project records are both complete and accurate. Nick understands the importance of all aspects of documentation including DBE documentation, material certifications and payroll.

S&ME, a subconsultant to Arcadis, performs material and testing including asphalt plant inspection, soil and base density testing and collected soil proctors prior to construction.

Arcadis' survey group utilizes drones on projects to safely expedite surveying and provide photo documentation at various phases of construction.



F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

2. CEI Services On-Call Contract, Region 2, TN

Arcadis Added Value

- Over 70 years of providing construction services in the Chattanooga area—competent and qualified staff—people that you know and trust—proven results!
- Cost effective, responsive and agile—track record of responding to TDOT's CEI needs—from Chattanooga to Fentress County—providing construction inspectors on-demand when and where you need them.
- Bringing a culture of Project Management, Quality Control and Health & Safety to construction projects in Tennessee, Arcadis' construction staff are some of the best trained professionals in the industry.

Since 2011, Arcadis has provided full service CEI for TDOT Region 2 under an on-call contract.

TDOT Final Records Work, Region 2 – Arcadis performed final records work providing QA/QC reviews of final records for a variety of TDOT construction and maintenance projects including bridge replacements, paving and roadway widening in Region 2. We performed a thorough review of project records including material certifications, paid quantities, proper documentation, DBE information, payrolls, etc. CEI manager Nick Dwyer worked as an embed in the TDOT Region 2 Final Records office for approximately 2 years helping to close out projects as well as train new TDOT staff members.

I-40 and Various State Routes, Various Counties – Arcadis has provided CEI services on 9 separate resurfacing projects throughout Region 2. We provided asphalt roadway inspectors and/or asphalt plant inspectors on these projects.

Oversight included paving operations including cold planing, guardrail installation, traffic control, signing and pavement marking, traffic signal loop work and concrete handicap retrofit. Inspectors provided daily work reports, tracked project quantities and assisted in project record keeping.

SR 60, Meigs and Rhea Counties – As a subconsultant to Arcadis, S&ME's coatings inspector provided inspections of the coatings and waste disposal methods for the contract. Arcadis served the role of project management. They worked in conjunction with our coatings inspector and recorded the daily work reports, entered daily pay quantities and prepared the monthly estimates.

SR 317 (Apison Pike), Hamilton County – EPSC inspections are performed twice weekly. Measuring EPSC quantities for payment. We provided training to TDOT staff on EPSC inspection and installation of EPSC measures that meet TDOT standards and permit compliance.

SR 50, Franklin County – EPSC inspections were performed twice weekly. We also provided training to TDOT staff on EPSC inspection, installation of EPSC measures that meet TDOT standards and permit compliance.

SR 52, Fentress County – We provided inspections for the replacement of SR 52 bridge and the construction of a concrete bulb-tee beam bridge over Branham Hollow Branch. Inspections included grading, drainage, and paving. We performed CEI oversight of earthwork, bridge construction, rock placement, drainage installation, traffic control, base stone, paving, and more. We entered information into Site Manager including a daily work report and estimated quantities. Arcadis also performed EPSC inspections, documenting EPSC deficiencies and provided communication with the Region 2 Environmental Coordinator on compliance issues.

CEI Services provided:

- Construction Engineering Inspections (CEI)
- EPSC Inspections and Permit Compliance
- Project Documentation
- Materials Testing
- FHWA Coordination
- Civil Rights/EEO Compliance
- Utility Coordination
- Plant Inspection
- Final Records Preparation and Coordination
- Surveying
- Bridge Coatings

Arcadis performed CEI oversight of bridge construction for the SR 52 Bridge replacement project in Fentress County.



Arcadis has assisted on various resurfacing projects through this contract including plant inspection.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Arcadis	Chattanooga, TN	Prime
b.	S&ME	Chattanooga, TN	Subconsultant

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)		22. YEAR COMPLETED	
TDOT Local Program Projects Hamilton and Franklin Counties, TN		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		1. Ongoing 2. Ongoing	1. N/A 2. N/A
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
1. TDOT	1. David A. Yates, PE	1. 423.634.7518	
2. TDOT	2. Robert Rogers	2. 423.510.1138	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

Arcadis Added Value:

- Up-to-date on current TDOT Design Guidelines and standard drawings.
- Utilize auto-turn to minimize adjacent property impacts.
- Close coordination with the TDOT to ensure project met their design/operational goals.

1. SR-58 at Birchwood Pike

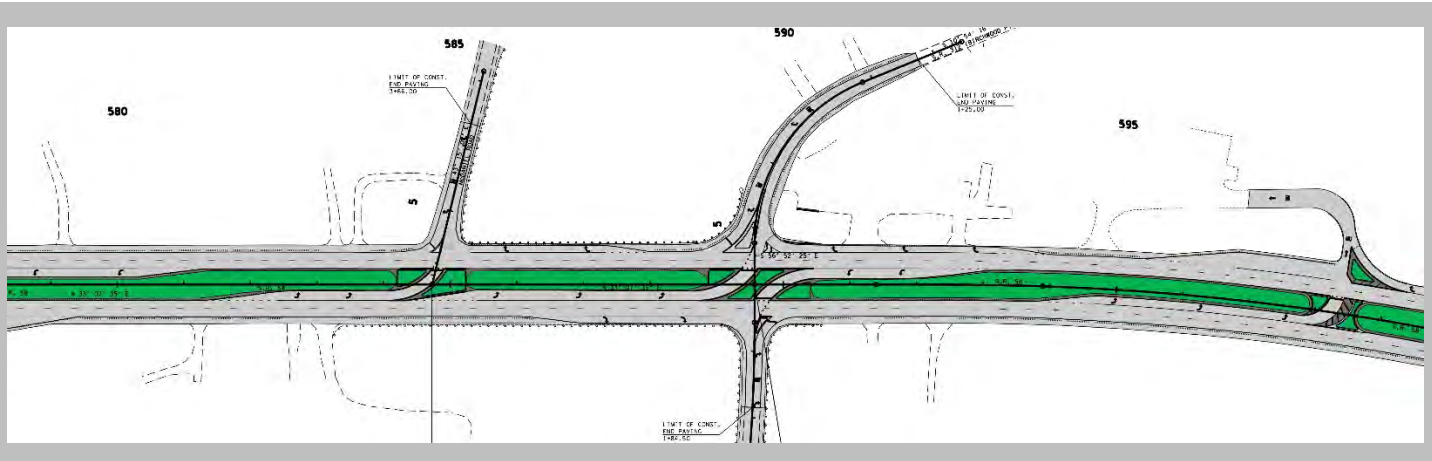
SR-58 at Birchwood Pike is a roadway design project for the Tennessee Department of Transportation. It is performed under the TDOT On-Call Design Contract. This project consists of 0.40 miles of four lane divided roadway with turn lanes and median crossovers. This type of roadway design has many vehicular conflict points, which may overload drivers with difficult decisions. The result is an increased potential for severe, sometimes fatal, right-angle crashes.

A determination was made, as part of TDOT Road Side Safety Audit (RSA), that the implementation of J-Turns was warranted along this route. As part of the roadway design project, the turn lanes and median crossovers will be converted to a series of J-turns. This conversion will require the design of concrete islands to convert existing median crossovers to J-turns and the design of a new J-turn crossover on the south end of the project. This conversion will also require the redesign of existing drainage facilities, additional large vehicle turning areas, modification of existing commercial driveways, and the redesign of the existing signing and pavement markings.

The J-turn reduces the crash potential because it does not allow left-turn and through movements from the side road. In order to make these movements, drivers at the side road have to first turn right then make a U-turn down the road from the original intersection.

A study completed by the Federal Highway Administration (FHWA) on J-turns found an overall reduction of intersection crashes ranging from 28 to 44 percent.

Arcadis just recently submitted final construction plans on this project.



F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

Arcadis Added Value:

- Field surveying including topographic, planimetric and the establishment of existing ROW.
- Participating in stakeholder coordination.
- Developed multiple conceptual layouts for improvement evaluation.
- Closed drainage system utilizing TDOT Drainage Manual and Geopak Drainage

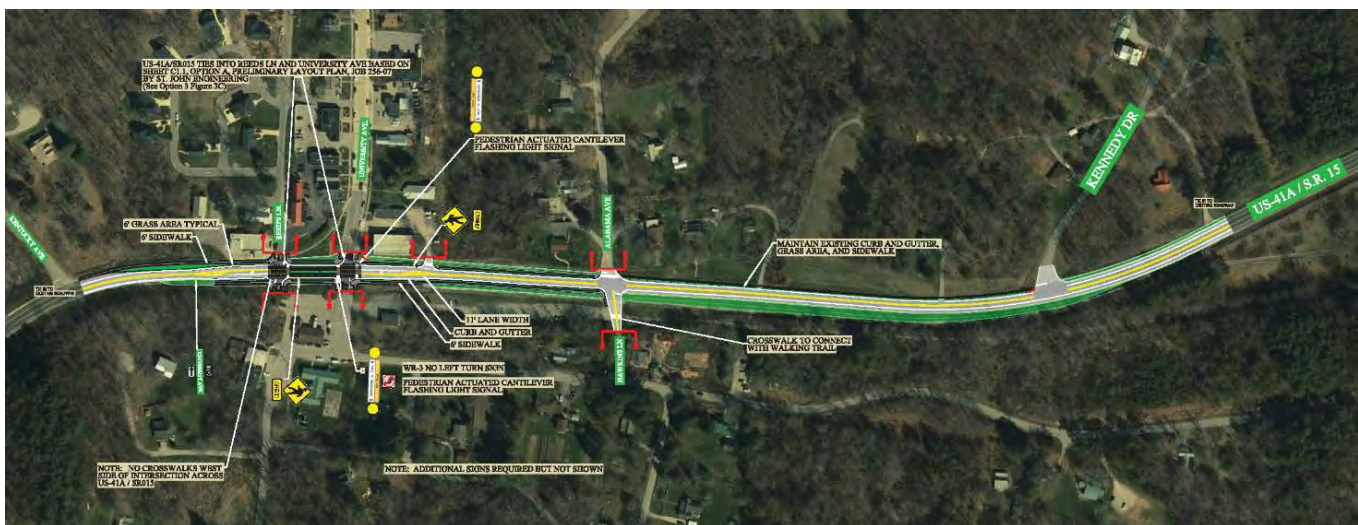
**2. SR 15 Intersection at University Avenue
Franklin County, TN**

Arcadis is currently designing improvements at the existing two-way stop controlled intersection of SR-15 and University Avenue in Sewanee, TN. Sewanee is located in Franklin County and is on the western edge of the Cumberland Plateau. University Avenue provides the entrance to the University of the South. Arcadis originally completed a roundabout design which was removed from the project in favor of a pedestrian activated overhead flashing beacon and a road diet.

The University dates back to 1857 and consists of approximately 13,000 acres, with approximately 1,000 acres developed. SR-15 is the main arterial through the community of Sewanee. Safety was a main concern for college students as well as elementary school students utilizing the University Avenue at SR-15 intersection.

Arcadis conducted the field survey which denoted the University property and adjacent leased tracts. Additionally, Arcadis is nearing completion of right-of-way plans which include lane reductions/reconfigurations, pedestrian activated overhead flashing beacon, curb and gutter, sidewalks and implementation/integration of a new closed drainage system.

Since University Avenue is being envisioned as a new entrance to the University of the South, extensive coordination with the Tennessee Department of Transportation, Franklin County and the University of the South was conducted. As previously mentioned, services included a topographic survey, development of preliminary roadway plans and nearing completion on right-of-way plans.



Arcadis is your one-stop shop from survey through design our Chattanooga based staff has decades of TDOT experience.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Arcadis	Chattanooga, TN	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)	22. YEAR COMPLETED	
Transportation Investment Reports (TIR) Including Bridge Reports, Various Locations, TN	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2013	N/A

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
TDOT	Brandon Darks	615.253.3999

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



Probable wetlands area identified by Arcadis during field visit on Alton Park Blvd TIR in Chattanooga, TN.

Standard Transportation Investment Reports

Since 2006, Arcadis has successfully completed four Standard TIRs for TDOT in Regions 2 and 3. The components of these studies included the following: project background, existing conditions, field review information, purpose and need, options for improvement (proposed concepts), assessment of options and summary. Projects included the following:

- SR 106/SR 46 Intersection, Williamson County
- Goodwin Road Extension, Hamilton County
- SR 55 Westside Drive/Cedar Lane, Coffee County
- Alton Park Blvd, Hamilton County

Bridge Rehabilitation/ Replacement TIRs

Bridge Transportation Investment Report (TIR) require a site visit and filing out a site inspection form. Following the site visit the actual report includes a signature coversheet, location map, U.S.G.S. topographic map, TIR Worksheet summarizing the existing conditions and proposed recommendation, a memorandum summarizing all project considerations and recommendations, conceptual layout schematic, and a conceptual bridge profile schematic. Additionally, detour maps and cost estimates are developed. Finally stream calculations, checklist of early environmental considerations and photos are provided on each TIR document.

- SR 39 Bridge over Middle Creek, McMinn County
- SR 320 (E. Brainerd Road) Bridge over CSX R/R, Hamilton County
- SR 40 (US-64/74) Bridge over Ocoee River, Polk County
- 01282 Davis Creek Road Bridge (LM 5.00) over Davis Branch, Campbell Bridge TIR for Local Route County
- 01223 Patty Road Bridge over Fourmile Creek Bridge, Polk County
- 0A207 Easley Creek Road Bridge over Old Fort Creek, Polk County
- 0A317 Columbus Road Bridge over CSX RR, Polk County
- 0A622 North 11th Street Bridge over CSX RR, Campbell County
- 01282 Davis Creek Road Bridge (LM 5.27) over Davis Branch, Campbell



Bridge TIR for SR 40 over the Ocoee River in Polk County, TN

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Arcadis	Chattanooga, TN	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)		22. YEAR COMPLETED	
TDOT ITS Projects Davidson, Rutherford, Knox & Sevier Counties, TN		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		1. 2016 2. 2018	1. N/A 2. N/A
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
TDOT	Brad Freeze	615.350.3384	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

1. I-24 Congestion Mitigation Report, Davidson & Rutherford Counties

Scope of work includes:

- Integrated Corridor Management (ICM)
- Active Traffic Management (ATM)
- Active Arterial Management (AAM)
- ITS related studies

The Congestion Mitigation Report presents an evaluation of the feasibility of implementing congestion mitigation measures (i.e., corridor operational strategies) on Interstate 24 (I-24) from Exit 54 (State Route (SR)-155, Briley Parkway) to Exit 74 (SR-840). This 20-mile section of I-24 is a major commuter route between Nashville (Davidson County) and Murfreesboro (Rutherford County), Tennessee, and presently experiences periods of congestion during peak traffic hours. Based on future traffic growth projections for the corridor, congestion will worsen and traffic delays will continue to increase unless steps are taken to improve transportation operations. The purpose of the strategies presented in this report is to highlight some of the tools available to TDOT to better manage existing facilities and maximize throughput while providing improved operational reliability to the motorists.

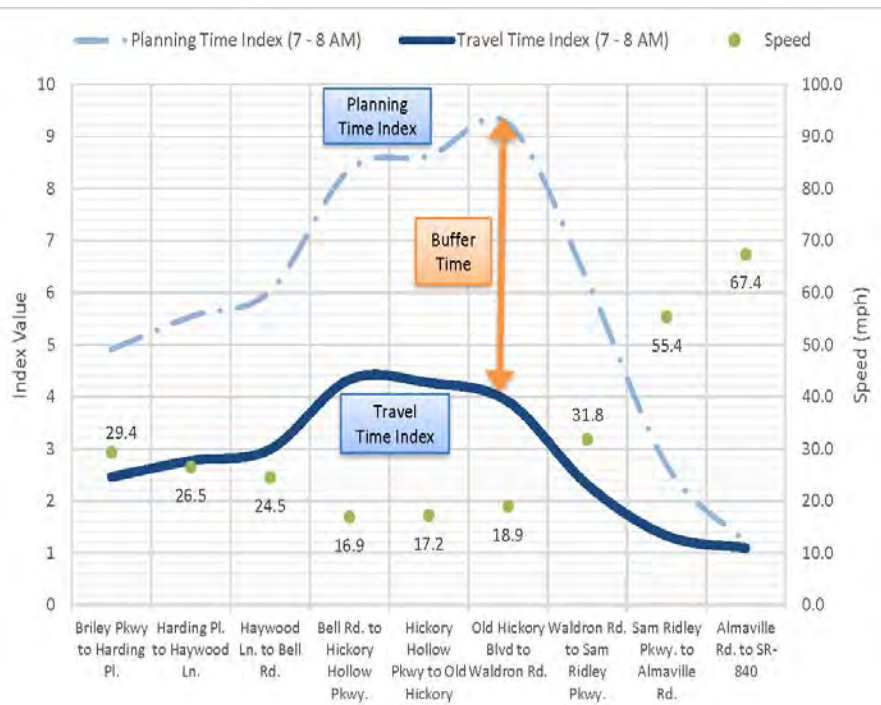
This Report assesses the potential to manage traffic congestion and improve travel time reliability on the I-24 study corridor by applying the following strategies:

- Bus on Shoulder (BOS) System
- High-Occupancy Vehicle (HOV) Lane Enforcement
- Ramp Metering
- Variable Speed Limits (VSL)
- Active Arterial Management (AAM)

The strategy assessment included travel time reliability, review of a University of Tennessee delay analysis study, crash rate analysis, capacity analysis (including development of a VISSIM model), reviewing existing data from a total of 10 states and developing benefit cost ratios.

By implementing these operational strategies, benefits such as modal shift, improved travel time reliability, diversion of short trips from freeway to arterials, safety improvements, delay reductions, and other benefits would be realized. These operational strategies will further enhance TDOT's abilities to manage their transportation system and improve reliability.

I-24 Westbound Reliability Data – AM Peak Hour



F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

Summary of Benefit–Cost for I-24 Congestion Mitigation Strategies

Strategies	Benefits				Costs		Benefit to Cost Ratio
		Operation (\$)	Safety (\$)	Total (\$)	Construction (\$)	O&M (\$/year)	
Bus on Shoulder (BOS)	+4.5% ridership	---	---	---	2.4M	---	---
HOV Lane Enforcement	**Reduces average speed to 18.0 mph						
Ramp Metering	---	12.6M (1,250 hrs/ day reduction)	83.5M (432 crash reduction)	96.1M	3.5M	76K	27:1
Variable Speed Limit (VSL)	Use existing gantries - (3-mile spacing)	600K (up to 50 hrs/day reduction)	10.4M (54 crash reduction)	11M	350K	287K	17:1
	Install 26 new gantries - (1-mile spacing)	600K (up to 50 hrs/day reduction)	10.4M (54 crash reduction)	11M	5.6M	427K	1.8:1
Active Arterial Management (AAM)		2.7M	35.2M (173 crash reduction)	37.9M	4.9M	700K to 1M	6.5:1

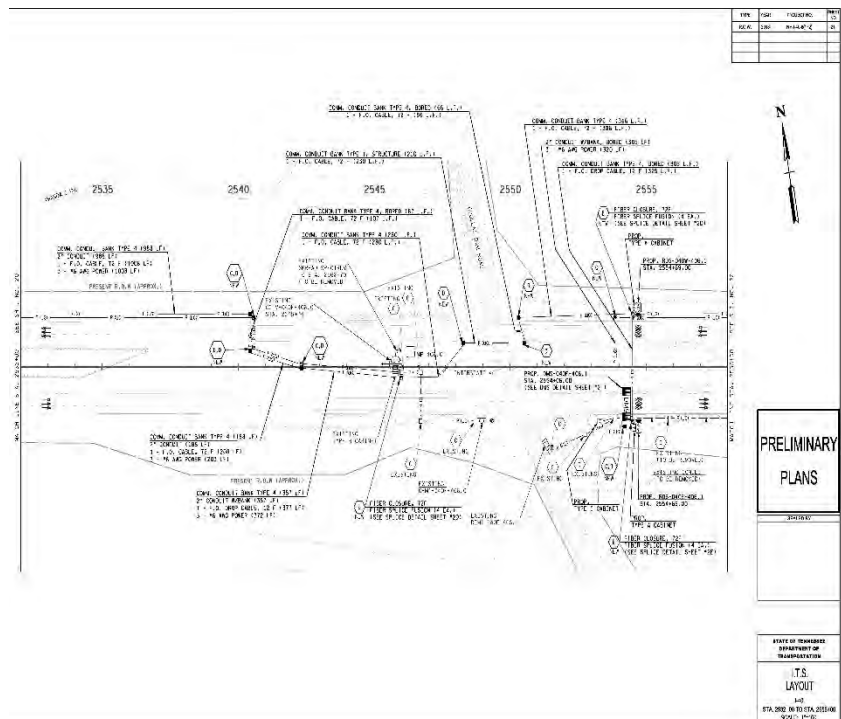
**HOV Lane Enforcement is advisable only after the addition of at least one general-purpose lane in each direction.

2. I-40 ITS Expansion Project, Knox & Sevier Counties

The I-40 Intelligent Transportation System (ITS) expansion project in Knox and Sevier Counties is an extension of an existing ITS system. The project limits expand along I-40 from Strawberry Plains Pike (Exit 398) to 1-mile east of SR 66, Sevierville (Exit 407) for approximately total **project length of 11.5 miles**. This project includes the design and installation of the following:

- 2 Dynamic Message Signs (DMS)
- 12 Closed-Circuit Televisions (CCTV)
- 30 Radar Detection Systems (RDS)
- 2 local Hub Cabinets
- 1 72F fiber optic main trunk line along the entire length of the project

The project will include Preliminary ITS Design Plans, Utility/ROW ITS Design Plans, Construction ITS Design Plans, Survey, Geotechnical Reports, Electrical Design, Specifications and Special Provisions. Currently, the project is in the ROW phase.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Arcadis	Chattanooga, TN and Atlanta GA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)		22. YEAR COMPLETED	
Environmental Services Projects Sumner and Maury Counties, TN		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		1. 2017 2. Ongoing	1. N/A 2. Ongoing
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
1. City of Hendersonville, TN 2. TDOT	1. Katie McKeel 2. Lia Obaid	1. 615.253.2475 2. 615.532.7522	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

Since 2004, Arcadis has provided training to TDOT on:

- Environmental permitting
- SWPPP preparation
- NPDES compliance
- EPSC inspection
- EPSC measure design for TDOT Roadway Design, Construction, and Maintenance Divisions staff to provide statewide program continuity
- Accurate training to TDOT internal and consultant staff

1. Drakes Creek D-List CE

Completion of D-List CE and environmental studies. Local programs project management.

The purpose of this project is to preserve and enhance the roadway system by supporting quality growth principles and existing and planned development, provide and enhance multi-modal solutions, reduce congestion, increase safety, and improve health and the environment. This project updates the existing substandard farm-to-market road in a context-sensitive manner and address major



Scope of Services:

- D-List CE document
- Ecology study
- Floodplain Mapping

maintenance issues of the existing box bridge over Drakes Creek. The proposed project includes the widening of Drakes Creek Road from State Route (SR) 386/Vietnam Veterans Boulevard from two lanes to five lanes and signalization and intersection improvements at Stop Thirty Road. The project also involves raising this intersection above the flood elevation and replacing the existing 100-foot box bridge spanning Drakes Creek.

Alternatives studied for the project included a no build alternative, build with bridge replacement alternative and bridge rehabilitation alternative. The proposed improvements with bridge replacement were chosen for the project as rehabilitation would not correct the hydraulic issues within the site and it was unknown how much reinforcing steel was actually located within the piers.

As part of the environmental services, Arcadis completed an ecological boundary survey and D-List Categorical Exclusion document for the project.

2. TDOT SR-396, Saturn Parkway Extension Design Build

TDOT SR-396, Saturn Parkway Extension D-B – \$18.5M, 2.0-mile industrial access improvements. Environmental compliance firm providing survey, Environmental Compliance Plan, NEPA re-evaluation, stream mitigation plan, EPSC, permitting services and lighting design.

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

Scope of Services:

- Survey
- D-List CE Re-Evaluation
- Ecological Study
- Waterway and Construction Permitting
- Lighting Design

Saturn Parkway (SR-396) is a four-lane divided facility that connects I-65 to the General Motors (GM) Spring Hill manufacturing plant in Maury County, Tennessee. SR-396 currently terminates at the GM Plant, providing access to the plant for both truck traffic and employees. Located to the north of the GM Plant along Beechcroft

Road (SR-247) are industries that receive deliveries from the interstate and provide deliveries to the GM Plant. These industries are accessed by using local routes in a commercially developed area.

This project proposes to construct a new route that will provide direct connectivity from existing SR-396 to SR-247 and better service access to the GM Plant. This project will construct a new signalized intersection at the entrance to the GM Plant for trucks and maintain free flow access to the employee parking area. SR-247 to SR-396 will become a free flow movement and the existing SR-247 to the east of the project will tie into the route at a stop-controlled intersection. The project will also include a new grade-separated crossing over the CSX Railroad on SR-247.



The total project consists of three separate projects, described below:

- Project 1 – Project will involve the widening of SR-247 (Beechcroft Road), east of Cleburne Road, from 2 lanes with shoulders to 3 lanes with curb and gutter, widening of SR-247, west of Cleburne Road to accommodate an east bound right turn lane onto Cleburne Road, and widening of Cleburne Road to accommodate a northbound left turn lane.
- Project 2 - Site 1 - Will involve the widening of SR-247 (Beechcroft Road) from 2 lanes with shoulder to 3 lanes with curb and gutter. Site 2 – Will involve the widening of SR-247 (Beechcroft Road) to accommodate an eastbound right turn lane onto Town Center Parkway. Site 3 – Will involve the improvement of the northwest quadrant of the US-31 (Main Street) and Stephen P. Yokich Parkway.
- Project 3 – Project will involve the extension of SR-396 (Saturn Parkway) to SR-247 (Beechcroft Road) on a new alignment. The project will include a stream crossing over McCormack Branch (FEMA Studied Steam locally known as McCormick Creek), relocating approximately 200 feet of McCormack Branch, a new grade separated railroad crossing, intersection/interchange modifications to the GM facility and a new connection to SR-247.

Through the alternative technical concept process for this project, our team submitted a design change to reduce construction cost, which was accepted by TDOT. As a result, the alignment of Project 3 was relocated, requiring a NEPA Re-evaluation for the project. Our team completed the additional environmental studies required and is currently working with TDOT for approval of D-List Categorical Exclusion Re-evaluation.

Design build projects tend to run on a tighter time frame than design bid build projects. In addition, this project encompasses three separate projects, each with a distinctive design and environmental compliance schedule. Because of this, our team has conducted early and regular coordination with TDOT and the regulating agencies to help streamline the environmental approval process for these projects. To date we have received the TDEC Construction General Permits for Projects 1 & 2, and they are currently under construction. Project 3 involves the relocation of 200' of stream, a culvert removal, and new culvert and bridge crossings. From the ecological boundary study through the stream and mitigation design, we have been working with TDOT, the USACE and TDEC, and will continue to do so as we move towards submittal of the USACE Section 404 Nationwide and TDEC Individual ARAP Permits.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	1. Arcadis	Chattanooga, TN	Subconsultant
b.	2. Arcadis	Chattanooga, TN and Atlanta, GA	Subconsultant

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
TDOT Bridge Repair Contract Multiple Counties, TN	Ongoing	Ongoing

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
TDOT	Tom Quinn	615.741.8400

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



Since 1997, this work has included bridge repair projects for 200 bridges in multiple counties. This work included close collaboration with Tennessee Department of Transportation staff, detailed field inspections, construction plan preparation, project phasing, traffic control, construction cost estimate preparation, and shop drawing review. These projects have been in TDOT Regions 1, 2, and 3.

The scopes of work have included complete bridge replacements, superstructure replacements, and bridge widening as well as various types of repair efforts as part of an overall bridge preservation plan. These projects included multiple bridge types including:

- Prestressed concrete I beam
- Prestressed concrete box beam
- Cast-in-place concrete box girder
- Cast-in-place concrete T beam
- Open spandrel concrete arch
- Close spandrel concrete arch
- Steel plate girder
- Rolled steel beam
- Steel box girder
- Steel truss



A current project assigned under this contract is for the replacement of the I-40 bridges over the Buffalo River in Humphries County. The new bridge will replace the existing 1,765-foot, 42-span parallel bridges. Design and of the new structure is underway with Arcadis providing field survey and hydraulic analysis for the project.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Palmer Engineering	Nashville, TN	Road and Bridge Design
b.	Arcadis	Chattanooga, TN	Field Survey and Hydraulic Analysis

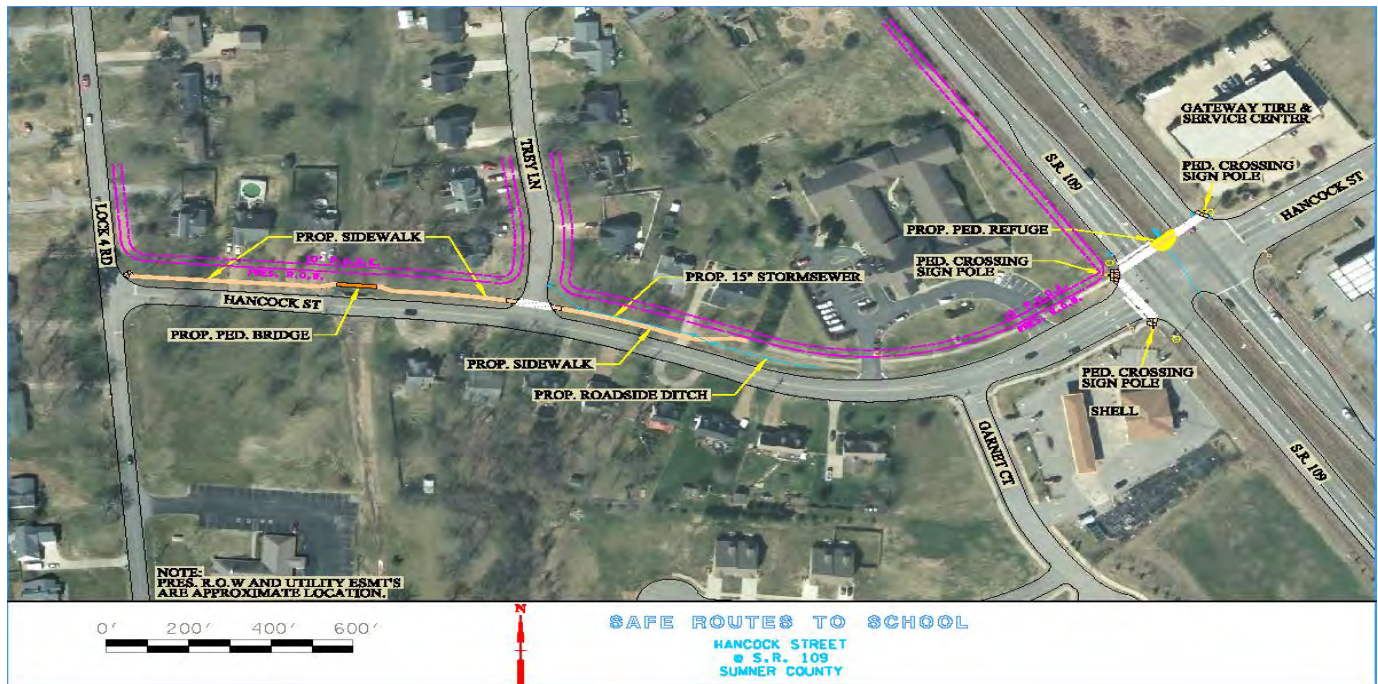
F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

21. TITLE AND LOCATION (County)	22. YEAR COMPLETED	
LPA- Rucker Stewart Middle School – Safe Route to School, Sumner County, TN	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2018	2018
23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Gallatin	1. Nick Tuttle 2. Rosemary Bates	1. 615.451.5965 2. 615.230.7953
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		



Palmer Engineering has been selected by the City of Gallatin to perform survey and design services for the LPA project involving a Safe Routes to School grant at Rucker Stewart Middle School. The project will provide new pedestrian signals and crosswalk at the intersection of SR-109 and Hancock Street. There will be additional signing, crosswalks, and sidewalk improvements installed along Green Wave Drive. The existing sidewalk along Hancock Street will be extended to near Lock 4 Road along with a new pedestrian bridge crossing and a new crosswalk at Trey Lane.

Arcadis will be performing the CEI Services during construction.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Palmer Engineering	Nashville, TN	Survey and Roadway Design Services
b.	Arcadis	Chattanooga, TN	CEI

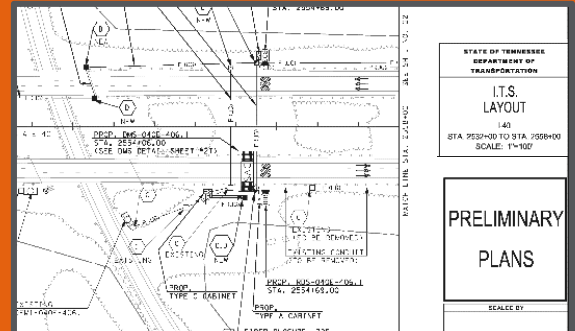
G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

26. NAMES OF KEY PERSONNEL (From Section E, Block 12)	27. ROLE IN THIS CONTRACT (From Section E, Block 13)	28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)									
		1	2	3	4	5	6	7	8	9	10
Clint Butler, PE	Principal in Charge	X	X	X		X	X	X			
Fritz Brogdon, PE	Project Manager	X	X	X	X	X	X				
Karen Trowell, PE	Transportation Studies, Traffic Modeling and Signalization/ ITS	X	X	X		X	X	X			
Nick Dwyer, CPESC	CEI Manager	X			X				X		X
Bradford Watson, PE	Structures										
Kristin Kasmire, PE, SE	Structures										
Roy Cooper, PE	CEI/ Constructability										
Jonathan Reid, PE	Roadway Design										
Phillp Kincer, EIT	Roadway Design					X					
June Henderson	Roadway Design	X		X		X					
Chris Hawkins	Roadway Design										
Wes Houser	Roadway Design					X					
Jody Peace, PE, PTOE	Transportation Studies			X				X			
Jody Carr	Transportation Studies	X	X	X		X	X	X			
Steffan Holder	Transportation Studies	X	X	X		X	X	X			
Kwaku Boayke, PhD, EIT	Transportation Studies						X	X			
Nirbesh Dhakal, EIT	Transportation Studies						X	X			
Ryan Stinton, EIT	Transportation Studies, Traffic Modeling and Signalization/ ITS						X	X			
Andy Parr, PE	Transportation Studies						X	X			
Shahram Malek, Phd, PE	Signalization/ ITS			X				X			
Vamshi Madumba, PE, PTOE	Signalization/ ITS							X			
Jonathan Wallace, PE	Signalization/ ITS										
Doug Dekker	CEI/ Project Oversight								X		
Sean Rogers, CPESC	CEI/ Project Oversight								X		
Erin Woodson, PE, CPESC	Environmental Services/ Permit Assessments				X				X		
Thomas Bechtold, CE, TN-QHP, CPESC	Environmental Services/ Permit Assessments				X				X		
Gary VanPool, PLS	Survey Manager	X				X		X			
Teresa Henderson, PE	Geotechnical Engineer										
Scott Wilson, PE	Structures									X	
Kyle McLemore, PE	Structures									X	
Brian Lee, PE	Roadway Design and Transportation Studies										X
Andrew Graham	CEI/ Materials Testing										
Rick Setzer	CEI/ Materials Testing										

29. EXAMPLE PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)	NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)
1	TDOT Local Program Projects: SR 58 Transportation Enhancement Project & Roundabout at Intersection of SR 321 and Standifer Gap Road Chattanooga, Hamilton County, TN	6	Transportation Investment Reports (TIR) Including Bridge Reports, Various locations, TN
2	CDBG Sidewalk Program City of Chattanooga, Hamilton County, TN	7	TDOT ITS Projects Davidson, Rutherford, Knox & Sevier Counties, TN
3	ITS System – Traffic Signal Controller Upgrades City of Chattanooga, Hamilton County, TN	8	Environmental Services Projects Sumner and Maury Counties, TN
4	CEI TDOT Construction Engineering and Inspection (CEI) Programs, Various Counties	9	TDOT Bridge Repair Contract Multiple Counties, TN
5	TDOT Local Program Projects: SR-58 at Birchwood Pike & SR15 at University Avenue Hamilton and Franklin Counties, TN	10	LPA- Rucker Stewart Middle School – Safe Route to School, Sumner County, TN

SECTION H





**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

FINANCE DIVISION
SUITE 800 JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-0329
(615) 741-2261

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

June 20, 2018

Susan Molnar, Manager Government Audits
Arcadis U.S., Inc.
44 S. Broadway, 9th Floor
White Plains, NY 10601
susan.molnar@arcadis.com

The Tennessee Department of Transportation (TDOT) External Audit Section received your company's Statement of Direct Labor, Fringe Benefits, and General Overhead for the year ended December 31, 2017, which was audited for compliance with the accounting principles prescribed by Federal Acquisition Regulation Part 31. TDOT External Audit reviewed the Independent Auditors Report dated May 31, 2018, prepared by PricewaterhouseCoopers, LLP and concurs with the report.

We accept the following rates, which include the FCCM rate of 0.27 %:

	Federally Funded (1)
Home Office	160.58%
Field Office	111.63%

¹ Indirect cost rates are capped at 145% for projects that are 100% funded by the State.

The rate should be used for all estimates, proposals and billings beginning July 3, 2018.

This letter is not a cognizant letter and is solely for the use of TDOT and Arcadis Us Inc.

This report is issued by a public employee in the performance of duties as such pursuant to Tenn. Code Ann. § 62-1-113(a) and GAGAS 3.75.

If you have any questions, please feel free to contact me.

Sincerely,

Carla Spann
Fiscal Director 1
External Audit
(615) 253-1040
Carla.Spann@tn.gov



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

FINANCE DIVISION
SUITE 800 JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-0329
(615) 741-2261

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

June 14, 2018

Kim Warren, CFO
Palmer Engineering Company
kwarren@palmernet.com

The Tennessee Department of Transportation (TDOT) External Audit Section received your company's Statement of Direct Labor, Fringe Benefits, and General Overhead for the year ended December 31, 2017, which was audited for compliance with the accounting principles prescribed by Federal Acquisition Regulation Part 31. TDOT External Audit reviewed the Independent Auditors Report dated May 30, 2018, prepared by Summers, McCrary and Sparks, P.S.C., and concurs with the report.

We accept the following rates, which include the FCCM of 0.58%:

	Federally Funded (1)
Home Office	163.42%
Field Office	NA

¹ Indirect cost rates are capped at 145% for projects that are 100% funded by the State.

The rate should be used for all estimates, proposals and billings beginning July 1, 2018.

This letter is not a cognizant letter and is solely for the use of TDOT and Palmer Engineering Company.

This report is issued by a public employee in the performance of duties as such pursuant to Tenn. Code Ann. § 62-1-113(a) and GAGAS 3.75.

If you have any questions, please feel free to contact me.

Sincerely,

Carla Spann
Fiscal Director 1
Phone: (615) 253-1040
Carla.Spann@tn.gov



July 17, 2018

Mrs. Whitney Britt
Transportation Manager – TDOT Local Programs Development Office
Tennessee Department of Transportation
Suite 600 James K. Polk Building
505 Deaderick Street
Suite 1300, James K. Polk Building
Nashville, TN 37243

Re: Local Programs Development Office On-Call Contract

Dear Mrs. Britt:

Palmer Engineering has the qualified staff available and agrees to will team with ARCADIS on this project to provide the necessary services for the specific items/tasks listed in the DT-0330 Part II associated with this project.

Sincerely,

A handwritten signature in black ink that reads 'J. Brian Lee'.

Brian Lee, P.E., CPESC, CPSWQ
Vice President



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FINANCE DIVISION
SUITE 800 JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-0329
(615) 741-2261

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

July 3, 2017

Bruce Altstaetter, SVO/CFO
S&ME Inc.
baltstaetter@smeinc.com

The Tennessee Department of Transportation (TDOT) External Audit Section received your company's Statement of Direct Labor, Fringe Benefits, and General Overhead for the year ended December 31, 2016, which was audited for compliance with the accounting principles prescribed by Federal Acquisition Regulation Part 31. TDOT External Audit reviewed the Independent Auditors Report dated June 15, 2017 prepared by Shelly Lands, CPA and concurs with the report.

We accept the following rates, which include the Home FCCM rate of 0.385% and the Field FCCM rate of 0.385%:

	Federally Funded (1)
Home Office	191.28%
Field Office	150.80%

¹ Indirect cost rates are capped at 145% for projects that are 100% funded by the State.

The rate should be used for all estimates, proposals and billings beginning July 17, 2017.

This letter is not a cognizant letter and is solely for the use of TDOT and S&ME Inc.

This report is issued by a public employee in the performance of duties as such pursuant to Tenn. Code Ann. § 62-1-113(a) and GAGAS 3.75.

If you have any questions, please feel free to contact me.

Sincerely,

Richard Emerson
External Audit Fiscal Director
Phone: (615) 253-4273
Richard.Emerson@tn.gov



July 16, 2018

Local Programs Development Office
Program Development and Administration Division
James K. Polk Building, Suite 600
505 Deaderick Street
Nashville, TN 37243-0334

Attention: Ms. Whitney Britt

**Reference: Subconsultant Commitment Letter - Arcadis
TDOT - Local Programs Submittal**

Dear Ms. Britt:

S&ME has participated in numerous TDOT and Local Programs projects in a CEI role. These projects have included resurfacing and streetscapes of existing roadways, bridge replacements (including specialty services such as coatings inspections and crosshole sonic logging of drilled shafts), and new roadway construction. From our experience, we understand that construction projects (specifically local programs projects) often require flexible staffing solutions to be successful. We have an office located in Region 2 with about 30 employees, as well as offices located in Nashville and Knoxville. S&ME has the capability to allocate resources across the region, as dictated by the project needs.

We trust this meets your needs for this submittal. Please don't hesitate to contact us with any questions.

Sincerely,

S&ME, Inc.


Lucas M. Simington, PE
Project Manager

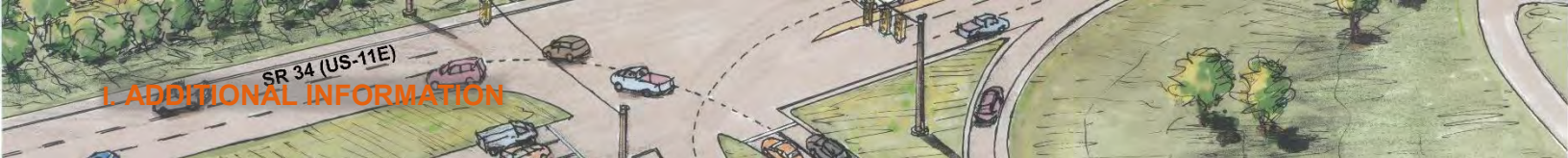


I. ADDITIONAL INFORMATION

1. Our Projects

It is requested that Section I of the DT-0330, Part II form be used to include a brief description of the current activity/stage of completion for any other TDOT **Local Programs Development Office** project(s) or projects with local municipalities (cities and counties) your firm has worked on **within the past five (5) years**. The description should also identify any project that is inactive or waiting for authorization to proceed with a short explanation for the inactivity.

Client	Project Title / Task Order	Status	Remarks
TDOT Local Programs/ Hamilton County	Ooltewah-Ringgold Rd @ Standifer Design	Complete	Design completed in 2015 Construction completed 2017
TDOT Local Programs/ Hamilton County	Ooltewah Georgetown Rd Roundabout CEI/Project Management	Complete	Construction completed in March 2018
TDOT Local Programs/City of Chattanooga	SR 58 Roadway Enhancements TDOT LPA/Chattanooga	Complete	Design completed in 2014. Construction complete 2016
TDOT Local Programs/City of Hendersonville, TN	Drakes Creek	Complete	NEPA document completed in 2017
TDOT/City of Chattanooga, TN	SIA Serving Volkswagen Group of America Hamilton County, Tennessee	Ongoing	Post-construction wetland mitigation monitoring is ongoing
City of Chattanooga	Chattanooga CDBG Sidewalk Projects	Complete	Design completed in 2016 Construction completed in 2017
City of Chattanooga Public Works	Anderson Avenue RPR, Chattanooga	Complete	Construction completed in May 2018



2. What stands out with your firm (and partnering sub-consultants) that makes your team uniquely qualified for this on-call contract?

Arcadis has assembled a highly-qualified project team that meets all TDOT Local Programs prequalifications. Team members were selected based on their experience with Local Programs projects and their availability/ability to perform. Our team members have worked closely with many local agencies on their federally funded projects providing planning, design, construction administration services and inspection services. With our extensive TDOT background, Arcadis can help TDOT mitigate or avoid roadblocks and project setbacks commonly encountered in the Local Programs process.

What sets us apart?

Complete project lifecycle experience

ARCADIS With current TDOT experience spanning the entire project lifecycle, we have a full appreciation of the entire project development process at TDOT so that Local Program Development projects are completed **quickly, correctly** and **cost effectively**. We recently received our 2016 Roadway Design Division consultant evaluations. Arcadis received an **above average score** of 3.60 for our design contract with the Roadway Design Division, showing proof that we are paying attention to your needs and consistently looking for opportunities to improve our services.

Arcadis' history working across all TDOT Divisions—Roadway Design/Survey, Strategic Transportation Investments, Environmental, Long Range Planning, Traffic Operations, Construction, Structures, Right of Way and Maintenance—extends to the present. Through our current work with TDOT, we are performing a variety of services on projects in Regions 1, 2, 3 and 4 including environmental services/permitting, surveying, CEI, conceptual designs and producing construction documents.

This team is very well versed and experienced in the TDOT process to ensure these local jobs are designed and built to TDOT standards and specifications with no learning curve.



Our senior design staff, **Clint Butler, PE, Fritz Brogdon, PE, and Karen Trowell, PE** are experienced with the TDOT process, FHWA regulations, ADA requirements and environmental processes required that will be used on local projects. This team has spent their entire careers managing and designing TDOT projects. Combined with our bench of young design talent, Arcadis balances experience with cost effective design to suit the budgets of local agency projects.

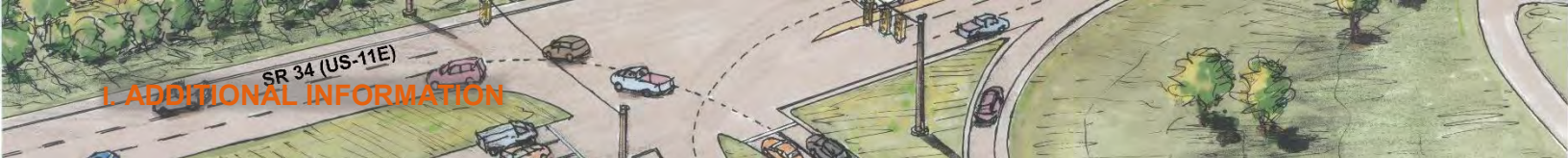
Erin Woodson, PE, currently manages our TDOT environmental contracts. Arcadis is one of the most respected environmental firms in the state, having held many Environmental Division contracts throughout the years. We've assisted TDOT and other municipal clients with multiple environmental permits and documents and know the process from start to finish. We consider the potential impacts to the environment and overall constructability during the NEPA process. By avoiding pitfalls in areas such as permitting — that cause delays and add unnecessary costs to future stages of a project — Arcadis saves time and money by avoiding costly delays and increasing efficiency.

3.57

**2017 Roadway Design
On-Call contract -
above the statewide
average!**

100%

**CEI Final Records
Check in for Project
Close Out**



I. ADDITIONAL INFORMATION

Nick Dwyer, our CEI supervisor, has 18 years of TDOT experience working as a project manager, CEI inspector and EPSC inspector. Nick worked for more than two years embedded with the TDOT Region 2 Final Records office working to close out projects from roadway repairs to multi-million dollar construction projects. Our CEI team is thoroughly aware of the potential for shortcomings in record keeping that can impact FHWA compliance and funding. We can work with the local agencies to promote the TDOT way of proper record keeping on your Local Program projects.



Palmer Engineering joins our team to provide roadway and structural engineering. A few of the contracts Palmer currently holds are TDOT Bridge Inspection and Repair Contract, TDOT Right of Way On-Call Contract, TDOT Design On-Call Contract and TDOT Permitting On-Call Contract. We've had a successful partnership with Palmer working on the I-440 Interstate Reconstruction project, and TDOT Bridge Inspection and Repair Contract where we are teaming on the I-40 over Buffalo River bridge replacement.



S&ME completes our team of experienced CEI professionals by providing construction materials testing and geotechnical services. S&ME invests great effort and resources to gain the laboratory accreditations and staff certifications to keep pace with evolving client expectations and needs. Technician training leads to advanced certifications in programs such as the National Institute of Certified Engineering Technicians (NICET) and the American Concrete Institute (ACI).

3.52

Recent performance evaluation score on Maintenance Division projects

“Arcadis has done an excellent job of managing this project. They have been responsive to our request and have submitted all deliverables in a timely manner.”

From concept to construction, our staff understands the entire TDOT project development process and the need to provide cost-effective and strategic transportation solutions. We will bring this same talented team of professionals to work for the Local Program Development Office, working as your partner in lowering costs, increasing efficiency, and expediting the project lifecycle.



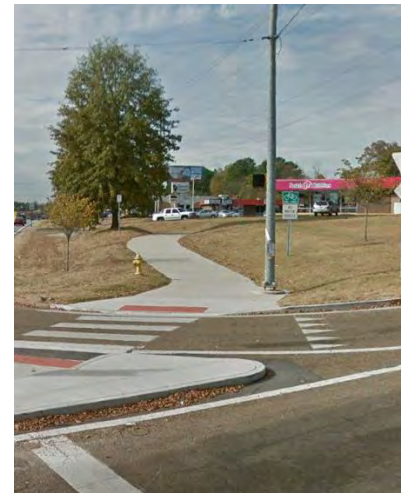
3. Describe your experience in the categories from the April 27, 2018 advertisement your firm identified interest in, and why your team would be exceptionally capable of designing, managing, and/or overseeing these types of locally managed projects.

3 - 1. Pedestrian and Bicycle Facilities and Other Transportation Alternatives

Arcadis understands the inclusion of bike and pedestrian infrastructure makes streets safer for everyone by reducing the frequency of crashes and calming traffic. This creates a less chaotic and more navigable environment for multi-modal methods of transportation.

With a highly skilled, professional and forward-thinking staff, we are not your everyday roadway engineers. We think beyond the pavement to accommodate all modes of travel. Our team has extensive experience in TDOT pedestrian and bike standards and current **NACTO design manuals** and ITE's *Design of Walkable Urban Thoroughfares*.

Arcadis designed a successful TDOT LPA pedestrian enhancement project for the City of Chattanooga. The project consisted of a one-mile multi-use path along SR-58 in the Harrison community. **The project included a 12-foot wide multi-use path, ADA complaint driveway crossings, numerous ADA intersection improvements, and the installation of a new traffic signal.** Arcadis worked with the City of Chattanooga on an extensive public outreach campaign and additional coordination with individual community stakeholders.



Another recent pedestrian and bike enhancement project was Martin Luther King Boulevard in Atlanta, Georgia. This project was designed for the City of Atlanta. The project was envisioned to become a gateway corridor to the new Atlanta Falcons stadium. **This project provides streetscaping, enhanced sidewalks, pedestrian intersection improvements, median refuge islands, and mid-block crossings with HAWK pedestrian signals.** These pedestrian improvements will provide enhancements not only for the locals but the visitors and tourists who frequent the area.

Winner of the Low Impact Design Competition for the re-design of Cherokee Boulevard Chattanooga, TN

A re-imagined Cherokee Boulevard is a complete and green street: a vital artery in northwest Chattanooga with strong connections from adjacent neighborhoods with enhancing transit, walkability and bicycle infrastructure.

In late spring of 2014, an Arcadis/RTKL team worked with students from local universities, and local businesses to participate in Chattanooga's "Resource Rain Design Competition," intended to solicit the best and brightest ideas of how to implement low-impact development of green infrastructure and complete streets elements in the City of Chattanooga.

In its grand prize winning entry, the Arcadis/RTKL team re-imagined Cherokee Boulevard, an underused thoroughfare transecting neighborhoods that needed something to reduce flooding, promote walking and bike use, and foster further economic development. The Arcadis team produced an effective and winning conceptual design.

The conceptual design included lifelike artist's renderings and before and after comparisons highlighting improvements such as enhanced sidewalks, bike travel lanes, stormwater-friendly trees, planters, rain barrels and permeable surfaces to manage stormwater runoff and other traveler-friendly features like additional transit stops.



3 - 2. Resurfacing

Experience and Expertise. Arcadis has provided **CEI services on nine separate resurfacing projects** throughout Region 2. We provided asphalt roadway inspectors and/or asphalt plant inspectors on these projects. Oversight included paving operations including cold planing, guardrail installation, traffic control, signing and pavement marking, traffic signal loop work and concrete handicap retrofit. Inspectors provided daily work reports, tracked project quantities and assisted in project record keeping. Our inspection staff maintain the TDOT Asphalt Certified Roadway Technician and Asphalt Concrete Certified Plant Technician certifications. S&ME has been a trusted partner to Arcadis for Materials Testing. Our firms have a history of teaming together on multiple TDOT and Local Programs projects and on-call contracts.

Gained through various Local Programs and TDOT design projects, Arcadis has the design experience to produce **asphalt resurfacing plans**. We understand how to clearly convey the information and specifications needed to complete a resurfacing project and produce bidding documents/materials to properly procure and contract a resurfacing project to TDOT standards.

Palmer Engineering, an Arcadis team member, is currently under contract with TDOT to develop a new pavement design process for TDOT. Palmer Engineering provides additional, highly qualified staff to prepare any needed pavement designs for asphalt resurface/reconstruction projects.

Proactive approach. Our multi-dimensional team has a holistic view of transportation projects and delivery gained through our work on various TDOT contracts. Potential impacts to the construction schedule and project constructability are two focus areas during our CEI process. With this proactive approach, the Arcadis team avoids many pitfalls that can occur during construction, which effects the rest of the project schedule. This saves on already burdened resources and increases efficiencies through the rest of the project stages.

Cost Effective. While TDOT will receive increased incremental revenue through the passing of the IMPROVE Act, Arcadis understands TDOT is a pay-as-you-go state. This places extra emphasis on every dollar spent. We want to provide not only the best CEI services but also the best value. Our current TDOT audited Field OH rate is 111.36%.

Arcadis is a clear choice for ensuring exceptional performance with project success on this contract because of our:

- Ability and commitment to partner with you to achieve on-time and effective solutions
- Our relentless focus on cost savings / innovative solutions
- Responsive service
- Strong project team
- Quality deliverables
- Safe work execution

What sets us apart?

We are teachers. Arcadis has in the past, and will continue in the future, to train TDOT staff at no additional cost.

Arcadis' value-added benefit to TDOT for the CEI on-call contract in Region 2 is our continued training of TDOT construction personnel. By working alongside our seasoned professionals on construction projects, TDOT can rest assured that their new staff will receive training from the best in the industry. Let us help you train your new staff on the job at no additional cost.

Additionally, Arcadis has a long track record of providing training in the classroom. Some examples of Arcadis helping TDOT rebuild its core competencies while providing a cost-effective solution for TDOT's training needs, are as follows:

- In 2017, Nick Dwyer gave a presentation to TDOT Region 2 and 3 construction staff on the GDOT SR 299 over I-24 ABC slide project, for which Arcadis provided CEI services.
- In 2016, Nick Dwyer and Roy Cooper provided a lunch and learn to TDOT Region 2 construction staff on claims avoidance through proper documentation.
- Roy Cooper (Arcadis) has presented on many occasions at the yearly TDOT Construction School.



*In 2016, Nick Dwyer and Roy Cooper provided a PDH lunch and learn to TDOT construction staff on claims avoidance through proper documentation. There were over 25 TDOT staff who attended this workshop and we received great feedback from **those who came!** Arcadis shares TDOT's goal of rebuilding core competencies within the*

*In 2017, Nick Dwyer presented to TDOT construction staff on **GDOT's SR 299 over I-24 ABC** slide bridge. There were over 50 TDOT staff who attended this workshop in both Region 2 and 3. The presentation focused not only on the innovative method of Accelerated Bridge Construction, but also discussed the Design-Build process from a*

3 - 3. Signalization and Intelligent Transportation Systems

Arcadis has assembled a team second to none for the conceptualization, analysis, design, and implementation in Signalization and Intelligent Transportation Systems (ITS). Spanning from our project manager to our support personnel, and from our task leaders to our quality assurance team, we have assembled the most qualified and experienced team.

We have worked across all TDOT Divisions, consistently providing cost-effective and on-time solutions for all transportation projects, including the I-24 Congestion Mitigation Report in Nashville, the I-240 ITS Relocation project in Memphis, the Vietnam Veterans Blvd Ramp-Metering project in Nashville, the I-40 ITS Expansion project in Knox and Sevier Counties, the LR 2814 Shelby County Signal Design project, and the SR 48 at SR 100 Signal Design project in Hickman County, as well as, our work on the I-440 Design-Build project.

TDOT requires a project team that can develop improvements that maximize benefits with limited funds, deliver complex projects on an expedited schedule, and employ innovative initiatives to minimize local impacts. Arcadis' transparent and creative approach, highly experienced project team, and a quality work product provides TDOT with innovative and realistic project deliverables.

Arcadis' recent traffic engineering projects include: an intersection signal design for **LR 2814 (Perkins Road) at Mallory Road in Shelby County, TN** and an intersection signal design for **SR 48 at SR 100 (Nickel Street) in Hickman County, TN**. The project in Shelby County includes the installation of a new traffic signal and fiber optic interconnect to the adjacent existing signal south of the intersection. The project in Hickman County included the installation of a new traffic signal with the design of an exclusive right turn lane on the westbound approach. Arcadis' staff has extensive knowledge and diversified experience in preparing quality construction plans for the TDOT Roadway Design Division. Additionally, our Chattanooga staff (Karen Trowell, PE and Fritz Brogdon, PE) has prepared over **70 traffic signal and intersection improvement construction plans** for TDOT under previous Traffic Engineering On-Call Contracts. Arcadis Tennessee-based staff have designed and/or provided signal timing for a combined total of over **600 traffic signals in the State of Tennessee**. We have extensive Tennessee experience to meet your signal design needs.

Signal timing is a primary design consideration in traffic signal design. With the complexity of today's traffic signal equipment and signal timing methodologies, the use of signal timing software (e.g., Synchro 10, HCS2010, etc.) is a necessity. Arcadis staff have logged numerous hours using Synchro and HCS Software to design traffic signal timing plans. Our extended experience allows us to efficiently produce accurate and effective timing plans for our designs. These timing plans can range from an isolated signalized intersection to an entire coordinated signal system.

We recently completed a TDOT ramp queue project at I-40 eastbound off-ramp to Asheville Highway. Utilizing Synchro and SimTraffic analysis software, Arcadis eliminated the dangerous queue onto I-40. This project alone resulted in a

Depth of Experience	
Current TDOT On-Call Contracts	<ul style="list-style-type: none"> • Strategic Transportation Investments, Statewide • Traffic Design On-Call, Statewide • Maintenance Division, Statewide • Environmental Permitting, Statewide • Ecology, Statewide • Hazardous Substances, Statewide
GDOT Similar Contracts	<ul style="list-style-type: none"> • Regional Traffic Operations Program • Regional Operational Improvements Program • Statewide Ecology • Statewide General Engineering Consultant • Statewide Maintenance Management and Design Services • Regional General Engineering Services • Regional Safety Design Services • Statewide Traffic Signal Timing
LADOTD Similar Contracts	<ul style="list-style-type: none"> • Traffic Engineering Services Retainer, Statewide • Speed Study Retainer, Statewide • Safety Studies Retainer, Statewide • Safety Design Retainer, Statewide • ITS Maintenance Retainer, Statewide • Signing/Structural Consultant Retainer, Statewide

I. ADDITIONAL INFORMATION

\$1,000,000 to \$2,000,000 savings over geometric upgrades. Region 1 Traffic Engineer Nathan Vatter stated **“New Timings cleared all queued traffic through each signal phase on Asheville Highway and on the Eastbound Off Ramp, (New Timing Plans worked Great!) Thanks Karen”** This is one example of how our signal timing expertise can improve corridor reliability at a substantial savings to TDOT.

TDOT has invested significant resources and efforts to expand the State’s ITS infrastructure in support of a more efficient traffic operation. ITS provides the necessary tools to better manage the ever-growing field infrastructure, traffic congestion and safety-related issues. It also increases the DOT’s efficiency to monitor, operate and maintain the system. By having a mature, well-maintained ITS and advanced information technologies system, TDOT can strategically and proactively respond to changing traffic conditions, manage the demand on various facilities, quickly identify and respond to failures, and, in many cases, take corrective actions from a central location.

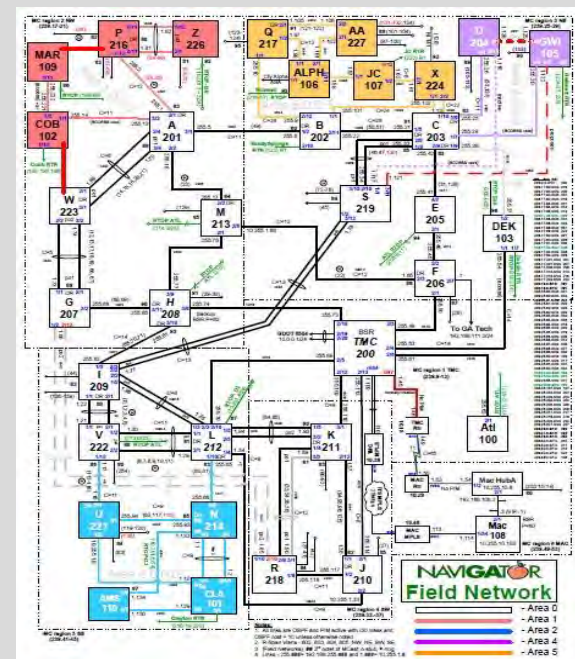
Proper planning is the key to any successful ITS program along with the necessary tools and data to perform required functions, such as:

- ITS Architecture development and maintenance
- Establishing defined, measurable goals and objectives
- Future project planning, programming, and funding
- Standard operating procedures and processes
- Providing O&M tools to minimize engineering and maintenance costs
- Large database and information management, processing, and associated analytics development

Successful implementation requires knowledge and experience not only on the individual components, but also of the system engineering process and how each of these interact with each other and seamlessly work together. This requires extensive knowledge of both hardware and software solutions and how they impact each other and the resulting outcomes. Our qualified staff have successfully implemented similar installations.

With new innovations and technology, ITS components continue to change. Our team understands and has worked on several types of field equipment (cabinets, controllers, communication devices, central systems, etc) on various projects such as GDOT Regional Traffic Operations Program and North Avenue for Renew Atlanta project. Arcadis has developed systems engineering for large and small systems for both State and Local agencies. Our team of experts understand integration requirements of all ITS components. Our entire team treats integration as a core business principle because it is invaluable to our ITS project deliverables. It provides us with a critical, practical understanding of multiple disciplines related to transportation engineering, electrical engineering, communication engineering, software and system engineering, configuration management, operations and maintenance, and information technology.

Arcadis offers integration as a core service. Our team’s unique mix of ITS professionals with strong design backgrounds has translated into a multitude of successful integration projects, including the GDOT NaviGator system.



I. ADDITIONAL INFORMATION

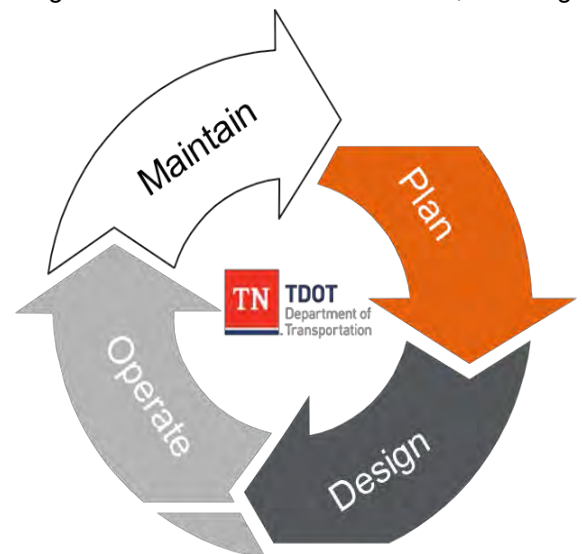
Our proposed team has the full capability to perform the following sample of anticipated functions:

- Network
 - Design
 - Specifications
 - Configuration management
 - Network management
 - Switch programming
 - Field controller programming
- CCTV
 - Digital camera configuration
 - Encoders and decoders programming
- DMS
 - Specifications
 - Communications planning and design
 - Field and central configuration and programming
 - Fiber Optics
 - Design
 - Specifications
 - Testing and trouble shooting
 - Splicing

Efficient TMC operations and effective maintenance are two important keys for realizing the full benefits of current and future ITS deployments. The proposed Arcadis staff brings unique experience with consulting, the public sector, and contracting, which allows our team to understand and execute complex ITS projects, costs, and potential competing perspectives of the various stakeholders through consensus building and facilitation. Arcadis was appointed to a team by GDOT for the upgrade and maintenance of NaviGator assets in Georgia for another five years. In addition, Arcadis currently and for the last 4 years, maintains the Louisiana DOTD entire ITS infrastructure.

Arcadis designed and implemented the prestigious City of Atlanta North Avenue Smart Corridor that included the installation of Connected Vehicle (CV) technology for 20 Intersections along North Avenue. This project provided an adaptive signal timing system, vehicle-to-infrastructure communications through DSRC and 4G communications, enabling future integration and acceptance of autonomous vehicles and connected along the corridor. The team was also able to provide emergency vehicle pre-emption to improve safety throughout the City, as well as providing midblock pedestrian crossing with the use of infrared passive pedestrian detection.

With current TDOT experience spanning a project lifecycle, we have a full appreciation of the entire project development process at TDOT so that your projects are completed quickly, efficiently and cost-effectively. We provide better Traffic and ITS engineering services because we keep the big picture in mind. We have the specialized expertise to help TDOT develop, design, maintain and operate both your Signalization and complete ITS system needs. We provide global ITS expertise delivered at the local level by staff who can work with you to understand and achieve your Signal and ITS objectives.



3 - 4. Bridge Repair or Replacement

The Arcadis and Palmer team understand that bridges form a vital link in the roadway network. The Improve Act provided additional resources to tackle some of Tennessee's aging infrastructure. It is our understanding that more than 500 off-system (local) bridge projects are targeted for repair or replacement.

Our team has vast experience from the initial stages (**over twenty bridge Transportation Investment Reports**) to final bridge design plans on multiple bridge projects in multiple states (Tennessee, Kentucky, Georgia, Florida and Ohio). Since 2016 Arcadis has assisted with GDOT's batch bridge bundle projects. We have completed **numerous local bridge projects through GDOT's design build contracting division**. We are currently working on the 2018 bridges and while these projects do go to design build teams for final design Arcadis completed the:

- Topographic survey
- Environmental report
- Costing plans (road and bridge to a 30% level)
- Bridge Hydraulics
- Determination of design criteria to be included in the RFP
- Design Exceptions/Variations



The GDOT batch bridge work displays our efficiency and depth of staff to be able to accommodate multiple bridge projects while maintaining an aggressive schedule and quality. This quality is representative of the fact that we are on our third year with GDOT providing these services.

To provide more resources and flexibility, we've teamed with **Palmer Engineering**. Palmer has 70+ professionals in TN and KY and will provide support primarily from their Nashville Office. Combining Palmer's experience with Arcadis' senior staff, we have a combined 120+ years of overall experience and 70+ years of TDOT experience!

Palmer currently holds a **TDOT Bridge Inspection and Repair contract**. **Since 1997, this work has included bridge repair projects for 200 bridges in multiple counties**. This work included close collaboration with TDOT staff, detailed field inspections, construction plan preparation, project phasing, traffic control, construction cost estimate preparation, and shop drawing review. These projects have been in TDOT Regions 1, 2, and 3. Most recently, Palmer and Arcadis are currently teamed on the **I-40 over Buffalo River Bridge Replacement** in Humphries County under this contract. The new bridge will replace the existing 1,765-foot, 42-span parallel bridges. Design and of the new structure is underway with Arcadis providing field survey and hydraulic analysis for the project.

Arcadis and Palmer have worked on hundreds of bridge repair and replacement projects for multiple states, local agencies and Local Program projects. As previously mentioned the Arcadis Palmer team is currently working on I-40 over Buffalo River Bridge Replacement we are also currently delivering Owner's Representative services on the **I-440 Reconstruction** in Davidson County. The I-440 project has six structures to be widened including the I-440 over I-65 bridge. Multiple bridge repairs were specified and included in the RFP document provided to the Design-Build teams.

In addition to our structure survey, planning, maintenance and design capabilities, Arcadis also provides a host of CEI services including EPSC inspections, field surveying, final records closeout, asphalt roadway and plant inspections, bridge coating inspections and other services as requested. Arcadis has no learning curves as we have been providing **construction services to TDOT Region 2 since 2002**. Our trusted, experienced and certified staff provide quality oversight of all phases of road and bridge construction. **We bring CEI best practices associated with bridge construction projects to TDOT**. As the methods and procedures of roadway and bridge construction change and expand, Arcadis meets our client's needs to provide them support with the CEI services. Our Chattanooga CEI staff recently completed construction management and CEI on the GDOT SR 299 over I-24 ABC slide bridge project just

I. ADDITIONAL INFORMATION

minutes from Hamilton County, TN. We are also providing GDOT with bridge inspectors and construction management on their FY16 Design-Build Batch Bridges which consists of **25 off-system bridge replacements throughout the state.**

Our team will approach any bridge project with the following questions in mind.

What is the existing bridge condition? Structures are a large cost and schedule driver whether they are a standalone project or part of a roadway project. Our team will review the viability for structure retention and widening of existing bridges. For bridges to be retained, maintenance items need to be identified and included in the contract/project. This could be especially critical for rural structures that have received limited maintenance due to funding constraints. We will coordinate with TDOT Local Programs Office, Structures and Design to validate whether bridges are to be retained or replaced.

What are the environmental impacts? Project locations will be screened for potential resources and sites with significant impacts will be communicated early to the Local Program office. This will aide in ensuring the appropriate design recommendations are provided.

What are the right-of-way requirements? Our team will evaluate the constructability of each site to ensure existing ROW is adequate. If proposed ROW is required, that determination will be made early. This early identification will help to manage the local government expectations related to the potential schedule increase due to acquiring right-of-way per the federal requirements.

What are the acceptable vertical/horizontal clearances and approach geometrics? Survey and bridge data will be evaluated to identify any unacceptable clearances. Additionally, review of clear zones, horizontal geometrics and vertical geometrics on the structure as well as the approaches. This will be based on the current posted/design speed for the route. Experience has taught our team that design exceptions should be identified early and establish what is acceptable for design. We will work to coordinate with TDOT Local Programs Office, Structures and Design to determine acceptable design exceptions.

What are the acceptable structure types and constructability? We will coordinate within TDOT Local Programs Office and Structures on bridge and wall type preferences to advise DB teams of acceptable bridge or wall types for design. Additionally, constructability should be reviewed on each structure. We have been conducted CEI services for TDOT since 2002 which has included bridge replacement projects. Our team brings experience across the entire life cycle of a bridge project from initial planning to design and through construction. This provides our team a unique perspective to provide a holistic approach to constructability of a bridge.

How will the traffic be accommodated during construction? Traffic control is always a key component of a bridge project. A few of the many options that will be reviewed on each bridge are as follows:

- Close the roadway and provide an appropriate detour route.
- Build the structure under traffic.
- Build a parallel structure adjacent to the existing structure allowing traffic flow to be maintained.

Our vast experience from bridge TIRs, bridge maintenance, bridge design, alternative contracting and CEI experience make us uniquely qualified to deliver any bridge project not matter the schedule, quantity or complexity.

Our inspectors constantly verified that the project was constructed per plans and specifications from concrete testing all the way to sliding the SR 299 over I-24 bridge in place.

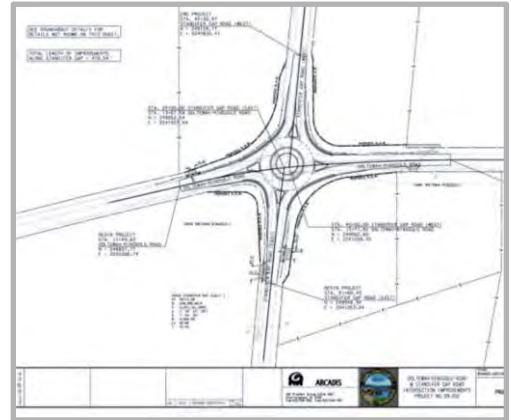




3 - 5. Intersection Improvements

Expertise and Experience. Intersections are crucial to a street’s performance, safety and efficiency. Arcadis’ experienced team of roadway engineers and designers understands that intersection improvements can entail more than just the addition of a dedicated left-turn lane. Our team has experience utilizing the various intersection improvement options available today to directly affect speed, safety, cost, and efficiency.

Arcadis assisted Hamilton County, TN with a TDOT Local Programs project to design and construct a roundabout at the heavily congested **SR 321 (Ooltewah Ringgold Road) and Standifer Gap Road** intersection. The intersection had an extensive accident history and was experiencing increased traffic volumes from a newly constructed middle/high school. Arcadis worked with the County to prepare alternatives and achieve consensus through public involvement that determined a roundabout was the best alternative for the project. The roundabout was constructed in 2016. Since opening day, the County has reported both improved safety and traffic operations at the lintersection.



SR-58 at Birchwood Pike was another Arcadis municipal project that involved the design of a unique intersection improvement. This project was for TDOT and was performed under the TDOT On-Call Design Contract.

A TDOT Road Side Safety Audit (RSA) determined that J-Turns were warranted along this route. As part of the roadway design project, the turn lanes and median crossovers will be converted to a series of J-turns. This conversion will require the design of concrete islands to convert existing median crossovers to J-turns and the design of a new J-turn crossover on the south end of the project. This conversion will also require the redesign of existing drainage facilities, additional large vehicle turning areas, modification of existing commercial driveways, and the redesign of the existing signing and pavement markings.



The J-turn reduces the crash potential because it does not allow left-turn and through movements from the side road. In order to make these movements, drivers at the side road have to first turn right then make a U-turn down the road from the original intersection.

Arcadis also has extensive experience preparing numerous RSA’s and intersection planning report for TDOT’s Strategic Transportation Investments Division (STID). These studies have provided our team with extensive experience determining the most efficient, cost-effective, and appropriate improvements for intersections.

Arcadis’ team has a proven track record in planning and designing intersection improvements that provide for the safe and efficient movement of the vehicles while also meeting the needs and expectations of the local communities.



I. ADDITIONAL INFORMATION

3 - 6. Non-construction/Service Projects

Since 2006 Arcadis has been providing non-construction/service projects for the Strategic Transportation Investments Division (STID) at TDOT. **We have performed hundreds of documents, studies and reports.** We just completed three Bridge TIRs and are finishing an interchange access request in Shelby County. We are currently scoping and pricing four additional Bridge TIRs to complete next month. Finding another firm with more experience working on non-construction services projects than Arcadis would be difficult.

Arcadis is in demand for difficult analyses of traffic and safety. We have extensive experience using *SYNCHRO* and *SimTraffic*, *VISSIM*, *SIDRA*, the Highway Capacity Software (*HCS2010*) the Highway Safety Manual (HSM), *Microstation* and *GeoPak* and other software to perform the highest caliber studies for your projects. We have an experience and deep bench of professionals in Tennessee combined with the support of our national specialists as needed. **Our strength is our breadth of resources – we can provide experts on just about any subject matter per the project requirement.**

This team currently works under a TDOT Continuing Services Contract providing RSAs, IARs, Technical Reports, Bridge TIR reports and engineering services on such high-profile projects as the **I-40 at US 64/SR 15 Interstate Access Request in Shelby County; SR 60 Technical Report in Bradley County; SR 155 (Briley Parkway) Operational Study in Davidson County; SR 39 Bridge over Middle Creek Bridge TIR in McMinn County, SR 40 Bridge over the Ocoee River in Polk County; SR 320 Bridge over the CSX Railroad in Hamilton County; and SR 306 RSAs in Bradley and Meigs Counties.**

Palmer Engineering, an Arcadis team member, **also has performed multiple STID projects** that directly relate to your current request for qualifications.

A few additional project examples (of the hundreds completed) during our **decades of experience** have included:

Ramp Queue Projects

Region 1, 2 and 4, TN – Arcadis has developed 12 RSA ramp queue reports for TDOT. Five Phase 1 reports were completed in both Regions 1 and 2. Phase 1 examined the possible presence of existing queue encroachments onto the mainline of interstate highways or state routes. Once mainline impacts were identified, RSA ramp queue report investigates the specific causes and recommended solutions for improvements to eliminate ramp queue issues. We are currently developing an RSA ramp queue in Shelby County on a Region 4 project.

Fatality Reduction Plans (Region 1) – Arcadis completed the development of the Fatality Reduction Plans for SR 61 in Anderson County and SR 131 in Grainger County, TN. In an effort to achieve the goal of reduced fatalities on Tennessee highways, TDOT asked Arcadis to prepare 2012 Fatality Reduction Plans in order to recommend safety improvements at these locations in Region 1. Improvements have been effective with **no recorded fatalities** since implementing.

Roadway Safety Audit Reviews (RSAs)

Regions 1 and 2, TN – Arcadis has successfully completed **40+ RSAR reports** for TDOT projects located throughout Regions 1 and 2. The combined length of these projects comprised more than **145 miles** of existing roadway corridors in Tennessee. The overall goal of the TDOT RSA program is to reduce the number of injuries and fatalities on highways with low-cost, quickly implemented improvements. Examples of these improvements include proposed signs and pavement markings or correcting minor geometric roadway deficiencies. The availability of Federal funding for these projects is determined by the number and severity of crashes in the study area. **Arcadis shares in TDOT's goal of safer roads and**

Arcadis has completed Synchro capacity analysis on numerous transportation projects in Tennessee.



reduced fatalities. We take great pride in our RSA work, in that safer roads truly make a difference in the lives of Tennessee motorists.

Rural State Route Shoulder Widening Initiative (SR 35)

Blount County – Arcadis developed the conceptual plans for the rural shoulder widening project on SR 35. This 7-mile corridor in Blount County was identified as a target for this program due to the high number of lane departure crashes and the minimal shoulder width along the route. Between January 1, 2008 and December 31, 2010, there were a total of 104 crashes along this section of SR 35. **With in-house, Tennessee-based staff, Arcadis provided the following services: field surveying, ecological field review, preliminary roadway shoulder design, development of plan sheets and cost estimates for the shoulder improvements.**

Transportation Investments Reports (TIRs)

Arcadis **completed the development of ten Bridge TIRs for TDOT.** Located in Regions 1 and 2, these projects were funded by the Special Bridge Replacement Program (SBRP). These studies were comprised of the following items: location/vicinity maps, bridge replacement analysis/needs and costs assessment, site inspection notes, hydrology/hydraulics analysis, and site photos. In addition to the ten completed Bridge TIRs Arcadis is **currently scoping and pricing four additional Bridge TIRs** to be complete next month. The components of these studies included the following: project background, existing conditions, field review information, purpose and need, options for improvement (proposed concepts), assessment of options and summary.

SR 8 (US-27) / Signal Mountain Boulevard Technical Report, Hamilton County, TN

Arcadis completed the development of a technical report involving a 3-mile corridor along SR 8 between SR 27 and Palisades Drive. This route along the side of the mountain provides a vital link between Signal Mountain and Chattanooga, TN. From 1975 to 1985, the study area experienced three major earth slides resulting in traffic delays. The most recent slide occurred in 2009 and closed the road for several days. Improvements to roadway drainage and slope stability were provided. **A phased implementation approach was suggested to allow construction as monies became available.** We are currently scoping and costing an update to this report as the **project was recently funded for design.**

Expedited Project Delivery (EPD) Reports

Arcadis has developed **24 EPD reports** for TDOT. The combined corridor length of these projects located in Regions 1 and 2 comprised more than **128 miles** of roadway. Total cost savings to taxpayers of **\$819 million** with the completion of these reports. Through these, we help TDOT answer the question – **‘are we building the right project?’** The purpose of these studies was to identify and recommend transportation improvement options that were feasible, cost effective, and provided improved safety and mobility. The ultimate goal was to address the immediate needs of the highway system and propose proper solutions that could be cost effectively implemented in a timely manner. - Arcadis assisted TDOT in answering the question – ‘are we building the right project?’ Total cost savings to taxpayers of \$997 million with the completion of 24 EPD reports.



I. ADDITIONAL INFORMATION

The table below represents the number of STID and local agency projects Arcadis has completed for TDOT and other local and municipal agencies.

Planning Projects	Total Completed
Needs assessments	1
Feasibility studies	3
Location studies	4
Technical reports	4
Transportation investment reports	4
Bridge Replacement Studies (Bridge TIR)	10
Interstate Access Request (IAR)	4
Road Safety Audits (RSA)	62
Safety Analysis	10
Traffic Studies	10
Other Related Studies	26

Safety is a major component with any project undertaken. Safety is always a part of our projects and we utilize the HSM to properly assess the safety of proposed improvements. The below table represents the number of TDOT and local agency safety related projects completed.

Safety Project	Total Completed
Crash Data Analysis	193
Highway Safety Improvement Program/Other Safety Funds	52
Local Road Safety Initiative	2
Federal Safety Initiatives (Systemic Safety Action Plan, HSM)	7
Traffic Studies	10
Other Related Studies	26

A proactive approach will be developed on each project we work on. We understand a major component of any project involves environmental. The Arcadis team avoids many pitfalls that can occur during the permitting stage, which effects the rest of the project schedule. This saves on already burdened resources and increases efficiencies through the rest of the project stages.

Quality and expertise in NEPA. Arcadis believes quality NEPA documents are clear and concise, giving only the relevant information needed to make the best decision for Tennessee's infrastructure and ultimately, its citizens. Arcadis completes a robust quality control and quality assurance review, and technical editing of all of our deliverables. A comment response form is included with all client deliverables to demonstrate senior review of documents and our commitment to quality control and accuracy. This level of quality control is also implemented for documents being delivered by our sub-consultant(s). We use our expertise to overcome obstacles, find a path of least resistance and provide a quality document.

I. ADDITIONAL INFORMATION

Proactive approach in Ecology and Permitting. Ecological and permitting services are an integral part of many projects in Tennessee. Through experience working across TDOT's Environmental, Strategic Transportation Investments, Roadway Design, Long Range Planning, Traffic Operations, Construction and Maintenance Divisions, we know how our ecology work affects a project in later stages. We identify potential future issues and work with the client and designers to help minimize potential pitfalls such as unidentified ecological features and the associated permitting.

Our permitting expands to construction general permitting as well, where we are often sought out for our expertise in erosion and sediment control design and SWPPP preparation. We have been a partner with TDOT throughout this process, providing numerous training modules to staff.

During the planning process of the Waycross Bypass, a corridor capacity project, we developed a strategy to reduce construction impacts below the threshold requiring a permit. This saved CSXT the significant time and money required to develop the permit and provide potential mitigation.



Because we work across most TDOT Divisions, Arcadis delivers an all-inclusive project approach. By looking at NEPA, design, operations, permitting, construction and maintenance needs, we bring creative ways to reduce construction costs and minimize project delays, limit costly revisions, and reduce long-term maintenance costs, providing our clients a best value project. From previous work on EPDs that helped save TDOT millions of dollars, to our most current I-40 at Asheville Highway Ramp Queue project, which **saved between \$1-2 million**, we have consistently proven we are committed to helping you get the most out of your budget.

Turnkey team to meet expedited schedules. The Chattanooga, Nashville, Knoxville Arcadis offices have over 60 capable and professional staff, complemented by national support to bring innovative ideas and expedited delivery. Our ability to meet an expedited schedule has been proven through our work on the I-440 Reconstruction Design Build project. Region 2-based Arcadis staff, complemented by our Georgia and Ohio resources, and Palmer staff delivered preliminary plans and the RFP document within seven months of notice to proceed. Our vast local resources combined with our national experts, we bring the best of both worlds to TDOT projects.

J. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE

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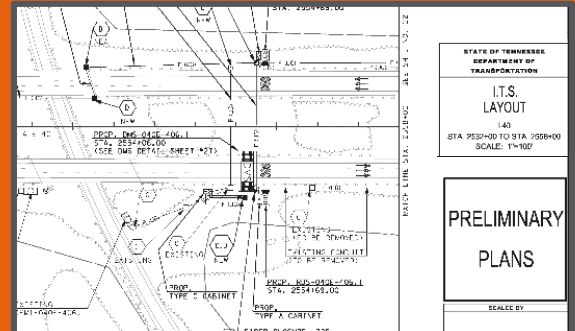
32. DATE

July 18, 2018

33. NAME AND TITLE

Clint Butler, PE – Associate Vice President

APPENDIX - CERTIFICATIONS



TDOT Local Programs Training CEI Training Attendee List

See highlight below for Arcadis staff attendee.

LEVEL 2 CLASS ATTENDEES (LISTED BY ATTENDEE)				
NAME		ORGANIZATION	YEAR	CERTIFICATION
LAST	FIRST		ATTENDED	EXPIRES
Abbott	David	TDOT	2017	10/31/2022
Abercrombie	Hendrix	Southern Environmental Technologies	2016	10/31/2021
Agee	John	S&ME, Inc.	2015	10/31/2020
Akinduro	Daniel	ACOT	2018	10/31/2023
Alafa	Nicco	City of Memphis	2016	10/31/2021
Alexander	Barry	Neel-Schaffer	2017	10/31/2022
Allen	Jason	Powers Hill Design	2017	10/31/2022
Ark	Kim	Sumner County	2015	10/31/2020
Armstrong	Robert	Cannon & Cannon Inc.	2016	10/31/2021
Armstrong	Brian	Dickson County Highway Dept.	2016	10/31/2021
Atkins	Chris	DBS & Associates	2015	10/31/2020
Babicki	Rob	DBS & Associates	2016	10/31/2021
Bagby	Aaron	City of Murfreesboro	2018	10/31/2023
Bailey	Amy	TDOT	2017	10/31/2022
Baker	James	DBS & Associates	2015	10/31/2020
Baker	David	Fisher Arnold	2017	10/31/2022
Baker	Chris	McGill Associates	2017	10/31/2022
Banks	William	City of Franklin	2017	10/31/2022
Barlow	Andy	City of Mt. Juliet	2017	10/31/2022
Bartlett	Benton	Coffee County Highway Dept.	2017	10/31/2022
Bates	Don	Town of Linden	2016	10/31/2021
Baxter	Jill	Fisher Arnold	2016	10/31/2021
Beaudoir	James	Terracon Consultants, Inc.	2015	10/31/2020
Beaugard	Rhonda	City of Memphis	2016	10/31/2021
Beck	Karl	McGill Associates	2013	10/31/2018
Beckner	Randy	Mattern & Craig	2017	10/31/2022
Begley	Tim	City of Crossville	2018	10/31/2023
Belgeri	Jim	Sullivan County	2017	10/31/2022
Berkes	Michael	Gresham Smith and Partners	2013	10/31/2018
Berry	Teresa	Smith Seckman Reid	2018	10/31/2023
Biggs	Michael	Wiser Consultants	2017	10/31/2022
Biscoff	Eric	OHM Advisors	2014	10/31/2019
Bobo	Gequais	City of Memphis	2016	10/31/2021
Bodnar	Ed	Sessions Paving Co.	2015	10/31/2020
Boman	Darrin	Rutherford County	2018	10/31/2023
Bongfeldt	Chris	WSP	2017	10/31/2022
Bordley	Lawson	TDOT	2015	10/31/2020
Bostic	Wayne	LDA Engineering	2017	10/31/2022
Bradley	Jay	Wiser Consultants	2013	10/31/2018
Brady	Jason	Gresham Smith and Partners	2013	10/31/2018
Brasfield	Russ	Barge Design Solutions	2017	10/31/2022
Brasfield	Steven	Tegraph Engineering	2017	10/31/2022
Brasher	Derrick	Cook Cogging Engineering, Inc.	2016	10/31/2021
Brogdon	Fritz	City of Chattanooga	2013	10/31/2018
Brooks	Jacob	Barge Design Solutions	2018	10/31/2023

The University of Akron

The College of Engineering

By authority of the Board of Trustees and on recommendation
of the Faculty hereby confers upon

Erin M. Curtis

The Degree of

Bachelor of Science in Civil Engineering
Summa Cum Laude

Together with all the rights and privileges pertaining thereto.
Witness the seal of the University and the signatures of its officers.
Given at Akron, in the State of Ohio, this tenth day of May, 2003.

Mark N. Apte mo.
Chairman of the Board of Trustees

Jedediah Stalls
Secretary of the Board



Jim Gray
President of the University

George K. Hamilton
Dean



By authority of the Board of Trustees of the

UNIVERSITY OF ILLINOIS

and upon recommendation of the Senate

at Urbana - Champaign

Erin Woodson

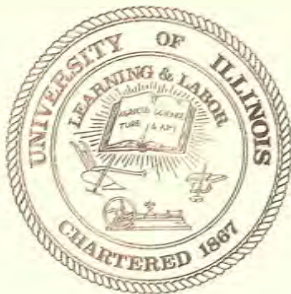
has been admitted to the Degree of

Master of Science in Civil Engineering

and is entitled to all rights and honors thereto appertaining

Witness the Seal of the University and the Signatures of its Officers

this nineteenth day of December, two thousand and sixteen.



Edward J. McMillan
Chair of the Board of Trustees

Nedra M. Williams
Secretary of the Board of Trustees

Timothy L. Killeen
President of the University of Illinois

[Signature]
Chancellor, University of Illinois at Urbana-Champaign
Vice President, University of Illinois

License Search and Verification

After you submit the search form, your results will appear below the form in this window (the form will remain for your reuse)...if you cannot see the results below, please scroll further down the search form.

[<< Click Here To Go Back To The Search Page](#)

License Details

License Status	Active - Fully Licensed
License #	119567
License ID	119567
Expiration Date	Nov 30 2018
Original Date	Nov 8 2016
Profession Code	1202
Profession Name	Engineer
First Name	Erin
Middle Name	Marie
Last Name	Woodson
City	OOLTEWAH
State	TN
Zip Code	37363
Rank	Professional Engineer
License Activity Description	Active - Fully Licensed

Search The International Registry of Certified Professionals in Environmental Specialties

- **To search the entire directory of all qualified professionals** - leave the "Certificate" and "Country" filters blank and simply type into the "Search" field (everything is searchable including last name, state, etc.).
- **To filter results by certificate** - choose a program from the "Certificate" dropdown and then click Submit.
- **To filter results by country** - choose a country from the "Country" dropdown and then click Submit. If "US" is chosen as the country, a "State" dropdown will appear after clicking "Submit".

Certificate: CPESC

Country: US

State: Tennessee

Submit Query

Show entries

Search:

Name	City	State	Certifications WITH Cert ID	Expiration Date
Erin Woodson	Ooltewah	TN	CPESC(5496)	2018-05-16

Showing 1 to 1 of 1 entries (filtered from 171 total entries)

[Previous](#) [Next](#)

Level 1 Certified - Click Column Heading to Sort

Quick Search

Page of 1

 Displaying 1 to 2 of 2 items

First Name	Last Name	Organization	City	Exp Date	Cert No
Ryan	Woodson	Lose & Associates, Inc.	Nashville	12/31/2018	133929
Erin	Woodson	Arcadis	Chattanooga	12/31/2019	136042

Level 2 Certified

Records 1 to 1 of 1

Enter First few Letters of Last Name to search

Search

[Search By City](#)

[Search by Organization](#)

First Name	Last Name	Organization (sort)	City (sort)	Exp. Date
Erin	Woodson	Arcadis	Chattanooga	12/31/2019



36-005885138

This card acknowledges that the recipient has successfully completed a 10-hour Occupational Safety and Health Training Course in **Construction Safety and Health**

Erin M Woodson

RICK GLEASON, CIH, CSP
(Trainer name – print or type)

12/30/2016
(Course end date)



Tennessee Erosion Prevention & Sediment Control Program

Erin Woodson

Is a Fundamentals of EPSC Level 1 Certified Personnel

Certification # 136042 Expires:12/31/2019



Erin Woodson

CPESC

Certified Professional in Erosion & Sediment Control

5496
CERTIFICATION NO.

2018-05-16
EXPIRES

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Doug Dekker

*Has successfully completed the Department's Course in
ASPHALT CONCRETE CERTIFIED PLANT TECHNICIAN*



Date: 09/23/2015 Certificate No. 1774

Expiration Date: 09/23/2020

Bob Egan

Materials and Tests

Will R. D.

Construction Division



TENNESSEE DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT DIVISION

This is to certify that

Doug Dekker

has successfully completed a two-day workshop on
Chapter 8 (Preconstruction and Construction Procedures)
of the Local Government Guidelines for the Management
of Federal and State Funded Transportation Projects

TDOT Region 2 on March 29-30, 2012

Teresa Estes
TDOT Program Development Division

Patrick Murray, P.E.
Presenter, TranSystems

David Donoho, P.E.
Presenter, Smith Seckman Reid

For the Tennessee Department of Transportation
This certificate entitles the recipient to 10 Professional Development Hours

APNGA Portable Nuclear Gauge Safety & U.S. D.O.T. Hazmat Certification Class

Certificate of Completion to:

Doug Dekker

HAZMAT refresher training is required within 3 years after today's date:

April 1, 2016

This course covers training criteria of NUREG 1556, The Agreement States,
and 49 CFR 172, Subpart H.

The Company RSO completes the training requirements by familiarizing the employee with:

- State specific regulations including introduction to the state regulatory website
- The company radiation safety program, specifically gauge safety operating and emergency procedures
- A tour of storage area with emphasis on security, documents and postings
- Loading, security and transporting gauges in company vehicles
- Hands-on training with the gauge and methods in use by the company
- Introduction to gauge safety content on gauge manufacturer website
- Certificate covers both Gauge Safety and USDOT HAZMAT requirements

The acknowledgement and signature of the RSO/Official makes the training and certificate relevant and valid.

KAGAN · SMITH ASSOCIATES, INC.

Company Name

[Signature]

Signature of RSO

[Signature]

Director of APNGA

American Portable Nuclear Gauge Association
P.O. Box 423, Emmitsburg, MD 21727 • www.apnga.com

IsycnEKP0g

George E. Marshall - Director
240-888-6426

Maintenance of Traffic

Certificate of Training

This is to certify that

~ **DOUGLAS DEKKER** ~


has successfully completed the

F.M.O.T. Work Zone Intermediate Training Course

Jill Lewis, Provider No. 003

March 10, 2009
Course Completion Date

March 10, 2013
Course Refresher Date


Safety Training Instructor

JL02253
Certification Number



CERTIFICATE OF COMPLETION

Douglas Dekker

has successfully completed the following course

MSE Wall Inspector

This course is approved for 1 continuing education credit hours.

Not Applicable

Course Approval

Victoria Zambito

Victoria Zambito, VP of Content Development

RedVector.com

AIA Registered Provider # J315

FL DBPR Approved Provider # 0001771

FBPE Approved Provider # 33

Wednesday, April 08, 2009

Course Completion Date





NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES®

Providing Certification Programs Since 1961

BE IT KNOWN THAT

Doug S. Dekker

IS HEREBY AWARDED CERTIFICATION AT

LEVEL III

**IN TRANSPORTATION ENGINEERING TECHNOLOGY
HIGHWAY CONSTRUCTION**

**BASED UPON SUCCESSFUL DEMONSTRATION OF REQUISITE KNOWLEDGE,
EXPERIENCE AND WORK PERFORMANCE AS SET FORTH BY THIS INSTITUTE.**

Certification Valid through May 1, 2018

CERTIFICATION NUMBER 125753

Stephen L. Dyrnes, P.E.

CHAIRMAN OF THE NICET BOARD OF GOVERNORS

A DIVISION OF THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Doug Dekker

Has successfully completed the Department's Course in
CONCRETE FIELD CERTIFIED TECHNICIAN



Date: 03/01/2018 Certificate No. 1774

Expiration Date: 03/01/2023

Materials and Tests

Construction Division

Tennessee Department of Transportation
Materials and Test Division
This is to certify that

Doug Dekker

Has successfully completed the Department's course in

Certified Concrete Field Technician

Valid Until: 4/18/2018

Certificate No: 1774



[Signature]

Materials and Tests

[Signature]

Construction

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Doug Dekker

Has successfully completed the Department's Course in
SOILS AND AGGREGATE CERTIFIED TECHNICIAN



Date: 05/04/2017 Certificate No. 1774

Expiration Date: 05/04/2022

Materials and Tests

Construction Division

Bobley

Will R. I.



TENNESSEE DEPARTMENT OF TRANSPORTATION

PROGRAM DEVELOPMENT DIVISION

This is to certify that

Doug Dekker

has successfully completed a two-day workshop on
Chapter 8 (Preconstruction and Construction Procedures)
of the Local Government Guidelines for the Management
of Federal and State Funded Transportation Projects
TDOT Region 3 on May 16-17, 2018

A handwritten signature in blue ink that reads "Whitney Britt".

Whitney Britt
TDOT Program Development Division

A handwritten signature in blue ink that reads "David Donoho".

David Donoho, P.E.
Presenter, Smith Seckman Reid

For the Tennessee Department of Transportation
This certificate entitles the recipient to 10 Professional Development Hours

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Nicholas Dwyer

Has successfully completed the Department's Course in
CONCRETE FIELD CERTIFIED TECHNICIAN

Date: 10/11/2016 Certificate No. 3717

Expiration Date: 10/11/2021

Materials and Tests

Construction Division



Tennessee Department of Transportation
Materials and Test Division

This is to certify that

Nicholas Dwyer

Has successfully completed the Department's course in

Certified Concrete Field Technician

Valid Until: 10/11/2021

Certificate No: 3717

Materials and Tests

Construction





Tennessee Transportation Assistance Program

certifies that

Nicholas Dwyer

has completed the requirements for

Work Zone Traffic Control / Flagging

Monday, February 18, 2013 in Knoxville, Tennessee

Earning 6 Professional Development Hours

Director, Tennessee Transportation
Assistance Program



Instructor



TENNESSEE DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT DIVISION

This is to certify that

Nicholas Dwyer

has successfully completed a two-day workshop on
Chapter 8 (Preconstruction and Construction Procedures)
of the Local Government Guidelines for the Management
of Federal and State Funded Transportation Projects

TDOT Region 2 on May 24-25, 2017

A blue ink signature of Whitney Sullivan is written over a horizontal line.

Whitney Sullivan
TDOT Program Development Division

A blue ink signature of David Donoho is written over a horizontal line.

David Donoho, P.E.
Presenter, Smith Seckman Reid

For the Tennessee Department of Transportation
This certificate entitles the recipient to 10 Professional Development Hours



Tennessee Transportation Assistance Program

certifies that

Brian Lee

has completed the requirements for

Local Government Guidelines Manual Training

Wednesday, October 28, 2015 in Nashville, Tennessee

Earning 6 Professional Development Hours

TTAP Director



Instructor



Certificate of Completion

Is hereby granted to

Brian Lee

To certify has completed to satisfaction

Local Public Agency Workshop

Granted: October 28, 2015

Jeff Hoge

Right of Way Division Director

Class Length 4 Hours

Tennessee Department of Transportation
Materials and Test Division
This is to certify that
Sean Rogers
Has successfully completed the Department's course in
Asphalt Concrete Certified Roadway Technician
Certificate No: 1225
[Signature]
Materials and Tests
[Signature]
Construction



THE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Sean Rogers

*Has successfully completed the Department's Course in
ASPHALT ROADWAY CERTIFICATION*



Date: 02/09/2016 Certificate No. 1225

Expiration Date: 02/09/2021

[Signature]

Materials and Tests

[Signature]
Construction Division



TENNESSEE DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT DIVISION

This is to certify that

Sean Rogers

has successfully completed a two-day workshop on
Chapter 8 (Preconstruction and Construction Procedures)
of the Local Government Guidelines for the Management
of Federal and State Funded Transportation Projects
TDOT Region 3 on May 16-17, 2018

A handwritten signature in blue ink that reads "Whitney Britt".

Whitney Britt
TDOT Program Development Division

A handwritten signature in blue ink that reads "David Donoho".

David Donoho, P.E.
Presenter, Smith Seckman Reid

For the Tennessee Department of Transportation
This certificate entitles the recipient to 10 Professional Development Hours

Tennessee Department of Transportation
Materials and Test Division
This is to certify that

Sean Rogers
Has successfully completed the Department's course in
Soils and Aggregate Certified Technician
Certificate No. 1225

Valid Until: 12/1/2021



DEPARTMENT OF TRANSPORTATION
MATERIALS AND TESTS DIVISION

This is to certify that

Sean Rogers

Has successfully completed the Department's Course in
SOILS AND AGGREGATE CERTIFIED TECHNICIAN



Date: 12/01/2016 Certificate No. 1225

Expiration Date: 12/01/2021

Will R. D.
Materials and Tests

Will R. D.
Construction Division



TENNESSEE

MATERIALS

DEPARTMENT OF TRANSPORTATION

This is to certify that

Sean Rogers

Has successfully completed the Department's Course in

CONCRETE PLANT QUALITY CONTROL TECHNICIAN CERTIFICATION



Date: 05/13/2015 Certificate No. 1225

Expiration Date: 05/13/2020

Materials and Tests

Construction Division

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Sean Rogers

Has successfully completed the Department's Course in
CONCRETE FIELD CERTIFIED TECHNICIAN



Date: 10/11/2016 Certificate No. 1225

Expiration Date: 10/11/2021

Materials and Tests *Will R. D.*

Construction Division



Tennessee Transportation Assistance Program

certifies that

Sean Rogers

has completed the requirements for

Work Zone Traffic Control / Flagging

Thursday, April 5, 2012 in Chattanooga, Tennessee

earning

6 Professional Development Hours

Director

Tennessee Transportation Assistance Program

TD↑T



Instructor

Tennessee Department of Transportation
Materials and Test Division

This is to certify that

Andrew Graham

Has successfully completed the Department's course in

Certified Concrete Plant Technician

Valid Until: 10/13/2020

Certificate No: 3262



[Signature]

Materials and Tests

[Signature]

Construction

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Andrew Graham

Has successfully completed the Department's Course in
ASPHALT CONCRETE CERTIFIED PLANT TECHNICIAN



Date: 01/06/2014 Certificate No. 3282

Expiration Date: 01/06/2019

Materials and Tests

Construction Division

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Richard Setzer

Has successfully completed the Department's Course in
ASPHALT ROADWAY CERTIFICATION



Date: 12/11/2012 Certificate No. 1791

Expiration Date: 12/11/2017

Amy D. Head
Materials and Tests

Bob Egan
Construction Division

TENNESSEE DEPARTMENT OF TRANSPORTATION

MATERIALS AND TESTS DIVISION

This is to certify that

Rick Setzer

Has successfully completed the Department's Course in
CONCRETE FIELD CERTIFIED TECHNICIAN



Date: 10/11/2016 Certificate No. 3720

Expiration Date: 10/11/2021

Materials and Tests

Construction Division



Tennessee Transportation Assistance Program

certifies that

Rick Setzer

has completed the requirements for

Work Zone Traffic Control / Flagging

Wednesday, February 24, 2016 in Nashville, Tennessee

Earning 6 Professional Development Hours

TTAP Director



TTAP



Center for
Transportation
Research

Instructor

Arcadis U.S., Inc.

1210 Premier Drive, Suite 200
Chattanooga, TN 37421

T 423 756 7193

arcadis.com