

ARCADIS

In Partnership with:

iteris' ///metric GEC

CONTRACT NOS. 4400029436 AND 4400029583

June 25, 2024

IDIQ CONTRACTS FOR INTELLIGENT TRANSPORTATION SYSTEMS (ITS) DESIGN AND IMPLEMENTATIO SERVICES STATEWIDE

Arcadis. Improving quality of life.

Tuesday, June 25, 2024 Louisiana Department of Transportation and Development 1201 Capitol Access Road Baton Rouge, LA 70802-4438

<u>Subject</u>: Contract No. 4400029436 and 4400029583 IDIQ Contract for Intelligent Transportation Systems (ITS) Design and Implementation Services, Statewide

Dear Project Evaluation Team Members:

Over the last two decades, Arcadis and its teaming partners have worked together with DOTD through multiple Indefinite Delivery/Indefinite Quantity (IDIQ) contracts. This has allowed us to learn your organization in an intimate way. We take the time to work with you, as an extension of your staff, to learn what you need to deliver high-quality programs that solve our State's most complex problems. Every contract gives us further insight into the organization with each contract different from the next. Working on a wide range of IDIQ contracts – ITS Statewide Design and Implementation Services, ITS Statewide System Design, Integration and System Verification Services, ITS Statewide Maintenance Engineering & Inspection (ME&I), ITS Construction Engineering & Inspection (CE&I), signing and structural design, traffic engineering services, traffic signal design, safety studies, and Linear Referencing System (LRS) implementation – we are in tune with many facets of DOTD that will contribute to the delivery of a comprehensive ITS design and implementation services. The knowledge gained from each of these contracts allows us to approach ITS design and implementation with the <u>big picture</u> in mind. Our local knowledge and experience are complemented by our national ITS experience where our team has *successfully delivered over 100 ITS projects including ITS Architectures, PS&E design plan developments, construction technical support, and GIS Support.* This results in well-rounded, streamlined engineering services that are effective and efficient. We are confident our qualifications combined with our intimate knowledge of DOTD's ITS program makes us the best choice.

Proven Qualified Team

Our Project Manager, Paul Hsu, PE joined the Arcadis Team in 2016. Paul served as a project engineer in DOTD's ITS Section for nearly 8 years and he is intimately familiar with DOTD's ITS program and infrastructure. After leaving DOTD, Paul has continued to work with DOTD's ITS Section to provide comprehensive services including ITS Architectures, ITS design PS&E, traffic analyses, ITS system engineering design, system integration, IV&V, maintenance, and Connected & Automated Vehicles (CAV) technology support. *Paul's historical knowledge combined with his extensive ITS expertise will serve as an ideal project management role in bringing together our national experts along with Louisiana based staff to deliver all task orders according to, and surpassing, DOTD's expectations.*

We have teamed with Iteris, a leader in providing intelligent transportation solutions to the transportation market. They bring local knowledge combined with national expertise for *ITS Architectures (National & Regional) and hands on expertise with connected vehicle infrastructure and system testbeds*. Secondly, we have teamed with Metric to broaden our ITS design PS&E development capabilities. Metric provides experienced ITS staff who has developed a wide range of ITS designs including CCTV, DMS, Bluetooth, MVDS, ATMS, and CAV. Metric also provides a plethora of ITS experience relating to communications network, Information Technology (IT) applications, and construction technical support. For local *ITS electrical design expertise*, we have partnered with GEC to support ITS electrical power distribution systems design, electrical power system analysis, and electrical equipment specification development. With over 19 years of LADOTD project experience in ITS design & implementation, GEC has completed over 66 ITS task orders since 2000. *This unique teaming approach between Arcadis, Iteris, Metric, and GEC will provide DOTD with the most in-depth knowledge and available resources to meet the growing challenges associated with ITS technologies.*



6100 Corporate Blvd., Suite 325 Baton Rouge, Louisiana 70808 Tel 225 292 1004

Contact: Akhil Chauhan, PE, PTOE, PTP, PMP Phone: 225 368 6536 Email: akhil.chauhan@arcadis.com

WHAT SETS US APART	VALUE TO YOU
Local & National ITS Design Experience	We have extensive ITS project design experience with many state DOTs including DOTD that meet and exceed this contract's entire scope of services. From this experience, we can see how others plan and manage their systems. This allows us to bring the best practices and lessons learned to improve efficiency for DOTD's ITS program.
Exceptional ITS Design and ITS Architecture Expertise	The Arcadis Team has completed more than 25 ITS Architectures throughout North America. Additionally, <i>we are the only team</i> <i>who has been and is currently involved with the development of USDOT's National ITS Architecture framework and tools called</i> <i>Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT)</i> . Our project manager, Paul Hsu also has vast experience with developing specifications and design plans for ITS deployments, electrical distribution systems, communication network systems, video distribution management systems (VDMS), and traffic management center (TMC) video wall systems. Our Team brings extensive ITS design and implementation experience with many state DOTs (LADOTD, TxDOT, FDOT, GDOT, VDOT, etc.).
Complete end-to- end ITS expertise and experience	Our Team embodies the most comprehensive end-to-end and direct ITS experience with DOTD. From ITS planning, design, Construction Engineering and Inspection (CE&I), System Integration, to Maintenance Engineering and Inspection (ME&I) services, we have either worked on or are currently working on IDIQ contracts in every aspect of DOTD's ITS program. This full lifecycle services experience allows us to be agile and adaptable so that we can accommodate DOTD's growing ITS design & implementation needs. We have demonstrated our ability to solve highly technical and challenging ITS deployment issues during the full lifecycle of a project. On many occasions, we went beyond the scope of the contract to deliver comprehensive ITS solutions.
Direct Experience with DOTD's GIS	We have assisted data collection and database management on the Statewide LADOTD ITS Maintenance Retainer Contract. We collected ITS data and developed a robust database of statewide ITS infrastructure within the maintenance management system (MMS) application. Our digital team has experience with SQL database administration; software development in JavaScript, HTML, Python, and other widely used languages; We have worked with and are intimately familiar with DOTD's database management systems. That means there is no learning curve in meeting your ITS data and performance measure needs.
Trusted and Reliable Staff	Our Team has cultivated the depth of knowledge and balanced skillset that is needed to meet and exceed DOTD's requirements for this ITS contract. We will utilize the same knowledgeable, dedicated staff who has developed a trusted relationship with DOTD's ITS staff.
Cost-Effective Design & Delivery	Utilizing our in-depth knowledge of LADOTD's ITS program, we will apply practical and proactive design ideas to increase Return on Investment and deliver quality results.

We look forward to the opportunity to continue partnering with DOTD to improve the mobility, safety, service, and reliability of Louisiana's transportation system. Thank you for your time and consideration.

Sincerely,

Arcadis

Akhil Chauhan, PE, PTOE, PTP, PMP Principal-in-Charge/Vice President

Paul Hsu, PE Senior ITS Project Manager

Sections 1-11



The Arcadis Team has successfully delivered 100+ ITS projects relating to ITS PS&E Design, ITS Architecture, and other ITS/Traffic Engineering Analyses.



Strategic Plan

& App Develop.

CTDOT CAV Strategic Plan

MaineDOT TIM Strategic Plan

Solutions for Border Crossing

NCDOT Multi-Modal CV Pilot

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Plan

Assessment

Corridors

SANDAG Regional ITS Strategic Plan Update

COMPASS I-84/I-184 Freeway Operations Plan

MassDOT Regional ITS Architecture Development

MassDOT Coolidge Bridge Rehab ITS Design

MDOT Advanced Automotive & Smart Mobility

Route 28 Corridor TMS and ITS Deployment Plan

Oregon DOT Mid-Willamette Valley ITS Strategic

Oregon DOT Emerging Technology Impact

Thurston Regional Planning Council - Smart

Michigan Central Mobility District Smart

City Technology Implementation Plan

MassDOT ITS Engineering On-call Services

MaineDOT ACMV Screening System - Action

Plan & Automated Weigh Station Design

City of Whittier AV Shuttle Feasibility Study

FDOT PedSafe/Greenwaav CV Platform

- Otay Mesa Border Crossing ConOps 1.
- CTDOT Statewide ITS Architecture Update 2.
- CTDOT ATMS Strategic Plan 3
- CTDOT SWZ Guide
- JTA U2 Circulator AV Impl. 5
- FDOT Truck Parking Availability System
- USDOT Central FLA AV Proving Grounds
- City of Atlanta North Avenue Smart Corridor 8 9.
- Gwinnett County Smart Corridor Deployment Program Kansas Statewide CAV Vision Plan 10.
- Kansas Statewide CAV Implementation 11.
- LADOTD CAV Strategic Plan 12.
- LADOTD ITS Maintenane Program IDIQ 13.
- 14 LADOTD ITS System Design IDIQ
- 15. MaineDOT CVISN and Weigh-in-Motion
- MDOT CV Testbed Development and Expansion 16.
- NITTEC Buffalo-Niagara Operations Support 17.
- ODOT Emerging Technology Impact Assessment 18.
- 19. TDOT I-24 Smart Corridor AASHTO V21 Footprint Analysis 20.
- 21. USDOT Integrated ITS Deployment and Research Support
- 22. USDOT Traffic Incident Management Support
- 23. VDOT I-66 Shoulder Lane Control System
- Olympia Smart Corridors 24
- 25. LA Metro Regional Intergration of ITS

- 44 San Mateo Smart Corridor Program ITS Design LA Metro Signal Priority Upgrade and NextGen 45.
- Expansion System Design 46. OCTA Katella Avenue Regional Traffic Signal
- SCAG Mobility Technology Plaan and AV Roadmap Synchronization Projects
 - OCTA Main Street Regional Traffic Signal Synchronization Projects
 - 48. FDOT ITS Architecture Update
 - 49. City of Wichita Regional ITS Architecture
 - LADOTD CAV Technology Team Support 50
 - 51. City of Lincoln North 27th Street Adaptive Signal Control Technology (ASCT) - SEA
 - TRC Smart Center Design CAV 52.
 - 53. PTC CAV Communication Assessment 54
 - 55.
 - VDOT CV Testbed Blacksburg and Fairfax 56.
 - 57. FDOT District 5 Integrated Corridor Management (ICM) Services IDIQs
 - 58 FDOT District 3 ITS and ATMS Consultant IDIQs
 - 59 FTE ITS Services IDIQs
 - Federal and State AV Policy Counseling 60.
 - Federal AV Regulatory Compliance Counseling 61
 - Medium and Heavy Zero Emission Vehicle Coalition 62.
 - 63 I-70 Truck Automation Corridor 64
 - WSDOT Statewide ITS Architecture

"... I would like to send my sincere appreciation to you and all your staff that I've worked with at Arcadis over my years while at DOTD. My experience working with you and all your staff has always been pleasant and professional. The **quality of all work** products under the **ITS Integration Retainer** for DOTD's ITS Section provided by Arcadis is and has always been top notch. I could always count on Arcadis to provide thorough, timely and accurate deliverables. Arcadis' knowledge and experience in the transportation engineering field has provided the ITS Section of DOTD with many benefits and has helped our program to succeed and continue to move

- Carryn Sollie, DOTD Project Manager - ITS System Design, Integration, and System Verification Services IDIQ Contract

- WSDOT Statewide Transit ITS Architecture 65
- WSDOT Southwest Region ITS Architecture 66.
- I-10 CMAR ITS Design ans Traffic Engineering Services 67.
- Seacoast MPO Regional ITS Architecture 68. and Strategic Plan
- Chittenden County MPO Regional ITS Architecture 69 and Strategic Plan
- ODOT Regional ITS Architecture
- 71. NDDOT Statewide ITS Architecture Update
- TXDOT San Antonio Regional ITS Architecture Update 72.
- 73. TXDOT Corpus Christi Regional ITS Architecture Update
- ITS Architecture Update and Training 74.
- Strategic Plan
- 76. San Diego Regional ITS Architecture Update
- 77. Evolution and Deployment Support 78.
- City of Wichita Regional ITS Architecture 80.
- 81.
- 83
- LADOTD Fiber Optic Mapping and Management

- 85. LADOTD Baton Rouge to New Orleans - ITS-TIM Phase I (Design-Build)
- LADOTD Monroe ITS, Phase 2 (US 165) 86.
- GNOEC DMS Replacement 87. 88.
- GNOEC Toll Collection System Replacement Program LADOTD Baton Rouge I-10 & I-12 College Dr 89.
- Flyover Ramp Design-Build 90. LADOTD Retainer Contract for ITS Design
- and Implementation Services (2000) LADOTD Retainer Contract for ITS Design 91.
- and Implementation Services (2005) 92. LADOTD Retainer Contract for ITS Design and Implementation Services (2010)
- 93 LADOTD Retainer Contract for ITS Design and Implementation Services (2014)
- LADOTD Retainer Contract for ITS Design 94 and Implementation Services (2017)
- Baton Rouge to Lafavette ITS-TIM Phase 2 95 Design Build
- 96. TxDOT I-37 San Antonio to Corpus Christi ITS Design PS&E Phase 1
- TxDOT I-37 San Antonio to Corpus Christi ITS 97. Design PS&E Phase 2
- TxDOT I-37 San Antonio to Corpus Christi ITS 98. Design PS&E Phase 3

forward."

- 75. Niagara MPO Regional ITS Architecture and
- USDOT National ITS Architecture Development.
- VDOT ITS Architecture
- 79.
- MTC Bay Area Regional ITS Architecture Update
- FDOT ITS Architecture Update
- Indianapolis MPO ITS Architecture Update 82.
 - Metropolitan Transportation Commission (MTC) Regional ITS Architecture

College Station ITS Design and Implementation VDOT CAV Readiness

DOTD FORM: 24-102

PROPOSAL TO PROVIDE CONSULTANT SERVICES

(Revised January 1, 2023)

1. Contract Name as sh	nown in the advertisement	IDIQ CONTRACTS FOR INTELLIGENT TRANSPORTATION SYSTEMS (ITS) DESIGN AND IMPLEMENTATION SERVICES STATEWIDE
2. Contract Number(s)	as shown in the advertisement	CONTRACT NOS. 4400029436 AND 4400029583
3. State Project Numbe	r(s), if shown in the advertisement	N/A
 Prime consultant na the Louisiana Secre required by law) 	me (name must match as registered with tary of State where such registration is	ARCADIS U.S., INC.
 Prime consultant lie Louisiana Profession (LAPELS) if registration 	cense number (as registered with the al Engineering and Land Surveying Board on is required under Louisiana law)	EF.0002808 DUNS 057690414
6. Prime consultant ma	iling address	6100 Corporate Blvd., Suite 325 Baton Rouge, LA 70808
7. Prime consultant phy if location is used as	vsical address (existing or to be established, an evaluation criteria)	6100 Corporate Blvd., Suite 325 Baton Rouge, LA 70808
8. Name, title, phone consultant's contract	number, and email address of prime t point of contact	Paul Hsu, PE Project Manager P. 225.244.8271 paul.hsu@arcadis.com
 Name, title, phone i with signing authorit 	number, and email address of the official y for this proposal	Akhil Chauhan, PE, PTOE, PTP, PMP Senior Vice President P. 225 368 6563 E. akhil.chauhan@arcadis.com
10. This is to certify that al true, and that the team these services within the proposal, proposer cer Israel and it will, for the from a boycott of Israe following information is proposer has considered potential subcontractor solicitation, selection, or	I information contained herein is accurate and in presently has sufficient staff to perform the designated time frame. By submitting this tifies that it is not engaged in a boycott of e duration of its contract obligations, refrain el. Proposer also certifies and agrees that the s correct: In preparing its response, the ed all proposals submitted from qualified, ors and suppliers, and has not, in the procommercial treatment of any subcontractor	Akhil Chauhan, PE, PTOE, PTP, PMP
or supplier, refused to taken other actions int	transact or terminated business activities, or ended to limit commercial relations, with a	Date: June 25, 2024

		Page 2 of 164
person or entity that is engaging in commercial transactions in Israel		
or Israeli-controlled territories, with the specific intent to accomplish		
a boycott or divestment of Israel. The proposer also has not		
retaliated against any person or other entity for reporting such		
refusal, termination, or commercially limiting actions. DOTD		
reserves the right to reject the response of the bidder or proposer if		
this certification is subsequently determined to be false, and to		
terminate any contract awarded based on such a false response.		
11. If a Disadvantaged Business Enterprise (DBE) goal has been set	<u>Firm(s):</u>	<u>Firm(s)' %:</u>
for this advertisement, indicate which firm(s) will be used to	N/A	
meet the DBE goal and each firm(s)' percentage.		

Sections 12-14

ARCADIS

ITS Planning

As an industry leader in ITS Architecture, our partner, Iteris developed the US' Architecture Reference for Cooperateive and Intelligent Transportation (ARC-IT) and has applied it to develope state and regional architectures around the country.

Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT)



"Akhil, as you know Paul Hsu and Luis Alvergue are working with me on various task orders. I wanted to drop you a quick note to let you know they are both doing an excellent job on all but most notably the 511 ATIS Implementation Support Services TO. They have **exceeded my expectations** related to this task order with their **diligent attention to detail and their invaluable participation** in all the document reviews, planning, testing and focused attention to the project schedule. Their involvement has been a **huge asset** to me during this project and will prove to be a great benefit to the successful completion of the new LADOTD 511 ATIS project once rolled out to the public."

- Carryn Sollie, DOTD Project Manager - ITS System Design IDIQ Contract - 511 ATIS Implementation Support Services Task Order

12. <u>Past Performance Evaluation Discipline Table:</u>

As indicated in the advertisement, insert the completed table here. The percentages for the prime and sub-consultants must total 100% for each past performance evaluation discipline, as well as the overall total percent of the contract.

The **only** past performance evaluation disciplines to be used are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and Other (please specify).

Past Performance Evaluation Discipline(s)	% of Overall Contract	ARCADIS	iteris	/// metric	GEC	Each Discipline must total to 100%
ITS	75%	50%	21%	21%	8%	100%
Traffic	10%	90%	-	5%	5%	100%
CE&I/OV	10%	60%	-	10%	30%	100%
Data Collection	5%	60%	30%	5%	5%	100%
Identify the percentage of work for the overall contract to be performed by the prime consultant and each sub-consultant.						
Percent of Contract	100%	55.5%	17.3%	17.5%	9.8%	

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
	Principal	5	6
	Supervisor Engineer	7	7
	Supervisor-Other	2	7
	Engineer	4	5
	Engineer-Other	2	3
	Engineer Intern	2	4
	Professional	1	3
	Engineering - Aide	1	1
	Planner	1	1
	Computer Analyst	4	4
	GIS Analyst	4	6
	ITS Technician	1	2
	ITS Technician - Lead	1	1
	Technician	1	1
	Senior Technician	1	1
• •	GIS Analyst	2	5
itoric	Professional	4	4
	Principal	1	3
	Senior Technician	1	4
	Principal	1	2
metric	Engineer	2	3
	GIS Analyst	1	2
	ITS Technician – Lead	2	3
	Engineer	5	6
	Principal	1	1

14. Organizational Chart:



Prime Consultant: Arcadis

Sections 15-16

ARCADIS

ITS Design



"Arcadis performance has exceeded our expectations in terms of providing the expertise to analyze the traffic/safety data as well as engaging the project stakeholders to develop consensus toward a complete solution. This project was challenging in many ways but the engineering team at Arcadis went beyond the scope of the project to make sure that our needs for this project were documented and addressed. The feedback and comments to the deliverables were minimal and were easily and promptly resolved.... Arcadis provided excellent project management throughout the duration of the project. Arcadis provided the project schedule, biweekly and monthly status reports regarding completed and scheduled work in a timely manner. Exceptional performance in communications, cooperation and follow-up with stakeholders."

- Rosalinda Deville, ITS System Design & Integration IDIQ - I-10 Queue Warning SEA & ITS 30% Design

15. Minimum Personnel Requirements:

Use the table below to identify both prime consultant and sub-consultant staff designated to work on this contract meeting the Minimum Personnel Requirements (MPRs) specified in the advertisement. Ensure the résumé reflects the required experience stated in the MPR. Make sure the P.E. discipline is also listed (highlighted in table) that is meeting the MPR; e.g. professional civil engineer should show the discipline of the license as civil if meeting that MPR.

MPR No. Do not insert wording from ad	Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR/ certification & number (Ex: PE # - Civil)	State of license	License / certification expiration date
1	Akhil Chauhan, PE, PTOE, PMP, PTP (21 years of experience)		PE.0033703 – Civil	LA	09/30/2024
T	Doug Tilt, PE (27 years of experience)		PE.0033502 – Civil	LA	03/31/2026
2	Akhil Chauhan, PE, PTOE, PMP, PTP (21 years of experience)		PE.0033703 – Civil	LA	09/30/2024
2	Doug Tilt, PE (27 years of experience)		PE.0033502 – Civil	LA	03/31/2026
2	Ranzy Whiticker, PE (29 years of experience)		PE.0034132 – Electrical and Computer Engineering	LA	03/31/2025
3	Paul Hsu, PE (21 years of experience)		PE.0035983 – Electrical	LA	03/31/2025
4	Tom Lusco, CSEP (32 years of experience)	iteris	CSEP #04171	US	07/30/2026
4	Thomas Coerver, Jr., PE (40 years of experience)	GEC	PE.0030722 – Electrical	LA	09/30/2025
	Laura Hartley, PE (17 years of experience)		PE.0039030 – Civil	LA	09/30/2024
5	Tait Karlson, PE, PTOE (20 years of experience)		PE.0040438 – Civil	LA	09/30/2024
	Dale Cody, PE, PTOE (28 years of experience)	/// metric	PE.0047766 – Civil	LA	09/30/2025

PERSONNEL RESUMES

CONTRACT LEADERSHIP TEAM

Firm employed b			Meets MPR No. 1 & 2
Name Akhil Ch	nauhan, PE, PTOE, PTP, PMP	Years of relevant experience with this employer	16
Title Principa	al ITS & Traffic Engineer	Years of relevant experience with other employer(s)	5
Degree(s) / Years / Specialization		MS / 2003 / Transportation, Massachusetts Institute of	f Technology (MIT)
		BS / 2001 / Civil Engineering, Indian Institute of Techn	ology (IIT)
Active registration	on number / state / expiration date	PE. 0033703 / LA / Exp. 09/2024; PTOE 2544 / USA / E	xp. 11/2026
		PTP 246 / USA / Exp. 12/2024; PMP 1444676 / USA / E	xp. 08/2026
Year registered	2008 Discipline	Civil Engineering	
Contract role(s)	/ brief description of responsibilities	Principal-in-Charge	
Experience dates	s Experience and qualifications rele	evant to the proposed contract	
	Mr. Chauhan has more than 21 y	ears of experience in all phases of ITS project life-cycle de	livery (planning, design,
	implementation, operations & m	aintenance) working with many State DOTs. He is the Nat	ional Director for smart mobility and
	connected & autonomous vehicle	e (CAV) for Arcadis US. With active participation at differe	nt ITS organizations such as Gulf
	Region ITS (GRITS), ITS America, I	TS World Congress, and Transportation Research Board (7	TRB), he keeps himself fully aware of
	the latest research and industry t	rends affecting DOTs such as ITS Design, ITS Architecture,	Smart Mobility, CAV, ATMS, ATIS,
	and big data in transportation an	d performance measures. Mr. Chauhan brings a unique ai	nd comprehensive experience of
	closely working with different DC	TD sections and stakeholders - such as ITS, Traffic Engine	ering, Safety, Planning, Data/GIS, and
	Districts – to deliver positive outo	comes on projects such as this one. Mr. Chauhan has com	pleted the LADOTD Traffic
	Engineering Process and Report	Iraining.	
08/09 - 03/11	Baton Rouge to Lafayette IIS – II	M Phase 2 Design-Build, LADOID; Multiple Parishes, LA. A	ssociate Project Manager / Senior ITS
	Engineer: Provided //S design and	<i>Implementation services</i> including working with project m	anager on project planning; critical
	path method (CPIVI) project sche	duiing and updates in Primavera; contract, subcontract an	d vendor management; client and
	management and invoicing Inter	arety plan development; <i>design plan and material submitte</i>	dors on a regular basis for project
	progress roview meetings and pr	acted and coordinated with the cheft and other stakenow	acian requirements and most
	tochnical specifications. Respond	bilitios also includo design of fiber ontic and wireless comm	unication systems 12 CCTV compros
	13 BVDs four DMSs and two HA	Rs. Selected applicable LADOTD standard traffic control pl	ans for other ITS construction sites
	Coordinated with LADOTD Traffic	Engineering Management Section to get approval on traf	fic control plans. Provided
	engineering support during constru	uction and assisted field crews during the integration of IT	S sites
04/21 - Option	L-10 Widening CMAR – ITS and Tr	affic Design LADOTD Baton Bouge LA Principal Engineer	- Rosponsible for technical oversight
	of all ITS and traffic deliverables i	ncluding <i>ITS Design</i> Interchange Modification Report <i>trai</i>	fic analysis and feasibility studies and
	Transportation Management Play	as Arcadis delivered two ITS designs simultaneously: Sma	rt Work Zone (SWZ) system for Stage 1
	of the I-10 construction and Pern	panent ITS deployment to upgrade existing ITS equipment	SW7 system included 41 Portable
	PCMS. 26 queue detection senso	rs and 10 portable CCTV trailers. The permanent ITS involves	ved relocating the existing electrical
	and communication system by de	ploving a <i>joint utility carrier duct-bank</i> for multiple users in	icluding LADOTD and AT&T.
06/18 - 10/19	I-10 Queue Warning ITS System Er	gineering Analysis (SEA) and Preliminary Design LADOTD. Ba	nton Rouge, LA. Principal/Technical
	Advisor: Managed a comprehensiv	e team of <i>ITS</i> , traffic, data, and safety engineers specialized	in their respective areas that

	completed a highly complex and first of its kind ITS SEA involved the <i>evaluation of a Queue Warning system</i> for a frequently
	congested corridor on I-10 eastbound from LA-77 to I-110. The ITS analysis and feasibility study developed short, medium, and long-
	term options that provided a comprehensive approach that enhanced the traveler's safety within the project area. In addition to the
	developed operational concept, physical architectures, and alternative analysis configuration, the Arcadis team also provided
	preliminary 30% design plans that included Queue warning design alternative analysis, communication system integration, opinions of
	probable costs, and design drawings.
05/18 - 12/18	511 Advanced Traveler Information System (ATIS) Integration Support Services, LADOTD, Baton Rouge, LA. Principal/Technical
	Advisor: Provided project management, system integration, and independent verification & validation services which assisted LADOTD
	migrate from an existing 511 ATIS system that was launched in 2005 to a brand-new system with a significant number of upgrades.
	Responsibilities included contractor submittal reviews, requests for information tracking and support, <i>scope/design/configuration</i>
	changes technical support, software deployment support, and system acceptance test support for every 511 ATIS component.
	Attention to detail and disciplined approach that provided technical expertise related to system requirements and project submittals
	allowed LADOTD to successfully completed the project on-time and within budget.
04/18-02/20	Video Distribution Management System (VDMS) Replacement SEA and Feasibility Study, LADOTD, Statewide, LA. Principal/Technical
	Advisor: Utilized the SEA process that evaluated various replacement options for the current VDMS that provided necessary system
	upgrades. Five different products and three different hosting solutions were evaluated to gain insight on available technology. Led the
	Arcadis team to develop a list of needs and system requirements that was used to compare the different products across several
	categories in detail. The selected concept consisted of a hybrid-hosted system which combined the benefits from the local and cloud
	-hosted solutions and represented the most value for the LADOTD.
04/17 - 07/17	Real-time Traffic Data SEA and Feasibility Study, LADOTD, Baton Rouge, LA. Principal/Technical Advisor: Provided systems engineering
	expertise that assisted DOTD transition from legacy roadway sensor infrastructure to traffic probe data service. The systems
	engineering approach involved comprehensive stakeholder coordination and detailed evaluation of traffic probe data service
	providers. A SEA document was developed for this project that included a concept of operations that determined how the real-time
	traffic data was utilized by the department in achieving traffic management goals. Additionally, the SEA included the <i>development of</i>
	project's physical architecture, high level system requirements, procurement options, alternative analysis configurations, and
	applicable <i>ITS standards</i> . The SEA was developed to guide the project development process and provided the groundwork for the
	ensuing system procurement and implementation.
06/13 - 12/19	ITS Maintenance Retainer Contract – LADOTD; Statewide, LA. Project Manager: Responsible for providing maintenance
	management system, routine, and <i>responsive maintenance of statewide ITS sites including, CCTV cameras, dynamic message signs</i>
	(DMS), vehicle detectors (VD), and ramp meters. Arcadis was awarded the first-ever ITS maintenance contract to establish a
	program to systematically provide routine and responsive maintenance for the LADOTD's statewide ITS infrastructure totaling
	more than 500 field sites statewide. The project scope includes program management, maintenance management system
	software, comprehensive maintenance plan for routine and responsive maintenance, health and safety and traffic control plan
	development, and tracking and performance measures reporting.

Firm employed by		\$		Meets MPR No. 3
Name Paul Hsu		5	Years of relevant experience with this employer	8
Title Principal	ITS Engineer		Years of relevant experience with other employer(s)	13
Degree(s) / Years	/ Specialization		BS / 2002 / Electrical & Computer Engineering, Louisia	na State University (LSU)
Active registration	n number / state / e	expiration date	PE.0035983 / Louisiana / Exp. 03/2025	
Year registered	2011	Discipline	Electrical Engineering	
Contract role(s) /	brief description of	f responsibilities.	Project Manager, ITS Planning Technical Lead, Electric	al Design
Experience dates	Experience and c	ualifications relev	vant to the proposed contract	
	Mr. Hsu is a Princ	cipal ITS Engineer	and Project Manager with over 20 years of experience w	vorking in both the public and the
	private sector. H	e has managed an	nd led ITS design teams for a variety of ITS projects by LA	DOTD, ALDOT, MDOT, TXDOT, FDOT,
(a) (a)	and GDOT. His ar	reas of expertise in	n ITS include design and analysis of field devices, commu	inication systems, video systems,
2	electrical system	<mark>s</mark> , traffic managen	nent centers, CAV, <mark>Systems Engineering Analyses (SEA)</mark> , a	and ITS Architectures for several
	DOTs including D	OTD. He has a we	alth of design experience in developing plans, specificati	ions, special provisions, construction
	estimates, projec	ct schedules, traffi	ic management plans, FAA evaluations, and LADOTD Cor	structability/Biddability reviews. In
	addition, his expe	erience also incluc	des providing construction engineering support services	such as reviewing shop drawings, as-
	built drawings, a	nd request for info	ormation (RFIs).	
04/21 – Ongoing	I-10 Widening CN	MAR – ITS and Tra	ffic Design, LADOTD, Baton Rouge, LA. Senior ITS & Election	rical Design Lead - <i>Paul led and</i>
	delivered 100% Si	igned and Sealed P	S&E package for two ITS designs simultaneously : Smart Wo	ork Zone (SWZ) system for Stage 1 of
	the I-10 construc	tion and Permane	ent ITS deployment to upgrade existing ITS equipment. S	WZ system included 41 Portable
	PCMS, 26 queue	detection sensors	and 10 portable CCTV trailers. The permanent ITS involved	ved relocating the existing electrical
00/15 00/10	and communicat	ion system by dep	ploying a joint utility carrier duct-bank for multiple users	Including LADOID and AI&I.
08/15 - 02/16	I-10 I win Span II	S, LADOTD, Orlea	ns and St. Tammany Parisnes, LA. Project Manager / Sen	Ior IIS & Electrical Engineer: <i>Designed</i>
	an electrical syste	em to power the ne	w and proposed it's field devices within the project limits.	Upgraded the existing electrical and
	distribution system	systems to accomi	Modale and meet the new ITS deployment's requirement	analysis for each ITS device and
	designing the syste	tom to onsure the	tiald site meets the electrical code while providing suff	ficient capacity for current and future
	demand Other t	asks of the project	t also include conducting the overall communication syst	em design developing a level 2 Traffic
	Management Pla	n (TMP) <i>preparin</i>	g quantities and cost estimates as well as prenaring plans	and specifications
06/18 - 10/19	I-10 Queue Warn	ning Systems Engir	peering Analysis (SEA) LADOTD Baton Bouge LA Project	t Manager / Senior ITS & Electrical
	<i>Engineer:</i> Led a c	omprehensive tea	am of ITS. Traffic. Data, and Safety engineers specialized	in their respective areas to complete
	a <i>highly complex</i> (and first of its kind	ITS Systems Engineering Analysis involving the evaluation a	and design of a Queue Warning system
	for a frequently of	congested corrido	r on I-10 eastbound from LA-77 to I-110. The analysis de	veloped short, medium, and long-
	term options to p	provide a compret	nensive approach in enhancing the traveler's safety with	in the project area. In addition to
	developing the op	perational concept,	physical architectures, and <i>alternative analysis</i> configura	tion, the Arcadis team also provided
	preliminary 30% d	design plans that ir	ncluded Queue warning design alternative analysis, comr	munication system integration,
	electrical system	design recommer	ndations, <i>opinions of probable costs</i> , and <i>design drawings</i> .	
05/12 - 06/13	Monroe Phase 1	ITS Design, LADO	FD, Monroe, LA. <i>ITS & Electrical Engineer:</i> This ITS projec	t involved working with a wide <i>range</i>
1	of communication	n configurations as	; <i>well as a variety of ITS devices</i> because an existing deploy	ment was required to be integrated

	into an upgraded system as requested by LADOTD. A mixture of different types of communication system had to be deployed because of limited resources as well as budget constraints. One of Paul's major responsibilities on this project included performing the <i>electrical analysis and design</i> for the implementation of each ITS device and designing the system to ensure that each and every location meets the electrical code while providing sufficient capacity for current and future demand. Other tasks also include conducting overall <i>communication system design</i> , pr <i>eparing quantities and cost estimates</i> , as well as <i>preparing plans</i> <i>and specifications</i> .
06/13 - 12/13	Sunshine Bridge ITS Design, LADOTD, St. James Parish, LA. ITS & Electrical Engineer: This ITS project involves working with a wide
	range of communication configurations as well as <i>designing a bridge conduit system</i> that can accommodate the <i>fiber optic</i>
	conduit system for the bridge application, a mixture of different types of communication system had to be deployed because of
	limited resources as well as budget constraints.
12/13 - 02/16	ITS Design and Specs IDIQ, MDOT, Statewide, Mississippi. ITS & Electrical Engineer: Managed MDOT design plan development of
	ITS projects including Desoto County ITS (CMAQ 2013), Jackson County ITS, and Lakeland Drive ITS deployments. Paul also
	assisted with the development of various Systems Engineering Analyses as requested by MDOT for ITS projects including Desoto
	County ITS (CMAQ 2013), Jackson County ITS, Hattiesburg ITS, Gluckstadt ITS, I-55 Widening ITS, and the SR 601 Incident
	Management ITS Deployments. The ITS design services included evaluation and recommendations for ITS <i>field device designs</i> ,
	<i>conceptual design and cost estimates</i> , QA/QC, preparation of notice-to-bidder and special provision documents for other ITS
	designs, <i>engineering support during construction</i> , submittal review, and design management. The MDOT ITS design manual and
	technical specifications were prepared as part of this task.
10/17 - 01/22	Wekiva Parkway Section 6 ITS Design Build Florida Department of Transportation, Lake and Seminole County, FL. Senior ITS &
	Electrical Engineer: This design-build project involves the <i>design, construction, installation, and integration of a new ITS deployment</i>
	and electrical power distribution system within the FDOT right of way to power the proposed ITS field devices within the project. A
	snort circuit and protection coordination study was conducted for the designed power system and a power system design
	transformers, newer meters, LIPS, newer distribution units, conduits, conductors and cables, null haves, surge protection
	devices, grounding systems, and lightning protection system. Paul performed electrical analysis for the implementation of each
	ITS devices and designing the system to ensure that every field site meets the electrical analysis for the implementation of each
	for current and future demands. Other tasks of the project also include conducting voltage drop calculations, coordinating with
	multiple electrical utility companies. <i>developing PS&F</i>
11/22 - 04/24	San Antonio Regional ITS Architecture (RITSA) Undate – TXDOT, San Antonio, Texas, Project Manager: Assisted the TXDOT San
11/22 01/21	Antonio district to update the RITSA to provides a framework for ensuring <i>institutional agreement</i> and <i>technical integration</i> for
	the implementation of ITS projects in the San Antonio region. The <i>RITSA is focused on exploring ITS applications that conformed to</i>
	regional plans and ITS needs. Stakeholder engagement workshops with regional partners including the Alamo Area Council of
	Governments (AACOG), City of San Antonio, Bexar County, Metropolitan Transit Authority (VIA), and surrounding counties were
	conducted to document how each agency's systems will work together in the future and how sharing of information and
	resources will help enhance the transportation system in the region. Architecture <i>interface diagrams</i> were developed using
	RAD-IT version 9.1.

Firm employed b	ARCADIS		
Name Anthony	y Moore, PE	Years of relevant experience with this employer	6
Title Senior I	TS/Traffic Engineer	Years of relevant experience with other employer(s)	29
Degree(s) / Years	; / Specialization	BS / 1994 / Civil Engineering, University of Missouri	
Active registratio	n number / state / expiration date	PE.0037887 / LA / Exp. 09/30/2025	
Year registered	2013 Discipline	Civil Engineering	
Contract role(s) /	brief description of responsibilities.	Deputy Project Manager, ITS Construction Engineering	g Support Technical Lead
Experience dates	Experience and qualifications relev	ant to the proposed contract	
	Mr. Moore is a Senior ITS / Traffic E extensive experience includes cons analysis, and signal timing develope construction standards, specification constructed components and safet Development (LADOTD), Florida DO Gainesville, Florida, and Lee Count	Engineer and Project Manager with more than 35 years on struction engineering support and inspection (CE&I) for I ment and deployment. As an ITS CE&I Engineer, his focu ons, and procedures during construction with an eye tow y. He has successfully worked on projects at the Louisian DT, Missouri DOT, Kansas DOT, Texas DOT, City of Kansas y, Florida. Other certifications include: ATSSA TCS, Flagge	of experience in the industry. His ITS projects, ITS design, traffic s has been maintaining DOTD vard future maintenance of na Department of Transportation and s City, Missouri, City of Olathe, City of er.
10/19 – 08/21	CE&I for Alexandria ITS Deploymen management services to LADOTD of includes the installation of fiber op US 71, US 165, and LA 28. As Project including providing engineering sup documentation required by LADOT	It Phase 3, LADOTD, Rapides Parish, LA. Senior ITS/Traffic on ITS expansion project in the Alexandria metropolitan a tic communications cable, Dynamic Message Signs and C ct Engineer, responsibilities include overseeing all aspect oport to the contractor during construction, directing fiel D.	<i>c Engineer:</i> Provided <i>construction</i> area. The <i>ITS expansion project</i> Closed-Circuit Television cameras on ts of construction and inspection Id inspectors, and maintaining project
02/19 – 08/21	CE&I for US 190 ITS Deployment, L Engineer: Provided project Manage of approximately 48 miles of fiber of communications network, and the include overseeing all aspects of cc component testing, system accepta monitoring and documenting DOT	ADOTD, West Baton Rouge, Pointe Coupee and Landry F ement and QA/QC services to LADOTD on ITS expansion optic communications cable, the interconnection of four installation of two communications HUB buildings. As P onstruction and inspection including providing engineerin ance testing, and system upgrades to the contractor duri D standards and procedures.	Parishes, LA. Senior ITS/Traffic project that includes the installation r traffic signals onto the LADOTD roject Engineer, responsibilities ng support for <i>software testing,</i> ing construction. Duties include
02/16 - 08/17	Lake Charles ITS Phase 2, LADOTD; to LADOTD on ITS expansion project <i>fiber optic communications cable</i> , I responsibilities include overseeing quality control to the contractor du <i>testing, and system upgrades</i> for th	Calcasieu Parish, LA. <i>Senior ITS/Traffic Engineer:</i> Provide et in the Lake Charles metropolitan area. The ITS expansi Dynamic Message Signs and Closed-Circuit Television car all aspects of construction and inspection including prov uring construction, and overseeing <i>software testing, con</i> the project.	ed <i>construction management services</i> ion project includes the <i>installation of</i> meras on I-10. As Project Engineer, viding engineering support and <i>ponent testing, system acceptance</i>
08/21 – Ongoing	I-10 US 61 to Laplace ITS Deployme Engineer: Provided Project Manage	ent, LADOTD, Ascension, St. James and St. John the Bapt ement and QA/QC services to LADOTD on ITS expansion p	ist Parishes, LA. <i>Senior ITS/Traffic</i> project that includes the installation

	of approximately 23 miles of fiber optic communications cable and conduit and the installation of ten Closed Circuit television
	cameras including four that will be solar powered. As Project Engineer, responsibilities include overseeing all aspects of
	construction and inspection including providing engineering support and quality control oversight to the contractor during
	construction, directing field inspectors, and maintaining project documentation required by LADOTD, including RFIs and shop
	drawings. Duties include <i>software testing, component testing, system acceptance testing, and system upgrades</i> for the project.
10/16 - 08/17	CE&I for I-10 Bonnet Carre Emergency Crossing, LADOTD, St. John and St. Charles Parishes, LA. Senior ITS/Traffic Engineer:
	Provided construction management services to LADOTD on ITS repair project in St. John and St. Charles Parishes. The ITS
	expansion project includes the installation of fiber optic communications cable, one Dynamic Message Sign, and the repair of
	two emergency crossing gates on the elevated section of I-10 near the Bonnet Carre spillway. As Project Engineer,
	responsibilities include <i>overseeing all aspects of construction and inspection including providing engineering support and quality</i>
	control oversight to the contractor during construction, directing field inspectors, and maintaining project documentation
	required by LADOTD.
12/15 - 10/16	CE&I for New Orleans Hospitality Zone, LADOTD, Orleans Parish, LA. Senior ITS/Traffic Engineer: Provided construction
	management services to LADOTD on ITS expansion project in the New Orleans metropolitan area. The ITS expansion project
	includes the installation of Ramp Metering signals on 6 freeway entrance ramps to US 90B, fiber optic communications cable,
	and Closed-Circuit Television cameras. As Project Engineer, responsibilities include overseeing all aspects of construction and
	inspection including providing engineering support and quality control oversight to the contractor during construction, directing
	field inspectors, and maintaining project documentation required by LADOTD.
03/13 - 8/15	CE&I for Weigh In Motion, LADOTD, Jefferson and Orleans Parish, LA. Senior ITS/Traffic Engineer: Provided construction
	management services to LADOTD on statewide weigh in motion upgrade project. The weigh in motion project includes the
	installation of fiber optic communications cable, Dynamic Message Signs, Closed Circuit Television cameras, and weigh in
	motion scales on I-10, I-12, and I-20. As Project Engineer, responsibilities include overseeing all aspects of construction and
	inspection including providing engineering support to the contractor during construction, <i>directing field inspectors, and</i>
	maintaining project documentation required by LADOTD.
06/14 - 11/15	CE&I for Dynamic Message Sign (DMS) Ladder Statewide, LADOTD, Statewide, LA. Senior ITS/Traffic Engineer: Provided
	construction management services to LADOTD on DMS Ladder project to install new DMSs and ladder/walkway systems on
	existing DMS poles. As Project Engineer, responsibilities include <i>overseeing all aspects of construction and inspection</i> including
	providing engineering support to the contractor during construction, directing field inspectors, and maintaining project
	documentation required by LADOTD.
04/19 - 12/19	Traffic Signal Design IDIQ - US 90 Traffic Signal Timing Upgrades/LADOTD, Lafayette Parish, LA. Senior Traffic Engineer:
	Responsible for project tasks involving <i>traffic data collection</i> and analysis, <i>traffic signal inventory</i> , peak period determination
	and observations, <i>warrant analysis</i> , travel time runs, <i>traffic signal timing analysis</i> using Synchro 10 software, and development
	of updated TSI forms following latest LADOTD standards.

Firm employed b	ARCADIS		Meets MPR No. 1 & 2
Name Douglas	s Tilt, PE	Years of relevant experience with this employer	23
Title Principa	al ITS and Traffic Engineer	Years of relevant experience with other employer(s)	4
Degree(s) / Years	s / Specialization	BS / 1996 / Civil Engineering, Georgia Institute of Technology - N	vain Campus
Active registration	on number / state / expiration date	PE. 0033502 / LA / Exp. 03/31/2026	
Year registered	2007 Discipline	Civil Engineering	
Contract role(s)	/ brief description of responsibilities.	Technical Advisor	
Experience dates	Experience and qualifications releva	ant to the proposed contract	
	Mr. Tilt is the National Practice Lead than 27 years of experience in ITS p transportation design. He has mana globally, including ITS, CAV, and ATM studies, roadway concept developm	d for ITS, Traffic, GIS, and Database Management services for the lanning, design, and integration, traffic engineering, transportation ged and designed numerous projects throughout the southeaster MS projects, traffic signal projects, intersection improvement proj ment, and safety and operation studies.	Arcadis US and has more in planning, and rn United States and ects, traffic and corridor
08/09 – 03/11	Baton Rouge to Lafayette ITS - Traff Manager: Provided ITS design, constr design of fiber optic and wireless co 90 and US 190 between Baton Roug Interacting with the client and other supervised several field trips to veri	ic Incident Management Phase 2, LADOTD, Multiple Parishes, LA. <i>ruction, and integration services.</i> Responsibilities included managing ommunication along with 13 CCTV cameras and RVDs, 4 DMSs, and ge and Lafayette. Managed and reviewed monthly project reports r stakeholders on a regular basis for project progress review meet fy design requirements and to meet technical specifications.	<i>ITS Design Manager/QC</i> g, leading, and reviewing d 2 HARs on I-10, I-49, US , schedule, and budgets. :ings. Conducted and
06/16 - 09/17	North Avenue Smart Corridor, City of of the <i>Smart Corridor Demonstration</i> which links some of the City's most (DSRC) and cellular based communi- saturations rates. Applications inclu- signal detection. In addition to broa transmitted. The project also includ pedestrian detection. The technolog	of Atlanta, Atlanta, GA. Project Manager and Senior ITS Engineer: In Project. This project improves multimodal traffic operations for 2 important businesses. The deployment included dedicated short- cation to test and <i>evaluate various CAV applications</i> at difference t ded collision warning and avoidance, emergency vehicle preempt dcasting <i>basic safety messages (BSMs), signal phasing and timing (S</i> es deployment of an adaptive signal systems, travel time detectio gies deployed tie back to the technology hub in Renew Atlanta's o	Responsible for the design 3 miles of North Avenue range communication ransmission rates and user ion, roadside advisor, and <i>PaT</i> information is also on system and smart offices.
06/06 – 05/08	Traffic Control Center (TCC) Upgrad procurement, installation, and integ (GDOT) hub buildings and the field t executed successfully and accepted developed an Atlanta TCC field device inventory of existing ATMS field devices strategies of ATMS field devices in use to bring the Atlanta TCC up to curre	e and ATMS Modernization, City of Atlanta, GA. <i>ITS Engineer</i> : Scor gration of all the TCC equipment. This also included all the equipm to bring the Atlanta traffic control systems up to current standard by the City of Atlanta and was completed in a period of 12 month ce architecture and strategic plan. Evaluated existing conditions, we conditions in the Atlanta area. During Phase 2, evaluated potentia e in Atlanta. During Phase 3, developed an ATMS network field com nt state-of-practice.	be included specification, ent at the Georgia DOT s. The projects were ns. During Phase I, which included taking al technologies and comunication deployment plan

06/13 – Ongoing	ITS Maintenance Retainer Contract – Program Management and Maintenance Management System, LADOTD, Statewide, LA. ITS
	Technical Advisor/QA-QC: Responsible for <i>developing, implementing, and managing ITS maintenance plans, policies, standards,</i>
	procedures, and guidelines. Responsibilities also include deployment planning, installation, configuration validation, data
	migration support and ongoing update to database, training, and annual Maintenance Management System (MMS) software
	support. Arcadis provided routine and responsive maintenance for the DOTD's statewide ITS infrastructure. Such infrastructure
	includes Closed-circuit television (CCTV) cameras, Dynamic Message Signs (DMS), radar vehicle detectors, and ramp meters,
	totaling more than 500 sites statewide. The project scope includes program management; maintenance management system
	software; comprehensive maintenance plan for routine and responsive maintenance; health and safety and traffic control plan
	development; and tracking and performance measures reporting.
6/20 – Ongoing	Statewide Broadband Program, GDOT, Statewide, GA. Project Manager/ITS Technical Advisor: Working with a team of legal and
	financial experts to develop a series of design-build (DB) projects to deploy the <i>nation's largest CV infrastructure</i> . The DB projects
	will expand GDOT's fiber network to over 1,300 miles covering every interstate mile statewide and deploy over 500 CV roadside
	<i>units (RSUs)</i> at all interstate interchanges. In parallel with the DB projects, GDOT, with Arcadis and their legal and financial
	efforts, are developing a <i>first-of-its-kind for Georgia Operate Maintain and Commercialize (OMC) broadband program</i> . The OMC will
	leverage GDOT's interstate value to gain commercialized broadband revenue share. This shared revenue provides GDOT a
	revenue stream to pay for ITS operations and maintenance and further expand NaviGAtor's (GDOT's ATMS) role in improving
	safety and operations.
08/16 – Ongoing	ITS Maintenance Retainer Routine Maintenance Task Orders. CCTV Camera, DMS, Vehicle Detectors (VD), and Ramp Meters,
	LADOTD, Statewide, LA. ITS Technical Advisor/QA-QC: Responsible for providing routine maintenance of 500+ statewide ITS sites
	including, CCTV cameras, DMS, VD, and ramp meters. Responsibilities include development of detailed checklist by device type;
	<i>integration of checklist with MMS software</i> , standardized reporting; development of routine maintenance schedule; and
	coordination with statewide TMC, regional TMCs, and DOTD districts.
09/11 - 10/11	ITS Maintenance and System Integration, Georgia State Road and Tollway Authority (SRTA), Fulton and DeKalb Counties, GA.
	Project Manager: System integration and maintenance of the I-85 High Occupancy Vehicle (HOV) to High Occupancy Toll (HOT)
	conversion project. As a part of this effort, Arcadis reviewed the available design plans and <i>network configuration</i> documents.
	Arcadis provided <i>final integration</i> and maintenance support during the "go live" implementation of the I-85 HOT lanes, which
	included validation that the contractor installed the correct switch/router per contract, optimized the VLAN routing to the WAN,
	redesigned IP address schedule for improved network management, and developed a comprehensive maintenance plan to SRTA
	to keep the system running at peak efficiency.
01/15 - 01/16	New Orbital Highway and Truck Route. Project 23 (Contract 2), Qatar Public Works Authority "ASHGHAL", Doha, Qatar - ITS
	Technical Lead: This design-build project (Contract 2) of the New Orbital Highway included a 38km roadway network with 7
	interchanges and 1 tunnel. The project also included truck only facilities to separate passenger and commercial truck traffic. ITS
	requirements included a communication network with Lane Control Signs, DMS, magnetometers, License Plate Recognition
	cameras, and CCTV cameras. Responsibilities included <i>ITS device layout design</i> , coordination with other disciplines, <i>design report</i>
	and documentation, and overall ASHGHAL design guideline and specification adherence.

<u>16. Staff Experience:</u>

Firm employed by	GEC			
Name Cary Bourgeois, PE			Years of relevant experience with this employer	39
Title Senior Vi	ce President		Years of relevant experience with other employer(s)	0
Degree(s) / Years	/ Specialization		BS / 1983 / Civil Engineering, Louisiana State Universit	У
Active registration	n number / state /	expiration date	PE. 23414 / LA / Exp. 09/2025	
Year registered	1989	Discipline	Civil Engineering	
Contract role(s) /	brief description o	f responsibilities.	Technical Advisor	
Experience dates	Experience and o	qualifications releva	ant to the proposed contract	
	array of enginee design and safet Standard Specific Traffic Control D Luminaries, and Expressway Com planning and sch and preparation construction insp prestressed conc sign structures a	ring projects. His p y inspection of bric cations for Highwa evices, the Highwa Traffic Signals. For mission (GNOEC). neduling the GNOEC of construction co pection and shop d crete girders, curve nd retaining walls.	ortfolio of projects includes Toll Collection Systems, Inte lges, and retaining walls and support systems. He is tho y Bridges, AASHTO policy on Geometric Design of Highw y Capacity Manual and the Standard specifications for S over 10 years, he has served as the Project Manager for In this role he has been responsible for improvements t C repair and improvement project for the Toll Plaza con- ntract plans, specifications and estimates for various rep rawing review. Additionally, Mr. Bourgeois has valuable ed still plate girders, continuous slabs, inverted "T" cap c	alligent Transportation Systems (ITS), roughly familiar with AASHTO vays and Streets, Manual on Uniform tructural Support for Highway Signs, the Greater New Orleans o the GNOEC system which includes figuration and toll system operation pair and improvement projects, experience in the design of column bents, pile bents, footings,
04/02 – 11/05	ITS Baton Rouge phase of Baton R <i>Television Camer</i> interact and com Boulevard (LA 40 technical constru	Field Installation P Rouge <i>ITS analysis,</i> ras (CCTV), and Rad municate with the 08). Mr. Bourgeois v uction inspection.	hase 2, LADOTD, East Baton Rouge Parish, LA. Design Er design, and installation of ITS devices such as Dynamic I dar Vehicle Detectors (RVD). Devices were located at stra Advanced Traffic Management/Emergency Operations was responsible for civil and structural design, reviewing	<i>ngineer</i> : Project consisted of second <i>Message Signs (DMS), Closed Circuit</i> ategic locations on I-10 & I-12 to Center building located on Harding g shop drawings, and providing
06/00 – 2/16	ITS Retainer Con implementation specification dev the organization, engineering and • Baton Ro Build Proj • Baton Ro Design Bu	tracts, LADOTD, Sta planning, field devi relopment for ITS R , design and develo inspection for the f uge to Lafayette, IT ject (S.P. 737-99-00 uge to New Orlean uild Project (S.P. 73	atewide, LA. Principal Engineer: Since 2000, Mr. Bourged ce optimum positioning and placement, civil/structural etainer projects throughout Louisiana. As Principal-in-Ch opment, and supervision of plans and specifications, as w following projects: TS – Traffic Incident Management (TIM) Phase 2, Routes 504) – CE&I and plan/submittal review services only. (06 s, ITS – Traffic Incident Management (TIM) Phase I, Rou 27-99-0799) (05/2008 – 12/2016)	pis has provided <i>ITS deployment and</i> engineering, and <i>plan and</i> harge, he has played a major role in well as <i>general construction</i> 5 I-10, I-49, US 90, & US 190, Design 5/2010 – 08/2011) te I-10 – Bonnet Carre Floodway,

	Retainer No. 700-99-0457				
	• Northshore Phase 2 (T O No. 701-65-1168) (04/2009 – 06/2010)				
	Retainer No. 700-99-0235				
	• ITS Baton Rouge Field Installation Phase 2 (T.O. No. 701-65-0286 S.P. 737-96-0035) (04/2002 – 11/2005)				
	 Baton Rouge Field Installation Phase I (T.O. No. 701-65-0162, S.P. 737-61-0001) (06/00-06/04) 				
	• Houma ITS Deployment Phase II (T_0 No. 701-65-0406) (08/2003 – 06/2006)				
	• Houma ITS Deployment Phase I (T.O. No. 701-65-0255) (07/2003 $-$ 07/2005)				
	• Northshore ITS DMS Deployment (T O No. 701-65-0421) (08/2004 – 01/2010)				
	Retainer No. 4400003994				
	• Lake Charles ITS Phase 2 – Lake Charles IA (T.O. No. H 010192) (09/2014 – 12/2016)				
	Retainer No. 4400000688				
	• Relocation of Irish Bayou DMS. Orleans Parish (T.O. No. H.005736) (09/2010 – 03/2013)				
	 Lake Charles DMS. Calcasieu Parish (<i>T.O. No. H.006485</i>) (03/2011 – 03/2013) 				
	• CCCD Ferry Traveler Message Signing, Orleans Parish (<i>T.O. No. H.007276</i>) (06/2011 – 07/2016)				
	• Baptist, Breaux Bridge, Greenwood WIM, Statewide (<i>T.O. No. H.003667</i>) (08/2011 – 11/2015)				
	• DMS Ladder System Phase 1, Statewide (<i>T.O. No. H.009088</i>) (04/2012 – 03/2015)				
02/07 – Ongoing	Toll Collection System Replacement Program, GNOEC, St. Tammany and Jefferson Parishes, LA. Principal Engineer: This project				
	provided for the installation, operations and maintenance of the legacy toll collection system and the multi-phase installation of				
	a new Toll Collection System. A thorough and exhaustive study of available technology was performed by GEC as part of this				
	project and the results were incorporated into the <i>system design</i> . Mr. Bourgeois was responsible for <i>development of plans and</i>				
	specifications, bidding, and engineering during construction.				
01/91 – Ongoing	Lake Pontchartrain Causeway, GNOEC, Metairie, LA. Project Manager/Principal Engineer: GEC has performed Trust Indenture				
	Services in accordance with GNOEC General Bond Resolution. GEC has designed and implemented over \$200,000,000 in bridge				
	preservation & system improvement projects for Lake Pontchartrain Causeway, from inception thru permitting, funding,				
	preliminary & final design, bidding, and construction inspection & administration. Cary's responsibilities include				
	recommendations for operations and maintenance of Lake Pontchartrain Causeway, review of To <i>ll Plaza configurations and toll</i>				
	system operation, review of operating budget, emergency response, inspection & reporting, planning & scheduling of future				
	GNOEC repair and improvement projects, preparation of construction contract plans, specifications & estimates for various				
	repair/improvement projects, and construction inspection and shop drawing review. GEC is responsible for performing the				
	National Bridge Inspection Standards (NBIS) Inspection of all GNUEC owned bridges.				

Firm employed by	iteris		
Name Dean Gus	stafson, PE, PTOE	Years of relevant experience with this employer	<1
Title ITS Proje	ct Manager	Years of relevant experience with other employer(s)	30
Degree(s) / Years ,	/ Specialization	Bachelor of Science / 1992 / Civil Engineering	
Active registration number / state / expiration date		FL #85628, Exp. 2/28/2025; GA # PE 045717, Exp. 12/3 9/30/2024: TX #131391, Exp. 6/30/2024: VA #0402038 #1298, Exp. 2/3/2025	31, 2024; TN #126904, Exp. 8528, Ex. 5/31/2025; PTOE, ITE,
Year registered	1998 Discipline	Civil Engineering/Transportation	
Contract role(s) / I	prief description of responsibilities.	Technical Advisor	
Experience dates	Experience and qualifications rele	vant to the proposed contract	
	Dean brings more than 30 years of supporting DOTs in planning and of Gustafson developed a Traffic Ope Plan, Fiber Master Plan for Utah D agencies. Dean served as State Op history, numerous cross-functional management, ITS standards, ITS s project level. He previously held p Culpeper Districts. Dean worked for engineering roles in Buffalo, NY. M AASHTO Committee on Transport Academy on TSMO/ITS Procureme serves as ITS America Broadband	f experience in the transportation industry, spanning bot lesigning stronger transportation infrastructure systems erations Strategic Plan for Virginia DOT, implemented a V OT, Broadband Strategic and Implementation Plan for Or perations Engineer for VDOT for 6 years, where he led the l initiatives, from traffic operations, connected and autor ystem engineering, to agency emergency response at the rogressive leadership roles in Regional Operations and IT for New York State Department of Transportation in const fr. Gustafson is an active participant in the TRB ACP20 Fro ation System Operations. Mr. Gustafson was an instructo ent. Dean was a Technical Advisor to National Operations Fask Force Chair .	h the public and private sector, that improve safety and mobility. Mr. DOT Traffic Operations Messaging regon DOT, and TMP's for several a largest services contract in VDOT mated vehicles, traffic incident a policy, legislative, strategic, and S over 10 years in Staunton and truction, planning, and traffic eeway Operations Committee and or at the National Operations a Center of Excellence (NOCoE). Dean
06/12 – 03/15	Statewide TOC and ATMS Contrac statewide Traffic Operations Center \$355 million non-professional serve maintained over 3,000 ITS field de March 2015.	t, VDOT, Richmond, VA. <i>Project Manager:</i> Dean develope er (TOC) and <i>ATMS contract</i> , which was largest service co vices contract, procured using competitive negotiation to <i>vices, and developed statewide ATMS software</i> . The proje	ed, procured, and managed the Intract in VDOT history. A 6-year, Istaffing for 5 TOC's, 147 SSP Routes, Pect began in June 2012 and ended in
03/21 – 11/22	I-275 Integrated Corridor Manage Corridor Management Design/Buil fiber optic communications, advar signal priority integration, and dyr	ment, FDOT, Tampa, FL. <i>Project Manager:</i> Dean led <i>deve</i> Id for FDOT District 7 to instrument CAV technology and s need signal detection, ATSPM, roadside units, Bluetooth, namic routing signs.	<i>lopment of a \$30 M I-275 Integrated</i> olutions along 6 key corridors with dynamic travel time signs, transit
06/21-09/22	Oregon DOT Broadband Strategic	and Implementation Plan, ODOT, Salem OR. Project Man	<i>ager:</i> Dean led <i>development of</i>
	Broadband Strategic and Impleme	ntation Plan for Oregon DOT. Dean authored the Broad	Dand Best Practices from other State
	DOI's technical member and drov	e the implementation plan. The project began in June 20	J21 and ended in September 2022.
04/21 - 4/23	SR-/10 Connected Vehicle Corrido intersections to add near-miss vid	о г Риот, FDOT, Paim Beach, FL. <i>Project Manager:</i> Complet eo detection, bicycle and pedestrian detection, adding rc	ed design of 6 signalized badside units, upgrade signal

	controllers with transit signal priority, and upgrading highway railroad interface to improve performance at entrance to Port of
	Palm Beach. Responsible for <i>preliminary and final design including plans, technical requirements and cost estimate</i> . The project
	began in April 2021 and was completed in April 2023.
09/12-03/18	Connected and Automated Vehicle Program Plan, VDOT, Richmond, VA. Division Administrator/Program Sponsor: Dean was
	responsible for <i>developing agency connected and automated vehicle program</i> plan to identify vision, goals, objectives, and
	agency roles/responsibilities, and program priorities in Virginia. Represent agency in Secretary of Transportation Automated
	Vehicle Task Force to <i>develop Commonwealth of Virginia Automated Vehicle Strategic Plan; Executive sponsor</i> and support to
	Connected Vehicle Pooled Fund Study. The project began in September 2012 and ended in March 20218.
06/20 - 11/22	Wrong Way Driving System Design/Build RFP; Florida Turnpike, FDOT, Central and Southern, FL. Project Manager: Mr. Gustafson
	served as ITS Design/Project Manager and led the <i>development and design of a Wrong Way Driving System for Florida Turnpike</i>
	along 87 exit ramps in Central and Southern Florida. The scope included a <i>systems engineering analysis</i> , developing 30%
	concept plans and determining location of incoming detector, outgoing detector, CCTV, supplemental wrong way arrows, wrong
	way signs, and supplemental pavement markings and signs at intersecting roadways. Dean led the development of plans, specs
	and estimates for the project, including ERC Comment resolution, including system architecture documents. The project began
	in June 2020 and ended in November 2022.
08/19 - 06/20	Utah DOT Fiber Optic Master Plan. UDOT, Salt Lake City, FL. Project Manager: Dean developed a 5-year master plan for
	expanding fiber optic master plan for Utah DOT. The scope included recommending <i>process improvements, organizational</i>
	<i>capability improvements</i> , and making the business case for <i>additional funding for fiber optic system expansion</i> . The project
	began in August 2019 and ended in June 2020.
5/23 – Ongoing	Traffic Operations Strategic Plan, VDOT, Statewide, VA. Deputy Project Manager/Senior Advisor: Mr. Gustafson co-leads the
	<i>development of a Traffic Operations Strategic Plan</i> to guide agency Traffic Operations vision, mission, goals and objectives for
	the next five years. Dean led effort to assess 20 industry trends and 13 Agency Initiatives and their impacts to Traffic Operations.
	The project began in May 2023 and is ongoing.
11/22 – Ongoing	Traffic Operations Messaging Improvement Program, VDOT, Statewide, VA. Project Manager: Mr. Gustafson leads the
	implementation of 41 Action Items for the VDOT Traffic Operations Messaging Improvement Program. Dean is driving the
	action items and overall schedule. The project began in November 2022 and is ongoing and should be completed by July 2024.
11/23 – Ongoing	Systemwide Traffic Engineering and Operations, Open-End, Pennsylvania Turnpike Commission, PDOT, Statewide, PA. Project
	Manager: Mr. Gustafson served as the project manager for the PTC Systemwide Traffic Engineering and Operations open end
	which was a \$1.5 M contract over 3 years. Dean was responsible for the client single point of contact and distributing contract
	and Task Orders across sub-consultants. The project began in November 2023 and is on-going.

Firm employe	d by	ARCADIS			
Name Shah	iram Male	ek, PhD, PE		Years of relevant experience with this employer	15
Title Princ	cipal ITS 8	Traffic Engine	er	Years of relevant experience with other employer(s)	18
Degree(s) / Ye	ears / Spe	cialization		PhD / 1992 / Civil Engineering, Georgia Institute of Tec	hnology - Main Campus
Active registra	ation num	nber / state / ex	xpiration date	PE. 022998 / GA / Exp. 12/2024	
Year registere	ed	1996	Discipline	Civil Engineering	
Contract role((s) / brief	description of	responsibilities.	QA/QC	
Experience da	ates Exp	erience and qu	ualifications releva	ant to the proposed contract	
	Dr. kno sma pro Pro ano der tra	Malek has more owledge and has all traffic contro- jects, including gram (RTOP), A principal instr nonstration/instration/instration	re than 30 years o ands-on experience ol systems to larg g the Advanced Tr ATC Deployment (fuctor for Federal structional preser ofessionals in 48 s	of experience in project management and ITS program a ce in planning, design, deployment, operation, and main e statewide systems. He served as a project manager an cansportation Control (ATC) Hardware/Software Specific Dn-Call, and Fast-Forward Signal Upgrade Programs. He Highway Administration's Demonstration Project 105, p ntation on traffic operations principles/practices to more states.	ssistance services. He has extensive tenance of systems ranging from ad technical lead on numerous GDOT ations, Regional Traffic Operations served as the curriculum developer providing technology e than 2,000 local, state, and federal
08/09 – 03/11	l Bat incl pro win Bat	on Rouge to La ude <i>supporting</i> posed for this eless communi on Rouge and	f ayette ITS – TIM the specification of project. The one-v cation along with Lafayette.	Phase 2 Design-Build, LADOTD; Multiple Parishes, LA. So refinement and technology testing and reviews of various p year contract included designing, installing, integrating, 13 CCTV Cameras, 13 RVDs, 4 DMSs, and 2 HARs on I-10	enior ITS Engineer: Responsibilities proposed ITS products that were being and accepting fiber optic and 0, I-49, US 90 and US 190 between
03/20 – Ongo	ing ITS Inte Ma Ope imp bee suc SM TDC pro	On-Call Service egrated Corrido intenance active erations and M elementing Act en involved in a h as the Lane C ART Corridor d DT and the loca cesses and pra	es Contract: I-24 S or Management (I vities. The project aintenance strate ive Traffic Manag Il aspects of the p Control System, Va iversion scenarios al agency stakehol ctices into everyc	SMART Corridor Operations & Maintenance, TDOT, David <i>CM) Technical Lead</i> : Responsible for delivering all I-24 S is tasked with providing technical support to TDOT by d <i>cgies for the I-24 SMART Corridor</i> from Nashville to Murfre ement, Active Arterial Management, and Integrated Corr project including <i>developing Standard Operating Guideline</i> ariable Speed Limits, DMSs and CCTV Cameras. He also r s, incident management signal timing plans and provided Iders. Additionally, we have instituted the Standard Operation ary operation at the TDOT Region 3 TMC.	dson & Rutherford Counties, TN. MART Corridor Operations and leveloping and implementing eesboro. The project includes rridor Management. Dr. Malek has es (SOGs) for various sub-components reviewed the development of the I-24 d extensive coordination between eration Procedure (SOP) and SOG
04/01 - 04/08	3 ITS <i>the</i> for incl	On-Call Service Statewide ITS p ITS planning, d uding the desig	es, Alabama Depa program rollout an esign, operations gn and implemen	rtment of Transportation (ALDOT), Montgomery, AL. <i>Pro</i> d as consultant to the ALDOT we help defined the proce , and maintenance. Managed various tasks but also led tation of the Mobile TMC that monitors numerous tunn	<i>oject Manager</i> : This project <i>initiated</i> esses, procedures, and specifications many of the technical activities els and bridges. In addition,

	supervises and is responsible for QA/QC of the regional architecture's developments throughout the State. Also contributed to
	the State's standards and specifications rewrite activity which resulted in the <i>new ITS field hardware and communication</i>
	<i>standards</i> for the State of Alabama.
06/13 – Ongoing	ITS Maintenance IDIQ – Program Management and Maintenance Management System, LADOTD, Statewide, LA. Technical
	Advisor / QA-QC: Scope includes developing, implementing, and managing ITS maintenance plans, policies, standards, procedures,
	and guidelines. Responsibilities also include deployment planning, installation, configuration validation, data migration support and
	ongoing update to database, training, and annual MMS software support. Arcadis provides routine and responsive maintenance
	for the DOTD's statewide 500+ sites that include CCTV cameras, DMS, radar vehicle detectors, and ramp meters.
01/12 - 12/12	Hattiesburg ITS and Traffic Message Channel Upgrades, MDOT, Jackson, MS. Project Manager and Technical Lead: Full
	responsibility for the <i>delivery of all communication, software, and system component</i> . Arcadis performed configuration of all field
	devices including CCTV systems, DMS system, Radar Detection Stations and supporting communication electronics and made all
	system work back at the two responsible TMCs. Additionally, Arcadis was responsible for all submittal deliveries, and delivery
	and execution of the various <i>acceptance testing plans</i> for each of the system components and the overall project.
02/06 - 02/09	ITS Bond Program, Clayton County, Clayton County, GA. Project Manager: Provided technical support on various activities that
	included <i>leading the implementation of the County's configuration management (CM) program</i> that tracked all communication
	plants and ITS field assets, supporting design of the <i>upgrades for the Countywide ATMS</i> that updated legacy devices and
	extended the ITS reach to all critical corridors, upgrades to TCC, and development of a new ITS master plan and operations plan.
05/01 - 05/05	Advanced Transportation Control Hardware and Software, GDOT, Atlanta, GA. Project Manager: Leading to statewide consensus
	among the stakeholders and resulting in a functional requirements and specification for what has become the <i>unified standard</i>
	for the State traffic control equipment and software. Technical lead in developing the hardware specifications as well as
	consensus building among the stakeholders for unified software requirements.
06/03 - 09/06	Chattanooga Regional ITS System, TDOT, Chattanooga, TN. ITS Designer: For this multi-faceted system upgrade project, Arcadis
	was tasked to use an existing wireless mesh <i>network</i> installed by the City of Chattanooga as a method of communication for
	traffic applications. The project includes 381 signal upgrades (86 inside the Central Business District). The system upgrades
	included eight-phase Eagle EPAC M-52 controllers, Malfunction Management Units, and National Electrical Manufacturers
	Association (NEMA) Technical Specification - 2 cabinets.
02/19-02/20	ITS Planning Program, TxDOT, San Antonio, TX. Technical Advisor/Principal Engineer: Developing ITS Program Plan, ITS Master
	<i>Plan and Architecture updates</i> for TxDOT San Antonio District while working with District leadership, partner agencies and TxDOT
	Division. The program plan aims to institutionalize Transportation Systems Management and Operations (TSMO) within the
	District by integrating traffic operations within planning, design, construction, operations and maintenance activities.

Firm employed by	///metrie	C		
Name Rolando	Ramirez, PE		Years of relevant experience with this employer	20
Title Traffic O	perations & ITS Lea	d	Years of relevant experience with other employer(s)	6
Degree(s) / Years	/ Specialization		B.S. / 1997 / Civil Engineering	
Active registration	n number / state / e	expiration date	PE #60918 / Florida / Exp. 2/28/2025	
Year registered	2004	Discipline	Civil Engineering	
Contract role(s) /	brief description of	responsibilities.	QA/QC	
Experience dates	Experience and q	ualifications relev	vant to the proposed contract	
	With 26 years of 6 His experience in projects. Additio detection for eme	experience, Mr. R ncludes planning, nally, he has exp erging technologie	amirez has served as an ITS Project Manager, leading over studying, and designing traffic operations, ITS, TSM&C perience designing ITS infrastructure such as Roadside es including Automated Traffic Signal Performance Measu	er 80 ITS design and planning projects.), and advanced traffic signal systems e Units (RSU) and vehicle/pedestrian ures (ATSPM) and Connected Vehicles.
05/21 – Ongoing	TSM&O Engineer contract is to max will be a perform correct congestio studies and conce effort include revi reviewing project and coordination hardware and sof	ring Analysis and kimize efficiency o lance driven appr in causes in real-ti <i>eptual plans, depl</i> iewing and develo requirements an of ITS projects; ftware.	Minor Design, FDOT District 7, Tampa, FL. QA/QC/Ten f transportation systems by focusing on mobility outcome oach for solving arterial congestion and traffic problem me. Task Work Orders are assigned by District 7 related to <i>loyment of ITS components and public involvement</i> . Other oping plans and specifications for design or design-build co d hardware configuration analysis; developing proper se performing <i>system engineering analyses;</i> and reviewi	chnical Advisor: The objective of this es, such as travel time reliability. There s in which ITS is utilized to locate and o <i>technical support, strategic planning,</i> er activities that are included with this ontracts to install TSM&O field devices; equencing, cost estimating, scheduling ng the utilization of systems devices
01/20 – Ongoing	ATMS Design-Bui 402 signals to ex <i>traffic manageme</i> mobility, reliabilit Circuit Television Flood Sensors, tr analytics, Softwar	Id, FDOT District is pand the City's es ent system that co sy, resiliency, and (CCTV) traffic can caffic signal contri- re, Servers, and W	7, Tampa, FL . <i>QA/QC/Technical Advisor:</i> This citywide AT xisting ATMS. The project <i>includes design, construction,</i> connects vehicles and people to the transportation system safety. This includes the design and installation of a fiber neras, 40 Roadside Units (RSU) with DSRC radios, Microw ollers and cabinets, Uninterruptible Power Supplies (U /orkstations for TMC staff.	MS project consists of the upgrade of <i>and installation of a next generation</i> n to optimize traffic flow, and improve optic communications system, Closed rave Vehicle Detection System (MVDS), PS), traffic signal software, predictive
09/19 – Ongoing	CV Readiness Stu contract is a cor enhancements co Readiness Study researched and d software and sto pertains to the re	dy & Implementantinuing services overing multiple a & Implementati locumented the c rage needs, secure adiness of FTE to	ation Plan, Florida's Turnpike Enterprise (FTE), Statewide contract for general ITS Design Services for ITS devi- areas within FTE system of toll roads. As a TWO under t on Plan. This plan included <i>conducting a CV Reading</i> current state of CV technology within the industry and co- rity, and staffing proficiency assessments as well as road of <i>deploy CV technology</i> . All these tasks aid in the develo	e, FL. QA/QC/Technical Advisor: This ice replacements and express lane his contract, Metric developed a <i>CV</i> ess assessment where Metric staff onducted various internal hardware, dway infrastructure evaluations as it opment of a short and long-term CV

	worked with the various agencies to identify and document current initiatives, lessons learned, use cases, expected benefits,
	and more. This assessment was conducted at a national and statewide level.
09/17 - Ongoing	Continuing Services Contract (CSC) ICM - Freeway/Arterial Operations, FDOT District 5, Orlando, FL. QA/QC/Technical Advisor:
	The FDOT ICM project seeks to improve overall operations and mobility in the Central Florida area; specifically, through the
	operation and management of the Regional TMC and associated programs on both the freeway and arterial systems. Metric
	functions as an extension of the Department's resources, providing professional services for a wide range of engineering,
	technical, management and administrative services to assist with numerous TSM&O projects within the work program. The
	current ICM footprint covers nine Freeways and 12 Arterials within Counties/Cities with 452 traffic signals in six jurisdictions (City
	of Maitland, City of Orlando, City of Winter Park, Seminole County, Orange County, and Osceola County). TSM&O strategies are
	being utilized and synthesized by our RTMC staff as they integrate the operations of freeway and arterials to improve the travel
	time reliability of existing transportation network (arterials and freeways).
01/21 - 1/24	Professional Design Services for ATMS, Manatee County, FL. <i>QA/QC/Technical Advisor:</i> This project includes provisions for county
	wide Advanced Transportation Management Systems (ATMS) and includes project management and data collection. It also
	involves the review of the data to create preliminary and final designs that include <i>network design and cost opinions for the ATMS</i>
	<i>features that are in the project.</i> The design is for fiber-optic based communication infrastructure and a variety of <i>ATMS devices</i>
	<i>like Advance Traffic Controllers (ATC) replacement,</i> Advance Vehicular Detection Systems (ADS), BlueTooth based Travel-Time
	Devices (BT), Arterial Dynamic Message Signs (ADMS), Closed Circuit Television (CCTV), traffic volume monitoring sites using
	Microwave Vehicle Detection System (MVDS) and Dynamic Trail Blazing Signs (DTBS). The goal of this project is to achieve greater
	network efficiency/ring structure, best connectivity, and network-communication redundancy.
11/17 – 11/21	I-75 On- and Off-System F.R.A.M.E. (Florida's Regional Advanced Mobility Elements), FDOT District 5, Orlando, FL.
	QA/QC/Technical Advisor: Metric represented the FDOT District 5 ITS as the Systems Manager for the I-75 F.R.A.M.E. Connected
	<i>Vehicles (CV)</i> project which assists in the advancement of the Multimodal Integrated Corridor Management (MMICM) plan. As
	the Systems Manager, Metric was responsible for a majority of project activities, with the exception of construction, to include
	conducting a <i>Systems Engineering Analysis</i> and creation of the appropriate Systems Engineering documentation, review of the
	Regional ITS Architecture (RITSA) and creation of a Project ITS Architecture (PITSA), coordinating, testing and providing
	documentation on the various technologies to include Roadside Units (RSUs) communicating via either Dedicated Short Range
	Communications (DSRC) or <i>Connected Vehicle to Everything (CV2X),</i> vehicular On-board Units (OBUs) as well as emulated OBUs
	(mobile devices and/or tablets) to ensure device interoperability. This project was in line with the USDOT goals and contributed
	to increased safety, reliability and mobility needs using advanced <i>CV technologies</i> . Metric staff was responsible for integrating
	these devices to multiple signal controllers with the goal of verifying the various <i>CV-related applications</i> : Signal Phase & Timing
	(SPaT), Automated Traffic Signal Performance Measures (ATSPM), MAP messages, Traveler Information Messages (TIM), Basic
	Safety Messages (BSM), Emergency Vehicle Protocol (EVP), Transit Signal Priority (TSP) and others related to pedestrian safety.
	Metric staff created detailed test plans and conducted extensive testing in both the lab and field environments with equipment
	provided by several CV vendors. As a result of the testing, reports were generated to guide the System Manager in their decision-
	making process for the <i>development of the CV specifications</i> and eventual decision-making on the F.R.A.M.E., SR 434, and PedSafe
	projects and any other future CV deployments. Metric was also responsible for <i>configuring, integrating and testing all CV devices</i>
	into the FDOT ITS network.

101 Starr Experience	<u>#</u>		
Firm employed by	ARCADIS		Meets MPR No. 5
Name Laura Ha	artley, PE, PTOE	Years of relevant experience with this employer	5
Title Principal	ITS Engineer	Years of relevant experience with other employer(s)	12
Degree(s) / Years	/ Specialization	BS / 2006 / Civil Engineering, University of Mississippi	
Active registration	n number / state / expiration date	PE.0039030 / LA / Exp. 09/30/2024	
		PTOE 4322 / Exp. 11/2026	
Year registered	2014 Discipline	Civil Engineering	
Contract role(s) /	brief description of responsibilities	ITS Design Technical Lead, Construction Engineering S	upport
Experience dates	Experience and qualifications re	elevant to the proposed contract	
	Ms. Hartley has over 17 years o	f ITS experience with performing ITS design, ITS systems e	ngineering analysis (SEA) and
	planning, and ITS feasibility stue	dies for various DOTs and municipalities across the Southe	ast. Her ITS expertise and
	responsibilities include leading	multiple ITS design teams to perform wide range of engine	eering services such as developing ITS
	design manual, systems engine	ering analysis, corridor studies, feasibility studies, ITS plans	, ITS communication network design,
	field device specifications, cons	truction cost estimates, standard operating procedures, ar	nd ITS performance measures. Laura
	has also provided engineering s	upport during construction for ITS projects. Laura is active	ly engaged in multiple ITS
	organizations including Gulf Reg	ion ITS, ITS America, and Transportation Research Board (TRB).	
08/15 - 05/18	ITS Design & Implementation -	I-10 Twin Span, LADOTD, Orleans & St. Tammany Parishes,	LA. ITS Design Engineer:
	Responsibility includes develop	<i>ing ITS design plans, specifications and estimates</i> for the 8-m	ile project. The ITS system on the
	"Twin Span" utilized existing ele	ectrical system, conduits, fiber optic cables, cabinets, CCTV	' cameras, DMS and new ITS sites to
	be designed to provide new bri	dge ITS elements of cameras, DMS, detection devices, com	nmunication hut, communication
	equipment, generators, and cor	nnect the existing bridge health monitoring equipment to t	the ITS network and TMCs.
03/07 - 06/15	ITS System Requirements, MDC)T, Jackson, MS – <i>ITS Design Engineer:</i> This task included de	efining major function, high-level
	system requirements, detailed	system requirements, and software functional requiremen	ts for many new systems and
	elements included in various /7.	'S designs, ATMS Software, and 511 requirements . Responsib	le for <i>developing requirements for</i>
	various ITS designs as well as sup	oporting the efforts in <i>defining the major software requirem</i>	ients.
04/21 – Ongoing	I-10 Widening CMAR – ITS and	Traffic Design, LADOTD, Baton Rouge, LA. ITS Design Engin	<i>eer:</i> Assisted with the <i>delivery of 100%</i>
	Signed and Sealed PS&E package	e for two ITS designs simultaneously: Smart Work Zone (SWZ	') system for Stage 1 of the I-10
	construction and Permanent IT:	S deployment to upgrade existing ITS equipment. SWZ syst	em included 41 Portable PCMS, 26
	queue detection sensors and 10) portable CCTV trailers. The permanent ITS involved <i>desig</i>	ning the relocation of existing electrical
	and ITS communication systems	by deploying a joint utility duct-bank for multiple users inc	luding LADOTD and AT&T.
03/07 – 06/15	ITS Program Management, Syst	ems Engineering Management Plan and Systems Engineer	ing Analyses, MDOT, Jackson, MS.
	Project Manager/ITS Design Eng	gineer. Responsibilities included providing program level p	roject management services and
	coordination, <i>tracking ITS relate</i>	<i>d projects</i> , providing document control, developing progra	m reports, developing outreach and
	marketing materials, developing	g grant applications, presentations and award submittals a	nd coordinating with other
	consultants and vendors. Devel	oped or assisted in the development of the Document Cor	ntrol and Management Plan and the
	development of the SEMP. Also	, responsible for the development SEAs for more than 15 I	MDOT ITS projects during this period.
04/13 - 10/13	VDMS Design & Implementation	n, LADOTD, Statewide, LA. <i>ITS Design Engineer</i> : This projec	t included the <i>design and</i>
	<i>implementation of a VDMS</i> for t	ne distribution of LADOTD video sources statewide. Compl	eted in two phases. Phase 1 included

	the development of a detailed VDMS design and implementation plan. Phase 2 included the <i>implementation and integration of</i>
	the VDMS in accordance with the final VDMS design and Implementation plan. The VDMS was designed to collect video sources
	from throughout the state and distribute amongst the DOTDs internal ITS systems and externally to media, partners, and other
	agencies, and to and from other regional and the Statewide TMCs. Responsible for <i>development of the VDMS design and</i>
	implementation plan documents.
03/07 - 06/15	ITS Integrator, MDOT, Statewide, MS. ITS Design Engineer: <i>Planning, design, integration, and operations and management of ITS</i>
	projects, systems and program as directed by the MDOT project manager. The ITS design services included evaluation and
	recommendations for ITS field device designs, conceptual design and cost estimates, QA/QC, preparation of notice-to-bidder
	and special provision documents for other <i>ITS designs, construction engineering support</i> , submittal review, and design
	management. Field devices included traffic cameras, permanent and portable dynamic message signs (DMS), traffic detectors,
	video, radar, magnetometers, Bluetooth detection units, automated signal controllers, highway advisory radio systems (HAR),
	road weather information systems (RWIS), smart work zones (SWZS), associated supporting communications, network, and
	central system including hardware and software.
07/16 - 10/17	Tupelo Cell Tower and ITS Field Device Deployment, MDOT, Tupelo, MS. Project Manager: This project included both wireless
	and traditional fiber optic communications, CCTV cameras, radar detection systems, Bluetooth detection systems, with
	dedicated short-range communications (DSRC). This is the first project in the state to pilot this technology. Served as the
	overall Project Manager and Project Engineer which included leading a team of engineers in <i>development of conceptual design,</i>
	evaluation of alternatives and wireless system recommendations, and development of the SEA. Based on these, led the
	development of construction plans, detailed specifications and cost estimates.
03/07 - 06/15	ITS Architectures, MDOT, Jackson, MS - <i>Project Manager/ITS Design Engineer</i> : Task 2 included providing updates to existing ITS
	planning documents and developing several new planning documents as directed by the MDOT ITS project manager. Assisted
	in the <i>development of the strategic ITS deployment plan and deployment plan section</i> of MDOT ITS Strategic Business Plan, and
	development of the master plan guidelines document.
03/07 - 06/15	Design Mississippi Department of Transportation's (MDOT) ATMS Software, MDOT, Jackson, MS. Project Manager/ITS Design
	Engineer: Task 7 included the development of software requirements, updates, and integration with TMC software, 511
	integration, MDOT Traffic website and mobile applications. Responsible for <i>developing software requirements</i> and assisted
	MDOT in the selection of ATMS and Asset Management Software, which was procured, configured, integrated, and tested under
	this project. This task also included <i>supporting the integration of TMC operations and ITS devices with the ATMS software</i> . Also,
	supported integration of the ATMS that was included in the Mississippi River Bridges Tiger Grant project which tied systems in
	Louisiana, Arkansas, and Mississippi together.
04/22 – 08/22	EV Charging Infrastructure Deployment Plan & Alternative Fuel Corridor Nominations, MDOT, Jackson, MS. Project Manager:
	Worked closely with MDOT staff and a diverse cross-discipline professionals to lead and prepare the foundational documents
	and supporting activities that has <i>paved the way for the department's EVI program</i> . Responsible for the development of the
	project management plan and overseeing all activities to ensure the deliverables met NEVI requirements and the <i>latest national</i>
	guidance, along with best-practices and lessons learned from other states. Had engaged with many project stakeholders and
	presented the program and plan to industry professionals and MPOs. Both projects were <i>completed under a fast-track timeline</i> .

Firm employed by ARCADIS						
Name	ne David Ward, GISP			Years of relevant experience with this employer	20	
Title	Senior Gl	S Project Manager /	' Analyst	Years of relevant experience with other employer(s)	4	
Degree(s) / Years /	Specialization		BS / 1999 / Environmental Studies, Eckerd College		
Active registration number / state / expiration date				GISP 51378 / Exp. 04/30/2025		
Year registered 2011 Discipline			Discipline	Geographic Information Systems Professional (GISP) -	US	
Contract role(s) / brief description of responsibilities.			responsibilities.	GIS / Database Support Services Technical Lead		
Experier	nce dates	Experience and qu	alifications relev	ant to the proposed contract		
C.		Mr. Ward is a Seni	or Project Mana	ger with over 20 years of experience specializing in Geog	graphic Information Systems (GIS),	
		database development and administration, and ArcSDE administration with experience in GIS development, implementation,				
		and integration; database modeling and development; asset and work order management systems integration and				
		development; environmental policy support; marine science analysis and modeling; transportation system modeling and				
		analysis; utilities ir	ifrastructure mo	deling; information management; and enterprise inform	nation systems design and	
		development. Mr.	Ward's technica	I experience is in the areas of ArcGIS, ArcGIS Server, Arc	SDE, SQL Server, and Oracle.	
04/14 -	08/18	ESRI Roads and Hig	ghways Linear Re	ferencing System (LRS) Implementation, LADOTD, Bator	n Rouge, LA. Program Manager:	
		Responsible for th	e assessment, de	sign, build, and implementation of roads and highways	LRS for LADOTD. Led efforts to	
		perform an initial i	needs assessmen	t, including the understanding of existing conditions and	d desires for future functionality, and	
		subsequently deve	eloped a plan for	implementation. Directed the team's daily efforts using	an Agile Project Management system,	
		driven by user stori	es and acceptanc	e criteria to track task work and perform regular quality	control. Oversaw the development of	
		a customized data	model to fit LAD	DID S needs, as well as the implementation of a <i>statew</i>	Vide route network and data migration	
		including ArcCIS D	nstructed his teal	m through the systems implementation steps using the	various tools of roads and highways,	
Including ArcGIS Desktop tools, workflow Manager, Data Reviewer, and Roadway Characteristics Editor (RC		using Esri Boads and Highways				
02/20 - 06/24		Ingriway renormance wormoning system (news)& Certified Public Wiles (CPW) Reporting using Esri Roads and Highways,				
		for the April and L	ine HPMS report	s submitted to the Federal Highway Administration (FH)	$M(\Delta)$ Responsible for <i>translating linear</i>	
		referenced event d	ane from one rout	<i>re network to another</i> validating and cross-checking ever	nt data against FHWA HPMS	
		guidelines, and for	matting the subr	nittal files appropriately.		
02/20 – 06/24 Enterprise Systems Integration w/ Esri Roads and		Esri Roads and Highways, LADOTD, Baton Rouge, LA. Pro	param Manager: Provided Agile			
,	,	project manageme	ent techniques, da	<i>ta analysis, and systems design</i> consulting in support of L	ADOTD's mission to integrate	
		enterprise busines	s systems with th	neir Roads and Highways Implementation. MS2, Deighto	on dTIMS, Agile Assets, and the State's	
		crash data systems	s are being integ	rated with Roads and Highways to facilitate data sharing	, data management, and federal	
		reporting (HPMS &	& CPM).			
04/08 – 03/11 Bridge and Pavement Management Systems, C		t Systems, City/Parish of East Baton Rouge, Baton Rouge	e, LA. Systems Architect and			
		Developer: Pavem	ent management	solution that uses an Esri LRS to integrate the Planning	Commission's Street centerline file	
		with Public Works'	Deighton Mana	gement System. <i>Architected a Bridge Management Syster</i>	$^{\prime\prime\prime}$ to manage the tracking and	
		scheduling of brid	ge inspections as	well as the inventory and condition assessments of eac	h structure. The bridge system was	
		designed using Ora	acle Apex and is a	access through EBR's intranet.		

09/16-01/20	AASHTOware SafetyAnalyst Implementation and Integration, Arizona Department of Transportation (ADOT), Phoenix, AZ.
	Project Manager: Responsible for Integrating SafetyAnalyst with ADOT's Enterprise GIS to leverage temporality and changes
	over time to the road segments and other data values. SafetyAnalyst is also integrating the Safety Data Mart (SDM) and other
	enterprise databases for the required data values for SA analysis modules. Used an Agile approach to develop and integrate
	systems to support statewide crash and safety analysis.
01/17 - 12/17	Deighton dTIMS Pavement and Bridge Management Integration w/ Esri Roads and Highways, Indiana Department of
	Transportation (InDOT), Indianapolis, IN. Project Manager: Responsible for a feasibility study and implementation plan to
	integrate the Deighton dTIMS pavement and bridge management programs with InDOT's existing R&H. Provided background
	and training to Deighton personnel to understand the touchpoints between R&H and dTIMS through ArcGIS Server REST
	endpoints and the enterprise database. Systems development and architecture design to support the development of the next
	generation of dTIMS software.
03/17 – 6/22	Nevada DOT Enterprise GIS Implementation using Esri R&H, Nevada Department of Transportation (NDOT), Carson City, NV.
	Program Manager: Responsible for the assessment, design, and implementation of Roads & Highways linear referencing for
	Nevada Department of Transportation (NDOT). Led efforts for initial discovery and needs assessment that capture current
	conditions and desires for <i>future functionality and developing a plan for enterprise implementation</i> . Utilized a customized Agile
	Project Management system to direct team's efforts via user story generation to track task work.
01/11 - 12/11	Arizona Safety Action Plan (ASAP), Arizona Department of Transportation (ADOT), Phoenix, AZ. Senior Systems Analyst:
	Responsible for the development and analysis of statewide crash information to support the development of a Safety Action
	Plan for ADOT to minimize the impact of fatalities and serious injuries throughout the state. Conducted detailed historical
	analysis of crash information to establish trends within the emphasis areas of the SHSP. Performed <i>business process reviews and</i>
	analysis to reengineer ADOT's workflows and methodologies to better support the State's safety mission.
10/18 - 09/20	Enterprise Implementation of Esri Roads and Highways and Road Log Development, Montana Department of Transportation
	(MDT), Helena, MT. Program Manager: Leveraging the Agile method to led the team through the implementation of an
	enterprise linear referencing system using Esri Roads & Highways. Developed the database schema and model in Oracle & ArcSDE
	to support the LRS and directed the efforts for data migration and business process workflow development. Responsible for the
	overall program including the development of a Statewide Road Log (Straight-Line Diagram Reporting).
01/16-09/16	HPMS & CPM Reporting FY2015 - FY2016 using Esri Roads and Highways LRS, Arizona Department of Transportation (ADOT),
	Phoenix, AZ. Project Manager: Responsible for the Highway Performance Monitoring System (HPMS) and Certified Public Miles
	(CPM) federal reporting requirements for ADOT FY2015 & FY2016. Oversaw the development and evaluation of sample panel
	sufficiency, as well as the workflow established to help team members efficiently extract roadway characteristic information from
	construction plans. Kept the team on track with the federal deadline and made sure the use of external business system
	datasets, such as traffic and pavement management, were fully integrated with Roads & Highways.
01/12 - 12/12	Traffic Control Asset Inventory Analysis - MUTCD, TDOT, Nashville, TN. Principal Designer: Responsible for an alternatives
	analysis and system design for enterprise systems and business processes that incorporates the State's Linear Referencing
	System, LiDAR, Asset Inventory, and financial Work Management System into a replacement system that supports asset
	management and MUTCD compliance for all DOT assets. System included field/mobile applications as well core enterprise RDBMS
	and management applications. Solution centralized Asset Management across all TDOT Regions.

PERSONNEL RESUMES

ITS PLANNING PROFESSIONALS

Firm em	ployed by	ARCADIS					
Name	Geoff Knap	p, PE	Years of relevant experience with this employer	15			
Title	Senior ITS E	ngineer	Years of relevant experience with other employer(s)	10			
Degree(s) / Years / S	pecialization	MS / 1999 / Civil Engineering, University of Waterloo				
			BS / 1997 / Civil Engineering, University of Waterloo				
Active re	egistration n	umber / state / expiration date	PE.100184852 / Ontario / Exp. 12/2024				
			PE.46187 / British Columbia / Exp. 12/2024				
Year registered 2013 Discipline			Civil Engineering				
Contract role(s) / brief description of responsibilities.			ITS Architecture				
Experience dates Experience and qualifications rele			evant to the proposed contract				
		Mr. Knapp is a practicing Profess	ional Engineer with more than 25 years of experience ir	n transportation engineering			
		consulting, focusing on ITS and in	nnovative application of new and emerging technologies	s. Geoff is the recognized leading			
1	and the second	expert for the ITS Architecture for Canada, having been directly and personally involved in all aspects of its development and					
	1.5	maintenance since the original development beginning in 1999. Through these efforts, Geoff has worked closely with					
	=	counterparts from the U.S. ITS Architecture Team. He also has extensive experience leading the development of Regional ITS					
		Architectures, including for Britis	h Columbia, Ontario, Quebec, New Brunswick/Maine, N	Aassachusetts, and the Regional			
		Municipalities of Peel and York.					
03/24 -	Ongoing	ITS Architecture for Canada Technical Support, Transport Canada. Deputy Project Manager and Technical Lead: Geoff is					
		leveraging his long history and e	xperience with the ITS Architecture for Canada to provid	le insight and guide successful			
		delivery of the required technica	I support services, including a series of architecture and	systems engineering training			
		sessions and development of a c	ustomized Sample Regional Architecture for use by Can	adian ITS practitioners, which are			
		specifically intended to build capacity with respect to experience and expertise applying ARC-IT.					
03/20 -	03/23	ITS Architecture for Canada Maintenance and Training Support, Transport Canada. Project Manager and Technical Lead: Geoff					
		was responsible for the develop	ment and delivery of training modules to help support the	ne use of ARC-IT and assisting the U.S.			
		ARC-IT Team to develop support	within the architecture for multi-jurisdictional Security	Credential Management Systems for			
		interoperable CV applications (ht	<u>tps://www.arc-it.net/html/physobjects/physobj86.html</u>	<u>#tab-6</u>).			
06/18 -	03/20	ITS Architecture for Canada – Ve	rsion 3 Update, Transport Canada. Project Manager and	Technical Lead: Geoff led the effort			
		to update the ITS Architecture fo	<i>r Canada to Version 3</i> , realigning with the U.S. ARC-IT ar	nd integrating significant			
		enhancements to support Conne	ected Vehicle planning. Geoff managed the effort and to	bok a lead role building a consensus-			
		based approach for the update,	developing Service Packages to U.S. standards and work	ing with the USDOT to integrate with			
11/10	05/40	ARC-II as Canadian Service Packa	ages (CVO20, CVO22, TM26, and WX04).				
11/18 -	05/19	As and when - ITS Architecture S	ervices, BC MOII, vancouver, BC. Project Manager and	<i>Technical Lead:</i> Geoff coordinated			
		and assisted IVIOII in their efforts	s to develop a reference architecture for their II's deploy	ments and supporting IT applications,			
		which included steps to review r	elevant documentation and material prepared by the M	inistry with respect to compliance			
00/10	11/17	with ITS architecture standards.	r Canada, Dhaca 1. Transportation Association of Coursel	Project Manager and Technical			
06/16 -	11/1/	Updating the ITS Architecture to	r Canada: Phase 1, Transportation Association of Canada	a. Project Manager and Technical			
		<i>Leud</i> : Geon was responsible to h	hanage this project to engage stakeholders and gather li	mormation relating to a potential			

	Version 3 update for the ITS Architecture for Canada. Geoff was active through all tasks, including leading the development of						
	survey tools, outreach efforts to key stakeholders, and the assessment of the need and interest in an architecture update.						
09/11 - 12/12	Peel Region ITS Strategic Plan, Regional Municipality of Peel, ON. ITS Architecture Specialist: Geoff helped with stakeholder						
	outreach efforts, including facilitating User Needs and Architecture workshops, and was responsible for the development of						
	the supporting Regional ITS Architecture framework						
02/10-05/11	Traveler Information Architecture for Ontario, MTO, Toronto, ON. Project Manager and Technical Lead: Geoff managed the						
	effort and was responsible for the <i>development of the Regional ITS Architecture framework that focused on MTO's vision for</i>						
	delivery of traveler information services in Ontario. The development effort followed "Guide to Regional ITS Architecture"						
	<i>Development"</i> and was one of the first projects to use V2 of the ITS Architecture for Canada and <i>customized Turbo tool</i> .						
09/10 - 10/11	New Brunswick-Maine Regional ITS Border Architecture, New Brunswick DOT, MaineDOT, Transport Canada, NB. Project						
	Manager and Technical Lead: Geoff managed the effort and was responsible for the development of the supporting Regional						
	ITS Architecture that provides a detailed planning framework focused on operations at the border between New Brunswick						
	and the State of Maine, including facilitating customs and clearance and border transportation through sharing of credentials,						
	commercial vehicle inspection data and traveler information.						
01/06 - 03/10	ITS Architecture for Canada – Version 2 Update, Transport Canada. Project Manager and Technical Lead: Geoff managed both						
	the initial scoping of the update, as well as the subsequent update effort to implement the required changes to align with the						
	Version 6.1 of the U.S. National ITS Architecture. Geoff facilitated numerous workshops and outreach efforts and was a						
	technical lead for incorporating the update changes and assisted with the customization of <i>Canadian versions of the Guide to</i>						
	Regional ITS Architecture Development and Turbo Architecture Tool, and was the lead trainer for a series of 5 ITS Architecture						
	Awareness workshops across Canada.						
06/08 - 12/09	Regional ITS Architecture for Ministère des Transports du Québec, Ministère des Transports du Québec, QC. ITS Architecture						
	Specialist: Geoff was the technical lead for the project and was responsible for the <i>development of the Regional ITS</i>						
	Architecture framework that allowed MTQ to inventory and plan ITS deployments province wide.						
09/06 - 12/07	York Region ITS Strategic Plan, Regional Municipality of York, ON. ITS Architecture Specialist: Geoff helped with stakeholder						
	outreach efforts, including facilitating User Needs and Architecture workshops, and was responsible for the development of						
	the supporting Regional ITS Architecture framework.						
01/05 – 12/05	Border Information Flow Architecture, Transport Canada and Federal Highway Administration, Canada/U.S. ITS Architecture						
	Specialist: Geoff represented Transport Canada and Canadian interests in this effort and assisted the U.S. Architecture Team						
	with the development of a Border Information Flow Architecture (BIFA) that promotes information sharing and coordination						
	among agencies and stakeholders near the border.						
01/05 – 05/05	Massachusetts Statewide ITS Architectures, Massachusetts Executive Office of Transportation, MA. ITS Architecture Specialist:						
	Geoff provided peer review of the four separate Regional ITS Architectures (Metropolitan Boston, Southeast, Central, and						
	<i>Western</i> in an effort to ensure consistency across the state and between each architecture.						
09/99 – 02/02	ITS Architecture for Canada – Version 1, Transport Canada. ITS Architecture Specialist: Geoff was part of the team responsible						
	for the initial development of the architecture, authoring new requirements and ensuring overall traceability of all elements.						
	Geoff was <i>responsible for the development and production of the bilingual hypertext version of the architecture (web and CD)</i>						
	and was a key member of the Architecture Training Team.						
Firm e	Firm employed by iteris						
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Name	Cliff Heis	e, PMP		Years of relevant experience with this employer	27		
Title	Regional	ITS Practice Lead		Years of relevant experience with other employer(s)	13		
Degree	Degree(s) / Years / Specialization			BS / 1984 / Mathematics, Oklahoma State University			
Active	registratior	n number / state / e	expiration date	N/A			
Year re	egistered	N/A	Discipline	N/A			
Contra	act role(s) /	brief description of	responsibilities.	ITS Architecture, Systems Engineering Analysis			
Experie	ence dates	Experience and q	ualifications releva	ant to the proposed contract			
		Mr. Heise has bee	en active in the are	eas of ITS Systems Engineering Analysis and Architecture	since 1984. Mr. Heise has been the		
1		Program Manage	r of the USDOT Na	ational ITS Architecture Program since 1996 and has bee	n involved in all aspects of the		
		program's outrea	ch, maintenance,	and management. He managed the development of the	Minnesota Traveler Alert System		
		which uses conne	ected vehicle techi	nology to alert motorists of snowplow and maintenance	vehicles in their path of travel. He		
		managed the dev	elopment of a Co	nnected Vehicle Work Zone Pilot for the Pennsylvania Tu	urnpike Commission implementing		
		V2I and V2V tech	nologies. Mr. Heis	e managed Iteris' Systems Engineering (SE) activities un	der the Connected Vehicle Systems		
	R	Engineering project where the Connected Vehicle Core System Concept of Operations (ConOps), system requirements, and					
10/10	00/17	architecture were	e developed. He h	as also managed Traffic Operations Center design and IT	S device deployment programs.		
10/12 -	10/12 – 09/17 Federal Highway Administration (F			HWA) Operations IDIQ, Operations, and ITS Program Are	a, FHWA, Washington, DC. Program		
Manager: <i>Responsible for the FHW</i>			isible for the FHW.	A Office of Operations IDIQ Operations and ITS Program	Area. Under this contract, Mr. Heise		
managed a large team of experts in		team of experts in	the ITS Operations environment. He managed and coor	dinated task orders executed under			
unis contract including: vehicle-to-		uladge and Techn	alogy Transfer and Outreach, and V2L Content Developm	eering Guidance for Video Monitoring			
05/10					Machington DC Program Managar:		
03/10	04/12	Mr. Hoiso was ros	e systems engined	ening Project, Federal Fightway Administration (FRWA), v	Operations (ConOpel system		
		requirements and system architecture for the Connected Vehicle Core System following the systems engineering analysis					
		process This effor	rt hegan with the	collection of user needs through a series of workshops a	and focus groups. Work previously		
		accomplished und	her the Vehicle Inf	rastructure Integration (VII) initiative was used as a start	ting point to expand the		
		communications b	bevond Dedicated	Short Range Communications (DSRC) to a broader set of	of wireless technologies.		
05/96 -	- Ongoing	National ITS Archi	itecture Developm	nent. Evolution, and Deployment Support, USDOT, Wash	ington, DC. Program Manager:		
		Managed the Nat	tional ITS Architect	ture Program since 1996 and is responsible for all techni	cal and programmatic aspects of this		
		program. He prov	vides advice to USI	DOT concerning the impact of technical and programmatic changes, as well as, how the			
	program relates to other USDOT ITS		o other USDOT ITS	S projects, including standards, deployment support, pol	licies, and CAV. Over the course of		
	the program, he <i>developed training</i>		developed training	<i>material,</i> provided technical review, and delivered the	various National <i>ITS Architecture</i>		
		training courses a	s an instructor; he	e actively participated in the requirements definition and	d guided the development and		
		support of the Re	gional Architectur	e Development for Intelligent Transportation <i>(RAD-IT) s</i>	<i>oftware tool.</i> Mr. Heise directed the		
		development acti	vities of the <i>Conn</i>	ected Vehicle Reference Implementation Architecture (C	<i>VRIA)</i> which defined the breadth of		
		the connected ve	hicle environment	t based on connected vehicle application concepts of operation, requirements and			
	supporting documentation. The CV			RIA established the basis for the Connected Vehicle Star	ndards planning and informs the ITS		

	Standards Harmonization activities within US DOT and internationally. The CVRIA activities included the development of the <i>Systems Engineering for Intelligent Transportation (SET-IT),</i> a software tool allowing users to define Connected Vehicle project architectures based on the CVRIA definition. The CVRIA was integrated with the National ITS Architecture in June 2017 resulting in the <i>Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT).</i> The current support program is scheduled to complete in 2024.
06/19 – Ongoing	ITS Architecture Support and Maintenance Project, Florida DOT, Tallahassee, FL . <i>Project Manager:</i> Updated the Florida Department of Transportation's (FDOT) <i>Statewide Intelligent Transportation Systems (ITS) Architecture (SITSA) and seven Regional ITS Architectures (RITSA) to conform to the latest version of the National ITS Architecture.</i> The ITS Architecture updates reflect the current and planned ITS and advanced technology solutions Florida stakeholders envision. The scope of services also includes annual maintenance updates of the SITSA and RITSAs. Mr. Heise led the review and evaluation of each architecture, and defined plans for each Florida DOT region to address transportation needs with <i>advanced technology, such as connected and automated vehicles (CAV).</i> He directed and participated in architecture update activities including the use of the RAD-IT software. The SITSA and RITSAs support Florida's ITS planning and deployment to encourage interoperability and CAV preparedness. At project completion, FDOT will have Federal Highway Administration Rule 940-compliant ITS architectures that support Florida's transportation systems management and operations (TSM&O) vision and goals and support ITS and CAV project planning over a 10-year horizon.
08/18 - 07/19	Ohio Statewide Advanced Traffic Management System (ATMS) Replacement Project, Ohio DOT, Columbus, OH. Project Manager: Under a subcontracting relationship, Mr. Heise led the <i>development of the Ohio DOT Statewide ATMS Project</i> Architecture and the Iteris support provided to the systems engineering development of procurement-ready materials for the ATMS. He directly contributed to the concept of operation and requirements development activities.
02/20 – 12/23	 Minnesota Traveler Alert System, Minnesota DOT, Minneapolis, MN. Project Manager: Mr. Heise led the development of a Traveler Alert System for the Minnesota Department of Transportation (MnDOT). The objective of the Traveler Alert Systems was to improve the safety of the traveling public and MnDOT roadway staff by alerting motorists as they approached snowplows or maintenance vehicles in their path of travel. The project leveraged vehicle to infrastructure technology, as well as Dynamic Message Signs (DMS) to convey alerts to travelers. The project included <i>systems engineering analysis</i>, testing, and demonstration of the mobile device application and DMS services, as well as operations and maintenance of the service. The was deployed on 183 DMS signs across the state of Minnesota.
11/16 - 6/23	SmarterRoads Data Portal Project, Virginia DOT, Richmond, VA - <i>Project Manager:</i> Responsible for the development of a <i>concept</i> of operations, system requirements, development, implementation, and operations of VDOTs SmarterRoads Data Portal. The data portal provided VDOT transportation operations data to registered users. The portal handled user credentialing and access to the operations data feeds for use in the development of transportation services and applications. Mr. Heise served was responsible for the development of Phase II build plan which included implementation of additional data feeds and an administrative dashboard. Phase II defined the evolution of the data portal to support data feed expansion and accommodation of connected vehicle data.

Firm employed by	/ iteris			
Name David Bir	nkley, PMP		Years of relevant experience with this employer	10
Title ITS Princ	ipal Engineer		Years of relevant experience with other employer(s)	26
Degree(s) / Years / Specialization BS / 1988 / Electrical Engineering, Georgia Institute of Technology				Technology
Active registration	n number / state / ex	piration date	N/A	
Year registered	N/A	Discipline	N/A	
Contract role(s) /	brief description of r	esponsibilities.	ITS Architecture, Systems Engineering Analysis	
Experience dates	Experience and qu	alifications releva	ant to the proposed contract	
David serves as a Principal Engineer for investigator for the National Intelligent leadership of all technical activities, lead conducting local architecture worksho for connected and automated vehicle involvement in numerous system developed concept to final testing and maintenar		ncipal Engineer for National Intelligent nnical activities, lea hitecture worksho utomated vehicle erous system deve ing and maintenar	r Iteris' Mobility Operations Services and has been with the f t Transportation System (ITS) Architecture Development Tea ading the maintenance of the architecture, supporting nume ps and classes. Mr Binkley also supports the development of projects. Mr. Binkley has over 35 years of experience in Syste clopment efforts and has been involved in every aspect of the nee activities. He is also a certified Project Management Profe	irm since 2014. He serves as principal m. Mr. Binkley's responsibilities include rous deployment activities, and regional ITS architectures and analysis ems Engineering Analysis (SEA) with e systems engineering life cycle from essional (PMP).
02/16 - 12/20	ITS System Design & LADOTD, Statewide Automated Vehicle Department) for ex facilitated web me learned from CAV support CAV proje into current trends <i>engineering analys</i> Binkley also provid CAV projects as we	A Integration IDIQ e, LA. ITS Systems e (CAV) Technolog vploring and evalu- vetings and works deployments fror cts, and providing s and technologie sis, and facilitatec led input to the d ell as inputs to the	g - Connected & Autonomous Vehicles (CAV) Technology s Engineer: Provided CAV technology expertise to the De gy Team (composed of four working groups drawn from uating the latest CAV technology. David worked as a me hops in order to identify ways LADOTD could leverage (m other transportation agencies, determine roles and re g critical CAV system analysis applied to V2I, V2V, and V es, provided connections to the overall <i>ITS architecture</i> d discussions regarding the latest CAV research and how levelopment of a CAV Strategic Plan to guide the state's e Commercial Motor Vehicle (CMV) policy for automate	 r Team Support Task Order (TO), epartment's Connected and about 25 sections of the ember of the Arcadis team through CAV technology, present lessons esponsibilities within LADOTD to (2X. Mr. Binkley conducted research framework, performed systems i t might apply to LADOTD. Mr. approach to implementing early ed trucking in the state.
08/19 – 05/21	ITS System Design & Systems Engineer: the ITS industry, in identify needs and	& Integration IDIQ Providing input in Including US and ir Iprioritize potent	- Connected and Automated Vehicles (CAV) Strategic P nto the development of the state's first <i>CAV Strategic P</i> nternational sources, to inform the state's plan. Will be ial solutions pertaining to CAV technology.	lan TO, LADOTD, Statewide, LA. <i>ITS</i> <i>lan.</i> Providing research from across facilitating workshop participants to
05/95 – Ongoing	ITS Architecture De Chief Engineer: Mr designed, developed the framework for (EV) charging, and for maintenance, s Architecture, also leads the testing o	evelopment, Evol Binkley is the Pr ed, evaluated, and providing the en multimodal and a standards develop known as the Arc f the software to	ution and Deployment Support Program, ITS Joint Prog incipal Investigator/ Chief Engineer on the National ITS <i>d now maintains the overall national reference architec</i> tire set of ITS services, including connected and automa accessible travel. The Architecture Team is engaged in t oment, deployment support, and training activities relat hitecture Reference for Cooperative and Intelligent Tra ols called "Regional Architecture Development for Intel	ram Office, USDOT, Washington, DC. Architecture Program, which has <i>ture for ITS</i> . This architecture defines ated vehicles (CAV), electric vehicle ask order contracts with the US DOT ting to the National ITS Reference nsportation (ARC-IT). Mr. Binkley also ligent Transportation (RAD-IT)" and

	<i>"Systems Engineering Tool for Intelligent Transportation (SET-IT)"</i> . Mr. Binkley leads the maintenance and evolution activities of
	the architecture, coordinating with the Program Manager and technical staff. This includes leading the incorporation of new
	user services and concepts into the architecture. Mr. Binkley supported the development of the Connected Vehicle Reference
	Interface Architecture (CVRIA), which used the National ITS Architecture as a basis with the aim of identifying new
	opportunities for interface standardization. This included the development of four viewpoints (functional, physical, enterprise,
	communications) and eventual integration with the National ITS Architecture (achieved in 2017 with ARC-IT). Mr. Binkley leads
	and participates in deployment support activities, including outreach to the ITS community and facilitation of workshops to
	help state and local transportation professionals develop and use <i>ITS Architectures</i> and <i>systems engineering analysis processes.</i>
	Mr. Binkley supports <i>ITS training activities</i> task by maintaining the content of the course and has taught numerous classes.
04/23 – Ongoing	Regional ITS Architecture Update, Texas DOT, Corpus Christi, TX. ITS Systems Engineer: As a member of the Arcadis team, Mr
	Binkley supports the <i>updates to the regional ITS architecture</i> for the TXDOT Corpus Christi district. Mr. Binkley converted the
	original Turbo files (over 20 years old) to be compatible with the current version of RAD-IT and has provided systems
	engineering analysis to determine inputs to the mapping of system elements and the service packages to be included in the
	updated architecture. Mr. Binkley presented to the TXDOT and regional stakeholders on the evolution of the architecture at the
	national and regional level and provides support to the team to create the final report.
01/15 - 12/19	V2I Outreach Content Development, Federal Highway Administration (FHWA), Washington, DC. ITS Systems Engineer: Mr.
	Binkley provide supported to <i>FHWAs Vehicle to Infrastructure (V2I) Outreach Content Development</i> project by providing CAV
	expertise and content to the outreach products and activities. He represented the project to the client at FHWA, trade shows,
	and test demonstration sites conducing focus groups. Mr Binkley provided <i>expert analysis on CAV concepts and quality review</i>
	for design and implementation applied to V2I.
03/10-04/12	Connected Vehicle (CV) Core System Engineering, United States Department of Transportation (USDOT). ITS Systems Engineer:
	Binkley served as Principal Investigator/ <i>Chief Engineer for a system engineering program to develop a Concept of Operations,</i>
	(ConOps), System Requirements, and a System Architecture to define the Core System that will various safety, mobility and
	environmental applications as part of the USDOT CAV program. The Lockheed Martin-Iteris team engaged stakeholders from
	across the country and across many industries (automotive, telecommunications, application developers) to determine the
	needs, requirements, and associated system architecture components that define the services of this Core System. Led all
	technical aspects of the program and represented the team and the program at all public forums. He interfaced directly with
	the customer to establish the requirements and was responsible for the quality of the architecture products.
03/22 – Ongoing	Florida ITS Architecture Support and Maintenance Contract, Florida DOT, Statewide, FL. Systems Engineer/ITS Architecture:
	Project manager, Systems Engineer, and ITS Architect. The Florida ITS architecture project consists of the statewide ITS
	<i>architecture,</i> 6 regional ITS architectures (RITSAs) for the districts, and an architecture for the Florida Turnpike Enterprise (FTE).
	Mr. Binkley updates the maintenance logs to track changes proposed by the stakeholders, updates the RAD-IT databases,
	provides draft content for the websites, and <i>serves as the interface with the FDOT project management team</i> for project status.

Firm employed by iteris Meets MPR No				
Name Tom Lus	sco, CSEP		Years of relevant experience with this employer	26
Title Principa	l ITS Systems Enginee	er	Years of relevant experience with other employer(s)	6
Degree(s) / Years	s / Specialization		BS / 1990 / Electrical Engineering, Virginia Tech	
Active registratio	n number / state / ex	piration date	Certified Systems Engineering Professional (CSEP) #04	171 / Exp. 07/30/2026
Year registered	2017	Discipline	Systems Engineering	
Contract role(s) /	['] brief description of r	esponsibilities.	ITS Architecture, Systems Engineering Analysis	
Experience dates	Experience and qu	alifications relev	ant to the proposed contract	
Mr. Lusco serves as a Principal Eng He has over 30 years of experience and the definition of operational co deployment. Mr. Lusco has develop viewpoints through the recent evo CVRIA and most recently, ARC-IT. H project deployment cycle by provid while respecting the tenets of syste software, integrating hardware and providing training on those system on Systems Engineering			ineer Planner for Iteris' Mobility Consulting Solutions an in Systems Engineering Analysis (SEA) and applications oncepts to requirements analysis, architecture, design, o bed viewpoint specifications based on solicited stakehol- lution of connected and autonomous vehicle architecture le is the lead visionary behind the development and use ling a means for deployers to build interoperable, simila ems engineering. He has substantial applied experience d software systems, developing test plans and procedure s. Mr Lusco is also a Certified Systems Engineering Profe	d has been with the firm since 1997. from the solicitation of user needs development, testing and der concerns, and applied those re concepts, from Core system to the of SET-IT as a means to simplify the rly documented systems efficiently designing and developing computer es, testing software and systems, and essional with the International Council
	<i>ITS Systems Engine</i> product owner for communications an develops product r Lusco provides inp communications vi mechanism used to relevant methodol of FIPS-199 and the international harm Committee 204 (IT multimodal access based on ARC-IT, w recommendations.	eer: Mr. Lusco is e SET-IT, the proje nd enterprise vie requirements, ve ut on all views of iew while providi o frame stakehol ogy. He is the lea e classification of ionization and in S). He supports v ible travel. He leavith European, Au	engaged in <i>all aspects of architecture and support tool e</i> ect-focused tool that enables implementers to documen ews, simplifying their <i>development of systems engineerin</i> rifies that those requirements are met and develops sar f ARC-IT; he is the de facto lead for the enterprise view a ing review and input for the physical. He develops for AF der concerns and define the means by which those conc ad for development and documentation of security-relat f all information flows. Mr. Lusco is also the architecture ternational cooperation activities. He is an expert for the working groups studying connected and automated vehi d harmonization efforts to develop an internationally ha ustralian and Japanese inputs to identify interface reading	<i>evolution and development.</i> He is the t their ITS projects, including physical, <i>og documentation.</i> Mr. Lusco mple material for use in training. Mr. and shares responsibility for the RC-IT's viewpoint specifications – the cerns are addressed and documents ted updates, including the application e team's primary participant in e US delegation to the ISO Technical icles as well as smart cities and irmonized reference architecture ness and develop standardization
01/98 – 04/05	Intelligent Transpo Program Manager He was responsible	ortation Systems to the VDOT ITS e for leading task	(ITS) On-Call Technical Support Services, VDOT. ITS Syste On-Call Technical Support Service contract, supporting a systems engineering analysis, the Independent	ems Engineer: Mr. Lusco served as a wide variety of ITS-related issues. t Validation and Verification (IV&V) of

	software, testing, ITS network design, and document review for Northern Virginia, Hampton Roads and Richmond Smart Traffic
	Centers, development of a comprehensive training suite for operators and associated <i>Standard Operating Procedures</i> for the
	Northern Virginia Smart Traffic Center, development and deployment of an interagency incident reporting system for the
	Hampton Roads region, the study and implementation of an Automatic Vehicle Location program for Safety Service Patrol
	vehicles, and the design and deployment of an Automated Truck Rollover Warning System.
01/12 - 07/17	V2X Cooperative Systems Engineering, USDOT Research and Innovative Technology Administration (RITA), Nationwide. 175
	Systems Engineer: Mr. Lusco helped develop the CVRIA, which used the National ITS Architecture as a basis with the aim of
	identifying new opportunities for interface standardization. This included the development of four viewpoints (functional,
	physical, enterprise, communications) and will lead to eventual <i>integration with the National ITS Architecture</i> . Primary sources
	for this work included the applications conceived under the Dynamic Mobility Applications program, systems engineering
	analysis results, safety applications concepts developed by automaker consortiums, vehicle-to-infrastructure applications
	concepts developed by the USDOT and environmental concepts developed under the AERIS program.
03/10-4/12	Connected Vehicle (CV) Systems Engineering, USDOT Research and Innovative Technology Administration (RITA), Nationwide.
	ITS Systems Engineer: Mr. Lusco developed ConOps for the CV Core System; met with stakeholders across the United States in a
	variety of forums, including public user needs workshops; presented concepts for operation of USDOT's new vision for the CV
	program; solicited and accumulated input from stakeholders with regard to what CV should enable; identified system and user
	needs, and <i>developed operational concepts and scenarios through systems engineering analysis</i> for the new system;
	documented in Concept of Operations, following IEEE 1362; developed System Architecture following guidance of IEEE 1471;
	defined five Viewpoint Specifications: Enterprise, Functional, Connectivity, Communications and Information; developed more
	than 20 views to document the Connected Vehicle Core System architecture; and presented architecture at stakeholder
	workshops in Detroit, MI, Washington, DC, and San Jose, CA.
01/05 - 03/10	Vehicle Infrastructure Integration Initiative (VII), USDOT Research and Technology Administration (RITA), Nationwide. ITS
	Systems Engineer: Mr. Lusco led development of public sector applications concepts through systems engineering analysis.
	including signal timing optimization, ramp metering and corridor management: developed algorithms to compute traditional
	traffic measures such as queue length, stop delay, time-in-queue and cycle failure detection using VII-supplied probe data:
	developed applications high-level architecture, requirements and testing framework to support VII Proof-of-Concept, Mr. Lusco
	was a participant in cross-organizational applications and end-to-end systems teams, and a member of the Engineering Review
	Board overseeing all changes to VII System documentation, concents, design and requirements. He was also a key member of
	the team responsible for VII System definition, top level architecture and requirements.
02/10-6/13	Connected Vehicle (CV) Test Bed Development, VDOT, Statewide. ITS Systems Engineer: Mr. Lusco worked with VDOT to
	configure and install CV test bed environments in northern Virginia and Blacksburg, for use testing research applications. Mr.
	Lusco performed systems engineering analysis and developed the operational concept and providing integration, installation
	and configuration support. The initial installations were complete in mid-2013, providing Dedicated Short Range
	Communications (DSRC) along a three mile stretch of I-66 and portions of I-495, nearby arterials and the Smart Road at Virginia
	Tech. This is one of the <i>largest operational Connected Vehicle test environments in the U.S.</i>

Firm er	Firm employed by ARCADIS							
Name	ame Johnny Tse			Years of relevant experience with this employer	6			
Title	ITS Techno	logy Analyst		Years of relevant experience with other employer(s)	5			
Degree	e(s) / Years / S	Specialization		MS / 2015 / Transportation Engineering / Carleton Uni	iversity			
				BS / 2012 / Civil Engineering / Carleton University				
Active	registration r	number / state / ex	piration date	N/A				
Year re	gistered	N/A	Discipline	N/A				
Contra	ct role(s) / br	ief description of r	esponsibilities.	ITS Architecture, ITS Systems Engineering Analysis				
Experie	ence dates	Experience and q	ualifications rele	vant to the proposed contract				
	1100	Mr. Tse has more	e than 10 years o	f experience in transportation planning, Intelligent Tran	sport Systems (ITS), and transit			
		operations techn	ology. He has be	en part of largescale efforts to update regional ITS Arch	itecture in the San Diego region and			
		for the Texas Dep	partment of Tran	sportation. Additionally, he has also had significant role	s in ITS and connected vehicle pilot			
0	6	projects in the Sa	in Diego region.	Mr. Tse has also partaken in technology upgrade and Sy	stems Engineering Analysis (SEA)			
		projects for a ran	ge of transit tecl	nnology systems including Computer-Aided Dispatch an	d Automatic Vehicle Location systems			
		(CAD/AVL), Vehicle Communication Technologies, and Fare Collection Systems. He has also been significantly involved in						
		implementation a	and testing activ	ties in these technology upgrade projects. Mr. Tse is als	so familiar with spatial statistics and			
02/22	- ·	geographical info	ormation systems					
03/23 -	- Ongoing	San Antonio Regional IIS Architecture Update – IXDUI, San Antonio, TX. ITS Technology Analyst: Updating the Regional ITS						
		Architecture for the IXDUI San Antonio district as part of IXDUI's Transportation Systems Management and Operations						
		(ISIVIO) program. The ITS Architecture focuses on <i>developing ITS strategies that conform to regional plans and objectives</i> . High						
		implementation include system design and implementation are provided for each project. Key ITS strategies and projects for						
		driving integrate	ed corridor mana	gement incident detection traffic signal ontimization a	and vehicle to infrastructure (V2I)			
		deployments leve	eraging C-V2X ter	shnology				
10/20 -	- 08/21	San Diego Regional ITS Architecture Update. San Diego. CA. <i>ITS Technoloav Analyst</i> : Supporting the <i>ITS Architecture</i> update						
	00, ==	process using <i>RAD-IT</i> as well as <i>developing the System Engineering Analysis, associated technical documentation, and training</i>						
		<i>documentation.</i> Partnering with The San Diego Association of Governments (SANDAG), the project's focus is to <i>provide</i>						
		<i>comprehensive updates to the Regional ITS Architecture</i> to help advance the implementation of the region's 5 Big moves.						
10/20 -	- 06/23	CAD/AVL Assessment and Replacement, Fresno Area Express (FAX), Fresno. ITS Technology Analyst: Supported the Systems						
		<i>Engineering Analysis</i> , technology needs assessment and technical requirements development for FAX. For the project,						
		conducted stakeholder meetings with the agency and prepared technical reports to identify areas of improvement in terms of						
		transit technolog	y. Following the	CAD/AVL procurement, took part in the proposal evalua	ation process. Led the			
		implementation	phase of the pro	ject, providing <i>system deployment</i> supervision and over	sight.			
06/18 -	-01/20	CAD/AVL and Rad	dio Replacement	, Foothill Transit, Foothill, CA. ITS Technology Analyst: m	nember of the technical team which			
		supported the im	plementation pl	nase of the project that include <i>test plan</i> review, system	validation, and onsite			
		implementation s	support for Foot	nill Transit's Avail CAD/AVL and a VoIP communication s	ystem through commercial cellular			
		data. In addition,	evaluated the te	est procedures' robustness and provided oversight for v	ehicle system and central <i>system</i>			
		acceptance testin	ng.					

Bus-on-Shoulder Pilot, SANDAG, San Diego, CA. ITS Technology Analyst: Part of Technical Team provided transit operations
and technology expertise for the Bus-on-Shoulder <i>Pilot</i> project. Developed technical specifications and provided <i>system</i>
deployment oversight for connected vehicle technologies including onboard sensors to ensure vehicle and passenger safety, as
well as <i>roadside connected vehicle infrastructure (V2I)</i> leveraging C-V2X technology.
Regional Transportation Commission (RTC) of Southern Nevada Technology Assessment and Roadmap, Las Vegas, NV. 175
<i>Technology Analyst:</i> Member of the Arcadis team conducted stakeholder meetings to assess RTC's current state of technology
including transit operation management technologies, battery electric bus charge management systems, and communication
technologies. The team identify immediate and future needs and developed a transit technology roadmap.
Culver City Transportation Technology Roadmap, City of Culver City, CA. ITS Technology Analyst: Member of the Arcadis
Technical Team developed an updated transportation technology roadmap for the City of Culver City. The development
process includes assessing the City's technology needs through <i>stakeholder workshops</i> , assessing <i>technology options and</i>
<i>alternatives</i> , and assessing implementation strategies.
Big Blue Bus Technology Procurement Support, Santa Monica, CA. ITS Technology Analyst: Member of the Arcadis Technical
Team provided support for four concurrent transit technology procurements, these projects were recommended based on
Arcadis' technology assessment and roadmap previously prepared for the transit agency. The four transit technology system
upgrade projects and procurements include vehicle and operator scheduling systems, a fallback digital mobile radio
<i>communication system,</i> and a replacement CAD/AVL system.
Stride Bus Rapid Transit (BRT), Sound Transit, Seattle, WA. ITS Technology Analyst: Member of the Arcadis systems
Engineering Team currently developing multiple aspects of Stride, a new BRT system in the Puget Sound region. Primarily
leading the <i>alternative analysis</i> and development of technical requirements for bus operations technologies as well as
onboard security surveillance systems. These technologies include onboard <i>communication systems</i> , dispatch management
systems, and central management systems.
LA Metro ATMS II, LA Metro, Los Angeles, CA. ITS Technology Analyst: Member of the team that is supporting LA Metro's
replacement of their CAD/AVL and radio system. This includes onsite observations at Metro's bus and rail maintenance
facilities, stakeholder meetings, and leading technical requirements development effort.

Firm employed by iteris					
Name David Register			Years of relevant experience with this employer	17	
Title Senior IT	S Specialist		Years of relevant experience with other employer(s)	13	
Degree(s) / Years	/ Specialization		BA / 1985 / Area Studies		
Active registration	n number / state / ex	piration date	N/A		
Year registered	N/A	Discipline	N/A		
Contract role(s) /	brief description of r	esponsibilities.	ITS Architecture, System Integration		
Experience dates	Experience and qu	alifications releva	ant to the proposed contract		
As an ITS applications specialist, Mr. Reg currently completing deployment of a sr CAV with local traffic signal systems. He also leading a CAV corridor deployment recently supported development of a CA experience also includes ITS communication		s specialist, Mr. Reg deployment of a s signal systems. He prridor deployment evelopment of a C des ITS communica	gister has a broad range of experience spanning design, deploy mart mobility corridor for Rutgers University involving the depl participated in developing an ITS network architecture to supp in the City of Baltimore which also involves ITS communicatior AV readiness assessment model for VDOT and is supporting ITS ations to support BRT/ transit operations.	ment, operations and maintenance. He is oyment, integration, and operation of port research and operational needs. He is and traffic signal integration. He Master Planning in the Philippines. His	
5/20 – Ongoing	Smart Mobility Test Register is managing <i>CAV and advance se</i> application testing a <i>of LiDAR, V2X/RSU, o</i> and delivery of high	Ground (SMTG) Co the design of field <i>nsors</i> such as LiDA nd development a CCTV, and other se data volumes to C	prridor for Rutgers U./Middlesex Co. NJ/ NJDOT – New Bruns d sites, <i>ITS network architecture</i> , field installation, operations R along urban arterials and nearby highways, providing Rutge s well as supporting Middlesex County's Traffic Engineering s pnsors and it includes coordinating provision of SPaT/MAP dat ounty's "Data City" Control Center.	wick, NJ. ITS Design Manager: Mr. , and maintenance for <i>deployment of</i> ers with a real-world environment for staff. The SMTG includes <i>implementation</i> ta from County signal system controllers	
02/22 – Ongoing	CAV Smart Mobility and deployment of t arterial near the unit provision of SPaT/M Transportation Cent	Environment for M wo field sites, <i>ITS ,</i> versity. The work i <i>AP data</i> from City er (NTC) lab.	forgan State University – City of Baltimore, MD. <i>ITS Design N</i> network architecture, and field installation for deployment of ncluded implementation of LiDAR, V2X/RSU, CCTV, and other of Baltimore signal system controllers and delivery of high da	<i>Tanager:</i> Mr. Register <i>led the ITS design</i> <i>CAV and advance sensors on a major</i> r sensors. Includes coordinating ata volumes to the university's National	
6/22 – 07/2023	SunRunner Bus Rapi design elements of t design and integrati development of spec AVL functions and lo	d Transit (BRT) / Pi he PSTA's new BR on tasks spanning cifications, require cal ATMS to suppo	nellas Suncoast Transit Authority (PSTA) – St. Petersburg, FL. T system recently deployed to serve the Tampa-St. Petersbur <i>traffic signals, ATMS</i> (City of St. Petersburg and Tampa), tran ments, and design documents. Mr. Register <i>led development</i> ort Transit Signal Priority (TSP) functions.	<i>Project Manager:</i> Provided the ITS g area of Florida. This project involved isit control systems to include <i>t of requirements for integration</i> of BRT	
10/20 – 11/2021	CAV Readiness Fram determine the need tasks related to the Virginia to support in	ework for VDOT – to adapt VDOT's s development of a nvestment plannin	Richmond VA . Subject Matter Expert: Supported VDOT prepa tandards and practices for roadway and ITS designs and relat CAV readiness assessment tool for VDOT that examined capa g for CAV implementation.	are for the <i>impending roll out of CAVs to</i> ed maintenance and operations. He led bility maturity across the state of	
11/12 – 09/2018	Connected Vehicle T Virginia and Virginia Scope included near enable access by ren that would support r	Testbed, VDOT and Tech. ITS Design N Iy 50 sites along in Mote researchers to remote SNMP requ	Virginia Tech Transportation Institute (VTTI) – I-66, I-495, US Aanager: Mr. Register led the <i>design and deployment of CAV</i> terstates and highways <i>with integration to VDOT network us</i> b ensure VDOT <i>network security</i> . He was also responsible for uirements compatible with RSU technology. Managed operat	5 29, US 50, VTTI Smart Road – Northern <i>'equipment</i> (RSUs) for VDOT and VTTI. <i>sing dark fiber on a dedicated network to</i> r the selection of network equipment tions and maintenance support.	

Firm en	nployed by	ARCADIS						
Name	Ari Deitch	n, PE, PTOE, PTP, RS	SP	Years of relevant experience with this employer	10			
Title	Senior Tra	affic Engineer		Years of relevant experience with other employer(s)	2			
Degree	(s) / Years /	Specialization		BS / 2012 / Biological Engineering, Louisiana State Univ	versity			
Active r	egistration	number / state / e	xpiration date	PE.0041842 / LA / Exp. 03/2026; PTOE #4346 / USA / E	xp. 11/2026			
				PTP #690 / USA / Exp. 07/2025; RSP #37 / USA / Exp. 1	2/2024			
Year re	gistered	2018	Discipline	Civil Engineering				
Contrac	ct role(s) / b	orief description of	responsibilities.	Traffic Engineering Analyses				
Experie	nce dates	Experience and qu	ualifications relev	ant to the proposed contract				
		Mr. Deitch is a <mark>Se</mark> i	nior Traffic Engine	eer specializing in traffic engineering studies and design,	traffic safety, transportation			
(management, and	d conceptual road	lway design. Mr. Deitch has experience managing and w	orking on a wide range of			
	36	transportation pro	ojects for LADOT[and other DOTs and municipalities across the country,	, pertaining to traffic operations			
et.	(ac	analysis, signal wa	arrant analysis, ac	cess management, pedestrian and bicycle improvement	s, complete streets, transportation			
		management plar	management plans, feasibility studies, NEPA studies, signal design, and signing and marking design. He has experience with					
		traffic analysis software's and methods and is proficient in Highway Capacity Software, Synchro, Vistro, Vissim, Sidra and						
	·	MicroStation soft	ware. Mr. Deitch	has completed the LADOTD Traffic Engineering Process	and Report Training.			
04/19 -	- 12/19	EBR Signal Upgrad	les and Design Pla	ans, LADOTD, East Baton Rouge Parish, LA. Traffic Engine	eer of Record. Responsible for			
		supervisory tasks	and oversight of t	this project involving <i>field signal inventory</i> and the creation	on of updated <i>signal design plans and</i>			
	10/10	<i>quantities</i> for 39 in	ntersections in Ea	st Baton Rouge Parish.				
04/19 -	- 12/19	US 90 Traffic Signa	al Timing Upgrade	es/LADOTD, Lafayette Parish, LA. Project Manager. Resp	onsible for project tasks involving			
		traffic data collect	ion and analysis, t	<i>raffic signal inventory</i> , peak period determination and observations, <i>warrant analysis</i> , travel				
		time runs, <i>traffic s</i>	signal timing analy -	<i>'Sis</i> using Synchro 10 software, and development of upda	ated TSI forms following latest			
02/15	00/10	LADUID standard	S.	ffia and Cafaty Consider Study LADOTD Devides Devide	LA Drainet Manager Deerensible for			
02/15 -	- 09/18	US /1 Corridor - Phase II and III Traffic and Safety Corridor Study, LADUTD, Rapides Parish, LA. Project Manager. Responsible for						
		overseeing and managing project tasks including <i>trame data conjection, signal warrant analysis, trame analysis,</i> crash analysis,						
08/10	02/20		agement and Co	rridor Study LADOTD East Baton Bourge Parish LA Seni	rawings.			
08/19-	02/20	US OF Access ivianagement and Corridor Study, LADUID, East Baton Rouge Parisn, LA. Senior Trajfic Engineer. Project purpose						
		was to evaluate the effectiveness of proposed access management improvements along US 61 and identity feasible alternatives to maximize operational and safety benefits. Provided technical oversight for traffic analysis using Highway Canasity Seftware 7						
		to maximize operational and safety penelits. Provided technical oversight for <i>traffic analysis</i> using Highway Capacity Software 7,						
		cost analysis		we surely analysis. Assisted with the development of cor	istraction cost estimates and schent			
02/15-0)1/18	LA 3105 (Green A	cres to LA 72) Cor	ridor Study, LADOTD, Bossier Parish, I.A. Traffic Enginee	r. Responsible for			
	_,	development/eva	luation of existing	and future year conditions using a <i>calibrated microsimu</i> .	<i>lation model (Vissim)</i> . Designed			
		alternatives for ph	nased implementa	ation based on identified needs and input from local stal	keholders including medians.			
		restricted intersed	ctions, roundabou	its, roadway widening, and <i>signal timing optimization</i> .				
L			,					

07/14 – Ongoing	Pete's Highway Traffic Study and Environmental Assessment, LADOTD, Denham Springs, LA. Traffic Engineer. Responsible for
	traffic analysis of proposed alternatives using Vissim software. Played a key role in the development of preliminary roadway
	design drawings, incorporation LADOTD's Complete Streets Policy, and implementing enhanced pedestrian safety measures
	such as high visibility crosswalks. Work involves completing an Environmental Assessment and providing traffic engineering
	services related to improving operations and safety along Range Avenue at the I-12 interchange. Conducted <i>signal warrant</i>
	analysis and developed optimized timing plans for proposed improvements.
02/15 – 11/17	Intersection Feasibility Study - Evangeline Thwy, Johnston St, & Louisiana Ave, LADOTD, Lafayette Parish, LA. Traffic Engineer:
	Responsible for review of existing crash data, traffic operations analysis, signal warrant analysis and development of design
	alternatives. Objective is to develop alternatives for the intersection of Evangeline Thruway (US 167/90) and Johnston Street (US
	167) / Louisiana Avenue (LA 94) that will improve safety and mobility. Evangeline Thruway consists of two one-way roadways
	with three lanes in each direction. Three alternatives for each intersection at Johnston Street / Louisiana Avenue were
	developed based on the results traffic and safety analysis.
11/20 – Ongoing	I-10 CMAR – Traffic Engineering Services, LADOTD, East Baton Rouge Parish, LA. Senior Traffic Engineer. Providing QAQC for
	traffic engineering tasks including development of permanent signing plans, signal design and timing plans, Interchange
	Modification Reports, and Transportation Management Plans for the widening of Interstate-10 from LA 415 to Essen Lane and
	improvements to interchanges along this segment. One critical component of the project is maintaining traffic during the
	construction of new bridge structures. Multiple scenarios are being evaluated using a calibrated mesoscopic model using
	Dynameq to determine the impacts during construction and mitigations that will be necessary to minimize delay.
05/19 - 11/22	I-20/I-220 Interchange Improvements and BAFB Access Design-Build, LADOTD, Bossier Parish, LA. Senior Traffic Engineer.
	Responsible for the development of addendum to linterchange Modification Report, Transportation Management Plan,
	temporary signal timing and design plans, Temporary Traffic Control Plans, and Permanent Signing Plans to accommodate the
	design and construction of the project. The design-build project includes the modification of the existing interchange at I-20/I-
	220 with additional ramps and extension of I-220 to provide access to Barksdale Air Force Base.
09/15 - 01/18	US 165 (US 165 Business to LA 2) Corridor Study, LADOTD, Ouachita Parish, LA. Traffic Engineer. Responsible for general oversight and
	technical analysis for this <i>corridor analysis</i> and <i>operational improvement feasibility study</i> . Conducted <i>signal warrant analysis</i> . Performed
	select-link and TAZ analysis using TransCAD model to determine distribution of future trips in developing area along US 165 corridor in
	Monroe, LA. Performed <i>traffic analysis</i> for roadway segments using <i>microsimulation models (Vissim)</i> for complex segments, and Vistro
	Software for less congested segments. Evaluated the impacts of future growth along the corridor using the ITE Trip Generation Manual.
04/16 00/10	Completed Stage U documentation for the project.
04/16-09/18	Safety Studies IDIQ - New Orleans Pedestrian Stage U Safety Feasibility Study, LADOTD, Orleans Parish, LA. Project Manager.
	Responsible for assessing existing and future safety deficiencies related to pedestrian and bicycle modes and selecting safety
	countermeasures for 20 nign-risk locations. Developed design drawings for proposed short-term and long-term improvement
	phases and conducted benefit-cost analysis to inform project prioritization. Conducted safety analysis using Highway Safety
	Manual predictive methods.

Firm er	nployed by	ARCADIS	5				
Name	Kester Ho	ollier, PE, PTOE		Years of relevant experience with this employer	3		
Title	Senior Tr	affic Engineer		Years of relevant experience with other employer(s)	16		
Degree	(s) / Years ,	/ Specialization		BS / 2004 / Civil Engineering, Louisiana Tech University	/		
Active r	registration	number / state / e	xpiration date	PE.034304 / LA / Exp. 03/2025; PTOE #3928 / USA / Ex	p. 11/2024		
Year re	gistered	2009	Discipline	Civil Engineering			
Contra	ct role(s) / l	prief description of	responsibilities.	Traffic Engineering Analyses			
Experie	ence dates	Experience and q	ualifications relev	ant to the proposed contract			
Mr. Hollier possesses a wide bread intersection and corridor traffic stu complete street improvement proj and construction management and to evaluate the effectiveness and f LADOTD Traffic Engineering Proces			sses a wide bread corridor traffic stu mprovement proj management anc ffectiveness and for ngineering Proces	th of experience in traffic engineering studies and design idies, signal timing optimization and design, signal warra ects, transportation management plans, traffic modeling l inspection. Mr. Hollier will provide traffic engineering s easibility of ITS solutions. As a member of our traffic team s and Report Training.	n including feasibility studies, Int analysis, roadway design, g and analysis, transportation safety, ervices for this contract as necessary m, Mr. Hollier has completed the		
11/20 -	Ongoing I-10 CMAR – Traffic Engineering Services, LADOTD, East Baton Rouge Parish, LA. <i>Project Manager/Senior Traffic Engineer</i> . Responsible for <i>traffic engineering</i> tasks including development of permanent signing plans, <i>traffic signal analysis and timing optimization, traffic signal design</i> , interchange modification reports, and transportation managemnet plans for the widening o I-10 from LA 415 to Essen Lane and improvements to interchanges along this segment. Extensive historical crash and safety analysis is being performed in support of the IMR and TMP. One critical component of the project is maintaining traffic during the construction of new bridge structures. Multiple scenarios are being evaluated using a calibrated mesoscopic model to determine the impacts during construction and mitigations that will be necessary to minimize delay.						
01/10 -	-04/11,	Stumberg Lane E>	tension, City of B	aton Rouge Green Light Plan, East Baton Rouge Parish, L	A. Traffic Engineer. Responsible for		
07/13 -	- 01/14	the <i>design and analysis of new traffic signals</i> at US 61 (Airline Highway) and LA 73 (Jefferson Highway) for the extension of Stumberg Lane in Baton Rouge, LA. Also, responsible for the <i>design and layout of the fiber optic interconnect</i> along the proposed extension.					
05/09 -	- 07/13	LA 23 Widening (Lapalco Blvd. – Engineers Rd.), LADOTD, Jefferson and Plaquemines Parishes, LA. <i>Traffic Engineer</i> . Responsib for the road design and geometrics for the widening of LA 23 in Jefferson and Plaquemines Parishes between Lapalco Blvd. (L 428) and Engineers Rd. (LA 3017). Performed <i>traffic analysis for the traffic signal timing</i> and determined required turn bay lengths at intersections. Developed traffic signing plans, pavement marking layouts and temporary traffic control plans.					
05/14 -	- 08/20	Causeway Blvd. a	t Earhart Expwy. I	nterchange, LADOTD, Jefferson Parish, LA. Senior Traffic	Engineer. Responsible for the design		
		of traffic control a	and construction s	sequencing, pavement marking layout, quantity analysis,	cost estimates, and quality control		
		for a new interch	ange at LA 3139 (I	Earhart Expwy.) and LA 3046 (Causeway Blvd.) in Jefferson Parish, LA. Provided review for the			
		Interchange traffi	c sign and <i>traffic</i> :	signal timings and design. Identified all necessary design	waivers and design exceptions		
		required for LADC	DID approval. Pro	vided geometric layout design, typical section design and	d review, and joint layout design for		
		several interchan	ge ramps and und	lerpasses.			

10/18 - 01/19	LA 22 Traffic Circulation and Corridor Analysis, NORPC, St. Tammany Parish, LA. Senior Traffic Engineer. Responsible for the
	development of three future alternatives along Northshore Boulevard between I-12 and US 190 in Slidell, LA. Managed the <i>data</i>
	collection process and peak period observations to determine existing traffic patterns as well as the safety analysis along the
	corridor. Developed three alternatives that used a combination of <i>traffic signal retiming</i> , J-turns, and roundabouts to provide
	better access management along Northshore Boulevard as well as improve traffic flow in the corridor for current and proposed
	future conditions with consideration given to proposed future developments using trip generation and land use analysis.
09/12 - 02/16	Traffic Study and Stage 1 EA for Replacing Belle Chasse Tunnel and Bridge, LADOTD, Plaquemines Parish, LA.
	SeniorTraffic Engineer. Responsible for the feasibility study and traffic analysis along LA 23 (Belle Chasse Highway) between LA
	428 (Behrman Highway) and LA 406 (Woodland Highway) for multiple 6-lane bridge alternatives that will be proposed to replace
	the existing Belle Chasse Tunnel and lift bridge over the Intercoastal Waterway. These alternatives included 3%, 4%, and 5%
	bridge grades that modified roadway geometry and intersection location. Responsible for the review of the roadway portion
	and costs for the Line and Grade Study along with the review of the construction sequencing and traffic maintenance of the
	constructability review.
11/17 – 07/20	LA 466 (5 th Street) Improvements Traffic Study, City of Gretna, Jefferson Parish, LA. Project Manager / Senior Traffic Engineer.
	Responsible for the <i>traffic study</i> and impacts for the proposed complete streets improvements along the LA 466 corridor
	between LA 23 and Richard St. in Gretna, Louisiana. Tasks included data collection along the corridor and at designated
	intersections, <i>traffic signal warrant analysis</i> , safety and crash analysis along the corridor, trip generation/land use and
	performing <i>existing traffic analysis and future traffic analysis</i> for proposed final alternative. The traffic study was prepared to
	follow the Louisiana Department of Transportation and Development's Traffic Engineering Process and Report Guidelines. The
	project also included a stand alone pedestrian study along the corridor at designated intersection and the design of traffic
	signals and accessible pedestrian signals at signalized intersections.
12/17 - 11/19	Causeway Boulevard Widening Traffic Study, Jefferson Parish, LA. Project Manager / Senior Traffic Engineer. Responsible for the
	traffic and safety study for the proposed widening of Causeway Boulevard between Metairie Rd. and West Esplanade Blvd. in
	Jefferson Parish, LA. Tasks included data collection, traffic volume redistribution, left-turn placement and turn bay storage
	length, and existing traffic analysis and future traffic analysis of a preferred alternative.
06/13-04/14	US 190 Stage 0 Feasibility Study, LADOTD, St. Tammany, LA. <i>Traffic Engineer</i> . Responsible for roundabout geometric design and
	pedestrian and bike path design along the US 190 corridor in the City of Slidell and St. Tammany Parish to improve safety for
	motorized and non-motorized roadway users.
10/10-07/15	Barriere Road Traffic Study, US Department of Defense, Plaquemines Parish, LA. Traffic Engineer. Responsible for the geometric
	layout and design of the realignment alternatives of Barriere Rd. between LA 23 to the US Naval Air Station. Developed and
	<i>reviewed traffic analysis</i> for arrival and departure patterns for the South US Naval Air Station entrance gates.

Firm er	Firm employed by ARCADIS						
Name	ame Thomas Montz, PE			Years of relevant experience with this employer	12		
Title	Senior Tr	affic Engineer		Years of relevant experience with other employer(s)	3		
Degree	e(s) / Years ,	/ Specialization		MS / 2011 / Civil Engineering, Louisiana State Universi	ty		
				BS / 2009 / Civil Engineering, Louisiana State Universit	У		
Active	registration	number / state / ex	piration date	PE.0039128 / LA / Exp. 09/2024			
Year re	gistered	2014	Discipline	Civil Engineer			
Contra	ct role(s) / l	brief description of	responsibilities.	Traffic Engineering Analyses			
Experie	ence dates	Experience and qu	alifications relevations	ant to the proposed contract			
		Mr. Montz is a Ser	nior Traffic Engine	eer specializing in transportation planning, and design. H	le has 15 years of experience leading		
		a multitude of pla	nning and engine	ering projects including traffic engineering studies, feas	ibility studies, safety studies, design		
1	-	projects, and tran	sportation manag	gement during construction. These projects typically req	uire relevant tasks including signal		
	(timing optimizatio	on and implement	ation, signal design, signal warrant analysis, ITS design,	HCM analysis, and microsimulation		
		analysis. Mr. Mon	tz will provide tra	ffic engineering services for this contract as necessary t	o evaluate the effectiveness and		
		feasibility of ITS so	o <mark>lutions</mark> . As a mer	mber of our traffic team, Mr. Montz has completed the	LADOTD Traffic Engineering Process		
	6.2	and Report Trainin	ng.				
04/19 -	- 12/19	Traffic Signal Design IDIQ - US 90 Traffic Signal Timing Upgrades/LADOTD, Lafayette Parish, LA. Project Manager. Responsible for project					
		tasks involving <i>trafi</i>	s involving <i>traffic data collection</i> and analysis, <i>traffic signal inventory</i> , peak period determination and observations, <i>warrant analysis</i> ,				
		travel time runs, <i>tra</i>	affic signal timing a	analysis using Synchro 10 software, and development of upd	ated TSI forms following latest LADOTD		
		standards.					
04/19 -	- 12/19	Traffic Signal Design IDIQ - East Baton Rouge Signal Upgrades and Design Plans, LADOTD, East Baton Rouge Parish, LA. Traffic Engineer.					
		Responsible for supervisory tasks and oversignt of this project involving <i>Tield Signal Inventory</i> and the creation of updated <i>Signal design</i>					
		<i>plans and quantities</i> . Sy locations identified in East Baton Rouge Parish to be upgraded from video detection to magnetometer detection.					
		All signalized intersection on Fionda Boulevard from 1-110 to Alfine Highway were included for signal detection upgrades under this project					
09/15 -	- 01/18	Traffic Engineering	DIO - US 165 (US 1	65 Business to LA 2) Corridor Study, LADOTD, Quachita Paris	h. LA.		
00710	01/10	Proiect Manager. Re	esponsible for gene	eral oversight and technical analysis for this <i>corridor analysis</i>	and <i>operational improvement</i>		
		<i>feasibility study.</i> Conducted <i>signal warrant analysis</i> . Performed select-link and TAZ analysis using TransCAD model to determine					
		distribution of future trips in developing area along US 165 corridor in Monroe, LA. Performed <i>traffic analysis</i> for roadway segments using					
		<i>microsimulation models (Vissim)</i> for complex segments, and Vistro Software for less congested segments. Evaluated the impacts of future					
		growth along the co	orridor using the ITI	E Trip Generation Manual. Completed Stage 0 documentation	n for the project.		
02/15 -	- 08/17	Traffic Engineering	DIQ - US 71 Corrid	or Study - Phase II, LADOTD; Rapides Parish, LA. Project Man	<i>ager.</i> Responsible for the preparation of		
		a corridor <i>feasibilit</i>	<i>study</i> for the purp	pose of enhancing mobility and safety on US 71 in Alexandria	, LA. Main tasks included <i>traffic data</i>		
		collection, signal w	arrant analysis, tra	affic analysis, safety data analysis, alternative development,	and public / stakeholder involvement.		
		Completed Stage 0	documentation inc	luding Preliminary Scope and Budget and Environmental Che	ecklists.		

Firm employed by	ARCADIS				
Name Max Agu	irre, PhD, PE, PTOE,	RSP1	Years of relevant experience with this employer	5	
Title Traffic an	nd Safety Engineer		Years of relevant experience with other employer(s)	1	
Degree(s) / Years	/ Specialization		PhD / 2018 / Engineering Science, LSU; MS / 2015 / Co	onstruction Management, LSU;	
			BS / 2013 / Civil Engineering, LSU		
Active registration	number / state / ex	piration date	PE. 0047579/ LA / Exp. 09/30/2025; PE.052016/ NC/ E	xp. 12/31/2024;	
			RSP1 #636 / USA / Exp. 8/2024; PTOE #5291/ USA/ Exp	o./ 8/2025	
Year registered	2021	Discipline	Civil Engineering		
Contract role(s) / I	brief description of r	responsibilities.	Traffic Engineering Analyses		
Experience dates	Experience and qu	alifications relev	ant to the proposed contract		
	Dr. Aguirre has exp	perience working	on projects for Louisiana Department of Transportatior	and Development (LADOTD)	
	pertaining to traffi	ic and safety stuc	lies, feasibility studies, pedestrian and bicycle improvem	nents, permanent signing design,	
	signal timing optin	nization and desi	gn, signal warrant analysis, and NEPA studies. He is also	familiar with the Highway Capacity	
	Manual, Highway	Safety Manual, N	1UTCD, and AASHTO "Green Book". Mr. Aguirre will prov	vide traffic engineering services for	
	this contract as ne	cessary to <mark>evalua</mark>	ate the effectiveness and feasibility of ITS solutions. As a	member of our traffic team, Mr.	
	Aguirre has compl	eted the LADOTE	O Traffic Engineering Process and Report Training.		
08/19 - 02/20	Traffic Engineering I	DIQ - US 61 Access	s Management and Corridor Improvements (Airline Hwy) Fea	sibility Study, LADOTD, East Baton Rouge	
	Parish, LA. Traffic Er	<i>ngineer.</i> Project pu	rpose was to evaluate the effectiveness of proposed <i>access r</i>	management improvements along US 61	
	and identify <i>feasible</i>	<i>e alternatives</i> to ma	aximize operational and safety benefits. Evaluated the need f	or pedestrian and bicycle	
	accommodations ba	ased on historical c	rash data and adjacent land use. Assisted in conducting traffi	ic analysis and the development of	
00/10 00/21	benefit-cost analysi	s to compare the e	ffectiveness of the proposed alternatives.		
09/19 - 06/21	Safety Studies IDIQ	- Baton Rouge Ped	estrian and Bicycle Safety Action Plan and Road Safety Assess	sments, LADUID, East Baton Rouge	
	biovelo modos at ide	in Sujely Engineer.	Assisted with the assessment of existing and future safety de	enciencies related to pedestrian and	
	criteria to identify h	igh priority locatio	ns with a history of nedestrian and/or hisysle crashes. Condu	icted Road Safety Assessments (RSAs) at	
	10 priority locations	to identify and ev	aluate safety deficiencies and <i>develop safety countermeasure</i>	esto improve safety	
08/19 - 12/19	US-90 Traffic Signal	Timing Upgrades.	LADOTD. Lafavette Parish. Louisiana. Traffic Engineer.		
, ,	Responsible for traf	fic data collection	and analysis; signal inventory; peak period determination and	d observations; warrant analysis; travel	
	time runs; traffic sig	nal analysis using s	Synchro 10 software; and development of updated TSI forms	following latest LADOTD standards.	
11/20 – Ongoing	I-10 CMAR Traffic Er	ngineering Service	s, LADOTD, East Baton Rouge Parish, LA. Traffic and Safety En	gineer. Assisting in traffic engineering	
	tasks including deve	lopment of perma	nent signing plans, Interchange Modification Reports, and Tr	ansportation Management Plans for the	
	widening of I-10 fro	m LA 415 to Essen	Lane and improvements to interchanges along this segment.	Assisted in the development of <i>existing</i>	
	condition safety and	alysis including tasl	ks such as <i>crash data analysis, collision diagrams, and crash r</i>	report documentation.	
08/19-03/20	East Baton Rouge Si	gnal Detection Up	grades, LADOTD, East Baton Rouge Parish, Louisiana. Traffic E	Engineer. Responsible for the field signal	
	inventory and the ci	reation of updated	d signal plans and quantities. The project includes 39 intersections identified in East Baton Rouge		
	Parish to be upgrade	ed from video dete	ection to magnetometer detection.		

PERSONNEL RESUMES

ITS DESIGN (PS&E) PROFESSIONALS

Firm er	Firm employed by ARCADIS Meets MPR No. 5						
Name	Name Tait Karlson, PE, PTOE			Years of relevant experience with this employer	>1		
Title	Senior IT	S and Traffic Enginee	er	Years of relevant experience with other employer(s)	20		
Degree	e(s) / Years	/ Specialization		MS / 2005 / Transportation Engineering, University of	Florida		
				BS / 2001 / Civil Engineering, University of Florida			
Active	registration	n number / state / ex	piration date	PE.0040438 / LA / 09/30/2024; PTOE 3091 / USA / Exp	. 07/20/2026		
Year re	gistered	2016	Discipline	Civil Engineering			
Contra	ct role(s) /	brief description of r	esponsibilities.	ITS / Communications Design, Technical Support Durin	ng Construction		
Experie	ence dates	Experience and qua	alifications relev	ant to the proposed contract			
	all the	Mr. Karlson is a Ser	nior ITS and Traf	fic Engineer with over 20 years of applied experience wi	th a variety of ITS projects from		
6		concept through co	onstruction as w	ell as analyzing the data retrieved from the devices. He	has supported the development of		
1-		System Engineering	g Analysis (SEA),	ITS designs, ITS network design and information system	s, final contract plans, and cost		
N.	-	estimates as well a	s provided engir	neering support during construction.			
06/22	-03/24	I-10 Widening, Har	rison & Hancock	Counties, MDOT, MS. Senior ITS Engineer: Developed p	reliminary field inspection plans and		
		final roadway final	plans for the wi	dening of 12 miles of I-10 from four to six lanes in Harris	on and Hancock Counties. Tait also		
		provided <i>ITS design plans</i> for this project, including a Systems Engineering Analysis (SEA) report.					
06/23	- 05/24	Meridian, ITS Desig	gn, MDOT, Meric	lian, MS. Senior ITS Engineer: Services include <i>developm</i>	<i>ent of ITS design plans</i> along I-59/I-20		
		through the city of	Meridian, MS. II	n addition, services include a Systems Engineering Analy	sis, specifications update, and a		
		communications de	esign for the Traff	fic Signals.			
06/17	- 09/22	ITS CEI for US 49 fr	om Florence to S	Scale Area, MDOT, MS. Project Manager: Responsible fo	or coordinating the effort to provide		
		ITS construction ins	pection services,	review of plans and equipment submittals, on-site support	for the inspection of the installation		
04/10	12/10	ITC Standard Boad	Construction Sp	ocumentation of work.	anciple for loading the effort of		
04/18	- 12/19	roviowing and und	ating MOOT's ct	andard ITS construction specifications the ITS Space dove	loned as Special Provisions, and the		
		ITS Notice-to-Bidde	ars to match cur	rent industry standards and MDOT's current needs			
06/18	- 09/18	I-20 Bridge Replace	ement ITS Design	MDOT Jackson MS Senior ITS Engineer: Led and coo	rdinated the <i>ITS design</i> effort:		
00/10	05/10	including field inve	stigation equipr	ment layout, <i>communications network design</i> and power	analysis: and wrote specifications		
		and notice-to-bidd	ers.				
09/18	- 10/18	I-20 Vicksburg Brid	ge Rehab ITS De	sign, MDOT, Vicksburg, MS. Senior ITS Engineer: Led and	coordinated the ITS design effort;		
	,	including field inve	stigation, equipr	nent layout, communications design, and power analysi	s; and wrote specifications and		
		notice-to-bidders.					
10/14	-03/19	TMC Operations, A	LDOT, Birmingh	am, Huntsville, Montgomery, & Tuscaloosa, AL – Senior	ITS Engineer: <i>Developed database</i>		
		tools for the perform	mance measures	data for the Regional Traffic Management Centers. The to	ols are used to gather, summarize,		
		and archive the lar	ge amounts of d	ata that the centers create each month, providing suppo	ort for the data analysis of the		
		performance meas	sures.				

11/18-01/19	I-55 from Copiah County Line to Byram ITS Design, MDOT, Hinds County, MS – Senior ITS Engineer: Led and coordinated the ITS
	design effort, including field investigation, equipment layout, communications network design, and power analysis; and wrote
	specifications and notice-to-bidders.
03/20 - 12/20	SR601/Canal Road North ITS Design, MDOT, Gulfport, MS - Project Manager: Provided preliminary design services to develop
	lighting and <i>ITS design plans</i> for the proposed interchange at SR 601 (Canal Road) and I-10 in Harrison County.
07/16 - 10/17	Tupelo Cell Tower and ITS Field Device Deployment, MDOT, Tupelo, MS – Supervisor: Responsible for developing the
	alternatives, the <i>final ITS design, cost estimates, and the specifications</i> for this project.
07/16 - 10/17	On-Call ITS Services - Tupelo Tower Construction Administration Support, MDOT, Tupelo, MS – ITS Engineer: Provided
	engineering support during construction of ITS plans. Coordinated and organized equipment submittals and responses. He also
	reviewed several of the submittals, comparing them against specifications and project needs.
12/18-01/20	Town of Smyrna ITS Phases 3-5, Smyrna, TN – Senior ITS Engineer: Led the design to expand the Town's ITS system, integrating
	signal controller communication and CCTV camera installations.

Firm er	nployed b		DIS				
Name	Vamshi	hi Mudumba, PE, PTOE Yea		Yea	rs of relevant experience with this employer	10	
Title	Senior I	ITS Engineer Year			rs of relevant experience with other employer(s)	9	
Degree	(s) / Years	s / Specialization			MS / 2007 / Civil Engineering, Louisiana State Univ	rersity	
					BS / 2007 / Civil Engineering, Osmania University		
Active I	registratic	on number / state	/ expiration date		PE. 036972 / GA / Exp. 12/31/2024		
Year re	gistered	2012	Discipline		Civil Engineering		
Contra	ct role(s) ,	/ brief description	of responsibilities.		ITS / Communications Design		
Experie	ence dates	Experience and	d qualifications relev	ant to	o the proposed contract		
		Mr. Mudumba	has more than 18 y	ears d	of experience in managing transportation planning a	and ITS engineering projects	
	7.0	throughout the	e U.S. He has worked	d on v	rarious ITS design and design-build projects in Louisi	ana, Georgia, Tennessee, and	
		Florida. His tra	nsportation enginee	ring/	olanning experience includes but not limited to cou	ntywide ITS equipment and	
		communicatio	n design, ITS specific	ation	s development, ITS cost estimation, ATMS Design, t	raffic control plans development,	
		travel demand	modeling, and signa	al des	ign.		
05/15 -	- 01/2017	I-75 South Man	laged Lanes Design-B	uild D	esign and Verification, GDOT, Henry and Clayton Cour	nties, GA. ITS Engineer: Responsible for	
		18 miles of inte	erstate corridor and 1	.5 mil	es of arterials corridor. The project includes designing three Master HUB units, more than		
		40 miles of libe	(MDs) and CO Autom	em, e	SUCCIV cameras, 30 Initared cameras, 50 Changeable	Wessage Signs (CIVIS), 61 Microwave	
		managed lane	(MDS), and bu Auton		that includes communication and control to 60 gate	oves designing the barrier-separated	
06/14 -	- 05/15	I-95 ITS Design	Elorida DOT St. Joh	$\frac{1}{100}$	ounty FI ITS Engineer. Analysis and design of an ITS	network for Interstate 95 The project	
00/14	03/13	was completed	on an accelerated sc	hedul	e and was required to be seamlessly integrated into t	he existing ITS architecture Prepared	
		a construction	plan set for field equi	pmen	t. communication and devices including Dynamic Mes	sage Signs (DMS). CTV. and	
		Microwave Veh	nicle Detection System	' ns (M'	, VDS), to integrate with the existing FDOT SunGuide Sy	stem, as well as the St. Johns' County	
		fiber optic syste	em along CR 210, Inte	ernatio	onal Golf Parkway, SR 16 and SR 207.		
10/17 -	-01/22	Wekiva Parkwa	ay Section 6 Design E	Build,	FDOT District 5, Lake and Seminole County, FL. Asso	ociate Project Manager: This design-	
		build project ir	nvolves the <i>design, c</i>	onstru	iction, installation, and integration of a new ITS deploy	<i>ment</i> and electrical power	
		distribution sys	stem. Responsibilitie	s incl	ude preparing quantities and cost estimates, prepa	ring plans and specifications, and	
		providing tech	nical support during o	constr	uction such as Request For Information (RFI) review	s and shop drawing reviews.	
06/17 -	- 10/18	ITS Master Imp	plementation Plan ar	nd Co	nnected Vehicles Readiness, TxDOT, Fort Worth, TX	. Associate Project Manager:	
	Developed the 5-Year ITS Master Impleme			oleme	entation Plan (MIP) to guide TxDOT Fort Worth in deve	eloping the ITS strategies and network	
	along key corridors within the district. Led			t. Lec	the team to evaluate 59 Key corridors within the For	t Worth District to provide a <i>5-year ITS</i>	
<i>deployment plan</i> . Major tasks included bu			an. Major tasks includ	ed bu	t not limited to developing ITS Vision and Goals, existi	ng ITS related systems/networks,	
stakeholder coordination, identify district's needs, develop key ITS projects.							
0//16-	- 12/18	North Avenue	Smart Corridor, City	of At	l anta, GA. Associate Project Manager: Developed th	e <i>recommended concept for the</i>	
		deployment of	Internet of Things (lo	T) dev	<i>rices</i> and other technologies with phasing recommendation	ndations to ensure quick	
		implementatio	n, cost effectiveness	s, and	within the existing footprint of the corridor. The pr	oject deployed includes adaptive	
	system technology that combines with a				irtificial intelligence and traffic <i>theory, V2I technolog</i>	<i>y and robust</i> communication system.	

Firm employed by ARCADIS						
Name Braulio R	lamirez, PE		Years of relevant experience with this employer	<1		
Title Principal	ITS and Traffic Engir	neer	Years of relevant experience with other employer(s)	20		
Degree(s) / Years / Specialization			BS / 2007 / Civil Engineering, California State Polytechr	nic University		
Active registration	n number / state / e>	piration date	PE.0048956 / LA / Exp. 09/30/2024			
Year registered	2024	Discipline	Civil Engineering			
Contract role(s) /	brief description of I	responsibilities.	ITS / Communications Design			
Experience dates	Experience and qu	alifications releva	ant to the proposed contract			
	Mr. Ramirez's exp networks. He has engineering project fiber optic commu Message Signs (DM of other ITS eleme	erience encompa served as Project cts. His design exp inication systems, VIS), signing and s ents.	sses 20 years in Intelligent Transportation Systems (ITS) Engineer and Technical Lead on numerous ITS, Transit S perience includes ATMS, video distribution managemen , Vehicle Detection Systems (VDS), Closed-Circuit Televis triping, traffic control, stage construction, neighborhoo	Design and traffic communication Signal Priority (TSP), and traffic t, wireless communication systems, sion (CCTV) cameras, Dynamic d traffic management, and operations		
08/19–03/24 ITS Design and Construction Support for the TSS for ATMS, City of Rancho Cucamonga, CA. Project Manager: Prepared coordination timing plans, design plans, specifications and estimates for traffic signal modifications and communication upgrades. During construction, Provided construction support and integration services. The primary goal of this project deploy new intelligent transportation system (ITS) communication infrastructure to support the management of the city transportation network, implement optimized coordination timing plans to achieve optimal traffic flow, and improve sa all read users including vahisles buses bisveles and podestrians.						
02/17 – 02/24	17 – 02/24 I-405 Design-Build Improvement Project – ITS Design, OCTA; Orange County, CA. Principal ITS Engineer: Responsible for preparing Electronic Toll and Traffic Management ETTM and signal plans and acting as a subconsultant of a multidisciplinary design and construction team, on this \$2.1 billion dollar design build project in Orange County California. The project improve 16 miles of the I-405 between the SR-73 freeway in Costa Mesa and the I-605 near the Los Angeles County line. The project added one regular lane in each direction from Euclid Street to I-605, making improvements to freeway entrances, exits and bridges, and will also implement Express Lanes that expanded the existing HOV lane from one lane to two lanes in each direct from SR-73 to I-605. Responsible for the design of the Caltrans ITS field infrastructure, temporary ITS field infrastructure supporting maintenance of traffic during construction, toll system infrastructure and coordination, street lighting, and agency traffic signal improvements along the carridor.					
traffic signal improvements along t08/19 - 05/21I-435 ITS Design, Kansas Departmepreparing the PS&E of Dynamic Ma(RVD) stations along the I-435 corrand 16 RVD stations along the I-435cameras within this roadway sectionincluded design of fiber optic comrof the existing Kansas City Scout Addition			nt of Transportation (KDOT), Kansas City, MO. Principal I ssage Signs (DMS), Closed-Circuit Television Cameras (Co dor between 87th Street and the Missouri River. The pro 5 corridor between 87th Street and the Missouri River. T n including two on wood poles that will be replaced as p nunications, using both KDOT-owned and leased fiber sy dvanced Traffic Management System, a bi-state freeway e of the devices is to provide increased traffic monitorin	TS Engineer: Responsible for CTV) and Radar Vehicle Detector oject included four DMS, 11 CCTVs, There were seven existing CCTV part of this project. The project rstems. The project was an expansion management system in the Kansas g incident management and traveller		

	information along this route and supplement existing systems along I-70 and in the vicinity of the Kansas Speedway. These
	devices will communicate with and be operated by Kansas City Scout in Lee's Summit, MO.
12/19 - 06/23	ITS and Traffic Design, Main Street RTSSP, Orange County Transportation Authority, Orange County, CA. Principal ITS Engineer:
	The goal of the project is to provide updated clearance parameters for the safety of vehicles, pedestrians, and bicyclists,
	accompanied by <i>new coordinated signal plans that will improve progression</i> along the MacArthur Boulevard corridor without
	significantly increasing delays on the side streets. During construction, This project was turn-key and provided engineering
	support during construction to ensure adherence to schedule and compliance with plans and standards. Assisted with reviewing
	and approving submittals provided by the contractor and responded to RFIs as necessary. Helped the City of Santa Ana <i>migrate</i>
	from Mist to Centracs ATMS.
07/18-06/23	Brookhurst RTSSP, OCTA, Orange County, CA. Project Manager: Provided traffic signal/ITS equipment upgrades and signal
	synchronization along Brookhurst Street. This project consists of 59 study intersections along a 16.5 -mile stretch in the cities of
	Huntington Beach, Westminster, Garden Grove, Anaheim and Fullerton. Fiber-optic cables will be installed at various segments
	of the corridor to close the communication gap. Many intersections were upgraded with new controllers, cabinets, service,
	emergency vehicle preemptions (EVP) and Closed-Circuit Television (CCTV). Procured, configured, and tested all equipment to
	ensure operability met the requirements of the project and stakeholders. Assisted the City of Huntington Beach migrate from
	Quicnet to Transparity ATMS, and installed a video wall for the new Avigilon VDSM.
10/19 - 06/22	ATMS Master Plan Update, Grant Services, Engineering Design Services and Project Management Services, City of Corona, CA.
	Deputy Project Manager: Prepared an update to the original Master Plan (developed in 2006) which researched technologies for
	IP-addressable cameras, changeable message signs, video detection, network redesign, fiber management, data analytics,
	connected vehicles and Gigabit Ethernet network. This update included a full Traffic Management Center (TMC) redesign and
	install, including a new VDSM.
06/14 - 06/16	Hamner Avenue Traffic Signal Synchronization Project, City of Eastvale, Eastvale, CA. Lead Engineer: Provided traffic/ITS design
	services for the City of Eastvale. The project involved <i>preparing plans, specifications, estimates for the design of new fiber-optic</i>
	<i>communications systems</i> along 6 intersections of Hamner Avenue, as well as the upgrade of Video Detection Systems (VDS) at
	two intersections. In addition to the traffic signal infrastructure improvements, signal coordination plans were developed for
	AM, Mid-Day, and PM peak hours for all project traffic signals along the corridor. <i>Provided construction support by answering</i>
	RFIs and approving submittals.
07/14 - 05/16	ITS Traffic Control Technology Phase II, City of Brea, Brea, CA. Project Manager and Design Lead Engineer: Provided I TS design
	and integration services to the City of Brea. Developed communication network plans to depict all ITS devices connected to the
	fiber infrastructure as designed by Willdan (Prime Consultant). Also configured the Ethernet switches that were implemented
	for the proposed intersections as part of this project. After construction and integration were completed, <i>conducted end-to-end</i>
	acceptance testing from the field locations to the Traffic Management Center (TMC).
08/16 - 10/16	ITS and Traffic Design, MacArthur RTSSP, Orange County Transportation Authority, Orange County, CA. Construction Support
	Lead: The goal of the project is to provide updated clearance parameters for the safety of vehicles, pedestrians, and bicyclists,
	accompanied by new coordinated plans that will improve progression along the MacArthur Boulevard corridor without
	significantly increasing delays on the side streets. During construction, assisted with following up with the contractor to verify
	that the schedule, standards, and guidelines were adhered to. Also assisted with reviewing and approving submittals provided
	by the contractor and responded to RFIs as necessary.

Firm employed	by ARCADIS		
Name Shubh	endu Mohanty	Years of relevant experience with this employer	18
Title Senior	ITS Engineer	Years of relevant experience with other employer(s	0
Degree(s) / Yea	rs / Specialization	MS / 2005 / Civil Engineering, Clemson University	
		BS / 2002 / Civil Engineering, Regional Engineering	College
Active registrat	on number / state / expiration da	e N/A	
Year registered	N/A Disciplin	e N/A	
Contract role(s)	/ brief description of responsibil	ies. ITS / Communications Design	
Experience date	es Experience and qualification	relevant to the proposed contract	
	Mr. Mohanty is a Transportation traffic engineering. His response arterial corridor operational ar interchange design evaluation, system, traffic control plans, sa MicroStation (V7/V8), AutoTur	Engineer with more than 15 years of experience in traffic interbilities include ITS equipment and communications design, traffic lysis, microscopic and macroscopic simulation models, convent traffic signal warrant analysis, isolated traffic signal design, designer evaluation and accident analysis. Mr. Mohanty is adept in et a signCAD, GuidSIGN, Highway Capacity Software, Geographic I	ligent transportation systems (ITS) and ic travel pattern analysis, interstate and ional and unconventional intersection and gn of multiple signals in an interconnected ngineering application programs such as nformation Systems, and ProjectWise.
08/09 – 03/11	Baton Rouge to Lafayette Intel LA. ITS Engineer: Design Engine sheets, developing specificatio Louisiana ITS TIM system proje interconnect between 13 close locations.	gent Transportation Systems ITS - Traffic Incident Management <i>r for overall ITS design and Microstation-based plan development,</i> , developing cost estimates, developing construction detail she t included installation of approximately 35 miles of fiber and wi d-circuit television (CCTV)/radar vehicle detection, four Distribu	(TIM) Phase 2, LADOTD, Multiple Parishes, quantity take-offs and quantity summary ets, and creating as-built plan sheets. The reless communication to provide tion Management Systems, and two HAR
05/18 – 10/22	I-75 South Managed Lanes Des the design-build project involv approximately 12 miles interst installation of more than 40 m Infrared cameras, 50 Changeal managed traffic signal system. managed lane Access Control S	gn Build; C.W. Matthews Contracting Co., Atlanta, GA. <i>Lead Traj</i> Ig use of technology to implement a barrier separated reversibl te system along Interstate 75. The scope of the <i>ITS design</i> includes of fiber optic-based communication backbone system, three e Message Signs, 61 Microwave Detector Units, and 60 Automa n addition to the <i>design of conventional ITS system</i> , the project a <i>ystem that includes communication and control to 60 gates anc</i>	<i>fic/ITS Engineer</i> : Lead Traffic Engineer for e tolled express lane system for es but not limited to, the design and Master HUB units, 60 CCTV cameras, 30 ted Vehicle Identification units and so involves design of the barrier separated seven open road tolling stations.
06/11 – 10/12	I-85 Express Toll Lane Extension System Design: Design-build pro- express lane along on I-85 by a buffer separated lane in center more than 40 CCTV cameras, 1 tolling sites, Automatic Vehicle	Design-Build Project, GDOT & State Road and Tollway Authorit vject involving ITS design for 12 miles of interstate corridor. The proximately 10 miles north, up to the interchange of Hamilton median in each direct of the I-85 corridor. The scope for ITS des Changeable Message Signs, 80 Microwave Detection Systems, identification units, communication HUBs and fiber optic-based	/, GA. Engineer of Record for ITS & Tolling project includes extending the existing Mill Road. The project will add a single ign but is not limited to the installation of five Video Detection Systems, 21 open road communication backbone system.
05/14 – 10/15	SR-400 and I-285 Interchange construction plans for deploym responsibilities involved condu deployment for proposed proj This project involved installation changeable message signs, ven	construction ITS Design, GDOT, Fulton & DeKalb Counties, GA. Le ent of ITS system and installation of signage along approximately ting stakeholder coordination meetings to identify the system r ct and, lead the ITS design team to develop concept plans to be n of approximately 25 miles fiber optic backbone trunk lines, ins icle detection system and variable speed limit signs.	ad ITS Engineer. Responsible for <i>developed</i> 15 miles of expressway facilities. Primary equirements, finalize the scope of ITS included in the project bidding process. <i>tallation of master-hub units, CCTVs</i> ,

Firm employed by ///metric Meets MPR No. 5					
Name Dale Cody	y, PE, PTOE	Years of relevant experience with this employer	22		
Title Principal I	ITS and Traffic Engineer	Years of relevant experience with other employer(s)	6		
Degree(s) / Years /	'Specialization	M.S. / 1995 / Civil Engineering			
Active registration	number / state / expiration date	PE #47766 / LA / Exp. 9/30/2025; PTOE #1206 / US / 1	1/19/2024		
Year registered	1999 Discipline	Civil Engineering			
Contract role(s) / b	prief description of responsibilities.	ITS / Communications Design			
Experience dates	Experience and qualifications releva	ant to the proposed contract			
	Mr. Cody is a Principal ITS and Traff systems, integration, construction, career, Mr. Cody has served as the involved in the development of ITS Provisions. He is an advocate for Tra Management (ICM), using advanced Maintenance (O&M) as well as Perf planning, designing, and preparatio the public, clients, organizations, ar CAV capabilities) within the transpo	ic Engineer with over 25 years of experience in ITS desi inspection, operation, maintenance, planning, and prog Project Manager or Principal-in-Charge on hundreds of and signal specifications, development of Technical Spe ansportation System Management & Operations (TSM& d technologies to help solve transportation issues with formance Measurement reporting. Through this work, h n of emerging Connected Vehicles (CV) technologies. Ir and at industry events on the advancement of ITS and Te portation industry.	gn, ITS network and information gram management. Throughout his ITS/Traffic projects and has been ecial Provisions and Modified Special &O) and Integrated Corridor an emphasis on Operations & he remains an integral part of the h addition, he regularly presents to chnology (with the ultimate goal of		
01/20 – Ongoing	Ding ITS Design-Build, FDOT District 7, Tampa, FL. Principal ITS Engineer: This citywide ITS project consists of the upgrade of 402 signals to expand the City's existing ITS infrastructure. The project includes <i>design, construction, and installation of a next generation traffic management system</i> that connects vehicles and people to the transportation system to optimize traffic flow, and improve mobility, reliability, resiliency, and safety. This includes the design and installation of a fiber optic communications system, CCTV traffic cameras, MVDS, Flood Sensors, traffic signal controllers and cabinets, Uninterruptible Power Supplies				
11/17 - 11/21	I-75 On- and Off-System F.R.A.M.E. Manager: As the Systems Manager, design plans. Metric was also respo Engineering documentation, coordi Units (RSUs) communicating via eith (CV2X), vehicular On-board Units (C interoperability. Metric staff was re the various CV-related applications: MAP messages, Traveler Informatio Signal Priority (TSP) and others relat testing in both the lab and field envi- were generated to guide the System eventual decision-making on the F.F also responsible for configuring, int	(Florida's Regional Advanced Mobility Elements), FDOT Metric was responsible for a majority of <i>project activit</i> nsible for <i>conducting a Systems Engineering Analysis an</i> nating, testing and providing documentation on the var ner Dedicated Short Range Communications (DSRC) or (DBUs) as well as emulated OBUs (mobile devices and/or sponsible for integrating these devices to multiple signa Signal Phase & Timing (SPaT), Automated Traffic Signa n Messages (TIM), Basic Safety Messages (BSM), Emerge ted to pedestrian safety. Metric staff <i>created detailed to</i> <i>ironments with equipment provided by several CV vend</i> n Manager in their decision-making process for the dev R.A.M.E., SR 434, and PedSafe projects and any other fu <i>egrating, and testing all CV devices into the FDOT ITS m</i>	District 5, Orlando, FL. Project fies including the development of ITS and creation of the appropriate Systems ious technologies to include Roadside Connected Vehicle to Everything tablets) to ensure device al controllers with the goal of verifying I Performance Measures (ATSPM), gency Vehicle Protocol (EVP), Transit test plans and conducted extensive fors. As a result of the testing, reports elopment of the CV specifications and iture CV deployments. Metric was etwork.		

01/21 – Ongoing	Professional Design Services for ATMS, Manatee County, FL. Principal ITS Engineer/Technical Advisor: This project includes
	provisions for countywide Advanced Transportation Management Systems (ATMS) and includes project management and data
	collection. It also involves the review of the data to create <i>preliminary and final ITS designs</i> that include <i>network design and cost</i>
	opinions for the ATMS features that are in the project. The design is for fiber-optic based communication infrastructure and a
	variety of ATMS devices like Advance Traffic Controllers (ATC) replacement, Advance Vehicular Detection Systems (ADS),
	BlueTooth based Travel-Time Devices (BT), Arterial Dynamic Message Signs (ADMS), Closed Circuit Television (CCTV), traffic
	volume monitoring sites using Microwave Vehicle Detection System (MVDS) and Dynamic Trail Blazing Signs (DTBS). The goal of
	this project is to achieve greater network efficiency/ring structure, best connectivity and network-communication redundancy.
05/21 – Ongoing	TSM&O Engineering Analysis and Minor Design, FDOT District 7, Tampa, FL. Principal ITS Engineer/Technical Advisor: The
	objective of this contract is to maximize efficiency of transportation systems by focusing on mobility outcomes, such as travel
	time reliability. There will be a performance driven approach for solving arterial congestion and traffic problems in which ITS is
	utilized to locate and correct congestion causes in real-time. Task Work Orders are assigned by District 7 related to technical
	support, strategic planning, studies and conceptual plans, deployment of ITS components and public involvement. Other
	activities that are included with this effort include reviewing and <i>developing final plans and specifications for design or design-</i>
	<i>build contracts</i> to install TSM&O field devices; reviewing project requirements and hardware configuration analysis; <i>developing</i>
	proper construction sequencing, cost estimating, scheduling and coordination of ITS projects, performing system engineering
	analyses; and reviewing the utilization of systems devices hardware and software.
02/20 – Ongoing	I-4 FRAME System Manager, FDOT District 7, Tampa, FL. Principal ITS Engineer/Technical Advisor: Metric was awarded this
	project to implement CV technology connecting the Downtown Tampa area to western portions of Orlando. The I-4 FRAME
	project deployed an advanced Integrated Corridor Management (ICM) system consisting of next generation traffic incident
	management, work zone traffic management, road weather alerts, back-of-queue warning, and speed harmonization message
	systems such as vehicle-to-infrastructure (V2I) via approximately 700 RSUs with DSRC radios and Cellular Vehicle-to-Everything
	(C-V2X) capabilities. The project is designed and implemented using the System Manager Approach to ensure design consistency
	as well as seamless integration with District 1, District 5, District 7, Florida's Turnpike Enterprise, and numerous local agencies.
	The I-4 FRAME project covers // miles of I-4, 122 miles of other limited-access routes, and signalized arterial roadways with a
	total of 491 traffic signals. The final products to be submitted include Systems Engineering Analysis and associated
	documentation, the complete ITS design for each corridor and all signalized intersections within them, and the selection,
00/17 0 :	Integration, testing and verification of all CV devices.
09/17 - Ongoing	Continuing Services Contract (CSC) ICM - Freeway/Arterial Operations, FDOT District 5, Orlando, FL. Project Manager: The FDOT
	ICM project seeks to improve overall operations and mobility in the Central Florida area; specifically, through the operation and
	management of the Regional IMC and associated programs on both the freeway and arterial systems. Metric functions as an
	extension of the Department's resources, providing professional services for a wide range of engineering, technical,
	management and administrative services to assist with numerous TSM&O projects within the work program. The current ICM
	footprint covers nine Freeways and 12 Arterials within Counties/Cities with 452 traffic signals in six jurisdictions (City of
	Maitland, City of Orlando, City of Winter Park, Seminole County, Orange County, and Osceola County). TSM&O strategies are
	being utilized and synthesized by our RTMC staff as they integrate the operations of freeway and arterials to improve the travel
	time reliability of existing transportation network (arterials and freeways).

Firm employed by ///metric					
Name Jonathar	n Katz, PE		Years of relevant experience with this employer	7	
Title ITS Engir	neer		Years of relevant experience with other employer(s)	0	
Degree(s) / Years	/ Specialization		B.S. / 2016 / Civil Engineering		
Active registration	n number / state / ex	piration date	PE #91110 / FL / Exp. 2/28/2025		
Year registered	2021	Discipline	Civil Engineering		
Contract role(s) /	brief description of r	esponsibilities.	ITS / Communications Design		
Experience dates	Experience and qu	alifications relev	ant to the proposed contract		
	Mr. Katz has gathe performing various express lanes and	red experience of s types of traffic Transit Signal Pri	creating ITS/TSM&O Master Plans, assisting with design of studies, and creating Systems Engineering documents for ority projects.	of ITS and signing projects, or a wide range of projects, including	
02/20 – Present	I-4 FRAME System technology connect advanced Integrate traffic managemen to-infrastructure (N project is designed integration with Di project covers 77 r traffic signals. The complete ITS desig verification of all C	Manager, FDOT iting the Downto ed Corridor Man it, road weather /21) via approxim and implement strict 1, District 9 niles of I-4, 122 m final products to an for each corria V devices.	District 7, Tampa, FL. <i>ITS Engineer:</i> Metric was awarded wn Tampa area to western portions of Orlando. The I-4 agement (ICM) system consisting of next generation trat alerts, back-of-queue warning, and speed harmonizatio nately <i>700 RSUs with DSRC radios and Cellular Vehicle-to</i> ed using the System Manager Approach to ensure design 5, District 7, Florida's Turnpike Enterprise, and numerous miles of other limited-access routes, and signalized arter be submitted include Systems Engineering Analysis and for and all signalized intersections within them, and the s	this project <i>to implement CV</i> FRAME project deployed an ffic incident management, work zone n message systems such as vehicle- <i>c-Everything (C-V2X) capabilities.</i> The n consistency as well as seamless s local agencies. The I-4 FRAME rial roadways with a total of 491 d associated documentation, the selection, integration, testing and	
01/20-01/24	ITS Design-Build, F expand the City's e management syste mobility, reliability Circuit Television (Communication (D (UPS), traffic signal	DOT District 7, Ta existing ATMS. Th em that connects , resiliency, and s CCTV) traffic cam SRC) radios/Roa I software, predi	ampa, FL. ITS Engineer: This citywide ITS project consists the project includes <i>design, construction, and installation</i> is <i>vehicles and people to the transportation system</i> to opt safety. This includes the design and install a fiber optic c meras, Microwave Vehicle Detection System (MVDS), Flo dside Units (RSU), traffic signal controllers and cabinets, cative analytics, Software, Servers, and Workstations for	s of the upgrade of 402 signals to of the next generation traffic imize traffic flow, and improve ommunications system, Closed od Sensors, Dedicated Short Range Uninterruptible Power Supplies TMC staff.	
11/17 – 11/21	I-75 On- and Off-Sy represented the FE assists in the advar Metric was respon <i>Engineering Analys</i> Architecture (RITS/	ystem F.R.A.M.E. DOT District 5 ITS Incement of the N sible for a major sis and creation of A) and creation of	(Florida's Regional Advanced Mobility Elements), FDOT as the Systems Manager for the I-75 F.R.A.M.E. <i>Connect</i> Multimodal Integrated Corridor Management (MMICM) ity of project activities, with the exception of construction of the appropriate Systems Engineering documentation, of a Project ITS Architecture (PITSA), coordinating, testing	District 5 . <i>Project Manager:</i> Metric <i>cted Vehicles (CV)</i> project which plan. As the Systems Manager, on, to include <i>conducting a Systems</i> review of the Regional ITS g and providing documentation on	

	the various technologies to include Roadside Units (RSUs) communicating via either Dedicated Short Range Communications (DSRC) or Connected Vehicle to Everything (CV2X), vehicular On-board Units (OBUs) as well as emulated OBUs (mobile devices and/or tablets) to ensure device interoperability. This project was in line with the USDOT goals and contributed to increased safety, reliability and mobility needs using advanced CV technologies. Metric staff was responsible for integrating these devices to multiple signal controllers with the goal of verifying the various CV-related applications: Signal Phase & Timing (SPaT), Automated Traffic Signal Performance Measures (ATSPM), MAP messages, Traveler Information Messages (TIM), Basic Safety Messages (BSM), Emergency Vehicle Protocol (EVP), Transit Signal Priority (TSP) and others related to pedestrian safety. Metric staff <i>created detailed test plans and conducted extensive testing in both the lab and field environments with equipment provided by several CV vendors.</i> As a result of the testing, reports were generated to guide the System Manager in their decision-making process for the <i>development of the CV specifications</i> and eventual decision-making on the F.R.A.M.E., SR 434, and PedSafe projects and any other future CV deployments. Metric was also responsible for <i>configuring, integrating, and testing all CV devices into the FDOT ITS network.</i>
01/17 - 01/22	CV Readiness Study & Implementation Plan, Florida's Turnpike Enterprise (FTE), Orlando, FL. <i>ITS Engineer:</i> Metric was tasked with conducting a <i>CV Readiness Assessment</i> for the FTE under Metric's DW Continuing Services ITS Consultant contract. With the FTE's interest in deploying CV technology on its roadway infrastructure, they requested the assistance of the Metric staff to help them prepare for future CV deployments. As a part of this task, the Metric staff researched and documented the current state of CV technology within the industry and conducted various internal hardware, software and storage needs, security, and staffing proficiency assessments as well as roadway infrastructure evaluations as it pertains to the readiness of FTE to deploy CV technology. All these tasks aided in the development of a short and long-term CV Technical Implementation Plan for FTE. Metric worked with FTE on the identification of key stakeholders and interviewed and worked with the various agencies to identify and document current initiatives, lessons learned, use cases, expected benefits, and more. This assessment was conducted at a national and statewide level.
07/17 – 06/18	ITS Master Plan, River to Sea (R2C) Transportation Planning Organization (TPO), Daytona Beach, FL. <i>ITS Engineer:</i> Metric provided professional services to provide guidance to the TPO for making rational, outcome-driven decisions relating to investment in ITS projects and strategies. The targeted outcome was an integrated and coordinated, multi-agency ITS system that maximizes the safety and efficiency of the multi-modal transportation system. The <i>ITS Master Plan</i> built on efforts completed in a previous of the ITS Master Plan and the existing FDOT District 5 ITS Master Plan. The ITS Master Plan determined ITS mobility and safety needs, identified applicable ITS strategies, <i>developed alternative project concepts</i> , and developed concept requirements to determine the value of each alternative, <i>updated the regional ITS architecture</i> as needed to accommodate Volusia and Flagler County, and recommended high value alternatives for development (utilizing Transportation System Management and Operations (TSM&O) principles) based on cost and benefit, to provide a prioritized list of projects sufficiently defined to submit to FDOT for programming in the Department's 5-year Work Program.

Firm employed by GEC					
Name Thom	nas Swanson, PE, PTOE	Years of relevant experience with this employer	18		
Title Senio	or ITS Engineer	Years of relevant experience with other employer(s)	10		
Degree(s) / Ye	ars / Specialization	BS / 1992 / Civil Engineering, Louisiana State Universit	Ϋ́Υ		
Active registra	ition number / state / expiration date	PE.30139 / Louisiana / Exp. 09/30/2024; PTOE #1016 /	/ USA / Exp. 04/2027		
Year registered	d 2002 Discipline	Civil Engineer			
Contract role(s	s) / brief description of responsibilities.	ITS / Communications Design			
Experience dat	tes Experience and qualifications relevations relevati	ant to the proposed contract			
Mr. Swanson has over 35 years of experience with transportation planning, traffic engineering, and ITS. In particular, his experience includes preparing ITS design plans, ITS Systems Engineering Analyses (SEA), Stage 0 Feasibility Studies, Stage 1 Environmental Assessments, traffic studies, and traffic signal design. He has also served as a QA reviewer for Stage 3 Design services and in preparing transportation management plans and reviewing the final design. Mr. Swanson has completed the LADOTD Traffic Engineering Process and Report Training.					
02/20-Ongoing	g I-10 & I-12 College Dr. Flyover Ram responsibilities included the <i>ITS sys</i> permanent signage and pavement permanent signing/striping.	I-10 & I-12 College Dr. Flyover Ramp Design-Build: East Baton Rouge Parish, LA / LADOTD. Senior ITS Engineer: Mr. Swanson's responsibilities included the <i>ITS system relocation design</i> , construction signage and striping (Maintenance of Traffic,) and permanent signage and pavement markings. Mr. Swanson completed the construction signing/striping layout as well as permanent signing/striping.			
07/03 - 07/05	Houma ITS Deployment Phase I, LADOTD, Terrebonne Parish, LA. <i>ITS Engineer:</i> Performed the <i>design of a fully operational ITS</i> <i>System</i> including ten (10) CCTV Camera Sites, one (1) Dynamic Message Sign site, five (5) Radar Vehicle Detector Sites, and associated communications. Mr. Swanson <i>created ITS plans and specifications</i> for design and implementation of the project. Supervised CE&I activities during the construction phase of the project.				
07/03 - 07/05	Houma ITS Deployment Phase II, LADOTD, Terrebonne Parish, LA. <i>ITS Engineer:</i> Project included the <i>design of a fully operational</i> <i>ITS System</i> including four (4) CCTV Camera Sites, one (1) Dynamic Message Sign site, four (4) Radar Vehicle Detector Sites, and associated communications. Mr. Swanson <i>created ITS plans and specifications</i> for design and implementation. Supervised CE&I activities during the construction phase of the project.				
03/18 - Ongoir	ng Lake Charles Phase III, LADOTD, Lak currently managing the implementation cameras, and a Dynamic Message S	Lake Charles Phase III, LADOTD, Lake Charles, LA. <i>Project Manager:</i> Mr. Swanson <i>prepared the SEA, oversaw the design, and is currently managing the implementation of this ITS project</i> . The project includes installation of a fiber optic backbone, new CCTV cameras, and a Dynamic Message Sign (DMS) for the loop around Lake Charles on I-210.			
03/17 – Ongoi	Ing US 190 ITS Deployment, LADOTD, B design, and is currently managing the CCTVs, DMSs, and traffic signal sites	US 190 ITS Deployment, LADOTD, Baton Rouge to Opelousas, LA. <i>Project Manager:</i> Mr. Swanson <i>prepared the SEA, oversaw the design, and is currently managing the implementation of this ITS project</i> which involves installing a fiber optic backbone to existing CCTVs, DMSs, and traffic signal sites.			
11/18 - 04/19	ITS Scott to Lake Charles, LADOTD, Jefferson Davis and Lafayette Parishes, LA / H.013256. <i>Project Manager:</i> Mr. Swanson prepared the SEA and preliminary plans for the design of CCTV and DMS installations along I-10.				

10/17 - 03/18	Alexandria ITS Phase II, LADOTD, Alexandria, LA. Senior ITS Engineer: Mr. Swanson prepared the SEA and preliminary plans for the
	<i>design of an ITS deployment</i> including communications, CCTV Sites, and DMS installations for Alexandria and Pineville.
06/15 - 09/16	LA 1 ITS Equipment Upgrades, LADOTD, Lafourche Parish, LA. Senior ITS Engineer: Prepared the required SEA and TMP for
	upgrading ITS devices as a part of this project.
06/04 - 09/06	Northshore ITS DMS Deployment, LADOTD, St. Tammany Parish, LA. ITS Engineer: Created plans and specifications for the design
	and implementation of 12 DMS sites with wireless communication capabilities.
12/14 - 01/17	I-10 Bonnet Carre Emergency Crossings, LADOTD, Laplace/Kenner, LA. Senior ITS Engineer: Mr. Swanson prepared the Level 4
	transportation management plan (TMP) and traffic control plans for a detour on I-10 WB to allow installation of a full truss DMS
	on the elevated bridge structure.
01/05 - 02/07	Traffic Signal / ITS Study and Design, District 61, Task 1 – LA Highway 73 at I-10 and LA 621, Ascension Parish, LA. Traffic
	Engineer: Mr. Swanson provided deliverables (report); unsignalized intersection analysis and with signal study for St. John Street
	at Main Street, LA 22 at Pine and LA 22 at LA21/ LA1077. Traffic Signal Study - Manual Traffic Counts for LA 21 at Pine and St.
	John Street at Main Street (LA 21); Manual Traffic Counts for LA 22 at Pine and LA 22 at LA 21/LA 1077; Condition Diagram and
	Condition Report.
11/11 - 04/12	Essen Lane Widening, LADOTD, District 61, Baton Rouge, LA. Traffic Engineer: Project included widening and improvements of
	Essen Lane in Baton Rouge between Jefferson Highway and I-10, by adding additional lane in the southbound direction. Tom
	designed modifications and enhancements to existing signals and developed a Transportation Management Plan.
12/11 - 06/12	Clearview Parkway (LA 3152) / Mounes Street Intersection Improvements, New Orleans Regional Planning Commission,
	Jefferson Parish, LA. Traffic Engineer: Mr. Swanson performed intersection improvements for this project including the addition
	of a left turn lane in the southbound direction, traffic signal plans, pavement striping plans, and construction temporary traffic
	control and striping plans. Tom performed traffic studies including turning movement and queuing analysis utilizing Synchro
	software. Tom also analyzed and modified the original traffic signal timing/phasing plan for the corridor to enhance traffic flow. He
	contributed to a final report recommending intersection and signalization improvements.
12/11 - 06/12	Clearview Parkway (LA 3152) / Airline Highway (US 61) Intersection Improvements, New Orleans Regional Planning Commission,
	Jefferson Parish, LA. Traffic Engineer: Mr. Swanson performed intersection improvements including traffic signal plans,
	pavement striping plans, and construction temporary traffic control and striping plans. Tom performed traffic studies including
	turning movement and queuing analysis utilizing Synchro software. Tom also analyzed and modified the original traffic signal
	timing/phasing plan for the corridor to enhance traffic flow. He contributed to a final report recommending intersection and
	signalization improvements.
01/23-12/23	Intersection Control Evaluation, Hartman Engineering, Harahan LA. Traffic Engineer: Mr. Swanson performed an Intersection
	Control Evaluation for an anticipated intersection created by extending Dickory Ave. to Jefferson Highway in Harahan, LA.

Firm en	Firm employed by GEC Meets MPR No. 4				
Name	Thomas (Coerver, Jr., PE	Years of relevant experience with this employer	34	
Title Electrical Engineer		Engineer	Years of relevant experience with other employer(s)	6	
Degree	(s) / Years ,	/ Specialization	MBA / 1990 / Management Information Systems, Lou	isiana State University	
			BS / 1980 / Electrical Engineering, Louisiana State Univ	versity	
Active r	egistration	number / state / expiration date	PE. 30722 / LA / Exp. 09/2025		
Year reg	gistered	2003 Discipline	Electrical Engineering		
Contrac	ct role(s) / I	brief description of responsibilities.	Electrical Design, Technical Support During Constructi	on	
Experie	nce dates	Experience and qualifications releva	ant to the proposed contract		
		Mr. Coerver's 40 years of design ex	perience includes the design and technical support dur	ing construction of ITS including	
	16	Dynamic Message Signs (DMS) con	nected through fiber optic, wireless and landline comm	unication, and automatic test	
		systems. His experience also includ	es roadway and bridge lighting, electrical power distrib	ution, and utilities distribution	
		systems. Design duties include prep	paration of plans and specifications, QC/QA review, calc	ulations, data collection, and report	
		preparation. Construction Engineer	ing and Inspection (CE&I) duties include review of shop	drawing and equipment submittals,	
	ananun	respond to request for information	(RFI), review/prepare as-built drawings, review paymer	nt applications, and perform periodic	
/	/	inspection and final system acceptance.			
01/99 -	- 12/16	ITS Retainer Contracts, LADOTD, Statewide, LA. Electrical Engineer: Mr. Coerver has performed design and development of ITS			
		construction plans and specifications, as well as construction engineering and inspection, including electrical power distribution			
		systems, fiber optic communication systems, roadway and bridge lighting design and inspection, and wireless and landline			
		Paten Pougo to Lafavetto ITS	Jwing projects: Traffic Incident Management (TIM) Phase 2 Routes I 10	140 LIS 00 & LIS 100 Design Build	
	 Baton Rouge to Larayette, ITS – Traffic Incident Management (TIM) Phase 2, Routes I-10, I-49, US 90, & US 190, Design Build Project (S. P. 727, 99, 0604) – CE&L and plan (submittal review services only (09/10 – 02/11). 				
		Retainer No. 4400003994		±)	
		Lake Charles ITS Phase 2, Lake 0	Charles, LA (T.O. No. H.010192) (09/14–12/16)		
		Retainer No. 4400000688			
		• Relocation of Irish Bayou DMS,	Orleans Parish (T.O. No. H.005736) (09/10 – 03/13)		
		Lake Charles DMS, Calcasieu Pa	rish (T.O. No. H.006485) (03/11 – 03/13)		
		Baptist, Breaux Bridge, Greenw	ood WIM, Statewide (T.O. No. H.003667) (08/11-11/15)		
		DMS Ladder System Phase 1, St	tatewide (T.O. No. H.009088) (04/12 – 03/15)		
		 DMS Ladder System Phase 2, District 61 (T.O. No. H.010674) (06/13 – 03/15) 			
		Retainer No. 4400001634			
		• DMS Ladder System Phase 4, D	istrict 04 (T.O. No. H.010705) (06/13 – 03/15)		
<u>Retainer No. 700-99-0457</u>					
		INORTRISHORE Phase 2 (Task Orde	r ino. 701-65-1168) (US/U6 – U8/U8)		
		Baton Rouge Transportation M	gt Area Mice Tacks (T.O. No. 701 65 0704) (05/06 00/04	5)	
	Baton Rouge Transportation Mgt. Area, Misc. Tasks (1.0. No. 701-65-0704) (05/06-09/06)				

	New Orleans Phase IB Damage Assessment (Task Order No. 701-65-0803) (10/05-05/06)		
	<u>Retainer No. 700-99-0235</u>		
	Baton Rouge Field Installation, Phase II (1.0. No. 701-65-0286, S.P. 737-96-0035) (05/02-11/02)		
	 Houman's Deployment Phase II (T.O. No. 701-65-0255, S.P. 737-55-0001) (02/03-09/04) Houman's JTS Deployment Phase II (T.O. No. 701-65-0255, S.P. 737-55-0001) (02/03-09/04) 		
	 Houman's Deployment Phase II (1.0. No. 701-65-0406) (11/02 – 05/03) Nerthebara JTS DMS Danlayment (T.O. No. 701 (5. 0421) (04/04 – 09/04) 		
01/00 04/05	 Northshore TTS Divis Deployment (1.0. No. 701-65-0421) (04/04 – 09/04) Electrical Design CNOEC Lake Deptaheatrain Coveryant I.A. Electrical Engineers Mr. Coopyret has performed design and 		
01/99 - 04/05	development of element of element of elements in the second elements of elements of elements in the second energine endines and inclusion elements of		
	development of plans and specifications, as well as technical construction engineering and inspection, including electrical power		
	distribution systems for 115, fiber optic communication systems, roadway and bridge lighting design and inspection, and wireless		
	and landline communications systems for the following projects:		
	CCTV Cameras for Security, Safety and Security Enhancement Program (Project No. 2003-202) (09/04 – 04/05)		
	 Marine Radar Upgrade Phase I, Safety and Security Enhancement Program (Project No. 2003-407) (11/04 – 05/05) 		
	High Voltage Aerial Cable Replacement, Capital improvements Master Plan (Project No. 1105B) (01/99 – 10/00)		
06/15 – Ongoing	Prien Lake Main Span Re-Deck, LADOTD, Lake Charles, LA. Electrical Designer: Mr. Coerver designed the lighting under the		
	signing for this project that extends from the I-210 Bridge over Prien Lake and the I-210/Cove Lane Interchange. Lighting		
	includes 12 ground mount low mast and 50 barrier mount low mast as well as lighting control and power distribution and		
	system protection.		
05/15 - 10/16	LA 434 Interchange Electrical & Lighting, LADOTD, Slidell, LA. Electrical Engineer of Record: Mr. Coerver served as electrical		
	engineer on the project that included the I-12/LA 434 Interchange. Project design and construction oversight services included		
	72 ground mount low mast and 4 under pass lights as well as lighting control and <i>power distribution system</i> protection.		
08/13-07/18	I-12 at Northshore Boulevard Interchange Electrical & Lighting, LADOTD, Slidell, LA. Electrical Engineer of Record: Mr. Coerver		
	was the electrical engineer on this project which included the following types of roadway lighting standards: 27 ground mount		
	low mast, 20 barrier mount low mast, 8 ground mount high mast, and 8 underpass as well as lighting control and <i>power</i>		
	<i>distribution system</i> protection. Services included <i>design, development of plans and specifications, and CE&I</i> as required.		
01/13 – Ongoing	I-210 over Calcasieu River West of I-10 Interstate Lighting, LADOTD, Lake Charles, LA. Electrical Designer: Mr. Coerver was the		
	designer on this project under for electrical systems and lighting. Project consists of the following types of roadway lighting		
	standards: 44 ground mount low mast, 54 structure mount low mast (bridge), 7 barrier mount low mast, 10 ground mount high		
	mast, and 4 underpass. In addition, lighting control and <i>power distribution system</i> protection is included. Services include		
	feasibility study, design, development of plans and specifications, and CE&I as required.		
07/15 - 10/16	I-12: LA 1088 Interchange Electrical & Lighting, LADOTD, Slidell, LA Electrical Engineer of Record: Mr. Coerver was the electrical		
	engineer on this project. Project limits include the I-12/ LA 1088 Interchange. Project consists of the following types of roadway		
	lighting standards: 68 ground mount low mast and 8 under pass lights. GEC provided design services and construction services		
	under two Task Orders. In addition, lighting control and <i>power distribution system</i> protection is included.		

Firm employed by ARCADIS Meets MPR No. 3				
Name Ranzy Whiticker, PE			Years of relevant experience with this employer	5
Title Principa	al ITS & Electrical Engine	er	Years of relevant experience with other employer(s)	24
Degree(s) / Yea	rs / Specialization		BS / 1994 / Electrical and Computer Engineering, Univ	ersity of Tennessee, Knoxville
Active registrati	on number / state / e>	piration date	PE.0034132 / LA / Exp. 03/31/2025	
Year registered	2008	Discipline	Electrical and Computer Engineering	
Contract role(s)	/ brief description of r	responsibilities.	Electrical Design, System Integration	
Experience date	es Experience and qu	alifications relev	ant to the proposed contract	
Mr. Whiticker has more than 29 years of experience in the design and integration of ITS equipment and power systems including ITS and emergency response systems. His work has included hands-on ITS integration and operations of num types of communication, data and information systems. He has established partnerships for resource sharing and data integration between ITS programs and various emergency and transportation management agencies, and he has direct implementation of innovative solutions such as VDMS, public information display systems, and CAV technologies for m DOTs and local agencies.			uipment and power systems, ation and operations of numerous or resource sharing and data t agencies, and he has directed the and CAV technologies for multiple	
10/12 - 07/15	15 ITS System Design and Integration Services, LADOTD, Statewide, LA. Senior ITS / Electrical Engineer: General program assistance, ITS system and power configuration, configuration verification and management, 511 ATIS concept of operations and high-level requirements, video system support and Advanced Transportation Management System (ATMS) system support. Tasks and activities included assisting in project management services, coordination and provision of management oversight of the IT! program, system configuration and documentation support, public relations and sponsorship program support, and system configuration management support.			
10/12 - 10/16	Video Distribution Management System (VDMS), LADOTD, Statewide, LA. Senior ITS / Electrical Engineer: Designed and implemented VDMS and power system for the distribution of LADOTD video sources statewide. Done in two phases, Phase 1 included the development of a detailed VDMS design and implementation plan. Phase 2 included the implementation and integration of the VDMS in accordance with the Final VDMS design and Implementation Plan. The Video Distribution Management System was designed to collect video sources from throughout the state and distribute amongst their internal ITS systems and externally to media, partners, and other agencies, and to and from other regional and the Statewide Traffic Management Center(s)			
08/20 - 06/23 02/22 - Ongoin	 I-24 Smart Corridor, TDOT, Nashville, TN. Senior ITS / Electrical Engineer: Supported the planning, operations, maintenance, and system integration of the I-24 SMART Corridor to develop, implement, and deploy comprehensive systems, communications, management strategies and operational and maintenance processes and activities to monitor and control traffic; improve system and travel time reliability; and improve the safety, efficiency, maintenance, operations, and mobility of all users (motorists, transit riders, transit operators, and freight haulers). Lead stakeholder coordination, updating planning and operational documents such as the Concept of Operations, Communication Master plans, operations plans, and development of functional requirements definitions, and Standard Operating Guidelines for the corridor. 			
	Build project to include Autonomous Shuttle in the City of Jacksonville; <i>Integration of 15 signals on the AV route/loop</i> in downtown Jacksonville; Construction of Maintenance Yard for AV shuttles; Deployment of charging stations for AV shuttles; Multiple Sheltered Stops. Also provide construction and integration of signal and AV roadside equipment.			<i>gnals on the AV route/loop</i> in charging stations for AV shuttles; de equipment.

06/21 – Ongoing	Traffic Management Systems Support Services, Hillsborough County, Tampa, FL. Senior ITS / Electrical Engineer: Ongoing task
	work order contract to support TMC operations and services. Developed <i>Systems Engineering Analysis</i> for Hillsborough County
	(HC) ATMS. The HC ATMS project is expected to upgrade and enhance the current traffic signal systems communicating and the
	central traffic management software. Development of a TSMO Master Plan and associated software application for the
	management of the TSMO work program.
06/06 - 06/15	ITS Integrator IDIQ, MDOT, Statewide, MS. Senior ITS / Electrical Engineer: <i>Planning, design, integration, and operations</i> and
	management of ITS projects, systems and program as directed by the MDOT project manager. Responsibilities included <i>system</i>
	evaluation and recommendations for ITS systems and development of technical specifications, including typical field ITS devices;
	communications equipment; video walls; adaptive signal control technology software; video distribution; 511 and Smart Work
	Zone systems; and grant development and grant project designs.
11/07 – 06/12	ITS Task 8 - TMC Operations, MDOT, Jackson, MS. Senior ITS / Electrical Engineer: Provided oversight of Statewide and Regional
	TMC operations. Provided oversight and technical staff, including network administrators, database managers, and ITS
	Technician staff. This task included the <i>development of the Concept of Operations and Standard Operating Procedures</i> and
	regular updates and maintenance of the documents.
10/08 - 06/14	ITS Task 7 - Design of MDOT's ATMS Software, MDOT, Jackson, MS. Senior ITS / Electrical Engineer: For software functional
	requirements definition, <i>development, deployment, and management of TMC software, 511 integration</i> , MDOT Traffic website
	and mobile applications. Provided <i>integration of TMC operations and ITS devices with the ATMS software</i> .
08/18 - 07/19	Tampa Hillsborough Expressway Authority (THEA) General Engineering Contract (GEC), Tampa, FL. Senior ITS / Electrical
	Engineer. Reviewed Connected Vehicle Pilot Project and developed Systems Requirements Traceability and Verification Matrix
	against the project System Design Document (SDD); Development of an ITS Master Plan; Developed a story board and concepts
	for submission of AV Grant; Developed requirements for TMC Video Wall RFP; Assist THEA with updates for SOP documents.
11/16 - 07/17	Mississippi River Bridges Incident Management, Freight Movement and Security ITS Project, MDOT, Multiple Locations, MS.
	Senior ITS / Electrical Engineer: TIGER grant project involving work at locations in Mississippi, Arkansas and Louisiana. Provided
	project <i>design and construction oversight of an ITS project</i> among MDOT, ARDOT and LADOTD to build a regional three-state ITS
	network to improve operational efficiency at the four Mississippi River crossings between the states through traffic monitors
	and dynamic message boards, river monitoring, and other means of conveying traveler information and detour route
	management. The project included testing and performance measure creation and monitoring for reporting to FHWA.
11/16 - 07/17	Tupelo Cell Tower and ITS Field Device Deployment WA#5, MDOT, Tupelo, MS. Senior ITS / Electrical Engineer: Proposed ITS and
	wireless system improvements. <i>Developed construction plans, detailed specifications and cost estimates</i> . The project included
	erection of a new wireless tower to support multiple cell carriers and establish MDOT's regional cell tower. The design included
	interconnecting 13 traffic signals, 18 closed-circuit television cameras, and seven Bluetooth detection systems with dedicated
	short-range communications capabilities over 32 miles of freeway and four miles of urban/state highway.
06/99 – 12/00	Systems Integration, GDOT, Norcross, GA. ITS / Electrical Engineer: Responsible for design evaluations and technical studies
	mainly for GDOT's NaviGAtor system. Responsibilities included developing operational and functional requirements for tasks
	such as presence detection systems. Performed evaluation studies such as lightning protection, solar-powered field sites, and
	video transport technologies. Other assignments included ITS architecture for GDOT, Atlanta's 911 studies and MARTA
	communication systems. <i>Developed test procedures for system software releases</i> .

Firm employed by				
Name Micke	y Prattini Jr., PE	Years of relevant experience with this employer	9	
Title Electrical Engineer		Years of relevant experience with other employer(s)	11	
Degree(s) / Yea	rs / Specialization	BS / 2004 / Electrical Engineering		
Active registrat	ion number / state / expiration date	PE.0035993/ LA / Exp. 03/31/2025		
Year registered	2011 Discipline	Electrical and Computer Engineering		
Contract role(s)) / brief description of responsibilities.	Electrical Engineer		
Experience date	es Experience and qualifications relev	ant to the proposed contract		
Mr. Prattini's more than 19 years of electrical design experience includes, lighting design and quality control, wastewater treatment facilities and lift stations, multiple pump motor installations in hazardous (classified) locations, generator installation projects, and electrical design for transportation and municipal projects. Mr. Prattini is experienced with NFPA standards required by electrical projects and can complete electrical design related tasks required for this contract. He has consistently managed client and stakeholder relations along with design challenges to produce quality deliverables in line with the project's delivery schedule.				
07/19 – Ongoing	Owner Verification Services, I-10/Loyola Interchange Design-Build, LADOTD Jefferson Parish, LA. <i>Electrical Engineer</i> : GEC is the Owner Verification Firm (OVF) for this Design-Build project which includes the CE&I, right-of-way acquisition, and utility relocation. As LADOTD's OV representative, GEC is responsible for the acceptance of the work and materials in order to ensure contract compliance. <i>Mr. Prattini reviews design changes for</i> <i>roadway lighting.</i> For the project's enhancement lighting features, he <i>reviewed design team scope, manhour estimate, and design submittals.</i>			
02/20 – Ongoing	I-10 & I-12 College DR. Flyover Ramp Design-Build, LADOTD, East Baton Rouge Parish, LA. <i>Electrical Engineer of Record</i> : Mr. Prattini has <i>provided photometric and lighting design oversight and review and the quality control review</i> for the team. GEC is responsible for engineering and design quality control services as necessary to complete the design and construction for the I-10 & I-12 College Dr. Flyover Ramp Design-Build Project.			
09/20 – Ongoing	I-10 CMAR, LA 415 To Essen Lane on I-10 and I-12, LADOTD, West and East Baton Rouge Parishes, LA. <i>Electrical Engineer of Record</i> : Mr. Prattini completed an enhancement lighting study for Segment 1 of the project to incorporate aesthetic lighting at the City Park Lake Bridge and emphasize the Greenway path from the Expressway Park to the bridge. Though the CMAR project is currently in design, Mr. Prattini is currently <i>overseeing and collaborating on the design of the enhancement, roadway, and walkway lighting</i> .			
09/19 – Ongoing	ing Kansas Lane – Garrett Rd Connector, LADOTD, Ouachita Parish, LA. <i>Electrical Engineer of Record</i> : Mr. Prattini is in responsible charge of the electrical engineering design of the Kansas Lane – Garrett Road Connector project, which currently utilizes over 130 low mast lighting poles to illuminate 5 roundabouts, interstate overpass bridge, and interconnecting roads throughout the project limits. Mr. Prattini is collaborating & <i>providing design direction to electrical designers, intermittently checking electrical plans & calculations, and participating in the quality control / quality assurance (QC/QA) process.</i>			
08/21 – Ongoing	21 – Ongoing I-49 Connector (Lafayette Regional Airport to I-10/I-49/US 167 Interchange, LADOTD, Lafayette Parish, LA. Electrical Engineer: Mr. Prattini researched and collaborated with the design team regarding roadway lighting pole, fixture, and accessory selection. Lighting options were presented to the Lafayette Consolidated Government (LCG) and Lafayette Utilities System (LUS), who maintains the lighting systems.			
04/19 – ongoing	IngoingWilliams Blvd – Veterans Blvd., Route I-10, LADOTD, Jefferson Parish, LA. Electrical Engineer of Record - Mr. Prattini is overseeing the photometrics, electrical calculations, and drawing development of the project, which includes a total length of 2 miles of widening and three interchanges, all of which will need revisions to the existing lighting systems as well as FAA coordination for the lighting design.			

Firm employed by GEC				
Name Luis Diaz,	, PE	Years of relevant experience with this employer	3	
Title Electrical Engineer		Years of relevant experience with other employer(s)	1	
Degree(s) / Years / Specialization		BS / 2019 / Electrical Engineering, Louisiana State Univ	'ersity	
Active registration	number / state / expiration date	PE.0048985/LA / Exp. 09/30/2024		
Year registered	2024 Discipline	Electrical and Computer Engineering		
Contract role(s) / I	prief description of responsibilities.	Electrical Engineer		
Experience dates	Experience and qualifications relev	ant to the proposed contract		
	Mr. Diaz has 4 years of experience in designing electrical systems for transportation projects. He has performed photometric calculations, voltage drop and conduit fill calculations, conductor sizing, equipment specifications, arc flash analysis, and protective device sizing for LADOTD interstate and urban projects. In addition to roadway lighting projects, Mr. Diaz has experience in the analysis of generator systems performing generator-sizing calculations to meet a project's power requirements. Luis is experienced with developing wiring diagrams, detail drawings (MCC buckets and switchgear cabinets), one-lines, 3-lines, and schematics (breakers and motor starters). He also assisted in designing MCC elevations, detail drawings			
07/21 – Ongoing	In the index backets, conductor sizing, and capter day. In the endex of the endex of the endex of the project of the project to incorporate aesthetic lighting at the City Park Lake Bridge and emphasize the Greenway path from the Expressway Park to the bridge and coordinated with lighting vendors to process the <i>electrical design</i> for the enhancement lighting systems across the I-10 CMAR Segment 1 portion of the project. Mr. Diaz is performing electrical design for the Roadway, Walkway, Underpass, Service Road and Roundabout Lighting. He is also involved in the lighting analysis, <i>voltage drop calculation</i> , and lighting layout of the enhancement lighting and roadway lighting.			
01/21 – Ongoing	going Kansas Lane – Garrett Rd Connector, LADOTD, Ouachita Parish, LA. <i>Electrical Engineer</i> : Mr. Diaz currently provides the design of this project under the supervision of the signing professional engineer. Design task included construction plan set development, photometric calculations, <i>voltage drop and conduit fill calculations, conductor sizing, equipment specifications, arc flash hazard analysis</i> , and <i>protective device sizing</i> .			
01/21 – Ongoing	Williams Blvd – Veterans Blvd., Route I-10, LADOTD, Jefferson Parish, LA. <i>Electrical Engineer:</i> Mr. Diaz currently provides the design of this project under the supervision of the signing professional engineer. Design task included construction plan set development, <i>photometric calculations, voltage drop and conduit fill calculations, conductor sizing, equipment specifications, arc flash hazard analysis</i> , and <i>protective device sizing</i> .			
01/21 – Ongoing	IFIO, I-610E Interchange, LADOTD, Orleans Parish, LA. Electrical Engineer/ Construction Engineering and Inspection: Mr. Diaz completed the design of this project under the supervision of the signing professional engineer. Design task included construction plan set development, photometric calculations, <i>voltage drop and conduit fill calculations, conductor sizing, equipment specifications,</i> <i>arc flash hazard analysis, and protective device sizing.</i> Mr. Diaz performs <i>on-site field walk and inspection</i> for assembly period, reviews engineering shop drawings and equipment submittals from the contractor for acceptance to fabricate, install and purchase equipment for construction, and review and respond to <i>request for information (RFIs).</i>			
01/21 – Ongoing I-49 Connector, LADOTD, Lafayette Parish, LA. <i>Electrical Engineer:</i> Mr. Diaz is performing a lighting analysis near the ramps of SE Evangeline Thruway for pole locations to coordinate with FAA to satisfy requirements near the airport.				

10/22 – Ongoing	I-49, LA 31 Interchange, LADOTD, Opelousas, LA. Electrical Engineer: Mr. Diaz currently provides the design of this project under the				
	supervision of the signing professional engineer, participating in the design of the photometric calculations.				
12/22 – Ongoing	I-49, US 190 Interchange, LADOTD, Opelousas, LA. Electrical Engineer: Mr. Diaz currently provides the electrical design of this project				
	under the supervision of the signing professional engineer, participating in the design of the photometric calculations.				
01/23 – Ongoing	I-49, Judson Walsh Drive Interchange, LADOTD, Opelousas, LA. Electrical Engineer: Mr. Diaz currently provides the design of this				
	project under the supervision of the signing professional engineer, participating in the design of the photometric calculations.				
05/21 – Ongoing	I-10 & I-12 College Drive Flyover Ramp Design-Build, LADOTD, Baton Rouge, Louisiana. Electrical Engineer: Mr. Diaz completed checks				
	on the photometric and lighting layout design for the GEC/Boh Bros. team. GEC is responsible for engineering and design quality				
	control services as necessary to complete the design and construction for the I-10 & I-12 College Dr. Flyover Ramp Design-Build				
	Project. Design task included construction plan set development, photometric calculations, voltage drop and conduit fill calculations,				
	conductor sizing, equipment specifications, arc flash hazard analysis, and protective device sizing.				
01/21 – Ongoing	Ames Blvd Decorative Street Lighting, LADOTD, New Orleans, LA. Electrical Engineer: Mr. Diaz completed the design of this project				
	under the supervision of the signing professional engineer. Design task included <i>construction plan set development, photometric</i>				
	calculations, voltage drop and conduit fill calculations, conductor sizing, equipment specifications, arc flash hazard analysis, and				
	<i>protective device sizing</i> . Mr. Diaz currently provides construction engineering support services.				
01/22 – Ongoing	PS#13 Expansion, SELA, LADOTD, Algiers, LA. Electrical Engineer: Mr. Diaz completed the design of this project under the supervision				
	of the signing professional engineer. He has worked in the writing of the Electrical Specifications following the Army Core of				
	Engineers' standards. Mr. Diaz has checked one-line drawings, elevation drawings, designed the cable schedule, and designed the				
	lighting layout sheets.				
01/21 – Ongoing	Town of Springfield Station Project, LADOTD, Springfield, LA. Electrical Engineer: Mr. Diaz currently provides the design of this project				
	under the supervision of the signing professional engineer. Mr. Diaz has participated in an on-site visit, multi-disciplinary meetings,				
	completed the <i>electrical plan set</i> submitted to be constructed. He, also, was a part of the <i>electrical specifications</i> , for the project.				

Firm employed by ARCADIS					
Name Osama Shahawy, PE			Years of relevant experience with this employer	3	
Title Bridg	e Practice Manager		Years of relevant experience with other employer(s)	30	
Degree(s) / Ye	ars / Specialization		MS / 1991 / Civil (Structures), Florida State University		
			BS / 1983 / Civil Engineering		
Active registra	tion number / state / ex	piration date	PE.0035652 / LA / Exp. 09/30/2024		
Year registere	d 2001	Discipline	Civil Engineering		
Contract role(s) / brief description of r	esponsibilities.	Structural / Roadway Design		
Experience da	tes Experience and qu	alifications relev	ant to the proposed contract		
	Mr. Shahawy has o	over <mark>33 years of</mark> s	structural engineering experience working on various pro	ojects throughout Louisiana and the	
	Southeast. He serv	ved as PM or TL c	on 100+ projects with extensive bridge plan, specification	n and estimate, rehabilitation and	
	bridge replacemer	nt. His experience	e includes coordinating teams of engineers and other te	chnical personnel on the preparation	
	of bridge PS&E des	sign/ manageme	nt including on/off-system bridges in rural/urban areas v	with heavy utilities & complex TCP.	
	Mr. Shahawy has a	a design backgrou	und that provides for solid construction capabilities–a be	enefit that ensures constructible	
	technical solutions	and more comp	lete construction documents. Mr. Shahawy will provide	structural design services as needed	
	to support design	projects perform	ed under this contract.		
08/22 – Ongoi	ng Cross Bayou Bridge	e Replacement, S	Shreveport, LA. Project Manager and Structure Task Lea	d. Develop a Feasibility study to	
	replace US71 bridges at Cross Bayou. An <i>in-depth structural, roadway, and Traffic analysis</i> was performed to develop the most				
	effective cost for bridge replacement and roadway improvements. Alternatives were developed per the ASHTO LRFD Bridge Designation of the ASHTO LRFD Bridge Desi				
	Specifications Mar	nual and LADOTD	Bridge Design and Evaluation Manual (BDEM), and cost	estimates for all alternatives were	
	using average cost information per the LADOTD Project Delivery Manual. Provided the final recommendation for bridge				
	replacement. Currently working on Stage 3 Preliminary and final plan development, followed by Stage 5 construction support.				
10/20 – Ongoi	20 – Ongoing I-10 CMAR Segment 1, LADOTD, Baton Rouge, LA. Structure Task Lead, Engineer of Record (EOR) for CMAR project to impre			(EOR) for CMAR project to improve I-	
	10 through wideni	ng and reconstru	iction of the main line from three to four lanes in each d	lirection, including bridge	
	replacement and r	ehabilitation, int	erchange and ramp modification, shoulder widening, an	nd auxiliary lane(s) from LA 415 to	
	Essen Lane on I-10	and I-12. Respon	nsibilities include <i>designing the substructure for the Terra</i>	<i>ce- Washington bridges,</i> including	
	temporary and per	rmanent bridge v	videning. Participates in task force meetings and works v	with the CMAR Contractor and DOTD	
	to develop preferred bridge concepts. Responsible for <i>QC/QA of all designs, plans, and estimated quantities</i> per LADOTD				
	guidelines.				
05/20 - 11/20	Alphonse Forbes B	ridge Replaceme	ent, City of Baton Rouge/East Baton Rouge Parish, LA. St	<i>ructure Manager</i> for replacing the	
	Alphonse Forbes R	load Bridge over	Sandy Creek in Central Louisiana. The project will replace an existing bridge with a nine-span		
	flat slab bridge on	pile bents. The p	roject was designed to fit within the existing right-of-wa	ay and meet the required hydraulic	
	opening while min	imizing roadway	alignment and profile changes. I <i>reviewed bridge plans</i> a	nd calculations, provided red lines,	
	reviewed comments, and <i>estimated quantities per LADOTD guidelines</i> .				
07/11 – 05/13	 MacArthur Drive Bridge Interchange, Rapides Parish, LA. Structure Manager, Engineer of Record. Responsible for widening, revising, and redesigning the MacArthur Drive Interchange completing Phase 1. The design and plan production are related to the changes required for Ramps 7 and 8. Design deck slab for 18 spans, which include Trapezoidal girders & Bulb-T girders. Design Bearing Pads for all proposed Trapezoidal and Bulb-T girders. Designed inverted-T caps and special geometric columns for piers. Responsible for designing and producing geometric and span layout modifications, superstructures, and substructures. Review for accuracy and completeness of the plans and related designs prepared for the project. Ensures quality and adherence to established design policies, procedures, LADOTD BDEM, LSSRB, standards and guidelines in preparing and reviewing all design products for compliance and good engineering practice as directed by a Project Quality Control Plan. 				
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07/11 – 05/13	LA 1 over I-19 Bridge Rehabilitation, Rapides Parish, LA. <i>Project Manager, Engineer of Record</i> . Provided professional inspection, rehabilitation design, and construction engineering services. The bridge is a four spans steel plate girder structure with uneven settlement and rotation at the abutments. It required rehabilitation to stabilize the movement and raise the bridge back to its original elevation as it was built. Responsibilities included directing the team and overall tasks involving preparing geometric layout plan development, <i>bridge design, and final plans, specifications, and estimates</i> for LA 1 Bridge over I-49, according to LADOTD BDEM. We performed QA/QC, prepared construction cost estimates, and reviewed/revised plans based on LADOTD comments.				
08/20 – 03/22	 I-10 New Orleans to Slidell Hard Shoulder Design and Feasibility, LADOTD, New Orleans, LA. Structure Manager. Conducting bridge design evaluation using Active Transportation and Demand Management (ATDM) strategies on 1-10 in Orleans and St. Tammany Parishes. The Project is to determine improvements in implementing shoulder lanes on Interstate 10 in the New Orleans East area. Responsibilities include <i>preliminary bridge design to determine construction cost for structure widening</i> of EB & WB I-10 based on four scenarios utilizing existing shoulders on 1-10 as one of the scenarios. 				
07/11 – 05/13	 Mississippi River Bridge at Vicksburg, Mississippi, LA. Project Manager, Engineer of Record. Responsible for the four-lane continuous main steel-truss through-deck bridge covers a total length of 1,716 ft. and a width of 60 ft. The central truss consists of two symmetrical 640.5 ft. cantilever spans and one 435 ft. drop span. The approach spans consist of 101 prestressed concrete spans and reinforced concrete pier caps. Responsible for <i>review of as-built plans and all rehab projects plans</i>; indexed and developed inspection forms; supervised and reviewed results from the 3D computer model; model calibration; performed <i>QA/QC according to LADOTD BDEM</i> and assisted in developing the final report. 				
07/11 – 06/12	I-10 over Calcasieu River - Lake Charles Bridge, Lake Charles, LA. <i>Project Manager, Engineer of Record.</i> Responsible for bridge inspection that includes four steel deck trusses and a cantilever steel through-truss for the central span portion of the bridge, covering a total length of 6,617 ft. with a width of 62.67 ft. The east and west approach spans of the bridge consist of two bridge systems: first, a longitudinal girder system supported on steel bents; second, a fracture-critical span system consisting of a two-girder, floor beam, and stringer system. Responsible for <i>review of the as-built and rehab project plans</i> and indexing; developed inspection forms; supervised and reviewed the results from the 3D computer model; model calibration; <i>performed load rating based on the present condition, capacity, and loading of the bridge</i> , rated the gusset plate and connection systems following the Federal Highway Administration (FHWA)-IF-09-014; performed QA/QC and assisted in developing the final report.				

Firm employed	by GEC		
Name Varap	rasad Ramaraju Venkata, PE	Years of relevant experience with this employer	17
Title Struct	ural Engineer	Years of relevant experience with other employer(s)	10
Degree(s) / Yea	rs / Specialization	MS / 1995 / Structural Engineering, Andhra University	(India)
		BS / 1992 / Civil Engineering, Andhra University (India)	
Active registrat	ion number / state / expiration date	PE #40594 / LA / 09/30/2024	
Year registered	2016 Discipline	Structural Engineer	
Contract role(s)) / brief description of responsibilities.	Structural / Roadway Design	
Experience date	es Experience and qualifications relev	ant to the proposed contract	
	Mr. Venkata has 27 years of structural protection systems, water treatment a plan preparation and shop drawing re foundations, highway signs, low and h bridge design experience includes the major highways which includes but no spans and steel girders. He has provid	l engineering experience involving sign supports, DMS support & distribution facilities and industrial structures. His design e view for DMS sign supports including foundations and mainter igh mast light pole support foundations in accordance with A widening of existing structures and the design of new structure t limited to the design of pile bents, column bents, PSC girde ed design services for LADOTD, Tolling Commissions, as well a	rts, highway bridges, hurricane xperience includes structural design, enance platforms, Camera pole support ASHTO and LADOTD specifications. His ures for highly congested interstates and rs, concrete deck, pre-stressed girder as non-state entities and private industry.
10/12 - 09/15	DMS Ladder System – Phases 1, thru 5	, LADOTD, St John Baptist, St Charles, Jefferson, East Baton R	ouge, West Baton Rouge, Iberville,
	Ascension, Caddo, Bossier, Jefferson, L	afayette, St Martin, St Landry, and Orleans Parishes LA. Struc	ctural Engineer: Mr. Venkata <i>performed</i>
	structural design & QC support for the	development of plans & specifications, including design of th	e Ladder system & maintenance
	sites (Phase 4) & 8 sites (Phase 5) in a	ccordance with AASHTO & LADOTD standard specifications	1), 20 sites (Phase 2), 6 sites (Phase 3),18
06/14 - 01/15	ITS Dynamic Message Signs, LADOTD.	Jefferson Parish, LA. Structural Engineer: Mr. Venkata perform	ned <i>structural design of the cantilever steel</i>
	post, base plate, anchor bolts, foundation	on, and ladder system for 3 new DMS sites and design of control	panel support foundations in accordance
	with AASHTO and LADOTD standard sp	pecifications. Services included design, development of plans	and review of shop drawings.
03/15 - 11/15	Bonnet Carre Emergency Crossing: St.	John and St. Charles Parishes, LA. Structural Engineer: Mr. Ve	enkata performed <i>structural design</i> for this
	project. This includes <i>design of the Str</i>	r <i>ucture mounted overhead DMS Truss supports,</i> concrete bliste	ers, Base plates, Anchor bolts and Ladder
	system in accordance with AASHTO an	d LADOTD standard specifications. Services included design,	development of plans and specifications.
09/14-08/15	Lake Charles ITS – Phase 2: Calcasieu,	LA. Structural Engineer: Mr. Venkata performed structural de	<i>esign</i> for this project. This includes design
	of the cantilever steel post, base plate	e, anchor bolts, foundation and ladder system for 2 new DMS	sites and design of control panel support
00/10 07/17	foundation in accordance with AASHI	O and LA DOTD standard specifications. Performed design for	r overnead DIVIS ladder system.
06/16-07/17	4400003994, H.011493 / LA I IIS Equi	pment Opgrade: Latourche, LA. Structural Engineer: Mr. Ven	kala periormed <i>structural design</i> for this
	sites. Also performed structural design	tor elevated rile supported concrete foundation for 110' ca	mera nolewhich also accommodate the
	control cabinet in accordance with AA	SHTO and LA DOTD standard specifications. Services included	design plans and specifications
03/09 - 12/09	Baton Bouge to New Orleans ITS-TIM Ph	ase 1 LADOTD Baton Bouge to New Orleans LA Structural F	ngineer: Mr. Venkata performed
	structural design for the nile bent moun	ted camera poles steel support brackets control cabinet support	ort platforms (steel), and anchor bolts in
	accordance with AASHTO "Structural S	Supports for Highway Signs, Luminaries, and Traffic Signals". A	SCE-07 (Wind loading). ACI – 318
	(Anchor bolts) and LADOTD Bridge Des	sign Manual.	

Firm en	nployed by	ARCADIS				
Name	David Fu	lks, PE		Years of relevant experience with this employer	14	
Title	Senior R	oadway Design Engin	eer	Years of relevant experience with other employer(s)	12	
Degree	(s) / Years	/ Specialization		MS / 2019 / Engineering Management, The George Wa	ashington University	
				BS / 1997 / Civil Engineering, Portland State University		
Active r	registration	n number / state / ex	piration date	PE.030151 / LA / Exp. 09/30/2024		
Year reg	gistered	2002	Discipline	Civil Engineering		
Contrac	ct role(s) /	brief description of r	esponsibilities.	Structural / Roadway Design		
Experie	nce dates	Experience and qu	alifications releva	ant to the proposed contract		
A AN		Mr. Fulks has more	e than <mark>26 years o</mark>	f experience in the design of roadways_and pedestrian f	acilities, land developments, flood	
	e Le	protection systems	s, and airports. H	is experience encompasses analysis and design of geom	etric and pavement design of	
		highways, streets,	sidewalks, restric	tive intersections, roundabouts, and interchanges; site	hydrology and hydraulics; and traffic	
		impact analysis. Hi	s responsibilities	have included preparing engineering designs, reports, p	plans, and specifications preparing	
	10	and managing proj	ect schedules an	d cost estimates and providing construction administrat	tion. Mr. Fulks will provide roadway	
	05/45	design services as i	needed to suppo	rt design projects developed under this contract.		
05/14 -	- 05/15	Joe Sevario / Rodd	y Road Roundabo	buts, LADOID, Ascension Parish, LA. Task Manager and	Lead Engineer. Geometric and	
		roadway design and	d <i>cost estimates</i> f	or the replacement of ten existing stop-controlled inter-	sections with single-lane	
07/15	00/17	roundabouts.				
07/15-	- 06/17	Salety Design Reta	iner - US 190B at	Jenerson Ave Roundabout Design, LADOTD, St. Tamma	an existing four way signalized	
		intersection with a	single-lane ellint	ical roundabout	all existing four-way signalized	
12/13 -	- 06/15		rovements IAD	OTD Lafourche Parish LA Lead Roadway Geometrics a	nd Cost Engineer Designed geometric	
12/13	00/15	lavout of safety imp	<i>layout</i> of safety improvements including access management, restrictive intersections, and added turn lanes. Developed			
		<i>construction cost estimates</i> for proposed improvements to assess <i>feasibility</i> of proposed alternatives				
11/12 -	- 04/13	LA 594 Millhaven R	load Preliminary	Design, I-20 Economic Development Corporation, Quac	hita Parish. LA. Roadway Designer.	
,	,	Roadway intersect	ion and roundab	but improvement alternatives for a LADOTD Stage 0 Stu	dy. Two roundabouts were evaluated	
		in compliance with	LADOTD EDSM	/.1.1.5 (Analysis) and EDSM V.1.1.6 (Design). Performed	geometric and roadway design of	
		intersection and ro	adway alternativ	es and developed <i>construction cost estimates</i> .		
11/14 -	- 10/15	LA 44 and Loosemo	ore Road Rounda	bout, LADOTD, Ascension Parish, LA. Deputy Project Mc	nnager and Lead Engineer. Geometric	
		and roadway design	n, preliminary sub	<i>surface utility investigation, and cost estimates</i> for the rep	placement of an existing two-way	
		stop-controlled intersection with either a single-lane roundabout or two single-lane roundabouts and right-in/right			abouts and right-in/right-out control	
		at the existing inte	rsection.			
01/14 -	- 03/17	Pete's Highway Int	erchange Alterna	tive and Environmental Assessment, LADOTD, Livingsto	n Parish, LA. Lead Roadway / Bridge	
		Geometrics and Co	<i>st Engineer.</i> High	-priority project completing an environmental assessme	ent and traffic engineering services	
		related to improvir	ng congestion and	d operations along Range Avenue in the vicinity of the I-	12 interchange. Design alternatives	
		included two split of	diamond intercha	ange options with roundabout, partial clover leaves, and	collector-distributor road	
		components at bot	h Range Avenue	and the next existing, eastern overpass at Pete's Highw	ay (LA 16) and a diverging diamond	

	interchange alternative at Range Avenue. Developed <i>roadway geometry, line and grade</i> , construction sequencing strategies, and
	construction cost estimate.
04/13-07/14	US 11 Environmental Assessment, Bridge Replacement, and Roadway Improvements, LADOTD, St. Tammany Parish, LA. Lead
	Engineer. Geometry and roadway design, line and grade study development, and cost estimates for the replacement of an historic
	railroad overpass bridge and upgrading an existing two-lane rural highway to a four-lane divided highway with access control.
	Early coordination with Norfolk Southern Railroad.
09/09-03/12	I-20 – Garrett Road Connector Interchange Improvements, LADOTD, Ouachita Parish, LA.
	Lead Engineer. Geometry and roadway design of the new KCS Railroad overpass and connector between Kansas Lane and Garrett
	Road, including interstate interchange modifications to include two-lane roundabouts at ramp intersections, and three two-lane
	roundabouts along the corridor outside of the interchange. Improvements to the pedestrian and bicycle facilities were included
	in accordance with the LADOTD Complete Streets Policy. The compact project area required a detailed layout to confirm
	feasibility.
08/11-09/13	Chef Menteur Bridge and Approaches Replacement EA and Line and Grade Study, LADOTD, Orleans Parish, LA. Lead
	Roadway/Bridge Geometrics and Cost Engineer. Responsible for preparing the proposed geometric configurations of a bridge
	replacement at Chef Menteur Pass. Investigated four alignments as well as both low-level moveable and high-level fixed span
	bridge configurations. Performed detailed <i>geometric layouts</i> of both the mainline highway, bridge, and adjacent collector
	roadways to mitigate impacts to environmentally sensitive resources and local residential, commercial, and historical interests.
09/12 - 09/13	US 165 Connector and Ouachita River Bridge EIS, LADOTD, Ouachita Parish, LA. Roadway Design Engineer. Responsible for
	preparing <i>roadway and bridge general plan designs, line and grade</i> report development, and <i>cost estimates</i> for a new five-mile
	elevated highway through Chauvin Swamp north of Monroe, LA. An in-town corridor was also developed which entailed
	upgrading Louisville Avenue and Hudson Lane in Monroe, the Lea Joyner Bridge over the Ouachita River, and Stella Street in
	West Monroe to function as a one-way couplet. <i>Early coordination with Delta Southern Railroad</i> was included.
06/00 - 12/00	Hesper and Helios Avenue Street Rehabilitation, Jefferson Parish Engineering Department, Harvey, LA. Roadway Engineer.
	Completed inspections and rehabilitation recommendations for eight blocks of local streets. Rehabilitation required demolition
	and replacement of concrete road panels, milling and overlay of asphalt surfaces, and installation of drainage inlets and
	subsurface drainage, as well as replacement of damaged and under-performing subsurface drainage. Performed inspections,
	collaborated with Parish representatives and utility companies, identified appropriate rehabilitation measures, and <i>produced</i>
	<i>plans</i> illustrating the rehabilitation recommendations.
2/09 - 4/10	US 90 – WBV 73 Western Tie-In Crossing Lake Cataouatche Area, United States Army Corps of Engineers (USACE) – New Orleans
	District, Jefferson Parish & St. Charles Parish, LA. Deputy Project Manager and Lead Roadway / Drainage Engineer. Development
	of <i>preliminary and final design</i> P&S for a 2,540-foot PPC girder / column bent bridge, highway approaches, and frontage
	roadways.

Firm er	nployed by	ARCADIS			
Name	Name Jose L. Rodriguez, PE			Years of relevant experience with this employer	1
Title	Title Senior Civil Engineer			Years of relevant experience with other employer(s)	24
Degree	(s) / Years /	[/] Specialization		BS / 1992 / Civil Engineering, University of New Orlean	IS
Active I	registration	number / state / ex	piration date	PE.0030492 / LA / Exp. 03/2025	
Year re	gistered	2003	Discipline	Civil Engineering	
Contra	ct role(s) / k	prief description of r	esponsibilities.	Structural / Roadway Design	
Experie	ence dates	Experience and qu	alifications relev	ant to the proposed contract	
		Mr. Rodriguez has roadway design, b estimating, and pr Worked in close re Works, New Orlea Engineers, New Or experience in Inro American Concrete provide roadway of	more than 25 ye ridge design, pro oject implement elationship with t ns Sewer and Wa leans Regional P ads, Autodesk Cir e Institute (ACI) L design services as	ears of experience with roles of progressive responsibilit ject management, hydraulic analysis, utility coordination ation for various clients in the states of Louisiana, Texas, he Louisiana Department of Transportation, City of New ater Board, Plaquemines Parish, Jefferson Parish, St. Bern lanning Commission, Marathon Petroleum Co., Yuhuang vil 3d, Leap Bridge for Concrete Bridge Design, and Excel couisiana Board, becoming president of the Louisiana Ch a needed to support design projects developed under th	y as a civil engineer performing n, construction supervision, , Georgia, and North Carolina. / Orleans Department of Public nard Parish, U.S. Army Corps of g Chemicals, and others. Extensive I Spread Sheets. Served on the napter in 2010. Mr. Rodriguez will is contract.
05/12 -	- 12/15	Earhart Boulevard roadway plan prep purpose was to ass the development of construction cost f and vertical alignment design, utility conf roadway plans for	Causeway Interc aration for the Ea sist in traffic cong of roadway and b for this project w pents for this project lict resolution an this project.	hange, LADOTD, New Orleans, LA. <i>Project Designer</i> . Res whart Boulevard-Causeway Interchange. The Earhart Bo gestion relief for the east-west flow in traffic for the New ridge ramps for the creation of an elevated signal-contr as approximately fifty-nine million dollars. Responsible f ect as well as roadway plan preparation, developing all <i>I</i> d <i>cost estimating</i> for the project. Bentley InRoads was us	ponsible for the <i>geometric design and</i> ulevard-Causeway Interchange v Orleans Metro Area. It consisted of olled interchange. The estimated for the <i>development of all horizontal</i> <i>coadway cross sections</i> , drainage sed for the development of the
02/10 -	- 06/11	I-10 from Veterans 1.2 miles of I-10 fr roadway widening helped implement	s to Clearview, LA om three lanes to . Jose was also re an innovative tw	ADOTD, Metairie, LA. <i>Project Designer.</i> Responsible for r to five lanes in each direction. The project also included b esponsible for the alignment and design of concrete sour ro-sided concrete stamp process for the noise wall preca	<i>oadway plan preparation</i> for widening pridge work to accommodate the new nd walls along the corridor. He ast concrete panels.
07/09 -	- 07/15	Peters Road Expan <i>plan preparation an</i> crossing over the I Louisiana 23 near Corps of Engineers Stage 0 Eascibility	ision, Phases I, II Ind wetland deline Intracoastal Wate Barrier Road. The Study I=12 to Bug	and III, LADOTD, Plaquemines, LA. Project Designer. Resp ation of Peters Road Phases I, II and III. The projects con- erway, approach roadways in Jefferson and Plaquemines projects were prepared in coordination with Plaquemines the Corridor Study Phase III. LADOTD. St. Tammany Parish	ponsible for the <i>geometric design,</i> sisted of a new roadway, elevated s Parishes to tie Peters Road to nes Parish, DOTD, and the U.S. Army
01/08 -	- 05/08	Responsible for ev Environmental Pol	aluating environ icy Act (NEPA) fo	mental issues and developing design alternatives in acco r transportation improvements.	ordance with the National

02/07 - 10/09	John James Audubon Bridge Approach (Design-Build [DB]), LADOTD, New Roads, LA. Project Designer. Responsible for the
	geometric horizontal and vertical alignment for five approach bridges to the John James Audubon Cable Stay Bridge. The longest
	cable-stayed bridge in the Western Hemisphere consisting of 1,583' main span. Jose was also in charge of the quality control for
	all bridge approaches and the design of all precast concrete girders for the project.
10/17 - 03/18	Traffic Turn Lanes on Highway LA 3127, Yuhuang Chemical Inc., St. James, LA. Quality Control (QC). Review for the design of two
	turn lanes into the Yuhuang Chemical Methanol plant in St. James Louisiana. During construction, Jose provided the owner with
	construction design services for the duration of the construction phase.
1/06 - 09/09	New Orleans Submerged Roadway Program Management, LADOTD / New Orleans Regional Planning Commission, New Orleans,
	LA. Project Designer and Quality Control Reviewer. For this multi-million dollar program management team for the DOTD and
	the Federal Highway Administration (FHWA), helped <i>develop design guidelines and processes for the standardization of engineering</i>
	work for the repair of damaged roadways by Hurricane Katrina in the City of New Orleans and other parishes. He was
	responsible for conducting quality control reviews on roadway plans prepared by other engineering firms for compliance with
	DOTD and FHWA design standards.
12/15 - 01/16	Magnolia Ridge Levee Project, City of New Orleans, St. Charles Parish, LA. Quality Control (QC). QC review and plan preparation
	for the Magnolia Ridge Levee project for St. Charles Parish.
06/04 - 01/11	Causeway Boulevard Interchange Improvements Phases I and II, LADOTD, Metairie, LA. Project Designer. This project which
	consisted of widening Causeway Boulevard elevated structure at Veterans Boulevard and the construction of new at-grade and
	elevated ramps to provide better accesses, <i>improve safety and ease congestion at this heavily traveled interchange</i> . Responsible
	for evaluating existing girders, the <i>design of new precast concrete girders</i> and the <i>roadway plan preparation</i> for this project. Also,
	responsible for evaluating and design of new sewer and water lines for the project as well as coordinating the removal and
	replacement of all utilities affected by the new roadways and/or structure foundations.
1/20 — 5/20	NC73 Highway Widening, North Carolina DOT, Mecklenburg County, North Carolina. Project Engineer. Responsible for the
	Temporary Traffic Control Plan preparation for the widening of NC 73. A principal arterial roadway, NC 73 Highway, was
	widened from a two-lane undivided roadway into a four-lane divided highway with a 30-foot wide median. The project
	presented many challenges for the Temporary Traffic Management Plan's preparation due to the high traffic volumes on NC 73,
	time restrictions for lane closures, and all NASCAR events at Charlotte Motor Speedway for the duration of the project. To
	mitigate traffic disruption and enhance roadway safety, assisted in preparing the Transportation Operation Plans and sequence of
	construction for the project. All design work was performed following NCDOT and the latest MUTCD standards.
3/2019 — 5/20	Eastern Federal Lands Highway Division (EFLHD), Puerto Rico. Assessment Roadway Lead. Responsible for the review, report
	preparation, and coordination for the repairs of over 70 roadway sites damaged by Hurricane Maria. Provided technical
	assistance to local engineering firms to ensure the project stayed within the client's guidance and strict schedules.
04/18-9/20	Texas High-Speed Rail, Texas Central Railway, Dallas to Houston, Texas. Project Designer. Assisted with establishing flood
	elevations for the alignment of over 240 miles of rail tracts. Also responsible for the realignment of at-grade roadways impacted
	by the High-Speed rail.

PERSONNEL RESUMES

ITS Construction Engineering Professionals

Firm employ	ved by	ARCADIS				
Name Jeff	fery Jone	es, IMSA II		Years of relevant experience with this employer	11	
Title ITS	Supervi	sor / Sr. ITS Techn	ician	Years of relevant experience with other employer(s)	11	
Degree(s) / `	Years / S	pecialization		Electrical Engineering Coursework / 2005 / University of	of New Orleans	
				Electrical Engineering Coursework / 2005 / Delgado Co	ommunity College	
Active regist	ration n	umber / state / ex	piration date	N/A		
Year register	red	N/A	Discipline	N/A		
Contract role	e(s) / bri	ef description of r	responsibilities.	Technical Support During Construction, Commission Technical	esting, System Integration	
Experience of	dates E	Experience and qu	alifications relevations	ant to the proposed contract		
0		Ar. Jones has <mark>18 y</mark>	ears of experient	ce designing, integrating and maintaining information sy	vstems in the transportation industry.	
100		He designed and in	ntegrates comple	$ m x$ intelligent transportation system (ITS) and Electronic $^-$	Toll Collection (ETC) networks that	
100	L i	ncludes wireless N	MESH, fiber optic	s, and copper. He has extensive knowledge of radio-free	quency identification (RFID) and OCR	
		Optical Character	Recognition) sys	tem configuration and integration related to ETC system	ns, as well as thorough knowledge of	
		VIFI, Cell Network	ks and Dedicated	Short Range Communication (DSRC) systems and standa	ards that will play a very prominent	
	i i	and integral role ir	n any AV/CV syste	ems planning, evaluation and impending deployment. A	pplying his experience with the	
	i	nstallation, testing	g, and maintenar	ice of ITS infrastructure throughout Louisiana, he will pla	ay a crucial role in proving	
	e	engineering suppo	ort services during	g construction for this contract. Certifications include: A	ATTSA TCT, TCS, TCDS, Flagger;	
	Manufacturer certifications in COH			U, Daktronics, Pelco, Axis, Econolite (Autoscope), Fall Pr	otection (Authorized Person), Pelco,	
	IMSA I, IMSA II, FAA Drone Pilot Lic			ense, Tower Climber & Louisiana Contractor License (Sta	atewide Electrical,	
		elecommunicatio	ons and Electrical	Signs, Scoreboards, Displays, Billboards Construction).		
12/19 – Ong	soing I	TS Management,	Operations, and I	Maintenance Engineering & Inspection (ME&I) IDIQ Con	tract – Program Management (PM)	
	a	ind Maintenance	Management Sys	tem (MMS) Task Orders, LADOTD, Statewide. Field Man	ager / Project Manager: Responsible	
	T T	or <i>program and p</i>	project managem	ent, maintenance, testing, and related services for the D	OID IIS maintenance program.	
	ŀ	Responsible for managing the routine maintenance of CCTV camera, Dynamic Message Sign (DMS), vehicle detector (VD) and				
	r	amp meter sites,	and responsive/e	mergency maintenance of CCTV camera and DIVIS sites	located throughout the state of	
		ouisiana. Develop		of Plans (TCP) and worked with the LADOTD project man	ager to determine safety class and	
		MARE) Marked as	ments for all fis	sites. Performed training for and installation of the main	lienance management system	
		IVIIVIS). WORKEU OF	and Safaty Plan (ILLOI performance measures reports, it's Maintenance P	lists for the performance of	
	(PIVIP) and Health		HASP) for the project. Developed procedures and check	al chacks for maintenance activities	
	r i	performed under t	the contract	enormed site inspections, valuation and quality control	of checks for maintenance activities	
12/19 - 0ng		TS Management	Operations and I	Maintenance Engineering & Inspection (ME&I) IDIO Con	tract - Routine Maintenance Task	
12/15 0116)rders – CCTV Car	nera DMS VD a	nd Ramp Meter ADOTD Statewide A Field Manager	/ Project Manager: Responsible for	
	r r	providing <i>routine</i>	maintenance and	testing of statewide ITS sites including CCTV cameras	DMS, VD, and ramp meters Routine	
	F	naintenance activ	ities typically incl	ude inspecting site equipment changing air filters vacu	uming dust out of a cabinet cleaning	
		CTV domes. clear	ning DMS face pla	ates, and cleaning cooling fans, as well as record keening	z. Responsibilities also include	
	C	levelopment of de	etailed checklist b	y device type; integration of checklist with MMS softwa	are; standardized reporting;	

	development of routine maintenance scheduler; and coordination with statewide traffic management center (TMC), regional
	TMCs, and DOTD districts before, during, and after all routine maintenance activities.
12/19 – Ongoing	ITS Management, Operations, and Maintenance Engineering & Inspection (ME&I) IDIQ Contract - Responsive Maintenance Task
	Orders – CCTV Camera and DMS, LADOTD, Statewide, LA. Field Manager / Project Manager: Responsible for providing
	responsive maintenance and testing of statewide ITS sites including CCTV camera and DMS. Responsive or emergency
	maintenance occurs in response to malfunctioning or faulty components that prevent the normal operations of ITS devices. Also
	responsible for tracking a responsive maintenance ticket to see that the work is done within the defined response time based on
	a site location.
08/16 -12/19	ITS Maintenance Retainer Contract – PM and MMS, LADOTD, Statewide. Field Manager / Project Manager: Responsible for
	program and project management, maintenance, testing, and related services for the LADOTD ITS maintenance program.
	Responsible for managing the routine maintenance of CCTV camera, DMS, VD and ramp meter sites, and responsive/emergency
	maintenance of CCTV camera and DMS sites located throughout the state of Louisiana. Developed TCP and worked with the
	LADOTD project manager to determine safety class and critical level assignments for all ITS sites. Performed training for and
	installation of the MMS. Worked on the development of performance measures reports, ITS Maintenance Plan, PMP and HASP
	for the project. Developed procedures and checklists for the performance of maintenance activities at ITS sites. Performed site
	inspections, validation and quality control checks for maintenance activities performed under the contract.
08/16 - 12/19	ITS Maintenance Retainer - Routine Maintenance Task Orders – CCTV Camera, DMS, VD, and Ramp Meter, LADOTD; Statewide,
	LA. Field Manager / Project Manager: Responsible for providing routine maintenance of statewide ITS sites including, CCTV
	<i>cameras, DMS, VD, and ramp meters.</i> Routine maintenance activities typically include inspecting site equipment, changing air
	filters, vacuuming dust out of a cabinet, cleaning CCTV domes, cleaning DMS face plates, and cleaning cooling fans, as well as
	record keeping. Responsibilities also include development of detailed checklist by device type; integration of checklist with MMS
	software; standardized reporting; development of routine maintenance scheduler; and coordination with statewide TMC,
	regional TMCs, and DOTD districts before, during, and after all routine maintenance activities.
08/16 - 12/19	ITS Maintenance Retainer Responsive Maintenance Task Orders – CCTV Camera and DMS, LADOTD; Statewide, LA. Field
	Manager / Project Manager: Responsible for providing responsive maintenance and testing of statewide ITS sites including CCTV
	<i>camera and DMS.</i> Responsive or emergency maintenance occurs in response to malfunctioning or faulty components that
	prevent the normal operations of ITS devices. Also responsible for tracking a responsive maintenance ticket to see that the work
	is done within the defined response time based on a site location.
06/13 - 08/16	ITS Maintenance Retainer Contract - Program Management and Maintenance Management System, LADOTD, Statewide, LA.
	Project Manager: Responsible for developing, implementing, and managing ITS maintenance plan, policies, standards,
	procedures, and guidelines. Responsibilities also included <i>deployment planning, installation, configuration validation</i> , data
	migration support and ongoing update to database, training, and annual MMS software support. Arcadis was <i>awarded the first</i> -
	ever ITS maintenance contract to establish a program to systematically provide routine and responsive maintenance for the
	LADOTD's statewide ITS infrastructure, totaling more than 500 sites statewide.
08/13 - 08/16	ITS Maintenance Retainer - Responsive Maintenance Task Orders, LADOTD, Statewide, LA. Field Manager / Project Manager:
	Responsible for providing responsive <i>maintenance of statewide ITS sites.</i> Responsive maintenance involves the repair or
	replacement of any reported failed or malfunctioned equipment. Emergency maintenance is responsive maintenance that
	requires immediate repair, such as sites requiring traveler information, or incidents and events.

<u>16. Staff Experience:</u>

Firm employed	by GEC			
Name Reaga	n "Sean" Johnson		Years of relevant experience with this employer	15
Title ITS Co	nstruction Inspector		Years of relevant experience with other employer(s)	10
Degree(s) / Yea	rs / Specialization		AA / 1988 / Computer Science, Tyler Junior College	
Active registrat	on number / state / e>	piration date	N/A	
Year registered	N/A	Discipline	N/A	
Contract role(s)	/ brief description of I	responsibilities.	Technical Support During Construction	
Experience date	es Experience and qu	alifications releva	ant to the proposed contract	
	Mr. Johnson has o	ver 20 years of ex	sperience providing technical support and inspection se	ervices during construction for ITS
	projects . Mr. John	son has provided	support for the installation, testing, system integration	, maintenance, and training for
	approximately \$20	OM in ITS contract	s for the Texas Department of Transportation and the I	LADOTD. The construction projects
	included CCTV car	neras, Lane Contr	ol Systems, and Dynamic Message Signs for traffic man	agement on major freeways in
	metropolitan area	s. Mr. Johnson pr	ovides technical support as an inspector of ITS systems	
06/10 - 08/11	ITS – Traffic Incide	nt Management (TIM) Phase 2, Routes I-10, I-49, US 90, and US 190, Des	sign-Build, LADOTD, Baton Rouge to
	Lafayette, LA. ITS (Construction Inspe	ector: Mr. Johnson provided <i>ITS CE&I services</i> for the in	stallation of twenty-four (24) CCTV,
	four (4) DMS dete	ction, and wireles	s and fiber optic communications.	
08/08 - 12/13	ITS – Traffic Incide	nt Management ((TIM) Phase 1, Route I-10 – Bonnet Carre Floodway Des	ign-Build, LADOTD, Baton Rouge to
	New Orleans, LA. /	TS Construction I	<i>nspector:</i> Mr. Johnson performed <i>ITS CE&I services</i> for e	electrical inspection and reporting for
	design and installa	ition of ITS device	s including ground and structure mounted Dynamic Me	essage Signs (DMS), ground and
	structure mounted	d Closed Circuit Te	elevision Cameras (CCTV), structure mounted Traffic De	etectors, underground and structure
	mounted conduit,	power distributio	n, and wireless and fiber optic communications.	
09/10 - 12/13	Traffic Incident Ma	anagement (TIM)	Phase 3, Routes I-10, I-110, I-12, and US 61, Design-Bui	ild, LADOTD, Baton Rouge, LA. ITS
	Construction Inspe	<i>ector:</i> Mr. Johnsor	n performed <i>ITS CE&I services</i> for the construction and i	integration of twelve (12) new DMS
	sites, forty (40) CC	TV sites (new and	l existing), two (2) new hub sites, eleven (11) RVD sites	(new and existing) and thirty (30)
	miles of new fiber	optic network ba	ckbone elements.	
12/16 - 02/19	Fiber Optic Mappi	ng and Managem	ent, LADOTD, Hammond, Covington, Slidell, Shreveport	t, Houma, and Baton Rouge, LA. ITS
	Construction Inspe	ector: Mr. Johnsor	n performed testing and cataloging of the installed DOT	D fiber optics systems.
08/08 - Ongoin	g Lake Pontchartrair	n Causeway Preve	ntative and On-Call Maintenance, Greater New Orlean	s Expressway Commission , Jefferson
	and St. Tammany	Parishes, LA. ITS (Construction Inspector: Mr. Johnson performs routine a	nd responsive maintenance for ITS
	devices including (CCTV Cameras; Dy	namic Message Signs; Digital Video Encoders; Fiber Op	tic Transceivers; Uninterruptable
	Power Supplies; W	/ireless Radios; Hi	ghway Advisory Radio; and Fiber Optic Outside Plant Sy	vstems.

Firm employed by	GEC			
Name James "J	immy" Wheeler		Years of relevant experience with this employer	17
Title Senior IT	S Inspector		Years of relevant experience with other employer(s)	13
Degree(s) / Years	/ Specialization		N/A	
Active registration	n number / state / exp	piration date	N/A	
Year registered	N/A	Discipline	N/A	
Contract role(s) /	brief description of re	esponsibilities.	Technical Support During Construction	
Experience dates	Experience and qua	alifications releva	ant to the proposed contract	
	Mr. Wheeler has ov	ver 25 years of c	onstruction management experience including ITS cons	truction and implementation. Mr.
	Wheeler's work ex	perience include	s construction installation and operation of dynamic me	essage signs and CCTV cameras in
a a	both Louisiana and	Texas, installatio	on of bridge mounted conduit and junction boxes and u	nderground conduit and pull boxes,
	installation of high	mast lighting an	d roadway illumination, installation of electrical service	points, installation of guard rail,
A	installation of com	munication hub l	ouildings, installation of fiber optic cable and splicing, tr	affic signal build out and
	commissioning, and	d setup and exec	cution of lane closures.	
06/10 - 08/11	ITS – Traffic Incider	nt Management ((TIM) Phase 2, Routes I-10, I-49, US 90, and US 190, Des	ign-Build, LADOTD, Baton Rouge to
	Lafayette, LA. ITS C	onstruction Inspe	ector: Mr. Wheeler was responsible for <i>ITS and electrica</i>	l inspection, reporting, and CE&I
	services for the inst	allation of twent	ty-four (24) CCTV, four (4) DMS detection, and wireless	and fiber optic communications.
05/08 - 10/13	ITS – Traffic Incider	nt Management ((TIM) Phase 1, Route I-10 – Bonnet Carre Floodway Desi	ign-Build, LADOTD, Baton Rouge to
	New Orleans, LA. //	S Construction I	nspector: Mr. Wheeler was responsible for <i>ITS and elect</i>	trical inspection and reporting for this
	project. The <i>projec</i>	t included design	and installation of ITS devices including ground and stru	ucture mounted Dynamic Message
	Signs (DIVIS), groun	d and structure i	mounted Closed Circuit Television Cameras (CCTV), stru	cture mounted Traffic Detectors,
	underground and s	tructure mounte	ed conduit, power distribution, and wireless and fiber op	otic communications. Mr. wheeler
00/10 12/12		anty control insp	Phase 2 Poutes 10 110 12 and US 61 Design Bui	Id LADOTD Patan Pauga LA 175
09/10 - 12/15	Construction Inspec	tor: Mr. Mhoolo	r was responsible for electrical inspection and reporting	tor this project <i>CERI for the</i>
	construction and in	tegration of ITS	devices including twelve (12) new DMS sites forty (40) (CTV sites (new and existing) two (2)
	new hub sites elev	en (11) RVD site	s (new and existing) and thirty (30) miles of new fiber or	atic network backhone elements
10/14 - 01/17	Baton Rouge ITS De	eployment Phase	3. LADOTD. Statewide. LA. ITS Construction Inspector.	Mr. Wheeler was responsible for ITS
	and electrical inspe	ction and report	ing for this project, including <i>CE&I for the construction</i>	and integration of ITS devices
	including five (5) ne	ew DMS sites, ter	n (10) new CCTV sites, one (1) new hub site, thirty (30) E	Bluetooth Vehicle Detectors
	(combined with ne	w and existing sit	tes) and five (5) miles of new fiber optic build-out, cond	uit, and associated pull boxes.

Firm er	mployed by	ARCADIS			
Name	Name Cody Lemoine			Years of relevant experience with this employer	5
Title	tle Senior ITS Technician/Field Manager			Years of relevant experience with other employer(s)	5
Degree	Degree(s) / Years / Specialization			N/A	
Active	registration n	umber / state / ex	piration date	N/A	
Year re	gistered	N/A	Discipline	N/A	
Contra	ct role(s) / br	ief description of r	esponsibilities.	Commission Testing, System Integration	
Experie	ence dates	Experience and o	qualifications rele	evant to the proposed contract	
		Mr. Lemoine has	10 years of expe	rience in designing, integrating, and maintaining informatio	n systems in the transportation
		industry. He has	experience with co	omplex Intelligent Transportation System (ITS) networks that	include wireless MESH, fiber optics,
	200	and copper. He h	nas a thorough kr	nowledge of wireless fidelity, cell networks and dedicate	ed short range communication
	E.	systems and star	ndards. He is cert	ified through Fiber Optics of America as a Fiber Optic Te	echnician and Fiber Optic Design.
		He has certified	technical training	s on ITS assets and systems such as COHU, Axis, Daktroi	nics, ISS RTMS Traffic Detector,
	W -	Trafficware/Nazt	ec , Econolite Au	toscope and others. These certifications and others are	listed in Section 20 of this proposal.
		He has experience	ce as Lead Inspect	or on several LADOID Construction Engineering and Inspecti	on (CE&I) projects
08/21 -	– Ongoing	CE&I for I-10 US	61 to Laplace ITS	Deployment, Ascension, St. James, St. John the Baptist	Parishes, LA. Senior Inspector:
		Provided field in:	spection and inve	estigation services to LADUID on <i>ITS expansion project</i> t	hat includes the installation of
	approximately 23 miles of fiber of		s miles of fiber of	buc communications cable and conduit and the installat	ion of 10 CCTV cameras including
	control to the contractor during (onstruction directed field inspectors and maintained n	g and megration support and quanty
		LADOTD include	d Daily Work Ber	ports, tested materials submittals, daily temporary traffi	c control and daily nay items
08/16-	– Ongoing	ITS Maintenance	Engineering an	d Inspection (ME&I) Betainer Contract - Program Mana	gement (PM) and Maintenance
00/10	01120112	Management Sv	stem (MMS). LAD	OTD. Statewide LA. Senior ITS Technician/Field Manage	r: Responsible for program and
		project manager	nent, <i>maintenan</i>	ce, testing and related services for the LADOTD ITS main	tenance program. Managed the
		routine mainten	ance of Closed-Ci	rcuit Television (CCTV) camera, <i>document managemen</i>	t system (DMS), VD and ramp meter
		<i>sites</i> , and respor	sive/emergency	maintenance of CCTV camera and DMS sites located th	roughout the state of Louisiana.
		Developed Trans	mission Control	Protocols and worked with the LADOTD Project Manage	r and determined safety class and
		critical level assig	gnments for all IT	S sites. Performed training for and installation of the M	MS. Worked on the development of
		performance me	asures reports, l	TS Maintenance Plan, PM Plan and Health and Safety Pla	an for the project. Developed
		procedures and	checklists for the	performance of maintenance activities at ITS sites. Perf	ormed site inspections, validation,
		and quality cont	rol checks for ma	intenance activities performed under the contract.	
08/16 -	– Ongoing	ITS ME&I - Retail	ner Routine Main	tenance Task Orders. CCTV Camera, DMS, VD, and Ram	p Meter, LADOTD, Statewide, LA –
		Senior ITS Techni	ician/Field Mana	ger: Responsible for providing <i>routine maintenance and</i>	testing of statewide ITS sites
		including, CCTV o	cameras, DMS, V	D, and ramp meters. Routine maintenance activities typ	ically include inspected site
		equipment, char	iged air filters, va	cuumed dust out of a cabinet, cleaned CCTV domes, cle	aned DMS face plates, and cleaned
		cooling tans, as v	vell as record kee	eping. Responsibilities also include development of deta	iled checklist by device type;

	integration of checklist with MMS software; standardized reporting; development of routine maintenance scheduler; and
	coordination with TMCs, and DOTD districts before, during, and after all routine maintenance.
10/19-08/21	CE&I for Alexandria ITS Deployment Phase 3, LADOTD, Rapides Parish, LA. Lead Inspector: Provided construction management
	services to LADOTD on ITS expansion project in the Alexandria metropolitan area that included installation of fiber optic
	communications cable, DMSs and CCTV cameras on US 71, US 165, and LA 28. Responsibilities include overseeing all aspects
	of CE&I including provided engineering support to the contractor during construction, directed field inspectors, and
	maintained project documentation required by LADOTD.
08/16 – Ongoing	ITS ME&I - Retainer Responsive Maintenance Task Orders – CCTV Camera and DMS, LADOTD, Statewide, LA. Senior ITS
	Technician/Field Manager: Responsible for providing responsive maintenance and testing of statewide ITS sites including CCTV
	camera and DMS. Responsive or emergency maintenance occurs in response to malfunctioning or faulty components that
	prevented the normal operations of ITS devices. Also responsible for tracking a responsive maintenance ticket to see that the
	work is done within the defined response time based on a site location.
05/13 - 08/16	/TS Maintenance Retainer Contract – PM and MMS TOs, LADOTD, Statewide, LA. Senior ITS Technician/Field Manager:
	Responsible for maintenance and related services for the LADOTD ITS maintenance program. Managed the routine
	maintenance and testing of CCTV camera, DMS, VD, and ramp meter sites, and responsive/emergency maintenance of CCTV
	camera and DMS sites located throughout the state of Louisiana. <i>Performed training for integration and installation of the</i>
	MMS. Developed procedures and checklists for the performance of maintenance activities at ITS sites. Performed site
	inspections, validation, and quality control checks for maintenance activities performed under the contract.
08/13-08/16	/TS Maintenance Retainer Routine Maintenance Task Orders – CCTV Camera, DMS, VD, and Ramp Meter, LADOTD,
	Statewide, LA. Senior ITS Technician/Field Manager: Responsible for providing routine maintenance of statewide ITS sites
	including CCTV cameras, DMS, VD, and ramp meters. Routine maintenance activities typically include inspected site
	equipment, changed air filters, vacuumed dust out of a cabinet, cleaned CCTV domes, cleaned DMS face plates, and cleaned
	cooling fans, as well as record keeping. Responsibilities also include development of detailed checklist by device type; <i>integration of</i>
	checklist with MMS software; standardized reporting; development of routine maintenance scheduler; and coordination with
	statewide TMC, regional TMCs, and DOTD districts before, during, and after all routine maintenance activities.
08/13-08/16	ITS Maintenance Retainer Responsive Maintenance Task Orders – CCTV Camera, LADOTD, Statewide, LA. Senior ITS
	Technician/Field Manager: Responsible for providing responsive maintenance of statewide ITS sites including CCTV camera
	and DMS. Responsible for responsive and emergency maintenance of ITS sites in Louisiana. Responsive maintenance involved
	the repair or replacement of any reported failed or malfunctioning equipment. Emergency maintenance is responsive
	maintenance that required immediate repair, such as sites requiring traveler information or incidents, and events.
01/22 – Ongoing	ITS Maintenance Retainer Contract, Alabama Department of Transportation (ALDOT), Statewide, AL. Field Supervisor:
	Responsible for <i>overseeing ITS and Communications testing, integration, and related activities</i> . Provided extensive fiber optic
	and wireless network design for approximately 400 ITS sites in Birmingham, most of which did not have existing
	communications before the project began. Worked directly with ALDOT ITS and Communications personnel that developed
	individual networks for the seven HUB buildings that effectively divided the network into separate subnets to help minimize
	the traffic impact of the nearly 900 IP addressable devices including switches, radios, cameras, radar detection, traffic signal
	controllers, and DMSs. Helped develop and implement the first 811 utility locate program in the East Central Region that has
	completed more than 300 fiber optic cable located in 14 months.

Firm employed by	ARCADIS		
Name Anthony J	ackson, IMSA III	Years of relevant experience with this employer	4
Title Senior ITS	Technician/Inspector	Years of relevant experience with other employer(s)	19
Degree(s) / Years /	Specialization	Pre-Civil Engineering Coursework / 2016 – Ongoing / B	aton Rouge Community College
Active registration	number / state / expiration date	N/A	
Year registered	N/A Discipline	N/A	
Contract role(s) / b	rief description of responsibilities	Commission Testing	
Experience dates	Experience and qualifications relev	vant to the proposed contract	
	Mr. Jackson has 23 years of experi commission testing of ITS and strue experience he has thorough know assets and systems such as COHU, others. He also has certifications a Technologies.	ence in field inspection and investigation, testing/QA, ar ictural components on LADOTD ITS and traffic signal con ledge of LADOTD standards and specification. He has cer Axis, Daktronics, ISS RTMS Traffic Detector, Trafficware s an IMSA Level III Traffic Signal Technician, and Traffic S	nd construction inspection and struction projects. Through this rtified technical trainings on ITS TS2, and Econolite Autoscope and Signal Inspector for Advance
08/21 – Ongoing	CE&I for I-10 US 61 to Laplace ITS Deployment, LADOTD, Ascension, St. James, St. John the Baptist Parishes, LA. Senior Technician/Lead Inspector: Provide field inspection and investigation services to LADOTD on ITS expansion project that include the installation of approximately 23 miles of fiber optic communications cable and conduit and the installation of ten Closed Circuit television cameras including four that will be solar powered. Responsibilities include <i>overseeing all aspects of</i> <i>construction and inspection</i> including providing support and <i>quality control oversight to the contractor during construction</i> , <i>directing field inspectors, commission testing</i> , and maintaining project documentation required by LADOTD, including Daily Worl Beports. <i>materials testing submittals</i> .		
02/19 - 08/21	CE&I for US 190 ITS Deployment, I Technician/Inspector: Provide field installation of approximately 48 m LADOTD communications network, overseeing all aspects of construct construction, directing field inspect	ADOTD, West Baton Rouge, Pointe Coupee, and Landry d inspection and investigation services to LADOTD on ITS <i>files of fiber optic communications cable, the interconnection</i> and the installation of two communications HUB buildin tion and inspection including providing <i>engineering suppo</i> ctors, <i>commission testing</i> , and maintaining project docum	Parishes, LA. Senior Sexpansion project that includes the on of four traffic signals onto the gs. Responsibilities include ort to the contractor during mentation required by LADOTD.
08/16 – Ongoing	ITS Maintenance, Engineering, and Management System (MMS), LAD of CCTV camera, Dynamic Messag maintenance of CCTV camera and and worked with the LADOTD proj Performed <i>training for and installa</i> <i>of performance measures reports</i> , If for the project. Developed proced inspections, validation and quality	d Inspection (ME&I) Retainer Contract Program Manager OTD, Statewide. Senior ITS Technician: Responsible for as e Sign (DMS), vehicle detector (VD) and ramp meter site DMS sites located throughout the state of Louisiana. De ect manager to determine safety class and critical level a tion and testing of the maintenance management system (TS Maintenance Plan, Program Management Plan (PMP) ures and checklists for the performance of maintenance control checks for maintenance activities performed un	ment (PM) and Maintenance ssisting in the routine maintenance s, and responsive/emergency veloped Traffic Control Plans (TCP) assignments for all ITS sites. (MMS). Worked on the <i>development</i> and Health and Safety Plan (HASP) activities at ITS sites. Performed site der the contract.

08/16 – Ongoing	ITS Maintenance, Engineering, and Inspection (ME&I) Retainer Routine Maintenance Task Orders – CCTV Camera, DMS, VD, and Ramp Meter, LADOTD; Statewide, LA. <i>Senior ITS Technician:</i> Responsible for assisting in routine maintenance activities that include inspecting site equipment, changing air filters, vacuuming dust out of a cabinet, cleaning CCTV domes, cleaning DMS face plates, and cleaning cooling fans, as well as record keeping. Responsibilities also include development of detailed checklist by device type; <i>integration of checklist with MMS software</i> , standardized reporting; development of routine maintenance scheduler; and coordination with statewide traffic management center (TMC), regional TMCs, and DOTD districts before, during, and after all routine maintenance activities.
08/16 – Ongoing	ITS Maintenance, Engineering, and Inspection (ME&I) Retainer Responsive Maintenance Task Orders – CCTV Camera and DMS, LADOTD; Statewide, LA. <i>Senior ITS Technician:</i> Responsible for assisting in responsive or emergency maintenance that occurs in response to malfunctioning or faulty components that prevent the normal operations of ITS devices. Also responsible for tracking a responsive maintenance ticket to see that the work is done within the defined response time based on a site location.
05/13 – 08/16	ITS Maintenance Retainer Contract – Program Management and Maintenance Management System, LADOTD, Statewide, LA. <i>Senior ITS Technician:</i> Premier duties were to integrate, troubleshoot, and perform preventative maintenance, on CCTV Cameras, DMS, VD, and Ramp Meters. <i>Performs QA/QC checks</i> after any work is performed on the routine and responsive maintenance. The site visits for quality control on maintenance activities to secure thoroughness of work against maintenance procedure. It also allows the inspection of the TCP installation, and usability for current roadway geometrical conditions.
10/19 - 08/21	CE&I for Alexandria ITS Deployment Phase 3, LADOTD, Rapides Parish, LA. <i>Project Technician:</i> Provide construction management services to LADOTD on ITS expansion project in the Alexandria metropolitan area. The ITS expansion project includes the installation of fiber optic communications cable, Dynamic Message Signs and Closed-Circuit Television cameras on US 71, US 165, and LA 28. Responsibilities include overseeing all aspects of <i>construction and inspection</i> including providing <i>engineering support to the contractor during construction</i> , directing field inspectors, <i>commission testing</i> , and maintaining project documentation required by LADOTD.
06/15 – 12/15	LADOTD District 04 Controller Upgrade Traffic Signalization and Related Work, Bienville, Bossier, Caddo, Claiborne, Desoto, Red River, Webster, Jefferson, Orleans, St. Bernard, St. Charles Parishes, Baton Rouge, LA. <i>Project Manager/Sr. Technician:</i> Participated in planning and bidding to obtain contracts for projects. Acting Traffic Control Supervisor on the project and coordinated work schedule with LADOTD. Served as Lead Technician on project and approved partial estimates and change orders. Responsible for <i>programming and testing ATC controllers, and installing GPS in the controller cabinets</i> . Maintain proper traffic control by coordinating the shutdowns of major and minor signalized intersection with state and local police departments.

Firm emplo	byed by iteris			
Name D	wight Shank		Years of relevant experience with this employer	26
Title Se	enior Engineer		Years of relevant experience with other employer(s)	17
Degree(s)	/ Years / Specialization		BS / 1981/ Physics, Summa Cum Laude, Bridgewater C	ollege
Active regi	stration number / state / ex	piration date	N/A	
Year regist	ered N/A	Discipline	N/A	
Contract ro	ole(s) / brief description of r	esponsibilities.	ITS System Integration	
Experience	e dates Experience and qu	alifications relevations	ant to the proposed contract	
	Mr. Shank serves a roles as a Systems (VDOT), integrated Connected Vehicle freeway managem development. His p Systems Center in I	s a Senior Enginee Engineer for Intel corridor projects hardware interna ent, corridor inter project experience Detroit, and comr	er for Iteris' Consulting Solutions and has been with the fi ligent Transportation Systems (ITS) projects supporting V including Connected Vehicle components for Rutgers Ur al to Iteris. Mr. Shank has extensive experience in ITS engi gration, system development, system acquisition, commu e includes the development of software systems for the N munication design for VDOT.	rm since 1998. He is currently taking irginia Department of Transportation iversity as well as supporting neering and management including inications design, and software Aichigan Intelligent Transportation
11/98 – 06	5/02 System Integration Centers, MnDOT – Office of Advanced Operations and Co Patrol.	System Integration and Evaluation Support contract for the Minnesota Transportation Operations and Communications Centers, MnDOT – St. Paul, MN. <i>Project Manager:</i> Provided system development and evaluation consulting to the MnDOT Office of Advanced Transportation Systems in the <i>software development, system implementation, and testing of Traffic</i> <i>Operations and Communications Centers</i> jointly operated by Minnesota Department of Transportation and Minnesota State Patrol.		
10/21 – Or	ngoing Smart Mobility Tes	Smart Mobility Test Ground, Rutgers University – New Brunswick, NJ . ITS Systems Engineer: Responsibilities also included system diagnostics, troubleshooting, and testing of the deployed system		
06/98 – 04	/03 Michigan Departm ITS Systems Engine Responsible for va <i>control center.</i> On <i>software</i> and ramp	Operation of the deproved system. Michigan Department of Transportation (MDOT) Intelligent Transportation System Center Development Project – Detroit, MI. ITS Systems Engineer: Mr. Shank supported development, testing, and initial operations of the traffic management center. Responsible for variable message sign control software, ramp metering control software, and system control software in the control center. Control center. On the 2070 field controller platform, responsible for development of portions of NTCIP communication software. Software		
11/19 – 12	2/23 Traveler Alert Syst development of se for state maintena This project began	Traveler Alert System, Minnesota Department of Transportation – Statewide in Minnesota. <i>ITS Systems Engineer</i> : Managed development of services to provide alerts to motorists on Minnesota roadways. Using <i>Automated Vehicle Location (AVL) data</i> for state maintenance vehicles, the <i>system provides alerts on roadside dynamic message signs (DMSs) and smartphone apps.</i> This project began in November 2019 and completed in 2023.		
04/13 - 04	/14 I-66 Active Traffic communication de Management (ATN <i>components includ</i> running sections. T	Management Impesigner for augment A) components a Ming CCTV, DMS, of This project bega	plementation, VDOT – Fairfax, VA. <i>ITS Systems Engineer</i> entation of existing Ethernet over fiber networks to sup long one of the nations most congested freeway segme <i>and traffic sensors</i> , this deployment <i>included video obst</i> n in April 2013 and completed in June 2014.	r: Mr. Shank served as port deployment of Active Traffic ints. In addition to traditional <i>ITS</i> facle detection along shoulder-

04/06 - 04/09	Nebraska Department of Resources (NDOR) System Manager – Omaha, NE. ITS Systems Engineer: Mr. Shank supported the
	acquisition and <i>deployment of District Operations Center software in a statewide</i> context in Nebraska, with initial deployment in
	Umana starting in 2006 and completed in 2009. This project included requirements development, RFP development, software
	PTC Connected Vehicle Work Zene Pilet Herrichurg DA JTC Systems Engineer and Seftware Developer: Depleved a rilet
0//1/ - 11/18	proceed vehicle work zone Pilot – Harrisburg, PA. The system's Engineer and Software Developer. Deployed a pilot
	project equipping PTC maintenance venicles with Connected venicle Onboard Units (UBUS). The UBUS transmit venicle-to-
	venicle messages to other equipped venicles and <i>venicle-to-infrastructure messages</i> to remote servers. The remote servers
	then alert smartphone users to the location of construction vehicles along the roadway, enhancing typical information provided
11/12 00/10	to travelers.
11/12 - 09/18	Connected Venicle Testbed, VDOT – Cities of Blacksburg and Fairfax, VA. ITS System Engineer: Deployed Connected Venicle
	the integration of Deedeide Equipment (DEEe) with existing and enhanced expression infractions. In this role, Wr. Shank has led
	the integration of Roadside Equipment (RSES) with existing and enhanced communication intrastructure to provide connectivity
	Connected Vehicle applications. He was responsible for management and exerctions, writers disgraphic and troublesheeting
	connected venicle applications. He was responsible for <i>management and operations, system diagnostic and troubleshooting,</i>
10/12 00/14	System testing, and maintenance of the deployed equipment.
10/12 - 06/14	Grand Rapids Divis Installations, MDOT – Grand Rapids, MI. 115 Systems Engineer: Mir. Shank supported the system design,
	deployment, Integration, and Initial operations for additional dynamic message signs near Grand Rapids, IVII on a Design/Build
	project. Integration includes communication using commercial wireless and legacy liber Ethernet devices and <i>coordination with</i>
	Statewide ATMS Software still under development.
07/22 – Ongoing	Bluespectra and VantageArgus Technical Support, Nationwide. It's systems Engineer: Wit. Shark takes on detailed analysis and
	Readside Unit (PSU) and Pluetooth reader for traffic volume and travel time applications. Mr. Shank has analyzed data traffic
	rolated to implementation of standard CV messages traffic signal controller outputs, and other Ethernet traffic traversing CV
	wireless paths, local wired connections, and sustemer field networks. Mr. Shank has collaborated with Traffic Engineers
	Information Technology specialists with Iteris and systematic someonent integrators, and software developers to perform
	technical support relating to management and operations, system diagnostic and troubleshooting, system testing, and
	maintenance
01/01 - 01/01	Control Artony/Tunnol Integrated Project Control System Claims Analysis – Boston MA Project Manager and ITS Systems
04/01 - 04/04	Engineer: Mr. Shank supported the Central Artery/Tunnel project office in defense of a claim for equitable adjustment made by
	the implementation contract of an <i>integrated ITS and facility control system</i> . He was responsible for reviewing of software
	requirements, analyzing software development process and products (briefing materials and mediation statements), and
	generation of recommendations regarding claim merit
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PERSONNEL RESUMES

GIS and Database Management Professionals

Firm em	ployed by	ARCADIS				
Name	Joshua C	Chatelain		Years of relevant experience with this employer	17	
Title	Geograp	aphic Information Systems (GIS) Analyst		Years of relevant experience with other employer(s)	7	
Degree(s	s) / Years /	Specialization		BS / 2002 / Geography, University of New Orleans		
Active re	gistration	number / state / exp	piration date	N/A		
Year regi	istered	N/A	Discipline	N/A		
Contract	role(s) / b	rief description of re	esponsibilities.	GIS Support		
Experien	ice dates	Experience and qua	alifications relevant to the pro	oposed contract		
		Mr. Chatelain has r	nore than 23 years of experie	nce using GIS for planning and analysis in the environm	ental and transportation	
		engineering fields.	He is experienced in perform	ing infrastructure mapping and assessment, transportat	ion planning and	
		analysis, data acqui	isition, environmental analysi	s, field survey oversight, and providing GIS support for I	ntelligent Transport	
1 a	1	System (ITS) project	<mark>ts.</mark> He has an experience with	n Environmental Systems Research Institute (ESRI) Aeror	autical Reconnaissance	
all to		Coverage GIS (Arce	GIS) application stack and data	a driven applications include. ArcMap, ArcCatalog, ArcGI	S Pro, ArcInfo, ESRI	
		Roads and Highway	/s, Event Editor, ArcGIS Data I	Reviewer, ArcGIS Workflow Manager, ArcGIS 3D Analyst	, ArcGIS Spatial Analyst,	
	9	ArcGIS Geostatistic	al Analyst, ArcGIS Network Ar	nalyst, Production Mapping, ArcPad, ArcGIS Collector, Fi	eld Maps, ArcGIS Model	
		Builder, ArcGIS Onl	ine/Portal, ArcGIS Enterprise,	ArcGIS Web App Builder, Experience Builder, Enterprise	e Databases, ArcSpatial	
		Database Engine, P	ython, Arcade, ArcGIS Server	, and Structured Query Language Server Management S	tudio.	
06/18 - 1	10/19	ITS System Design 8	k Integration IDIQ - I-10 Queue	e Warning Systems Engineering Analysis, LADOTD, Baton	i Rouge, LA . Probe Data	
		and GIS Analyst: Developed the first of its kind /7		<i>S Systems Engineering Analysis</i> involved the evaluation of a	Queue Warning system	
		on I-10 eastbound f	rom LA 77 to I-110. The analys	is required processing and evaluation of traffic probe data	as well as <i>LADOTD's</i>	
		crash data using Gl	S and electronic dashboarding	<i>tools</i> to identify existing traffic conditions. Prepared maps	and visualizations of	
		geospatial and proje	ect data.			
05/18-1	12/18	ITS System Design 8	Integration IDIQ – 511 Advan	ced Traveler Information System (ATIS) Integration Suppo	ort Services TO, LADOTD,	
		Baton Rouge, LA. GIS Analyst: Provided system integration and Independent Verification & Validation (IV&V) services to assist LADOTD				
		migrate from an exis	iting Advanced Traveler Informa	ation System (ATIS) 511 system that was launched in 2005 to	a brand-new system with	
		a significant number	of upgrades. <i>Wr. Chatelain as</i>	sisted with the database, mobile app, and waze integration	n support allowing the	
		project learn to acco	urately verily and validate critic	cal functionalities of the completed system. Our attention to	Doto to successfully	
		complete the project	t on-time and within budget.	ig to system requirements and project submittals allowed Lr	ADOTD to successfully	
11/14 - 0	05/15	ITS System Design 8	Integration IDIO - Advanced	Transportation Management System (ATMS) Support TC). LADOTD. Baton	
/	,	Rouge, LA. Probe D	ata and GIS Analyst; Mr. Chat	telain assisted with the INRIX data integration support a	nd provided <i>independent</i>	
	evaluation of how data can be properly integrated		lata can be properly integrated	ad with DOTD's ATMS system. Other support activities also included providing		
		comprehensive ana	lysis of INRIX data and data ap	oplications, troubleshooting INRIX data integration issues with the ATMS. reviewing		
		necessary INRIX doc	cumentation, and providing tec	chnical advisory to DOTD during various stages of data inte	gration process.	
01/21-	Ongoing	LADOA General Ser	vices Staff Augmentation Cor	ntract, LADOTD, Statewide, LA. GIS Configuration Engine	er: Responsible for	
		supporting the GIS,	/Mapping (Section 21) in cont	tinuing development of the DOTD Enterprise GIS Program	m. Worked to improve	

	business process workflows and provided training and oversight to staff members. Developed extract, transform, load processes, scripts, and geoprocessing tools that generated transportation data products and accomplish Section 21 goals. <i>Stood up web mapping applications serving data as web feature services (WFS) and web mapping services (WMS) for stakeholders to utilize in visualizing and maintaining geospatial data.</i> Worked with Section 21, Highway Safety Section, and CARTS (LSU Center for Analytics & Research in Transportation Safety) focus groups to design and develop a linear referenced enterprise Intersections data model to meet the needs of various stakeholders at DOTD. Established database schemas, datasets, tables, and methodologies that supported Intersections data migration and development, and demonstrated Intersection Program goals and concepts to stakeholders across the agency. <i>Developed an Intersection and Intersection Leg data model to conform department data to MIRE 2.0 standards including fundamental data elements (FDEs), while managing data using enterprise geodatabases for error correction and quality control.</i>
06/13 - ongoing	ITS Maintenance Retainer Contract – Program Management and Maintenance Management System, LADOTD; Statewide, LA. GIS Analyst: Responsible for <i>development and management of GIS and transportation databases. Conducted various types of</i> <i>analysis and impact calculations. Produced relevant maps, figures, and exhibits for reporting</i> and project meetings. Arcadis was
	awarded the first-ever ITS maintenance contract to establish a program to systematically provide routine and responsive maintenance for the Louisiana Department of Transportation & Development's statewide ITS infrastructure. Such infrastructure includes CCTV cameras, DMS, radar vehicle detectors, and ramp meters, totaling more than 500 sites statewide.
01/07 – 01/10	El Camino (LA 6) Corridor Widening - Environmental Assessment, Louisiana Department of Transportation & Development (LADOTD), Natchitoches Parish, LA. GIS Analyst: Performed analysis, mapping, and data development as part of the Environmental Assessment for the corridor. Conducted windshield surveys and gathered Global Positioning System data in the field that identified and mapped important features to be analyzed in the assessment. Assisted ecologist in identifying wetland areas within the project area. Developed and prepared maps and exhibited visualizing environmental data for permitting and reporting.
01/14 - 01/18	Retainer Contract for an Enterprise Linear Referencing System (LRS) System Development, LADOTD, Statewide, LA. GIS Analyst:Responsible for the <i>implementation of an Enterprise LRS using ESRI Roads & Highways</i> .Participated in discovery meetings,development of existing conditions report, development of initial R&H database model and implementation of a StatewideEnterprise LRS. Local point of contact and Associate Project Manager for the retainer contract.
01/10-01/11	City-Parish Enterprise LRS System Development, City of Baton Rouge/Parish of East Baton Rouge, Baton Rouge, LA. <i>GIS Analyst:</i> Responsible for the <i>implementation of an Enterprise LRS using Geomedia and Oracle Spatial</i> . Conducted business requirements and needs assessment, designed, built, and implemented parish wide LRS.

Firm employed by iteris						
Name Simon Illingworth, CSM			Years of relevant experience with this employer	8		
Title Software	Development Lead	b	Years of relevant experience with other employer(s)	24		
Degree(s) / Years /	/ Specialization		Computer Electronics Engineering / 1987 / Software D	evelopment and Management,		
			Mohawk College			
Active registration	number / state / e	expiration date	#42456 / FL / N/A			
Year registered	2008	Discipline	Certified ScrumMaster™ (CSM)			
Contract role(s) / b	prief description of	responsibilities.	GIS Support, Data Management and Analytics,			
Experience dates	Experience and q	ualifications releva	ant to the proposed contract			
Alter a	Mr. Illingworth se	erves as a Director	, Software Development for Iteris' Mobility Consulting S	olutions and has been with the firm		
	since 2016. He ha	as 24 years of expe	erience in the development and software verification of	innovative map-based mobile, web,		
Oe;	and tablet solution	o <mark>ns</mark> with Swift (Uni	versal iOS & tvOS), Node.js, Loopback, Java and Kotlin (<i>I</i>	Android), HTML5/CSS3, JavaScript,		
	jQuery, MySQL, P	ostgreSQL, Mongo	o, Ajax, AngularJS, and Bootstrap. He has <mark>extensive expe</mark>	rience with GEO servers and has		
	designed and dev	eloped various tra	ansportation, transit and GIS APIs, data feeds, and data	portals. Mr. Illingworth has extensive		
	experience mana	ging products, pro	jects and teams.			
06/22 – Ongoing Next Generation Data Portal Fusion Engine and 51:			Engine and 511 Website, VDOT, VA. Software Developr	<i>ment Lead</i> : Mr. Illingworth is leading		
	the <i>development,</i>	, software/data ve	rification, deployment and upgrade procedures of a new	v data portal & data management		
	fusion engine and	d 511 map website	<i>e application for VDOT that will be SOC 2 compliant,</i> leve	rages the latest technology and		
	design, while sign	nificantly increasing	g flexibility and usability. As part of this effort, Mr. Illing	worth is heavily involved with the		
creation, management, generation			and ingestion of various GEO servers, APIs and data fee	ds including WFS, TMDD, WZDx,		
	GeoRSS, GeoJSON	N, XML, GTFS, VDC	T's <i>GIS Route and TMC Network.</i>			
11/22 – 01/24	Multi-Client Mult	i-Language Conve	rsational 511 Upgrade, MTC (San Francisco Bay area), SC	CDOT, MDT, SDDOT, NDDOT and		
	WYDOT. Software	e Development Lec	ad: Led rewrite and testing of Iteris' 511 solution to be a	n AWS-based conversational 511 IVR		
	system that supports multiple languages. For MTC, we support English, Spanish, Mandarin and Cantonese. Instead of callers					
	needing to navigate a menu, the new system operates like Alexa, where the caller asks questions. For example, what is the					
	traffic between t	wo locations. In ad	ddition, this <i>project required the design, creation and m</i> a	anagement of various transportation		
07/10 12/20	and transit APIs.					
0//18 - 12/20	Next Generation	Map-Centric Cond	litions Reporting System and AIIS/511 System Generation	on, MDI and SDDI. Software		
	Development Lea	a: IVIr. IIIIngworth	led the development and validation of a next generatio	n <i>cloud-based Map-centric Conditions</i>		
	Reporting System	<i>Reporting System</i> , data fusion and management engine, APIs, website, mobile apps and IVR for MDT and SDDOT in order to				
support desktop prowsers, mobile p			Shones, lablels, 511 callers and the general public	iers. The goals of the project are to		
07/10 12/10	Second Concretion		or both operations stan and the general public.	d Mr. Illingworth lad the		
0//10 - 12/19	development and		phila applications for CDOT and SCDOT that lowerage the	a. with mingworth led the		
	design while sign	vificantly increasing	pute applications for GDOT and SCDOT that leverage the	e to improve the design usability and		
	daily relevance	inicality increasing	g performance and usability. The goals of the project an	e to improve the design, usability, and		
	ually relevance.					

12/16 - 11/17	Second Generation 511 Mobile Application, VDOT. <i>Software Development Lead</i> : Mr. Illingworth is leading the technical design, development and software verification of a year-long project to redevelop VDOT's aging mobile applications with a new look and
	greatly expanded functionality for the 2017 multimodal commuter. He <i>developed requirements</i> , user stories and refined user
	interface and user experience.
12/10 - 05/16	Ten43 Technologies, Development and Management, Lake Mary, FL. <i>Software Developer</i> : Designed, architected, and developed six native iPhone and iPad apps, Android apps, Swift tvOS app and associated server API. Created UI/UX design mockups and wire frames with InVision, OmniGraffle and Balsamiq. Conceived and developed Advanced 911, an iPhone app and an Android app that allows users to instant message, send photos and their location to 9-1-1 centers running the call taker app. <i>App uses GPS</i> to determine which 9-1-1 centers are available for their location. Four levels of redundancy helps ensure the user gets the help they need. App <i>utilizes GPS, mapping, SMS, XMPP instant messaging, Google APIs, GeoNames,</i> Settings and Facebook Connect. Developed web version of Advanced 911 for mobile, tablet, and desktop users. This version allows users to get the help they need without having to download an app. Manage scope, strategy, schedule, reporting, prioritization, problem resolution, and quality. Introduced and manage Agile Scrum process as a Scrum Master with development, QA, and management. Presented solution and direction to federal and local government directly, at conferences, and via the web. Responsible for the vision, business model, and design of iOS, Web & Windows desktop solution. Researched market requirements, customer pain, competitors, and various pricing models to put together a business case and go to market strategy for the solution
11/13 - 11/14	Developed iPad/iPhone apps for ArdentMC, Rosslyn, VA. Software Developer: App is a cloud-based situational awareness
	collaboration solution allowing users to <i>communicate with first responders and stakeholders</i> . Added ability to create, update and plot incidents along with associated images. Import and display map layers (KML, KMZ, <i>GeoRSS</i>), images, MS Word, and PDF
	documents. Added integrated camera support so that photos could be taken and uploaded to the server. Implemented
	messaging between users. Utilized caching to reduce the network bandwidth requirement. Wrote a PhoneGap app using
	interface. Wrote controllers, directives, services, HTML5, CSS3, and Grunt. App communicates with a server via a JSON RESTILI
05/05 - 12/10	Public Safety Suite – 9-1-1 CAD/RMS/Jail/Mobile, SunGard Public Sector, Lake Mary, FL. Senior Product Manager: Responsible for
, ,	SunGard Public Sector's mobile, field reporting (incident, arrest, crash, citation, field interview reports), RMS, 9-1-1 CAD, AVL,
	NCIC/NLETS and case management solutions. Planned product roadmaps by working closely with customers, product
	management, sales, marketing, development, customer service and account management, and through competitive analysis.
	Using the Agile Scrum process, managed the on and offshore development, QA and documentation efforts to ensure product
	releases delivered on time and within budget. Built credibility, established rapport, and maintained communication with
	increase the available market, customer base and reoccurring revenue. Presented products and direction to management and to
	customers directly at conferences and via the web. Managed product life cycle from idea generation through end-of-life
	Wrote business and functional requirements and user stories for my products. Created and maintained business plans, sales kits,
	marketing material, pricing, and presentations for responsible products.

Firm employed by	iteris			
Name Tyler Normile, CSM			Years of relevant experience with this employer	7
TitleSenior Software Developer			Years of relevant experience with other employer(s)	12
Degree(s) / Years	/ Specialization		BS Computer Information Systems PennWest 2013	
Active registration	n number / state / ex	piration date	CSM 000797683	
Year registered	2018	Discipline	Certified ScrumMaster [®] (CSM)	
Contract role(s) /	brief description of r	esponsibilities.	GIS Support, Database Management and Analytics	
Experience dates	Experience and qu	alifications rele	vant to the proposed contract	
	Mr. Normile serve September 2017. I management syste managing applicat proven experience	s as Senior Soft He has over 11 ems), networkir ions that are pa in implementin	ware Developer for Iteris' Mobility Consulting Solutions a years of experience working in the fields of software deve ag and systems administration. Mr. Normile has extensive art of a core business product, especially those with GEO s ag new applications to run in parallel to existing systems.	nd has been with the firm since elopment, databases (database e experience in developing and servers and GIS enabled products. Has
10/17 - 07/22	South Dakota 511, SDDOT, Statewide, SD. Software Developer: Mr. Normile managed all aspects of data ingest of road conditions, incidents, construction and weather for normalization and dissemination over 511 web, mobile, IVR, My511 and social media channels. As a team member, he also supported the release of an <i>upgraded Iteris Roadway Data Management System with GIS capabilities</i> .			
09/17 - 09/22	2 Virginia 511, VDOT, Statewide, VA. Software Developer: Mr. Normile led management and developm			development of all data ingests used
	including WES enabled feeds inside		s involved developing new realures within existing applications travel	times DMS transit and Waze events
	Mr. Normile was a	lso <i>responsible</i>	for producing GIS based feeds (geoison) and other API en	dooints used by Iteris web and mobile
	anns IVR My511	alerts social me	in producing on based reeds (geojson) and other Arren	upoints used by items web and mobile
12/17 - 09/22	Virginia 511 Truck	Parking, VDOT.	Statewide, VA. Software Developer: Mr. Normile develop	ed a process to record and distribute
	truck parking infor	mation in real-	<i>time</i> for determining which truck-eligible rest areas have	available parking. The data was also
	uploaded in real-ti	me to the Park	My Truck Mobile application.	
01/18-09/22	Metropolitan Tran	sportation Com	mission (MTC) 511– San Francisco Bay Area, CA. Softward	e Developer: Mr. Normile supported
	all operations and	maintenance a	spects of the MTC511 service. This includes leading a proj	ject to enhance the MTC road
	network by <i>utilizin</i>	g GIS mapping	software to create roadway geometry for 9 previously un	<i>covered roadways,</i> enabling usage
	with the MTC511 s	ervice. Additio	nally, Mr. Normile <i>developed a low-cost interactive mapp</i>	<i>ing tool</i> that enabled stakeholders the
	ability to review ex	isting, future a	nd updated routes using <i>a MapBox basemap</i> .	
10/18 - 03/19	South Carolina 511	. HERE Transitio	on, SCDOT, Statewide, SC. Software Developer: Mr. Normi	le supported the data ingest and
	dissemination aspe	ects of the SC51	1 service. He supported the transition from Inrix to HERE	tor traffic related data such as travel
	times and congest	ions, in addition	to relating congestion locations to descriptive landmark	s for use over all 511 dissemination
	channels. He supp	boriotornal dat	repsiles mapping transition from inrix to OpenstreetMap	, while utilizing a HERE traffic speeds
	enable improved t	raffic manager	a sources, the upgraded solution neiped to uncover duva	niceu performance measures lo

09/17 - 03/19	South Carolina 511 Traffic Tiles Map server, SCDOT, Statewide, SC. Software Developer: Mr. Normile managed map server
	operations for producing traffic tiles used by the 511-website from raw speed detector data sourced from Inrix. The map server
	utilized a Postgres/PostGIS database for maintaining the underlying road segments and correlating normalized speed data. He
	also oversaw development and deployment of quarterly road network updates.
09/17-09/21	Georgia 511 Traffic Tiles Map Server, GDOT, Statewide, GA. Software Developer: Mr. Normile managed map server operations
	for producing traffic tiles used by the 511-website from DOT and BlueTOAD speed detectors. The <i>GEO map server</i> utilized a
	Postgres/PostGIS database for maintaining the underlying road segments and correlating normalized speed data. He also
	oversaw development and deployment of road network changes or detector addition/removals.
09/18 - 12/19	South Carolina / Georgia Evacuation Layer Map Server, SCDOT / GDOT, Statewide, SC / GA. Software Developer: Mr. Normile
	managed map server operations for producing an evacuation routes map layer for state 511 websites. The map server utilized a
	Postgres/PostGIS database for maintaining the underlying road segments and alternative paths for each route identified for
	evacuation purposes.
03/19-07/19	Real Time Transit Sync System, Metropolitan Transportation Commission (MTC), San Francisco Bay Area, CA. Software
	Developer: Mr. Normile developed a system to update real time transit information in support of 20+ transit agencies and 30k+
	transit stops. The system utilizes Amazon Polly to generate professional sounding text-to-speech audio files for all supported
	agencies' routes, directions and stops. The systems real time data is supported in English and Spanish.

Firm er	nployed by	/// metric			
Name	John Batt	ttle Jr., PMP		Years of relevant experience with this employer	20
Title	Traffic Op	Fraffic Operations Section Leader		Years of relevant experience with other employer(s)	0
Degree	e(s) / Years /	Specialization		AS / 2003 / Computer Animation, Full Sail University	
Active r	registration	number / state / ex	piration date	Project Management Professional #3159484 / FL / Exp	. 11/2024
Year re	gistered	2021	Discipline	Civil Engineering	
Contrac	ct role(s) / k	prief description of r	esponsibilities.	GIS Support	
Experie	ence dates	Experience and qu	alifications relev	ant to the proposed contract	
		Mr. Battle has ove	er 20 years of ex	perience (all of which are with Metric) and currently s	serves as a Traffic Operations Project
		Manager, where h	ne has completed	hundreds of traffic studies and analyses. He also has	experience in managing a GEO server
21=	SEP .	and developing GI	S applications. A	dditionally, he served as the Data Collection Manager	for 12 years (before his promotion to
		Traffic Operations	Project Manage	r), overseeing the data collection team and all data coll	ection activities. During that time, he
		oversaw the data	collection on eve	ery Metric project, amounting to over 10,000 locations S	Statewide. Mr. Battle is a task lead on
		many traffic contra	acts and provides	s Traffic Operations design support to all of Metric's des	ign projects throughout the State as a
		Lead Designer. He	e is experienced i	In all aspects of traffic design and the data collection r	leeded to complete a wide variety of
02/20-	Ongoing		Manager EDOT	District 7 EL Project Manager: Matric was awarded thi	s project to implement (V technology
02/20	connecting the Downtown Tampa a			area to western portions of Orlando. The I-4 ERAME pro	iect deployed an advanced Integrated
				m consisting of next generation traffic incident manager	ment work zone traffic management
	road weather alerts, back-of-queue			e warning, and speed harmonization message systems	such as vehicle-to-infrastructure (V2I)
		via approximately	, 700 RSUs with D	SRC radios and Cellular Vehicle-to-Everything (C-V2X) ca	pabilities. The project is <i>designed and</i>
		implemented usin	g the System Ma	nager Approach to ensure design consistency as well a	s seamless integration with District 1,
	District 5, District 7, Florida's Turng			ike Enterprise, and numerous local agencies. The I-4 FRA	ME project covers 77 miles of I-4, 122
		miles of other limi	ted-access route	s, and signalized arterial roadways with a total of 491 t	raffic signals. The final products to be
		submitted include	Systems Engine	<i>ering Analysis and associated documentation,</i> the com	plete design for each corridor and all
		signalized intersec	tions within then	n, and the selection, <i>integration, testing and verification</i>	of all CV devices.
01/21 -	- Ongoing	Professional Desig	n Services for AT	MS, (2021 – 2024), Manatee County, FL. Project Manag	er: This project includes provisions for
		county wide Adva	nced Transportat	tion Management Systems (ATMS) and includes projec	t management and data collection. It
		also involves the re	eview of the data	a to create preliminary and final designs that include <i>ne</i>	twork design and cost opinions for the
		AIMS features that	at are in the proj	<i>ect.</i> The design is for fiber-optic based communication	infrastructure and a variety of ATMS
	devices like Advance Traffic Contro			liers (ATC) replacement, Advance Venicular Detection Sy	stems (ADS), Blue looth based Travel-
	Microwayo Vobielo Dotoction Syste			m (MVDS) and Dynamic Trail Blazing Signs (DTBS). The m	and of this project is to achieve groater
	network officioney/ring structure			net connectivity and network-communication redunda	ncv
05/21 -	- Ongoing	Transportation Svs	stem Manageme	nt & Operation (TSM&O) Engineering Analysis and Mind	or Design – Continuing (2021 – 2026)
55,21	011201112	FDOT District 7, FL	. Project Manaq	er: This project includes providing a range of engineering	ng, planning and technical services to
		establish and supp	port the Transpo	rtation System Management and Operations (TSM&O)	program within FDOT District 7. The

	objective is to maximize efficiency of transportation systems by focusing on mobility outcomes, such as travel time reliability.
	There will be a <i>performance driven approach for solving arterial congestion and traffic problems in which Intelligent Transportation</i>
	Systems (ITS) is utilized to locate and correct congestion causes in real-time. Task Work Orders will be assigned by District 7 related
	to technical support, strategic planning, studies and conceptual plans, deployment of ITS components and public involvement.
	Other activities include reviewing and developing plans and specifications for design or design-build contracts to install TSM&O
	<i>field devices;</i> reviewing project requirements and hardware configuration analysis; developing proper sequencing, cost
	estimating, scheduling and coordination of ITS projects; <i>performing system engineering analyses;</i> reviewing the utilization of
	systems devices hardware and software; and coordinating and assisting the TSM&O/ITS Program Office.
09/17 – Ongoing	Continuing Services Contract (CSC) for Integrated Corridor Management (ICM) - Freeway/Arterial – Operations (2017 – 2021)
	(2021 – 2026), FDOT District 5, FL. Project Manager: The FDOT ICM project seeks to improve overall operations and mobility in
	the Central Florida area; specifically, through the operation and management of the Regional Traffic Management Center (RTMC)
	and associated programs on both the freeway and arterial systems. Metric functions as an extension of the Department's
	resources, providing professional services for a wide range of engineering, technical, management and administrative services to
	assist with numerous TSM&O projects within the work program. General work elements include RTMC staffing and operations
	for both freeways and arterials, project management, integration, TIM/first responder coordination, and public information
	assistance. The current ICM footprint covers nine Freeways and 12 Arterials within Counties/Cities with 452 traffic signals
	in six jurisdictions (City of Maitland, City of Orlando, City of Winter Park, Seminole County, Orange County, and Osceola
	County). TSM&O strategies are being utilized and synthesized by our RTMC staff as they integrate the operations of freeway and
	arterials to improve the travel time reliability of existing transportation network (arterials and freeways). <i>Metric has held this</i>
	contract for two consecutive terms including (2017 – 2021) (2021 – 2026).
11/17 - 11/21	I-75 On- and Off-System F.R.A.M.E. (Florida's Regional Advanced Mobility Elements). FDOT District 5. FL. Project Manager: Metric
,	represented the EDOT District 5 ITS as the Systems Manager for the I-75 F.R.A.M.F. Connected Vehicles (CV) project which assists
	in the advancement of the Multimodal Integrated Corridor Management (MMICM) plan. As the Systems Manager. Metric was
	responsible for a majority of project activities, with the exception of construction, to include <i>conducting a Systems Engineering</i>
	Analysis and creation of the appropriate Systems Engineering documentation review of the Regional ITS Architecture (RITSA) and
	creation of a Project ITS Architecture (PITSA) coordinating testing and providing documentation on the various technologies to
	include Readside Units (PSUs) communicating via either Dedicated Short Panga Communications (DSPC) or Connected Vehicle to
	Functional Contractions (1903) communicating via entrer Dedicated Short hange communications (DShc) of connected vehicle to
	interenerghility. This preject was in line with the USDOT goals and contributed to increased sofety, reliability and mability needs
	interoperability. This project was in line with the OSDOT goals and contributed to increased safety, reliability and mobility needs
	using advanced CV technologies. Metric start was responsible for integrating these devices to multiple signal controllers with the
	goal of verifying the various CV-related applications: Signal Phase & Timing (SPAT), Automated Traffic Signal Performance
	Measures (ATSPM), MAP messages, Traveler Information Messages (TIM), Basic Safety Messages (BSM), Emergency Vehicle
	Protocol (EVP), Transit Signal Priority (TSP) and others related to pedestrian safety. Metric staff created detailed test plans and
	conducted extensive testing in both the lab and field environments with equipment provided by several CV vendors. As a result
	of the testing, reports were generated to guide the System Manager in their decision-making process for the <i>development of the</i>
	CV specifications and eventual decision-making on the F.R.A.M.E., SR 434, and PedSafe projects and any other future CV
	deployments. Metric was also responsible for <i>configuring, integrating, and testing all CV devices into the FDOT ITS network.</i>

Firm en	nployed by	ARCADIS						
Name Drew Knott				Years of relevant experience with this employer 17				
Title	Principle	Software Developer		Years of relevant experience with other employer(s)	4			
Degree	(s) / Years /	' Specialization		BS / 2002 / Computer Engineering, Virginia Polytechnic Institute and State University				
Active r	registration	number / state / exp	piration date	N/A				
Year re	gistered	N/A	Discipline	N/A				
Contrac	ct role(s) / k	orief description of re	esponsibilities.	Data Management and Analytics				
Experie	ence dates	Experience and qua	alifications releva	ant to the proposed contract				
		Mr. Knott has 20+ ye administration and m applications and data reporting. His databa database systems. M	ars of experience nanagement, com a models for a wid use experience inc r. Knott's softwar	with database administration, software development, enterp puter network management, data modelling, and machine le e variety of uses including transportation, process optimizati ludes Microsoft SQL Server 7-2016, Oracle 8-11g, PostgreSQI e development experience includes applications written in N	prise information technology earning. He has developed support on, and air quality monitoring and L, InfluxDB, MySQL, and several NoSQL JET C/C++ Perl Python LUA ASP PHP			
XSLT, Go, Rust, and Java. He has experience in using a wide variety of machine learning techniques including Naïve Bayesian, neural networks, genetic algorithms, and SVM systems. He has several years of experience in SQL and/or Oracle databases, and programmi languages such as Java. JavaScript. C#. VB.NET. XML, JSON.								
03/17 –	05/17	Intelligent Transporta designing and develo infrastructure includi	ation System (ITS) oping a web portal ng CCTV cameras,	Maintenance Retainer Contract, LADOTD, Statewide, LA. Sof 'to host electronic dashboards. The dashboards summarized DMS, vehicle detectors, and ramp meter sites located throu	<i>tware Engineer:</i> Responsible for <i>performance measures for ITS</i> ghout the state.			
04/10-	Ongoing	Regional Traffic Oper application based on GDOT's contractors,	Tations Program, G <i>Microsoft MVC</i> to as well as the pub	Georgia Department of Transportation (GDOT), Atlanta, GA. S provide issue tracking for traffic assets in the state of Georg lic to <i>report issues with traffic signals</i> and other road networ	<i>oftware Engineer</i> : Developed a <i>web</i> ia. This application is used by GDOT, k assets.			
07/14 -	Ongoing	Cobb Crash Data, Col ArcGIS Desktop 10.2 export/reporting too	bb County Departi to manage crash o /s. The geocoding	ment of Transportation (DOT), Cobb County, GA. <i>System Arch</i> data. <i>System design included a spatial database, import tools</i> tool used several machine learning techniques to handle situ	<i>hitect:</i> Developed a system based on c, query tools, geocoding tools, and ations where a road has many names.			
01/10 -	01/15	T2 Analytics, City of Z very large dataset for highly optimized pro-	Zeist, Netherlands <i>r traffic and road i</i> cess scaled across	. System Architect & Lead Developer: Developed a system to incident analysis. Datasets exceeding one billion records were several machines.	harvest, store, analyze, and report on a ecollected, stored, and processed using a			
02/16 -	2/16 – Ongoing Maintenance Rating Program, GDOT, Statewide, GA. System Architect & Lead Developer: Designed a statistical model to perform random state-wide sampling of the road network to determine levels of service for 18 different asset classes. Designed a mobile application to perform the collection and a web application to report the results in real time.							
02/16 -	Ongoing	Maintenance Engineering and Inspection Program, GDOT, Statewide, GA. System Architect & Lead Developer: Developed an application to manage contract packages for statewide maintenance in Georgia. Application currently manages more than \$400 million in contract dollars and provides business intelligence to help guide future spend.						
03/17 –	- 08/17 Cobb County Corridor Performance Reporting, Cobb County DOT, Cobb County, GA. System Architect & Lead Developer: Developed an application to manage contract packages for statewide maintenance in Georgia. Application currently manages more than \$400 million in contract dollars and provides business intelligence to help guide future spend.							
05/17 -	08/17	Dynamic Message Bo vendor for full <i>matrix</i> Developed the contro DMS and display the	oard Upgrades, Co A <i>DMS</i> and implem A <i>DMS</i> and implem A <i>DMS</i> and implement real-time	bb County DOT, Cobb County, GA. <i>System Architect:</i> Consulted tent the necessary <i>ITS Architecture</i> to support displaying real comply with National Transportation Communications ITS Prot traffic from BlueTOAD devices owned by the DOT.	ed with Cobb County DOT to select a -time traffic in a schematic map. tocol standards to communicate with the			

Firm employed by	Firm employed by ARCADIS								
Name Michael M	IcNeely	Years of relevant experience with this employer 8							
Title Senior Sof	ftware Developer	Years of relevant experience with other employer(s) <1							
Degree(s) / Years /	Specialization	BS / 2016 / Computer Science, University of Guelph							
Active registration	number / state / expiration date	N/A							
Year registered	N/A Discipline	N/A							
Contract role(s) / b	rief description of responsibilities.	Database Management and Analytics							
Experience dates	Experience and qualifications rele	evant to the proposed contract							
	Mr. McNeely has more than 8 yea Advanced Traveler Information So design, architecture, and implem experienced in the following area	ars of experience as a Software Developer working with I stems (ATIS). As a software development team lead at A entation of highly scalable and available websites. He is a s of expertise in C#, ASP.NET, MVC, JS/jQuery and CSS.	TS programs and data including Arcadis, he has been involved in the Iso proficient, knowledgeable, and						
06/23 – Ongoing	Arcadis Travel-IQ, Multiple Client development, deployment, and of Involved in the full software deve design and implementation, and functionality, evaluation and mar for individual clients. Led the data	s, Multiple Locations. Senior Software Developer: Arcadis peration of over 20 traveler information systems for client lopment life cycle for all Travel-IQ deployments, from dis finally continuous improvement and maintenance. Overs agement of website performance, and the development in integration for over 15 of the Travel-IQ/511 deployment	is the prime contractor for the ts across North America and globally. covery and planning to leading the een the customization of website and maintenance of website content ts.						
04/16 - 06/23	Florida 511 Advanced Traveler In Software Developer: Arcadis prov System (A715) website for the star warehouse that drives the IVR.	formation System (ATIS), Florida Department of Transpor ided the detailed design and development of a statewide te of Florida. Mr. McNeely also <i>supported the design and</i>	tation, Tallahassee, FL. <i>Senior</i> 511 Advanced Traveler Information development of the database						
04/16 - 06/23	04/16 – 06/23 511NY Travel Information System, New York State Department of Transportation (NYSDOT), Albany, NY . Senior Software Developer: Arcadis rehosted NYSDOT's 511 system on Arcadis' hosting environment and redeveloped the system to provide a full range of functions including 511ny.org website, IVR, Mobile App, Transit Trip Planner, and statewide email, SMS travel alerts and <i>integration with NYSDOT GIS data management systems</i> .								
04/16-06/23	1/16 – 06/23 Bridgeport Operations, Connecticut Department of Transportation, Newington, CT. Senior Software Developer: Arcadis provided systems engineering services and incident management planning and coordination services.								
12/20 - 06/23	511 Alberta, Alberta Transportati wide 511 system including a fully integrated IVR, and native mobile data, and images. Additional enhi- the My Alberta Digital ID authent	on, Edmonton, AB. Senior Software Developer: Delivered responsive website, Integrated Public <i>511</i> , Event Entry, V application. Integration of Snowplow tracking data, road ancements include the mobile wildlife reporting, carrier t ication system.	the <i>SaaS</i> hosted Alberta province- Winter Road Condition Reporting, I weather information system sensor raining module, and integration to						
03/13 - 01/16	Ozmos, Multiple Clients, Toronto to engage with users and help au MongoDB.	, ON. <i>Co-Founder:</i> Developed a product customization pla tomate the customization process. Uses the play framew	atform that allows e-commerce sites ork with Scala, Akka, JavaScript, and						

Firm employed by ARCADIS										
Name	Matthew	v Glasser, PE		Years of relevant experience with this employer	1					
Title	Mobility	Data Expert		Years of relevant experience with other employer(s) 10						
Degree	e(s) / Years	/ Specialization		BS / 2010 / Civil Engineering, Georgia Institute of Tech	nology					
Active registration number / state / expiration date				PE.041510 / GA / Exp. 12/2024						
Year re	gistered	2016	Discipline	Civil Engineering						
Contra	ct role(s) /	brief description of I	responsibilities.	Data Management and Analytics						
Experie	ence dates	Experience and qu	alifications relev	ant to the proposed contract						
		Mr. Glasser is a tra	ansportation data	a expert with more than 10 years of experience in ITS, tr	affic engineering and transportation					
		planning. He lever	ages best practic	es with proven innovative methods through a project's l	lifecycle. He specializes in					
		institutionalizing p	erformance man	agement through data-driven transportation, ITS, and s	ignal analytics. As GDOT's former					
12		Small and Medium	n-Sized Enterprise	es Traffic Data analytics Subject Matter Expert and curre	nt Regional Integrated					
		Transportation Inf	ormation System	(RITIS) user group co-chair, he is uniquely suited to may	ximize LADOTD's use of RITIS to					
10		understand roadw	ay performance	intricacies as well as depict a concise and visually compe	elling success story for the program.					
		Mr. Glasser also h	as extensive know	Wiedge of ITS and Traffic Signal maintenance, standards,	and guidelines; Emergency and					
12/10	04/22	Special Event Ope	rations; and train	NOT Atlanta CA Assistant Office Used Administrator of	CDOT's interstate operations					
12/19-	-04/22	Assistant State Ira	inic Engineer, GL	whility for the Office of Traffic Operations' ITS Advances	GDOT's interstate operations					
		511 TMC floor on	erations Coordin	Sincy for the Office of Trainc Operations TTS, Advanced Trainc Management System (ATMS),						
		Services and adm	inistrative service	A construction of a constructi						
		contractual negoti	iations. Proposed	and developed a comprehensive intergency third-party data acquisition management and						
		governance progra	am. thereby savir	ng an estimated \$5 million/vear in direct agency costs th	rough more efficient resource					
		<i>sharing.</i> Prepared	and managed TN	AC operations floor transition from in-person to off-site	during COVID, thereby allowing GDOT					
		to be one of the fi	rst agencies in th	e country to provide its services entirely from a remote	setting. Oversaw the pilot, study, and					
		procurement of st	randed motorist	ocation platform, which reduced the time to find motorist by 20 minutes on average and						
		won the ITS GA 20	21 Small Project	of Significance Award. <i>Reviewed, edited, and revised standards, policies, and guidance</i>						
		related to ITS tech	nologies, data go	overnance, TMC operations, incident management, and e	express lane operations.					
12/14 -	- 03/17	Assistant State ITS	Engineer, GDOT	, Atlanta, GA. Supervisor of GDOT's ITS Design/Operatior	ns/Maintenance Team and Consultant					
		Contracts: Authore	ed and managed	GDOT's ITS comprehensive maintenance contract, which	h serviced more than 3,000 devices					
		throughout Georg	ia and received t	he 2016 ITS America Best of ITS Award. Led the scoping	and contract negotiations to					
		incorporate newly	installed and crit	cal ITS infrastructure for the managed lane system, including a new emergency						
		maintenance incer	ntive program. Au	uthored and managed Road Weather Information Syster	thored and managed Road Weather Information System (RWIS) deployment program, which					
		won the 2015 ITS	GA Innovation: O	itside the Box Award. <i>Led team of engineers to develop a five-year strategic vision</i> , which						
		was used to steer	resources toward	as needed projects and program development. Oversaw	pliot study to determine					
		appropriateness o	i integrated corri	auor management, which included a strategic ITS expans	ion plan and methodology					
		uevelopment for c	pumai DIVIS plac	ement. <i>Reviewed and edited GUUT ITS policy, specificati</i>	state standards					
		L day de lor all prop	ioseu and design	ed it's deployments to verify adherence to national and	STALE STALIATUS.					

10/22 - 06/23	Regional Synchronization Performance Analysis Support, Orange County Transportation Authority (OCTA), Orange County, CA.
	Project Manager and Technical Lead: Responsible for evaluating the needs and recommending tailored enhancements for
	arterial key performance indicators (KPIs). Conducted national survey of metrics, provided an educational seminar for
	stakeholders, and hosted a series of design-thinking workshops to identify highly impactful data sources that could be shared
	between OCTA and all 34 stakeholder agencies in order to develop program goals and gauge success. <i>Provided insights into best</i>
	practices for data collection methodology, data limitation and viability, and available resources to expedite integration. Led
	technical support team to write and <i>successfully acquire a 2022 grant for a cloud-based transit signal priority system</i> , expand its
	data collection program, and retire its manually collected floating car program. Utilized knowledge of national trends, data
	quality control measures, and best practices to deliver contractual needs on a compressed schedule.
09/22 – Ongoing	SR 400 Express Lanes, GDOT, Atlanta, GA. Technical Lead: Subject Matter Expert for traffic management and operations.
	Demonstrated coordination skills in bridging the gap between design and operations teams, ensuring smooth collaboration
	throughout the project lifecycle. Provided comprehensive operations and maintenance support, ensuring continuous
	functionality of implemented solutions. Developed traffic management plan utilizing advanced modeling, traffic analysis, and
	performance management techniques. Managed project schedule to identify milestone impacts and ensure timely delivery.
	Allocated and managed personnel resources to ensure on-time delivery, accurate cost estimates, and appropriate scopes of
	work. Developed design and operations alternatives to optimize the utilization of existing GDOT data and infrastructure, thereby
	reducing project costs by >\$6M and reducing the risk for GDOT.
03/17 - 12/19	Regional Traffic Operations Program (RTOP) Manager, GDOT, Atlanta, GA. Program Manager: Administered RTOP, an active
	traffic management program that operates more than 1,900 traffic signals and associated ITS devices. Developed master
	planning document, and managed initiative to modernize the RTOP concept of operations into a statewide arterial concept of
	operations. Utilized Automated Traffic Signal Performance Measures (ATSPMs) and probe data analytics to monitor real-time
	operations, identify anomalies, and improve measured deficiencies. Proposed, evaluated, and executed plan to transition the
	state to vehicle probe data, thereby bringing speed and travel time metrics to an additional 10,000 directional miles of roadways
	at annual cost savings of over 97% per mile. Proposed and assisted with the initial public-private partnership procurement for a
	statewide fiber and wireless communication expansion. Led software development initiative creating a platform to ingest
	multiple data streams to generate regional KPI reports. Won 2020 National Operations Center of Excellence Data Management
	and Overall Winner awards.
01/23 – Ongoing	Joint Agency Data Acquisition and Management Support, GDOT, Statewide, GA. Project Manager and Technical Lead: Supported
	Atlanta Regional Commission (ARC) and GDOT's joint effort to consolidate and standardize third-party data evaluation,
	acquisition, and management practices. Led a team in researching current practices and analyzing commonalities among data
	providers. Developed comprehensive specifications to streamline data evaluation processes and ensure accuracy and
	consistency. Created a best-value evaluation approach that allowed agency members to rapidly and consistently evaluate over
	15 datasets to optimize data acquisition by minimizing costs while maximizing data quality. Developed standards for third-party
	interagency data sharing, use, and licensing. Established guidance for third-party data implementation and transition processes.
	Successfully engaged and managed stakeholders from nine teams, fostered effective collaboration and ensured the agencies'
	data gaps and overlaps were captured. Coordinated with vendors and national experts to leverage their expertise and facilitate
	seamless data solution integration.

Section 17

ITS Construction Engineering Support

COMAT'S



"Arcadis did an excellent job managing the construction of the project. The Arcadis Project Engineer and inspectors were familiar with the area of work and easily navigated between multiple work locations, DOT facilities, and contractor facilities. Arcadis personnel were equipped with all the necessary Personal Protective Equipment (PPE) needed for the working conditions as required by the DOTD Safety Manual and made sure the contractor was also in compliance of the DOTD Safety Manual PPE requirements. As mentioned above, their understanding of LADOTD CE&I standards and technical specifications resulted in the efficient execution of this project. Arcadis was able to facilitate the reduction of work originally specified in the plans due to a design error that was not addressed prior to construction letting. The resulting reduction in work allowed DOTD to install an additional CCTV camera that was not originally included in the plans"

- Alaa Shams, LADOTD US 190 ITS Deployment CE&I Project Manager

Firm name	ARCADIS				Past Perfo	rmance Evalu	ation Category(ie	ITS, Traffic, Data Collection			
Project name	I-10 CMAR ITS	Design and Tra	affic Enginee	ring Se	Services Firm responsibility (prime of				rime or sub?) Subconsultant	
Project number	H.004100 Owner's nam			ame	Louisiana Department of Transportation and Developmen				evelopment (LADOTD)	
Project location	Baton Rouge, LA				Owner's Project Manager Nicholas Olivier			olas Olivier			
Owner's address, phone, email P.O. Box 94245, Baton Rouge, Louisiana 70804-9245, 225 379 1133, Nich						Nicho	las.Oliver@l	a.gov			
Services commenced by this firm (mm/yy)			10/20	Total consultant contract cost (\$1,000's)				\$2,500			
Services completed by this firm (mm/yy) On				Cost o	ost of consultant services provided by this firm (\$1,000's)			1,000's)	\$2,500		

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Akhil Chauhan, Paul Hsu, Laura Hartley, Max Aguirre, Kester Hollier, Ari Deitch

Firm's Role: Arcadis is providing ITS design and traffic engineering services for this high-profile project to widen I-10 through Baton Rouge. These services include developing *ITS Systems Engineering Analysis (SEA), ITS design plans, ITS construction support, traffic analysis,* interchange modification report, mesoscopic modeling, Traffic Management Plan, *traffic signal timing, signal design,* and permanent signing design.

ITS Design and Construction Support

Arcadis led and *delivered 100% Signed and Sealed PS&E package for two ITS designs* simultaneously - *Smart Work Zone (SWZ) system* for Stage 1 of the I-10 construction and Permanent ITS deployment to upgrade existing ITS equipment. The designed SWZ system included 41 Portable PCMS, 26 queue detection sensors and 10 portable CCTV trailers. The permanent ITS involved relocating the existing electrical and communication system by deploying a joint utility carrier duct-bank for multiple users including LADOTD and AT&T. The design

of a 12" carrier duct with twelve innerduct conduits to support electrical and fiber optic communication needs for multiple users. Complex schematics of conduit wiring details at each ground box location were provided in the design plans. Additionally, Arcadis developed *fiber splicing and communication diagrams* to connect multiple users and projects including existing LADOTD ITS, City of Baton Rouge Traffic Signals, LSU, and I-10 CMAR duct-bank. Arcadis also provided *construction support services* including *reviewing shop drawings* and *responding to RFIs submitted by the contractor*.

Traffic Signal Design and Timing Plans

Arcadis is *developing signal design and timing plans* for permanent and temporary conditions. Traffic signal inventory was conducted for all traffic signals. Design plans include signal equipment and detection layouts, wiring diagrams, timing plans, and quantities.

Traffic Analysis

Traffic analysis and modeling are being performed to determine freeway, interchange, and corridor improvements being implemented as part of the project. Analysis

tools such as Highway Capacity Software, Sidra, and Synchro are being utilized. Traffic data collection and volume development are also being conducted to establish existing and future year conditions. Interchange Modification Reports are being developed to document the results of these analyses. All study tasks are being performed in accordance with TEPR Requirements.

Key Accomplishments

- Developed ITS Design Plans within tight project timeline
- Conducted Field Verification
- Provided Construction Cost Estimate
- Responded to RFIs for Construction
 Support
- Performed Traffic Analysis
- Developed Transportation
 Management Plan



I-10 CMAR - ITS Design Plans

Firm name	ARCADIS				ast Performance Evaluation Discipline(s)*	ITS, CE&I/OV	
Project name	Baton Rouge to Lafayette ITS-TIM Phase 2 Design Build				Firm responsibility (prime or sub?) Subconsultant		
Project number	737-99-0604 Owner's name				Louisiana Department of Transportation and Development (LADOTD)		
Project location	Baton Rouge to Lafayette, LA				wner's Project Manager	Stephen Glascock, PE, PTOE	
Owner's address,	ohone, email 1212 East H	Hwy Dr. Bator	225.379.2516 / stephen.glascock@la.gov				
Services commenced by this firm (mm/yy) 08/09 Total consu			Total consultar	ıltant contract cost (\$1,000's)		\$8,900	
Services complete	d by this firm (mm/yy)	03/11	Cost of consult	ant	services provided by this firm (\$1,000's)	\$1,150	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Akhil Chauhan, Doug Tilt, Shahram Malek, Shubhendu Mohanty

Firm's Role: ITS design, electrical, civil, and structural design; plans, specifications, cost estimates; ITS related studies and network design; fiber and wireless communication network design; VLAN design, integration and commission testing; contractor submittal reviews; engineering support during construction.

Design and Implementation: Arcadis was responsible for ITS design and integration for this design-build project. Under this contract, Arcadis designed and deployed fiber optic and wireless communications, along with CCTV cameras, RVDs, DMS, and HARs on I-10, I-49, US 90, and US 190 between Baton Rouge and Lafayette, LA. Arcadis provided a wide range of engineering and integration services including ITS design, electrical engineering, and civil and structural engineering design. Additionally, Arcadis purchased, installed, and integrated the communication electronics including field-hardened Gigabit Ethernet Switches, video encoders, and wireless broadband communication equipment. Our responsibilities included:

- Project scheduling, design plan, and material submittals and tracking; •
- Field trips to verify ITS design requirements and to meet technical specifications;
- Design of fiber optic and wireless communication, component operational diagram, communication • network diagrams; and
- Integration and commission testing of ITS sites.

Innovative Network Design Solutions: The communication network includes 96-strand fiber optic cable that provides *flexibility and future expandability to the ITS network*. To provide added reliability to the network, we designed *three layers of communication redundancy*. We also kept important considerations in mind, such as line of sight and ease of future maintenance, during our design. Our network design included the implementation of a Layer-3/Layer-2, Virtual Local Area Network (VLAN) IP addressing scheme. This integration approach provided additional network management to simplify the system.

Project Outcomes: The ITS-TIM Phase 2 project expanded LADOTD's ITS network and implemented the

technology to provide *incident management and vehicular detours around the Atchafalaya Basin area*. The network also assists in the *management of*

manage traffic incidents; provides better traveler information; and advances the safety and mobility of local travelers.

Key Accomplishments

- Developed complete ITS design plans for construction
- Provided detailed ITS communication / network design
- Designed a challenging electrical distribution and conduit system to deploy ITS equipment on Atchafalaya Basin Bridge
- Provided integration, commission testing, and technical support during construction



ITS Devices Installed for the TIM Phase 2 Design-Build

Prime Consultant: Arcadis

emergency response including hurricane evacuations. This network improves the LADOTD's and its stakeholders' ability to detect, verify, respond, and

Firm name	ARCADIS			erformance Evaluation Discipline(s)*	ITS, Traff	ic, Data Collection	
Project name	ITS System Design, Integration and System Verifi			Firm responsibility (prime or sub?)		Prime	
	Services IDIQ						
Project number	4400008172		Owner's name	Louisiana Department of Transporta	Louisiana Department of Transportation and Development (LADOTD)		
Project location	Statewide, Louisiana			Owner's Project Manager	Rosalinda B. Deville		
Owner's address,	ohone, email 1212 E. Hig	hway Drive, I	Baton Rouge, L	A 70802 / 225.379.2523 / Rosalinda.De	ville@la.go	٧٧	
Services commenced by this firm (mm/yy) 07/16			Total consult	cant contract cost (\$1,000's)		\$2,000	
Services completed by this firm (mm/yy) 0			Cost of cons	ultant services provided by this firm (\$1	\$2,000		

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Akhil Chauhan, Paul Hsu, Doug Tilt, Jeff Jones, David Ward, Joshua Chatelain, Drew Knott, Ari Deitch

Firm's Role: Through this retainer contract, Arcadis provided specialized and technically complex *ITS Systems Engineering Analyses (SEA), integration and support services,* and independent verification and validation (IV&V) services. Arcadis also assisted DOTD in *developing 30% ITS design that included technical specifications and cost estimates* to meet SEA deliverable requirements. The contract included the following task orders:

<u>I-10 Queue Warning SEA:</u> Involved a comprehensive team of ITS, Traffic, Data, and Safety engineers to complete a highly complex and first of its kind *ITS SEA involving the evaluation of a Queue Warning system* for a frequently congested corridor on I-10 eastbound from LA-77 to I-110. The analysis developed short, medium, and long-term options to provide a comprehensive approach in enhancing the traveler's safety. *Provided preliminary 30% ITS design plans* that included *Queue warning design alternative analysis, communication system integration, electrical system design recommendations, opinions*

Key Accomplishments

- Developed 30% ITS design plans
- Provided meticulous project documentations and action items tracking for all task orders
- Assisted DOTD PM with unplanned/out-of-scope tasks to address project needs
- Engaged with DOTD leadership, FHWA and project stakeholders to achieve project success



DOTD CAV Technology Team Workshops



LADOTD 511 ATIS User Interfaces

of probable costs, and design drawings.

<u>Connected & Autonomous Vehicles (CAV) Technology Team Support</u>: Arcadis provided technical support services and facilitating planning activities related to CAVs and their impact on highway infrastructure for the department's CAV technology team. The purpose of the project is to keep LADOTD updated on industry trends while preparing Louisiana for the future of transportation.

<u>Advanced Traveler Information System (ATIS) Integration Support Services:</u> Arcadis assisted LADOTD to migrate from their ATIS 511 system that was launched in 2005 to a brand-new system with a significant number of upgrades. Arcadis provided integration expertise and *technical support throughout the project implementation process*, including *contractor submittal reviews*, RFI tracking and support, scope/design/configuration changes technical support, software deployment support, and system acceptance testing (SAT) support.

<u>Video Distribution Management System (VDMS) Replacement SEA:</u> Arcadis conducted a SEA to replace LADOTD's existing VDMS and suggest a suitable option which will enhance the management and distribution of LADOTD's traffic camera video feeds. The selected concept was a hybrid system which combined benefits from local and cloud hosting sol utions and promised the most value for LADOTD.

Advanced Transportation Management System (ATMS) Upgrade Support: Assisted LADOTD in deploying a major upgrade to the existing ATMS. Arcadis provided technical support during project scheduling, data migration, system integ ration, system testing, and redundancy failover setup.

Firm name	ARCADIS			Pas	st Performance Evaluation Discipline(s)*	ITS, CE&I/OV	
Project name	Intelligent Transportation	Systems (ITS) C	E&I Services	Fir	m responsibility (prime or sub?)	Prime	
Project number	4400011306 Owner's nam			10	Louisiana Department of Transportation and Development (LADOTD)		
Project location	Statewide, Louisiana			Ow	vner's Project Manager	Lucy A. Kimbeng, PE, PTOE	
Owner's address, phone, email 1212 East Hwy Dr. Baton Rouge, LA 7080					25.379.2528 /lucy.kimbeng@la.gov		
Services commenc	ed by this firm (mm/yy)	01/18	Total consultan	t coi	ntract cost (\$1,000's)	\$3,000	
Services completed	d by this firm (mm/yy)	01/23	Cost of consultant services provided by this firm (\$1,000's)			\$1,109	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Tony Moore, Cody Lemoine, Jeff Jones, Akhil Chauhan, Tony Jackson

Firm's Role: Arcadis is currently providing Construction Engineering & Inspection (CE&I) services to the LADOTD ITS section. Key project activities include:

- Installation of traffic signal intersections.
- Installation of permanent signing.
- Installation of Guard Rail.
- Closed-circuit television (CCTV) cameras.
- Vehicle detection devices.
- Dynamic message signs (DMS).
- Communications network installations and modifications.
- Upgrades and infrastructure related to the equipment installation.
- Testing, inspection and commissioning of installed equipment, software integration performance and system acceptance testing.

Engineering Support / Construction Management: Arcadis' role is to



Key Accomplishments

- Provided prompt fabricator shop drawing Reviews
- Provided clear and concise Request for Information (RFI) responses
- Maintained work zone and TTC compliance
- Performed effective construction management
- Provided thorough documentation of all project correspondence and deliverables
- Conducted regular on-site review and inspections
- Implemented materials sampling and testing

provide engineering support services including *Request for Information (RFI) and shop drawing reviews*, and *on-site inspection* to assist the LADOTD Project Engineers and Project Managers during construction. Arcadis monitors working conditions and *temporary traffic control*, tracks individual project component installation and prepares monthly pay estimates, resolves issues related to material installation, performs QA/QC evaluation on a daily basis for equipment acceptability and quality of work performed. Construction management activities also include *coordination between LADOTD and contractors*, monthly construction progress meetings, preparation and *submittal of final As-Built Plans* and project construction records and quality assurance documents.

Major Task Orders under this contract include:

- ITS CE&I for Alexandria ITS Deployment Phase 3, H011505, Rapides Parish

 Installation of eleven Closed Circuit Television (CCTV) cameras, six poles and eight CCTV lowering devices, two Dynamic Message Signs (DMS) and two poles, 15,000 feet of *fiber optic cable and conduit*, and the connection of *sixteen signalized intersections*, one HUB building, one existing CCTV camera, and the LADOTD District office onto the LADOTD fiber optic communications network. The project had a construction cost of \$1.9 million.
- ITS CE&I for I-10, US 61 to Laplace ITS Deployment, H.013710, Ascension, St. James & St. John the Baptist Parishes Installation of approximately 120,000 feet of fiber optic cable and conduit, the installation of ten Closed Circuit Television (CCTV) cameras on seven poles to be connected onto the state communications network. Four of the CCTV cameras will be installed and powered using *solar power*. The project has a construction cost of \$3.99 million.
- ITS CE&I for LADOTD US 190 ITS Deployment, H.011511, W. Baton Rouge, Pointe Coupee, and St. Landry Parishes Installation of approximately 225,000 feet
 of fiber optic cables and conduit, the installation of two communication HUB buildings, and the interconnection of *four signalized intersections onto the state communications network*. The project had a construction cost of \$2.3 million.

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.7. Firm Experience:									
Firm name	ARCADIS			Pá	ast Performance Evaluation Discipline(s)*	Traffic, Data Collection			
Project name	Traffic Signal Design IDIQ			Fi	rm responsibility (prime or sub?)	Prime			
Project number	4400008852		Owner's name		Louisiana Department of Transportation and Development (LADOTD)				
Project location	Statewide, LA			0	wner's Project Manager	Andre Fillastre			
Owner's address,	ohone, email 1201 Capit	ol Access Road	, Baton Rouge, LA	4 70	0802, 225 242 4646, andre.fillastre@la.gov				
Services commenced by this firm (mm/yy) 12/16 Total consulta			Total consultant	sultant contract cost (\$1,000's)		\$2,000			
Services complete	02/20	Cost of consultant services provided by this firm (\$1,000's)			\$216				

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Akhil Chauhan, Ari Deitch, Tony Moore, Max Aguirre, Thomas Montz

Firm's Role: Arcadis was selected to provide traffic engineering services including traffic data collection, signal warrant analysis, intersection/corridor analysis, traffic signal inventory (TSI), and traffic signal design plans. Example task orders delivered under this IDIQ are described below:



US-90 Signal Timing Upgrades; Lafayette Parish

- Collected traffic data including classification tube counts, turning movement counts, peak period observations, and travel time information.
- Conducted traffic signal inventory for all signalized intersections.

Key Accomplishments

- Performed Traffic Data Collection •
- **Conducted Intersection & Corridor** • Analysis
- Conducted Traffic Modeling & Analysis •
- **Conducted Signal Warrant Analysis**
- Provided Traffic Signal Inventory
- Provided Signing Timing Optimization
- Performed Traffic Signal Design
- Performed corridor traffic analysis using Synchro Software.
- Developed *optimized signal timing plans* to maximize the performance of the existing network.
- All study tasks and documentation were completed in accordance with TEPR quidelines.

Optimized signal timing plan created using Synchro Software – US-90 Signal Timing Upgrades

East Baton Rouge Signal Design and Detection Upgrades; EBR Parish

- Conducted traffic signal inventory for 39 signalized intersections in EBR • Parish.
- Developed signal design plans showing equipment and detection layout, • wiring diagram, timing plans, and quantities.
- Coordinated with product manufacturers to understand capabilities, • specifications, and limitations of magnetometer detection systems.
- Designed signal equipment and detection to support *signal performance measures* for signals along critical corridors within EBR Parish.
- Construction plans and quantities were completed for all 39 signalized • intersections. Plans were developed and finalized within an expedited 6month schedule.



Signal Design Plans showing equipment layout and wiring diagram at Florida Blvd and 2nd Street – EBR Signal Design and Detection Upgrades
Firm name	iteris		Past Performance Evaluation Ca	ITS, Traffic			
Project name	ITS Architecture Development,	Evolution and Dep	loyment Support Program	Firm respons	ibility (prim	ne or sub?)	Prime
Project number	693JJ318D000015	Owner's name	ITS Joint Program Office, USDO	Г			
Project location	Nationwide		Owner's Project Mar	nager Steve	e Sill		
Owner's addres	s, phone, email 1200 New Je	rsey Avenue, Wasl	nington, DC, 20590; (202) 366-1603	3; steve.sill@do	t.gov		
Services comme	enced by this firm (mm/yy)	08/18 Tota	l consultant contract cost (\$1,00)O's)		\$9,001	
Services comple	ted by this firm (mm/yy)	Ongoing Cost	of consultant services provided	by this firm (\$	1,000's)	\$9,001	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm members involved: David Binkley, Cliff Heise, Tom Lusco

Firm's role: Iteris is the prime contractor to evolve and maintain the *National ITS Architecture* and support its deployment. Since 1996, Iteris has provided deployment support and outreach to Federal, state, and local stakeholders to assist in the interpretation of the National ITS Architecture definition and to facilitate the development of regional and project architectures. Maintenance of the architecture includes enhancing the content of the National ITS Architecture definition to include new Services, US DOT initiatives, such as cybersecurity requirements for ITS and automated vehicle concepts; as well as changes stemming from *ITS standards development* efforts and deployment experience.

In 2017, the National ITS Architecture merged what was a separately developed Connected Vehicle Reference Implementation Architecture (CVRIA) into one combined reference architecture which is now referred to as the Architecture Reference for Cooperative and Intelligent Transportation, or "ARC-IT". Iteris now supports the regions that are updating their statewide or regional architectures to include connected vehicle concepts alongside their traditional ITS. *Iteris also develops and maintains two software products to support regional and project architectures that are consistent with the common US reference:*

- The *Regional Architecture Development for Intelligent Transportation (RAD-IT)* was originally called Turbo Architecture, a planning-level tool which Iteris had previously developed. RAD-IT is an updated version of Turbo Architecture and it lets users customize the content of the national reference to highlight the needs of their region.
- The *Systems Engineering Tool for Intelligent Transportation (SET-IT)* is a brand-new project-level tool developed for ARC-IT. It uses databases containing the ARC-IT content and the Visio diagraming tool to allow users to tailor the content and diagrams that represent ITS services to meet the needs of their project.

Iteris is working on the next version of ARC-IT which will include new services and other content based on recent advances in Automated Vehicle research and deployments.

Key Accomplishments

- Leading the evolution and maintenance of National innovative ITS Architecture
- Enhancing the content of the National ITS Architecture definition to include US DOT initiatives
- Streamlined Connected Vehicle ITS Architecture

Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT)



Project name VDOT SmarterRoads ITS data portal Firm responsibility (prime or sub?) Prime	
Project number 45212 Owner's name Virginia Department of Transportation (VDOT)	
Project location Virginia Owner's Project Manager Scott Cowherd	
Owner's address, phone, email Old Highway Building, 1201 E. Broad St., 4th FL, Richmond, VA, 23219; (804) 786-2451; scott.cowherd@vdot.Virgi	nia.gov
Services commenced by this firm (mm/yy)04/17Total consultant contract cost (\$1,000's)\$320	
Services completed by this firm (mm/yy) Ongoing Cost of consultant services provided by this firm (\$1,000's) \$320	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm members involved: David Binkley, Cliff Heise, Dwight Shank

Firm's Role: Iteris *designed, developed, and deployed VDOT's SmarterRoads open data portal* (http://smarterroads.org). SmarterRoads is a cloud-based data sharing platform designed to free data from its organizational silos and make it easily accessible to agency staff, the public, the private sector, and academic institutions over the web. The platform leverages cloud services so that it can rapidly scale to support new data sets and growing numbers of data subscribers.

Project Purpose

VDOT's goal with the SmarterRoads data portal is to *increase transparency and promote innovation around Smart Communities solutions.* SmarterRoads collects and integrates data in any format and with different rates of updating (from shapefiles of collision locations that are updated quarterly to streaming real-time SPaT connected vehicle (CV) data).

SmarterRoads Data Portal

On the SmarterRoads homepage, visitors can explore the different data sets available and, if interested in obtaining access, can create an account, sign a license agreement, and subscribe to available data sets. When a user subscribes to a data set, they are issued a unique key they can use to either browse the data set on SmarterRoads or download the data set programmatically via a script. The key provides security to restrict data access to registered and subscribed users, and it also allows for analytics on which data sets users are accessing and how often, so that VDOT can understand the usage of its data sets.

VDOT envisions the SmarterRoads data portal as the go-to source for CV data sharing. The portal is already *integrating realtime signal timing data from 1,000 traffic signal controllers* as well as SPaT and MAP data from Virginia's Connected Corridor's pilot project.

Key Accomplishments

- Deployed an open data platform that frees data from its organizational silos
- Provided an interface for any user to easily interact with the datasets
- Integrated traffic signal controller and CV data into the data portal
- GIS Support / Data Analysis
- Signal Timing Coordination and Optimization



Firm name	iteris			Past Performance Evalu	ation Category(ie	es)* ITS	
Project name	ITS Architecture Support and	Maintenan	e		Firm responsibi	lity (prime or sub	o?) Prime
Project number	10414	Owner's n	ame	Florida Department of	Transportation (FI	DOT) Central Offic	e
Project location	Tallahassee, FL			Owner's Pro	ject Manager	Christine Shafik	
Owner's address, phone, email 605 Suwannee Street, MS 36, Tallahassee, FL 32399-0450; (850) 410-5615; christine.shafik@dot.state.fl.us							
Services commenc	ed by this firm (mm/yy)	06/19	Total	consultant contract co	st (\$1,000's)		\$1,000
Services complete	d by this firm (mm/yy)	Ongoing	Cost	of consultant services p	provided by this fi	irm (\$1,000's)	\$900

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm members involved: Cliff Heise, David Binkley

Firm's Role: Iteris began providing *ITS Architecture Support and Maintenance* to update the Florida Department of Transportation's (FDOT) *Statewide Intelligent Transportation Systems (ITS) Architecture* (SITSA) and *seven Regional ITS Architectures (RITSA)* to conform to the latest version of the Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT) using the Regional Architecture Development for Intelligent Transportation (RAD-IT). The scope of services also includes SITSA/RITSA Major Update Stakeholder Workshops across the state, *supporting the Department's ITS Architecture website and annual maintenance updates of the SITSA and RITSA*.





Key Accomplishments

- Updated FDOT's existing Statewide and Regional Architectures using the latest ARC-IT tools
- Providing annual maintenance for Statewide and Regional Architectures to capture technology updates
- Prepared cities and states for advancements in connected and automated vehicle technology
- Provide Iteris' continuous role as trusted advisor to FDOT and project stakeholders.

Scope of Services

Under the five-year agreement, Iteris reviews and evaluates each architecture, and defines plans for each Florida DOT region to address transportation needs with advanced technology, such as connected and automated vehicles (CAV). Iteris will also highlight opportunities for the capture and use of transportation data to support decision making in Florida in the context of the *broad view of ITS that the architecture provides.* The SITSA and RITSAs support Florida's ITS planning and deployment to encourage interoperability and CAV preparedness. At project completion, FDOT will have *Federal Highway Administration Rule 940-compliant ITS architectures* that support Florida's transportation systems management and operations (TSM&O) vision and goals, and support ITS and CAV project planning over a 10-year horizon.

Firm name	/// metric			Past Performance Evaluation Discipline(s)* ITS, Traffic, CE&I/OV				
Project name	I-4 FRAME (Florida's Regio	onal Advance	ed Mobility Elements)	Firm responsibility (prime or sub?)	Prime				
	System Manager								
Project number	445362-1-32-01		Owner's name	Florida Department of Transportation (FDOT) District 7					
Project location	FDOT District 7 (Tampa), F	Ľ		Owner's Project Manager	Ronald Chin				
Owner's address, p	Owner's address, phone, email 11201 N. McKinley Dr., Tampa, FL 33612 - (813) 975-4216 - Ronald.Chin@dot.state.fl.us								
Services commenced by this firm (mm/yy) 02/20			Total consultant contract cost (\$1,000's)		\$3,713				
Services completed by this firm (mm/yy) Ongoing			Cost of consultant se	\$2,107					

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Dale Cody, John Battle, Johnathan Katz

Firm's Role: Metric was awarded this Systems Manager project to *implement connected vehicle (CV) technology connecting the Downtown Tampa area to western portions of Orlando.* The I-4 FRAME project is deploying an advanced Integrated Corridor Management (ICM) system consisting of next generation traffic incident management, work zone traffic management, road weather alerts, back-of-queue warning, and speed harmonization message systems such as vehicle-to-infrastructure (V2I) via approximately 550 road side units (RSUs) with dedicated short range communication (DSRC) radios and Cellular Vehicle-to-Everything (C-V2X) capabilities. The I-4 FRAME project covers 72 miles of I-4, over 275 miles of other limited-access routes, and signalized arterial roadways with a total of 411 traffic signals. The project is designed and implemented using the System Manager Approach to ensure design consistency and seamless integration with District 1 (Lakeland), District 5 (Orlando), District 7 (Tampa), Florida's Turnpike Enterprise, and numerous local agencies.

Key Accomplishments

- Provided Connected Vehicles design and implementation
- Updated the Regional ITS Architecture to conform with national architecture framework
- Provide ITS technical support during construction for new deployments, upgrades, and/or replacement
- Provided system integration services including testing and configuration support
- Preparing all Systems Engineering related documentation, Project ITS Architecture (PITSA) development and Regional ITS Architecture (RITSA) updates, Stakeholder Meetings, and Requirements Traceability Verification Matrix (RTVM)).
- The complete design of the project (*ITS plans, Network and Communications Design*, Structural Design, MOT, cross-sections, etc).
- Specifications Development including Technical Special Provisions and Modified Special Provisions.
- Preparation of *Construction Cost Estimates* and Long-Range Estimate
- Selecting and assisting FDOT with Procurement Specifications and Support for all CV devices.
- Permitting and registration of all RSUs with the Federal Communications Commission (FCC).
- Configuration and Integration of all devices.
- **Subsystem and System Testing**, to include development of all Project related Test Plans.



I-4 FRAME Project Overview

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17. TITTI LAPETIERCE	<u>.</u>					
Firm name	/// metric			Past Performance Eva	luation Discipline(s)*	ITS, Traffic, CE&I/OV
Project name	I-275 Integrated Corridor	Management	Design Build	Firm responsibility (pr	ime or sub?)	Prime
Project number	443444-2-52-01, 443444	-3-52-01, 4434	145-2-52-01,	Owner's name	Florida Departmen	t of Transportation (FDOT)
	443445-3-52-01, 443445	-4-52-01, 4434	145-5-52-01		District 7	
Project location	Tampa, FL			Owner's Project Mana	nger	Edward Albritton
Owner's address,	ohone, email 11201 N. N	1cKinley Dr., Ta	ampa, FL 33612 - N	I/A - Edward.Albritton@	odot.state.fl.us	
Services commenced by this firm (mm/yy) 07/22 Total			Total consultant contract cost (\$1,000's)		\$875	
Services completed by this firm (mm/yy) Ongoing Cost of consulta			Cost of consultant	t services provided by t	his firm (\$1,000's)	\$875

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Dale Cody, Rolando Ramirez, Johnathan Katz

17 Firm Experience

Firm's Role: Metric are partnered with HSD (Lead Contractor) to deliver an Integrated Corridor Management (ICM) system along I-275 which will lay the groundwork in preparation for FDOT District 7's Tampa Bay NEXT projects. Our team is responsible for the *Systems Engineering analysis and documentation, complete ITS design, permitting, and construction of an ICM system* that will serve to improve current operations by connecting existing infrastructure with a cohesive transportation communication system. Our solution includes the *installation and integration of ITS Devices and Communications Network* including Fiber Optic Communications, Signal and ITS cabinets, Traffic Signal Controllers, Closed Circuit Television Cameras, Blankout signs, Dynamic Travel Time Signs, Video Detection Systems, Road Side Units, Bluetooth®, Network Communications, Central Signal System Upgrades, Transit Signal Priority integration, ICM Decision Support System compatibility, Cyber Security Software and Hardware System, and Grounding and Surge Protection Devices along the six project corridors.

Key Accomplishments

- Developed ITS Design Plans, Summary of Estimated Quantities, and Construction Cost Estimates
- Provided Technical Support During ITS System Deployments, Upgrades, and/or Replacement
- Updated ITS Architecture documents to meet accelerated schedule timelines

The ICM system will ultimately benefit the traveling public during current and future construction by limiting and reducing potential impacts. This project will also be *completed on accelerated schedule timelines*, including the expeditated completion of three partial corridors in an effort to launch the Tampa Bay NEXT projects. Additional supporting services for this project includes structures, survey, geotechnical, environmental, utility coordination, and more. A summary of Metric's services includes:

- Preparing all *system engineering related documentation* (SEA, SEMP, *PITSA development and RITSA updates*, Stakeholder Meetings, and creation of the RTVM).
- Provided *complete ITS design* of the project (ITS plans, Network and Communications Design, Structural Design, MOT, crosssections, etc).
- Developed specifications including *Technical Special Provisions* and *Modified Special Provisions*.



I-275 Design Build Project Overview

• Prepared *construction cost estimates*, long-range estimate & permitting and registration of all RSUs with the FCC.

443445-5 - SR 616/SPRUCE ST/BOY SCOUT BLVD FROM

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Firm name	/// metric			Past Performance Evaluation Discipline(s)*	ITS, Traffic, CE&I/OV	
Project name	I-75 On- and Off-System FI	RAME (Floric	da's Regional	Firm responsibility (prime or sub?)	Prime	
	Advanced Mobility Elements)					
Project number	440900-1 & 440900-2 Owner's name			Florida Department of Transportation (FDOT) District 5		
Project location	FDOT District 5 (Orlando), FL			Owner's Project Manager	Jeremy Dilmore, PE	
Owner's address,	(386) 943-5360 - Jeremy.Dilmore@dot.state.fl.u	JS				
Services commenced by this firm (mm/yy) 11/17		11/17	Total consultant contract cost (\$1,000's)		\$2,584	
Services completed by this firm (mm/yy) 11/21			Cost of consultar	nt services provided by this firm (\$1,000's)	\$2,584	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Dale Cody, Rolando Ramirez, Jonathan Katz, John Battle

Firms Role: As Systems Manager for the I-75 FRAME project, Metric was responsible for coordinating, testing, and providing documentation on the various ITS technologies to include Roadside Units (RSUs), vehicular On-board Units (OBUs) as well as emulated OBUs (mobile devices and/or tablets) to ensure device interoperability. This project was in line with the USDOT goals and contributed to *increased safety, reliability and mobility needs using advanced CV technologies*. Metric staff was responsible for integrating these devices to multiple signal controllers with the goal of verifying the various CV-related applications: *Signal Phase & Timing (SPaT), Automated Traffic Signal Performance Measures (ATSPM),* MAP messages, Traveler Information Messages (TIM), Basic Safety Messages (BSM), Emergency Vehicle Protocol (EVP), Transit Signal Priority (TSP) and others related to pedestrian safety. Metric staff conducted extensive testing in both the lab and field environments with equipment provided by several CV vendors. Reports were generated to guide the System Manager in their decision-making process for the development of the CV specifications and

Key Accomplishments

- Provide Connected Vehicle design and implementation on I-75 using latest ITS technologies
- Updated the Regional ITS Architecture to conform with national architecture framework
- Provided ITS technical support during construction for new deployments, upgrades, and/or replacement
- Developed complete ITS design plans for construction using MicroStation software
- Provided signal timing coordination and optimization



17 Firm Experience



eventual decision-making on the F.R.A.M.E., SR 434,

PedSafe projects, and any other future CV deployments. Metric was also responsible for *configuring, integrating, and testing all CV devices into the FDOT ITS network*.

A summary of Metric's services includes the following:

• Prepared all *System Engineering related documentation* (SEA, SEMP, *PITSA development and RITSA updates*, Stakeholder Meetings, and creation of the RTVM).

• Provided *complete ITS design* of the project (*ITS plans, network and communications design*, structural design, Maintenance of Traffic, cross-sections, etc.).

- Specifications Development including *Technical Special Provisions* and *Modified Special Provisions*.
- Preparation of *Construction Cost Estimates* and Long-Range Estimate.
- Completed required permitting and registrations of all RSUs with the FCC.
- Performed *configuration and integration of all devices*.
- Performed subsystem and system testing.
- Developed documentation of all project related *test plans*.

Firm name	GEC			P	Past Performance Evaluation Category(ies)*			ITS, Traffic, CE&I/OV, Data Collection	
Project name	Retainer Contract for ITS Design and Imp				entation Services	Firm responsibi	lity (prime or su	b?) Prime	
Project number	700-99-0538		Owner's name LA Dept of Transportation and Development						
Project location	Statewide, LA				Owner's Proj	ect Manager	Stephen Glasco	ck, PE	
Owner's address, p	phone, email	P.O. Box 9424	45, Baton Rou	ge, LA	70804, (225) 379-2516,	Stephen.glascock	@la.gov		
Services commenc	ed by this firm	(mm/yy)	09/10	Total	consultant contract cos	st (\$1,000's)		\$ 2,000	
Services complete	d by this firm	(mm/yy)	12/13	Cost c	of consultant services p	rovided by this f	irm (\$1,000's)	\$ 2,000	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm Members Involved: Thomas Swanson, Thomas Coerver, James Wheeler, Reagan Sean Johnson, Cary Bourgeois, Varaprasad Venkata

Firm's Role: GEC was selected by the LADOTD for a three year retainer contract to perform Intelligent Transportation System (ITS) services including project management and program assistance, project reporting, traffic and Systems Engineering Analyses (SEA), preparation of engineering plans, specifications, and construction estimates, GIS support services, signal planning and design and signal system timing. GEC also provided technical support during construction including shop drawing and submittal reviews, and other construction related engineering services.

A total of twelve (12) task orders were executed under this contract. The following representative projects



New Orleans Core CCTV Camera Design and Installed Under this IDIQ Contract

included the services detailed above:

 H.006761 ITS-Traffic Incident Management (TIM-Phase 3), Baton Rouge: GEC provided CE&I, electrical inspection, and reporting for the construction and integration of twelve (12) new DMS sites, forty (40) CCTV sites (new and existing), two (2) new hub sites, eleven (11) RVD sites (new and existing), and thirty (30) miles of new fiber optic network backbone elements.

Key Accomplishments

- Provided efficient project management and program assistance
- Developed ITS design plans, specifications, and cost estimates (PS&E) for 12 task orders
- Provided engineering support during construction
- Conducted traffic / feasibility studies
- Utilized creative engineering design solutions, such as the at-grade truss span over I-10 near downtown New Orleans allowing for a more optimal DMS location

 H.003667 Weigh-in-Motion (WIM) System Upgrade, Baptist, Breaux Bridge, Greenwood WIM, Hammond, Breaux Bridge, and Shreveport: GEC staff designed upgrades to the WIM system, replacing outdated technology with new systems, including design of devices in the pavement, DMS signs, and enforcement cameras. GEC provided Traffic Control Plans (TCP) and technical support during construction.

• H.009427 Core ITS Dynamic Message Signs, New Orleans: GEC was tasked by LADOTD to provide design services for the New Orleans Core ITS Project. Four of the DMS were supported on at-grade cantilever trusses and two DMS were supported on at-grade truss spans. The at-grade truss span over I-10 near downtown New Orleans consisted of one two-span continuous truss over all lanes of interstate traffic supporting 1 sign (2 total) for each direction.

Firm name	GEC			F	Past Performance Evalu	ation Category(ie	es)* ITS, Traffic	ITS, Traffic, CE&I/OV, Data Collection	
Project name	Retainer Contract for ITS Design and Im				mentation Services	Firm responsibi	lity (prime or su	b?) Prime	
Project number	4400003994		Owner's n	ame	LA Dept of Transportati	ion and Developm	ent		
Project location	Statewide, LA				Owner's Project Manager Stephen Glasco			ck, PE	
Owner's address, p	Owner's address, phone, email P.O. Box 94245, Baton Rouge, LA 70804, (225) 379-2516, Stephen.glascock@la.gov								
Services commenc	ed by this firm	(mm/yy)	04/14	Total	consultant contract cos	st (\$1,000's)		\$ 3,000	
Services complete	d by this firm	(mm/yy)	07/17	Cost	of consultant services p	rovided by this f	irm (\$1,000's)	\$ 3,000	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm members involved: Thomas Swanson, Cary Bourgeois, Thomas Coerver, James Wheeler, Varaprasad Venkata

Firm's role: GEC was selected by the LADOTD for a three year retainer contract to perform Intelligent Transportation System (ITS) services including project management and program assistance, project reporting, *traffic and Systems Engineering Analyses (SEA)*, preparation of *engineering plans, specifications, and construction estimates, electrical system design, structural design, and GIS support services*. GEC also provided *technical support during construction* including shop drawing and submittal reviews, responding to Requests for Information (RFIs), and other construction related engineering services.

A total of *nineteen (19) task orders were executed under this contract*. The following representative projects included the services detailed above:

- H.010192/H.011500: Lake Charles ITS Phase 2,3, Lake Charles: GEC staff designed and implemented ITS devices in Lake Charles Phase 2, including providing technical support during construction for *CCTVs and Dynamic Message Sign (DMS)* that connected to the existing fiber optic cable within the I-10 corridor for approximately 6 miles. Phase 3 included the SEA for the projected ITS devices for the I-210 corridor.
- H.011350: Cameron Ferry Traveler Message Signing, Cameron Parish: GEC designed the DMS to alert travelers regarding ferry operation status. Due to the frequency of flooding in the area, the DMS was placed higher than typical DMS signs. The GEC-designed ground controls allow the sign verbiage to be changed at the ferry site, providing up to date ferry status.
- H.011472: I-10 Bonnet Carre Emergency Crossings, LaPlace/Kenner: GEC staff designed the controls for the emergency movable barriers on elevated portions of I-10 which included connecting to the power source. In addition, GEC designed a DMS site which included design of the structural mount to the bridge structure. Temporary traffic control plans (TCP) were developed to facilitate long-term construction. This included TCP for a detour of WB interstate traffic via US 61 through LaPlace during construction of the overhead DMS. GEC provided technical support during construction.

Key Accomplishments

- Completed 19 ITS design PS&E projects
- Provided electrical system design for ITS
- Resolved many construction issues with valuable technical support for each task order
- Performed complex structural design for overhead DMS on the structure of I-10 Bonnet Carre Spillway Bridge
- Provided GIS Support Services for ITS asset management



Lake Charles ITS Phase 2 DMS

H.011493: LA-1 ITS Equipment Upgrade, Lafourche Parish: GEC designed the replacement of a *bridge-mounted CCTV* and ground-supported DMS along LA
1. GEC evaluated and resolved *constructability issues* and flood risk for the design and placement of the ITS system.

ITS, Traffic, CE&I/OV, Data Collection	

Describe the project including the firm's role and members involved. (Highlight members to be used in this proposal.)

Firm members involved: Thomas Coerver, Thomas Swanson, Cary Bourgeois, Varaprasad Venkata

Firm's role: GEC was selected by the LADOTD for a three year retainer contract in February 2017 to perform Intelligent Transportation System (ITS) services including project management and program assistance, project reporting, *traffic and Systems Engineering Analyses (SEA)*, preparation of *engineering plans, specifications, and construction estimates, electrical system design, structural design, and GIS support services.* GEC also provided *technical support during construction* including shop drawing and submittal reviews, and other construction related engineering services.

A total of *eighteen (18) task orders were executed under this contract*. The following representative projects included the services detailed above:

- H.012748: BR Hub Generators, Baton Rouge: LADOTD modified GEC's initial design scope to include design of emergency powered generators for all BR ITS hub sites, including 4 existing hub sites. Each site required individual assessment of the geography, available ROW, and connection to the ITS hub site. The foundation, specifications, and automatic switches were designed to allow for seamless operation in the event of a loss of power.
- H.011511: US 190 ITS Deployment, West Baton Rouge/Pointe Coupee/St. Landry Parishes: GEC designed the placement of ITS fiber optic cable and devices along the US 190 corridor for nearly 50 miles. Design included 4 CCTV cameras, drop cables to traffic signal cabinets, installation of a hub on the west side of Opelousas, and connection to existing DMS on the east side near Baton Rouge. *Pull boxes were installed on either side of a levee as a solution to keeping the project on schedule and avoiding a project delay due to permit acquisition from the Corps of Engineers*.
- H.011500: Lake Charles ITS Phase 3, Lake Charles: GEC designed the placement of ITS devices and system for 8 miles of I-210, including 14 new CCTV cameras, 4 DMS, and new hubs on each side of the I-210 loop. Staff provided design plans for *railroad permit application* for a portion of the project where cable was attached to the I-210 overpass bridge.
- H.013256: I-10 ITS Scott to Lake Charles, Jefferson Davis, Acadia and Lafayette Parishes: GEC completed the SEA report for 70 miles of the I-10 corridor, which included reviewing ITS architecture and assessing the need for communications and devices. Staff performed field visits to verify suggested devices, explored power supplies, and assessed appropriate communications and costs. GEC performed drone surveys to determine video camera height.

Key Accomplishments

- Completed 18 ITS design PS&E projects that included DMS, CCTV, Hub sites, communication systems, electrical distribution systems, backup power systems, and traffic signals
- Provided extensive field investigation during design of US 190 ITS Deployment. GEC discovered private property extended into ROW within the corridor and routed fiber optic cable around the property which resulted in schedule & cost savings
- Provided GIS support services for ITS asset management



DMS Design and Implemented under ITS Design IDIQ Contract

Section 18



GIS Support Services

Through our LADOTD Linear Referencing System (LRS) contract, our GIS professionals are responsible for developing, updating, and maintaining LADOTD's ITS inventory and maintenance database, ensuring accurate and current road and highway data.



18. Approach and Methodology:

CONTRACT UNDERSTANDING & ARCADIS TEAM

The successful completion of task orders under this IDIQ contract will require an experienced, multidisciplinary team. This team must be familiar with DOTD's ITS deployments and design process and provide industry leading ITS design and implementation expertise in advanced mobility technologies. From expansion of ITS infrastructure to upgrading its legacy sub-systems, Arcadis has worked as an extension of DOTD's ITS Section to provide integral expertise and specialized resources. Our past and current project experience has provided us the opportunity to develop working relationships with DOTD as well as local and federal stakeholders. This enables us to apply our understanding of project needs to develop context-based, cost-effective solutions that maximize return on investment for DOTD.

With our comprehensive understanding of project needs and DOTD expectations, we have assembled a deep bench of industry leading firms (GEC, Iteris, and Metric) and experienced staff to provide sufficient redundancy to ensure delivery of multiple task orders simultaneously while meeting project schedules, quality of deliverables and managing overall team workload. The Team possesses technical expertise to assist DOTD in making sure that every component under this contract's scope of services will be delivered systematically and efficiently to expand the ITS infrastructure. Paul Hsu will be the Arcadis Team PM, bringing over 20 years of experience with DOTD's ITS program. Paul will be supported by Deputy PM, Tony Moore, PE, technical leads and a multidisciplinary group of ITS planners, designers, integrators, GIS and data analytics professionals, and construction support staff.

OUR TECHNICAL APPROACH

0 90

Project Management and Program Assistance

Arcadis is prepared to assist DOTD in developing scope documents for a wide range of ITS task orders and recommend additional projects and scopes supporting DOTD's vision for the program. To scope each project, Paul will meet with the DOTD PM to discuss the project background, needs, and goals. At DOTD's request, Arcadis is prepared to develop the initial scope of services based on the meeting discussions and refine it collaboratively with the DOTD PM to make sure it accurately reflects DOTD's available budget and desired outcomes.

VALUE TO DOTD: Detailed and collaborative scoping will provide a mutual understanding of tasks and deliverables, and avoid scope revisions, supplemental agreements, and schedule impacts.



Coordination Meetings and Project Reporting

Upon receipt of each Notice to Proceed, Paul will request a *task* order kick-off meeting with the DOTD PM to review project purpose and need, scope, methodologies, communication protocols,

schedule, QA/QC plan, risk management, and data needs. Arcadis will schedule biweekly or monthly meetings with the DOTD PM to provide progress updates and will submit monthly progress reports showing schedule and % completion. Additional meetings will be held at project milestones and upon submittal of key deliverables to discuss and resolve comments.

VALUE TO DOTD: Early and ongoing communication will facilitate adherence to project schedule. Defining clear project needs will lead to cost-effective and efficient project deliverables that helps DOTD achieve project goals.

ITS/Traffic Engineering Analyses

Based on our understanding of DOTD's ITS/Traffic Engineering Analyses needs, a significant amount of work will be focused on

developing/updating DOTD's ITS Architectures. While Arcadis has completed many other engineering analyses including feasibility studies, traffic studies, traffic signal studies, and traffic simulation modeling analyses for DOTD, we will focus our discussion on ITS Architecture Development/Update to outline our approach and methodology relating to ITS/Traffic engineering analyses: **ITS Architecture Development/Update** – Since the inception of DOTD's ITS Program, it has made significant progress in completing a Regional ITS Architecture (RITSA) for each of Louisiana's ten Metropolitan Statistical Areas (MSAs). To provide a uniform systematic approach for addressing the state's ITS needs not already covered in a RITSA boundary, a Statewide ITS Architecture was also developed by DOTD with the help of statewide stakeholders. Many of these previous developed ITS Architecture documents are currently in need of updates due to changes in ITS needs, stakeholders, national ITS Architecture, etc. For this reason, our Team will assign the most experienced staff to support the maintenance of ITS Architecture documents so that they reflect the current and planned ITS systems, interconnections, and regional ITS needs. We are familiar with the federal requirements and each of the 20+ ITS Architecture reports completed by the Arcadis Team has complied with FHWA 23 CFR Part 940 concerning ITS Architecture and Standards.

To begin the ITS Architecture update process, we will first conduct a project kick-off meeting with the DOTD PM, District, and other relevant stakeholders as described in the previous section of our approach. During the meeting, we will develop a clearly defined project schedule to outline the project activities and the estimated timeline to develop/update DOTD's ITS Architecture document. A sample schedule for developing/updating a typical ITS Architecture report is provided in the following figure:



Upon completion of the kick-off meeting, we will conduct a comprehensive review of any existing ITS plans applicable to the project such as existing ITS Architecture document or ITS Master Plan to gain a comprehensive understanding of what needs to be incorporated into the new/updated report. We will identify ITS services packages to be added based on DOTD's current and future ITS needs. We will also evaluate any recent national ITS Architecture updates that would need to be followed for FHWA compliance purposes. Leveraging our Team's thorough understanding and direct experience in the development of several DOTD's existing ITS Architecture documents, we will utilize RAD-IT (formerly Turbo Architecture) and its supporting tools for ITS planning, decision making, and design. *Leveraging Iteris' expertise in the* national ITS architecture framework, we will conduct a stakeholder workshop to gather pertinent information including the assessment of needs and gaps as well as provide important updates for the attendees relating to new/emerging ITS technology developments that will be critical in the region. Once we have documented the needed information for the draft report including stakeholder roles/responsibilities, ITS service packages, projects, and agreements, we will conduct a follow-up stakeholder workshop to review any topics that may need further exploration, discussion, or clarification. The second workshop will also allow the stakeholders another opportunity to provide additional feedback relating to their ITS vision for the next 5 to 10 years. For the final report, the Arcadis Team will submit the first draft for DOTD ITS Section and PM review. Once DOTD comments have been addressed, a second draft will be distributed

to FHWA and other project stakeholders for review. We will conduct follow-up meetings with DOTD and stakeholders to discuss major comments or questions that require resolution. *We will also work closely with FHWA to address any concerns or questions during the review in order to help expedite the review process.* Our Project Team has a long history of collaborating with regional and local governments to develop ITS Architecture reports and benefit from using best practices we have established from working with many other regions and state DOTs.

<u>VALUE TO DOTD</u>: Our in-depth experience working with DOTD's ITS staff, regional partner agencies, FHWA, and the ITS assets allows us to be highly effective at developing ITS Architecture reports that meet the needs of providing a comprehensive framework for expanding DOTD's ITS infrastructure.

Engineering Plans, Specifications & Construction Estimates (PS&E)

A sample schedule for developing a typical ITS Design PS&E project is provided in the figure below.



1. ITS Design Kick-Off Meeting – The discussion will cover topics noted in previous sections of our approach. Potential risks and constraints that pose challenges for the design and construction will be identified during the kick-off

Prime Consultant: Arcadis

meeting. The project schedule will be discussed to identify project milestones and critical path dependencies such as field reviews, utility and stakeholder coordination, and potential permit processes.

2. Systems Engineering Analysis (SEA) Review, Field Verification & Site

Assessment - The initial phase of an ITS project starts with a clear understanding of the existing ITS infrastructure and the vision for the new/updated ITS system. We will review the completed SEA for the specific project to familiarize with the physical architecture, system requirements, and 30% concept design layouts before initiating the 60% detailed design phase. In coordination with DOTD, we will review user needs, functional requirements, and integration specifications to identify any changes and inconsistencies with the SEA report. With this information, we will evaluate, build consensus, and document the design approach for the ITS Project in relation to communications (fiber vs. wireless), device types, equipment spacing, and applicable strategies for system expansion, upgrading legacy systems and addressing "end-of-life" ITS equipment (replace or upgrade). Arcadis will also *identify any additional* coverage gaps that need to be addressed, and assess potential risks and constraints that pose challenges for the design and construction such as railroad agreements for wireline crossings, FAA permits for CCTV camera poles near airports, and other *utility permits* to help manage risks.

Finally, we will review relevant as-built plans and conduct a thorough field investigation and inventory to understand the existing infrastructure. This helps identify site specific deployment challenges such as conduit installation in limited ROW as well as to field verify existing conduit and ground boxes for proposed system connections.

3. 30-60% ITS Design Plans - Based on the systems engineering analysis data and the 30% concept plans, design layouts and schematics for the ITS system will begin to be developed. We will *review all relevant ITS design guidelines, specifications, and special provisions to be used in preparing the design plans*. Additional equipment detail drawings will also be developed during this stage, such as fiber allocation/splicing diagrams, termination details, structural details, foundation details, and electrical service details. We will coordinate with utility companies and begin the application process for any required permits and agreements (ex: railroad, utility, Federal Aviation Administration (FAA), etc.) to expedite the review time frame. *The utility coordination will include developing a <u>utility conflict table</u> to identify utilities by owner, assess conflicts, and verify point of contact for all utilities within project limits. We will begin assessing any existing ITS field and communication equipment that needs to be interconnected to the new design project. Our Team will design the electrical*

system and provide electrical load calculations, conductor sizing, fault protection, grounding systems, and service point coordination. We will *conduct regular cross-disciplinary coordination to mitigate potential design constraints relating to environmentally sensitive areas, utility relocations, permitting, and geotechnical features for structure foundations.* Field review (plan-in-hand) meeting(s) with DOTD will be conducted to help further verify constructability issues with the proposed equipment. Arcadis will begin developing quantities and cost estimates for the 60% submittal so that it will allow DOTD to confirm all needed bid items and any specialized equipment/material that will require additional attention. Key design considerations for ITS design may include:

Communication System and Network Design: Design the fiber splicing configuration to provide redundant path for data flow in case of a primary equipment failure or fiber break. When the primary/preferred communication system is not feasible due to cost, ROW, terrain, or other environmental limitations, alternative wireless communication options will need to be evaluated which may include Ethernet, radio, and cellular.

Locate ITS network hubs at major system/arterial interchanges to integrate ITS network from side streets with primary network along interstate system.

Coordinate with DOTD to assess and plan for an expandable ITS network to accommodate future system needs. For example, propose spare conduits in a duct-bank for future fiber installation.

Identify locations with CCTV & DMS line-of-sight/coverage gaps using 3D visualization. This analysis helps to validate proposed CCTV camera lightof-sight to address visibility challenges from noise walls, retaining walls, bridge overpass, and topography. See graphic.



3D Visualization for CCTV Line-of-Sight

Leverage innovative ideas to determine optimal placement of ITS equipment for operational strategies like permanent queue detection systems.

Co-locate suitable ITS device sites along interstate and frontage road to simplify the design and minimize future maintenance cost.

Install DMS with proper viewing angle and sign-spacing in advance of major decision points while meeting T-MUTCD requirements to avoid sign cluttering.

Design a CCTV in front and <u>close proximity</u> of DMS to provide message verification.

Considerations will be given to upgrade legacy systems to address challenges around end of life of critical assets such as existing analog CCTVs and designed to be replaced with preferred communication (fiber/cellular) Identify opportunities to leverage existing infrastructure to mount proposed ITS hardware.

Consider provisions to leverage proposed ITS networks to support emerging technologies related to Connected & Autonomous Vehicles (CAVs)

4. 90-100% ITS Design Plans – We will incorporate comments from the 60% plan review to develop the 90% plans, along with project specifications and any necessary special provisions. We will meet with DOTD and, if needed, other project stakeholders including FHWA to conduct a final plan review meeting to address any open issue items. For conflict and comment resolution, we will document and store red-lined plan sheets, a comment log matrix, and saved Blue Beam Review sessions. Arcadis will *comply with DOTD's Engineering Directives and Standards Manual (EDSM) and conduct a constructability/ biddability review to make certain that work requirements are clear, documents are coordinated, and that the ITS design plan documents assist the contractor in bidding, construction, and reduced risk to the project.*

We will complete the final plans, specifications, and cost estimates (PS&E) review checklist to verify that all information is included in 100% design plans. **5. Final ITS Design Plans** - During the final PS&E review, Arcadis will complete the checklist to make sure that all bid items and summary of estimated quantities match between each plan set and the quantities spreadsheet. We will *check that all supporting documents have been submitted and QA/QC has been completed according to DOTD guidelines*. The construction cost estimate report with valid pay items, specifications, and applicable special provisions will also be reviewed during the final QA/QC checklist. Upon final 100% design plans review by DOTD, we will address any final comments and/or questions and proceed to submit final plans.

<u>VALUE TO DOTD</u>: Our familiarity with DOTD's ITS standard design practices, equipment specifications, and plan development process allows us to reduce design changes and deliver efficient ITS designs that will seamlessly integrate with the existing ITS infrastructure.

Technical Support During Construction Review and Approve Contractor Submittals and RFIs - Cut sheets,

shop drawings, product data sheets, and any other required contractor submittals will be reviewed against construction plans, DOTD Standard Specifications for Roads and Bridges, applicable EDSMs, and all ITS Technical Special Provisions. The submittal review will be performed with an eye toward constructability and maintainability. The engineer of record will have final sign-off on contractor submittals and will be supported by our pool of qualified staff to ensure timely and thorough reviews. Arcadis will strive to develop the most cost effective and efficient solutions to address any constructability issues and unforeseen conflicts that are submitted as RFIs. For more complex issues that may arise, Arcadis will request a meeting with both DOTD and the contractor to verify the feasibility of proposed solutions before submitting a formal response to minimize the need for multiple RFIs for the same issue. *A quick turnaround time for contractor submittals and RFIs is critical to maintaining the construction schedule and minimizing costly delays.* The submittal documentation process will include a color-coded EXCEL spreadsheet showing submittal number and description, date the submittal was received, date the submittal was returned, status, and the comments included with the returned submittal.

Project Commission Testing and Integration - Arcadis will provide on-site personnel during ITS component commission testing and system integration. Arcadis will document the testing procedure and confirm that the ITS components are tested and functioning properly as designed.

<u>VALUE TO DOTD</u>: Our extensive DOTD ITS Maintenance Engineering & Inspection (ME&I) and Construction Engineering & Inspection (CE&I) staff is uniquely experienced with addressing a plethora of DOTD's ITS construction challenges. We're also familiar with DOTD's construction management software including HeadLight, SiteManager, and Material Manager.

GIS Support Services

The Arcadis Team will leverage our experience from several DOTD ITS projects that have required mapping ITS field devices, fiber networks, and maintenance inventory records to provide the GIS database support services. We will assign Team members with extensive GIS and Database expertise using ESRI ArcServer and .NET technologies. For example, Arcadis is currently providing DOTD with embedded and remote GIS staff that are operating as an extension to DOTD's GIS/IT staff to perform the day-to-day geospatial activities. We're also providing enhancement and management of DOTD's road inventory/ topographic systems including imagery and LiDAR products, asset management information, safety systems, planning functions, enterprise data analytics, reporting, and dissemination. We will provide training opportunities to DOTD's ITS staff on subject matters relating to GIS applications and *participate in* LADOTD's GIS related meetings as representatives supporting the ITS staff. Our Digital Team has experience with SQL database administration, software development in JavaScript, HTML, Python, and other widely used languages, computer network management, and data modeling.

Sections 19-21





Our Team has accumulated extensive DOTD ITS design and implementation experience throughout Louisiana.

- Baton Rouge to Lafayette ITS-TIM Phase 2
- I-10 Widening CMAR ITS and Traffic Design
- Video Distribution Management System (VDMS)

- 12. I-10 US61 to Laplace ITS Deployment CE&I

- 14. US 190 ITS Deployment CE&I
- 15. I-10 Queue Warning System CE&I
- 16. Baton Rouge to New Orleans ITS TIM -Phase I; Design Build Project
- 17. Baton Rouge Accelerated Deployment
- 18. Baton Rouge Field Installation Design
- 19. ITS Deployment Plan for Lafayette
- Consolidated Government 20. Baton Rouge ITS Telecommunications - Discovery
- & Design
- 21. Houma ITS System
- 22. Project Management Year 4, Statewide
- Houma ITS System, Phase II 23.
- 24. New Orleans Northshore Phases 1 and 2 25. New Orleans Interim Traffic Management System,
- Phase 1B 26. Project Management Year 5. Statewide
- 27. Baton Rouge Misc Tasks
- Statewide Communication Plan Update 28. Houma ITS Deployment Phase 2 CE&I
- 29. 30. Lake Charles Contraflow
- 31. Statewide Incident Management Team
- 32. Hurricane Katrina Damage Assessment
- 33. Baton Rouge Diverstion Route
- Network Support and Video Migration 34.
- Statewide System Integration Support 35. 36. North Shore Phase 2
- **37.** Northshore Phase 2
- 38. ITS TIM Phase 2
 - Relocation of Irish Bayou DMS 39.
- 40. Advanced Warning Signs for Movable Bridges
- Web Interface for Emergency Evacuation Maps 41.
- Lake Charles DMS 42.
- 43. CCCD Ferry Traveler Message Signing
- 44 ITS Traffic Incident Management TIM-Phase 3
- 45. Baptist, Breaux Bridge, Greenwood,

- 48. DMS I-10/I-12 to LA 3246 (Siegen Lane)
- 49. LA 1 Toll Plaza Building Modifications
- 50. DMS Ladder System Phase 2
- 51. DMS Ladder System Phase 4
- Automated Ferry Fare Collection 52.
- Baton Rouge ITS Deployment Phase 3 53.

- 54. I-10 Twin Spans ITS, Route I-10
- 55. Fiber Optic Mapping and Management. Statewide
- ITS Dynamic Message Signs, Kenner, LA 56.
- DMS Ladder System Phase 3 57.
- Lake Charles ITS Phase 2 58.
- 59. I-10 ITS Fiber Damage Repair
- Cameron Ferry Traveler Message Signing 60.
- 61. I-10 Bonnet Carre Emergency Crossing
- 62. CCCD Ferry Traveler Message Signing
- I-10 Atchafalaya Emergency Crossing 63.
- I-55 Emergency Crossing 64.
- LA 1 ITS Equipment Upgrade 65.
- 66. DMS Ladder System Phase 5
- I-10 Bonnet Carre Emergency Crossing 67.
- Lake Charles ITS Phase 3 68.
- Monroe ITS Phase 2 (SEA) 69.
- Monroe ITS Phase 2 (SEA) 70.
- 71. Baton Rouge Hubsites Emergency Generator
- 72. US 190 ITS Deployment
- 73. I-10 E. Jct. I-49 to LA 328
- 74. Baton Rouge Hubsites Emergency Generator
- I-10: LA 347 to Atchafalaya Floodway Bridge 75.
- 76. LA 1 ITS Equipment Upgrades
- 77. I-110 Interchange Modifications @ Terrace
- 78. Monroe ITS Phase 2
- Lake Charles ITS Phase 3 79.
- US 190 ITS Deployment 80.
- 81. Alexandria ITS Phase 2
- 82. Golden Meadow Toll CSC Standby Generator
- 83. I-12: Livingston Parish Line to US Business Overpass
- 84. I-110 Interchange Modifications @ Terrace
- Golden Meadow Toll CSC 85. Standby Generator
- ITS Scott to Lake Charles 86.
- US 190 Deployment 87.
- Fiber Optic Mapping & Management 88.
- 89. Lake Charles ITS Deployment Phase 3
- 90. Monroe Regional ITS Architecture Update
- 91. Fiber Optic Mapping and Management

"Arcadis has done an outstanding job delivering the ITS Maintenance Engineering & Inspection (ME&I) program and has exceeded my expectations. Their understanding of our ITS systems and innovative approach has resulted in significant improvements to program tracking and administration. Arcadis experience with ITS project life-cycle including planning, design, implementation, operations & maintenance has been important to bring the best solution to a problem...Arcadis provided superior project management throughout the duration of the project and exceeded my expectations. Arcadis provided the project schedule, weekly and monthly status reports regarding completed and scheduled work in a timely manner. Their invoices are on-time and with almost no errors (invoices are extremely large and complicated). Exceptional performance in communications, cooperation, and follow-up with all stakeholders."

- Erik Smith, DOTD Project Manager, ITS ME&I IDIQ Contract

- Weigh-In-Motion
 - 46. New Orleans Core ITS DMS
 - 47. DMS Ladder System

19. Workload:

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s) *	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance**
		4400016811 / H.013868.5	ITS Program Management and Operations	\$57,696
	ITC	4400016811 / H.013868.6 (A)	ITS Routine Maintenance Engineering and Inspection (ME&I)	\$65,030
	115	4400016811 / H.013868.6 (B)	ITS Responsive/Emergency Maintenance Engineering and Inspection (ME&I)	\$34,213
		4400009703 / H.000688.2	US 11 Norfolk Southern Railroad	\$3,008
		4400007175 / H.011328.2	I-49 South (Ricohoc to Berwick)	\$876,959
		4400019338 / Multiple State Project Nos	Rural Bridge Replacement Initiative Phase II	\$70,579
	Fouring on the	4400009281 / H.009932	US 80 Widening: Vancil Road to Well Road EA	\$5,343
	Environmental	4400024307 / H.015052	I-20: Widening/Ovrly (Vancil Rd-LA 34)	\$29,945
		4400025022 / H.015498.5 Recall 102225	Park Road Over Lagoon	\$35,000
SIC		4400025022 / Multiple State Project Nos	IJJA Off System Bridge Program – Env. Task Orders	\$202,346
		4400007175 / H.011328.2	I-49 South (Ricohoc to Berwick)	\$105,489
6		4400018646 / H.004100.5	I-10: LA 415 to Essen Lane on I-10 and I-12	\$321,632
Ř	Traffic	4400019379 / H.013797	LA 30: EBR PL – I-10	\$232,048
4	Traffic	4400024307 / H.015052	I-20: Widening/Ovrly (Vancil Rd-LA 34)	\$80,852
		4400023690 / H.015213.5	District 04 Pedestrian Safety Improvements	\$4,919
		4400021325 / H.012837.5	I-10 New Orleans Master Plan	\$200,981
		4400007175 / H.011328.2	I-49 South (Ricohoc to Berwick)	\$288,507
ARCA		4400016923 / H.012901.6, H.010634.6	US 90Z (Bodenger Blvd. – Stumpf Blvd.)	\$199,957
		4400027361 / H.011220.6, H.012901.6, H.010634.6	US 90 Engineering Support	\$289,346
	Road	4400019010 / H.010116.5	LA 1088: Soult and Trinity Roundabouts	\$33,307
		4400024084 / H.009300.5	CMAR Contract for Hooper Road Widening (LA 3034 – LA 37)	\$12,608
		4400024307 / H.015052	I-20: Widening/Ovrly (Vancil Rd-LA 34)	\$38,929
		4400018646 / H.004100.5	I-10: LA 415 to Essen Lane on I-10 and I-12	\$591,388
		4400025022 / Multiple State Project Nos	IJJA Off System Bridge Program – Road Task Orders	\$116,000
	Pridao	4400025022 / Multiple State Project Nos	IJJA Off System Bridge Program – Bridge Task Orders	\$176,876
	ыпаве	4400018646 / H.004100.5	I-10: LA 415 to Essen Lane on I-10 and I-12	\$124,503
		4400021325 / H.015193.1	LA 22: Tchefuncte Bridge Feasibility	\$74,315

19. Workload:

	CE&I/OV	4400025046 / H.013710.6	I-10: US 61 to LaPlace ITS Deployment (CE&I)	\$58 <i>,</i> 368
		4400025665 / H.013482.6	I-10 WBR Queue Warning System	\$410,831
	Data Collection	4400021325 / H.012837.5	I-10 New Orleans Master Plan	\$35,467

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s) *	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance**
/// metric	OTHER - Emergency Management	Contract No. 4400023722	IDIQ Contract for Debris Monitoring Statewide	\$26,957

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s) *	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance**
iteris	N/A	N/A	N/A	N/A

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s) *	Contract Number and State project number	Project name	Remaining unpaid balance**
ITS Road Bridge	ITS	44-04128, H.004273.5	I-49 Connector (Lafayette Regional Airport to I-10/I-49/US 167 Interchange) (Sub to Stantec)	\$19,447
	Road	44-04128, H.004273.5	I-49 Connector (Lafayette Regional Airport to I-10/I-49/US 167 Interchange) (Sub to Stantec)	\$411,675
		44-29193, H.004100.5 & H.004100.6	CMAR - I-10: LA 415 to Essen on I-10 and I-12 (Sub to Huval), East and West Baton Rouge Parishes	\$937,168
		44-25040, H.015342	IIJA, Off-System Bridge Program, District 61 Less EBR, S.A.#1	\$205,935
		H.013897	I-10 & I-12 College Drive Flyover Ramp Design-Build Project (Sub to Boh Bros.)	\$47,860
	Bridge	44-04128, H.004273.5	I-49 Connector (Lafayette Regional Airport to I-10/I-49/US 167 Interchange) (Sub to Stantec)	\$141,125
		44-29193, H.004100.5 &	CMAR - I-10: LA 415 to Essen on I-10 and I-12 (Sub to Huval),	\$212 200
		H.004100.6	East and West Baton Rouge Parishes	\$312,390
	S.P. # H.013897	I-10 & I-12 College Drive Flyover Ramp Design-Build Project (Sub to Boh Bros.)	\$75,000	

		44-04900, H.004540.5	Leeville to Golden Meadow, Route LA 1 Relocated, Const. Engineering Services (Sub to HNTB)	\$207,796
		44-25040, H.015342	IIJA, Off-System Bridge Program, District 61 Less EBR, S.A.#1	\$915,312
		44-05267, H.003074.5	Williams Blvd – Veterans Blvd., Route I-10, Jefferson Parish, LA	\$148,795
Envir	Environmental	44-04128, H.004273.5	I-49 Connector (Lafayette Regional Airport to I-10/I-49/US 167 Interchange) (Sub to Stantec)	\$23,274
		44-25040, H.015342	IIJA, Off-System Bridge Program, District 61 Less EBR, S.A.#1	\$32.771
		44-23074 - Multiple State Project Nos	IDIQ for CE&I Services and Staff Augmentation, District 61	\$1,484,618
		44-19950 - Multiple State Project Nos	IDIQ for CE&I, Statewide, with Majority of Work in District 03 -	\$385,439
	CE&I	44-14315 - Multiple State Project Nos	IDIQ for Painting Inspection & Environmental Monitoring with CE&I, Statewide	\$49,308
		44-23897, H.011965.6	LA 47: IWGO Bridge Rehabilitation (HBI) (CE&I) (sub to GPI)	\$1,395,704
		44,24438, H.010673.6	US 90: Harvey Canal Tunnel Rehab (CE&I), Jefferson Parish	\$1,382,306
		44-28884, H.003931.5	Calcasieu River Bridge (HBI), Calcasieu Parish	\$462,605
		44-28466, H.015504.6	CCC Decorative Lighting Construction Engineering and Inspection (CE&I)	\$798,236
		44-04128, H.004273.5	I-49 Connector (Lafayette Regional Airport to I-10/I-49/US 167 Interchange) (Sub to Stantec)	\$301,419
		44-29193, H.004100.5 & H.004100.6	CMAR - I-10: LA 415 to Essen on I-10 and I-12 (Sub to Huval), East and West Baton Rouge Parishes	\$1,561,948
	Other (Electrical)	H.013897	I-10 & I-12 College Drive Flyover Ramp Design-Build Project (Sub to Boh Bros.)	\$45,000
		44-05267, H.003074.5	Williams Blvd – Veterans Blvd., Route I-10, Jefferson Parish, LA	\$54,012
	44-11354 - Multiple State Project Nos	IDIQ Contract for Electrical Statewide-I-10	\$419,235	
		44-05660, H.012874.6	Retainer Contract for Electrical Services - I-55: LA 22 Interstate Lighting (Sub to Buchart-Horn)	\$20,153
	Other (Program Management	44-16958	Road Transfer Program Management, Statewide	\$1,166,657
		44-25040, H.015342	IIJA, Off-System Bridge Program, District 61 Less EBR, S.A. #1	\$155,100
		44-04128, H.004273.5	I-49 Connector (Lafayette Regional Airport to I-10/I-49/US 167 Interchange) (Sub to Stantec)	\$81,049
		44-29193, H.004100.5 & H.004100.6	CMAR - I-10: LA 415 to Essen on I-10 and I-12 (Sub to Huval), East and West Baton Rouge Parishes	\$312,390



<u>20. Certifications/Licenses:</u> If the advertisement requires submission of licenses and/or certificates, include them here. Otherwise, leave this section blank.

STAFF CERTIFICATION CHART SUMMARY			
Names	Relevant Certification		
ARCADIS			
Paul Hsu, PE Meets MPR No. 3	Professional Engineer – LA / PE.0035983 / Exp. 03/2025 – Electrical		
Akhil Chauhan, PE, PTOE, PTP, PMP Meets MPR Nos.1 & 2	Professional Engineer – LA / PE.0033703 / Exp. 09/2024 – Civil Professional Traffic Operations Engineer – #2544 / Exp. 11/2026 Professional Transportation Planner – #246 / Exp. 12/2024 Project Management Professional – #144676 / Exp. 08/2026 Traffic Engineering Analysis Process & Report Modules 1, 2, & 3		
Douglas Tilt Meets MPR Nos. 1 & 2	Professional Engineer – LA / PE.0033502 / Exp. 03/2026 – Civil		
Ranzy Whitiker, PE Meets MPR Nos. 3	Professional Engineer – LA / PE.34132 / Exp. 03/2025 – Electrical and Computer Engineering		
Laura Hartley, PE, PTOE Meets MPR Nos. 4 & 5	Professional Engineer – LA / PE.0039030 / Exp. 09/2024 – Civil Professional Traffic Operations Engineer – #4346 / Exp. 11/2025		
Ari Deitch, PE, PTOE, PTP, RSP <i>Meets MPR No. 4</i>	Professional Engineer – LA / PE.0041842 / Exp. 03/2026 – Civil Professional Traffic Operations Engineer – #4346 / Exp. 11/2026 Professional Transportation Planner - #690 / Exp. 07/2025 Road Safety Professional – 37 / Exp. 12/2024 ATSSA Traffic Control Supervisor Refresher – LA / Completed 02/2024 Traffic Engineering Analysis Process & Report Modules 1, 2, & 3		
Kester Hollier, PE, PTOE Meets MPR No. 4	Professional Engineer – LA / PE.0034304 / Exp. 03/2025 – Civil Professional Traffic Operations Engineer – #3928 / Exp. 11/2024 Traffic Engineering Analysis Process & Report Modules 1, 2, & 3		
Thomas Montz, PE	Professional Engineer – LA / PE.39128 / Exp. 09/2024 – Civil Traffic Engineering Analysis Process & Report Modules 1, 2, & 3		
Max Aguirre, PhD, PE, PTOE, RSP1	Professional Engineer – LA / PE.0047579 / Exp. 09/2025 – Civil Professional Traffic Operations Engineer – #5291 / Exp. 08/2025 Road Safety Professional – #636 / Exp. 08/2024 ATSSA Traffic Control Technician – LA / Exp. 09/2025 ATSSA Traffic Control Supervisor – LA / Exp. 09/2025 Traffic Engineering Analysis Process & Report Modules 1, 2, & 3		
Jeff Jones, IMSA II	Louisiana Contractors License ATSSA Traffic Control Supervisor Refresher – LA / Exp. 01/2026 ATSSA Renewal IMSA Traffic Signal Technician I – LA / Exp. 08/2024 ATSSA Renewal IMSA Traffic Signal Technician II – LA / Exp. 08/2024		

<u>20. Certifications/Licenses:</u> If the advertisement requires submission of licenses and/or certificates, include them here. Otherwise, leave this section blank.

STAFF CERTIFICATION CHART SUMMARY	
Names	Relevant Certification
	ATSSA Registered Flagger – LA / Exp. 08/2024 NFPA 70E: Standard for Electrical Safety in the Workplace FAA Part 107 SUAS DOT-FAA Remote Pilot CCTV Louisiana Fire Marshal Certification ISS - RTMS Traffic Detector Training Traffic Controller (Naztec TS1 & TS2) and Streetwise Training OSHA 10 Hour Fiber Optic Training Advanced Fiber Optic Training Pelco / Schneider Daktronics Cohu – Installer Econolite - Autoscope Maintenance Operation
Cody Lemoine	ATSSA Traffic Control Supervisor Refresher – LA State Specific – Exp. 01/2026 ATSSA Registered Flagger – LA / Exp. 08/2024 NFPA 70E: Standard for Electrical Safety in the Workplace ISS - RTMS Traffic Detector Technical Training FAA Part 107 SUAS FAA Suas Crew Resource Management DOT-FAA Remote Pilot LADOTD – Construction, Engineering, and Inspection Module LA State Civil Service – CPTP SCS Cybersecurity WBT FOA Certified Fiber Optic Technician FOA CFOS Certified Fiber Optic Specialist Motorized Mobile Platforms for Construction Daktronics Axis
Jose L Rodriguez, PE	Professional Engineer – LA / PE.0030492 / Exp. 03/2025 – Civil ATSSA Traffic Control Supervisor Refresher – LA / Completed 03/2024

<u>20. Certifications/Licenses:</u> If the advertisement requires submission of licenses and/or certificates, include them here. Otherwise, leave this section blank.

STAFF CERTIFICATION CHART SUMMARY			
Names	Relevant Certification		
Tony Jackson, IMSA III	ATSSA Traffic Control Supervisor Refresher – LA / Exp. 01/2026 ATSSA Registered Flagger – LA / Exp. 08/2024 IMSA Traffic Signal Technician III – Exp. 01/2025 Traffic Signal Inspector for Advanced Technologies – Exp. 01/2025 IMSA Traffic Signal Technician I & II IMSA Traffic Signal Inspector for Advanced Technologies – Exp. 01/2025 Daktronics Cohu		
Tony Moore, PE, IMSA II	Professional Engineer – LA / PE.0037887 / Exp. 09/2025 – Civil ATSSA Traffic Control Supervisor Refresher – LA State Specific – Exp. 01/2026 ATSSA Registered Flagger – LA / Exp. 08/2027 Traffic Engineering Analysis Process & Report Modules 1, 2, & 3		
David Ward, GISP Certified Geographic Information Systems Professional – GISP 51378 / Exp. 04/2027			
Tait Karlson, PE, PTOE Meets MPR No. 5	Professional Engineer – LA / PE.0040438 / Exp. 09/2024 – Civil Professional Traffic Operations Engineer – #3091 / Exp. 07/2026		
/// metric			
Dale Cody, PE, PTOE Meets MPR No. 5	Professional Engineer – LA / PE.0047766 / Exp. 09/2025 – Civil Professional Traffic Operations Engineer – #1206 / Exp. 11/2024 Traffic Engineering Analysis Process & Report Module 1, 2, & 3		
John Battle, PMP	Project Management Professional – #3159484/ Exp. 08/2024		
Jonathan Katz, PE	Renewal IMSA/FOA Certified Fiber Optic Tech - #CFOT_127762 / Exp. 01/2026		
	iteris		
Tom Lusco, CSEP Meets MPR No. 4	Certified Systems Engineering Professional (CSEP) #04171 / Exp. 07/30/2026		
	GEC		
Thomas Coerver, Jr., PE Meets MPR No. 4	Professional Engineer – LA / PE. 0030722 / Exp. 09/2025 – Electrical		
Thomas Swanson, PE, PTOE	Professional Engineer – LA / PE.0030139 / Exp. 09/2024 – Civil Professional Traffic Operations Engineer – #1016 / Exp. 04/2027		



LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD

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PMP® Number 1444676 PMP# Original Grant Date 16 August 2011 PMP® Expiration Date 15 August 2014

Transportation Professional Certification Board Inc.

certifies that

Akhilendea Singh Chauhan

has met all of the requirements established by the Certification Board to use the title of

PROFESSIONAL TRAFFIC OPERATIONS ENGINEER Unless withdrawn by the Certification Board this certificate number 2544 issued in Washington, D.C. is subject to the provisions for renewal November 24, 2008





Transportation Professional Certification Board Inc.

certifies that

Akhilendra Singh Chauhan

has met all of the requirements established by the Certification Board to use the title of

PROFESSIONAL TRANSPORTATION PLANNER

Unless withdrawn by the Certification Board this certificate number 246 issued in Washington, D.C. is subject to the provisions for renewal December 1.2009

PLANNER









LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD

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Transportation Professional Certification Board, Inc. certifies that

Laura E. Hartley

has met all of the requirements established by the Certification Board to use the title of

Professional Traffic Operations Engineer

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 4322 issued in Washington, DC, USA

11/20/17



PROFESSIONAL TRAFFI



Executive Director



Please be advised that your license must be in "Active" status in order for you to (a) provide or offer to provide engineering or land surveying services in Louisiana or (b) use the words "engineer", "engineering", "land surveyor", "land surveying" or any modification or derivative thereof in your name or in connection with your business or activities in Louisiana. Licensees whose licenses are in "Retired", "Inactive", or "Expired" status are prohibited from engaging in the activities described above in items (a) and (b).

LA R. S. 37:689 requires firms practicing or offering to practice engineering or land surveying in the state of Louisiana to be licensed by the Board prior to offering such services.

Transportation Professional Certification Board, Inc.

certifies that

Ariel Jacob Deitch

has met all of the requirements established by the Certification Board to use the title of

Professional Traffic Operations Engineer

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 4846 issued in Washington, DC, USA

11/20/17







Transportation Professional Certification Board, Inc.

certifies that

Ariel Jacob Deitch

has met all of the requirements established by the Certification Board to use the title of

Professional Transportation Planner

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 60 issued in Washington, DC, USA

07/17/2019

DI CINNE





Diane la Nords T Diane Morabito Chair

Transportation Professional Certification Board, Inc.

certifies that

Ari Jacob Deitch

has met all of the requirements established by the Certification Board to use the title of

Road Safety Professional

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 87 issued in Washington, DC, USA

· 12/21/2018







Prime Consultant: Arcadis





Ari Deitch

has attended Louisiana Traffic Control Supervisor

Completed: 22-FEB-2024

CEU (If Applicable): 1.5

ATSSA provides training and certification but neither constitutes employment by ATSSA. This certificate provides proof of training, not certification.



American Traffic Safety Services Association ATSSA.com



Prime Consultant: Arcadis





Transportation Professional Certification Board Inc.

certifies that

Kester Berk Hollier

has met all of the requirements established by the Certification Board to use the title of

PROFESSIONAL TRAFFIC OPERATIONS ENGINEER

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 392.8 issued in Washington, D.C., U.S. U. November 18, 2015





A Destructor





Prime Consultant: Arcadis





Date: July 23, 2018 Location: Baton Rouge, Louisiana Professional Development Hours (PDHs) Awarded: 3













presented to

Thomas Montz

for completing the

Traffic Engineering Analysis Process & Report Module 3

Date: December 3, 2018 Location: Baton Rouge, Louisiana Professional Development Hours (PDHs) Awarded: 3



John Journal



1uthorized Instructor



LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD

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Transportation Professional Certification Board, Inc.

certifies that

Max Aguirre

has met all of the requirements established by the Certification Board to use the title of

Road Safety Professional

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 636 issued in Washington, DC, USA

8|3|2021







	ATSSA TRAINED	
PROOF THIS CERTIFICAT	OF TRAINING TE HEREBY RECOGNIZES THAT	
Max Aguirre has attended Traffic Control Technician-LA State Specific Training Course		
<u>9/7/2021</u> to <u>9/7/2025</u> Training Valid Through	Languerer Director of Training	
Baton Rouge, LA Location	Aldaaas leeheelmeer President, CEO	
ATSSA provides training and co	rtification but neither constitutes employment by ATSSA.	
AT 54	American Traffic Safety Services Association ATSSA.com	

Transportation Professional Certification Board, Inc.

certifies that

Max Aguirre

has met all of the requirements established by the Certification Board to use the title of

Professional Traffic Operations Engineer

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 5291 issued in Washington, DC, USA

7/13/2022









ector Prime Consultant: Arcadis
















Training Certificate PRESENTED TO *Jeff Jones* For successful completion of a webinar presentation on Traffic Controller (Naztec TS1 & TS2) and Streetwise Training Course September 5, 2013 8 PDH's



Michael Trueblook Michael Trueblood, PE, PTOE

Facilitator

Trafficware UNIVERSITY LAPELS Continuing Professional Development Provider - CPD.0000281





























Mille me Wals

Director of Local Public

Agency Program



Certificate of Attendance

Local Public Agency Qualification Program Construction, Engineering, and Inspection Module

PRESENTED BY

Louisiana Department of Transportation and Development Louisiana Local Technical Assistance Program And The Federal Highway Administration

TO CERTIFY THAT

Cody Lemoine

HAS SATISFACTORILY COMPLETED 7 HOURS OF TRAINING

October 4, 2018 Date New Orleans, Louisiana Location



VANGUARD MAINTENANCE AND SOFTWARE TRAINING

ON: DECEMBER 27, 2018

BRIAN MCGUIRE TECHNICAL SERVICES TRANSPORTATION BUSINESS UNIT DAKTRONICS, INC.

Issuance of this certificate does not constitute expressed or implied endorsement, qualification, or certification by Daktronics.

DATE



on this 27th day of February, 2015

Randy Salminen

Educational Services Manager Axis Communication, USA

LOUISIANA STATE CIVIL SERVICE

acknowledges that

Cody Michael Lemoine

has successfully completed the training course:

CPTP SCS Cybersecurity WBT

on

February 28, 2022

This document is intended to be used solely for the purpose of documenting the individual's completion of SCS's web-based training: CPTP SCS Cybersecurity WBT





Jose Rodriguez

has attended Louisiana Traffic Control Supervisor Refresher

Completed: 29-MAR-2024

CEU (If Applicable): 0.75

ATSSA provides training and certification but neither constitutes employment by ATSSA. This certificate provides proof of training, not certification.



American Traffic Safety Services Association ATSSA.com















Awards this certificate to



Department Certifying Authority



Awards this certificate to

Anthony Jackson

Successful Completion of the Requirements for Certification in

Structural Concrete Inspection

Department Certifying Authority



LOUISIANA PROFESSIONAL ENGINEERING & LAND SURVEYING BOARD (LAPELS) 9643 Brookline Avenue, Suite 121 Baton Rouge, LA 70809 Phone (225) 925-6291 www.lapels.com Mr. Anthony James Moore License/Certificate Type - Number Expiration Date PE.0037887 09/30/2025 status: Active Please be advised that your license must be in "Active" status in order for you to (a) provide or offer to provide engineering or land surveying services in Louisiana or (b) use the words "engineer", "engineering", "land surveyor", "land surveying" or any modification or derivative thereof in your name or in connection with your business or activities in Louisiana. Licensees whose licenses are in "Retired", "Inactive", or "Expired" status are prohibited from engaging in the activities

LA R. S. 37:689 requires firms practicing or offering to practice engineering or land surveying in the state of Louisiana to be licensed by the Board prior to offering such services.

described above in items (a) and (b).



Certificate of Completion

presented to

Tony Moore

for completing the

Traffic Engineering Analysis Process & Report Module 3

January 30, 2020 Location: Baton Rouge, Louisiana Professional Development Hours (PDHs) Awarded: 3.5

July Colorne Authorized Instructor

Authorized instructor





Authorized Instructor

GIS Certification Institute

This is to certify that The Board of Directors of the GIS Certification Institute,

Upon the recommendation of the Executive Director, has conferred upon

David Ward

the distinction of

Geographic Information Systems Professional

GISP

Certificate Number 51378

Date of Initial Certification 4/25/2005

Joele allos

Jochen Albrecht GISCI President



Date of Expiration 4/25/2027

Outhous a spice

Anthony Spicci, GISP GISCI Executive Director



Transportation Professional Certification Board Inc. certifies that Tait K. Karlson has met all of the requirements established by the Certification Board to use the title of PROFESSIONAL TRAFFIC OPERATIONS ENGINEER unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 3091 issued in Washington, D.C., U.S. R. July 20, 2011 PTOE ROFESSIONAL Steven D. Hofener TRAFFIC OPERATIONS Executive Director ENGINEER











Transportation Professional Certification Board, Inc.

certifies that

Jessica Ashley Renfrow

has met all of the requirements established by the Certification Board to use the title of

Professional Traffic Operations Engineer

unless withdrawn by the Certification Board and subject to the provisions for renewal. Certificate number 4353 issued in Washington, DC, USA

11/20/17



Jeffrey F. Daniati Secutive Director





INCOSE



CERTIFIED

15-55

VES (

SYSTEMS ENGINEERING PROFESSIONAL

This hereby certifies that

Charles T. Lusco

Has successfully met all prescribed requirements and is designated by the

International Council on Systems Engineering

Certified Systems Engineering Professional

IN TESTIMONY THEREOF, WE HAVE SUBSCRIBED OUR SIGNATURES AS REPRESENTATIVES OF THE CERTIFYING BODY

12-54

CERTIFICATION NUMBER: 04171

Larty Night

VALID THROUGH: July 30, 2026



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21. QA/QC Plan:

If the advertisement requires submission of a QA/QC plan, include it here. Otherwise, leave this section blank. If a QA/QC plan is included in this section and was not required by the advertisement, it will be redacted.

Sections 22-23



Our approach is based on comprehensive experience of our local and highly-qualified multi-disciplinary people performing to highest quality standards on DOTD ITS Projects for more than 25 years - People Performing on Projects (P3).



"Paul Hsu (Project Manager) and the Arcadis Team is assisting TxDOT Corpus Christi District with several ITS design projects on I-37 and their performance has exceeded our expectations in terms of facilitating great communications relating to detailed project design activities, providing flexibility around project schedule changes, coordinating with other construction projects, and assisting with challenging permit applications. The engineering team at Arcadis went beyond the scope of the project to make sure that our needs for this project are well documented and addressed. Their staff is always available to quickly respond to our questions and project needs. They have demonstrated exceptional knowledge in ITS technologies and design expertise."

-Juan Marfil, TxDOT Corpus Christi District Director of Transportation Operations

22. <u>Sub-consultant information:</u> If one or more sub-consultants will be used, provide the name, address, point of contact and phone number for each. Otherwise, leave this section blank.

Firm Name (Name must match as registered with Louisiana's Secretary of State)	Address	Point of Contact and email address	Phone Number
ITERIS, INC.	251 Little Falls Drive Wilmington, DE 19808	Dean Gustafson dgustafson@iteris.com	434-242-8181
METRIC ENGINEERING, INC.	13940 SW 136 Street, Suite 200 Miami, FL 33186	Craig Carnes craig.carnes@metriceng.com	904-260-1567
G.E.C., INC.	8282 Goodwood Blvd. Baton Rouge, LA 70806	Sherri LeBas slebas@gecinc.com	225-445-3809

23. Location:

If location is an evaluation criterion for this advertisement and the prime consultant intends to establish a local presence, describe the plan for doing so. Otherwise, leave this section blank. Any information included in this section will be redacted if not required by the advertisement.

"LADOTD contracted Arcadis to provide support to the LADOTD Connected Autonomous Vehicle (CAV) Team. This team includes personnel from throughout DOTD's organization and is focused on developing policy's associated with CAV, and positioning LADOTD for future CAV advancements...Arcadis also drafted the LADOTD Autonomous Commercial Motor Vehicle (ACMV) Policy and Forms. Arcadis did a great job developing the quarterly CAV technology team meeting presentations and provided the presentation slides used during the meetings and workshops. Arcadis went above and beyond by providing monthly CAV Newsletter to the LADOTD CAV Technology Team to share current CAV-related news and events. Arcadis provided an excellent job completing the task order on time and within budget. The Arcadis CAV Team was very passionate and well-informed about the developments in the CAV industry."

- Rosalinda Deville, DOTD Project Manager - ITS System Design IDIQ Contract - CAV Technology Team Support and ACMV Policy Task Order

тмс

V2I

6100 Corporate Blvd., Suite 325 Baton Rouge, LA 70808 **T.** 225 292 1004







Arcadis North America

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