ARTIFICIAL INTELLIGENCE (AI) SOLUTIONS FOR PUBLIC SECTOR ENTITIES

RFP #2025-18 | JANUARY 24, 2025

PRESENTED TO: NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG)

PROPOSAL PREPARED BY:

ARDURRA

GHD

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1 CERTIFICATE OF OFFEROR AND STATEMENT OF UNDERSTANDING

1.1 Cover Page

We acknowledge receipt of Addendum No. 1 and have reflected those changes in this proposal.

Regards,

Charles Morris
Big Data Group Leader
469 640 6617
cmorris@ardurra.com

1.2 Understanding of the Work to be Performed

The North Central Texas Council of Governments (NCTCOG) seeks to leverage Artificial Intelligence (AI) to enhance operational efficiency, decision-making, and service delivery across its member organizations through its TXShare Cooperative Purchasing Program. This initiative requires a qualified AI consultancy firm to identify, develop, and implement AI strategies tailored to public sector challenges, ensuring compliance with legal and ethical standards. The scope includes assessing current processes, identifying AI use cases, creating strategic roadmaps, and delivering pilot implementations while fostering a culture of innovation through training and capacity building. A robust data strategy, focused on governance, quality, privacy, and security, is also integral to achieving the project's objectives.

The consultant will provide end-to-end support, including feasibility studies, solution design, implementation assistance, and post-deployment evaluation. Specialized expertise will ensure AI solutions are ethically sound, compliant with public sector regulations, and sustainable for long-term adoption. Deliverables include a comprehensive AI strategy, a 5-year roadmap, pilot implementation plans, staff training, and detailed documentation. This effort aims to position NCTCOG's member organizations as leaders in AI-driven innovation while maximizing the value of public resources.

1.3 Understanding Deliverables Requested

The deliverables requested in the solicitation are focused on providing comprehensive support for NCTCOG's AI adoption and implementation. Key deliverables include an **AI Strategy Report** outlining tailored use cases, organizational goals, and alignment with a 5-year roadmap. This includes a **Feasibility Study** that evaluates the practicality and impact of proposed AI use cases, considering data strategy, compliance, and resource requirements. A detailed **AI Implementation Plan** will follow, comprising governance structures, project timelines, cost analysis, and performance metrics to guide deployment.

Additional deliverables involve **Pilot Implementation Plans** to test selected AI solutions and refine them for full-scale deployment. The consultant will also create **Training and Knowledge Transfer Materials** to enable staff to independently operate and maintain AI systems. Ethical guidelines and measures will be documented to ensure compliance with public sector standards, alongside a **Final Project Report** summarizing project outcomes, lessons learned, and recommendations for future AI integration. Together, these deliverables aim to empower NCTCOG and its members with the tools and expertise to leverage AI for transformative public service improvements.

2 REFERENCES

This includes a selection of Ardurra/GHD references to demonstrate the team's proven track record and expertise in delivering AI consultancy services and innovative solutions. These references highlight successful engagements with public sector organizations and similar entities, showcasing our ability to address complex challenges through tailored AI strategies, data-driven solutions, and compliance with ethical and regulatory standards. Each reference underscores our commitment to collaboration, delivering measurable outcomes, and fostering long-term client success, ensuring that the North Central Texas Council of Governments (NCTCOG) can confidently rely on our expertise to achieve its goals.

REFERENCE #1	
Organization/Agency:	Fort Worth Water Department
Contact Person:	Tejal Kshatriya
Telephone:	817.392.8073
Email:	Tejal.Kshatriya@fortworthtexas.gov
Relevant Team Members:	Freddie Guerra, Bhavin Bhayani, Simon Guo
REFERENCE #2	
Organization/Agency:	City of Houston Public Works Department
Contact Person:	Fazle Rabbi, P.E.
Telephone:	281.924.4388
Email:	Fazle.Rabbi@houstontx.gov
Relevant Team Members:	Chad Morris, Rajesh Tanwani, Manal Alduraibi, Will Kuehne, Kaden Morris, Matthew Carlson
REFERENCE #3	
Organization/Agency:	City of Laredo Utilities Department
Contact Person:	Juan D. Peché
Telephone:	956.775.9354
Email:	jdpeche@ci.laredo.tx.us
Relevant Team Members:	Chad Morris, Manal Alduraibi, Ignacio Hinojosa, Kaden Morris, Matthew Carlson
REFERENCE #4	
Organization/Agency:	City of Ft Myers - Public Utilities Department
Contact Person:	Jason Sciandra
Telephone:	239.321.7467
Email:	jsciandra@cityftmyers.com
Relevant Team Members:	Pradeep Nagarajan, Bhavin Bhayani, Wang Yao, Sue Sols, Nathan Joosse

3 PROJECT RELATED EXPERIENCE & QUALIFICATIONS

3.1 Organization's Capabilities and Experience

3.1.1 Technical Expertise

Based on Ardurra's innovative solutions and GHD's extensive experience, the organizations have demonstrated significant capabilities in artificial intelligence (AI) technologies, particularly in machine learning (ML) and natural language processing (NLP). GHD specializes in deploying ML models for predictive analytics, anomaly detection, and operational optimization, enabling public sector entities to make data-driven decisions. Their NLP expertise has been applied to develop advanced chatbots, virtual assistants, and text automation systems, enhancing citizen engagement and streamlining communication between government entities and their stakeholders.

Ardurra brings a wealth of expertise in advanced data analytics, machine learning, and data engineering, enabling organizations to harness large datasets for actionable insights. With a strong background in processing and analysing complex data structures, Ardurra helps public sector clients optimize operational efficiency, predict trends, and identify areas for improvement. Their solutions incorporate the latest in cloud technologies, data pipelines, and real-time data processing, ensuring that clients can scale and adapt as data needs evolve. Ardurra's commitment to innovation and data integrity makes them a key partner in transforming raw data into strategic advantages.

Ardurra/GHD have a proven track record of delivering AI solutions tailored to the public sector's unique needs. Our organizations have successfully implemented systems for strategic planning, performance tracking, and data analysis to improve administrative efficiency. In public works, GHD's AI-driven platforms optimize project schedules and manage resources effectively, while utility billing solutions automate inquiries, enhance customer service, and provide real-time usage updates. These implementations demonstrate GHD's ability to integrate scalable AI systems with existing infrastructures to deliver measurable outcomes.

The organizations' commitment to compliance, ethical standards, and public sector regulations is evident in its approach to data governance and cybersecurity. GHD/Ardurra ensure adherence to regulations such as GDPR, CCPA, and local privacy laws by implementing robust role-based access controls (RBAC), multi-factor authentication (MFA), and data encryption. Their focus on algorithm transparency and bias mitigation ensures ethical AI outcomes, with all algorithms undergoing rigorous validation processes to maintain fairness and effectiveness.

In addition, they emphasize continuous improvement in their AI solutions by incorporating adaptive learning mechanisms and user feedback loops. These systems are designed to enhance performance and relevance over time. Furthermore, the organizations' cybersecurity measures include real-time threat detection, end-to-end encryption, and regular vulnerability assessments to protect sensitive data and maintain public trust.

Through this combination of technical expertise, industry experience, and adherence to ethical and regulatory standards, Ardurra/GHD consistently delivers innovative AI solutions that meet the evolving needs of public sector clients, driving efficiency, engagement, and operational excellence.

Suite of Digital Capabilities

Ardurra/GHD bring a comprehensive suite of digital capabilities to deliver cutting-edge artificial intelligence (AI) solutions tailored to meet the needs of public and private sector clients. By leveraging AI technologies such as machine learning (ML), natural language processing (NLP), and advanced data analytics and statistical tools, Ardurra/GHD empower organizations to make data-driven decisions, optimize operations, and improve user experiences.

Core AI Expertise. GHD and Ardurra's expertise in **machine learning** enables the creation of predictive and prescriptive analytics models that forecast trends, detect anomalies, and optimize resource allocation. These models are particularly effective in areas such as infrastructure maintenance, utility management, and urban planning.

With advanced **natural language processing** capabilities, Ardurra/GHD design conversational AI tools, such as chatbots and virtual assistants, to streamline citizen engagement, automate customer inquiries, and enhance

access to information. These systems are highly effective in government services, utility billing, and public works departments, ensuring a seamless interaction experience.

Ardurra/GHD's capabilities also extend to **computer vision** applications for tasks such as image analysis in environmental monitoring, public safety, and infrastructure inspections. By leveraging AI-powered vision systems, automated defect detection tools, and AI-driven asset management systems, Ardurra/GHD help organizations identify issues proactively and maintain critical assets efficiently.

Integration and Scalability. Ardurra/GHD specialize in designing AI solutions that integrate seamlessly with existing systems and infrastructures. Their solutions support interoperability with public sector platforms, such as case management systems, HR systems, GIS platforms, and utility billing systems. These integrations ensure scalability, adaptability, and the efficient use of resources.

Data-Driven Insights. Ardurra/GHD's AI solutions are built on a strong foundation of data analytics, enabling real-time insights and actionable intelligence. These capabilities empower clients to:

- Optimize decision-making processes through advanced dashboards, real-time performance analytics, and predictive reporting tools.
- Monitor performance metrics and outcomes to ensure continuous improvement.
- Implement predictive maintenance algorithms and resource optimization for critical systems.

Ethical AI and Compliance. Recognizing the importance of ethical AI practices, Ardurra/GHD ensure that their solutions are transparent, fair, and compliant with regulations such as GDPR, CCPA, and other local privacy standards. The organizations' AI models undergo rigorous validation processes to mitigate biases, maintain algorithmic fairness, and uphold public trust. Additionally, robust data governance and cybersecurity measures protect sensitive information, ensuring compliance with global standards.

Applications in the Public Sector. Ardurra/GHD's AI capabilities are particularly impactful in public sector applications, including:

- **Smart City Development:** Using AI to water operations, energy management, and capital planning with intelligent resource allocation tools.
- **Infrastructure Management:** Employing predictive analytics and digital twins, and AI-driven maintenance scheduling tools for proactive maintenance and resource allocation.
- **Community Engagement:** Enhancing citizen interaction through AI-powered platforms that personalize services and improve response times and incorporate real-time feedback loops.
- **Environmental Monitoring:** Applying AI to track environmental changes, manage natural resources, and support sustainability initiatives.

Value-Added Innovation. In addition to core AI services, Ardurra/GHD integrate emerging technologies such as Internet of Things (IoT), geospatial analytics, and digital twins to enhance the capabilities of their solutions. These innovations enable clients to address complex challenges with greater precision, efficiency, and adaptability.

Through their robust digital capabilities and focus on innovation, Ardurra/GHD provide transformative AI solutions that improve operational efficiency, enhance citizen engagement, and deliver meaningful value for communities worldwide.

3.1.2 Project Management

Ardurra and GHD approach to managing AI projects is structured and adaptive, ensuring efficient planning, seamless execution, and rigorous quality assurance. The process begins with comprehensive project scoping, where we collaborate with stakeholders to clearly define objectives, deliverables, timelines, and success criteria. This step ensures alignment with organizational goals and stakeholder expectations. A robust communication plan is established to engage stakeholders across departments, while resources such as skilled personnel, technology infrastructure, and budgets are allocated strategically. Additionally, a thorough risk assessment is conducted to identify potential challenges, such as data availability and compliance requirements, and ensure mitigation strategies are developed proactively.

During execution, we leverage Scrum and Agile methodologies, enabling iterative development and continuous feedback to meet evolving project needs. Projects are implemented in manageable phases, beginning with pilot

deployments and sprint cycles that focus on delivering small, incremental pieces of value. These phases validate solutions, and refine functionalities, minimize risks, and facilitate gradual scaling. Cross-functional collaboration between AI specialists, IT teams, Big Data experts, and domain experts ensures the solutions are technically sound, practical, and aligned with operational needs. Real-time data analytics, driven by our Big Data capabilities, power decision-making, and ensuring responsiveness to emerging challenges and opportunities.

Quality assurance is central to our approach, with rigorous testing protocols implemented at every stage. This includes unit testing, system integration testing, and user acceptance testing (UAT) to validate functionality, performance, and compliance. AI models undergo thorough validation to ensure accuracy, fairness, and reliability, with attention to bias mitigation and scalability. Feedback from stakeholders and end-users is actively solicited during pilot phases and testing cycles, allowing for refinements that address user needs effectively. Regular compliance audits ensure adherence to data privacy laws, security standards, and organizational policies.

To maintain transparency and accountability, we provide consistent communication through detailed progress reports that highlight milestones, challenges, and next steps. Key Performance Indicators (KPIs) are defined and tracked to measure project success, including timeline adherence, budget utilization, and solution effectiveness. Our change management support helps organizations transition smoothly to AI-driven processes, addressing resistance and building user confidence.

Post-implementation, we focus on knowledge transfer by equipping in-house teams with the skills and documentation needed to manage AI systems independently. We also provide ongoing maintenance, including system updates, troubleshooting, and performance monitoring, to ensure the long-term success of the solution. By combining structured planning, Agile execution, Scrum Practices, and rigorous quality assurance practices, we deliver AI projects that are impactful, sustainable, and aligned with the strategic goals of public sector entities.

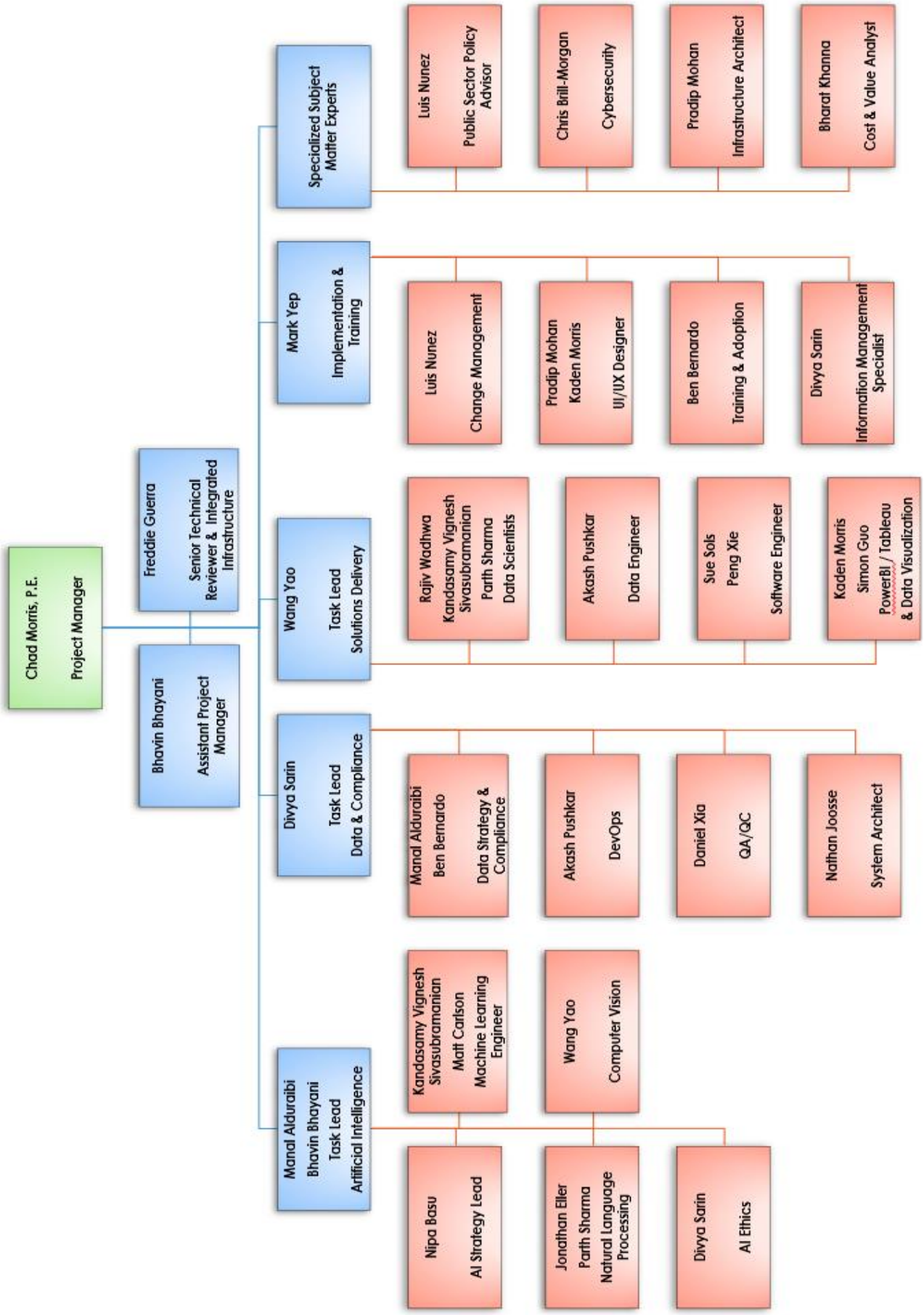
3.1.3 Team Qualifications

The organizational chart emphasizes a structured and specialized Ardurra/GHD team to deliver the requested AI consultancy services. Key roles include the **Project Manager**, who oversees the entire project and ensures effective coordination among the teams, and the **Senior Technical Reviewer & Smart Cities Lead**, who brings subject-matter expertise and oversight to technical deliverables. The **Task Leads** for Artificial Intelligence, Data & Compliance, and Implementation & Training are responsible for guiding their respective domains, ensuring that deliverables align with project objectives. Specialized subject matter experts, including the **AI Strategy Lead, Cybersecurity Specialist**, and **Change Management Lead**, provide critical support for developing and implementing AI strategies, ensuring compliance, and driving stakeholder adoption. Together, this team's configuration supports a cohesive approach to achieving NCTCOG's goals while leveraging deep technical and operational expertise.

Below are some key qualities that contribute to their effectiveness:

- Clear leadership and oversight
- Specialized expertise
- Strong focus on compliance and ethics
- Holistic team structure
- Collaboration and knowledge sharing
- Strategic and value-oriented focus

3.1.4 Organizational Chart and Key Personnel



RESUME: CHAD MORRIS

PROJECT MANAGER (ARDURRA GROUP, INC.)

Years of Experience: 26

Education

- B.S. in Electrical Engineering, Arizona State University

Current AI-Related Projects

1. City of Houston, TX, 2024, AI-Driven Pump Health Monitoring and Predictive Maintenance Program.
2. City of Laredo, TX, 2023, Advanced Water Quality Monitoring and Predictive Analytics.
3. City of Noth Miam, FL, 2024, Prioritization and Predictive Assessment for Lead and Galvanized Pipe Replacement.
4. Grapevine City, TX, 2024, AI-Driven Critical Risk Assessment and Prioritization Model.

Why Chad?

As Project Manager, Chad leverages his extensive experience in managing automation projects to streamline operations and ensure successful implementation. Based in the Dallas Ardurra office, he oversees teams in delivering integrated, technology-driven solutions across diverse infrastructure projects.

Chad Morris is a highly experienced professional with over 26 years of experience in automation and water and wastewater systems. As a licensed professional engineer with an NCEES record, Chad combines technical expertise and practical knowledge to deliver impactful solutions across complex infrastructure projects.

In his leadership role at Ardurra, Chad manages the Instrumentation and Controls (I&C), SCADA and Big Data groups. He specializes in managing automation strategies and developing tools that enhance operational readiness, optimize system performance, and enable proactive decision-making. His efforts focus on transforming data into actionable insights, improving how critical infrastructure is managed.

Chad's extensive experience with SCADA systems and control strategies underscores his technical leadership in process automation and system integration. He has successfully implemented advanced analytics, conducted comprehensive condition assessments, and developed AI and ML-driven solutions to enhance system accuracy and reliability. His work reflects a commitment to advancing sustainable and efficient technologies in water and wastewater systems.

Project Manager. Chad will serve as the Project Manager, directing the successful implementation and integration of ML and automation technologies within the project. With his extensive, he will ensure all phases of the project are executed efficiently and align with organizational goals. His leadership will drive collaboration, technical precision, and operational excellence. Key responsibilities:

- Develop and manage project plans, timelines, and deliverables for AI, ML, and automation initiatives.
- Coordinate cross-functional teams to ensure seamless project execution.
- Monitor project progress, ensuring milestones are met and objectives achieved.
- Evaluate project risks and implement strategies to mitigate them.
- Maintain alignment between project goals and organizational priorities.
- Facilitate communication among stakeholders, providing regular updates on project status.
- Ensure solutions meet scalability, reliability, and performance standards.
- Provide guidance on post-deployment troubleshooting and continuous improvement efforts.
- Support training and knowledge transfer to operational teams for sustained project success.

RESUME: BHAVIN BHAYANI

ASSISTANT PROJECT MANAGER AND TASK LEAD – ARTIFICIAL INTELLIGENCE (GHD)

Years of Experience: 15

Education

- Doctor of Philosophy, Bioprocess Engineering, SUNY ESF

Number of Projects on Artificial Intelligence (AI) Solutions for Public Sector Entities: **10**

Current AI-Related Projects

1. Ft Worth Water, TX (68K Water, 2024, Facility Maintenance Strategy.
2. City of Ft Myers, FL (+500K Water), 2023, Oversight of Risk Modelling and CIP project prioritization.
3. Buffalo Water, NY (+500K Water), 2022, Lead Service Line Program Strategy.

Why Bhavin?

Bhavin has managed the majority of GHD's Advanced Analytics projects for municipal and utilities in North America solving strategic and operational problems. He is experienced with GHD's quality control processes and standards. In addition, he has supported Analytics projects for, Fort Worth, Dallas Water, and more. He is local based in GHD's Dallas Office and has a long work history with some of NCTCOG's member cities.

Bhavin has served as the Digital Analytics lead and subject matter expert on over 10 Artificial Intelligence projects, ranging from statistical analytics to generative AI. As a proponent of such advanced digital tools and digital data management, he champions its ability to enhance utility management through workforce empowerment, real-time data insights, and moving towards an integrated management driven by the organizations own data and systems. Bhavin's expertise is to maximize efficiency, improve public services, and encourage transformative innovation in government sectors. With experience as a Principal-in-Charge, account executive, project manager, and subject matter expert, he has worked with clients as an engineering consultant (OBG), Operator (Camden), System Integrity (Car Freshener Corporation), and Smart Solution developer (Avatar Sustainable Technologies).

Assistant Project Manager. He will play a pivotal role in overseeing the successful execution of the project from inception to completion. He will be responsible for developing and managing detailed project schedules, tracking milestones, and ensuring timely delivery of all components. Key responsibilities:

- Project planning
- Vendor and contractor management
- System Integration and making it intuitive
- Ensure data security and privacy compliance
- Project execution and management
- Team leadership and coordination
- Training and development

Task Lead – Artificial Intelligence. Bhavin will be responsible for managing and executing Artificial Intelligence (AI) strategies to ensure all stakeholders smoothly transition through changes within the organization. Key responsibilities:

- Develop Data Lifecycle Strategy
- Establish Data Governance and Cybersecurity Assessment and Response
- Identification of Analytics and System Architecture
- Developing Scalable Systems
- Framework for Iterative Learning
- Manage Data Pipelines to Enable Near Real-Time Analytics
- Selection of Input Model Parameters
- QA/QC of Model Outputs
- Maintaining Accuracy of Algorithms

RESUME: FREDDIE GUERRA

SENIOR TECHNICAL REVIEWER & INTEGRATED INFRASTRUCTURE (GHD)

Years of Experience: 34

Education

- Master of Science, Environmental Science, Baylor University

Number of AMI Projects: 33
Current AI-Related Projects

1. City of Fort Worth, TX, 2024, Data Analytics and Machine Learning to Optimize Work Orders.
2. Pollution Probe, Ontario, 2024, Refinement of AI-Driven Tool.
3. City of Toronto, Ontario (+500K Water), 2023, Water Meter Program Strategy.

Why Freddie?

Freddie serves as the Digital Water Solutions Leader for North America. He has deployed AI technologies, including machine learning models, computer vision, natural language processing (NLP), and data analytics tools. He is based locally in GHD's Dallas Office and has a long work history with some of NCTCOG's member cities.

Freddie Guerra stands out for his ability to introduce and implement cutting-edge AI technologies that address the unique challenges of public sector operations. Through his work at GHD, he has demonstrated an exceptional capacity to identify and deploy AI-driven solutions that enhance efficiency, transparency, and service delivery. Freddie brings a deep understanding of how AI tools like machine learning, natural language processing, and computer vision can transform traditional public sector processes, such as infrastructure management, resource allocation, and citizen engagement.

He has successfully applied AI innovation in projects aimed at improving water management, traffic optimization, and energy efficiency, aligning these efforts with smart city initiatives. By integrating data analytics and predictive modeling, he helps municipalities make informed decisions, reduce operational costs, and deliver measurable benefits to their communities. His ability to adapt AI technologies to public sector constraints, such as regulatory compliance and budget limitations, underscores his strategic and results-oriented approach.

Freddie prioritizes solutions that deliver tangible benefits to end-users, such as citizens and public sector employees. He leverages AI to enhance customer experiences by improving the accuracy of billing systems, streamlining service delivery, and enabling real-time monitoring of critical infrastructure. For example, in water management projects, Freddie has utilized AI-powered leak detection systems and consumption analytics to support sustainability and reduce waste. These solutions empower residents with tools to monitor their resource usage while enabling government agencies to optimize service delivery.

Senior Technical Reviewer & Integrated Infrastructure. He will play a pivotal role in supporting the Project Manager with the successful execution of the project from inception to completion. He will be responsible for developing and managing detailed project schedules, tracking milestones, and ensuring timely delivery of all components as well as providing senior technical review. Key responsibilities:

- Define project scope
- Assist in delivering work plans
- Support budget management
- Coordinate stakeholder communication
- Collaborate with task leads
- Ensure quality control
- Monitor AI deployment
- Identify and mitigate risks
- Post-deployment support

RESUME: MANAL ALDURAIBI

TASK LEAD ARTIFICIAL INTELLIGENCE (ARDURRA GROUP, INC.)

Years of Experience: 8

Education

- Doctor of Philosophy, Technology, Purdue University

Current AI-Related Projects

1. City of Houston, TX, 2024, AI-Driven Pump Health Monitoring and Predictive Maintenance Program.
2. City of Noth Miam, FL, 2024, Prioritization and Predictive Assessment for Lead and Galvanized Pipe Replacement.
3. City of Laredo, TX, 2023, Advanced Water Quality Monitoring and Predictive Analytics.

Why Manal?

As the Big Data Team Lead, Manal leverages innovative AI and ML solutions, including NLP and Computer Vision, to optimize operations and drive impactful initiatives. Based in Dallas Ardurra office, she leads her team in delivering efficient, data-driven solutions across various projects.

Manal Alduraibi blends expertise in Machine Learning (ML), Artificial Intelligence (AI), and Lean Six Sigma (LSS) to solve complex challenges. With a Ph.D. in Technology and an MS in Management Information Systems, she excels at transforming data into actionable insights for improved decision-making and system optimization at Ardurra Group, Inc.

Manal has extensive experience in ML, including developing predictive models for risk assessment, infrastructure management, and environmental monitoring. She has led AI initiatives across various civil engineering disciplines, including water, wastewater, and transportation, utilizing Computer Vision and NLP for tasks like predicting pump health, analyzing water quality, and assessing infrastructure risks. By automating processes with AI and incorporating Lean Six Sigma principles, she has enabled more efficient resource prioritization and risk mitigation, leading to smarter, data-driven decisions that optimize operational efficiency and public safety.

Manal places a high value on data governance, ensuring that the data used in AI solutions is secure, compliant, and of the highest quality. Her approach integrates seamlessly with AI-driven solutions, ensuring that models are built on accurate, reliable data. This focus on data integrity allows her to create scalable, robust AI solutions that solve current problems and provide long-term value.

Task Lead Artificial Intelligence. Manal will play a key role in implementing and optimizing AI technologies of the project. She will lead the development of machine learning models, oversee AI research, and ensure the integration of AI solutions into operational workflows. Key responsibilities:

- Lead AI model development and optimization
- Oversee AI research and development initiatives
- Manage the deployment of AI solutions
- Collaborate with cross-functional teams to integrate AI into existing systems
- Ensure AI solutions are scalable, reliable, and meet project needs
- Align AI strategies with organizational goals
- Monitor AI model performance and accuracy
- Identify and address AI-related risks
- Provide technical guidance and mentorship to the AI team
- Support post-deployment AI model improvements and troubleshooting

RESUME: DIVYA SARIN

SOLUTION DELIVERY, SOLUTION OPERATIONALIZATION, DATA & COMPLIANCE (GHD)

Years of Experience: 11+

Education

- Bachelor's degree in Mathematical Economics (2016)
- Diploma of Interior Design, 2022
- Innovation Management ISO Certification
- Climate Change / AI Certification

Number of Projects on Digital Solutions for Public Sector Entities: 5+

Current Digital & AI Projects

1. York Region, Toronto, Canada, 2024, Enterprise Cloud Strategy & Visioning.
2. Confidential US Public Sector Client, 2024, Renewable Energy Permitting Toolkit and Automation.
3. M42 (AI Healthtech Organization), Abu Dhabi, UAE, 2023, AI Use Cases for COP28 and Sustainability Strategy.

Why Divya?

Divya is a Product and Data Strategy leader with 11+ years of experience in leading and delivering AI strategies, data strategies, product management, product development and change management. Throughout her career, she has worked with a diverse array of North American organizations, spanning various scales and industries including government, retail, finance, transportation, mining, and agriculture.

Divya Sarin is a Senior Manager within GHD's Digital Strategy & Innovation division, D-Lab. With a career spanning more than eleven years, she has established herself with delivering AI, digital and product strategy projects. Divya's professional trajectory is distinguished by her ability to conceptualize and execute strategic technology initiatives while enabling operations/teams, yielding successful products and strategies specifically with emerging technology such as Artificial Intelligence. She enjoys working with cross-functional teams, to develop product strategies, digital strategies and innovation management.

Task Leads – Solution Delivery, Solution Operationalization and Data & Compliance. She will be leading tasks to prepare NCTCOG in derisking concepts, implementation and operationalization of solutions. She would end-to-end delivery of projects, ensuring that solutions are not only effectively deployed but also seamlessly integrated into existing systems and processes. Her responsibilities will include ensuring compliance with data governance and regulatory requirements and managing risks. Additionally, she would be responsible for monitoring and optimizing the performance of these solutions using Agile delivery, providing ongoing support, and driving continuous improvement initiatives. Divya will bring the following skill sets to these task streams:

- AI Strategy, Digital Strategy & Data Enablement
- Data Strategy & Information Management
- AI Ethics, Risk & Compliance
- Digital Transformation, Value-Based Roadmaps & Business Cases
- Business/Operations Strategy & Readiness
- Strategic Sourcing, Vendor Management & Outsourcing Strategy
- Human Cantered Design, Design Thinking, Innovation Management, and Change Management
- Product Management & Strategy
- Communications Planning/
- Lean Agile Methodology
- Market Research Analysis & Customer Research Analysis
- Stakeholder Collaboration & Management

RESUME: MARK YEP

SOLUTION VISIONING & PLANNING LEAD (GHD)

Years of Experience: 20+

Education

- Bachelor's degree in Engineering and Management (Electrical / Computer Engineering), 2005
- Professional Engineers Ontario Designation, 2010
- Master of Business Administration (Business Strategic Management), 2013
- Climate Change / AI Certification
- Systematic Innovation Management Certification

Number of Projects on Digital Solutions for Public Sector Entities: 18+

Current AI-Related Projects

1. York Region, Toronto, Canada, 2024, Enterprise Cloud Strategy.
2. Commonwealth Utilities, Saipan, US, 2023, Enterprise Systems Path Forward.
3. Municipal Innovation Council, Toronto, Canada 2022, Joint Business-IT Services Review.

Why Mark?

Mark is a senior Strategy, Transformation, and Innovation Leader with 20+ years of experience in leading innovative and sustainable change for organizations in multiple industries, including municipal and utilities in North America. He is experienced with leading practices in solution delivery and has led Digital projects such as for Commonwealth Utilities in the US.

Mark has served as the North America Strategy, Transformation, and Innovation Leader and subject matter expert on over 18+ Digital Solutions projects, including where Artificial Intelligence may be assessed for business value. His experience extends across strategy development and transformation and includes enterprise-level Business / Digital / Technology / Data / AI strategy, strategic roadmap and business case development, cost reduction, strategic sourcing / outsourcing, vendor management, portfolio management, operating models / organizational design, transformations, architecture, and change management. Mark also has almost a decade of experience in Digital / Internet of Things (IoT) / data and analytics in industries that leverage industrial automation.

Strategy, Transformation, and Innovation – Subject Matter Expert. He will play a pivotal role in bringing in a strategic, human-centric, transformational, and innovation perspectives to the project from inception to completion. Key SME responsibilities:

- Vision & Strategic Roadmap
- Business Case & Case for Change
- Innovation Management
- Process Design & Operating Model
- Change Management
- Agile Delivery

Task Lead – Solution Visioning & Planning. Mark will be responsible for managing and executing a structured solution delivery methodology to deliver Artificial Intelligence (AI) solutions in alignment with organizational and user needs. Key responsibilities (dependant on agreed scope of work):

- AI Solution Vision & Guiding Principles
- Needs Discovery
- Current State Assessment
- Future State Alignment
- Requirements / User Stories & Prioritization
- Personas / Journey Map Development
- Market Scan & Fit Gap Analysis
- AI Solution Strategy
- Product Management / Agile Delivery
- Business Case Development
- Innovation Strategy & Plan
- Change Strategy & Plan
- Process Engineering
- Operating Model & Organizational Model

3.2 Meeting Solution Requirements

The Team will ensure the proposed solution meets TXShare's diverse membership requirements through the following strategies:

REQUIREMENT	STRATEGY
AI Strategy Development	Collaborate with departments to identify AI use cases. Ardurra/GHD employ a consultative approach, engaging with departments to identify specific challenges and tailor AI solutions for measurable outcomes. Conduct a comprehensive needs assessment. Ardurra/GHD conduct detailed assessments, leveraging workshops, stakeholder interviews, and data analysis to align AI solutions with organizational goals. Develop a long-term AI strategy. Ardurra/GHD specialize in creating scalable, adaptable 5-year AI roadmaps aligned with strategic plans, ensuring long-term success. Proven success in AI strategy development and implementation. Ardurra/GHD have a track record of successful AI strategy design and implementation across various public sector entities. Translate technical concepts for non-technical stakeholders. Ardurra/GHD excel in simplifying technical concepts through visual aids, presentations, and user-friendly documentation. Understanding of public sector compliance and ethics. Ardurra/GHD integrate deep knowledge of public sector regulations and ethical guidelines into all phases of project delivery.
Data Security and Privacy Compliance	Comply with data privacy laws. Ardurra/GHD adhere to federal, state, and local data protection laws, ensuring solutions comply with regulations such as GDPR and CCPA. Document compliance with data protection regulations. Ardurra/GHD provide detailed compliance documentation and reports as part of project deliverables. Implement security measures for data protection. Ardurra/GHD deploy advanced encryption, access control, and data anonymization techniques to protect sensitive information.
Project Management and Reporting	Provide regular project updates. Ardurra/GHD ensure transparency with weekly or bi-weekly progress meetings and detailed status reports. Submit a final project report. Ardurra/GHD deliver comprehensive final reports summarizing findings, recommendations, and lessons learned. Adhere to project deadlines. Ardurra/GHD have a robust project management framework to ensure timely delivery of all milestones and documentation.
Budget and Cost Estimates	Provide a cost breakdown for services. Ardurra/GHD offer transparent, detailed cost breakdowns, including consultancy fees, software licensing, and anticipated expenses Offer flexible pricing structures. Ardurra/GHD provide flexible pricing models, including fixed-price contracts or time-and-materials options, tailored to client needs.
Data Strategy and Management	Ensure data quality controls. Ardurra/GHD implement validation processes, error correction protocols, and enrichment techniques to ensure data integrity. Develop a data governance framework. Ardurra/GHD define policies for ownership, stewardship, and version control, ensuring compliance with public sector regulations.

	Ensure data privacy assurance. Ardurra/GHD apply anonymization techniques and obtains necessary consents to protect sensitive data. Implement data security protocols. Ardurra/GHD recommend encryption, secure storage practices, and breach response plans to mitigate security risks. Ongoing data strategy evaluation. Ardurra/GHD provide periodic evaluations and offers training to help clients maintain and evolve their data strategies.
Ethical AI Requirements	Align AI solutions with ethical guidelines. Ardurra/GHD incorporate fairness, transparency, and inclusiveness in AI development, ensuring alignment with ethical standards. Establish bias detection and mitigation methods. Ardurra/GHD employ tools and processes to identify, mitigate, and monitor biases in AI systems. Develop transparency protocols. Ardurra/GHD ensure model decisions are explainable, documenting data sources, decision logic, and outputs. Define accountability measures. Ardurra/GHD establish auditing mechanisms and track AI system changes to ensure accountability. Conduct ethical impact assessments. Ardurra/GHD evaluate societal and operational impacts of AI and provide corrective actions based on findings.

Through these strategies, the Team has delivered solutions that are compatible, secure, scalable, and customer focused. We need to apply the same for TXShare's operational and strategic objectives, and its member cities.

PROJECT 1	**TRANSFORMING WORK ORDER MANAGEMENT AT WATER TREATMENT PLANTS: ANALYTICS AND DASHBOARDS DRIVING EFFICIENCY AND RELIABILITY - CITY OF FORT WORTH WATER DEPARTMENT**
Project Description	The increasing complexity and operational demands of water treatment plants, like the Westside Water Treatment Plant, prompted a need for more advanced work order management strategies. This project integrated analytics and dashboards to streamline work order management, maintenance schedules, and overall plant efficiency. Leveraging data from operational systems, these tools provide near real-time insights and predictive capabilities, empowering plant personnel to make informed decisions, prioritize tasks, and optimize resource allocation. Challenges addressed by GHD include: – Real-Time Insights: Leveraged machine learning-driven analytics to provide immediate visibility into work order statuses, trends, and operational bottlenecks. – Task Prioritization: Enhanced maintenance management with AI-based prioritization of work orders and recommendations based on historical trends and anomalies. – Preventative Maintenance: Identified recurring issues and inefficiencies in equipment performance to implement preventative maintenance strategies and reduce downtime. – KPI Tracking: Monitored critical KPIs, such as response time, work order completion rates, and equipment reliability. – Data Visualization: Consolidated operational data into user-friendly dashboards for quick interpretation.
Client:	City of Fort Worth Water Department
Technologies Used:	Python (pandas, numpy, lifelines, seaborn, helper, datetime), Machine Learning algorithms (including Decision Trees and K-means), Visual Analytics Platforms (PowerBI, Looker) SQL, Azure, Historical and Real-Time Data Integration.

Results:	The project delivered transformative improvements to the City of Fort Worth's Westside Water Treatment Plant. Machine learning-driven analytics and user-friendly dashboards streamlined work order management, increased asset reliability, and enabled data-driven decision-making. The solution optimized maintenance schedules, reduced downtime, and extended the lifecycle of critical assets. Enhanced KPI tracking supported compliance with regulatory standards and improved the plant's environmental performance. This innovative approach to operational strategy sets a new standard for efficient, reliable, and sustainable plant operations.
Relevant Team Members:	Freddie Guerra, Bhavin Bhayani, Simon Guo
PROJECT 2	**PUMP HEALTH MONITORING AND PREDICTIVE MODEL DEVELOPMENT - CITY OF HOUSTON PUBLIC WORKS DEPARTMENT**
Project Description	Houston's wastewater system, serving 2.3 million residents with 39 treatment plants, 380+ lift stations, and over 6,200 miles of pipes, began its Digital Transformation in response to a 2021 consent decree (CD) with the EPA and the State of Texas. Ardurra played a key role in developing tools to monitor pump health across Houston's collection system, which includes about 400 lift stations. Using supervised and unsupervised machine learning, the team classified pump issues and predicted failures before they occurred. Through exploratory data analysis (EDA) and correlation analysis, the system was able to uncover both known and emerging risks, enabling proactive maintenance and more reliable operations. Challenges addressed by Ardurra include: – Pump Health Monitoring: Developing a scalable system to monitor pump health across 380 lift stations, integrating diverse data sources for accurate, consistent monitoring. – Identifying Emerging Risks: Using unsupervised learning to detect hidden pump issues and uncover new patterns, addressing previously unidentified risks. – Predicting Failures: Balancing the classification of known pump issues with the identification of unknown issues to predict and mitigate potential failures. – Scalability: Building a solution to handle large, dynamic data from multiple lift stations, ensuring the system scales effectively. – Model Accuracy: Continuously testing and fine-tuning both supervised and unsupervised models to ensure accurate predictions and reliable issue identification.
Client:	City of Houston Public Works Department
Technologies Used:	Python (scikit-learn, TensorFlow, Keras), Gradient Boosting, Decision Trees, and K-means clustering, apache Spark, Databricks, SQL/NoSQL Databases, AWS S3, Tableau, GitHub.
Results:	Ardurra developed a pump health monitoring system using supervised and unsupervised machine learning to identify and classify pump issues early, mitigating potential failures in Houston's collection system. The system's predictive maintenance capabilities enable targeted interventions, reducing downtime and extending pump lifespan. Its scalability and predictive accuracy will enhance maintenance strategies and operational efficiency. This foundation supports advanced risk management and the integration of AI-driven tools for more refined predictive insights.
Relevant Team Members:	Chad Morris, Rajesh Tanwani, Manal Alduraibi, Will Kuehne, Kaden Morris, Matthew Carlson
PROJECT 3	**INTERACTIVE WATER QUALITY MONITORING AND PREDICTIVE ANALYTICS DASHBOARD - CITY OF LAREDO UTILITIES DEPARTMENT**

Project Description	The City of Laredo's water supply comes from the Jefferson and El Pico treatment plants, serving 260,000 residents with a combined capacity of 85 million gallons per day. Ardurra optimized data collection from 37 remote sites and two treatment plants, enabling real-time data entry through Electronic Forms, linked directly to the water quality database. Using advanced algorithms and machine learning, a three-day predictive analysis model was developed to detect potential water quality issues. Visualizations through KPIs and situational graphics help ensure compliance and mitigate nitrification risks in the distribution system. Challenges addressed by Ardurra include – Real-time Data Collection: Streamlined the data entry process across remote sites and treatment plants, ensuring timely and accurate data submission. – Data Cleaning and Accuracy: Automated data ingestion, validation, and cleaning to maintain high-quality, reliable data. – Predictive Analytics: Used machine learning models to predict water quality issues and enable early detection of risks such as nitrification. – Compliance Monitoring: Developed KPIs and visualizations to ensure water quality compliance. – Notification System: Integrated a notification system to send text and email alerts for critical water quality events.
Client:	City of Laredo Utilities Department
Technologies Used:	MS Forms, Power Automate, Azure Cloud Storage, DevOps, Python, SQL/NoSQL Databases, Tableau, GitHub, ETL Automation, Predictive Analytics, ARIMA, Machine Learning LSTM, Statistical Analysis.
Results:	Ardurra optimized the water quality monitoring system for Laredo's water treatment plants and remote sites, implementing real-time data collection and predictive analytics to detect potential water quality issues early. The system's machine learning-driven predictive capabilities enable proactive identification of risks such as nitrification, improving compliance and reducing water quality violations. Real-time alerts via text and email keep stakeholders informed, facilitating prompt responses to critical events. This approach enhances operational efficiency, supports continuous monitoring, and sets the stage for further AI-driven improvements in water quality management and predictive maintenance strategies.
Relevant Team Members:	Chad Morris, Manal Alduraibi, Ignacio Hinojosa, Kaden Morris, Matthew Carlson
PROJECT 4	**DREAMS IN ACTION: REVOLUTIONIZING CAPITAL PLANNING FOR THE CITY OF FORT MYERS WITH ADVANCED ANALYTICS AND MACHINE LEARNING- CITY OF LAREDO UTILITIES DEPARTMENT - CITY OF FT MYERS PUBLIC UTILITIES DEPARTMENT**
Project Description	GHD Digital assisted the City of Fort Myers digitally transform their capital planning for network systems so they could accurately triage the condition of pipes and develop their rehabilitation or replacement strategies. Using advanced analytics and machine learning algorithms, a cloud-based decision-making platform was developed by integrating the available tools, processes and information to make clear data-driven decisions. Challenges addressed by GHD include: – Asset Data Organization: Transitioned from error-prone Excel files to a centralized, comprehensive database for accurate and reliable asset data. – Capital Improvement Program (CIP) Decisions: Streamlined CIP investment decisions to address questions regarding project purpose, cost, funding sources, and impact on levels of service (LoS).

	– Dynamic Planning: Developed a robust system that visualizes short, medium, and long-term capital improvement strategies. – Scenario Analysis: Enabled utilities to compare different planning scenarios through integrated spatial data and visualizations. – Risk and Cost Optimization: Incorporated risk models and financial planning tools to reduce operational risks and optimize costs.
Client:	City of Ft Myers Public Utilities Department
Technologies Used:	Python (geopandas, pandas, geopy, comm etc), Machine Learning Algorithms (including regression, neural networks, Decision Trees, etc), Databricks, SQL Database, Azure, PowerBI, Vue.js, Django, PostgreSQL, PostGIS, GeoServer, Docker, Celery, Cloud Computing etc.
Results:	DREAMS offered the City of Fort Myers with a data centric approach to capital improvement and asset optimization. The overall system and other asset management techniques provided asset optimization and reduced operating costs and operational risk for the city. When decision-making relies on deeper and more complex insights, a streamlined and automated solution is needed to improve business operations and profitability. DREAMS signifies the development of an adaptable and scalable decision support system.
Relevant Team Members:	Pradeep Nagarajan, Bhavin Bhayani, Wang Yao, Sue Sols, Nathan Joosse, Freddie Guerra

3.3 Addressing Key Challenges

Implementing AI in the public sector presents unique challenges that require a nuanced approach to achieve success. Ardurra/GHD's expertise in digital transformation equips it to address these challenges effectively, ensuring that AI solutions deliver tangible benefits while maintaining compliance with regulatory, ethical, and operational standards.

CHALLENGE	DETAIL	ADDRESSING CHALLENGE
Data Quality and Accessibility	– Public sector entities often grapple with siloed data, inconsistent formats, and legacy systems that hinder data integration and quality.	– Conduct comprehensive data audits to assess quality and identify gaps. – Implement robust data cleansing and transformation processes. – Develop interoperable AI solutions that integrate seamlessly with existing systems and enable data sharing across departments.
Ethical AI and Bias Mitigation	– Ensuring AI systems are transparent, fair, and free from biases, particularly when dealing with sensitive public data or decision-making processes.	– Design and validate algorithms with a focus on fairness, transparency, and inclusivity. – Apply advanced techniques for bias detection and mitigation, ensuring equitable outcomes. – Provide detailed documentation and explainability for all AI models to build trust with stakeholders and the public.
Regulatory Compliance	– Adhering to stringent data privacy laws and government regulations, such as GDPR, CCPA, and HIPAA, while implementing AI solutions.	– Embed privacy-by-design principles into AI system development. – Establish robust data governance frameworks, including encryption, role-based access control (RBAC), and multi-factor authentication (MFA).

CHALLENGE	DETAIL	ADDRESSING CHALLENGE
		Regularly monitor and update systems to ensure ongoing compliance with evolving regulations.
Cybersecurity Risks	– Safeguarding AI systems and sensitive data from cyber threats, including unauthorized access and breaches.	– Deploy AI-driven cybersecurity tools for real-time threat detection and incident response. – Conduct regular vulnerability assessments and penetration testing. – Establish comprehensive risk management plans, including disaster recovery and business continuity strategies.
Public Trust and Transparency	– Building trust among citizens by ensuring AI decisions are understandable and aligned with public interests.	– Incorporate explainable AI (XAI) methodologies to make AI decisions interpretable and accessible to non-technical stakeholders. – Engage in community outreach and education to demystify AI technologies and their benefits. – Establish transparent feedback mechanisms to incorporate citizen input and improve service delivery.
Change Management and Workforce Readiness	– Managing organizational resistance and equipping public sector employees with the skills needed to leverage AI technologies effectively.	– Develop tailored training programs and workshops to upskill staff on AI tools and workflows. – Provide ongoing support and resources to ensure smooth transitions and long-term adoption. Implement phased rollouts with pilot programs to demonstrate value and build confidence among stakeholders.
Scalability and Sustainability	– Ensuring AI solutions are scalable and adaptable to the evolving needs of public sector entities.	– Design modular and flexible AI systems that can grow alongside organizational requirements. – Leverage cloud-based platforms to ensure scalability and cost efficiency. – Continuously monitor system performance and incorporate feedback for iterative improvements.
Cost Management and Resource Allocation	– Balancing the cost of AI implementation with budgetary constraints common in the public sector.	– Offer cost-effective AI solutions through cooperative purchasing agreements and tailored pricing models. – Demonstrate clear return on investment (ROI) through pilot programs and measurable impact metrics. – Optimize resource allocation by automating routine tasks, enabling staff to focus on higher-value activities.

By addressing these challenges with a strategic, collaborative, and ethical approach, Ardurra/GHD ensure successful AI implementation in the public sector. This approach not only drives operational efficiency but also fosters public trust, compliance, and long-term sustainability.

3.4 Overview of GHD

GHD recognizes and understands the world is constantly changing. Since 1928, we are committed to solving the world's biggest challenges in the areas of water, energy, and urbanization. GHD has an office in Dallas that will support these efforts.

GHD Digital. GHD Digital brings together a global team of over 600 digital practitioners who specialize in gathering data and generating actionable insights to enhance the performance and sustainability of water infrastructure assets. Our mission is to help public sector organizations:

- Extend the lifespan of critical infrastructure assets.
- Optimize energy usage for more sustainable operations.
- Predict asset behaviors to improve operational reliability and efficiency.
- Support data-driven decision-making through advanced AI and digital technologies.

Leveraging cutting-edge technologies such as the Internet of Things (IoT), Supervisory Control and Data Acquisition (SCADA), and Advanced Metering Infrastructure (AMI), GHD Digital tailor solutions to meet the unique needs of public sector clients. We enhance off-the-shelf products or develop customized applications that:

- Improve asset reliability.
- Support advanced warning systems.
- Minimize costly unplanned shutdowns.

Additionally, our expertise in digital twin technology empowers organizations to leverage real-time data for highly efficient, reliable asset and system management.

3.4.1 AI Solutions Tailored for the Public Sector

GHD Digital is committed to delivering AI-powered solutions that align with public sector priorities, such as sustainability, efficiency, and compliance. Our services include:

3.4.2 AI-Driven Asset Optimization

- Predictive analytics to forecast asset performance and preempt maintenance needs.
- Machine learning models that optimize capital programs and resource allocation.

3.4.3 Customized Digital Solutions

- IoT integration with existing infrastructure to enhance monitoring and control.
- Development of bespoke applications to improve data accuracy and operational efficiency.

3.4.4 Digital Twin Capabilities

- Creation of virtual replicas of physical assets and systems to simulate performance and test scenarios.
- Support for long-term strategic planning and operational decision-making.

3.4.5 Cybersecurity for the Public Sector

As part of our digital offerings, GHD's cybersecurity services are designed to help public sector organizations understand and improve their cybersecurity posture while meeting regulatory obligations. Through our Cyber and Risk Centre of Excellence (CoE), GHD Digital provides:

- Comprehensive assessments of current cybersecurity measures.
- Holistic solutions that integrate technology, human expertise, and collaboration.
- Proactive strategies to build resilient, secure operations.

GHD Advisory. Built assets are fundamental to our daily lives – from the transportation systems we rely on, to the buildings we work in, the treatment plants and networks supplying clean drinking water, collecting wastewater and stormwater, and the grids delivering electricity. To ensure these assets provide uninterrupted services to communities, they must be efficiently managed and maintained.

In today's rapidly evolving world, these assets face increasing pressures from aging infrastructure, climate change, and growing urban populations. The result is often asset underperformance or failure. To address these challenges, GHD Advisory leverages advanced AI solutions and digital capabilities to enhance asset management, optimize performance, and deliver long-term value.

Our AI-driven tools analyze vast datasets in real-time to predict failures, assess risks, and provide actionable insights for smarter decision-making. By combining deep technical expertise, in-depth asset knowledge, and advisory skills, we deliver a unique, integrated proposition tailored to the needs of the public sector, with a focus on the water, power, and transportation industries.

By integrating cutting-edge AI solutions into the public sector, GHD Advisory is empowering communities to maintain resilient, high-performing infrastructure and deliver reliable services now and into the future.

3.4.6 GHD Overview

Artificial Intelligence is a powerful tool that works best when humans and machines work together. AI can only deliver value when it aligns with the overall strategy, the organization's goals, and the people/technology infrastructure that can use it. AI will probably affect all areas of Government. NCTCOG also has the duty to ensure applications are ethical, and risks are reduced. It is essential to select the right partners who share the same vision to serve the community, prioritize equity and justice, embrace innovation, mitigate risk, etc.

GHD – Global Leaders in Digital Innovation

GHD's leadership is evident through its team and projects, and an example of a quantitative rating by industry experts EFCG.

GHD has the ideal combination of digital innovation and reliable engineering skills. We are keen to collaborate with your members on this promising journey. We currently serve as the Innovation function for some of our key global clients and have advised our clients' leadership teams on AI and Generative AI. GHD Digital is named as a Global leader in Digital Transformation in the $200B AEC industry. According to a recent analysis conducted by independent analyst firm Environmental Financial Consulting Group (EFCG).

The newly released report by EFCG evaluated the top 50 companies within the global AEC industry, benchmarking their capabilities, market presence, investment, and overall impact. EFCG collects data for benchmarking purposes from AEC companies annually. GHD Digital emerged as an influential leader in all aspects of digital transformation, showcasing its exceptional accomplishments and contributions toward transforming the industry through innovative digital solutions.

Kumar Parakala, President of GHD Digital, reflected on the findings, saying: "Amidst the rapid whirlwind of digital acceleration and digitalization, our clients find themselves engulfed in a sea of change impacting their business. It is our duty to guide them, unravel the complexities of these novel technologies, and support their major initiatives."

The research showed that a small set of firms are building capabilities and actively messaging the market that they are leading in 'New Ways of Working' and 'Working Smarter.' GHD Digital leads the conversation in AI and automation and is one of the top commentators/thought leaders on cyber security.

3.5 Overview of Ardurra

Ardurra Group, Inc., composed of experts, engineers, data scientists, and design professionals, is dedicated to transforming public sector operations through high-quality, data-driven solutions. By integrating AI and ML technologies, we develop innovative tools to tackle complex challenges in water, transportation, and infrastructure management. Our solutions optimize performance, reduce costs, and predict future outcomes, supporting sustainable and resilient operations. Beyond traditional engineering, our capabilities include archaeology, planning, and environmental science, allowing us to deliver comprehensive, tailored strategies for each project's unique needs.

3.5.1 Ardurra Solutions

We provide tailored engineering, data management and analytics solutions that help public sector organizations across various sectors achieve their goals. Our mission is to help our clients:

- Optimize asset performance and lifecycle management.
- Reduce operational downtime and enhance system reliability.
- Leverage predictive analytics to preemptively address maintenance needs.
- Support data-driven decision-making to improve efficiency and reduce costs.

3.5.2 Innovative Technologies

Ardurra Group, Inc. harnesses a variety of technologies to help organizations achieve operational excellence, including:

- Predictive Analytics and Machine Learning: Using advanced algorithms to forecast asset performance, predict failures, and optimize maintenance schedules.
- Real-time Data Monitoring: Collecting and analyzing data in real-time for enhanced situational awareness and faster decision-making.
- Cloud Storage and Data Integration: Leveraging cloud solutions to securely store, manage, and analyze large datasets, enabling seamless integration across systems.
- Our comprehensive solutions provide a holistic view of infrastructure health and performance, enabling organizations to take proactive measures that improve efficiency and reduce unplanned shutdowns.

3.5.3 Strategic Solutions

Ardurra Group, Inc. offers comprehensive strategic solutions to empower public sector organizations in effectively managing their assets and operations. We address challenges such as aging infrastructure, urban expansion, and climate impacts with innovative, data-driven approaches.

Our expertise combines advanced AI and machine learning with deep technical knowledge to deliver actionable insights that optimize resource allocation, predict failures, and enhance operational efficiency. Serving sectors including water, wastewater, transportation, and civil infrastructure, our solutions are designed to drive resilience and long-term value. From extending asset lifespans to improving system reliability, Ardurra Strategic Solutions is dedicated to helping clients achieve sustainable, cost-effective, and reliable operations tailored to their unique needs.

3.5.4 Ardurra Overview

Ardurra Group, Inc. is a leading multidisciplinary firm offering engineering and consulting services, including the management of AI and ML projects that drive innovation across the engineering, planning, design, and construction sectors. With over 85 offices nationwide and a team of dedicated professionals, we specialize in delivering impactful, tailored solutions in key areas such as water and wastewater systems, roadways, drainage infrastructure, and natural gas utilities.

At Ardurra, innovation is not just a buzzword, it's embedded in our approach. Our teams use advanced data analytics, AI, and ML tools to design solutions tailored to the unique needs of the projects. Whether optimizing water system operations or developing predictive models for infrastructure maintenance, we combine technical expertise with cutting-edge technology to deliver exceptional results.

Ardurra – Pioneers in Innovative Solutions

Ardurra's unique organization supports the ability to be nimble and responsive in operations and delivery, allowing us to meet client needs in the most cost-effective and innovative manner.

Within only the DFW Metroplex, our three offices, two in Dallas and one in Fort Worth, are actively engaged in transformative projects, including transportation, trails, and thoroughfare initiatives. Our experienced teams employ AI-driven data analysis and robust public engagement processes to ensure that projects meet stakeholders' needs while mitigating risks and enhancing operational efficiency. Since 1981, Ardurra's Dallas presence has contributed to over $3 billion in local transportation improvements for organizations such as the City of Dallas, TxDOT, DART, DFW Airport, and Dallas County.

Our commitment to innovation is reinforced by our proactive approach to managing workflows and staffing resources. By continuously monitoring project demands, we ensure that we are prepared to deliver on both current and future needs. With DFW-based staff and the support of our nationwide team, Ardurra is equipped to handle projects of any scale, offering the capacity to complete multiple tasks simultaneously while maintaining the highest standards of quality and efficiency.

CEO Ernesto Aguilar highlights Ardurra's mission: "Our unique organization supports the ability to be nimble and responsive in operations and delivery, allowing us to meet our clients' needs in the most cost-effective and innovative manner."

Ardurra's dedication to AI, ML, and emerging technologies positions us as a trusted partner in advancing communities and enhancing infrastructure. By integrating innovation with our deep expertise, we are shaping a smarter, more sustainable future.

4 TECHNICAL PROPOSAL

In today's rapidly evolving landscape, public sector entities face mounting pressures to enhance operational efficiency, improve service delivery, and adapt to the growing expectations of citizens. Artificial Intelligence (AI) offers transformative potential to address these challenges, providing innovative solutions that optimize processes, enhance decision-making, and deliver measurable results. Our technical approach leverages advanced AI technologies to empower public sector organizations with intelligent, scalable, and sustainable systems.

This approach outlines a comprehensive lifecycle, encompassing solution design, development, integration, deployment, training, and long-term support. By tailoring each solution to the unique needs and objectives of public sector operations, we ensure outcomes that are not only impactful but also aligned with organizational goals and compliance standards. Whether it is streamlining workflows, enhancing citizen engagement, or bolstering data security, our strategy is built to drive tangible improvements and create a foundation for continuous innovation.

4.1 Project Deliverables

Ardurra/GHD's proposed AI solutions are designed to address each deliverable outlined in Section 4.2 comprehensively, combining cutting-edge technology with practical application to meet the unique needs of public sector entities. For **administration**, our AI solutions enhance strategic planning, policy analysis, and performance tracking by leveraging predictive analytics and automated dashboards, enabling data-driven decision-making for city governance. In **development services**, we offer streamlined workflows through intelligent systems that automate permit applications, inspection scheduling, and communications, ensuring transparency and efficiency for developers and residents. For **event centers**, we integrate AI-driven customer engagement tools and optimized ticketing systems to enhance user experiences and streamline event management processes. Our solutions for **economic development** provide predictive analytics and decision-support tools to attract investment, facilitate business growth, and enhance economic planning.

In **finance and budgeting**, our AI solutions enable real-time financial forecasting, budget allocation optimization, and anomaly detection to improve financial oversight and reporting. For **human resources**, our systems automate recruitment, onboarding, and employee engagement processes, creating a more streamlined and productive HR environment. In **IT and cybersecurity**, we offer advanced AI tools to automate Help Desk support, generate documentation, and proactively detect and prevent cyber threats, ensuring robust IT infrastructure. In **library services**, personalized user experiences are achieved through AI-powered catalog searches and virtual assistance tools.

For **municipal courts**, our AI-driven case management tools and automated inquiry systems enhance access to legal information and streamline court operations. **Parks and recreation** services benefit from AI-enhanced program management, activity recommendations, and optimized registration processes. Our solutions for **parks maintenance** include predictive maintenance scheduling, resource allocation optimization, and improved communication channels with residents. For **public works**, we optimize project scheduling, resource management, and public communication to ensure infrastructure projects are delivered efficiently.

In **utility billing**, AI solutions automate billing inquiries, improve payment processing, and offer real-time usage insights for customers. Our tools for **visitor bureaus** enhance tourism experiences through personalized recommendations and improved visitor engagement, fostering local economic growth. Across **other government departments**, our AI technologies drive efficiency, enhance service delivery, and support data-driven decision-making. These solutions are tailored to integrate seamlessly with existing systems, ensure compliance with data security standards, and deliver measurable outcomes, addressing the diverse operational challenges outlined in the RFP.

4.2 Technical Approach

Ardurra/GHD's technical approach to implementing AI solutions for public sector entities combine robust design methodologies, seamless integration strategies, and a user-focused commitment to accessibility. Our **methodologies for design and development** are rooted in an Agile framework, enabling iterative and flexible progress that adapts to evolving needs. We initiate with a comprehensive requirements analysis, engaging stakeholders to define project goals and prioritize functionalities. Using advanced AI frameworks such as machine learning, natural language processing (NLP), and predictive analytics, we develop scalable, modular systems tailored to address specific operational challenges. Rigorous testing, including unit, integration, and user acceptance testing (UAT), ensures the solutions meet performance, compliance, and usability standards before deployment.

For **integration with existing government systems**, we employ a compatibility-first strategy to seamlessly connect AI tools with legacy infrastructures such as ERP systems, case management software, and database platforms. Open APIs and adherence to interoperability standards ensure smooth data exchange and system interaction. Our solutions are designed with scalability and adaptability, enabling integration with current IT ecosystems and accommodating future upgrades or extensions. Data security and privacy are paramount, with built-in compliance for regulations such as GDPR, HIPAA, and CCPA, ensuring secure and lawful handling of sensitive information.

User-friendliness and accessibility are key pillars of our approach. Interfaces are designed to be intuitive and accessible, with minimal training required for end-users. Solutions include customizable dashboards, natural language processing capabilities for effortless interaction, and multi-language support to cater to diverse communities. Accessibility features comply with WCAG standards, ensuring inclusivity for individuals with disabilities. By prioritizing a seamless and engaging user experience, our solutions foster higher adoption rates, streamline workflows, and empower stakeholders to leverage AI effectively for enhanced public sector operations. This holistic approach ensures our solutions are not only technologically robust but also operationally impactful and user-focused.

4.2.1 Solution Design and Development

Needs Assessment

- Conduct detailed operational diagnostics to identify pain points, inefficiencies, and opportunities for automation or optimization.
- Engage with stakeholders across all relevant departments to capture a holistic understanding of organizational objectives and constraints.
- Perform system and process audits to ensure that proposed solutions align seamlessly with existing workflows.

AI Model Development

- Build and train AI models using machine learning, natural language processing (NLP), computer vision, and predictive analytics to solve specific use cases.
- Incorporate modular and scalable designs that allow for future customization and integration as operational needs evolve.
- Ensure models are developed with fairness and transparency, leveraging bias-mitigation techniques to promote equitable outcomes.

User-Centric Design

- Develop user interfaces that are accessible and intuitive, designed with input from diverse user groups.
- Prioritize user experience to encourage adoption, reduce training time, and ensure accessibility for all stakeholders, including those with disabilities.
- Incorporate multilingual capabilities and customizable dashboards to support a broad range of users.

4.2.2 Integration with Existing Systems

System Compatibility

- Integrate AI solutions with legacy systems such as ERP platforms, case management tools, and public records databases.
- Ensure compatibility with existing IT infrastructure while maintaining adaptability for future upgrades.

APIs and Interoperability

- Leverage open APIs and standards for seamless communication between AI solutions and existing systems.
- Provide comprehensive API documentation to facilitate future integrations by in-house IT teams or third-party vendors.

Real-Time Analytics

- Deploy real-time analytics engines to process large data volumes, generate actionable insights, and provide predictive forecasting for better decision-making.
- Implement dashboards tailored to departmental needs, offering key metrics such as operational efficiency, citizen engagement rates, and system performance.

4.2.3 Implementation and Deployment

Pilot Testing

- Conduct limited-scale deployments in controlled environments to evaluate system performance, identify areas for improvement, and gather stakeholder feedback.
- Use insights from pilot programs to refine models, adjust parameters, and validate the solution against predefined success metrics.

Change Management

- Develop and execute a comprehensive change management strategy, including communication plans, stakeholder alignment, and impact analysis.
- Provide leadership with resources and tools to support organizational adaptation to new AI-driven workflows.

Phased Rollout

- Implement solutions incrementally, beginning with high-priority departments or processes to minimize operational disruption.
- Scale deployments based on user readiness and demonstrated success in initial phases.

4.2.4 Data Governance and Cybersecurity

Data Privacy and Compliance

- Ensure adherence to global and local data protection regulations such as GDPR, HIPAA, and CCPA.
- Utilize advanced anonymization, encryption, and access control measures to protect sensitive information.

Security Frameworks

- Incorporate multi-layered security protocols, including end-to-end encryption, intrusion detection systems, and automated threat detection powered by AI.
- Regularly update systems to address vulnerabilities and maintain compliance with evolving cybersecurity standards.

Auditing and Monitoring

- Implement automated monitoring systems to track solution performance, user behavior, and system anomalies.
- Conduct regular audits to ensure data integrity, operational transparency, and compliance with regulatory frameworks.

4.2.5 Performance Metrics and Continuous Improvement

KPIs and Monitoring

- Define and track KPIs, such as service response times, system uptime, error rates, and user adoption metrics.
- Use performance dashboards to provide stakeholders with real-time visibility into the impact of AI implementations.

Feedback Loops

- Establish mechanisms to capture user feedback and continuously refine AI models based on operational insights.
- Facilitate regular review cycles to align AI functionalities with changing organizational priorities.

Algorithm Updates

- Leverage continuous learning techniques to update AI algorithms in response to new data, ensuring improved accuracy and relevance over time.

- Implement safeguards to validate updates, ensuring they enhance performance without unintended consequences.

4.2.6 Training and Support

Comprehensive Training

- Develop detailed training programs tailored to different user roles, ensuring all stakeholders have the skills and confidence to use AI solutions effectively.
- Offer hands-on workshops, instructional videos, and written documentation to accommodate diverse learning preferences.

Ongoing Support

- Provide 24/7 technical support and system monitoring to address issues promptly and ensure uninterrupted operation.
- Deliver regular software updates to enhance functionality, improve security, and adapt to emerging technological advancements.

Knowledge Transfer

- Work closely with internal teams to transfer knowledge, enabling in-house management of AI solutions.
- Develop operational guides and technical documentation to ensure sustainable operation and maintenance of the systems.

4.3 Performance Metrics

At Ardurra/GHD, measuring the success and performance of AI solutions is integral to delivering impactful results for public sector entities. Our approach is centered on defining and tracking **Key Performance Indicators (KPIs)** tailored to each deliverable. For instance, in administration-focused solutions, KPIs may include improved decision-making speed, increased policy analysis accuracy, and reduced time to generate performance reports. In development services, success is measured by metrics such as permit processing time, reduction in inspection scheduling errors, and customer satisfaction rates. Similarly, for utility billing, KPIs like decreased billing inquiries, improved payment processing times, and customer engagement metrics are monitored to ensure performance objectives are achieved.

To ensure the **accuracy and reliability** of AI solutions, we employ rigorous validation and testing protocols throughout the development lifecycle. This includes data validation to ensure input accuracy, algorithm testing for error reduction, and user acceptance testing to confirm real-world applicability. Automated monitoring systems continuously assess solution performance, flagging anomalies for review and adjustment. Advanced error-detection mechanisms are embedded in the solutions to identify and correct discrepancies in real time, ensuring reliable outputs across all applications.

Our approach to **continuous improvement** involves leveraging adaptive learning mechanisms within the AI models. These systems evolve based on user interactions and new data inputs, enhancing performance over time. Regular feedback loops are established with stakeholders to capture insights and refine functionalities. Scheduled audits and performance reviews ensure that KPIs are consistently met and updated as organizational priorities shift. Additionally, our solutions are designed to accommodate scalability and integration of emerging technologies, ensuring their relevance and effectiveness in addressing future challenges.

Through a combination of targeted KPIs, robust accuracy measures, and a commitment to continuous improvement, we ensure that our AI solutions consistently deliver measurable value, align with organizational goals, and adapt to the evolving needs of public sector operations.

4.4 Risk Management

Implementing AI solutions in the public sector comes with several potential risks that must be proactively addressed to ensure project success and long-term sustainability. These risks include **data security and privacy concerns**, **integration challenges with legacy systems**, **resistance to change among stakeholders**, **algorithm bias**

or inaccuracies, and **system downtime or performance issues**. GHD employs a comprehensive risk management framework to identify, assess, and mitigate these risks throughout the project lifecycle.

To address **data security and privacy risks**, we ensure all AI solutions comply with stringent regulations such as GDPR, HIPAA, and CCPA. Our approach incorporates encryption protocols, multi-factor authentication, and role-based access controls to protect sensitive information. Regular security audits and penetration testing are conducted to identify and resolve vulnerabilities, while real-time threat detection systems monitor and mitigate potential breaches proactively.

Integration challenges with existing government systems are mitigated through thorough system assessments and stakeholder consultations during the planning phase. We prioritize compatibility and scalability by leveraging open APIs, adhering to interoperability standards, and conducting extensive integration testing to ensure seamless connectivity between AI solutions and legacy infrastructure. Our phased deployment approach further minimizes disruptions, allowing for incremental adaptation and feedback.

Resistance to change among stakeholders is a common risk in technology adoption. To mitigate this, we implement robust change management strategies, including clear communication of project benefits, hands-on training programs, and ongoing support to build user confidence. Engaging stakeholders early and consistently ensures alignment and fosters a sense of ownership in the AI implementation process.

To minimize the risk of **algorithm bias or inaccuracies**, we employ rigorous data validation and testing protocols during development. Bias-mitigation techniques, such as balanced dataset design and algorithm transparency, are integral to our approach. Continuous monitoring and adaptive learning mechanisms ensure that AI models evolve to maintain accuracy and fairness as new data becomes available.

Finally, **system downtime and performance issues** are mitigated through high-availability system architectures, regular maintenance schedules, and the use of cloud-based infrastructure to ensure scalability and reliability. Disaster recovery plans are established, including automated failover mechanisms and data backups, to minimize downtime in the event of a disruption.

By identifying potential risks early and implementing tailored mitigation strategies, GHD ensures the delivery of secure, reliable, and impactful AI solutions that align with the goals and operational needs of public sector entities. Our proactive risk management approach fosters resilience and confidence in the adoption of advanced technologies.

4.5 Compliance and Standards

Ardurra/GHD's AI solutions are designed with a steadfast commitment to adherence to relevant regulations and industry standards, ensuring that our implementations meet and exceed the legal and ethical requirements of public sector entities. We prioritize compliance with globally recognized data privacy laws, including the **General Data Protection Regulation (GDPR)**, **Health Insurance Portability and Accountability Act (HIPAA)**, **California Consumer Privacy Act (CCPA)**, and other applicable local, state, and federal regulations. This focus guarantees the protection of sensitive information while fostering trust and confidence among stakeholders and the communities we serve.

To ensure adherence to **data privacy laws**, our solutions integrate advanced data protection measures, including end-to-end encryption for data at rest and in transit, as well as robust access control mechanisms such as multi-factor authentication (MFA) and role-based access controls (RBAC). We employ data anonymization and pseudonymization techniques to protect personal information while allowing data analysis for decision-making purposes. In addition, all data collection and processing activities are performed with explicit user consent, and audit trails are maintained to document compliance with regulatory requirements.

Our solutions are developed with a **privacy-by-design and privacy-by-default** approach, embedding data protection principles into every stage of the solution lifecycle. This includes rigorous data validation and integrity checks, ensuring the accuracy and reliability of data used by AI systems. Regular compliance audits and updates are conducted to align our systems with evolving regulatory standards and to address potential vulnerabilities proactively.

In the context of **HIPAA compliance**, our solutions are tailored to safeguard Protected Health Information (PHI) through the implementation of strict security measures. This includes the use of industry-standard encryption protocols (e.g., AES-256) and secure data storage and transmission practices. Access to PHI is limited to authorized personnel, and detailed logging mechanisms track all interactions with sensitive data, enabling swift responses to potential breaches or non-compliance incidents.

We also maintain compliance with **industry standards and frameworks**, such as ISO/IEC 27001 for information security management and NIST cybersecurity frameworks. These standards guide our practices in secure solution design, risk management, and incident response planning. By adhering to these frameworks, we ensure that our solutions remain resilient against emerging security threats and align with best practices in data governance and cybersecurity.

GHD's commitment to compliance is further reinforced by continuous training for our teams and client stakeholders, ensuring that all parties understand their roles in maintaining regulatory adherence. By integrating these measures into our technical and operational frameworks, we provide AI solutions that not only meet compliance requirements but also set a benchmark for security, reliability, and ethical governance in the public sector.

5 PRICING

See Exhibit 1: Categories Offered and Pricing Proposal.

6 PROPOSED VALUE-ADD

Ardurra/GHD bring a unique value-add to public sector AI solutions by going beyond the standard scope of work to deliver innovative, impactful, and sustainable results. Our solutions are not just about addressing immediate challenges but are designed to provide long-term operational efficiency, enhanced citizen engagement, and measurable outcomes that align with the strategic goals of public sector entities.

One of our core value propositions is our **integrated expertise in AI and domain-specific knowledge**. By combining advanced AI capabilities with a deep understanding of public sector operations, we craft solutions tailored to specific departmental needs, whether optimizing utility billing systems, automating HR workflows, or enhancing decision-making in municipal governance. Our team's ability to align AI innovations with the practical realities of public sector operations ensures seamless adoption and tangible benefits.

Ardurra/GHD also excel in leveraging **cutting-edge technologies**, such as predictive analytics, machine learning, and natural language processing (NLP), to introduce efficiencies that extend beyond traditional implementations. For instance, our AI-driven real-time analytics platforms enable data-informed decision-making across multiple departments, while automated self-service tools reduce administrative burdens and improve citizen satisfaction. Moreover, our solutions are designed to evolve, integrating emerging technologies such as edge computing and IoT to further enhance operational capabilities.

Another key value-add is our focus on **user experience and accessibility**. We prioritize user-centric design to create intuitive, inclusive, and accessible interfaces that accommodate diverse user groups, including citizens with disabilities. Features such as multilingual support, personalized dashboards, and voice-enabled interactions ensure broader adoption and satisfaction. This commitment to usability fosters greater engagement and trust among end-users.

In addition to technical innovation, Ardurra/GHD offer **unmatched support and training services**. We provide comprehensive training programs tailored to the needs of public sector staff, empowering them to maximize the potential of AI tools. Our post-deployment support includes proactive system monitoring, regular updates, and dedicated customer service to ensure the long-term success of our solutions. We also emphasize knowledge transfer, equipping in-house teams with the skills and documentation needed to maintain and adapt the solutions over time.

Finally, Ardurra/GHD's solutions are designed with a strong emphasis on **sustainability and cost efficiency**. By automating routine tasks and optimizing resource allocation, we help public sector entities reduce operational

costs while delivering higher-quality services. Our solutions also contribute to environmental sustainability by integrating energy-efficient processes and reducing waste in operations.

7 HUB BONUS

Neither GHD, Ardurra, nor Utili-Assist is a Historically Underutilized Business (HUB), Minority, Women-Owned or Disadvantaged Business Enterprise.

8 REQUIRED ATTACHMENTS

Signed copies of all ATTACHMENTS, including the cover sheet, Attachments, and exhibits are appended to the end of this proposal document.

469-678-8667

1341 W Mockingbird Ln, Suite 310W,
Dallas, TX 75247

www.ardurra.com

TXShare
Your Public Sector Solutions Center

REQUEST FOR PROPOSALS
For
Artificial Intelligence (AI) Solutions for Public Sector Entities
RFP # 2025-018

Sealed proposals will be accepted until 2:00 PM CT, **January 17, 2025,** and then publicly opened and read aloud thereafter.

Ardurra Group, Inc.
Legal Name of Proposing Firm

Chad Morris | Big Data Group Lead
Contact Person for This Proposal | Title

469-640-6617 | cmorris@ardurra.com
Contact Person Telephone Number | Contact Person E-Mail Address

1341 West Mockingbird Ln., Suite 310W | Dallas, TX | 75247
Street Address of Principal Place of Business | City/State | Zip

1341 West Mockingbird Ln., Suite 310W | Dallas, TX | 75247
Mailing Address of Principal Place of Business | City/State | Zip

Chad Morris | Big Data Group Lead
Point of Contact for Contract Negotiations | Title

469-640-6617 | cmorris@ardurra.com
Point of Contact Telephone Number | Point of Contact Person E-Mail Address

Acknowledgment of Addenda (initial): #1 Yes #2 _____ #3 _____ #4 _____ #5 _____

NOTE: Any confidential/proprietary information must be clearly labeled as "confidential/proprietary". All proposals are subject to the Texas Public Information Act.

COVER SHEET

ATTACHMENT I: INSTRUCTIONS
FOR PROPOSALS COMPLIANCE AND SUBMITTAL

Compliance with the Solicitation

Submissions must be in strict compliance with this solicitation. Failure to comply with all provisions of the solicitation may result in disqualification.

Compliance with the NCTCOG Standard Terms and Conditions

By signing its submission, Offeror acknowledges that it has read, understands and agrees to comply with the NCTCOG standard terms and conditions.

Acknowledgment of Insurance Requirements

By signing its submission, Offeror acknowledges that it has read and understands the insurance requirements for the submission. Offeror also understands that the evidence of required insurance must be submitted within ten (10) working days following notification of its offer being accepted; otherwise, NCTCOG may rescind its acceptance of the Offeror's proposals. The insurance requirements are outlined in Section 2.2 - General Terms and Conditions.

Name of Organization/Contractor(s):

Ardurra Group, Inc.

Signature of Authorized Representative:

Date: 1/23/2025

ATTACHMENT II: CERTIFICATIONS OF OFFEROR

I hereby certify that the information contained in this proposal and any attachments is true and correct and may be viewed as an accurate representation of proposed services to be provided by this organization. I certify that no employee, board member, or agent of the North Central Texas Council of Governments has assisted in the preparation of this proposal. I acknowledge that I have read and understand the requirements and provisions of the solicitation and that the organization will comply with the regulations and other applicable local, state, and federal regulations and directives in the implementation of this contract.

I also certify that I have read and understood all sections of this solicitation and will comply with all the terms and conditions as stated; and furthermore that I, Charles Morris (typed or printed name) certify that I am the Big Data Group Lead (title) of the corporation, partnership, or sole proprietorship, or other eligible entity named as offeror and respondent herein and that I am legally authorized to sign this offer and to submit it to the North Central Texas Council of Governments, on behalf of said offeror by authority of its governing body.

Name of Organization/Contractor(s):

Ardurra Group, Inc.

Signature of Authorized Representative:

Date: 1/23/2024

ATTACHMENT III: CERTIFICATION
REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

This certification is required by the Federal Regulations Implementing Executive Order 12549, Debarment and Suspension, 45 CFR Part 93, Government-wide Debarment and Suspension, for the Department of Agriculture (7 CFR Part 3017), Department of Labor (29 CFR Part 98), Department of Education (34 CFR Parts 85, 668, 682), Department of Health and Human Services (45 CFR Part 76).

The undersigned certifies, to the best of his or her knowledge and belief, that both it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency;

2. Have not within a three-year period preceding this contract been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction, violation of federal or State antitrust statues or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false Proposals, or receiving stolen property;

3. Are not presently indicated for or otherwise criminally or civilly charged by a government entity with commission of any of the offense enumerated in Paragraph (2) of this certification; and,

4. Have not within a three-year period preceding this contract had one or more public transactions terminated for cause or default.

Where the prospective recipient of federal assistance funds is unable to certify to any of the qualifications in this certification, such prospective recipient shall attach an explanation to this certification form.

Name of Organization/Contractor(s):

Ardurra Group, Inc.

Signature of Authorized Representative:

Date: 1/23/2025

ATTACHMENT IV: RESTRICTIONS ON LOBBYING

Section 319 of Public Law 101-121 prohibits recipients of federal contracts, grants, and loans exceeding $100,000 at any tier under a federal contract from using appropriated funds for lobbying the Executive or Legislative Branches of the federal government in connection with a specific contract, grant, or loan. Section 319 also requires each person who requests or receives a federal contract or grant in excess of $100,000 to disclose lobbying.

No appropriated funds may be expended by the recipient of a federal contract, loan, or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any federal executive department or agency as well as any independent regulatory commission or government corporation, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered federal actions: the awarding of any federal contract, the making of any federal grant, the making of any federal loan the entering into of any cooperative agreement and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

As a recipient of a federal grant exceeding $100,000, NCTCOG requires its subcontractors of that grant to file a certification, set forth in Appendix B.1, that neither the agency nor its employees have made, or will make, any payment prohibited by the preceding paragraph.

Subcontractors are also required to file with NCTCOG a disclosure form, set forth in Appendix B.2, if the subcontractor or its employees have made or have agreed to make any payment using nonappropriated funds (to include profits from any federal action), which would be prohibited if paid for with appropriated funds.

LOBBYING CERTIFICATION
FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge or belief, that:

1. No federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an officer or employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal loan, the entering into of any cooperative Contract, and the extension, continuation, renewal, amendment, or modification or any federal contract, grant, loan, or cooperative contract; and

2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, and or cooperative contract, the undersigned shall complete and submit Standard Form – LLL, "Disclosure Form to Report Lobbying", in accordance with the instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers and that all sub-recipients shall certify accordingly.

Name of Organization/Contractor(s):

Ardurra Group, Inc.

Signature of Authorized Representative:

Date: 1/23/2025

ATTACHMENT V: DRUG-FREE WORKPLACE CERTIFICATION

The Ardurra Group, Inc. (company name) will provide a Drug Free Work Place in compliance with the Drug Free Work Place Act of 1988. The unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited on the premises of the Ardurra Group, Inc. (company name) or any of its facilities. Any employee who violates this prohibition will be subject to disciplinary action up to and including termination. All employees, as a condition of employment, will comply with this policy.

CERTIFICATION REGARDING DRUG-FREE WORKPLACE

This certification is required by the Federal Regulations Implementing Sections 5151-5160 of the Drug-Free Workplace Act, 41 U.S.C. 701, for the Department of Agriculture (7 CFR Part 3017), Department of Labor (29 CFR Part 98), Department of Education (34 CFR Parts 85, 668 and 682), Department of Health and Human Services (45 CFR Part 76).

The undersigned subcontractor certifies it will provide a drug-free workplace by:

Publishing a policy Proposal notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the consequences of any such action by an employee;

Establishing an ongoing drug-free awareness program to inform employees of the dangers of drug abuse in the workplace, the subcontractor's policy of maintaining a drug-free workplace, the availability of counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed on employees for drug violations in the workplace;

Providing each employee with a copy of the subcontractor's policy Proposal;

Notifying the employees in the subcontractor's policy Proposal that as a condition of employment under this subcontract, employees shall abide by the terms of the policy Proposal and notifying the subcontractor in writing within five days after any conviction for a violation by the employee of a criminal drug abuse statue in the workplace;

Notifying the Board within ten (10) days of the subcontractor's receipt of a notice of a conviction of any employee; and,

Taking appropriate personnel action against an employee convicted of violating a criminal drug statue or requires such employee to participate in a drug abuse assistance or rehabilitation program.

Name of Organization/Contractor(s):

Ardurra Group, Inc.

Signature of Authorized Representative:

Date: 1/23/2025

ATTACHMENT VI: DISCLOSURE OF CONFLICT OF INTEREST
CERTIFICATION REGARDING DISCLOSURE OF CONFLICT OF INTEREST

The undersigned certifies that, to the best of his or her knowledge or belief, that:

"No employee of the contractor, no member of the contractor's governing board or body, and no person who exercises any functions or responsibilities in the review or approval of the undertaking or carrying out of this contract shall participate in any decision relating to this contract which affects his/her personal pecuniary interest.

Executives and employees of contractor shall be particularly aware of the varying degrees of influence that can be exerted by personal friends and associates and, in administering the contract, shall exercise due diligence to avoid situations which give rise to an assertion that favorable treatment is being granted to friends and associates. When it is in the public interest for the contractor to conduct business with a friend or associate of an executive or employee of the contractor, an elected official in the area or a member of the North Central Texas Council of Governments, a permanent record of the transaction shall be retained.

Any executive or employee of the contractor, an elected official in the area or a member of the NCTCOG, shall not solicit or accept money or any other consideration from a third person, for the performance of an act reimbursed in whole or part by contractor or Department. Supplies, tools, materials, equipment or services purchased with contract funds shall be used solely for purposes allowed under this contract. No member of the NCTCOG shall cast a vote on the provision of services by that member (or any organization which that member represents) or vote on any matter which would provide a direct or indirect financial benefit to the member or any business or organization which the member directly represents".

No officer, employee or paid consultant of the contractor is a member of the NCTCOG.

No officer, manager or paid consultant of the contractor is married to a member of the NCTCOG.

No member of NCTCOG directly owns, controls or has interest in the contractor.

The contractor has disclosed any interest, fact, or circumstance that does or may present a potential conflict of interest.

No member of the NCTCOG receives compensation from the contractor for lobbying activities as defined in Chapter 305 of the Texas Government Code.

Should the contractor fail to abide by the foregoing covenants and affirmations regarding conflict of interest, the contractor shall not be entitled to the recovery of any costs or expenses incurred in relation to the contract and shall immediately refund to the North Central Texas Council of Governments any fees or expenses that may have been paid under this contract and shall further be liable for any other costs incurred or damages sustained by the NCTCOG as it relates to this contract.

Name of Organization/Contractor(s):

Ardurra Group, Inc.

Signature of Authorized Representative:

Date: 1/23/2025

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY
Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

_____
Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

_____ _____
Signature of vendor doing business with the governmental entity Date

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 1/1/2021

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

ATTACHMENT VII: CERTIFICATION OF FAIR BUSINESS PRACTICES

That the submitter has not been found guilty of unfair business practices in a judicial or state agency administrative proceeding during the preceding year. The submitter further affirms that no officer of the submitter has served as an officer of any company found guilty of unfair business practices in a judicial or state agency administrative during the preceding year.

Name of Organization/Contractor(s):

Ardurra Group, Inc.

Signature of Authorized Representative:

Date: 1/23/2025

ATTACHMENT VIII: CERTIFICATION OF GOOD STANDING
TEXAS CORPORATE FRANCHISE TAX CERTIFICATION

Pursuant to Article 2.45, Texas Business Corporation Act, state agencies may not contract with for profit corporations that are delinquent in making state franchise tax payments. The following certification that the corporation entering into this offer is current in its franchise taxes must be signed by the individual authorized on Form 2031, Corporate Board of Directors Resolution, to sign the contract for the corporation.

The undersigned authorized representative of the corporation making the offer herein certified that the following indicated Proposal is true and correct and that the undersigned understands that making a false Proposal is a material breach of contract and is grounds for contract cancellation.

Indicate the certification that applies to your corporation:

☑ The Corporation is a for-profit corporation and certifies that it is not delinquent in its franchise tax payments to the State of Texas.

☐ The Corporation is a non-profit corporation or is otherwise not subject to payment of franchise taxes to the State of Texas.

Type of Business (if not corporation):

☐ Sole Proprietor

☐ Partnership

☐ Other

Pursuant to Article 2.45, Texas Business Corporation Act, the North Central Texas Council of Governments reserves the right to request information regarding state franchise tax payments.

Charles E. Morris

(Printed/Typed Name and Title of Authorized Representative)

Signature

Date: 1/23/25

ATTACHMENT IX: HISTORICALLY UNDERUTILIZED BUSINESSES, MINORITY OR WOMEN-OWNED OR DISADVANTAGED BUSINESS ENTERPRISES

Historically Underutilized Businesses (HUBs), minority or women-owned or disadvantaged businesses enterprises (M/W/DBE) are encouraged to participate in the solicitation process.

NCTCOG recognizes the certifications of most agencies. HUB vendors must submit a copy of their certification for consideration during the evaluation of their proposal. Please attach the copy to this form. This applies only to the Offeror and not a subcontractor.

Texas vendors who are not currently certified are encouraged to contact either the Texas United Certification Program, State of Texas HUB Program, or the North Central Texas Regional Certification Agency, among others. Contact:

State of Texas HUB Program
Texas Comptroller of Public Accounts
Lyndon B. Johnson State Office Building
111 East 17th Street
Austin, Texas 78774
(512) 463-6958
http://www.window.state.tx.us/procurement/prog/hub/

North Central Texas Regional Certification Agency
624 Six Flags Drive, Suite 100
Arlington, TX 76011
(817) 640-0606
http://www.nctrca.org/certification.html

Texas United Certification Program
USDOT website at
https://www.transportation.gov/DBE

You must include a copy of your certification document as part of this solicitation to receive points in the evaluation.

Vendor to Sign Below to Attest to Validity of Certification:

_____
Vendor Name

_____
Authorized Signature

_____ _____
Typed Name Date

☑ **Not applicable.**

ATTACHMENT X: NCTCOG FEDERAL AND STATE OF TEXAS REQUIRED PROCUREMENT PROVISIONS

The following provisions are mandated by Federal and/or State of Texas law. Failure to certify to the following will result in disqualification of consideration for contract. Entities or agencies that are not able to comply with the following will be ineligible for consideration of contract award.

PROHIBITED TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT CERTIFICATION

This Contract is subject to the Public Law 115-232, Section 889, and 2 Code of Federal Regulations (CFR) Part 200, including §200.216 and §200.471, for prohibition on certain telecommunications and video surveillance or equipment. Public Law 115-232, Section 889, identifies that restricted telecommunications and video surveillance equipment or services (e.g., phones, internet, video surveillance, cloud servers) include the following:

A) Telecommunications equipment that is produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliates of such entities).
B) Video surveillance and telecommunications equipment produced by Hytera Communications Corporations, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliates of such entities).
C) Telecommunications or video surveillance services used by such entities or using such equipment.
D) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, Director of the National Intelligence, or the Director of the Federal Bureau of Investigation reasonably believes to be an entity owned or controlled by the government of a covered foreign country. The entity identified below, through its authorized representative, hereby certifies that no funds under this Contract will be obligated or expended to procure or obtain telecommunication or video surveillance services or equipment or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as a critical technology as part of any system prohibited by 2 CFR §200.216 and §200.471, or applicable provisions in Public Law 115-232 Section 889.

☑ **The Contractor or Subrecipient hereby certifies that it does comply with the requirements of 2 CFR §200.216 and §200.471, or applicable regulations in Public Law 115-232 Section 889.**

SIGNATURE OF AUTHORIZED PERSON: _____

NAME OF AUTHORIZED PERSON: Charles E. Morris

NAME OF COMPANY: Ardurra Group, Inc.

DATE: 1/23/25

-OR-

☐ **The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of 2 CFR §200.216 and §200.471, or applicable regulations in Public Law 115-232 Section 889.**

SIGNATURE OF AUTHORIZED PERSON: _____

NAME OF AUTHORIZED PERSON: _____

NAME OF COMPANY: _____

DATE: _____

DISCRIMINATION AGAINST FIREARMS ENTITIES OR FIREARMS TRADE ASSOCIATIONS

This contract is subject to the Texas Local Government Code chapter 2274, Subtitle F, Title 10, prohibiting contracts with companies who discriminate against firearm and ammunition industries.
TLGC chapter 2274, Subtitle F, Title 10, identifies that "discrimination against a firearm entity or firearm trade association" includes the following:

A) means, with respect to the entity or association, to:
   I. refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; and
   II. refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or
   III. terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association.

B) An exception to this provision excludes the following:
   I. contracts with a sole-source provider; or
   II. the government entity does not receive bids from companies who can provide written verification.

The entity identified below, through its authorized representative, hereby certifies that they have no practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and that they will not discriminate during the term of the contract against a firearm entity or firearm trade association as prohibited by Chapter 2274, Subtitle F, Title 10 of the Texas Local Government Code.

☑ **The Contractor or Subrecipient hereby certifies that it does comply with the requirements of Chapter 2274, Subtitle F, Title 10.**

SIGNATURE OF AUTHORIZED PERSON:

NAME OF AUTHORIZED PERSON: Charles E. Morris

NAME OF COMPANY: Ardurra Group, Inc.

DATE: 1/23/25

-OR-

☐ **The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of Chapter 2274, Subtitle F, Title 10.**

SIGNATURE OF AUTHORIZED PERSON: _____

NAME OF AUTHORIZED PERSON: _____

NAME OF COMPANY: _____

DATE: _____

BOYCOTTING OF CERTAIN ENERGY COMPANIES

This contract is subject to the Texas Local Government Code chapter 809, Subtitle A, Title 8, prohibiting contracts with companies who boycott certain energy companies.

TLGC chapter Code chapter 809, Subtitle A, Title 8, identifies that "boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company:

I. engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; and
II. does business with a company described by paragraph (I).

The entity identified below, through its authorized representative, hereby certifies that they do not boycott energy companies, and that they will not boycott energy companies during the term of the contract as prohibited by Chapter 809, Subtitle A, Title 8 of the Texas Local Government Code.

☑ The Contractor or Subrecipient hereby certifies that it does comply with the requirements of Chapter 809, Subtitle A, Title 8.

SIGNATURE OF AUTHORIZED PERSON:

NAME OF AUTHORIZED PERSON: Charles E. Morris

NAME OF COMPANY: Ardurra Group, Inc.

DATE: 1/23/25

-OR-

☐ The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of Chapter 809, Subtitle A, Title 8.

SIGNATURE OF AUTHORIZED PERSON: _____

NAME OF AUTHORIZED PERSON: _____

NAME OF COMPANY: _____

DATE: _____

EXHIBIT 1: CATEGORIES OFFERED AND PRICING PROPOSAL

Place a checkmark next to each category you are offering in your proposal:

☑ **Service Category #1: Artificial Intelligence (AI) Solutions for Public Sector Entities**

☐ **Service Category #2: Other Ancillary Goods or Services (List Below)**

_____

_____

_____

The Respondent shall furnish a comprehensive cost pricing model for this RFP, pursuant to the guidance provided in Section 5.13. Please delineate pricing based on **Service Category 1**, **Service Category 2**, or a combined pricing model for both categories. Label your pricing proposal as "Exhibit 1 – Pricing," and use as many pages as necessary to provide detailed information.

Important Note: This RFP is not tied to any specific project at this time. The purpose is to secure pricing for potential future use of AI solutions by public sector entities. Respondents are encouraged to provide pricing models that are as descriptive and flexible as possible to accommodate the varied needs of potential users.

In addition to the requested pricing, Respondents are encouraged to include a retainage rate based on the hourly rate of each staff member for any future projects that may arise but are not currently anticipated by this RFP.

Refer to Exhibit 1 –Pricing Proposal Worksheet Attachment.

Category 1 - AI Solutions Pricing Format Request Example				
Notes:				
Description	**Add additional description if necessary:**	**Unit Price**	**% Discount**	**Notes/Comments**
1. Software Licensing and Subscription Costs: *Provide the cost breakdown for software licenses, subscriptions, or any other software-related fees.*				
2. Implementation and Customization Costs: *Outline the costs related to the implementation of the AI solution, including setup, integration with existing systems, customization, and deployment.*				
2.1 - Project Management		**$425/hour**	**10%**	Pricing may vary based on the Scope of Services provided. The pricing provided is for high-level budgetary purposes only. The variance in the size and commodity mix of the NCTCOG members makes it impossible to provide a firm price without working directly with individual utilities to clarify requirements. A firm price will only be offered upon completion of a scoping/discovery exercise with an individual utility
2.1 - Billing System Integration		**$419/hour**	**10%**	
2.1 - Data Scientist		**$210/hour**	**10%**	
2.1 - Data Privacy & Security		**$425/hour**	**10%**	
2.1 - Systems Administrator		**$450/hour**	**10%**	
2.1 - Data Governance Specialist		**$385/hour**	**10%**	
2.1 - Cybersecurity Specialist		**$285/hour**	**10%**	
2.1 - Ethics and Bias Specialist		**$235/hour**	**10%**	
2.1 - QA/QC Specialist		**$235/hour**	**10%**	
2.1 - Data Visualization Specialist		**$175/hour**	**10%**	
2.1 - UI/UX Designer		**$210/hour**	**10%**	
2.1 - Software Engineer/Full Stack Developer		**$315/hour**	**10%**	
2.1 - Natural Launguage Programming Specialist		**$380/hour**	**10%**	
2.1 - Computer Vision Specialist		**$345/hour**	**10%**	
3. Training and Support Costs: *Include costs for training government staff, technical support, and customer service, both during and after implementation.*				
Training and Change Management Specialist		**$370/hour**	**10%**	Pricing may vary based on the Scope of Services provided. The pricing provided is for high-level budgetary purposes only. The variance in the size and commodity mix of the NCTCOG members makes it impossible to provide a firm price without working directly with individual utilities to clarify requirements. A firm price will only be offered upon completion of a scoping/discovery exercise with an individual utility
Onsite Training		**$424/hour**	**10%**	
Technical Support		**$350/hour**	**10%**	
4. Ongoing Maintenance and Updates: *Provide costs for ongoing software maintenance, updates, and any regular services required to keep the AI system running smoothly.*				
Software Hosting, Maintenance, and Support		**$435/hour**	**10%**	Pricing may vary based on the Scope of Services provided. The pricing provided is for high-level budgetary purposes only. The variance in the size and commodity mix of the NCTCOG members makes it impossible to provide a firm price without working directly with individual utilities to clarify requirements. A firm price will only be offered upon completion of a scoping/discovery exercise with an individual utility
5. Optional Add-Ons or Features: *List any additional features or services available that are not included in the core proposal but can be added at an additional cost.*				
6. Total Cost of Ownership (TCO): *Summarize the Total Cost of Ownership (TCO), which includes all costs over a defined period (e.g., 3 years or 5 years). This should reflect software, implementation, support, maintenance, and optional add-ons.*				
7. Additional Costs (if applicable): *List any additional costs not covered in the above sections that are relevant to the proposal, such as travel costs, setup fees, or other miscellaneous charges.*				

Category 2 - Ancillary Goods and/or Services				
Describe Below:			**% Discount**	**Notes/Comments**
Technology Business Case Support		**$60 to $100K+**	**10%**	Pricing may vary based on the Scope of Services provided. The pricing provided is for high-level budgetary purposes only. The variance in the size and commodity mix of the NCTCOG members makes it impossible to provide a firm price without working directly with individual utilities to clarify requirements. A firm price will only be offered upon completion of a scoping/discovery exercise with an individual utility
Vendor Procurement Services		**$90 to $150K+**	**10%**	Pricing may vary based on the Scope of Services provided. The pricing provided is for high-level budgetary purposes only. The variance in the size and commodity mix of the NCTCOG members makes it impossible to provide a firm price without working directly with individual utilities to clarify requirements. A firm price will only be offered upon completion of a scoping/discovery exercise with an individual utility
Vendor Contract Negotiation Services		**$50K to $90K+**	**10%**	Pricing may vary based on the Scope of Services provided. The pricing provided is for high-level budgetary purposes only. The variance in the size and commodity mix of the NCTCOG members makes it impossible to provide a firm price without working directly with individual utilities to clarify requirements. A firm price will only be offered upon completion of a scoping/discovery exercise with an individual utility

EXHIBIT 2: SAMPLE MARKET BASKET FORM

This Exhibit is not applicable for this solicitation.

EXHIBIT 3: SERVICE DESIGNATION AREAS

	Texas Service Area Designation or Identification		
Proposing Firm Name:	Ardurra Group, Inc.		
Notes:	**Indicate in the appropriate box whether you are proposing to service the entire state of Texas**		
	Will service the entire state of Texas	Will not service the entire state of Texas	
	☑	☐	
	If you are not proposing to service the entire state of Texas, designate on the form below the regions that you are proposing to provide goods and/or services to. By designating a region or regions, you are certifying that you are willing and able to provide the proposed goods and services.		
Item	**Region**	**Metropolitan Statistical Areas**	**Designated Service Area**
1.	North Central Texas	16 counties in the Dallas-Fort Worth Metropolitan area	
2.	High Plains	Amarillo Lubbock	
3.	Northwest	Abilene Wichita Falls	
4.	Upper East	Longview Texarkana, TX-AR Metro Area Tyler	
5.	Southeast	Beaumont-Port Arthur	
6.	Gulf Coast	Houston-The Woodlands-Sugar Land	
7.	Central Texas	College Station-Bryan Killeen-Temple Waco	
8.	Capital Texas	Austin-Round Rock	
9.	Alamo	San Antonio-New Braunfels Victoria	
10.	South Texas	Brownsville-Harlingen Corpus Christi Laredo McAllen-Edinburg-Mission	
11.	West Texas	Midland Odessa San Angelo	
12.	Upper Rio Grande	El Paso	

(Exhibit 3 continued on next page)

(Exhibit 3 continued)

	Nationwide Service Area Designation or Identification Form		
Proposing Firm Name:	Ardurra Group, Inc.		
Notes:	**Indicate in the appropriate box whether you are proposing to provide service to all Fifty (50) States.**		
	Will service all fifty (50) states ☐	Will not service fifty (50) states ☑	
	If you are not proposing to service to all fifty (50) states, then designate on the form below the states that you will provide service to. By designating a state or states, you are certifying that you are willing and able to provide the proposed goods and services in those states. **If you are only proposing to service a specific region, metropolitan statistical area (MSA), or City in a State, then indicate as such in the appropriate column box.**		

Item	**State**	**Region/MSA/City (write "ALL" if proposing to service entire state)**	**Designated as a Service Area**
1.	Alabama		
2.	Alaska		
3.	Arizona		
4.	Arkansas		
5.	California		
6.	Colorado		
7.	Connecticut		
8.	Delaware		
9.	Florida		
10.	Georgia		
11.	Hawaii		
12.	Idaho		
13.	Illinois		
14.	Indiana		
15.	Iowa		
16.	Kansas		
17.	Kentucky		
18.	Louisiana		
19.	Maine		
20.	Maryland		

21.	Massachusetts		
22.	Michigan		
23.	Minnesota		
24.	Mississippi		
25.	Missouri		
26	Montana		
27.	Nebraska		
28.	Nevada		
29.	New Hampshire		
30.	New Jersey		
31.	New Mexico		
32.	New York		
33.	North Carolina		
34.	North Dakota		
35.	Ohio		
36.	Oregon		
37.	Oklahoma		
38.	Pennsylvania		
39.	Rhode Island		
40.	South Carolina		
41.	South Dakota		
42.	Tennessee		
43.	Texas	ALL	
44.	Utah		
45.	Vermont		
46.	Virginia		
47.	Washington		
48.	West Virginia		
49.	Wisconsin		
50.	Wyoming		

End of Exhibit 3