Response to Request for Proposal for Esri Utility Network Design Services

Greenville Utilities

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May 13, 2025

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Cover Letter

May 13, 2025

Mr. Cleve Haddock, Lifetime CLGPO
Procurement Manager
Greenville Utilities Commission
haddocgc@guc.com

Re: Esri Utility Network Design Services

Dear Mr. Haddock:

Avineon, Inc. (Avineon) is pleased to provide our proposal to Greenville Utilities Commission (GUC) in response to your request for proposal for *Esri Utility Network Design Services*. This proposal will provide GUC with a team of expertly qualified professionals who have the skills required to support your needs.

Summary of Expertise

Avineon was founded in 1992 and has over 33 years of experience providing innovative and high-quality GIS managed services, spatial intelligence, digital modernization, and engineering support solutions to our customers in the utility and public sectors. We are a **Gold-level Esri partner** with extensive experience in managing ArcGIS Utility Network migrations for electric utility customers. Additionally, we hold the Esri Utility Network Management specialty and employ Esri Certified Utility Network Professionals. We are also a **Schneider Electric business partner** and have successfully implemented ArcFM for many customers over the years. As a **product-agnostic** services provider, Avineon delivers consulting services that best align with our customers' requirements and vision.

In the last several years Avineon has completed dozens of Utility Network plans, readiness assessments, migrations, implementations, and training programs, including several for **multi-utility municipal providers**. Avineon has been working with Esri to support product changes that help make the journey to the Utility Network and ArcGIS Pro easier for editors, integrators, users, and system maintenance. Our team is on top of emerging trends. After participating in the Early Adopter program, we recently implemented the newly released Migration Toolset for the ArcGIS Utility Network for several clients. Using the toolset, our team jumpstarts Utility Network migration projects with an immediate transformation of existing data into a simplified Utility Network model. Demonstrating this tangible version of the Utility Network builds early foundational understanding of Utility Network concepts that are rooted in real data. Stakeholders are more engaged in the design process and can therefore make modeling decisions more quickly and confidently. Additionally, the Migration Toolset enhances the data quality assessments which identify critical targets for source data cleanup and automations to bulk clean and transform during the full migration.

In addition to Utility Network migrations, in the past three years, Avineon has helped more than 30 clients, and counting, transition from ArcMap to ArcGIS Pro. In many cases, the clients are not ready for a full-scale transformation to Utility Network but want to leverage the modern toolsets within ArcGIS Pro. Migrations from ArcMap to Pro require significant technical

considerations as well as process changes. Our proven methodology ensures that ArcGIS Pro is configured to support existing data but also move toward better data governance and streamlined workflows by leveraging modern configurations with Attribute Rules, Editing Templates, and Arcade. Our approach ensures our customers receive appropriate training, have time to practice new skills, understand the benefits of the new system, and are supported through their adoption journey.

In our experience, the governance, change management, and training aspects of Utility Network migrations are the most challenging aspect of the journey for many clients. Therefore, we have adapted our approach to building and delivering training plans so that we can adjust as needed to be certain that each editor or user gets the specific attention they need for their journey to Pro and the Utility Network.

Statement of Commitment

Avineon is fully committed to delivering a scalable, adaptable solution that aligns with GUC's goals for design and separate implementation. GUC's investment in your current GIS will be the launching point for the Utility Network migration. Avineon will coordinate with GUC stakeholders to design a comprehensive migration plan that captures the history of your geometric network and related institutional understanding and informs the design of the new Utility Network.

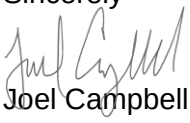
Avineon's experience with discovering the most pertinent details and formulating a thoughtful and risk-averse project plan will keep GUC involved and informed about what matters most. Our approach focuses on out-of-the-box configurations and best practice governance to ensure the solution is easily understood and manageable by GUC staff. When designed and configured using best practices and out-of-the-box functionality, the Utility Network can readily expand to add new requirements, such as visualizations and reporting.

Contact Information

Ms. Wendy Peloquin
Business Development Manager
wpeloquin@avineon.com
Telephone: 727-382-0796

Thank you for the opportunity to submit this proposal to GUC. If you have any questions or require further information, please contact Ms. Wendy Peloquin or me at your earliest convenience.

Sincerely



Joel Campbell
Senior Vice President
Avineon, Inc.
jcampbell@avineon.com

1. Company Background and Relevant Experience

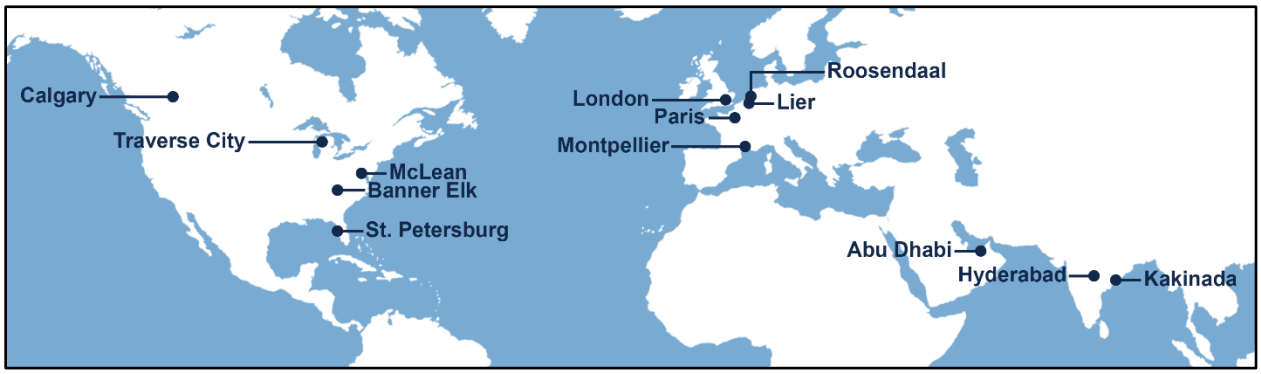
1.1 Company Overview

Avineon specializes in delivering spatial intelligence, digital modernization, and engineering support services. We have over 33 years of successful experience in government, utility, and commercial programs, with 100% customer satisfaction ratings. Avineon's spatial intelligence solutions include strategic planning, software development, landbase and facilities data capture and improvement, data conflation, database development, and data maintenance. In addition, Avineon provides complete solutions to our customers from design to implementation.

We also offer managed GIS support services to dozens of municipal customers and have supported numerous ArcGIS Enterprise upgrades, Portal installations, and Utility Network migrations. This includes work for Greenville, North Carolina (implementation of Avineon's NG911 addressing tool and ad hoc GIS support) and Pitt County, North Carolina (ArcGIS Enterprise upgrade/migration, implementation of Avineon's Web Map Template, and implementation of Avineon's NG911 address tool).

The resources of Avineon's production and management staff are among the most widely respected in the GIS industry. We currently employ a full-time staff of more than 1,100 professional, technical, and support personnel, over 600 of whom are dedicated to performing geospatial information services. This large group of seasoned personnel gives Avineon the ability to take on GIS projects of substantial size and responsibility and expand as needed to meet GUC's requirements. From small customizations to manage your workflows to large scale data improvement, migration, or systems integration projects, Avineon is the knowledgeable and affordable choice. We have ***100% of the expertise necessary to support GUC's Esri Utility Network Design Services in-house*** without the need for subcontractor support.

Avineon's headquarters are in McLean, Virginia and we have offices in Saint Petersburg/ Clearwater, Florida; Traverse City, Michigan; Banner Elk, North Carolina; Canada; Belgium; France; the Netherlands; the United Kingdom; India; and the Middle East. This project will be managed and staffed from our offices in the United States with potential support from one team member located in our Netherlands office.



Avineon is an ***Esri Gold Partner*** and has been an Esri partner for more than 25 years, which also makes us a ***Cornerstone Partner***. Avineon holds the ***Utility Network Management***

Specialty as a vendor and currently has ***five Utility Network certified staff resources*** on our team. Avineon also holds the ***Parcel Management Specialty*** from Esri. We have been engaged in utility GIS and parcel management throughout our corporate history. Avineon has been active in Utility Network implementations since the Alpha version of the Utility Network. We have completed many pilot projects as well as successfully implementing the Utility Network for many electric, gas, water, and sewer customers starting in 2017. Avineon was one of the first companies to earn the Utility Network Management Specialty and we have proven our knowledge and capabilities for utilities large and small. Our parcel experience includes digitizing, conflation, updates to land records, planimetric features, and supporting customers in implementing ArcGIS Pro and Parcel Fabric. Additionally, Avineon received the ***State and Local Government Specialty*** for our expertise and substantial experience in working with local, state, county, and city governments.

Avineon also has years of experience in integrating GIS and Esri Utility Network with other systems for electric and gas utilities. This includes unidirectional and bi-direction integrations using point-to-point, service-oriented, service-bus architecture, and ETL methods. While many integration methods rely on the technology constraints and methods supported by the integrated systems, integrating with Esri's Utility Network opens new possibilities for ***standardization, modernization, and automation***.

1.2 Relevant Project Experience

Avineon has experience with clients from a variety of government and utility sectors around the world. Such broad experience is invaluable in establishing a proven process for understanding and analyzing the needs of individual clients such as GUC. Avineon has been active in Utility Network implementations since the Alpha version of the Utility Network. We have completed many pilot projects as well as successfully implementing the Utility Network for many electric, gas, water, and sewer customers starting in 2017. We were one of the first companies to earn Esri's Utility Network Management Specialty and have proven our knowledge and capabilities for utilities large and small within the ***multi-utility*** space.

Profiles of similar projects previously performed by Avineon are presented below.

	Project Profile
Client:	***City of Morganton, North Carolina***
Project Title:	***ArcGIS Utility Network Implementation, Data Transformation, Field Verification, and Field Collection***
Period:	2024 – Ongoing
Brief Description:	Beginning in 2024 and scheduled for completion in 2025, Avineon is assisting the City of Morganton with the design and implementation of the ArcGIS Utility Network for the electric distribution system, including migration from the geometric network. Avineon has completed delivery of the following services: • Analysis of the current state data in CAD and within GIS. • Hardware assessment for Utility Network implementation. • Tailored the Utility Network data model according to City's needs. • Developed symbology for as-constructed and as-planned system to generate construction prints and drafting standards for the target state. • Migrated the data iteratively from CAD and GIS and integrated it into Utility Network. • Reconciled spatial and relative accuracy differences between CAD and GIS data sources to result in circuit (Utility Network subnetworks) tracing. • Upgraded ArcGIS Enterprise in TEST and PROD environments along with implementing Web Maps and Dashboards. • Implemented ArcGIS Enterprise geodatabase with roles and services. • Developed templates, attributes rules, contingent values, network traces, and reports to gain efficiencies with editing, viewing, and analysis. • Developed quick reference guides (QRG) for user workflows. • Delivered training classes for editing in Utility Network using ArcGIS Pro. • Delivered training classes for tracing in the field using ArcGIS Field Maps. • Supported user acceptance testing, cutover activities, and tuning. Avineon is currently executing the following activities: • Verifying and correcting the data in the GIS to match field conditions thus improving the return on investment (ROI) from GIS with ability to run analytics for loading by phase, protective device traces, transformer loading, etc. • Capturing missing assets in GIS such fuses and open points. • Capturing secondary and transformer feeding each customer. • Collecting and updating phase orientation.

	Project Profile
Client:	***Newnan Utilities***
Project Title:	***Water and Sewer Migration to the Esri Utility Network***
Period:	2024 – Ongoing
Brief Description:	With the deprecation of Esri's geometric network model and the impending move to ArcGIS Pro, many utilities are taking the added step of moving to the Utility Network model. This model maps how assets are connected and adds a data governance rule base. All editing goes through a validation process that supports your engineering analysis and operational functions through subnetworks and tiers. Newnan Utilities selected Avineon to migrate its existing water and sewer data from the ArcGIS geometric network model into the Esri ArcGIS Pro Utility Network model. To start the project, Avineon conducted an *Introduction to Utility Network* session so that Newnan could understand the terms and concepts. Avineon then used the Esri Migration Toolset to perform a data quality assessment. Avineon provided recommendations for the data cleanup and used the Migration Toolset to perform approved bulk edits. Avineon developed digitizing standards for symbology and editing in ArcGIS Pro. Editing workflows were configured in ArcGIS Pro and Newnan editors and administrators were trained in the test system. At the end of the project, the water and sewer data were migrated to the Utility Network in a new ArcGIS Enterprise test environment. This deployment allowed Newnan Utilities time to become familiar with the Utility Network and new workflows prior to a full production implementation. As a future project, Newnan Utilities can leverage the test environment to build business system integrations and deploy a production environment to support a final "go live" of the Utility Network.

	Project Profile
Client:	***Mammoth Community Water District***
Project Title:	***Utility Network Migration***
Period:	2024 – 2025
Brief Description:	Avineon lead the migration of legacy water and sewer source data (Esri geometric network models) to Esri Utility Network and performed a digital transformation to move production editing to ArcGIS Enterprise 11.x with ArcGIS Pro. This project supported the organizational goals to adopt a modern GIS framework and establish standards and best practices and provided in-depth custom training to ready the team to fully sustain production utility management and maintenance within ArcGIS Enterprise and Utility Network.

	Project Profile
Client:	***City of Columbus, Ohio***
Project Title:	***ArcGIS Utility Network Design, Implementation, and OMS Replacement***
Period:	2024 – Ongoing
Brief Description:	Avineon has delivered the following services to the City: • ArcGIS Utility Network design for electric • Selection and tailoring of Utility Network data model • Data readiness assessment and identification of cleansing activities to be performed in the source format • Integration considerations for Cityworks asset management and work management, and customer information system • Roadmap for upgrading from geometric network and ArcFM to the target state with Utility Network • Requirements gathering for upgrading or replacing integration between GIS and OMS (ArcFM Responder) • Strategy and phases for integrating with SCADA, AMI, Smart Lighting, and other operational systems to achieve single pane of glass objectives • Facilitate structured vendor demos from Survalent, Schnieder Electric, and OSI for upgrading or replacing ArcFM Responder

Project Profile	
Client:	***City of Lakeland, Florida***
Project Title:	***Roadmap and Selection to Replace ArcFM Designer 10.8.1 and Implement ArcGIS Utility Network***
Period:	2021
Brief Description:	Avineon delivered the following services to the City: • Business Process Analysis • Issues, Gaps, and Opportunities • High Level Objectives and Requirements • Detailed Requirements • Preliminary Demonstrations for Software Product Vendors Including Bentley, GeoDigital, GSI, SBS, Schneider Electric, and SSP • Implementation Strategy • Statement of Work for RFP • Evaluation and Selection Criteria • Evaluation and Selection Support • Risk and Mitigations Plan • Final Demonstration from Schneider Electric, SSP, and SBS • Comparison Matrix • Systems Road Map and Concept of Use

Project Profile	
Client:	***City of Torrance, California***
Project Title:	***ArcGIS Enterprise Implementation with Geodata Governance and Migration Plan***
Period:	2024 – Ongoing
Brief Description:	Beginning in 2024 and continuing into 2025, Avineon performed a GIS data and technology assessment and implementation designed to meet the City's objectives to modernize GIS and reduce legacy technical debt. After reviewing the current GIS administration processes, enterprise data, replication, and maintenance, Avineon developed a ***Geodata Migration and Governance Plan*** with implementation roadmap. The plan summarizes critical risks to systems, data, and staffing that hindered the modernization to ArcGIS Pro and Enterprise 11.3. The roadmap prioritizes opportunities for the next 12 months. Each initiative includes design, deployment, and training

	as well as implementation of the new governance and change management standards and behaviors. Avineon is currently executing the following roadmap items: • Designed and installed Enterprise 11.3 for test and production • Migration of waste management operations from paper to GIS • Design and development of code enforcement integration to Accela • Planning stage for Parcel Fabric, utility migration to Pro, Portal implementation and governance, and migration of all GIS services

	Project Profile
Client:	***Medina County Sanitary Engineers (Ohio)***
Project Title:	***Utility Network Water and Sewer Migration***
Period:	2024
Brief Description:	Medina County Sanitary Engineers (MCSE) selected Avineon to migrate legacy water and sewer source data from Esri geometric network models to Esri Utility Network Foundations data models for use in ArcGIS Pro. Avineon performed an ArcGIS Enterprise upgrade from v10.8.1 to v11.3 to enable new advancements in the platform and enable the hosting of Utility Network data in the Enterprise installation. In addition to deploying the Utility Network water and sewer asset packages to ArcGIS Enterprise 11.3, Avineon published related services to Portal for ArcGIS and assisted with web map and app reconfiguration. Key tasks included: • Source data quality assessments, presentation of results, and data quality issues reconciliation • Utility Network data modeling and discovery sessions/workshops • Initial water/sewer data conversions into Utility Network data models • Training (ArcGIS Pro and Utility Network data models review and configuration and editing) • Testing (functional, integration, and user acceptance) • Utility Network data model revisions (as applicable) • Final water/sewer data conversions into Utility Network data models • Deliver Utility Network FGDBs and asset packages for water and sewer

	Project Profile
Client:	***Town of Boone, North Carolina***
Project Title:	***Utility Network Planning and Implementation***
Period:	2024
Brief Description:	The Town of Boone, North Carolina has approximately 14,000 residents and serves Appalachian State University. The Town desired to move from 10.8.1 ArcMap to 10.9.1 with ArcGIS Pro and the Utility Network. Avineon worked with the Town to review the existing data and design an appropriate water Utility Network data model. Avineon utilized Esri's Data Reviewer to perform a data quality assessment and identify data gaps and suggested clean-up activities such as snapping of laterals, setting default material and size, and generally ensuring the connectivity and standards for the Utility Network data model would be achieved prior to the migration. Avineon performed a test migration to the new Utility Network model and then worked with the Town to refine the model and the migration workflow to increase the quality of the resulting Utility Network. Avineon developed the ArcGIS Pro project and attribute rules for managing editing workflows and maintaining data quality and provided hands on editor training and end user documentation. Avineon also provides enterprise managed services for the Town of Boone ArcGIS Enterprise environment. This includes ensuring the environment has adequate backups, optimizing performance, installing key patches, and an annual version upgrade.

1.3 Project References

Contact information for three of the projects profiled in *Section 1.2* is presented below. We encourage GUC to contact our references for confirmation of Avineon's qualifications and commitment to customer satisfaction.

Client:	***City of Morganton, North Carolina***
Project Title:	***ArcGIS Utility Network Implementation, Data Transformation, Field Verification, and Field Collection***
Contact:	John Steel Electric Engineer 305 E. Union St. Ste A100, Morganton, North Carolina 28655 828-438-5281 jsteel@morgantonnc.gov

Client:	***Newnan Utilities***
Project Title:	***Water and Sewer Migration to the Esri Utility Network***
Contact:	Jeff Pecce Utility Systems Manager Newnan Utilities 315 Millard Farmer Industrial Boulevard Newnan, Georgia 30263 Phone: 770-683-6198 Email Address: jeff@newnanutilities.org

Client:	***Mammoth Community Water District***
Project Title:	***Utility Network Migration***
Contact:	Justin Mulbay GIS Manager 1315 Meridian Blvd Mammoth Lakes, California 93546 760-934-2596, ext. 286 jmulbay@mcwd.dst.ca.us

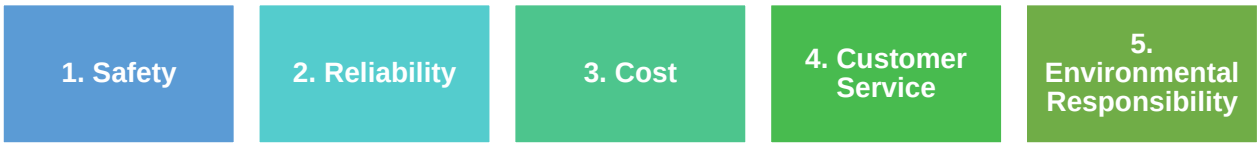
2. Approach and Solution Design

2.1 Introduction

Avineon's approach to Utility Network design for GUC will follow the systems engineering principles to achieve a well-defined set of **Decisions** and **Deliverables** that serve as the architectural foundation for a subsequent migration project. These principles include:

Design Principles	i) Systems Thinking
	ii) Holism
	iii) Design for Requirements
	iv) Interdisciplinary Approach
	v) Traceability
	vi) Design Validation
	vii) Configuration Management
	viii) Risk Management
	ix) System Lifecycle Considerations

The result of Avineon's disciplined approach to design services will become measurable for GUC in terms of the **effectiveness** and **efficiency** they bring to the review and re-design of 25 business processes. The architectural and design decisions will carry forward the current capabilities and advance them to stay aligned with GUC's mission for:



At a high level, Avineon is proposing to deliver the solution design work in three phases, in alignment with GUC's expectation, each of which will commence and conclude with the entry and exit criteria as described below:

No.	Phase	Entry Criteria	Exit Criteria
I	**Current State Analysis, Vision, and Readiness**	• Delivery of all existing documentation and data by GUC to Avineon	• GUC's acceptance and sign-off of *Current State and Vision* delivered by Avineon
II	**Options Analysis and Design for Target State**	• Agreement of key decision topics, decision priorities, decision makers, and decision criteria by GUC	• GUC's consensus and sign-off of key architectural and design decisions

No.	Phase	Entry Criteria	Exit Criteria
III	**Corrective Actions and Migration Planning**	• GUC to share dependencies, constraints, and preferences to align with future projects including AMI, ArcGIS 11.x Upgrade, AI Initiatives, ADMS, and DERMS	• GUC's acceptance and sign-off on the *Corrective Actions* and *Migration Plan*

Avineon proposes a minimum of three onsite or remote meetings, mutually agreed upon by GUC and Avineon, one during each phase, with the rest of the work carried out remotely. The details are described in the following subsections.

2.1.1 Phase I: Current State Analysis, Vision, and Readiness

Comprehensive analysis of the current state is a pre-requisite for design

Avineon will start the work for this phase with a **review of the documentation** shared by GUC. Any follow-up questions will be submitted to GUC for clarification and elaboration. Once the documents are reviewed, Avineon will move forward with the screen-sharing sessions and current state data analysis in parallel.

As the next step, Avineon will request screen-sharing sessions for **stakeholder interviews** with GUC Business and IT representatives demonstrating the current use of ArcFM as well as the exchange of data with other systems such as OMS and Cityworks. The focus will be both on the use of out-of-the-box functionality and customizations. The known issues, improvement opportunities, and aspirations will be documented and organized into a *Current State and Vision* document by Avineon. The general outline of this document will be the concept-of-use format with visuals to easily comprehend the current state of use and the specific areas with opportunities for improvements highlighted respectively.

Avineon will also request a copy of the geospatial data for both electric and gas systems along with the current state symbology to conduct preliminary examination of the data model, data patterns, modeling practices for various asset types, and approaches used for labeling, annotations, relationships, etc. for overhead, underground, and vertical assets. Avineon will run ArcGIS Data Reviewer checks using our Utility Network rules, as well as **pre-migrate the data** into the Esri Utility Network to start drafting the assessment findings. The pre-migration effort covers topics such as data modeling and mapping, data readiness, and review of changes needed during migration.

The last step for Phase I will be the **onsite or remote half-day workshops** for up to four days. During these workshops, Avineon will facilitate the review of each of the 25 business processes in detail. Avineon expects representatives from GUC's GIS, CIS, Electric SCADA, Gas SCADA, Electric Modeling, Gas Modeling, Design and Planning, Work and Asset Management, OMS, and IT departments to participate in these workshops. These workshops will also include the **demonstration** of Electric and Gas data pre-migrated to the Utility Network by Avineon. The demonstration will provide an understanding of the alignment with Esri/Schneider Utility Network

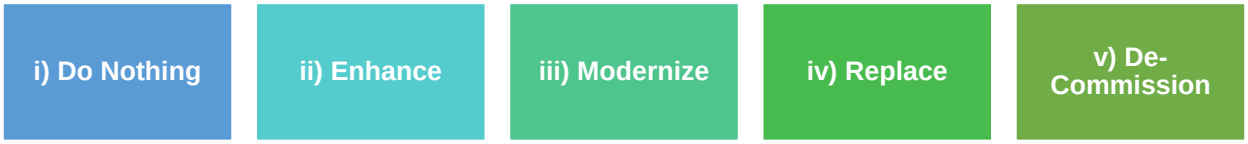
data models, asset fidelity, and data structures. The workshop will also include a review of *Current State and Vision*, along with the identification of action items to finalize.

Avineon will deliver the final draft for the *Current State and Vision* for GUC's review, the acceptance of which would be recognized as the completion of Phase I. Of particular importance to GUC is the identification of options where analysis is needed such as the decision on the continued use of ArcFM, replacement of Schneider Electric Responder OMS, on-premises versus cloud infrastructure, unidirectional and bi-directional integration with Cityworks, integration methods with Windmill and Synergy, Web Editing, leveraging AI, etc. The objective at this stage is only to prepare an *Opportunities List* that are expected to go through a comprehensive ***unbiased*** options analysis and decision process to define the target state solution and system design through the subsequent phase. The opportunity identification will also focus on the use of ArcGIS artificial intelligence (AI) capabilities.

2.1.2 Phase II: Options Analysis and Design for Target State

Consensus on pros, cons, ROI, and alignment with GUC's mission is crucial to design the target state.

The work for this phase will start with Avineon drafting the *Options Analysis Sheets* for each of the high-priority opportunities identified from the previous phase. Avineon will describe the **implementation choices** for each of the items in the *Opportunities List* with pros, cons, changes, business impact, ballpark investment, returns, etc. for the following options:



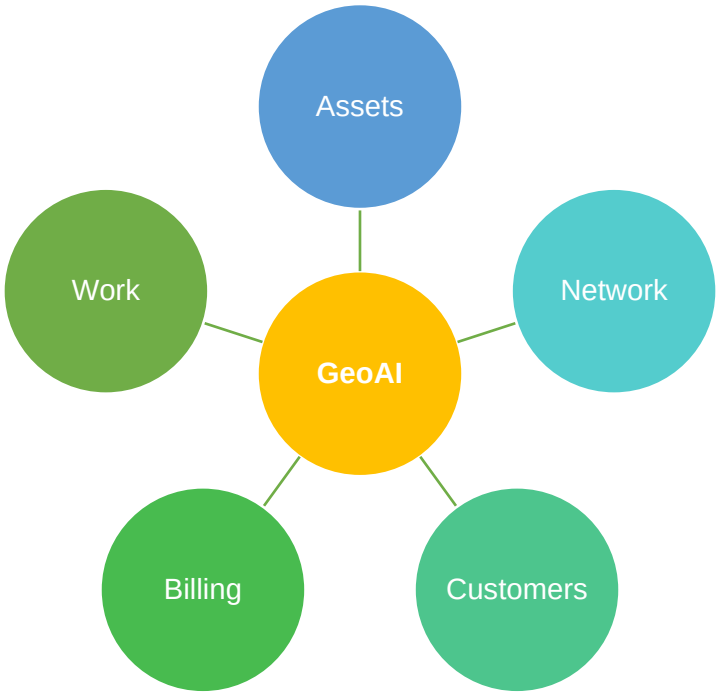
Options

The opportunities are typically discovered in one or more of the following focus areas illustrated in the diagram below and have an overlapping impact during the implementation project. These opportunities will be examined and discussed with GUC through a series of workshops described in *Section 2.2.*

For a few critical decisions such as the software vendor products for OMS and design tools, Avineon can facilitate **structured product vendor demos** and **information requests** to enable GUC decision makers with market input needed to arrive at informed decisions. These structured product vendor demos and information requests will require the formulation of questionnaire and/or demo scripts to ensure the information obtained is consistent and comprehensive. As the *Options Analysis Sheets* are completed, Avineon will facilitate meetings to allow GUC decision makers to discuss and arrive at conclusions. Where needed, Avineon will provide the recommendations based on our experience with other customers.

Solutioning

The design focus for the target state must be both on business architecture and technical architecture to achieve holistic improvements even if all of it is not realized through the Utility Network but the necessary foundation must be created for the future state. Avineon facilitates ideation and solutioning to leverage AI/ML capabilities within ArcGIS and in general to maximize the value from the below datasets owned and managed across multiutilities both in the target and future states:



Leveraging AI Value from Spatial Data

Avineon's efforts to realize some of the benefits from AI and ArcGIS can be found at https://mapchat.global.

For **business architecture**, this includes a careful review of daily employee events, daily customer events, system events, and business rules that trigger data flows across the systems including GIS and others for optimal operations. For **technical architecture**, this includes a review of hardware, software, network databases, and even AI models along with the configuration and customization to realize the desired business architecture in the immediate time frame and in the long run.

Solution Architecture	Business Architecture	Employee Events
		Customer Events
		System Events
		Data Flows
		Business Rules
	Technical Architecture	Hardware
		Software
		Network
		Databases
		AI Models

As these architectures are reviewed, Avineon will plot the decisions against the target state and future state, thus resulting in a realistic high-level target state design for GUC. Once an adequate number of design decisions are made, Avineon will deliver the *Target State Design Diagram* and an *Architecture Impact Diagram* to review and finalize through an on-site meeting. The review will include the examination of scalability, security, and adaptability characteristics and the acceptance will indicate the completion of this phase.

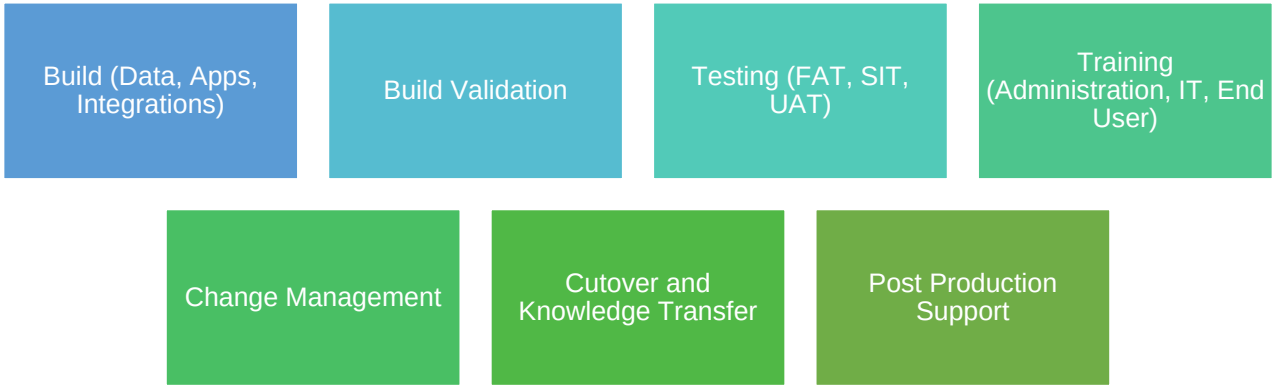
2.1.3 Phase III: Corrective Actions and Migration Planning

Timing, sequencing, and alignment of IT/OT projects is crucial for optimal outcomes

During this phase, Avineon will start prioritizing and sequencing the *Corrective Actions* to achieve the target state design and architecture with a clear delineation for the future state. The corrective actions will span across architecture, applications, integrations, business processes, data model, and data.

Avineon's capstone deliverable during this phase is the *Technical Design Specification* with sufficient detail to scope and perform the build, test, and deployment work through a subsequent Utility Network implementation project.

Avineon can also assist with elaborating the relevant corrective actions into *Scope of Work* formatted documents along with establishing the sequence to execute them most efficiently either through internal GUC resource(s) and/or contractors across multiple implementation projects. Avineon will also prepare an integrated project plan for Utility Network migration with the specific correction actions plotted within the timeline, along with the dependencies on other IT/OT projects. This *Integrated Migration Plan* will be delivered using an online Smartsheet and will be available for GUC to review and comment both in a tabular and Gantt chart format. The plan will be resource loaded to fully understand the staffing needs and will include all tasks covering the following activities for a successful Utility Network migration.



Migration Planning

Avineon will facilitate an onsite or remote meeting to review the *Integrated Migration Plan* for GUC's feedback. The incorporation of the GUC's feedback into the *Scopes of Work* and the *Integrated Migration Plan* will be recognized as the completion of this phase. Avineon will also make recommendations for the *Governance Dashboards* that are crucial for managing the transition and to sustain user trust within the data.

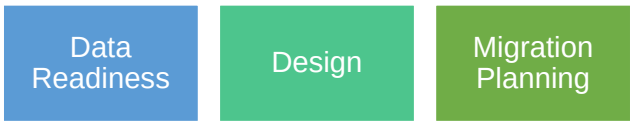
Avineon will also deliver an *Expected Outcomes* document that summarizes the changes to be 25 business processes because of executing the *Integrated Migration Plan* and implementing the corrective actions. It will also describe the anticipated effectiveness and efficiency gains towards the five mission areas (Safety, Reliability, Cost, Customer Service, and Environmental Responsibility) for GUC, along with the long-term goals. The following sections provide further details into the work proposed through the three phases.

2.2 System Design

Avineon recommends the system design work to start with developing an understanding of Utility Network capabilities and the design decisions evolved through the following workshops spread across Phase I and II:

1. Utility Network Capabilities Workshop
2. Data Model Selection Workshop
3. Asset Fidelity Workshop
4. Data Quality Workshop
5. Editing Apps Workshop
6. Integrations Strategy Workshop
7. Solution Architecture Workshop
8. Cutover Strategy Workshop

These workshops will meet GUC's design objectives in the following areas:



2.2.1 Training and Knowledge Transfer

Ensuring that Utility Network concepts and capabilities are well understood is critical for making sound design decisions. Avineon achieves this goal by delivering a show-and-tell style workshop covering all key Utility Network concepts, capabilities, architecture, and data structure for our customers. GUC is expected to bring in representatives from the Business and IT departments to participate in these sessions. Avineon will use Esri literature along with Avineon literature during these workshops.

Attendees will receive assignments and are expected to complete them within a week or two to ensure their readiness levels for participation in subsequent Utility Network design workshops. Avineon's approach to knowledge transfer begins with the first day and is a steady stream along the entire design engagement; it is not confined to limited activity at the end of the project.

In the past three years, Avineon has delivered over 70 unique custom training projects for our clients covering Utility Network, ArcGIS Pro, and many other subjects within the ArcGIS platform deployment landscape.

2.2.2 Data Model

Avineon will provide consulting services and best fit recommendations for GUC with the selection of the Utility Network data model for electric and gas systems. The choices for comprehensive analysis include:

1. Out-of-the box Esri Utility Network Model
2. Out-of-the box Schneider Electric Utility Network Model
3. Modification of Esri Utility Network Model
4. Modification of Schneider Electric Utility Network Model
5. Custom model for GUC matching the current state in the geometric network

The pros, cons, and long-term impact of exercising the above options will be derived from Phases I, II, and III work described in *Section 2.1* and is also tied into the decisions made regarding the continued use of ArcFM products or alternatives.

The consulting services for system design will also include the following discussion and decisions for implementation of:

1. One database with multiple domain networks for electric, gas, and potentially water/wastewater
2. One database with multiple Utility Networks for electric, gas, and potentially water/wastewater
3. Three databases for electric, gas, and potentially water/wastewater

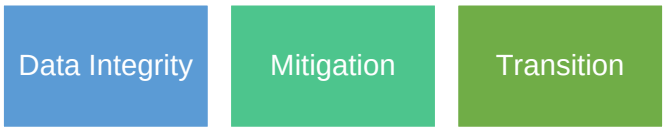
2.2.3 Asset Fidelity

While the data models from Esri, Schneider Electric, and other sources come with definitions, the design decisions made with regard to asset modeling fidelity will have a long-lasting impact on the value Utility Network brings across GUC. These design decisions are around the use of terminals, containers, associations, and unit records for each of the asset types that have an impact on configuration and customization efforts during implementation. During Phase I,

Avineon will facilitate workshops that review and document GUC's preferences that need to be considered by the implementation project for both electric and gas to avoid unintended productivity losses.

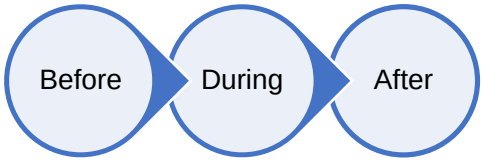
2.2.4 Data Quality

The goal to imitate real-world conditions requires the GIS to maintain as-planned, as-built, and as-operated views of the electric and gas systems. The impact of sustaining three such states of the network requires consideration and a conscious design decision. The quality of the spatial and attribute data along with the topology plays a pivotal role from how it exists within the current state geometric network as well as how it translates into the Utility Network during the implementation. Avineon will focus on the following:



Of particular importance is the recognition of where such gaps exist in consideration of the target state data fidelity. The specific corrective actions that need to be applied to the data to develop the readiness for the implementation project is pivotal for mitigating the risk. Avineon's work proposed for Phases I, II, and III will facilitate this progressive evaluation of the current state data quality in areas such as substation internals, regulator station internals, phase and material consistencies, underground asset modeling practices, secondary and service connectivity, etc. and identify specific corrective actions essential to achieve the target state.

Avineon will assist with categorizing the data corrections into three categories – before, during, and after. The before are the data gaps that need to be addressed in the source, the during are the data gaps that are recommended to be addressed during the migration to Utility Network, and after the data gaps are things that can be addressed after the cutover to Utility Network.



Avineon will examine the data quality tools used by GUC in the current state and contrast them with the out-of-the box capabilities in the Utility Network that automate quality administration. Avineon will also assist with identifying the gaps that still need to be addressed either through procedures, third-party tools, or customizations.

Avineon will deliver a *GIS Data Quality Administration Matrix* as illustrated below for GUC to thoroughly understand the design choices and recommendations for administering data quality.

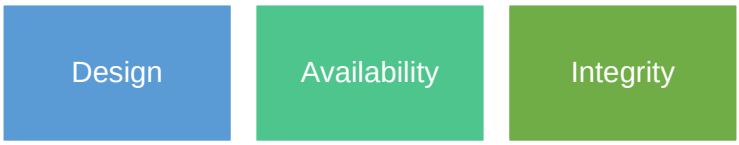
Data Quality	Data Quality Control Approach		
	Current State	Target State	Future State
Circuit Connectivity	<Manual/Automated> <Technology> <Configuration> <Customization> <Reporting>	<Manual/Automated> <Technology> <Configuration> <Customization> <Reporting>	<Manual/Automated> <Technology> <Configuration> <Customization> <Reporting>
Topology			
Required Fields			
Unit Records			
Drafting Standards			
Etc.			

2.2.5 Editing App(s)

GUC's deliberate choices with regard to editing workflows within ArcGIS Pro, Web Editor, and Field Apps will have a significant impact on business process optimization. During Phases II and III, Avineon will review these design choices, including the review of the Esri and third-party products such as a Web Editor from Esri UK, Geocortex, and custom GUC Web Editor to ensure GUC can make informed decisions for the application implementation strategy.

2.2.6 System Architecture

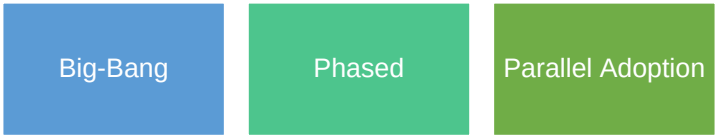
Once design decisions are made during Phase II, Avineon will facilitate the target state system architecture workshop with the objective to document the *Architecture Requirements*. Avineon's recommendations will be documented and the requirements will include (1) high availability with clustering and load balancing, (2) practices to limit interruptions, (3) failover, (4) diagnostics, (5) fault tolerance, (6) system failures, (7) data integrity, (8) performance, (9) backup and recovery time objectives, (10) monitoring and alerts, (11) security - single sign on and/or multi-factor authentication, (12) AI integration, and (13) cloud integration. The focus on system architecture will be in the following areas including the use of ArcGIS AI tools as well as the monitoring and diagnostic capabilities:



Avineon will provide preliminary recommendations on hardware sizing for budget planning purposes. These *Architecture Requirements* will have sufficient detail for GUC to obtain accurate sizing requirements from Esri and respective product vendors during the implementation project.

2.2.7 Cutover Strategy

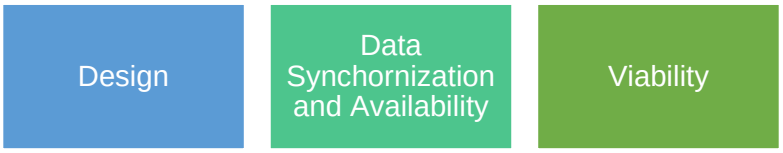
The software products chosen for the target state and their technological capabilities to integrate with Utility Network play a key role in the cutover strategy. The transition from geometric network to Utility Network will require a review of the strategies illustrated below in consideration of the decisions made during Phases II and III.



The workload and impact on the business to maintain both Utility Network and geometric network concurrently with parallel adoption are very demanding even for the well-staffed organizations. Avineon will facilitate meetings for GUC to define a cutover strategy, preferably phased, that is effective and efficient for transition.

2.2 Integration Strategy

Historically, the integration between GIS and other systems has evolved organically over time and as a result the point-to-point ETL is the most prevalent in the industry. The Utility Network, because of its services first design and the support for exporting subnetworks (JSONs), opens new possibilities for bi-directional integration of systems with improved control over data integrity and greater levels of automation with data flows avoiding redundant data entry across office and the field. However, a careful and methodical strategy is essential to realize this vision, one that is achievable through a time-bound implementation project in the target state, while establishing a foundation that yields higher levels of value through the future state. The workshops facilitated by Avineon will focus on GUC's goals for the following:



Based on the information shared by GUC stakeholders, Avineon will make recommendations and draft the vision encompassing target and future states through an *Integration Strategy Matrix* as shown below for each of the systems used for customer service, operations, planning, design, asset management, work management, etc.

Integration	Current State	Target State	Future State
GIS – OMS	<Frequency> <Technology> <Directionality> <Data Scope> <Event Scope> <Full Sync Method> <Delta Sync Method> <Exceptions>	<Frequency> <Technology> <Directionality> <Data Scope> <Event Scope> <Full Sync Method> <Delta Sync Method> <Exceptions>	<Frequency> <Technology> <Directionality> <Data Scope> <Event Scope> <Full Sync Method> <Delta Sync Method> <Exceptions>

During Phases II and III, the above matrix will be reviewed in detail and the corrective actions to achieve the target state will be translated as project impacts to the budget and timeline in consideration of GUC's goals. The technological readiness of the software product vendor road maps also plays a key role in this journey. Where applicable, Avineon will prepare a questionnaire for GUC to obtain necessary road map information from the product vendors to

ensure the decisions made for the target state are realistic and timed accurately to avoid redundant investments and optimize the returns.

Avineon will also facilitate meetings to review the value of adopting model-based-architecture and the use of CIM (Common Information Model) for data exchange between GIS and other systems including OMS, ADMS, and ALF systems for electric/gas system connectivity, as well as with the evolving technology platforms for DERMS.

As a systems integrator, Avineon has successfully implemented middleware such as Safe Software FME, GeoWorx, Web Methods, and similar integration technologies to drive efficiency and automation for many electric and gas customers. Avineon will facilitate sessions to review the transformation of integrations from point-to-point to services based, service bus based, and middleware-based patterns to achieve the expected improvements within GUC's 25 business processes.

2.3 Work Plan

An overview of Avineon's approach to execute the work plan described in the previous sections is summarized in the table below. It also serves as a high-level example of the workshops and deliverables successfully delivered by Avineon for other customers similar to GUC.

Phase	Workshops	Deliverables
I. Current State Analysis, Vision, and Readiness	1. Stakeholder Interviews 2. Current State and Vision Workshops	1. Current State and Vision 2. Pre-Migration Database 3. Source Data Error Report 4. Opportunities List
II. Options Analysis and Design for Target State	3. Utility Network Capabilities Workshop 4. Data Model Selection Workshop 5. Asset Fidelity Workshop 6. Data Quality Workshop 7. Editing Apps Workshop 8. Integrations Strategy Workshop 9. Solution Architecture Workshop 10. Cutover Strategy Workshop	5. Options Analysis Sheets 6. GIS Data Quality Administration Matrix 7. Recommendations for Data Cleanup 8. Data Migration Plan 9. Target State Design Diagram 10. Integration Strategy Matrix 11. Architecture Impact Diagram 12. Architecture Requirements
III. Corrective Actions and Migration Planning	11. Corrective Actions Workshop 12. Migration Planning Workshop 13. Design Closeout Workshop	13. Corrective Actions 14. Technical Design Specification 15. Scope of Work 16. Integrated Migration Plan 17. Governance Dashboards 18. Expected Outcomes

2.4 Transition Management

The alignment of tasks, people, and priorities is of utmost importance for any transition, especially with concurrent deployment of Utility Network along with Design Tool, OMS, AMI, AI, and potentially ADMS and DERMS. Without adequate planning, pulling the same set of resources in multiple directions can cause bottlenecks that impede progress.

While implementing Utility Network is typically viewed as a GIS upgrade, the true driver for cutover is the OMS. As a critical operational system, it serves as an authoritative system for the ***certification of circuits*** and connectivity delivered by GIS. Similarly, the business process improvements essential to improve the collaboration between planning, engineering, and operations through the respective systems requires controlled collaboration of the activities.

Avineon has successfully managed, led, and supported such complex transitions, most recently as a systems integrator for Eversource Energy. It requires an *Integrated Migration Plan* as described in the previous sections to ensure the dependencies, sequencing, checks, and balances between various business and IT teams for ***gate reviews*** are well defined and understood. This also means that many of the underlying decisions on (1) which business process, (2) which changes, (3) to what extent, and (4) which software products will remain or be modernized/replaced must be considered along with the net change(s) they collectively bring to GUC and your staff.

Successful acceptance of the new transitioned state also requires synchronicity of data between GIS, CIS, OMS, ADMS, Windmill, Synergy, Cityworks, and many other systems. This requires implementation of common asset identifiers across all these systems and implementation of ***governance dashboards*** that provide real-time visibility into any disparities of data across these systems as they support the overall lifecycle to retain end-users' trust.

Effective change management is necessary to ensure that GUC end-users are equipped with appropriate levels of orientation, ***just-in-time training***, quick reference guides (QRGs), and job aids. These factors are essential for successful user acceptance and adoption. Avineon's proposed approach described not only facilitates GUC decision-making but also accounts for detailed planning that facilitates the transition.

Successful transitions must also consider stabilization periods, so the end users can adjust and align to the change before they are hit with the next change without impacting productivity. The transition plan must consider many factors and may result in a multi-year plan to ensure the concurrent deployment results in the intended business outcomes.

2.5 System Architecture

User confidence in the responsiveness of the system, system availability, and reliability of the data is vital for the acceptance of the system.

2.5.1 System Responsiveness

The responsiveness of the system is often defined by identifying the most frequently used use cases, documenting ***benchmarks***, and validating the design to ensure the solution is designed on par or exceeding the performance benchmarks from the current state. Avineon assists our

customers in documenting performance metrics for use cases, such as the time it takes to open a map, extend a line, perform an asset update, run quality checks, post a session, etc. and translate them as ***functional and non-functional architecture requirements*** – a formal deliverable during design. Such performance measures must be defined for desktop, web, mobile, office, and field uses of the applications.

For example, a recent Avineon implementation required the ***reduction of customization*** between the customer's GIS and OMS, which computed the street names for critical equipment, so the information is readily available for the operations team. Avineon's recommended design decision moved this computation from the integration to an attribute rule without ArcGIS Pro impacting the GIS Editor experience. While this can be seen as a step backward for the GIS editor, the fact that the organization can upgrade the GIS-OMS integration with greater agility in the future provides the operations team with significant advantage. Decisions such as these are examples of holistic view where all stakeholders participate and make decisions on the best way to distribute the compute loads within GIS and the integrated systems.

Through this GUC engagement, Avineon proposes to document the architectural impact and requirements so the implementation team can make the best hardware-sizing considerations based on the pooling of products that are expected to come together as a holistic solution that includes GIS and other integrated systems.

2.5.2 System Availability

The availability requirements for desktop, web, and mobile Utility Network applications vary based on their intended use across business processes. These are defined by the accessibility**,** ***recovery time objectives, and recovery point objectives***. During Phase II, Avineon will solicit and document these requirements. The high-level architecture Avineon will deliver as part of this Utility Network design engagement will include high-level hardware recommendations.

2.5.3 Reliability of Data

User confidence in data is driven by three factors: ***accuracy, level of detail, and latency***. Utility Network implementation provides opportunities to improve the level of detail to some extent but the other two require deliberate actions. Data accuracy when implementing the Utility Network project stays the same as the source unless supplementary sources are included in the migration project. The accuracy can also be improved through field work. For example, for the City of Morganton, Avineon is conducting field data verification and survey as an integral part of the Utility Network implementation project.

Esri's Utility Network provides capabilities for web and mobile editing making it efficient for organizations such as GUC to improve the business processes for capturing and processing inputs from the field, thus improving the reliability of data over time. Similarly, the services capabilities that come along with the Utility Network enable bi-directional integration of systems, where updates made in asset management system can be streamed into the Utility Network because of effective solution design.

During Phases I and II, Avineon will facilitate these opportunities to ensure GUC users' expectations with regard to accuracy, level of detail, and latency are well documented and all necessary corrective actions are accounted for in the plan during Phase III.

3. Project Management Strategy

As detailed in *Appendix A* herein, Avineon proposes a certified project management professional (PMP) as our project manager/consultant lead and will serve as the primary point of contact. He will leverage his extensive experience in working on GIS for electric and gas utility companies, including Duke Energy, to deliver the Utility Network design engagement for GUC. Our consulting team, working closely with GUC's project manager, will be responsible for elaborating, executing, monitoring, and reporting according to the project plan illustrated in *Section 3.1*. Avineon expects GUC's project manager to be responsible for sending meeting invites to GUC staff, coordinating GUC attendees to participate in the workshops, and reviewing/accepting Avineon deliverables.

Avineon assumes that GUC will establish a project share site for Avineon to store all project work products and deliverables for secure and easy access to GUC stakeholders. The bi-weekly status review meetings, a monthly project report, and Avineon's updates made to the project plan (in Smartsheet) will give the team visibility into the real-time status and forecasted dates for all upcoming tasks, along with clear identification of responsibility for all Avineon and GUC tasks to achieve the project outcomes on schedule and within budget.

3.1 Project Plan

The following plan will be elaborated and finalized following the contract award to include all GUC and Avineon tasks for drafting and finalizing the deliverables:

Activity	Start	Finish	Duration
GUC UN Design	**06/02/25**	**12/15/25**	**136d**
Contract Award	06/02/25	06/02/25	1d
Kickoff Meeting	06/03/25	06/03/25	1d
Phase I: Current State Analysis, Vision and Readiness	**06/03/25**	**07/29/25**	**40d**
Review of Current State Documentation	06/03/25	06/09/25	5d
Stakeholder Interviews	06/10/25	06/23/25	10d
Pre-Migration for data to UN	06/10/25	07/22/25	30d
Current State and Vision Workshop	07/23/25	07/29/25	5d
Phase II: Options Analysis and Design for Target State	**07/30/25**	**11/06/25**	**70d**
UN Capabilities Workshop	07/30/25	08/05/25	5d
Data Model Selection Workshop	08/06/25	08/12/25	5d
Asset Fidelity Workshop	08/13/25	08/19/25	5d
Data Quality Wokshop	08/20/25	08/26/25	5d
Product Vendor Demos Workshop	08/27/25	10/08/25	30d
Editing Apps Workshop	10/09/25	10/16/25	5d
Integrations Strategy Workshop	10/17/25	10/23/25	5d
Solution Architecture Workshop	10/24/25	10/30/25	5d
Cutover Strategy Workshop	10/31/25	11/06/25	5d
Phase III: Corrective Actions and Migration Planning	**11/07/25**	**12/15/25**	**25d**
Corrective Actions Planning Workshop	11/07/25	11/21/25	10d
Migration Planning Workshop	11/24/25	12/08/25	10d
Design Closeout Workshop	12/09/25	12/15/25	5d

3.2 Management Team

Avineon proposes an experienced team of consultants to deliver Utility Network design services to GUC. Their qualifications and relevant experience are summarized below, with an organization chart and detailed resumes included in *Appendix A* herein.

Name	Qualifications	Areas of Expertise
Anil Jayavarapu, PMP [1] [2] [6] (30 years of experience)	MS Civil Engineering; PMP; Certified Process Professional (CPP); SAFe Agilist; ***Esri Utility Network Professional Certification***	Director of Enterprise Solutions, Utility Network Program Lead, strategic planning, workflow consulting, utility data modeling, governance, program management, and integrations
Laura Wilson, PMP [2] [6] (26 years of experience)	BS Geology; Project Management Professional (PMP); AWS Certified Cloud Practitioner; AWS Partner Certification (Cloud Economics); Azure AI Fundamentals	Director of PMO, project and program management, workflow consulting, governance, change management, application development, and integrations
Luke Anderson, PMP [2] [5] [6] (25 years of experience)	MA Business Administration; BA Business Administration, PMP; AS Applied Engineering; OSHA-10 Certified	GIS implementation planning; project management; database design and development (specializing in electric, sanitary, storm, water utilities); application analysis, design, and development; and quality assurance and quality control (QA/QC). Extensive experience with GIS utility network data management
Larry Wilke [4] [5] (30 years of experience)	BS Manufacturing Engineering Technology; Power Lineman Apprenticeship	Experience with power distribution systems spanning engineering, design, construction, maintenance, operations, geospatial systems, and asset management. Familiar with management and promotion of data across many systems of record.
Brooks Kelley [4] (30 years of experience)	MA Geography and GIS; BS Computer and Information Science; BA Geography; ***Certified GIS Professional (GISP)***; FME Certified Professional	GIS enterprise system planning, design, development, deployment, and implementation of GIS systems and applications; Utility Network migrations with FME
Brian Kratcha [1] [4] (23 years of experience)	BS Geography; ***Esri Utility Network Professional Certification***; Esri ArcGIS Desktop Associate; ***Certified GIS Professional (GISP)***	Utility Network technical lead, data modeling, Utility Network migrations, data quality assessments, Utility Network training and administration, and configuration and customization of ArcGIS Pro for editing, viewing, and analysis workflows.

Name	Qualifications	Areas of Expertise
Jan Creuplandt [1] [3] (26 years of experience)	MS Engineering; ***Esri Utility Network Professional Certification***	GIS Architect and Utility Network expert. Experience across utility sectors: electric, gas, water, and telecommunications. Proficient in ArcGIS Pro, geodatabases (Oracle, MS SQL Server, Postgres), ArcGIS Server, and Portal for ArcGIS.

[1] Three named consultants are certified in ArcGIS Utility Network Specialty.
[2] Three named consultants are certified Project Management Professionals.
[3] Esri certified System Design Associate
[4] Safe FME certified
[5] Experience working for Electric Utility companies like GUC and have led similar programs successfully.
[6] Led multi-year programs modernizing GIS and integrated systems.

4. Costs

Avineon's firm fixed price (FFP) proposal is detailed in the table below. This proposed price includes any necessary contingency as well as travel required for the optional onsite meetings described in the proposal. Phases II and III will be billed to GUC at the completion and signoff of that phase. Avineon is open to other payment options at GUC's request.

Phase	Cost	Due
Phase I Current State Analysis, Vision, and Readiness	$23,360.00	Upon completing the kickoff meeting
Phase II Options Analysis and Design for Target State	$46,000.00	Upon acceptance of Phase II deliverables
Phase III Corrective Actions and Migration Planning	$40,000.00	Upon acceptance of Phase III deliverables
Total Firm Fixed Price	**$109,360.00**	

Should GUC prefer to work on a time and materials basis, the table below outlines the rates that will apply for any work performed. Given the nature of time and materials work, we would suggest a not to exceed (NTE) amount of **$115,000.00,** allowing for a small contingency in comparison to the FFP proposal presented above. In addition, any travel associated with the optional onsite meetings will be billed at actual cost plus 10%. These time and material rates are valid through December 31, 2025 and may increase thereafter.

Title	Hourly Rate
Intern	$60.00
GIS Technician 1	$80.00
GIS Technician 2	$120.00
GIS Analyst	$115.00
GIS Solution Engineer	$130.00
GIS Consultant 1	$165.00
GIS Consultant 2	$180.00
GIS Subject Matter Expert 1	$215.00
GIS Subject Matter Expert 2	$250.00
Principal Consultant	$325.00
Business Analyst	$120.00

Title	Hourly Rate
GIS Project Manager 1	$150.00
GIS Project Manager 2	$180.00
Program Manager	$275.00

5. Data Security and Compliance Strategy

5.1 Security Framework and Protocols

Avineon has always considered the handling of our clients' data a matter of great priority. To that end, we have developed a series of security measures that have proven effective in protecting the interests of our clients and complying with all applicable laws and regulation.

Avineon is a federal government contractor and our U.S. offices maintain information security policies designed to comply with the U.S. Department of Defense (DoD) Cybersecurity Maturity Model Certification (CMMC) Program. Avineon's India facility has achieved independent certification of compliance with the ISO/IEC 27001 standard for information security management systems. Initial registration was achieved in 2007 and has since been successfully updated through annual surveillance audits. These systems require development of an execution plan for each product to ensure that:

- Data are transferred and stored securely.
- Only authorized personnel have access to client data.
- All data transactions and processes are logged by user.
- Data are used only as authorized by the contract with our client and any applicable law.
- Data are completely and securely removed from all Avineon systems once the client's authorization for Avineon to store/use the data has expired.

Security of our clients' projects begins the moment customer data are received at our facility and continues until the final delivery is accepted by the client, our warranty period expires, and customer data are securely wiped from Avineon systems. Examples of Avineon's cyber security measures include:

- Regular data back-ups
- Limited access buildings with security company monitoring
- Limited access server rooms
- ISO 9001:2015 compliant document control and "need to know" access to client data
- Internal and external (e.g. firewall) network security with intrusion detection
- Encryption of customer data in accordance with contract requirements
- Multi-factor authentication for all network devices
- Documented hiring and training processes
- Limited access to internet and external data connections for production personnel
- Continuous supervision to monitor and document project staff record access, production, and quality activities

Avineon conducts regular internal audits to ensure our compliance with our corporate procedures and individual project execution plans, as well as to identify opportunities to improve our processes. Taken together, the planning, documentation, inspection, and auditing requirements of Avineon's cyber security policies assure our clients that their data will only be used in accordance with their contract requirements and any applicable laws.

6. Required Forms and Adherence to GUC Policy and Other Requirements

Completed copies of the forms listed below are enclosed on the following pages:

- RFP Acknowledgment Form
- E-Verify Form

In addition, in lieu of the Insurance Acknowledgement Statement that was not included in the RFP, Avineon has enclosed a sample copy of our current certificate of insurance. This certificate expires in May 2025 but renewal is in process and will be completed prior to expiration with no lapse in coverage.

RFP Acknowledgement and Signature Form

RFP No.: 25-21, Utility Network Vendor Selection

The undersigned having carefully examined the location of the proposed work, the local conditions of the place where the work is to be done, the Invitation, the General Conditions, the Specifications and all of the documents for this project, proposes to enter into a contract with Greenville Utilities Commission in Greenville North Carolina perform the work listed in this RFP, including all of its component parts, and to furnish any and all required labor, materials, equipment, insurance, bonding, taxes, transportation and services required for this project in strict conformity with the plans and specifications prepared, including any Addenda, within the time specified.

Addendum Acknowledgement:

The following addendum (addenda) is (are) acknowledged in this RFP: QA1 and QA2

Acknowledgement and Signature:

1. No Proposal is valid unless signed in ink by the person authorized to make the proposal.
2. I have carefully read, understand and agree to the terms and conditions on all pages of this RFP. The undersigned agrees to furnish the services stipulated in this RFP.

Respondent's Name and Title:

Company Name: Avineon, Inc.

Address: 8401 Greensboro Drive, Suite 510, McLean, Virginia 22102

Telephone: 703-671-1900 Fax: N/A

Email: jcampbell@avineon.com Cell Number: 703-678-3803

Contractor License # (if applicable): N/A Expiration Date: _____

Federal Tax Identification Number: 54-1600874

Authorized Signature: _____ Date: May 13, 2025

Decline RFP:

We **do not** wish to submit an RFP on this Project. Please state your reason below. Please also indicate if you would like to remain on our Supplier list.

Reason: _____

_____

_____

Company: _____ Address: _____

Name: _____ Signature: _____ Date: _____

E-Verify Form

Letter of Compliance to E-Verify for Greenville Utilities Commission. Please complete the form below.

1. 1.I have submitted a bid for contract or desire to enter into a contract with the Greenville Utilities Commission;
2. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that I am aware of and in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
3. _X_ After hiring an employee to work in the United States I verify the work authorization of said employee through E-Verify and retain the record of the verification of work authorization while the employee is employed and for one year thereafter; or
4. ____ I employ less than twenty-five (25) employees in the State of North Carolina.
5. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that to the best of my knowledge and subcontractors employed as a part of this bid and/or contract, are in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
6. ____ After hiring an employee to work in the United States the subcontractor verifies the work authorization of said employee through E-Verify and retains the record of the verification of work authorization while the employee is employed and for one year thereafter; or
7. ____ Employ less than twenty-five (25) employees in the State of North Carolina.

Specify subcontractor: _____

Avineon, Inc. (Company Name)

By: _____ (Typed Name)

Joel Campbell (Authorized Signatory)

Senior Vice President (Title)

May 13, 2025 (Date)

It is certified that this proposal is made in good faith and without collusion or connection with any other person bidding on the same above listed items. It is also certified that this proposal is made in good faith and without collusion or connection with any GUC employee(s).

Certified check or cash for N/A or bid bond for N/A attached.

Firm Name: Avineon, Inc. Phone: (703) 671-1900

Address: 8401 Greensboro Drive, Suite 510

City McLean State Virginia Zip Code 22102

Fax (N/A) E-mail jcampbell@avineon.com

Authorized Official Joel Campbell Title Senior Vice President
Typed Name

Date May 13, 2025

Your Proposal should be received no later than Mayl 13, 2025, 3:00PM (EDT)

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 05/21/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Katherine Nelson	
Kirkman & Conway Inc. 1300 Piccard Drive Suite LL4 Rockville MD 20850	PHONE (A/C, No, Ext): (301) 670-0500	FAX (A/C, No): (301) 921-9275
	E-MAIL ADDRESS: knelson@kirkmanconway.com	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Avineon, Inc. Avineon Canada Inc. & InfoGeographics, Inc. 8401 Greensboro Drive, Suite 510 McLean VA 22102	INSURER A : Hanover American Ins Co	36064
	INSURER B : Hanover Insurance Co	22292
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** CL2451707782 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [X] LOC [ ] OTHER:	Y		ZZR A311506	05/21/2024	05/21/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG [ ]	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [X] HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY			ZZR A311506	05/21/2024	05/21/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) [ ]	$ 1,000,000 $ $ $ $
B	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $	Y		UHR A311515	05/21/2024	05/21/2025	EACH OCCURRENCE AGGREGATE [ ]	$ 4,000,000 $ 4,000,000 $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WHRA288129	05/21/2024	05/21/2025	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
B	Professional & Cyber Liability			LHR A312181	05/21/2024	05/21/2025	Prof. Liab: Each/Agg/Ded Cyb Liab: Each/Agg/Ded	$5M/$5M/$25K $5M/$5M/$25K

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

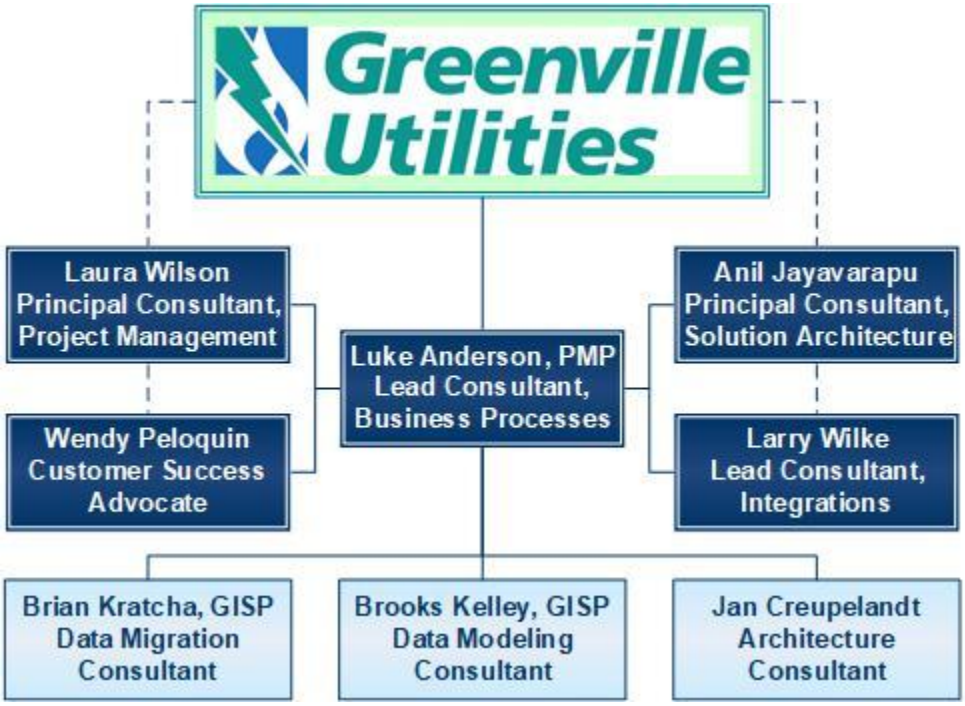
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Appendix A: Resumes

Avineon takes great care when organizing a project team and strives to assemble a team that fully meets the specific demands of each undertaking. Our proposed team for the Greenville Utilities Utility Network Design Project is depicted in the diagram below. The team comes with multi-disciplinary experience implementing GIS and Utility Network across electric, gas, fiber, water, wastewater, and storm water systems. As seasoned consultants, they will work closely with GUC business, GIS, and IT leadership and SMEs to educate, collaborate, facilitate, and deliver the intended outcomes efficiently.

Wendy Peloquin, Brian Kratcha, and Brooks Kelley are ***certified GISPs (GIS Professionals)***; Brian Kratcha, Jan Creupelandt, and Anil Jayavarapu are ***Esri Certified Utility Network Professionals***; and Laura Wilson, Luke Anderson, and Anil Jayavarapu are ***certified PMPs (Project Management Professionals)***. Larry Wilke is a municipal industry veteran who has worked for an electric utility company similar to GUC as a lineman, engineer, and subsequently as a technology manager implementing GIS, OMS, and ADMS. Similarly, Luke Anderson is a utility industry veteran and has led the GIS integration with graphical work design program at Duke Energy.



Resumes for Avineon's key personnel are enclosed on the following pages.

Laura Wilson, PMP
Program Manager

Experience

Ms. Laura Wilson is a certified Project Management Professional (PMP) with over 25 years of technical experience in GIS including 10 years as a developer and 15 years leading projects and portfolios for successful GIS implementations and enterprise digital transformations. Her extensive consulting and project management experience includes GIS strategy development, Enterprise and cloud implementation and migrations, database design and modeling, data transformation, custom application development, and system integrations.

Selected Projects

- Project Management Office Director and Delivery Manager, Avineon – Responsible for overseeing and aligning project management activities with organizational goals. Established and implemented project management best practices and standards to ensure consistency, efficiency, and quality across the project delivery team.
- Program Manager, Mammoth Community Water District (MCWD): Utility Network migration for water and sanitary sewer, enterprise deployment and training.
- Program Manager, City of Torrance, California: Digital transformation for GIS with Enterprise and data governance.
- Program Manager, Medina County, Ohio: Utility Network migration for water and sanitary sewer, Enterprise upgrade and training.
- Program Manager, North Carolina State University: Water distribution migration to ArcGIS Pro.
- Program Manager, Pitt County, North Carolina: Enterprise implementation and migration.
- Technical Architect and Senior Project Manager, SUEZ North America – AWS Migration executed in six months to successfully re-host Enterprise GIS platform (1,000 users) from Esri cloud managed services to SUEZ-owned AWS.
- Technical Architect and Senior Project Manager, NC State University Office of the University Architect, Utility GIS Strategy and Implementation – Discovery and collection of functional requirements to move all utilities to Enterprise GIS (water, stormwater, sewer, electric, natural gas, and fiber). Developed strategic plan outlining prioritized rollout, recommendations for asset ID strategy with Assetworks (AIM).
- Technical Architect and Senior Project Manager, McCarran Airport (Las Vegas), Enterprise Cloud Migration
- Technical Architect and Senior Project Manager, Lower Neches Valley Authority – Cloud AWS Enterprise and SCADA integration

Education, Certifications, and Training

- Bachelor of Science Geology, University of North Carolina Chapel Hill
- Project Management Professional (PMP) Certification, 2014: PMP #1699600
- Microsoft Azure Accreditation: AI Fundamentals
- AWS Partner Accreditations: Technical and Cloud Economics

Technical Skills

- Esri Enterprise Systems Cloud and System Architecture
- Application Development and Database Design

Luke Anderson, MBA, PMP
Senior Project Manager/Consultant

EXPERIENCE

Mr. Luke Anderson is a certified Project Management Professional with over 25 years of experience in the GIS industry. His professional strengths include GIS implementation planning; project management; database design and development (specializing in electric, sanitary, storm, water utilities); application analysis, design, and development; and quality assurance and quality control (QA/QC). He has extensive experience with GIS utility network data management as well as leading cross-functional and direct report teams. He also has technical expertise with a variety of GIS and CAD platforms including ArcGIS, ArcFM, GE Smallworld, AutoCAD, and MicroStation. Specializing in distribution GIS and design engineering, his experience has taken him around the world helping electric, gas, and water utilities modernize their GIS systems, improve their data, manage change, prepare for transformation, and provide their customers with safe and reliable utility services.

SELECTED PROJECTS

- Workstream Lead/Principal IT Consultant – Duke Energy – All phases of project execution, training, change management, and rollout of a new Distribution Design Tool and Automated Subdivision Design Tool to over 3500 end-users. Included combining multiple operating regions' CU Library into one unified model and integration with GE Smallworld GIS and Maximo EAM systems.
- Senior Project Manager – Large Southeast Electric IOU – Pilot electric distribution conversion to Esri's Utility Network. Early stage data model evaluations and model fidelity iterations designed to give the utility a go-forward strategy to plan the migration of the other systems in their utility network.
- Senior Project Manager – Large Midwest IOU, gas and electric – Data conversion and GIS implementation project for gas and electric. Project included GIS data posting, design tools elements, and field mobile support.
- Project Manager – Large Provincial Canadian Utility – Phase 1 DMS (Distribution Management System) pilot project to help the utility manage feed-in-tariffs from distributed generation. Included data assessment and remediation planning, software training, and change management.
- Project Manager – Multiple Municipal and EMC utilities – Gas and electric data migrations and implementation of Esri and Schneider Electric's ArcFM platform. Included implementation of design tools, field inspection tools, outage management, fiber manager, and custom workflows.
- Schneider Electric/Telvent: Managed multiple IT implementation and business process transformation projects for domestic/international clients including GIS, DMS, and SCADA.

EDUCATION, CERTIFICATIONS, AND TRAINING

- Project Management Certificate, Georgetown University, 2011
- Masters of Business Administration, Brenau University, 2010
- Bachelor of Business Administration, University of North Georgia, 2006
- Certified Project Management Professional (PMP), Project Management Institute
- OSHA-10 Certified

Anil Jayavarapu, PMP, SA
Executive GIS Consultant

Experience

Mr. Anil Jayavarapu partners with executives, business, and IT teams on the successful delivery of GIS engagements for strategic planning, technical consulting, systems integration, DevOps, rollout, and support of Esri's ArcGIS solutions for electric, gas, telecom, water, and wastewater companies. He has over 30 years of experience in consulting, integration, and implementation enterprise technology platforms including GIS, BPM, CRM, ERP, etc.

Selected Projects

- Principal Consultant, City of Morganton, North Carolina – Leads Avineon global delivery team implementing ArcGIS Utility Network, including field data verification and collection.
- Principal Consultant, Eversource Energy – Led 75 consultants across time zones on GIS consolidation initiative to implement ArcFM 10.8 with integrations to 25 business and operational systems and ArcGIS Utility Network Lab for electric system serving four million customers across three states from Smallworld 4.0 and ArcFM 10.0.
- Principal Consultant, Pepco Holdings (Exelon) – Led 25 consultants with the implementation of Graphical Work Design (ArcFM Designer) with integrations to seven business and operational systems.
- Principal Consultant, Lakeland Electric GWD Consultant – Developing requirements and implementation plan for ArcGIS Utility Network, GWD selection, and upgrade of integrations to IBM Maximo, Sensus Smart Meters, OSI ADMS, DNVGL Synergi, and SSP MIMS.
- Principal Consultant, Consumers Energy – Led the implementation of information model dashboards to analyze and documentation of current state (ArcFM 10.2), transition state (ArcFM 10.6), and future state (ArcGIS Utility Network), along with the delivery of a Utility Network lab.
- Principal Consultant, Southern Company – Led the development of ArcGIS Portal strategy and governance model to support the growth of daily users from 500 to 4,000.
- Principal Consultant, Traverse City Light and Power – Use case analysis, data modelling, migration and web viewer deployment leveraging ArcGIS Utility Network.
- Principal Consultant, San Diego Gas and Electric – Oversaw the evaluation project for data modelling, migration, and gap analysis for future migration to ArcGIS Utility Network.
- Principal Consultant, Pasadena Water and Power – Oversaw proof of concept for evaluating and planning the future migration to ArcGIS Utility Network Management Extension.
- Technical Delivery Manager, Central Hudson Gas and Electric – Led the team through the implementation, OMS integration, cloud hosting, and upgrade projects of a web/mobile solution to dispatch, assess, and track field resources to respond to wire down events.

Education, Certifications, and Training

- Masters in Civil, Environmental, and Infrastructure Engineering, George Mason University
- Certificate in Business Administration, Georgetown University
- Project Management Professional (PMP)
- SAFe Agilist (SA)
- ArcGIS Utility Network Specialty

Larry Wilke
Integration Consultant

EXPERIENCE

Mr. Larry Wilke has extensive experience with power distribution systems. He spent 20 years at a municipal utility during which his experience stretched across engineering, design, construction, maintenance, operations, geospatial systems, and asset management. He plays a main role in the management and promotion of data across many systems of record while identifying with standards in Common Information Models, Esri geometric networks, SCADA protocols, and others. Mr. Wilke's greatest asset is his ability to comprehend the effects of his projects from the user to executive management points of view.

SELECTED PROJECTS

- Principal, Arizona Public Service Company, GIS Support for Advanced Distribution Management System – Principal providing APS with a single source of truth for all operations data. This initiative ties in with the Advanced Distribution Management System (ADMS) project.
- Clark County Public Utility District, Distribution Analysis Integration – Created an extract process for the CYMDIST power distribution analysis to be fed from a single source of asset data. Included automated insertion of actual high and low current reads directly from the SCADA system. The project allowed for a more frequent refresh of accurate data, as well as a single source of asset data, which removed redundant data entry.
- Project Manager, Guam Power Authority, GIS Support/Migration to the Utility Network – Project Manager responsible for overall project management, communications, support, contracting, budget, project scope, scheduling and coordination. Guam Power Authority was the first electric distribution system to go live on the Esri Utility Network.
- Imperial Irrigation District, Substation Digitization Project – Modeled the geographic database to include the transmission lines and all the equipment to make up the substations and switching stations in the IID power system. Digitized the facilities into the GIS to provide network connectivity throughout the entire system.
- Engagement Manager, Los Angeles Department of Water and Power, Full-scale GIS Implementation and Data Conversion – Engagement Manager responsible for the overall approach to migrate a FRAMME mapping system to an Esri GIS.
- Strategic Consultant, Pacific Gas & Electric, Network Model Solution Discovery for Advanced Distribution Management System – Responsible for reviewing the current state of PG&E's people, processes, and data to recommend an approach to migrate SCADA, and support FLISR, and Fire Mitigation.
- Subject Matter Expert, Portland General Electric, Substation Digitizing for OSI ADMS – Subject matter expert in providing data modeling while identifying source data requirements for the substation network. Utilized a separate feature dataset for enhanced security and provided a method to stitch to the feeder network and import to the OSI Spectra DMS. Utilized an Esri Utility Network data model to support the future migration to this new system.

EDUCATION, CERTIFICATIONS, AND TRAINING

- Bachelor of Science in Manufacturing Engineering Technology, Arizona State University
- Power Lineman Apprenticeship, 1994

Brian Kratcha, GISP
Senior Utility Network Consultant

EXPERIENCE

Mr. Brian Kratcha has over 23 years of experience in geospatial applications. He began his career working for various municipal and state agencies and utilities before becoming a consultant some 18 years ago. He has advanced knowledge of the Esri platform including specialty in Utility Network conversion projects for electric, stormwater, water, and sanitary sewer utilities.

SELECTED PROJECTS

- Senior Utility Network Consultant, City of Morganton, North Carolina: Utility Network for electric: design, migration, and training.
- Senior Utility Network Consultant, University of North Carolina, Chapel Hill: Utility Network for electric: design, migration, and training.
- Senior Utility Network Consultant, City of Columbus, Ohio: Utility Network for electric: design, migration, and training.
- Senior Utility Network Consultant, Town of Boone, North Carolina: Utility Network for water: design, migration, and training.
- Senior Utility Network Consultant, Stevens Point Public Utility (Wisconsin): Utility Network for water (pilot).
- Senior GIS Consultant, POWER Engineers – Worked on multiple Utility Network conversion projects for electric, stormwater, and irrigation utilities including work for Connexus, Turlock Irrigation District, and CenterPoint Energy. Configured FME workbenches for Utility Network conversions. Created Python scripts for GIS data validation.
- Senior Geographic Information Systems Analyst, Power System Engineering (PSE) – Created and led the GIS practice area. Worked with more than 150 clients to develop new or improve existing GIS applications for electric, fiber, and gas utilities. Architected, installed, and managed ArcGIS Enterprise/ArcGIS Online for PSE clients and internal staff.
- IS Data Service Professional/Geo Editor, Wisconsin Department of Transportation – Used LCM and Oracle Developer to maintain state-wide road centerlines for WISLR Program.
- GIS Coordinator, City of Marshfield – Built parcel, street centerline, address, sanitary sewer, and zoning data layers. Administered MS SQL Server. Supervised GIS intern and trained city personnel and the city's Common Council on GIS. Designed sanitary sewer and parcel data models.
- CAD/GIS Operator and Engineering Aide, City of Beloit – Developed and maintained citywide GIS using ArcGIS, ArcSDE, and AutoCAD. Administered Cityworks Database and evaluated software, hardware, and GPS equipment. Mapped city assets including storm, sanitary, and water utility systems using GPS equipment, sewer televising equipment, and as-built drawings. Created map books for the sanitary and storm water maintenance staff.

EDUCATION, CERTIFICATIONS, AND TRAINING

- Bachelor of Science in Geography, University of Wisconsin-Platteville, 2001
- Esri ArcGIS Desktop Associate 19-001
- Esri ArcGIS Utility Network Specialty 20-001
- Safe Software FME Academy – 13 Badges

Brooks E. Kelley, GISP
Senior Database and FME Consultant

EXPERIENCE

Mr. Brooks Kelley is a Certified Geographic Information System Professional (GISP) and FME Certified Professional with over 25 years of experience in the GIS industry. He specializes in spatial data modeling and enterprise-level design. He is responsible for GIS enterprise system planning, design, development, deployment, and implementation of GIS systems and applications for our clients, both public and commercial.

SELECTED PROJECTS

- Senior Database and FME Consultant, Mammoth Community Water District (MCWD): Utility Network migration for water and sanitary sewer, enterprise deployment, and training.
- Senior Database and FME Consultant, Medina County, Ohio: Utility Network migration for water and sanitary sewer, Enterprise upgrade, and training.
- Senior Database and FME Consultant, San Jose Water (California): FME workbench migrations.
- Senior Database and FME Consultant, Eastern Band of Cherokee Indians (North Carolina): Redline field application.
- Data Modeling Team Lead, EPCOR – Designed standardized Utility Network geodatabases for municipal water, wastewater, and recycled water systems across three states. Also, developed the migration mapping strategy for the new Utility Network-based model.
- Migration Lead, The National Gas Company of Trinidad and Tobago – Worked with Esri Consulting Services to develop a new Utility Network model for the NGC's transmission gas system. Also, developed the migration mapping strategy to move their existing data into the new Utility Network-based model and oversaw the migration and QA/QC of this data.
- Data Modeling Team Lead, Eversource - Implement a consolidated core GIS (Esri ArcGIS and ArcFM) platform for electric distribution and landbase across four operating regions using Esri's geometric network and a read-only lab environment using Esri's Utility Network. Previously, each region used diverse GIS platforms based on ArcFM and Smallworld.
- Senior Database Specialist/Programmer, Eastern Municipal Water District – Conducted needs assessment, specification development, and implementation for a Standby Tax Assessment Reporting System (STARS). Replaced two existing systems by leveraging GIS and other enterprise systems to increase the efficiency and accuracy of the county's standby tax assessment and collection processes.
- Technical Lead, U.S. General Services Administration - Designed and implemented repeatable processes using Safe Software's FME Desktop and FME Server to ingest, standardize, QC, and validate federally-owned facilities source AutoCAD plan files before loading them into IBM's TRIRIGA facilities management platform.

EDUCATION, CERTIFICATIONS, AND TRAINING

- Master of Arts in Geography and GIS, West Virginia University
- Bachelor of Science in Computer and Information Science, University of Maryland
- Bachelor of Arts in Geography, West Virginia University
- Certified GIS Professional (GISP)
- FME Certified Professional

Jan Creupelandt (Engineer – MSc)
GIS Architect

EXPERIENCE

Mr. Jan Creupelandt is a highly skilled GIS Architect with a passion for helping clients analyze and develop utility networks and applications. He has extensive experience across various sectors, including gas, electricity, water, and telecommunications, utilizing the Esri Utility Network Management framework as a foundation. Mr. Creupelandt is adept at guiding clients through the process of creating optimal, ready-to-use network models tailored to their specific business needs and has successfully led several implementations within utility companies.

As an expert in the Esri Utility Network, Mr. Creupelandt possesses in-depth knowledge of the ArcGIS platform. He is highly proficient with a range of supporting ArcGIS tools, including ArcGIS Pro, geodatabases (Oracle, MS SQL Server, Postgres), ArcGIS Server, and Portal for ArcGIS. Furthermore, he is well-versed in utilizing Arcade, a cutting-edge technology that enhances the functionality of the Utility Network. To stay at the forefront of the industry, Mr. Creupelandt maintains strong relationships with Esri and is an active participant in the Esri beta tester group. He also regularly attends Esri conferences to stay updated on the latest trends and innovations.

Mr. Creupelandt has contributed significantly to the development of the Utility Network model for the UNC, a collaborative initiative among European utilities focused on creating a European Electricity model. In addition to his expertise with the ArcGIS platform, he is highly proficient in implementing the VertiGIS Studio platform, including both its first-generation solution (Geocortex Essentials) and its updated versions (VertiGIS Studio Web, Workflow, Mobile, etc.). ***Mr. Creupelandt is also certified in the ArcGIS Utility Network Specialty***, further underscoring his expertise in this domain.

SELECTED PROJECTS

- Utility Network GIS Expert/GIS Architect, TenneT – Supported ArcGIS Pro, ArcGIS Enterprise, and Utility Network implementation. Responsible for Utility Network modeling and GIS architecture.
- Utility Network GIS Expert, CIE (Côte Ivoire) – Utility Network proof of concept for electricity and communications. Supported Utility Network modeling for transmission, low and medium voltage, and telecommunications. Included subnetwork analyses.
- Utility Network GIS Expert/GIS Architect, Fluvius – Supported system architecture and Utility Network data modeling for gas, cathodic protection, and electricity. Included subnetwork analyses for gas and electricity.
- GIS Architect, Eversource – Consolidation initiative to implement ArcFM 10.8 with integrations to 25 business and operational systems and ArcGIS Utility Network Lab for electric system serving four million customers across three states from Smallworld 4.0 and ArcFM 10.0.
- Utility Network GIS Expert, Elia – Utility Network proof of concept for electric utility including interface with SAP and PowerFactory.
- GIS Expert, Ghana Water – Utilized ArcGIS Pro, ArcMap, ArcGIS Enterprise, ArcGIS Workforce, ArcGIS Arcade, SQL Server and PostgreSQL, Python scripting, JavaScript to support development of a mobile application to manage new service connections.