

Best & Final

\$199,484

PROPOSAL FOR:



Response to Request For Proposal

24-030

GIS SERVICES FOR UTILITY INVENTORY

PREPARED BY:



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IT Nexus, Inc. Response to North Richland Hills
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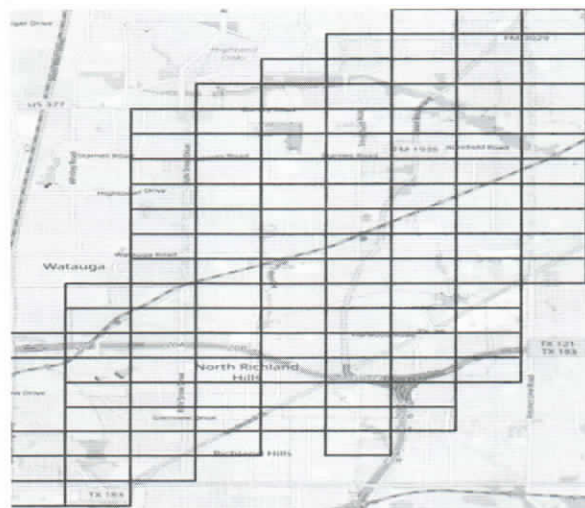
Understanding

The City of North Richland Hills (City) currently has existing water, sewer and storm drain utility layers in an ESRI enterprise database. For the past 10 years, these layers have not been consistently updated as new system repairs are completed and new development as-builts are constructed. As a result, the outdated information is causing inefficiencies in the field as crews are tasked to service infrastructure with no existing information or system schematics. Additionally, the Public Works department will be implementing an online map-centric work order and asset management system that will require accurate and complete GIS data to function to its potential.

The City estimates that there are 836 source as-built drawings which will need to be input into the existing GIS utility layers. Additionally, all existing water, sewer, and storm layers will need to be checked for accuracy and completeness. Data corrections will be performed, and new features added as needed.

Approach

Because the entire utility system will require quality control checks and corrections, IT Nexus recommends a systematic grid-based approach to ensure completeness and to track completion status. The City has an existing utility map book grid layer with each grid cell representing an 11"x17" map page; there are 118 grid cells which cover the City of North Richland Hills. Each grid will be assigned a status to track areas that have not been started, are in progress, are awaiting City approval, and that have been completed. Each of the 836 source as-built drawings will be assigned to the appropriate map page based on location.



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For each map page, the following tasks will be performed by IT Nexus:

Task 1 – Input Missing Data: Water, sewer and storm features from city-provided as-built drawings will be added to the map, where necessary.

Task 2a – QA / QC Utility Data - Locational Accuracy: IT Nexus will spatially check to confirm that the infrastructure layers align with visible features from aerial photography. Sewer manholes, water valves, fire hydrants should be visible and overlay with aerial images. In some cases, discrepancies will be found in which the GIS map does not align with the visible features in the aerial photo. These areas will be flagged for further review and resolved by speaking with Public Works staff and / or field checking the location.

Task 2b – QA / QC Utility Data - Data Accuracy: IT Nexus will identify all utility features that are missing required field values including size, material, depth etc. IT Nexus will resolve the missing information by speaking with Public Works staff and make corrections as needed.

Task 3 – Approval: Once IT Nexus has input all utility data from the as-built drawings and has performed QA / QC checks and corrections, the grid map page will be submitted to Public Works GIS staff for final approval. Once approved, the grid cell status will be updated as completed. If work is not approved, IT Nexus will make the requested revisions and resubmit for approval.

Staffing

IT Nexus will provide GIS technician(s) and a senior project manager. The GIS technician role will be a hybrid position with the following responsibilities:

- Input utility data from various sources including maps, surveys, and satellite imagery
- Collaborate with project manager and City staff to identify data errors and to make corrections
- Produce maps and other visual representations of the data as needed and requested by City staff

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The project manager will have the following responsibilities:

- Ensure the project meets the expected timeline and estimated budget
- Assist with the QA / QC responsibilities to ensure the data submitted to the City for approval has been thoroughly reviewed
- Communicate with project stakeholders in Public Works and Information Technology departments to convey project status and to alert stakeholders of any technical or schedule issue that may be encountered
- Ensure the final GIS utility data is compatible with the City's asset management system.
- Publish map services or web maps as needed to support integration with other City enterprise systems
- Provide training and support for City staff

Timeline and Budget

The following section will detail IT Nexus' time calculation methodology and how our cost estimate was derived using our labor rates.

Time Calculation Methodology

The North Richland Hills Utility GIS Inventory project consists of two primary deliverables plus project management:

Deliverable 1: Input data from city-provided as-built drawings. The City will provide 836 source documents and will require approximately 3 hours of GIS Technician time per document. IT Nexus estimates this task to require 2,500 hours to complete.

Deliverable 2: QA / QC existing utility data for spatial accuracy and data completion. IT Nexus estimates there are currently 51,000 GIS features (utility line, valves, manholes etc.) across all the City's utility GIS layers. We estimate an approximate average of one minute to review and correct each existing GIS feature resulting in 850 hours to complete the QA / QC task.

IT Nexus calculates estimated project management time as 10% of the project total.

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Budget

The following table lists the total estimated project hours and costs:

Task	Resource	Time Est	Rate	Cost
Input City provided as-builts	GIS Tech I	2,500 hours	\$68/hr	\$170,554
QA/QC existing data and correct as needed	GIS Tech I	425 hours	\$68/hr	\$28,900
Total				\$199,484

Timeline

IT Nexus estimates a project duration of 22 months based on one full time GIS technician or 11 months if two GIS technicians are utilized. IT Nexus would require approximately 4-6 weeks to mobilize resources to begin the project once given notice to proceed.

Billing

IT Nexus will submit monthly invoices to the City for the work performed during the previous month.

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About IT Nexus

IT Nexus, Inc. has been assisting the public sector to achieve their IT and GIS goals since 1999. We offer a range of delivery models that allow you to choose the one that best fits your environment and your needs:

- Short-term, targeted consulting
- On-site project staffing
- Custom application design and development
- ESRI software installation, configuration and implementation
- Turn-key solution delivery

IT Nexus, Inc. is a GIS system integration firm incorporated in Texas that specializes in the delivery of IT and GIS database management solutions for our clients.

Our commitment to seeing and understanding things from our client’s perspective while delivering leading technology expertise has allowed us to build trusted, long-term relationships. In each engagement, our focus is partnering with you to deliver leading, highly productive IT and GIS outcomes to your organization.

Our Work Experience with the City of North Richland Hills

IT Nexus has a long history and proven track record of working with the City of North Richland Hills dating back to 2008. Below is a summary of work performed during the past 10 years:

Current	IT Nexus is currently providing GIS consulting services to assist Public Works with the GIS integration during the implementation of OpenGov (Cartegraph)
2022-2023	Provided GIS consulting and data entry services when the City’s long serving GIS analyst retired. During this period IT Nexus accomplished the following: <ul style="list-style-type: none">• Observed and documented the City’s GIS layer update procedures• Documented existing City GIS data sources• Revised and simplified GIS database design and update procedures to gain efficiency• Trained a new GIS Analyst to maintain and update City GIS data• Migrated and updated the City’s GIS data and application servers



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- 2020-2021 Provided GIS consulting services during the Tyler Energov implementation which included the following deliverables:
- Updated the City’s GIS database design to be compatible with Energov requirements
 - Implemented unique address and parcel identifiers in GIS as required by Energov
 - Developed data transfer tools to translate existing Computer Aided Dispatch (CAD) address to a Energov compatible layer
- 2019 Provided GIS consulting and software installation and configuration to support an upgrade of the Spillman 911 CAD system
- 2018 Developed the City’s public interactive map to replace the NCTCOG iCommunities website
- 2017 Provided ESRI software ArcGIS upgrade services
- 2015 Provided ESRI GIS software implementation services to support the City’s implementation of Spillman CAD 911 dispatch system
- 2014 Provided ESRI software ArcGIS upgrade services

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Project References

IT Nexus is pleased to provide the following project references:

<p>City of Keller, Texas</p>  <p>Contact: Daisy Harsa, GIS Manager 1100 Bear Creek Parkway Keller, TX 76244 (817) 743-4145 dharsa@cityofkeller.com</p>	<p>IT Nexus has provided the City with GIS consulting, design and implementation services from 2001 to present. Services delivered to the City of Keller include:</p> <ul style="list-style-type: none">• Preparation of a city-wide GIS needs assessment a 4-year implementation plan• Preparation of a city-wide database design in the ArcGIS geodatabase and SQL Server environments• Installing and configuring the City's SDE database server• Development of the city's GIS database, including parcels, street centerlines and water-sewer-storm facilities• Programming of several GIS desktop and web-enabled applications
<p>City of Denton, Texas</p>  <p>Contact: Kevin Babcock, GIS Supervisor 215 E. McKinney Street Denton, TX 76201 (940) 349-7868 kevin.babcock@cityofdenton.com</p>	<p>IT Nexus has provided the City with GIS consulting, design and implementation services from 2009 to present. Services delivered to the City of Denton include:</p> <ul style="list-style-type: none">• Prepared a GIS Strategic Plan to enhance the City's GIS and enable web-based GIS technology• Developed web GIS applications to enable public information access, Capital Improvement project management and West Nile Virus tracking• Multiple ESRI Enterprise software installations and upgrades

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**Harris County Toll Road
Authority, Texas**



Contact:

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IT Nexus has provided HCTRA with GIS consulting, application development and staff augmentation services since 2012. Projects include:

- ESRI ArcGIS Enterprise system design and software installation
- Development of a web map-based incident management system for dispatchers to monitor accidents, road closures and roadway flooding
- Development of a Lane Closure tracking system for HCTRA project managers and contractors to plan construction and maintenance related road closures
- Full time GIS staff augmentation