

# ABOUT US

George F. Young, Inc. (GFY) was founded in 1919 in St. Petersburg, Florida, by engineer and surveyor George Fleming Young. He was the first to subdivide much of Tampa, St. Petersburg, Clearwater, Sarasota, Oldsmar, St. Pete Beach, and many smaller communities in the West Central Florida area.

GFY has been in continuous operation for over 100 years and remains an employee-owned Florida company. GFY has grown to become a single source for land development in educational, healthcare, institutional, municipal, and residential facilities, parks and recreation, property transition, and transportation engineering – while expanding our reach throughout Florida and the Caribbean basin.

GFY's company culture and guiding values, with our team's passionate commitment to integrity, quality, and service, have created a collaborative and dynamic environment that fosters partnership, professional growth, and fulfillment.

Our expertise includes land development engineering and site-specific design for hospitality, multifamily, retail, institutional, industrial, community, and recreational uses for both the public and private sectors.

## GFY Service Lines:

- Civil Engineering
- Structural Engineering
- Transportation Engineering
- Survey and Mapping
- Geographic Information Systems
- Subsurface Utility Engineering
- Environmental Science and Permitting



Grant Raudenbush, PSM, GISP  
GIS, Project Manager

# Small Municipal GIS

GIS solutions are not a one-size-fits-all. Larger municipals and utilities have the resources to develop an in-house full-scale enterprise GIS. However, GIS may be just out of reach for small organizations such as small municipalities and independent utilities with limited technical staffing and budgeting resources. Developing an in-house operational (ESRI-based) GIS for asset management can be a substantial challenge. Asset information from maintenance, development, or capital projects can be difficult to consolidate into a dependable system of record. As such, many small organizations forego a GIS or settle for a simplified digital mapping system. To address this challenge, GFY developed GISaaS (GIS as a Service) as a solution designed to make much of the same functionality of an enterprise GIS available to smaller organizations. GISaaS can serve as your GIS department at a fraction of the cost of developing and maintaining in-house resources. We provide the GIS 'back-office' technical solution with resources such as dedicated cloud-based GIS servers, ESRI Enterprise software, technical support, and highly experienced administration. We serve as your GIS department so you can focus on maintaining your utility assets.

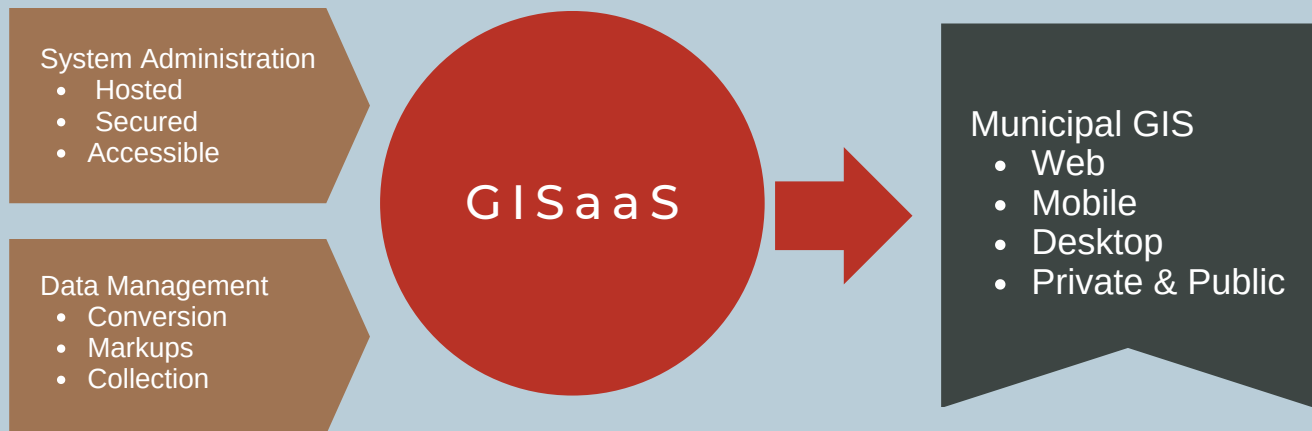
One of the most important components of a GIS is that it should always be improving, evolving as more data is discovered, accuracies are improved, and maintenance operations or capital improvements are constructed. Every effort to maintain or construct assets in the field should be reflected in your GIS. This empowers the GIS to be your asset inventory system of record, a reliable resource for everyone from maintenance technicians and operations managers to executives and administration when making critical system decisions.

As a small organization, you have a responsibility to maintain and provide your utility infrastructure and services to your citizens. A GIS system is a valuable tool to help you manage these assets. A GIS can provide ready access to asset inventory knowledge and an informed visualization of these systems. This knowledge empowers operations in determining the valuation of assets, planning and preparing for aging infrastructure, and increasing efficiencies in responding to system failures, annexations, and new developments.

A DIGITAL TWIN IS A  
VIRTUAL REPRESENTATION  
OF THE REAL WORLD,  
INCLUDING PHYSICAL OBJECTS,  
PROCESSES, RELATIONSHIPS,  
AND BEHAVIORS. GIS CREATES  
DIGITAL TWINS OF THE  
NATURAL AND BUILT  
ENVIRONMENTS AND  
UNIQUELY INTEGRATES MANY  
TYPES OF DIGITAL MODELS  
ESRI

# GISaaS

GIS as a Service (GISaaS) is a unique platform of GIS services based on the industry standard ESRI ArcGIS platform, with flexible options to suit the needs of each municipality. There are primarily three major aspects to GISaaS: GIS systems hosting/administrative services, data management services, and a fully functional GIS accessible by municipal operations, management, administration and even limited public access to improve citizen engagement.



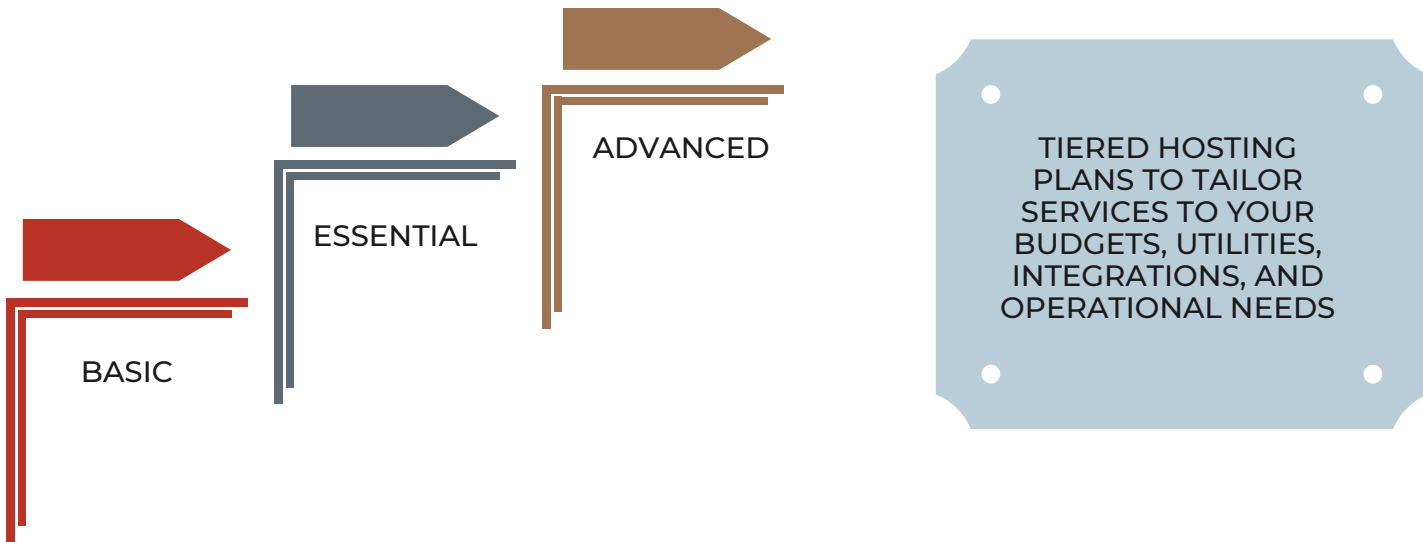
## GISaaS: System Administration A Hosting Solution

At the core of GISaaS is our hosting solution. Hosting is the major difference between outsourcing and in-sourcing a municipal GIS. Implementing an internal GIS involves a substantial investment in hardware, software, and technical staff. On average, the expected salary and benefits of a GIS Analyst could exceed \$80k. ESRI software licensing, dedicated hardware, and support could exceed \$150k annually. This can be a real challenge for a small municipal with limited resources and staff. And, since the day-to-day maintenance and management of a small municipal GIS is not labor-intensive, maintaining a qualified technical staff becomes problematic.

With GISaaS, you get the technical infrastructure and highly experienced GIS technical experts to develop and manage your GIS asset inventory.

## Tiered Hosting

Our Hosting is based on a tiered system that considers the size and complexity of the municipal. Some clients may wish to share data maintenance in-house while taking advantage of server technology-based hosting. Some clients want to focus their subject matter expertise on the utilities and assets and leave the GIS subjectmatter expertise to us.



## Hosted hardware and software

The GISaaS hosting solution provides the following technical resources to give smaller municipalities access to GIS via web and mobile maps and apps through the Esri ArcGIS Online cloud portal:

- Dedicated GIS server technology
- ESRI Licensed ArcGIS Server software
- Versioned editing capabilities to allow for multi-user editing and data integrity protection
- Published REST services will be consumed on a client's ArcGIS Online platform.
- Setup and management of the client ArcGIS Online platform

## Hosted management services

Administrative services included in the Hosting Solution include:

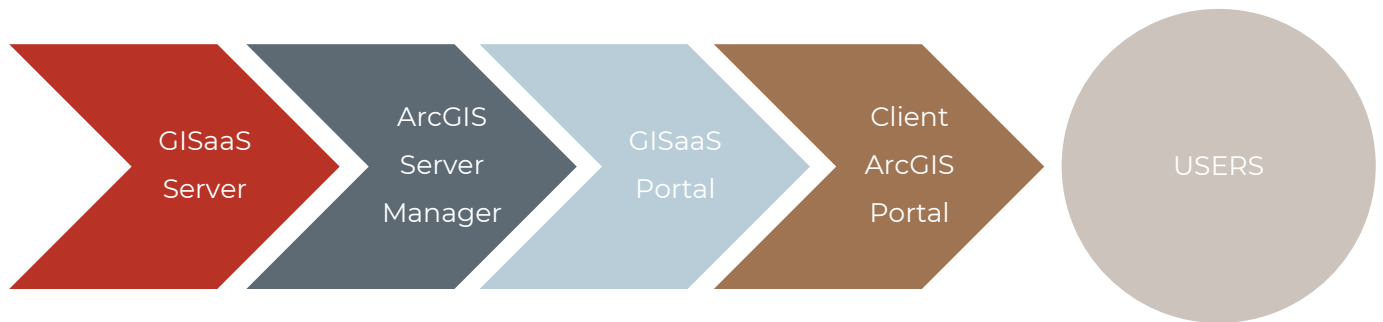
- Server and system monitoring
- Hardware and software system platform updates
- Operating systems and GIS software updates as available, hardware maintenance and updates as warranted
- ArcGIS Online monitoring and update management Data security and backups

1. GFY builds our GIS Hosting solution on the Amazon Web Services EC2 (Elastic Compute Cloud) platform using ESRI-recommended machine images
2. [1] GFY strives to stay current with the latest releases of ESRI software versions available, adjusting for timing or stability concerns
3. [1] ArcGIS Online subscription is required. Licensing to be obtained directly from ESRI by the client

## Hosting Access and Security

User access, through a web-based application and the ArcGIS Field Mapper mobile application, is managed through a multi-level security process. Each stage of the dataflow has its own security functions from our dedicated Cloud server, ArcGIS Server Manager and Portal to the client's ArcGIS Online Portal subscription. End user access is managed from within the ArcGIS Online platform with the client purchasing and managing the individual licensing needs of their operations.

While much happens in the background, end users will access a client branded ArcGIS Online portal with developed sites, galleries, maps, applications, dashboards, and more all focused on individual client needs and available GIS data.



## GISaaS: Data Management

Data management consists of Implementation services, and subsequent as-needed, time and materials tasks for the initial development, and up-keep of utility GIS data.

## Implementation and Data Conversion

Initially the implementation stage considers the development of a core GIS database, the appropriate ESRI Utility-specific data model, available data to be migrated into the GIS, and the development of an initial basic web mapping application. This effort is variable and depends a great deal on the client's source data to be migrated.

## Cloud Based Dependability


This is where the power of an enterprise GIS on a dedicated cloud-based server makes the difference. Local servers are subject to environmental power disruptions, and systems failures. Self-hosting on the client's ArcGIS Online is also an option but is restricted in some of the data management and geoprocessing that can be required. Our cloud-based servers are not subject to common disruptions and easily upgradeable to accommodate desired performance.

## Asset Management

Data Management efforts would include client-requested efforts to further update the GIS, develop specific-use web mapping applications, provide user training, or even prepare custom one-off maps. All are on an as-needed basis and charged hourly at pre-determined rates.

One of the most powerful tools in our GISaaS solution is the use of custom web and mobile 'Markup tools'. These markups are user-drafted features that identify and communicate revisions needed to the GIS. These changes can arise from regular field maintenance, capital improvements, new development, or simply identifying assets that were drawn improperly prior to our implementation.

The best part of these markups is that the client's own field operations are the best source of knowledge on your assets. They are the subject matter experts of your utility. As operations staff use these tools to improve the quality and completeness of the GIS asset inventory, they also build confidence in the GIS as a dependable system of record.

A grayscale silhouette of a surveyor wearing a hard hat and safety vest, standing next to a tripod-mounted surveying instrument. The background is a light, hazy landscape.

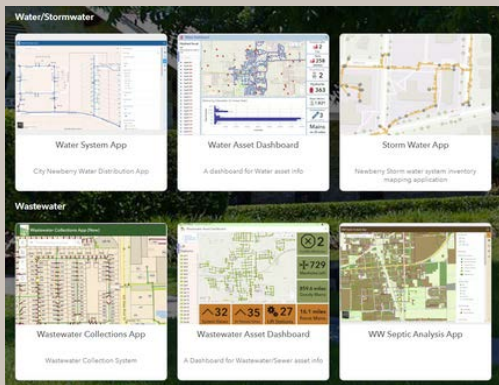
**GFY is a full-service surveying and engineering firm. Our surveying group has extensive surveying technologies and techniques for performing field asset inventory data collection services. We can collect your asset inventory needs using traditional surveying, GPS, terrestrial scanning, hydrographic sonar, subsurface designation, drone imagery, or direct-to-GIS technology. Our CAD drafting technicians and GIS analysts can handle most data conversion efforts from scanned paper plans, AutoCAD or MicroStation, or table data into a GIS inventory.**

 **GEORGE F YOUNG**

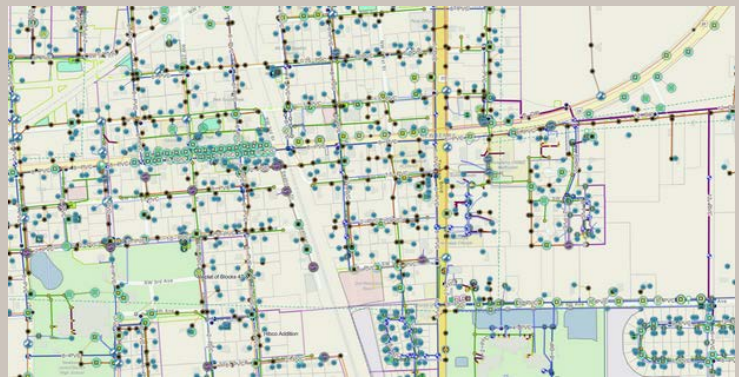
# Online Portal Management and Application Development

GISaaS will assist you in the management of your ArcGIS Online Portal, including security, user access, and licensing, branded GIS Landing page, utility-focused maps, and editing tools. With the options available in the ESRI, commercial off-the-shelf platforms, your maps can be designed to best fit the intended end-user experience.

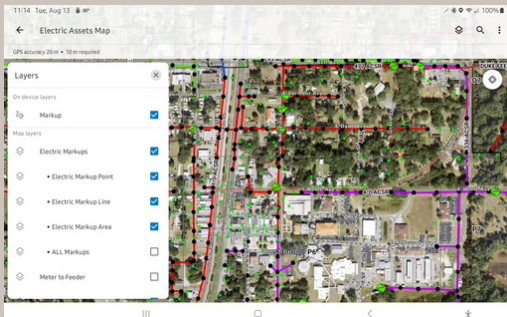
## GIS LANDING PAGE



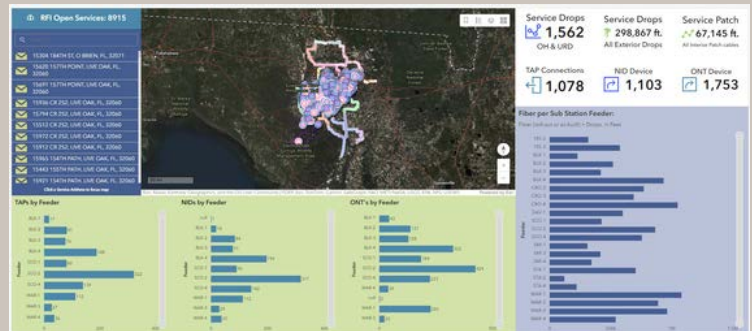
## UTILITY THEMED MAPS



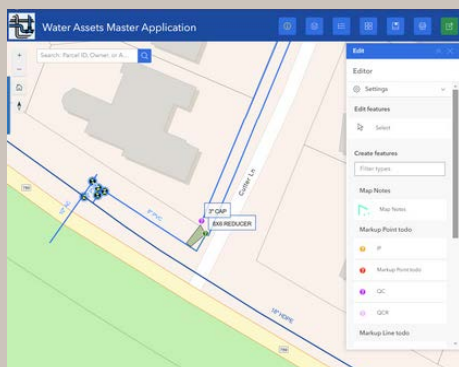
## MOBILE ACCESS AND EDITING



## DASHBOARDS



## MARKUP EDITING TOOLS



## User Licensing

All GIS data access licensing is a direct-to-ESRI purchase on their ArcGIS Online hosted Software as a Service platform designed with different levels of access to ensure your team can use ArcGIS Online to collaborate efficiently. GISaaS can assist you in navigating and selecting the appropriate licensing to best fit your organization and data workflow. Below are some of the license levels available through ESRI.

### Esri AGOL User License Options<sup>4</sup>

- Creator\* [\$700/yr ea.] Leverage essential capabilities to map, analyze, and manage data. Administer groups, members, and content for seamless collaboration. Create and manage work assignments for your mobile workforce.
- Required to establish an AGOL account and portal interface. At least (1) of these users will be assigned to GISaaS for the administration of the portal and development of maps and applications.
- Contributor license(s) [\$250/yr ea.] can be added to support client-side editing on developed web applications.
- Mobile Worker(s) [\$400/yr ea.] Supports field operations that collect data, manage field assignments, and inspect assets. Field Workers connect the field to the office using apps such as ArcGIS Field Maps and ArcGIS Survey123 for real-time data collection, tasking, and operations.
- Viewer license(s) [\$125/yr ea.] Supports view-only access for general departmental or administrative access to non-public GIS data, maps, or applications.
- GIS Professional Basic(ArcGIS Pro) license(s) [\$700] can also be added to provide for client-side desktop editing and ad-hoc mapping of hosted GIS data.

[1] Esri Licensing is based on annual subscriptions. All costs are established by and paid directly to ESRI. Pricing is subject to change. For the latest fees, options and details: <https://www.esri.com/en-us/arcgis/products/arcgis-online/buy>



## GISaaS Contracting

GISaaS is an affordable alternative to developing and maintaining an in-house GIS solution, yet we are aware that small organizations may have restrictive budgets that must be considered. Likewise, contracting options need to be explored as well, to minimize unnecessary paperwork and reduce effort while assuring compliance with procurement regulations.

While GIS-related services do not technically fall under the (Florida Statute 287<sup>5</sup>) CCNA guidelines as a professional service “services within the scope of the practice of architecture, professional engineering, landscape architecture, or registered surveying and mapping,” they are an Information technology consultant service. For many small organizations, the negotiated annual budgets for GISaaS fall below the prescribed<sup>6</sup> CCNA threshold of \$35,000 for Category Two<sup>7</sup>. This allows procurement without an extensive bidding and selection process.

Also, a number of our clients have existing CCNA negotiated annual contracts with GFY that can be “piggy-backed,” which not only reduces the impact of a bidding process but also allows you access to other services within those contracts, if warranted.

[5] Florida Statutes regarding the acquisition of professional services and associated thresholds:  
[http://www.leg.state.fl.us/Statutes/index.cfm?App\\_mode=Display\\_Statute&URL=0200-0299/0287/0287.html](http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0200-0299/0287/0287.html)

[6] FS 287.042 (4)(b) To prescribe procedures for procuring information technology and information technology consultant services that provide for public announcement and qualification, competitive solicitations, contract award, and prohibition against contingent fees. Such procedures are limited to information technology consultant contracts for which the total project costs, or planning or study activities, are estimated to exceed the threshold amount provided in s. 287.017, for CATEGORY TWO.

[7] 287.017(2) Purchasing categories, threshold amounts. The following purchasing categories are hereby created:  
CATEGORY TWO: \$35,000

# LETS CONNECT



## GRANT RAUDENBUSH

GIS, Project Manager

Our GIS service-line is led by Grant Raudenbush, PSM, GISP. As a Licensed Surveyor, Mapper, and Certified GIS Professional, Mr. Raudenbush brings unique skills and data management perspectives to our projects. He is a seasoned project manager in developing GIS data and systems for clients in Florida. This includes designing and customizing Esri data models, including the Local Government Information Model (LGIM) and client-specific data models, GIS asset inventory data collection and analysis, and web and mobile GIS solutions development and maintenance. Mr. Raudenbush has over three decades of experience serving the GIS needs of our government clients.

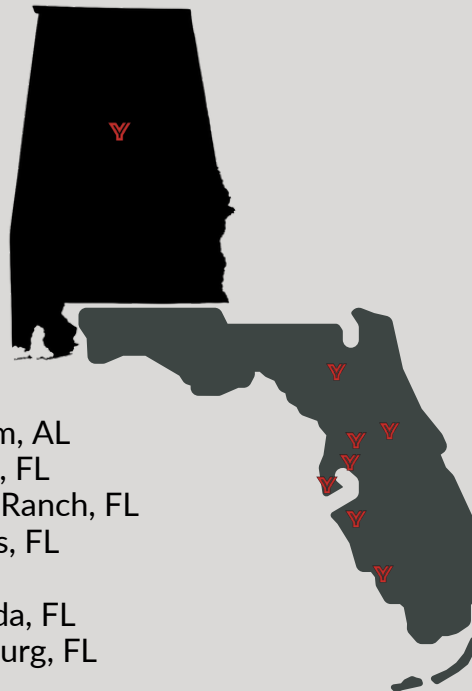


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## GFY OFFICE LOCATIONS



- Birmingham, AL
- Gainesville, FL
- Lakewood Ranch, FL
- Lake Wales, FL
- Lutz, FL
- Punta Gorda, FL
- St. Petersburg, FL
- Tampa, FL