COUNTY OF KENDALL, ILLINOIS
ADMIN HR COMMITTEE
County Office Building
County Board Room 210
Thursday, September 5, 2019 at 5:30p.m.

MEETING AGENDA

1. **Call to Order**
2. **Roll Call:** Elizabeth Flowers (Chair), Scott Gengler, Judy Gilmour, Matthew Prochaska, Robyn Vickers
3. **Approval of Agenda**
4. **Approval of Minutes from August 21, 2019**
5. **Department Head and Elected Official Reports**
6. **Public Comment**
7. **Committee Business**
   - Discussion of FY 2020 IT Budget and Salaries
   - Discussion and Approval of GIS Mapping Recorded Document Policy
   - Discussion and Approval if Parcel Fabric Bid Results
   - Discussion of GIS Fee Cost Study and Review of the Ordinance setting Kendall County GIS Fees
   - Discussion of Employee Appreciation Pizza Party
8. **Executive Session**
9. **Items for Committee of the Whole**
10. **Action Items for County Board**
11. **Adjournment**

If special accommodations or arrangements are needed to attend this County meeting, please contact the Administration Office at 630-553-4171, a minimum of 24-hours prior to the meeting time

COUNTY OF KENDALL, ILLINOIS
ADMIN HR MEETING
County Office Building
111 W. Fox Street, Room 210; Yorkville
Wednesday, August 21, 2019

CALL TO ORDER - Committee Chair Elizabeth Flowers called the meeting to order at 5:31p.m.

ROLL CALL

Attendee	Status	Arrived	Left Meeting
Elizabeth Flowers	Present		
Scott Gengler	**ABSENT**		
Judy Gilmour	**ABSENT**		
Matthew Prochaska	Here		
Robyn Vickers	Here		

Others in Attendance: Meagan Briganti, Bob Jones, Matt Kinsey, Scott Koeppel

APPROVAL OF AGENDA – Motion made by Member Vickers second by Member Prochaska to approve the agenda. **With three members voting aye, the agenda was approved by a 3-0 vote**.

APPROVAL OF MINUTES – Motion made by Member Vickers, second by Member Prochaska to approve the August 5, 2019 minutes. **With three members voting aye, the minutes were approved by a 3-0 vote.**

DEPARTMENT HEAD AND ELECTED OFFICIAL REPORTS

Treasurer – Bob Jones referenced his health insurance reports. At our current enrollment and usage numbers we are looking to be about $250,000 under budget. Mr. Jones also had a question about part time employees and their qualification for insurance particularly dental and vision benefits. There was consensus by the committee to offer fringe benefits if the part time employee met the hours required every 6 months. Also, Mr. Jones asked that a representative from All State attend a meeting to discuss offering Disability Insurance options at employees cost. Committee agreed to have the representative attend.

Administration Department – Mr. Koeppel reported that staff met with Alliant our Liability and Worker's Comp Insurance Broker and insurance renewal numbers will be available by early November. Mr. Koeppel also distributed the proposed Holiday schedule for next year which is from the Circuit Court of the 23rd Judicial Circuit and what the County has historically followed. The consensus of the Committee was to forward the 2020 Holiday Schedule to the Board for approval under consent Agenda. Finally, Mr. Koeppel reviewed a memo about questions asked at the last Admin HR Meeting regarding Federal Grants and implications with the new cannabis law.

PUBLIC COMMENT - None

COMMITTEE BUSINESS

- *Presentation Health Insurance Mid-Year Review the Horton Group* – Mike Wojcik and Beth Ishmael from the Horton Group, the County's Health Insurance Broker reviewed current aggregate health insurance enrollment data and presented options for potential savings for next calendar year, including pharmacy policy changes, a four tier category system, the County currently has two categories and different contribution modeling. They will return in October with renewal information.

- *Discussion of County Expense Reimbursement Policy* – In January 2019 a new law requiring Illinois employers to reimburse employees for work related expenses went into effect. Many employers including Kendall County already reimburses employees. A draft Expense Reimbursement Policy from the State's Attorney Office is in the packet and will be part of the Employee Handbook.

- *Discussion of Mack & Associates, P.C. Performing a GIS Mapping Fee Cost Study not to Exceed $5,000* – Ms. Briganti noted that as a follow up to last month's discussion about the GIS fees they reviewed the statue and it states an acceptable study needs to be done. Mr. Koeppel also indicated he would work with Clerk Gillette to determine if her part of the GIS fees need to be evaluated as well. Member Flowers asked if the internal study and survey done by Ms. Briganti was sufficient or if that was considered a conflict? **There was consensus to get the State's Attorney Office opinion on if the internal study is sufficient or if an external study needs to be done. If the internal study is sufficient an ordinance will be brought to the Committee. If an external study is needed staff will forward the item to County Board for approval. A roll call vote was done Ms. Flowers voted Aye, Mr. Prochaska voted Aye, Ms. Vickers voted Aye.**

- *Discussion of Second Internet Connection* – Mr. Kinsey reported that the, State's Attorney Office reviewed the Second Internet Contract and has changes to the terms and conditions. The contractor will not make changes to their industry standard contract. Member Prochaska indicated that he was okay with moving forward as many large companies do not make changes. Mr. Kinsey noted that the proposed changes were as follows: Metro Net asks that the County pay penalties if the contract is broken early. Also access to the premises clause was an issue with the SAO. Member Vickers stated the County does not have much bargaining power. **Member Vickers made a motion, second by Member Prochaska to forward to the Board. All Members present voted Aye. The motion carried.**

EXECUTIVE SESSION - None

ITEMS FOR COMMITTEE OF THE WHOLE – A Special Meeting needs to be had to do a review for the County Administrator a tentative date of September 11th, was proposed. Mr. Koeppel suggested the Chairman bring it up at the Board Meeting when the entire Board is present and more consensus on a date can be had.

ACTION ITEMS FOR COUNTY BOARD

- *Approval of 2020 Holiday Schedule – Consent Agenda August 27th Board Meeting*
- *Approval of Second Internet Connection with Metro Net – Board Meeting*

ADJOURNMENT – Member Prochaska made a motion to adjourn the meeting, second by Member Vickers. **With three members voting aye, the meeting adjourned at 6:50 p.m.**

Respectfully Submitted,

Mera Johnson
Risk Management and Compliance Coordinator

Draft Policy:

GIS Department Policy on Reviewing Legal Descriptions

Per Illinois Statute 225 ILCS 330/5 and the Local Governmental and Governmental Employees Tort Immunity Act, an employee of the Kendall County GIS Department will not prepare a full legal description, will not review any legal descriptions prior to recording, and will not provide advice on how to solve any error found during review.

An employee of the Kendall County GIS Department may review a legal description, on behalf of County Departments or Elected Offices, prior to recording.

A review of a legal description will extend no further than identifying the problem. This review may include an image and a statement of the issue.

Potential Statements:

- Legal description does not create a closed boundary.
- Legal description conflicts with another legal description previously recorded.
- Legal description includes property not owned by the Grantor.
- Legal description splits property and it is unclear if this is the intention.
- Legal description contains typos on critical information.
    - Reference documents, street names, bearings, etc.

Kendall County does not map based on intent, and thus, the legal description on the recorded document must reflect the subject property at the time of recording. If the document is rejected, the legal description must be corrected and re-recorded for a transfer of ownership or parcel split to occur.

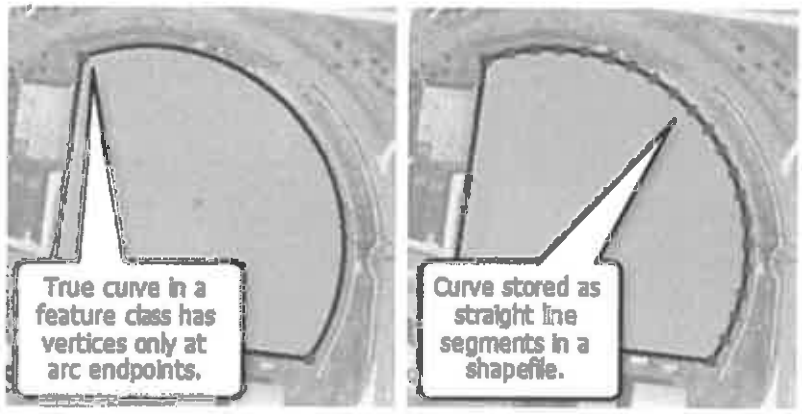
Invitation for Bid – 2019 Modern Cadastral Model – Parcel Fabric

Comparison

	Sidwell		Panda Consulting
Experience	Yes – ESRI Partner – 1997		Yes – ESRI Partner – 1999
Fit LGIM and all layers	Yes		Yes
Training included?	Yes - $7,700		Yes - $7,000
- Parcel Fabric Specifics	3 days of hands-on exercises - Travel expenses invoiced separately		24 hours (3 days) of the curriculum using client data - Training is recorded and made available for reuse
- Follow-up Support	2 days		10 hours
	Option 1	Option 2	
Delivery < 40 Days?	40 days	75-90 days	5 weeks (25 days)
Densified Curves converted into True Curves	No	Yes	Yes
Pricing breakdown	$26,300	$52,900	$32,000 (-$2,000 for pilot)

*

True Curve versus Densified Curve



Staff recommends going with Panda Consulting.

Kendall County, Illinois
2019 Modern Cadastral Model – Parcel Fabric ITB

Bid Submittal

Sidwell

HARRIS
LOCAL GOVERNMENT

Submitted by The Sidwell Company
2570 Foxfield Road, Suite 300
St. Charles, Illinois 60174
630-549-1000 | www.sidwellco.com

Contents

1. Cover Letter

August 31, 2019

Meagan Briganti
GIS Coordinator
Kendall County GIS Department
111 W. Fox St., Room 308
Yorkville, IL 60560

Re: 2019 Modern Cadastral Model – Parcel Fabric ITB

Dear Meagan –

Thank you for the opportunity to submit our bid to provide GIS Services for Kendall County. As an Esri Gold Partner and Release Ready Specialty designated company, Sidwell offers unequalled experience in cadastral and GIS implementation, particularly with migration to the Esri Parcel Fabric data model.

Within the last year, Sidwell staff participated in multiple holistic testing sessions at the Esri corporate office in Redlands, CA. This holistic testing experience involved evaluating workflows using the Parcel Fabric in Esri's newest platform: ArcGIS Pro. This, in addition to our extensive Parcel Fabric migration experience, sets Sidwell heads and shoulders above our competitors to assist Kendall County in accomplishing this Modern Cadastral Model – Parcel Fabric project and modernization of parcel management workflow.

An integral part of managing your GIS is developing and maintaining accurate parcel data and modernizing maintenance workflows. We have worked with over 50 jurisdictions on Parcel Fabric migrations and we understand the data structure requirements, processes, and tasks to migrate data into the Fabric and for it to perform optimally. Based on these qualities and experiences, we are presenting two options for migrating Kendall County's data into the Parcel Fabric for your consideration:

Option 1 – Basic Fabric Migration
Sidwell will use fully automated geoprocessing workflows to convert linear boundaries to 2-point geometries. This workflow will meet the minimum standards required to migrate data to the parcel fabric. This option can be delivered in either as ArcGIS Desktop version 10.7.x or ArcGIS Pro version 2.4 (or newer).

Option 2 – Enhanced Fabric Migration
Sidwell will use semi-automated workflows to convert linear boundaries to 2-point geometries and identify potential curve features. Potential curves are densified arcs (multi-segment lines that are a series of small straight segments mimicking a curve rather than a true curve) and change them into true curves where within tolerance. This will enhance data quality, improve fabric performance, and ease future maintenance

workflows for affected features. Also, some features, specifically ROW polygons, are too complex to be loaded into the parcel fabric. These complex parcels will be manually split into useable pieces. All attributes will be maintained. This option can be delivered in either as ArcGIS Desktop version 10.7.x or ArcGIS Pro version 2.4 (or newer).

I trust that you will strongly consider our qualifications, working experience, technical achievements, and GIS implementation capabilities for this project. We look forward to the opportunity to discuss our proposal for your Modern Cadastral Model – Parcel Fabric project. If you have any questions about our bid, please contact me directly at (630) 815-6520 or via e-mail at BWetzel@sidwellco.com.

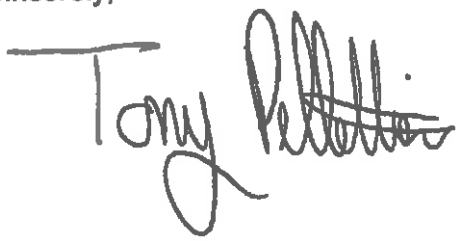
Sincerely,

Bill Wetzel
Senior Account Manager
THE SIDWELL COMPANY

It is our practice to respond to business opportunities where we can provide solutions that meet project specifications, match our areas of expertise, provide high quality deliverables, and offer a competitive price. In this business arena, Sidwell continues to excel.

As Vice President, I will serve as the authorized individual to negotiate and sign an agreement with Kendall County on behalf of Sidwell. We welcome the opportunity to work with the County on this important project.

Sincerely,



Tony Pellettiere
Vice President, Sales and Marketing
THE SIDWELL COMPANY

2. Corporate Profile

Established In 1927
Public Corporation

Bill Wetzel, Bid Submittal Contact

(630) 815-6520
BWetzel@sidwellco.com

Corporate Address
2570 Foxfield Road, Suite 300
St. Charles, Illinois 60174

(630) 549-1000
(630) 549-1111 Fax
info@sidwellco.com

Corporate Background

Sidwell is one of the oldest and most respected companies providing GIS, mapping and land records management services throughout the United States. With established skills in the mapping sciences, Sidwell was one of the first companies of its kind to adopt digital mapping technology and embrace GIS as a platform for intelligent mapping. The company offers a variety of mapping and GIS professional services, which include data conversion, digital data enhancement, database design, workflow analysis, custom application development, website development and hosting, as well as training and support.

Sidwell values the role of local government and respects the demands for high quality data and services which are placed upon its leadership. We listen to our clients and strive to understand each one's unique needs so that we can respond with solutions which will improve their ability to serve the public.

Corporate Facility

Sidwell's corporate production facility is located in St. Charles, Illinois, and is equipped with a full complement of Sidwell-owned GIS data production hardware and software. In recent years, Sidwell has also become a leading provider of GIS website development and hosting for local government. We have performed mapping services for small development sites, municipalities,

counties, and large federal land projects. Sidwell has maintained these GIS and automated mapping capabilities since 1982.

2.1 Capabilities

Professional GIS Solutions

- GIS project planning, design, and implementation
- GIS data conversion and document scanning
- Geodatabase development and implementation
- Preparation of cadastral mapping & parcel numbering systems
- GIS and parcel map maintenance
- Digital soils and land use mapping
- Soils computation services

GIS Software

- Sidwell Parcel Administrator™, Map Editor™, Map Plotter™ and FARMS™ applications
- Custom GIS software application development
- Training in GIS implementation and operations

Accela Implementation Services

- Accela Civic Platform Deployments
- Best Practice Template Configurations
- Data Conversion

Sidwell Web Solutions

- Portico™ GIS website development and web hosting

Commercial Services

- Marketing of commercial products that evolve from GIS projects

2.2 Partnerships and Awards

ArcGIS for Local Government Specialty

ArcGIS Online Specialty

Release Ready Specialty

esri Partner Network Gold

Sidwell and Esri®

Organizations around the globe partner with Esri to help solve some of the world's top geospatial problems by developing high-caliber solutions, services, content, and hardware for the ArcGIS platform. As an Esri Partner since 1997, Sidwell is one of them. Sidwell has maintained a strong business partner relationship with Esri (Environmental Systems Research Institute) of Redlands, California, the world's leading provider of GIS technology. Sidwell is an Esri Gold Tier Partner, which is a top status level given to valued business partners, and a Value-Added Reseller (VAR) of Esri software.

Sidwell Awarded Esri ArcGIS® for Local Government Specialty Designation
In 2013, Esri designated Sidwell as an ArcGIS for Local Government Specialty Partner. Local Government Specialty designated partners have strong local government expertise, understand the business value of the ArcGIS for Local Government Solution, have a deep technical expertise in the ArcGIS platform, are focused on providing solutions and services to local governments, and work closely with Esri.

Sidwell Awarded Esri ArcGIS Online Specialty Designation
Sidwell was designated in 2015 by Esri as an ArcGIS Online Specialty Partner. This ArcGIS Online Specialty recognizes partners in the Esri Partner Network that have developed a proven set of value-added services and solutions that help users implement and optimize ArcGIS Online in their organizations.

Sidwell Awarded Esri Release Ready Specialty Designation
In 2018, Sidwell was designated as a Release Ready Specialty Partner by Esri. The Release Ready Specialty designates partners that are keeping pace with Esri technology, have industry expertise, offer solutions, services, or content based on the latest Esri software releases, and help users make smart decisions using the ArcGIS platform.

Sidwell and Accela

Our strategic partnership with Accela, Inc. allows Sidwell, as an authorized re-seller of Accela software and as an authorized implementation partner to deliver Accela's platform and tightly integrate this technology with the GIS and other important business systems that local governments rely upon. Sidwell has gained the expertise to analyze how jurisdictions can benefit from Accela's solutions and deliver workflows built around their best practices. Our strategic partnership has allowed Sidwell to gain the expertise on the Accela platform to be able to provide services to existing Accela customers to ensure they are maximizing their investment.

Accela is a "best of breed" solutions provider offering local government software solutions for land management, licensing, asset management, public health and safety, and GIS integration. From streamlining City functions like land management, licensing, asset management, and public health and safety, to citizen engagement capabilities like virtual town halls and mobile reporting tools, Accela bridges the gap between agencies and citizens.

2.3 Professional Staffing

VAN O'BRIEN
Director of Solutions and Services

Experience

Industry: 21 years
Sidwell: 19 years

Education

BS, Geography, Northern Illinois University
MS, Geography, Northern Illinois University

Computer Software/Languages

Esri ArcGIS for Desktop, ArcGIS for Server, ArcGIS Online, SQL Server, Access, VBA

Van manages all professional services, support and solutions staff at Sidwell and oversees the technical direction for the company. He is also directly involved with project implementations and training and has helped transition many jurisdictions to parcel fabric and geodatabase mapping workflows nationwide. Furthermore, he has performed extensive consulting and training services on Esri's parcel fabric data model for a variety of jurisdictions.

Van also performs extensive workflow and needs analyses for several jurisdictions in the United States and helped to provide direction for counties to move their land records and GIS programs forward. This has brought a broad range of experience in how different counties perform critical land records work using GIS. Van also has extensive project management experience for seeing projects similar to the one proposed to fruition and to the satisfaction of the customer.

Van's oversees Sidwell's technical staff which is primarily responsible for:

- Software application development and support
- Large scale geodatabase conversions from AutoCAD, etc.
- Land records GIS project design, planning, implementation, training and support
- Internal technical support for Sidwell production staff
- Accela platform implementation and support
- Website application development (Geocortex)
- Technical demonstrations and presentations

Experience

Van served as a GIS Project Manager for approximately seven years (2000-2007). As GIS Project Manager, he was actively involved with every stage of a project, from production to on-site implementation and training, while maintaining consistent communication with clients. Prior to becoming Director of Solutions and Services, Van served as Technical Marketing Manager (2007-2012) and was responsible for engineering the technical content of all contracts and proposals to secure new business at Sidwell as well as providing product demonstrations and multimedia marketing materials.

Before joining Sidwell, Van served as a graduate teaching and research assistant at Northern Illinois University in DeKalb, Illinois, where he was responsible for maintenance of database records, participation in economic development meetings, and maintenance of the DeKalb County Economic Development Corporation website. Van had also served as an instructor of geography courses at Harper College, Palatine, Illinois.

NATHAN DEAN
Manager of Services and Support

Experience

Industry: 19 years
Sidwell: 18 years

Education

BS, Geography & Earth Science with emphasis on GIS, Cartography & Remote Sensing, Central Michigan University

Computer Software/Languages

Esri ArcGIS, Python, SQL Server, Microsoft Access, Bentley MicroStation, Sidwell Parcel Builder

Nathan is responsible for the day-to-day management of all our internal and external client software support and project management. As our client base continues to grow, He provides the direct coordination and oversight as Sidwell allocates more resources to support our clients at the high level they have come to expect.

Nathan is Sidwell's lead analyst in parcel fabric conversions and management and support of enterprise geodatabases (ArcSDE and ArcGIS Server). Nathan has been the primary lead on a great many geodatabase conversions over a 15-year span for a wide variety of customers, many of whom know "Nate" on a first name basis from his tenure in providing direct technical support.

Nathan's primary duties include:

- Performing parcel fabric data migration, translation, and tuning tasks to optimize geodatabase performance and introduce best practices within an enterprise environment.
- Geodatabase implementation and administration of workgroup and enterprise systems.
- Providing customer consultation and support on data workflow optimization throughout the client enterprise.
- Development of Python scripts to streamline conversion and production workflows
- RDBMS Management, Database Design, Database Migration
- Workflow Analysis and Design
- Performing on-site and off-site client software installation and configuration of Esri and Sidwell authored software.
- Management of all implementation, analyst and support staff at Sidwell
- Providing software support for internal staff, as well as client issues pertaining to software and enterprise database management systems.
- Generation of Sidwell Software Help documentation.
- Performing acceptance testing and pre-release evaluations of Sidwell authored software products.

Experience

Previously, Nathan was a worked as a member of Sidwell's GIS production staff. Prior to joining Sidwell, Nathan worked for the Michigan Department of Agriculture. He worked on a joint project between the Federal Department of Agriculture and the Michigan department of Agriculture to convert existing hard copy NRCS soil data to ArcGIS compliant vector layers. His duties included accuracy improvement of the soil geometric and attribute data.

MARK KEMPER, GISP
GIS Project Manager

As a Project Manager, Mark supports all phases of Sidwell's efforts to implement GIS projects and provide ongoing client support after project completion including:

- Parcel numbering system design and implementation
- GIS project planning
- Database design and implementation
- Client training on GIS software operations
- Analysis and design of GIS, cadastral and land records workflows
- Training in the use of cadastral GIS
- Aerial photography and orthophotography
- Analysis and use of GIS for farmland assessment

Experience

Industry: 38 years
Sidwell: 21 years

Education

BS, Geography, University of Dayton

Designation

Geographic Information Systems Professional (GISP)

Affiliations

Urban & Regional Information Systems Association
Assoc. of Indiana Counties
Indiana County Assessors Assoc.
Indiana County Auditors Assoc.
Illinois County Assessors Assoc.
Missouri Mappers Association

In addition, project management staff members establish procedures to optimize the flow of information between client sites and Sidwell production and mapping services departments and provide ongoing software support. Mark also supports marketing and sales efforts by providing technical software demonstrations and attending trade shows and conferences.

Experience

Before joining Sidwell, Mark worked for more than three years as a Client Support Manager at JE & Associates, where his responsibilities included client relations, GIS project management, GIS software training, proposal and contract development, and marketing support. He has experience with AutoDesk AutoCAD® and AutoCAD® Map. Prior to JE & Associates, Mark was the GIS director for six years at Manatron Inc., in Kalamazoo, Michigan, where he was responsible for client relations, project management, software development, client training and support, and marketing support. While at Manatron, Mark provided consulting services and software training to more than 70 counties and cities throughout the United States. Mark previously worked for two cadastral mapping companies in Ohio, where his responsibilities progressed from inking technician to map compiler to inking supervisor to project supervisor.

DICK KENNEDY
GIS Project Manager

Experience

Industry: 27 years
Sidwell: 27 years

Education

BFA, Art, Northern Illinois University

Affiliations

Urban & Regional Information Systems Association
Illinois County Assessors Assoc.

Software Experience

Esri ArcGIS for Desktop, ArcGIS Server, ArcReader, Publisher, Maplex, Data Interoperability, MicroStation, Geographics, Reprographics and GeoCoordinator

As a GIS Project Manager, Dick maintains the relationship between the client and Sidwell during every stage of a project, from production to on-site implementation and training.

He also supports Sidwell clients with

- Product Demonstrations
- Educational Sessions
- Software Installations
- Customized Training

Dick is also part of Sidwell's telephone support team and provides assistance to clients who call Sidwell's help line.

Experience

Before joining Sidwell, Dick worked in the insurance and publishing industries. He began his Sidwell career in the Mapping Services department as a compiler/checker. In addition to processing map updates, responsibilities included data conversion, preparing digital deliveries, writing service guidelines for new clients, coordinating interdepartmental workflows, streamlining maintenance procedures and testing/reviewing internal software. Dick also served as Client Training Specialist, working with Project Management in teaching Sidwell software and methodology.

Dick has experience with a variety of Esri software products (ArcGIS Desktop, ArcGIS Server, ArcReader) and many of the extensions (Publisher, Maplex, Data Interoperability). He also worked for several years with MicroStation and its GeoGraphics, Reprographics and GeoCoordinator extensions.

2.4 References

Below you will find references that Sidwell encourages you to contact to gain a better understanding of how the services provided by Sidwell have successfully performed in the past. In addition, the following pages describe past and current projects of the references below that have been implemented by Sidwell.

Reference 1	
Agency	Kane County, IL
Contact	Tom Nicoski, *Chief of GIS Technologies*
Address	719 South Batavia Avenue Geneva, Illinois 60134
Phone Number	(630) 208-8655
Email	gistech@co.kane.il.us

Reference 2	
Agency	Effingham County, IL
Contact	Jill Zerrusen, *GIS Manager*
Address	101 S. 4th Street, Suite 302 Effingham, IL 62401
Phone Number	(217) 342-8520
Email	jzerrusen@co.effingham.il.us

Reference 3	
Agency	Lake County, IN
Contact	John Almasy, *Mapping/Real Estate Supervisor*
Address	2293 North Main Street Crown Point, IN 46307
Phone Number	(219) 755-3130
Email	almasje@lakecountyin.org

2.4.1 Kane County, Illinois

2019 Parcel Fabric Migration

Sidwell is currently working with Kane County to migrate their cadastral base data layers into the Parcel Fabric. The County will continue to use Sidwell solutions, such as Parcel Administrator and FARMS, in their daily parcel maintenance operations while working in the Parcel Fabric. End-user training and ongoing support are included in this project.

2003 Geodatabase Conversion

Kane County contracted with Sidwell to convert the County's GIS database to an Esri ArcGIS geodatabase format and provide other associated professional services:

- Design geodatabase data model to fit the specific needs of Kane County
- Convert MicroStation GeoGraphics Project to a Parcel Builder compliant geodatabase, including multiple tagging of linear dataset
- Technical assistance in the implementation of ArcSDE, which will reside on Microsoft SQL Server. These tasks include:
    - ArcSDE configuration and data loading assistance and data administration
    - ArcSDE/MSSQL security configuration
- Create a Visual Basic program that provides tools for the management of parcel numbers and related information
- Create grid indexes that determine the extent and attributes used to generate each individual map page
- Create map frame marginalia including layouts and overview indexing schemes
- Provide training in ArcMap, map editing, and Sidwell's Parcel Builder Suite of maintenance applications
- Expand subdivision attribute content to include data from existing subdivision manual
- Modify database design to support creation of two classes of parcel polygons
- Documentation that describes common editing procedures that are recommended for maintaining the geodatabase

2003 Web Design and Hosting

Using ArcIMS technology from Esri, Sidwell created and hosts a Web site dedicated to providing full-time public access to Kane County's GIS data, including information pertaining to parcel data and digital aerial photography. This site has e-commerce with access by subscription. In order to visit this GIS website, please contact the Sidwell Help Desk to receive a temporary password at 630-549-1080.

- The site is available 24 hours a day, 7 days a week to subscribers.
- The GIS website was designed to serve the interests of real estate/appraisers, title companies, flood insurance companies, and private developers.
- An end-user can perform a search based on parcel number, street name, or street address.

- Data served includes the Assessor's tax roll including owner name, address, site location, present and past year assessments, and recording information. Additionally, there is a link to the Treasurer's tax information.
- Map display includes cadastral data such as roads, parcels, lots, subdivisions, dimensions, water features, and corporate boundaries along with aerial photography and 100- and 500-year flood information.

1972-1985 Cadastral Mapping and GIS

- Sidwell originally prepared a manual parcel mapping system for Kane County in 1972. In 1985, the county contracted Sidwell to convert the cadastral maps into a comprehensive GIS project. The project included new aerial photographic surveys, field surveys, permanent ground control monumentation, orthophoto production, preparation of a contiguous cadastral database, data conversion, new cadastral map plots, countywide two-foot contour interval topographic mapping, district mapping, software training, software development, installation and data integration with the MIS department.

Historical Imagery

The County has acquired over 20 separate years of historical imagery from Sidwell and other resources. Historical imagery is a georeferenced, ortho-like imagery product that provides a historical reference of the County.

Ongoing GIS Consulting and Professional Services

Sidwell regularly provides on-site consulting and professional services for Kane County's GIS Technologies Department. Projects completed in recent years include developing historical image layers for the GIS website, image reformatting, custom aerial flights and mosaic wall displays.

Sidwell's technical staff has provided custom software development and data integration services. Sidwell has also met with County officials and staff to set priorities for utilization of GIS data, and to determine which data layers and attributes are to be served to county offices and the public; and with township assessors to evaluate and improve FARMS agricultural land assessment workflows. Our staff is made available on an "as needed" basis to provide on-site data maintenance, training, and technical support.

2.4.2 Effingham County, Illinois

"Sidwell has a very good reputation for quality and customer support. We were in need of an updated GIS web solution, and I felt like Sidwell was the right choice for this. Brian Baker, the account manager, and Mark Kemper, the project managers were patient and always had thorough answers for all my questions. I felt comfortable with them, and it was apparent that Sidwell was willing to invest the time to make sure I understood what the LGIM and Fabric was all about."

-Jill Zerrusen, Effingham County GIS Manager

Effingham County is located in Central Illinois approximately 75 miles south-east of Springfield, the Illinois State Capitol. After being introduced to the concept of Esri's parcel fabric and the Local Government Information Model (LGIM), Effingham County reached out to Sidwell to talk about improving their GIS maintenance workflows and GIS website. Sidwell staff provided support to help the county visualize what modernizing their GIS using the parcel fabric would look like, and the county agreed to move forward with the conversion.

The Challenge

The County was in need of an updated parcel maintenance workflow and a more robust GIS web solution to take advantage of Esri's ArcGIS Online technology.

The Solutions

Sidwell migrated the existing county geodatabase to the Local Government Information Model and parcel fabric. Services included staging, parcel fabric topology validation and loading of townships, subdivisions, tax parcels, ownership parcels, and right-of-way features. Sidwell deployed Parcel Administrator to manage and track county parcel numbers and genealogy. DEVNET's land record solution was integrated with Sidwell's Portico GIS web viewer to improve desktop and online mapping. Sidwell professional services provided the county with the proper training on how to maintain their parcel information in the new environment. Additionally, Sidwell provided their parcel fabric workflow support package to ensure county success in managing the parcel fabric once training has been completed.

Impact

Sidwell training provided familiarity with editing using the parcel fabric, resulting in new, more productive workflows. The county now has a modernized GIS website solution using Esri's ArcGIS Online along with Esri base maps and applications for the LGIM. It is easier and quicker for the county to update tax parcels and share shapefiles to other Esri users. The public now have access to aerial imagery, and tax parcel information all in one location through Sidwell's Portico web viewer.

2.4.3 Lake County, Indiana

"We spent years checking and studying before we chose Sidwell and their partner to do our comprehensive GIS for our urban, suburban, rural county of nearly a half million people. Genuine experience, constant availability of responsive personnel and the latest technology, along with competitive pricing drove my decision and I've never regretted choosing Sidwell."

-George Van Til, Former Lake County Surveyor

GIS Development

Lake County took a phased approach to the development of their GIS. The initial project included construction of a detailed street centerline network attributed with street names and address ranges to serve E-911 emergency dispatch applications and as the common street centerline data set for a countywide GIS project. This phase was performed as a cooperative project between The Sidwell Company and DLZ Indiana, Inc.

For the second project, Lake County selected Sidwell to design, develop, and implement a countywide multi-purpose GIS project registered to the county's digital orthophotography. Components of this project included cadastral data, soils, land use, farmland computations, training, professional services, and GIS software. DLZ, Indiana, Inc. provided section corners and benchmarks, storm water management, wetlands mapping, planning and zoning mapping.

Lake County continued to work with Sidwell to expand the use of the GIS by many other departments. Sidwell upgraded the GIS website, provided Commissioners' tax sale data on the GIS website, collected GPS points for Highway bridges and signs, imaged and linked Planning ordinances with the GIS, compiled Parks Department data and features, and compiled agricultural land use for a FARMS project. Sidwell also provided GIS services to the Assessor's Office to support the reassessment process.

County Structure Inventory for Tax Assessment

- Recorded building sketches were geo-referenced to new digital orthophotography.
- Sidwell staff then compared the building outlines to the ortho imagery to report all additions, demolitions, new construction, multiple structures per parcel and structures which crossed parcel boundaries.
- All discrepancies were reported as attributes within a geodatabase.

With the completion of the GIS base map, Lake County continued to work with Sidwell to expand the use of the GIS by many other departments. Sidwell upgraded the GIS website, provided Commissioners' tax sale data on the GIS website, collected GPS points for Highway bridges and signs, imaged and linked Planning ordinances with the GIS, compiled Parks Department data and features, compiled agricultural land use for a FARMS project, and updated contours for a portion of Lake County. Sidwell is also providing GIS services to the Assessor's Office to support the reassessment process.

GIS Services by Department to Expand Usage

- **Surveyor**
  - Upgrade GIS website to ArcGIS Server
  - Develop a GIS web feature service to support data download
  - Add buffer, radius, markup tools, etc. to GIS website
  - Update contours for a portion of Lake County
- **Highway**
  - GPS 180 bridges as point features
  - Link bridge inspection report, by bridge, to GIS point feature
  - GPS 7,833 signs as point features
  - Collect sign attributes (type, material, reflectivity, condition, etc.)
  - ArcView software and Certified ArcGIS training
  - ArcView training for query and analysis
- **Parks**
  - Convert AutoCAD and shapefiles to geodatabase
  - Compile Park features polygons
  - Update ArcView licenses
  - Certified ArcGIS training, and data maintenance training
  - Magellan Mobil Mapper CX GPS units with ArcPad software
  - Create data collection forms
- **Planning**
  - Image, index, and link Planning Department ordinances with GIS
  - Create permits database with input forms and reports
  - Establish connectivity between permits database and GIS
  - Training for document management and permits database
- **Auditor, Treasurer, Commissioners**
  - GIS website to support tax sales
  - Link GIS website with Assessor's website
  - Integrate Auditor's tax data with GIS website
- **Assessor**
  - FARMS processing, software and training
  - GIS analysis and mapping services to support reassessment

Parcel-based GIS Project

- Research, design, and development of a contiguous cadastral-based GIS
- GIS database design and parcel data model including multiple feature tagging of graphic map elements and topological data structuring to create parcel polygons
- Delivery of the GIS project data in Esri's ArcGIS Geodatabase format
    - Technical assistance in the implementation of ArcSDE, on Microsoft SQL Server.
    - These tasks include ArcSDE configuration assistance, ArcSDE data loading, ArcSDE/MSSQL security configuration, ArcSDE data administration
- Data collection of existing Auditor's parcel maps, scanned images of older Sidwell cadastral maps, subdivision plats, tax roll data, and road right-of-way information
- Use of county's existing digital orthophotography as a base for GIS development
- Cadastral data reconstruction to create a countywide, contiguous area using COGO and precision placement techniques
- New permanent parcel numbering system in compliance with the standards established by the Indiana Department of Local Government Finance (DLGF)
- Database processing and linkage with the parcel number
- Digital alphabetic subdivision indexes
- Digital parcel discrepancies list
- Develop and implement a farmland analysis system (FARMS)
- Assist client with delineation of agricultural land use boundaries
- Overlay digital soils and land use data and topologically structure with attribute linkages
- Polygon overlay processing to compute farmland acreages and produce digital report based on soil productivity tables
- Project installation and implementation
- Sidwell software and software maintenance
    - Sidwell's Parcel Builder Suite including Parcel Administrator, Map Editor, and Map Plotter
    - Sidwell FARMS processing and reporting modules
- 50 days of on-site training and professional services
- On-going technical support and consulting
- Project management

Lake County also recognized the importance of having up-to-date GIS parcel data that would meet the State of Indiana's mandated parcel numbering, and also of achieving implementation in accordance with the recommendations of the Good Government Study. In 2008, the County selected The Sidwell Company to help them realize their goals. One of the first steps in this five-year process was to digitally capture numerous documents to link them to the new GIS. Documents captured during this stage of the project included: subdivision plats, legal drain and unincorporated drain documents, and highway maps. While performing these tasks, Sidwell's document imaging specialists found numerous plats which were unreadable; using their state-of-the-art digital imaging system, they were able to capture these illegible plats and post-process them to recover the important data they contained.

Once captured, all these documents were linked to the GIS. Lake County now has a single, up-to-date, and accurate map of all the parcels in the County. GIS has replaced the existing variety of paper parcel maps in offices throughout Lake County, and will improve the data integrity, the flow of information, communication with taxpayers, and decision-making at all levels.

Street Centerline Data Set

- Use of Lake County's existing digital orthophotos with 0.5 ft. pixel resolution supplemented with publicly available DOQQ photography
- Digitizing of street centerlines from digital orthophotography
- Quality control and processing to break street centerlines at intersections and snap street centerlines within a specified tolerance
- Conflation of street centerline attribute data from the commercially available GDT data set onto the digitized street centerlines
- Database comparison of the new street centerline database with the county's master street address guide (MSAG) file
- Field verification of street data in suspect areas
- Delivery of street centerline data in Esri shapefile format and in a latitude/longitude, UTM, or state plane projection
- technical support and consulting
- project management

ArcGIS Server/ArcGIS Online Consulting

In 2018, Sidwell assisted the County with the configuration, deployment, and ongoing technical support of ArcGIS Server/Enterprise and ArcGIS Online for data sharing and deployment to users throughout the organization and neighboring communities. This work was completed on upgraded server hardware to modernize their GIS operations.

Parcel Fabric Migration

In 2018, the County retained Sidwell to assist with migration into Esri's Parcel Fabric. As the County's trusted partner in previous GIS modernization projects, the County recognized that Sidwell was the most qualified firm to provide the required services.

Sidwell migrated the existing data into the Esri Parcel Fabric and Local Government Information Model. As a part of this project, Sidwell provided the County with training and support.

3. Scope of Work

3.1 GIS Fabric Migration

3.1.1 Overview

Sidwell will migrate Kendall County's existing land records GIS from its current format to Esri's parcel fabric. The new parcel fabric will conform to Esri's Local Government Information Model (LGIM) and include all layers specified in the Scope of Work on page 2 of the ITB. The Sidwell team will clean, stage, and load all features into the data model, and then tune the fabric for performance. The project geodatabase will then be enabled with the latest schema and functionality available for the current working version of ArcGIS at the time of delivery. Due to the timing of this project, Kendall County will have the option of either receiving the data in an ArcGIS Desktop or ArcGIS Pro geodatabase.

3.1.2 Data Cleanup

Sidwell will perform the following cleanup procedures on the existing data prior to staging the data for conversion into the parcel fabric:

Feature Topology

For each feature layer to be migrated to the parcel fabric, every polygon feature will be converted to line features and topologies will be created between each set of lines and polygons. Attribute information for each polygon will be stored as points to allow recovery of attribute information using spatial analysis techniques. Each topology will have the following rules enforced between the multiple feature classes. Spatial coincidence between all layers will be optimized during the cleanup process where there is clear evidence.

Topology Rules

Feature Classes	Rules
Feature Line	Must be Covered by Boundary of Feature Polygon
	Must not Self-Overlap
	Must not Self-Intersect
	Must be Single Part
	Must Not Intersect or Touch Interior
Feature Polygon	Boundary Must Be Covered by Feature Line

Topology errors will be flagged and corrected using Esri topology tools. Furthermore, there will be work performed on each set to ensure that parcels are coincident with each other throughout the conversion process.

Linear Boundary Cleanup

For the convenience of the County, Sidwell is proposing two options for consideration of how thorough the County would like Sidwell to clean the linear data. We understand the need to respect budgets but also understand the need for high quality data. As such we are proposing the following two options:

- **Option 1: Basic Fabric Migration**

  Sidwell will use fully automated geoprocessing workflows to convert linear boundaries to 2-point geometries. This workflow will meet the minimum standards required to migrate data to the parcel fabric. This option can be delivered in either as ArcGIS Desktop version 10.7.x or ArcGIS Pro version 2.4 (or newer).

- **Option 2: Enhanced Fabric Migration**

  Sidwell will use semi-automated workflows to convert linear boundaries to 2-point geometries and identify potential curve features. Potential curves are densified arcs (multi-segment lines that are a series of small straight segments mimicking a curve rather than a true curve) and change them into true curves where within tolerance. This will enhance data quality, improve fabric performance, and ease future maintenance workflows for affected features. Also, some features, specifically ROW polygons, are too complex to be loaded into the parcel fabric. These complex parcels will be manually split into useable pieces. All attributes will be maintained. This option can be delivered in either as ArcGIS Desktop version 10.7.x or ArcGIS Pro version 2.4 (or newer).

Recreate Polygons

Sidwell will use the cleaned lines to recreate improved feature polygons. If there are attributes that need to be converted to the new parcel fabric from the existing features, they will be retained at this stage as well.

3.1.3 Data Staging

After the data is determined to be clean, features will be loaded into a staging geodatabase, which allows for schema and attribute requirements to be enacted on the data prior to loading the features into the target parcel fabric. Features will be sorted into the correct staging layers and categorized in a manner recognizable to the parcel fabric schema.

The following features will be categorized as (using ArcGIS Desktop parcel fabric classifications):

Feature Type	Fabric Subtype	Subcategory
Tax Parcels	Tax (Type = 7)	
Ownership Parcels	Ownership (Type = 8)	
Condominiums	Simultaneous Conveyance (Type = 5)	Condominium
Lots	Conveyance Division (Type = 6)	Lot
Blocks	Conveyance Division (Type = 6)	Block
Subdivisions	Simultaneous Conveyance (Type = 5)	Subdivision
Townships (Survey)	PLSS Township (Type = 1)	
Sections	PLSS Section (Type = 2)	
Quarter Sections	PLSS Quarter Section (Type = 3)	
Right-of-Way	Conveyance Division (Type = 6)	Public Right of Way
Political Townships	Other (Type = 11)	Political Township

Feature Type	Fabric Subtype	Subcategory
Corporate Boundaries	Other (Type = 11)	Corporate Boundary

Furthermore, the appropriate attributes will be mapped to the staged database fields to ensure simple loading into the parcel fabric geodatabase.

3.1.4 Data Loading

After properly staging the data, Sidwell will load the data into a geodatabase:

Create LGIM Geodatabase

Sidwell will convert and load the staged County parcel data and related features into an Esri ArcGIS 10.7.x / ArcGIS Pro 2.4 (or latest version) parcel fabric enabled geodatabase. Sidwell will use the available parcel fabric schema provided on the ArcGIS for Local Government portal, and add additional parcel types if necessary, based upon the requirements of the ITB and discussions with the County.

Load and Staging Data

Sidwell will load the data from the staging geodatabase into the LGIM geodatabase using ArcGIS geoprocessing tools. The data will be loaded in stages for each type of feature.

Testing and QA/QC

Sidwell will perform a series of testing procedures and a variety of small and large edits on the data to ensure that it was loaded correctly and can utilize the intended functions and tools.

3.2 Project Implementation and Training

3.2.1 Installation and Delivery

Sidwell will perform remote delivery of all database and software via webcast. All databases will be installed at predetermined locations within the County and all software applications will be installed at predetermined workstations. Sidwell will require access to all database management systems, workstations, and servers necessary to full implement the project. This task will be performed over the course of one-half business day.

3.2.2 Training

Our training programs are customized to the specific needs of the individuals that we are training. The emphasis of your training program will be the result of consultative discussions between Sidwell and County personnel in an attempt to match our scope of services to the needs of the County. We have included the following training outline as a point from which to begin discussions of your specific needs. Training will include the following:

3.2.2.1 Parcel Fabric Maintenance Training (3 Days)

In this course, individuals responsible for mapping in the parcel fabric will be introduced to the Parcel Editor toolkit; a core suite of tools in ArcGIS Desktop. The users will perform fully documented hands-on exercises and the County examples that includes:

- Understanding the parcel fabric components
- Querying the parcel fabric (Ex. History)
- Splitting and merging parcels (simple)
- Making boundary line adjustments
- Creating condominiums
- Entering plats/subdivisions - COGO
- Joining and adjusting to parcel fabric
- Copying and pasting constructions into the parcel fabric

3.2.2.2. Follow-up Remote Training (2 Days)

Following delivery of the converted geodatabase, Sidwell will continue training the County staff remotely during this session to answer questions and work through complicated mapping scenarios. This segment of training will use the newly converted county data.

3.3 Optional Service

We are pleased to present Kendall County with the following optional service to enhance your project:

3.3.1 Parcel Fabric Workflow Support

Sidwell will provide front-line support for tools, workflows and best practices for users working in the parcel fabric data model. This support package, which is renewable on an annual basis, allows customers to be able to call Sidwell's Help Desk to address issues directly related to:

- Best-practices technical and workflow support for Esri Parcel Fabric tools
- Step-by-step support with parcel mapping workflows, including:
  - Parcel Editor suite of tools
  - Parcel workflows introduced by Sidwell
  - Joining/unjoining parcels and sketches
  - Plans
  - Examining attributes
- Support with data specific map document design, including:
  - Layer symbology schemes
  - Field aliasing
  - Complex labeling
- Support with existing Fabric adjustment workflows, including:
  - Transforming parcels
  - Parcel fabric adjustment
- Help with mapping and display strategies for optimized visualization of data
- Routines and scripts to publish parcel fabric data to the desktop and/or web
- Help with understanding the structure of your data, reviewing attributes for quality control, and other map analysis such as working with historical parcel data

- Troubleshooting potential problems in workflows introduced by Sidwell
- Future planning questions about software patches/upgrades or how map changes may affect other systems (such as publishing to ArcGIS Online or exporting to end users)

4. Cost Proposals

Below you will find two (2) different cost proposal options for the fabric migration with brief descriptions included. Option one is the Basic Fabric Migration package and Option two is the Enhanced Fabric Migration package.

Please note:
The chosen fabric migration package will also come with an option to enhance your project by adding on Parcel Fabric Workflow Support. This support option, if selected, will cost $2,800.00.

4.1 Option One – Basic Fabric Migration

Sidwell will use fully automated geoprocessing workflows to convert linear boundaries to 2-point geometries. This workflow will meet the minimum standards required to migrate data to the parcel fabric. This option can be delivered in either as ArcGIS Desktop version 10.7.x or ArcGIS Pro version 2.4 (or newer).

SIDWELL PROFESSIONAL SERVICES	FEE

GIS Parcel Fabric Migration
- *Administration/Project Management*
- *Topology cleanup*
- *Basic feature conflation, curve, and line processing*
- *Staging and loading features into the Parcel Fabric, including:*
  • *Condominiums and subdivisions (including plan generation)*
  • *Lots*
  • *Blocks*
  • *Tax Parcels*
  • *Ownership Parcels*
  • *Townships, Sections and Quarter Sections*
  • *ROWs*
  • *Political Township*
  • *Corporate Boundaries*
- *Testing and QA/QC*
	$18,600.00

Implementation and Training - *Remote delivery and configuration in ArcGIS Desktop or ArcGIS Pro* - *Three (3) days of parcel fabric maintenance training ArcGIS Desktop or ArcGIS Pro** - *Two (2) days of remote follow-up training*	**$7,700.00**
Basic Fabric Migration Total	**$26,300.00**

**All travel expenses will be invoiced separately as they are incurred.*

4.2 Option Two – Enhanced Fabric Migration

Sidwell will use semi-automated workflows to convert linear boundaries to 2-point geometries and identify potential curve features. Potential curves are densified arcs (multi-segment lines that are a series of small straight segments mimicking a curve rather than a true curve) and change them into true curves where within tolerance. This will enhance data quality, improve fabric performance, and ease future maintenance workflows for affected features. Also, some features, specifically ROW polygons, are too complex to be loaded into the parcel fabric. These complex parcels will be manually split into useable pieces. All attributes will be maintained. This option can be delivered in either as ArcGIS Desktop version 10.7.x or ArcGIS Pro version 2.4 (or newer).

SIDWELL PROFESSIONAL SERVICES	FEE

GIS Parcel Fabric Migration
Topology cleanup
- *Enhanced feature conflation, curve, and line processing*
- *Staging and loading features into the Parcel Fabric, including:*
  • *Condominiums and subdivisions (including plan generation)*
  • *Lots*
  • *Blocks*
  • *TaxParcels*
  • *OwnerParcels*
  • *Townships, Sections and Quarter Sections*
  • *ROWs (includes splitting at intersections)*
  • *Political Township*
  • *Corporate Boundaries*
- *Testing and QA/QC*
	$45,200.00

Implementation and Training - *Remote delivery and configuration in ArcGIS Desktop or ArcGIS Pro* - *Three (3) days of parcel fabric maintenance training in ArcGIS Desktop or ArcGIS Pro** - *Two (2) days of remote follow-up training*	**$7,700.00**
Enhanced Fabric Migration Total	**$52,900.00**

**All travel expenses will be invoiced separately as they are incurred.*

Panda Consulting

Your Partners in GIS

Response to

Invitation to Bid

FOR

Kendall County, Illinois

Submitted:

August 31, 2019

Provided by:

Frank J. Conkling

Owner, Panda Consulting

10238 Hunt Club Lane • Palm Beach Gardens, Florida 33418
Phone: 561.691.3277 • email: frank@pandaconsulting.com
www.pandaconsulting.com

April 24, 2017

Kendall County GIS Department
Attention: GIS Coordinator
111 W Fox St, Rm 308
Yorkville, Illinois 60560

Meagan:

Panda Consulting (Panda) is pleased to submit our response to the Kendall County, Illinois Invitation to Bid to migrate its existing data to the ESRI ArcGIS Parcel Editing Solution (the Parcel Fabric). We have reviewed and understand the specifications and believe we have assembled a highly qualified team to satisfy your needs. Panda Consulting has a proven track record of successful Parcel Fabric migration projects, a thorough understanding of the Client's requirements and objectives, and the ability to implement extensive quality control processes that will improve the quality of the Client's cadastral datasets, including the positional accuracy.

We believe assembling this combination of mapping and GIS expertise brings together the most accurate and most conscientious mapping team available today. Panda Consulting's intimate knowledge of parcel mapping needs; an extensive background in working through problems associated with remapping projects and the extensive knowledge of leading-edge software and techniques will provide the Client with a parcel

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mapping system that provides the best short term and long-term value.

Sincerely,

Frank J. Conkling

Owner, Panda Consulting

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Project Team and Points of Contact

Panda Consulting, (Panda), is a Geographic Information System (GIS) professional services firm licensed to provide Surveying and Mapping services in the State of Florida (LB 7734) and is pleased to provide the following information regarding the proposal. For over 21 years, Panda has been an ESRI Business Partner and brings decades of experience in providing the highest quality data conversion, design and mapping.

Panda's combination of mapping and GIS expertise brings together the most accurate and conscientious mapping team available today. Panda's knowledge of property appraisal and mapping needs; Panda's deep and intimate knowledge and extensive background in working through problems associated with migration projects and the extensive knowledge of leading-edge software and techniques will provide the Client with a solution that provides both the best short term and long-term value. This project will also allow the Client to quickly move forward with the latest technology to make its mappers more efficient while increasing the functionality of the GIS and simplifying administration through the use of geodatabases.

Frank Conkling - Panda's owner and the Project Point of Contact, Frank Conkling, will be providing review, direct

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oversight and verification over all mapping procedures to ensure all mapping is performed to the highest standards. Frank has been involved in GIS since he obtained his Surveying License in 1985; has taught Surveying and Mapping at the local college, a Past President of the Florida Association of the Cadastral Mappers and is currently appointed to the Florida Board of Professional Surveyors and Mappers (Florida's regulatory board that sets rules for surveying and protecting the General Public against rogue surveyors.) Frank has provided dozens of workshops and presentations dealing directly with the ESRI ArcGIS Parcel Editing Solution (the Parcel Fabric) throughout the US. He and all of Panda Consulting's staff will ensure all processes performed during this project are the best practices and the most efficient available.

Brian Kelly - Brian D. Kelly is a Senior Project Manager at Panda Consulting and has a MS in Geography from Florida Atlantic University in Florida. During his time at Panda Consulting, Brian has worked on several important Land Records projects. Brian has served as project manager on several projects and is a subject matter expert in developing, implementing, populating and maintaining databases modeling ownership interests in real estate.

Prior to joining Panda Consulting in 2002, Brian worked with the Florida Atlantic University Center for Geo Information Science

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as a GIS Coordinator and Adjunct Instructor. During his tenure at the center, Brian managed all research projects, grants, websites and supervision of graduate students and staff personnel.

Since working at Panda Consulting, Brian has served as project manager on a diverse list of projects including the conversion, georeferencing and data extraction of 16,000 engineering/utility drawings, the compilation and mapping of a 150,000 parcel digital cadastre for the Citrus Information Cooperative, a consortium of the Citrus County Property Appraiser and several municipalities in Citrus County, Florida and most major Parcel Fabric Migration Projects undertaken by Panda Consulting since 2011.

Brian is fully involved in all Parcel Fabric migration projects performed by Panda Consulting and an expert in the issues associated with preparing data and ensuring it meets all requirements for inclusion in the Parcel Fabric.

In October of 2007 Brian received his GISP designation by the GIS Certification Institute (GISCI). A GISP is a certified geographic information systems (GIS) Professional who has met the minimum standards for ethical conduct and professional practice as established by the GIS Certification Institute (GISCI). The GISCI certification program is a professional recognition

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program for GIS professionals who have at least 48 months of professional experience.

Panda Consulting Information - Panda is located at 10238 Hunt Club Lane, Palm Beach Gardens, Florida and is solely owned by Frank J. Conkling and his wife, Sue R. Conkling. Its telephone number is (561) 691-3277, and its website is www.pandaconsulting.com.

Panda was created in 1998 by Frank Conkling to provide its clients with new, creative and cost-effective ways to manage their parcel and land records through GIS technology. Panda is an ESRI Business Partner, won the 2000 New Business Partner of the Year award and is a recognized leader in the Parcel Mapping field.

Similar Project Examples

Panda has been involved in the migration / conversion of dozens of organizations across the United States into the Parcel Fabric including: Buffalo County (WI), Sioux Falls (SD), Calhoun County (FL), Franklin County (FL), Wood County (WI), Eau Claire County (WI), Palm Beach County (FL), Martin County (FL, Indian River County (FL), Putnam County (FL), Waukesha County (WI), Polk County (FL), Pinellas County (FL). In total, these counties comprise over 1,500,000 +/- (1.5 million) parcels of land. In each of these projects, the individual County received

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a complete parcel database migration designed for their use and ready to be maintained by their staff as parcels were delivered. With each County project, Panda has evaluated and refined its data collection, migration and delivery procedures with its current system resulting in an efficient mapping process reflecting those years of refinement and customization. The following projects reflect some of Panda's experience in Parcel Mapping.

Project:	Martin County, FL. Parcel Migration Project
Client:	Martin County Property Appraiser
Contact:	Pam Hardy
Address:	1111 SE Federal Highway, Suite 330 Stuart, Florida 34994
e-mail:	Pam.Hardy@pa.martin.fl.us
Phone:	772-288-5616
Extent:	110,000 parcels +/-

Seeking a better way to maintain its tax parcels, Martin County contracted with Panda Consulting to provide complete consulting, conversion, training and support services for a project to embrace the ESRI ArcGIS Parcel Editing Solution. After reviewing the options with County staff and discussing their structure, Panda converted a pilot area to the Parcel Editing Solution and performed some initial training for their staff, receiving comments back on what was working and what was not. Using this feedback, Panda converted the entire county

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during a six-week period. Subsequent to the conversion, Panda provided several training and support sessions to ensure the County staff are able to efficiently manage their maintenance and publication procedures.

Project:	IRC Parcel Fabric Migration Project
Client:	Indian River County Property Appraiser
Contact:	Robert Garst
Address:	1800 27th Street,
	Vero Beach, FL 32960
e-mail:	rgarst@ircpa.org
Phone:	(772) 226-1501
Extent:	80,000 parcels +/-

Panda Consulting was contracted by Indian River County, Florida Property Appraiser's Office (approximately 80,000 tax parcels, including stacked condominium parcels) to provide Parcel Fabric consulting, conversion, training and support services. Not having Lot polygons originally, the County wanted Panda to construct an initial Lot polygon feature class and migrate it into the Parcel Fabric for their staff to begin mapping Lots. The project was completed in 2 months and on-site training was provided immediately to allow the cadastralists to utilize the more efficient tools. As with all Panda Consulting projects, on-going support meetings were provided to ensure complete success with the transition.

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Project:	Buffalo County Parcel Migration Project
Client:	Buffalo County Property Assessor
Contact:	Jason Poser
Address:	P.O. Box 28 Alma, WI 54610-0028
Phone:	(608) 685-6285
Extent:	20,000 parcels +/-

Nature of Work: Having struggled for years using a CAD - based parcel mapping solution and having insufficient training for its mappers, Buffalo County approached Panda Consulting about reviewing and attempting to convert their existing data into the ESRI ArcGIS for Parcel Editing Solution. Panda reviewed the data and found multiple areas in which the data could not / should not be converted into the new structure. After discussions with the Client, Panda agreed to rebuild the existing mapping, including PLSS Townships, Sections, Quarter Sections, Subdivisions, Lots and Tax Parcels and train the mappers on using the new structure and workflows. Using some recently provided metrics, the Client is now mapping their parcels three (3) times faster than they were before while using a more comprehensive data structure and with greater accuracy.

Project:	Wood County Parcel Migration Project
Client:	Wood County Property Assessor
Contact:	Justin Conner
Address:	400 Market Street Wisconsin Rapids, WI 54495

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Phone: (715) 741-1314
Extent: 47,000 parcels +/-

Nature of Work: Wood County was seeking a consultant to convert its 47,000 parcels into the ESRI ArcGIS Parcel Editing Solution (the Parcel Fabric). While most of the project was fairly straightforward, the County decided to integrate the City of Marshfield data into the singular Parcel Fabric. The City data appeared to historically be processed by a CAD program that caused the individual curves to be non-conforming with the traditional methods for "densifying" curves and special efforts were required to ensure the data was correctly migrated into the Parcel Fabric with minimal residual problems.

Project: Waukesha County Parcel Migration Project
Client: Waukesha County
Contact: Kim Meinert
Address: 515 W. Moreland Blvd - Room AC 170
Waukesha, WI 53188
Phone: (262) 548-7816
Extent: 143,000 parcels +/-

Nature of Work: Waukesha County was seeking a consultant to convert its 143,000 parcels into the ESRI ArcGIS Parcel Editing Solution (the Parcel Fabric). During the project, the County decided to integrate the data from its various cities into the singular Parcel Fabric. The issues encountered during this project included edge matching issues, various levels of quality

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for the data being converted and developing a process by which multiple municipalities can maintain data and contribute back to a centralized system.

Project:	Franklin County Parcel Mapping Project
Client:	Franklin County Property Appraiser
Contact:	Joseph Ferrell
Address:	33 Market Street, Suite 101 Apalachicola, FL 32320
Phone:	(850) 653-9236
Extent:	20,000 parcels +/-

Nature of Work: After having several other vendors attempt, and fail, at the mapping of this rural county in Florida's Panhandle, Franklin County contacted Panda, who reviewed the previous work effort and identified issues with that previous mapping. Panda proposed a complete remapping project using both proven mapping practices based on surveying principles and the latest GIS technology and mapped all 20,000 parcels within the County. Unique issues to this project included the disarray of its tax roll, subdivision indexes and organization of record information. Panda organized the data by converting the tax roll into a web-enabled data that was used for project management, serving as a guide to which parcels were mapped and which parcels had issues associated with them. In addition, Panda established a complete subdivision indexing and created a web-enabled subdivision index usable by the Client, even after

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the project completion. Finally, Panda, in addition to delivering the standard ESRI Geodatabase with topology, also delivered at no extra cost to the Client all parcel information in the Parcel Fabric, the latest, and most efficient data structure for editing and maintaining the parcels in ArcGIS. the Client is still utilizing the Parcel fabric as its editing structure.

General Project Schedule

This project shall be completed within five (5) weeks of Notice to Proceed with a series of interim deliverables.

Once Panda receives the final data to be converted, we shall immediately begin an intensive data audit to ensure all issues are identified and proposed resolutions are developed. This audit shall also include the existing data that has been created in the Parcel Fabric, including the 51,000 +/- tax parcels and 53,000 +/- ownership parcels. Upon completion of the data audit, Panda shall provide to the County a document listing the identified issues and our proposed resolution, both for the migration of data and for correcting the data already created in the Parcel Fabric. Upon receipt of the document, Panda shall schedule a meeting with the County to review the document and ensure the County agrees with the resolution. The data audit shall include suggestions on how to ensure the migrated data is contiguous with the existing Parcel Fabric; the process by which Panda shall

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correct all geometry of the existing Parcel polygons to eliminate the "densified curves"; the manner in which Panda shall eliminate any "sliver" polygons from the Parcel polygons prior to further processing; the manner in which Panda shall handle overlapping Parcel polygons; the process by which Panda shall create the road polygons. In addition, Panda shall provide recommendations, if any, related to modifications to the standard LGIM Parcel Fabric structure and discuss methods for extending the standard LGIM Parcel Fabric structure, or modifications to the map document used for editing the data. At the same meeting, Panda shall discuss any issues identified in the provided Parcel Fabric and discuss how to resolve these issues to ensure all data is correct for the project.

At the conclusion of that meeting, Panda shall commence processing the Parcel polygon data to resolve the identified issues with the initial data and proceed to migration of the data into the Parcel Fabric data structure until completion. At completion of the migration of the Parcel polygon data, Panda shall perform multiple Quality Control procedures to ensure all data was correctly migrated, including:

- ❑ Verifying that all parcels were migrated by comparing the total parcel count.
- ❑ Verifying the migration resulted in a valid polygon shape containing an area greater than 0.

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- ❑ Verifying that all parcels are correctly attributed, including polygon type attribution, including plan attribute, if applicable.
- ❑ Verifying that all parcels mathematically close within acceptable limits (+/ 0.1').
- ❑ Verifying that all parcels required no rotation or scaling by observing the values in the scale and rotation attribute fields.

At the conclusion of Panda's Quality Control process, the Client shall be provided with a file geodatabase containing the initial deliverable. Upon receipt of the initial deliverable, the Client shall undertake its review and provide Panda with a list of any issues that have identified and wish to have resolved. Upon receipt of the list of issues, Panda shall correct the data and return the Final migrated Parcel Fabric to the Client as the deliverable for Phase 2.

Upon receipt and acceptance of the Final Migrated Parcel Fabric and if applicable (the ITB did not discuss whether the Client uses an Enterprise geodatabase or file geodatabase), Panda shall schedule a meeting with the Client to review the procedures to load the data into their Enterprise Geodatabase, including required storage parameters in the Parcel Editing feature dataset, setting up versioning and SDE optimization procedures.

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Once the Final migrated Parcel Fabric is loaded into the Enterprise Geodatabase, training and support services shall be scheduled and commence.

Detailed Project Phasing and Costs

The migration process consists of multiple phases and we shall provide a budgeting cost for each.

Project Strategic Planning - during this phase, Panda will more extensively review the provided data and develop a plan on how each feature class will fit into the Parcel Fabric and LGIM data model. The LGIM will be modified to include all feature classes. In addition, Panda shall review the attribution of the existing feature classes with the Client and ensure that all attribute fields in the existing data shall be appended to the LGIM to ensure that all attributes are maintained and provide for future publication. In addition, Panda shall discuss with the Client how it wishes to maintain its dimensions and annotation. **Cost - $2,000**

Road Polygons – Road polygons were provided as part of the initial data review and Panda shall use this data for the migration. In order to provide the most efficient maintenance of the data once in the Parcel Fabric, Panda shall split the road polygons into sufficiently compact configurations for migration to, and maintenance in, the Parcel Fabric. These polygons shall be

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attributed as polygon Type 6 and coded as Public Road Right of Way. No further attribution shall be created. **Cost - $3,000**

Geometric Corrections - During this phase, Panda shall take all feature classes and identify and correct all geometry issues that are currently existing on the data. These issues include overlapping polygons of the same polygon type (Panda shall identify those overlaps that are intended and those that are mapping errors), densified curves, excessive vertices and vertical alignment. Panda uses an advanced technique developed internally to perform these geometric corrections that ensures all stacked polygons are maintained and that all feature classes are modified as a whole, ensuring consistency between feature classes. **Cost - $10,000**

If the Client desires, Panda shall take a small portion of the data and provide a Pilot area to prototype the implementation, provide a chance for the Client to give feedback on the design and use for initial Parcel Fabric training. **Cost - $2,000**

Migration to the Parcel Fabric / LGIM - During this phase, Panda shall use custom models to migrate the data into the agreed upon LGIM data model. Upon completion of the migration, Panda shall run quality control procedures to ensure all polygons successfully migrated with no errors. Panda shall then deliver a

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final Parcel Fabric with complete descriptive statistics on the final Parcel Fabric. **Cost - $6,000**

Implementation into the Enterprise - During this phase, Panda shall advise and assist the City of the efficient loading and setup of the Parcel Fabric in a multi-user environment, including a set of procedures for loading, installing and configuring the final Parcel Fabric for efficient versioning. Included in the phase, Panda shall provide an SDE Optimization model for maintaining the efficiency of the Parcel Fabric once in full production model and a prototype model for publication (Extract, Transform and Load) so that the Client can continue using its existing publication procedures. **Cost - $2,000**

Parcel Fabric Training - Panda shall provide 24 (twenty-four) hours of online training services spread over several of days customized for the Client. This training shall use the Client data and mapping backlog to ensure that the Client staff is successful during the transition into the Parcel Fabric. These training sessions will be recording and delivered to the Client for future reference and review by the Client. **Cost - $5,000**

On-Site Training (Optional) – If desired by the Client, Panda shall provide the training on site instead of on-line for an additional $5,000. This additional cost will cover the cost of travel, housing and other expenses incurred during the on-

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site training. Since this addition cost is optional, this additional $5,000 is not included in the overall project cost included below.

On-Going Support - In order to ensure complete success during this transition, Panda shall provide an additional 10 hours of online and on-demand support services to assist the Client with any questions or issues that may occur. **Cost - $2,000**

Total cost for the project with on-line training- $32,000

Total cost including the optional on-site training - $37,000

The entire project may take five (5) weeks total from notice to proceed to deliver of the final Parcel Fabric. Since there is no definitive time for the training and support services, these services will occur after the delivery and the timing is completely dependent on the Client's schedule. Considering the size of the Client's data and the Client's schedule, Panda can migrate the data in two distinct phases. This also shall be discussed during the strategic planning phase.

Outline of Training Schedule

Panda shall provide detailed Training and Support services to ensure the Client fully understands the inner workings of the Parcel Fabric and has a thorough understanding of the tools

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available with this solution. The following is an outline of the 24-hour agenda used for the on-line training.

Training Outline:

- ❑ Parcel Fabric Fundamentals
  - ❑ Exploring the ArcGIS Parcel Editing Solution
  - ❑ The Parcel Fabric Data Structure
  - ❑ Spatial Relationships / Topology
  - ❑ The Parcel Fabric and Polygons
  - ❑ Parcel Fabric Feature Class Relationships
  - ❑ Feature Aggregation Concepts
  - ❑ How the Parcel Fabric stores Locations
  - ❑ The Parcel Fabric Data Model
  - ❑ Plans
  - ❑ Parcels
  - ❑ Important Parcel (Polygon) Attributes
  - ❑ The Name Field
  - ❑ Lines
  - ❑ Corner Points
  - ❑ Control Points
  - ❑ The Adjustment Table
  - ❑ The Jobs Table
  - ❑ Joining Parcels
  - ❑ The Local Government Information Model
  - ❑ Setting up a Map Document for the Parcel Fabric
    - ❑ Extending the Standard LGIM Table of Contents
  - ❑ Different Parcel Types
  - ❑ Identifying Features
  - ❑ Labeling Dimension Attributes
  - ❑ Labeling Bearings
  - ❑ Hiding Labels

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- ❑ Parcel History
- ❑ Parcel Fabric and Topology

❑ Editing Fundamentals

- ❑ The Parcel Editor Toolbar
- ❑ The Parcel Fabric Editing Environment
- ❑ Parcel Fabric Options
  - ❑ Merge Connected Lines at Points during Build Option
  - ❑ Building in Place versus Building in Space
- ❑ The Parcel Explorer (Unjoined Parcels)
- ❑ The Plan Directory
  - ❑ The <map> Plan
  - ❑ Plan Record Formats
  - ❑ Finding and Selecting Plan Parcels
- ❑ Joins
  - ❑ Rejoins
  - ❑ Line Points
  - ❑ Joining to Curves
- ❑ The Parcel Details Window
  - ❑ The Construction Tool
    - ❑ Planarize Lines
    - ❑ Line Strings
    - ❑ Segmented Lines
    - ❑ Intersections
    - ❑ Breaklines
    - ❑ Parallel Offset
  - ❑ Planarize Lines
  - ❑ Keep and Join
    - ❑ Creating Joins
    - ❑ Manually Joining the Parcel
    - ❑ Creating Joins by Dragging a Box
    - ❑ Using the Trace Join Tool
    - ❑ Auto-Join

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- ❑ Selecting a join
- ❑ Deleting a Join
- ❑ Residual Information
- ❑ Joining to a Curve

❑ Build the Parcel

- ❑ Build and Mark Historic
- ❑ Build and Keep Current

❑ Line Categories

- ❑ Standard Boundary Lines
- ❑ Dependent Lines
- ❑ Connection Lines
- ❑ Road Frontage
- ❑ Origin Connection Lines
- ❑ Part Connection Lines

❑ The Construction Grid (Parcel Traverse)

- ❑ Inputting Data into the Construction Grid
- ❑ Direction Shortcuts
- ❑ Inputting Curves
- ❑ Parts of a Curve

❑ Using Traverse Files

- ❑ Cadastral XML

❑ Accuracy Settings

❑ ESRI Automated Parcel Workflows

- ❑ Setting Workflow Options
- ❑ Merge Parcels (Combines)
- ❑ Parcel Split using Metes and Bounds
- ❑ Parcel Splits using Construct from Parent
  - ❑ Break lines
  - ❑ Parallel Offset
- ❑ New Subdivision
  - ❑ Building a Subdivision from COGO
- ❑ New Subdivision from CAD

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- ❑ Copying CAD Lines to Create a New Subdivision
- ❑ Building the Subdivision Polygon
- ❑ Splitting the Subdivision into Lots and Roads
- ❑ Creating Tax Parcel from Lots
- ❑ Boundary Line Adjustments
  - ❑ Advanced Methods for Construct from Parent
  - ❑ Unbuildable Lines (Advanced)
- ❑ Basic Parcel Fabric Editing Tools
  - ❑ New Parcel Tool
  - ❑ New Construction Tool
    - ❑ Starting a New Construction
    - ❑ Differences between Tools available in New Parcel and New Construction
  - ❑ Clipping Overlapping Parcels
    - ❑ Using Parcel Remainder
    - ❑ Construct from Parent versus Parcel Remainder
  - ❑ Annotate Parcel Courses
  - ❑ Parcel Namer Tool
- ❑ Non-ESRI Workflows
  - ❑ Consolidations / Combines / Merges
  - ❑ Splitting a Parcel using Metes and Bounds
    - ❑ New Parcel
    - ❑ Parcel Remainder
  - ❑ Splitting a "Portion Of" a Parcel
    - ❑ Construct from Parent
  - ❑ Inputting Subdivisions from COGO
    - ❑ Creating Subdivision Polygons
    - ❑ Creating Lots
    - ❑ Creating Tax Parcels

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- ❑ Creating Easements
- ❑ Parcel Division
  - ❑ Split into Equal Widths
  - ❑ Split by Proportional Area
  - ❑ Splits into Equal Areas
- ❑ Multipart parcels
  - ❑ Merging to Create Multipart Parcels
  - ❑ Explode to Split Multipart Parcels
  - ❑ The Problems with Multipart Parcels
- ❑ Creating Easements
  - ❑ Using Construct from Parent and Parallel Offset for Easements
  - ❑ Using Dependent Lines for Strip Easements

❑ Advanced Topics

- ❑ Correcting issues with your Imported Parcel Data
  - ❑ Fixing Topology Issues
  - ❑ Correcting Parcel Geometry
  - ❑ Filling in Gaps between Parcels
  - ❑ Correcting Overlaps
- ❑ Updating Parcel Corner Locations
  - ❑ Using the Transform Parcels Tool
- ❑ Creating Overlapping Condos / Townhouses
  - ❑ Duplicate Tool
  - ❑ Construct from Parent
- ❑ Control Points
  - ❑ Creating New Control Points
  - ❑ Modifying Existing Control Points
  - ❑ Maintaining Links for Control Points
- ❑ Feature Adjustments - Associated Layers in the Parcel Fabric
  - ❑ Setting up an Associated Layer (related layer)
  - ❑ Applying Adjustments to Associated Layers

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- ❑ Edit Environment Settings
  - ❑ Point Management
    - ❑ Full Cartographic Points
    - ❑ Limited Cartographic Points
- ❑ Cartographic Point Management (Extended Parcel Fabric Properties Add-in)
  - ❑ Flex Points and Flex Point Tolerance Offset
  - ❑ The LinePoint Flex Point Attribute Field
- ❑ Checking the Quality of your Parcel Fabric (Quality Control Add-In)
  - ❑ Parcel Level Metadata
  - ❑ The Scale and Rotate Attribute Fields
  - ❑ The Misclosure Attribute Fields
  - ❑ Fixing the Parcels
- ❑ Understanding Least Squares Adjustments (LSA)
  - ❑ Requirements for LSA
  - ❑ Performing the LSA
  - ❑ Examining the Results of an LSA
- ❑ Alternative Adjustments (Parcel Fabric Move to Feature Add-in)
  - ❑ Setting up the Add-in
  - ❑ Creating the Line or Points for Adjustment
  - ❑ Performing the Adjustment
  - ❑ Differences between This and LSA
- ❑ Additional Add-Ins
  - ❑ Delete Fabric Records Add-In
  - ❑ Fabric Plan Tools Add-in
  - ❑
- ❑ Maintaining Parcel and non-Parcel Fabric Related feature classes.
- ❑ Mass Updates to Parcel Attributes
- ❑ Optimizing the Parcel Fabric in SDE
  - ❑ Optimizing the Storage Parameters

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- ❑ Setting up and Using Versions
- ❑ SDE Maintenance Procedures

❑ The Extract, Transform and Load Process

- ❑ Setting up the ETL in Model-Builder
- ❑ Setting up the ETL in Python

This training is intended to provide the Client with everything needed to successfully implement and efficiently use the ArcGIS Parcel Editing Solution (the Parcel Fabric) for parcel maintenance. This training was derived from Panda's extensive experience (Panda also maintains parcels for many of its Client's Parcel Data in the Parcel Fabric) and introduces the tricks and tips we have discovered and developed during our years of experience while using, as well as, helping our Clients, use the ArcGIS Parcel Editing Solution.

In addition to the training, Panda shall include 10 hours of as-needed support services to ensure the Client understands everything about the Parcel Fabric.

Migration of the Client GIS Data to the Parcel Fabric and LGIM

Panda has performed a preliminary data assessment and identified the following issues and developed the following resolutions and workplan:

Slivers in the Parcel Polygon Layer - Panda has performed the preliminary review and identified that there a few Parcels

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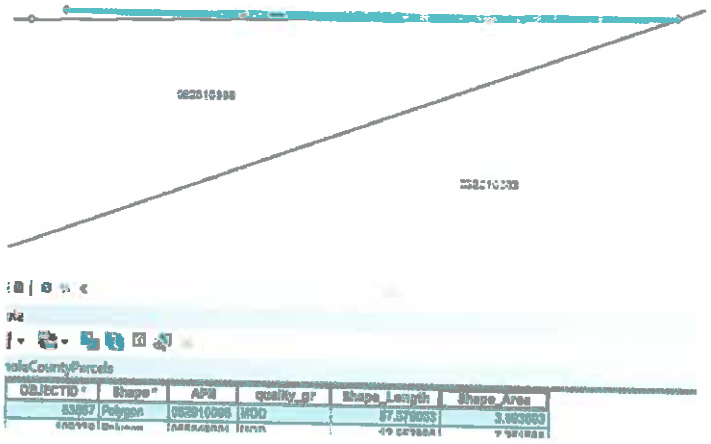
containing fewer that 50 square feet in area. Polygons of this size are often mapping issues created during editing. (See screenshot below.)



Panda shall work with the Client to develop a procedure to ensure these sliver polygons are corrected to ensure that all polygons being migrated are valid.

Densified Curves - It is common that lines and polygons edited with the standard ArcGIS tools will contain Curves that have been "densified" and consist of multiple short line segments that represent an approximation of the curve instead of containing a "true" curve. These "densified curves" are shown on the

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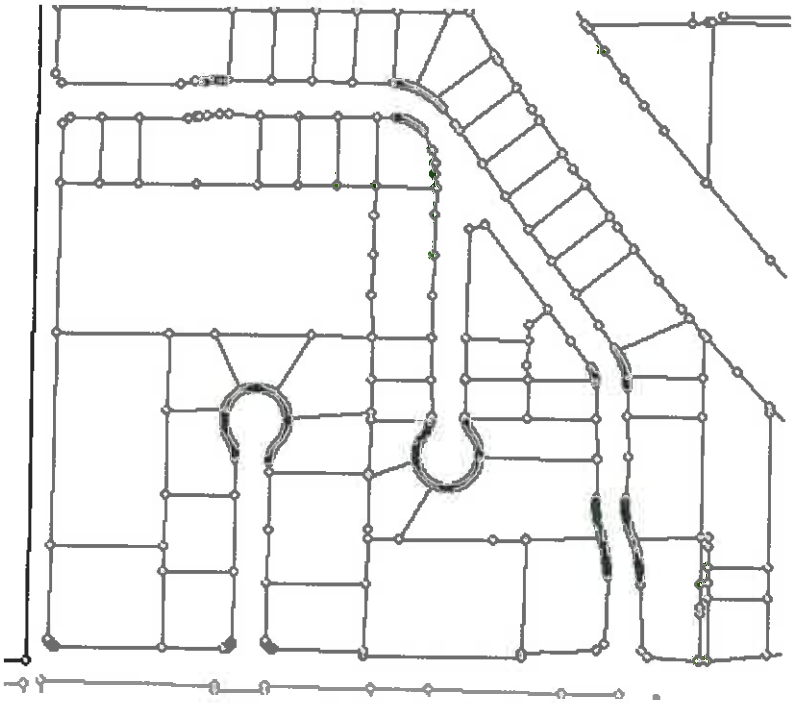
screenshot below where each point represents the endpoint of a line segment.



Panda shall use an internally developed procedure to identify and correct the densified curves on all data provided using the latest tools available. This procedure does not use any batch processes, but reviews every single curve contained in the data and ensures the most consistent and exhaustive correction of the densified curves available.

Road Polygons - After the geometry of the Parcels have been corrected to remove the "densified curves" to ensure all geometries are correct for the future Road Polygons, Panda shall use standard editing tools to split the Road Polygons into sizes

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that are appropriate for the ArcMap Parcel Fabric. Within the ArcMap Parcel Fabric, the number of corners and "joins" tpo those corners impact the usability of every polygon, therefore, all attempts are made to ensure that polygons are neither too large, or have too many corners, (think vertices) contained therein. Care must be taken to ensure the Road Polygons are not too large in size or slowdowns in processing will occur in the future. Panda shall ensure that the Road Polygons are an efficient size for future editing and processing. The optimal size for road polygons is not dependent upon the width or length of the Road Polygon, but is dependent upon the number of tax parcels, and polygon corners. that front on the Road Polygon.

Existing Attribution - Panda shall review the existing attribution with the Parcel Polygons and discuss with the Client whether additional attribution is required. Panda shall ensure that all existing attribution will be migrated to the Parcel Fabric.

Local Government Information Model - Panda shall review the provided data and will discuss with the Client its future plans to ensure the ESRI Local Government Information Model (LGIM) data structure is applicable for use by the Client. Preliminary review does not show any issues and it is recommended that the Client adopt and use the LGIM data structure in the Parcel Fabric.

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Migration into a Staging and Final Parcel Fabric - The migration models process the data and performs a multitude of geoprocessing steps to ensure the data will successfully migrate into the Parcel Fabric, including repairing geometries, converting from multipart to single part polygons, dissolving excessive vertices and creating and testing topology before actually loading the data into a Parcel Fabric. If any polygons fail to load, the individual polygons are examined and corrected until all polygons are loaded. The data is initially loaded into a staging Parcel Fabric to ensure every polygon is migrated. At this point, quality control procedures are run to identify and correct any polygons that failed to correctly load, including any polygon that did not correctly recreate the polygon shape (a bug in the Load Topology into a Parcel Fabric geoprocessing tool.)

This initial Parcel Fabric shall be provided to the Client for review. After review, any issues identified by the Client shall be addressed and corrected and a Final Parcel Fabric shall be provided to the Client.

Training for Parcel Creating, Editing and Publishing

After receiving approval for the completion of Migration of the Client GIS data into the Parcel Fabric and LGIM, Panda shall continue with Training for Parcel Creating, Editing and Publishing. Panda shall provide twenty four hours, comparable

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to (3) days, of on-line training for the Client's staff that focuses on the use and implementation of the Parcel Editing Solution.

Panda believes it provides the most detailed and exhaustive training for the Parcel Fabric in order to ensure the Client completely understands the data model and all tools required to successfully use the ESRI Parcel Editing Solution (the Parcel Fabric.) The schedule and outline for training is detailed in Outline of Training Schedule.

At a minimum, the training shall include:

- ❑ Parcel merges and splits
- ❑ Adjusting parcel boundary lines
- ❑ Updating parcel corner locations
- ❑ Creating new parcel subdivisions
- ❑ Adding condos/townhouses
- ❑ Running Least Squares Adjustments
- ❑ Maintaining control points
- ❑ Maintaining related layers in parcel fabric
- ❑ Maintaining parcel and non-parcel fabric related feature classes
- ❑ Creating and maintaining Easements
- ❑ Mass updates to parcel attributes and features
- ❑ Other repetitive or recurring tasks

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In working with the Client, Panda will configure any ETL tools, model builders, or Python scripts that are required to publish the ArcGIS for Land Records Data Model to the Local Government Information Model Parcel publishing dataset.

On-Going Support

Ensuring that the Client is completely successful in your project, Panda shall provide ten (10) hours (equivalent to 600 minutes) of on-going support services to ensure the successful implementation and deployment of the Parcel Editing Solution. These hours may be used for any service desired by the Client including mapping issues, additional training, parcel maintenance services or additional work.

Future Proofing the Project

At the latest International User Conference in San Diego in July 2019, Esri recently released the next generation of their Parcel Management Solution, the ArcGIS Pro Parcel Fabric. However, as with most new software releases, the solution is still undergoing changes and adding / completing its functionality. This solution is currently not considered ready for full production deployment but will be ready in the next year or two.

In order to ensure the immediate and future success of the project, if the Client decides to transition to the ArcGIS Pro

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Parcel Fabric at some time in the next two years, Panda shall take the ArcMap Parcel Fabric data and perform an upgrade into the new data structure for no additional costs. This upgrade shall include converting the data into the new data structure and making changes to the data that are required by this change in structure.

This free upgrade does not include any additional consulting or training costs for implementing the larger infrastructure requirements (Portal) or additional training for maintaining parcels in ArcGIS Pro, but Panda will provide an estimate for these costs at a future date if desired.

Summary

Thank you again for considering Panda Consulting for this important project. Please review the proposal and contact me by email at frank@pandaconsulting.com or at (561) 691-3277 if you have any questions regarding the proposal or wish to proceed with the pilot project.

Thank you for your time and consideration,

Frank J. Conkling, Owner

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Kendall County, Illinois
GIS Fee Cost Study

Compiled by the Kendall County Technology Services Staff

Report Summary

Currently, the GIS Department is a 100% self-sufficient department relying entirely on the GIS Mapping Fee, which stems from the Recorder's Fees per statute (55 ILCS 5/3-5018 - from Ch. 34, par. 3-5018). In addition to covering all GIS expenses, the GIS Mapping Fee also pays a percentage to the General Fund for Facilities and Utilities and a percentage of all 6 employees in the IT Department salaries, health insurance, IMRF, and Social Security. The department provides fee-based services and, in order to maintain the level of services provided, it is recommended that the GIS Mapping Fee increases. The summary findings reflect conservative calculations of the labor, equipment, consumables, and other Department allocated costs of providing GIS services to Kendall County residents.

The GIS Mapping Fee presently collects $16 per recorded document. Since FY2014, the expenses have exceeded the revenues and the reserve is nearly spent. Without a fee increase, the GIS Department will require assistance from the General Fund in less than 2 years.

Neighboring counties with similar populations to Kendall County are DeKalb, Grundy, and LaSalle, and their GIS Fees range from $24 - $36. With the intention of remaining self-sufficient and sustaining current and future services, it is recommended that the GIS Mapping Fee be increased to $28.

Following a complete employee turnover in the GIS Department, the vision and goals for the department have been updated. Without increasing budget costs, increased and improved services will include:

- increasing security and reliability in moving servers to the cloud,
- increasing employee efficiencies in moving to a modernized cadastral data model (parcel fabric),
- covering email expenses from IT in order to remain self-sufficient,
- creating succession plans through training and manuals,
- improving employee retention and expertise through conferences and classes,
- improving Kendall County residents experiences through public outreach and an improved website,
- increasing services provided to internal departments,
- creating partnerships with Kendall County communities to provide them with GIS services,
- sharing the cost on a redistricting solution following the Census,
- maintaining aerial collections every two years per Assessor and industry standards,
- collecting historical aerials to increase the rich Kendall County history.

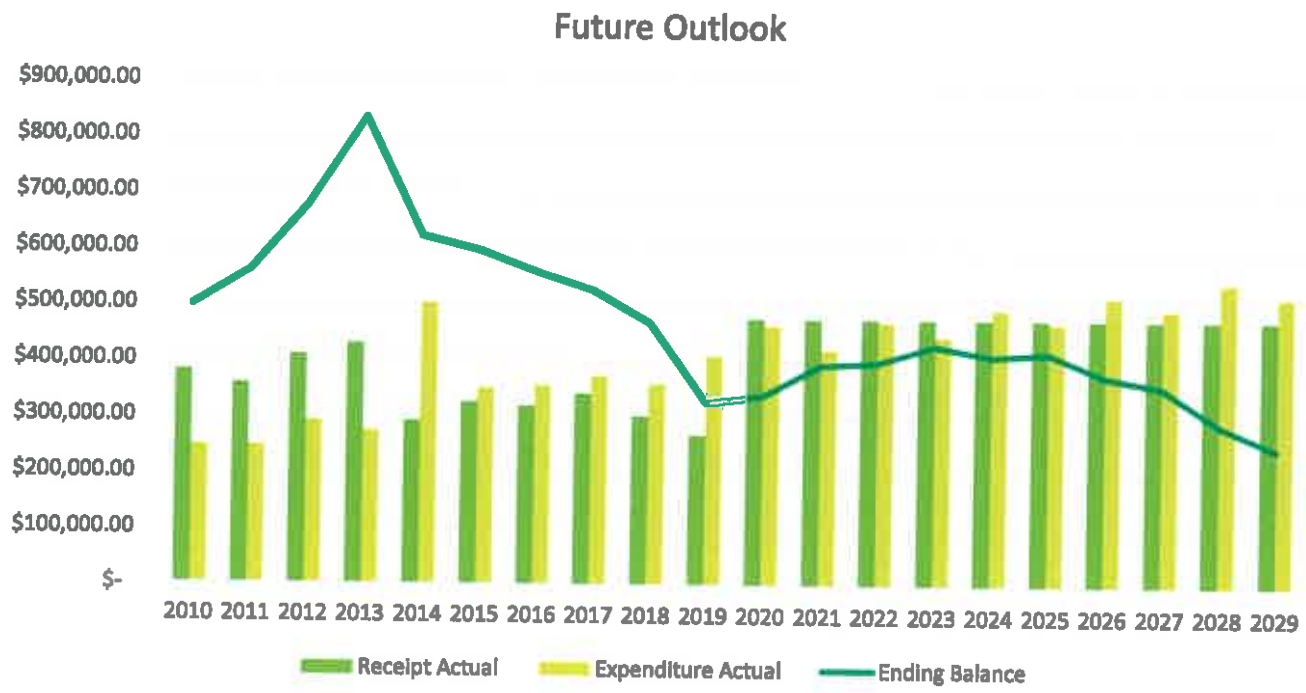
GIS Mapping Fee Budget Breakdown

The budget increase from FY2019 to FY2020 is due to an additional family plan for health insurance and the decennial aerial flight.

When the aerial cost is equalized between off years, the budget increases by less than 3% annually.

Please see 11x17 attachment for the budget.

Increasing the GIS Mapping Fee to the recommended $28, will meet the projected needs for ten years. However, expenses will exceed revenues in FY2026.



GIS Budget Projection
Receipts set to current $28 Mapping Fee

							as of end of June					
GL Account	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2019 Actual Prediction	2019 Budget	2020 Budget	2021 Budget	2022 Budget
510-1-000-1320 - GIS - Receipts	429,604.63	291,124.79	325,565.27	318,953.13	341,368.48	299,872.25	151,193.00	267,920.00	300,000.00	476,000.00	476,000.00	476,000.00
510-1-000-1325 - Miscellaneous Revenue	-	-	-	-	-	1,026.91	1,736.48	1,736.48	-	-	-	-
Revenues Totals	429,604.63	291,124.79	325,565.27	318,953.13	341,368.48	300,899.16	152,929.48	269,656.48	300,000.00	476,000.00	476,000.00	476,000.00
510-2-000-6101 - Salaries	155,074.14	266,433.21	215,456.61	209,341.82	229,986.05	201,869.89	131,023.48	216,358.73	225,593.00	209,664.00	215,953.92	222,432.54
510-2-000-6200 - Office Supplies	104.58	261.94	54.78	67.96	108.08	42.91	-	100.00	500.00	400.00	400.00	400.00
510-2-000-6201 - Postage	2.30	4.53	0.97	5.11	-	2.36	-	10.00	50.00	40.00	40.00	40.00
510-2-000-6203 - Dues/Memberships	50.00	520.00	150.00	340.00	355.00	764.00	345.00	475.00	750.00	525.00	525.00	525.00
510-2-000-6204 - Conferences	-	-	-	2,445.60	1,218.30	-	1,283.99	2,000.00	3,000.00	3,000.00	3,000.00	3,000.00
510-2-000-6205 - Mileage	-	-	-	55.00	641.06	-	670.80	1,000.00	500.00	1,000.00	1,000.00	1,000.00
510-2-000-6206 - Training	-	-	-	314.25	-	37.70	269.00	1,000.00	2,500.00	2,000.00	2,000.00	2,000.00
510-2-000-6207 - Cellular Phones	-	-	936.64	634.78	668.69	349.48	-	-	1,000.00	-	-	-
510-2-000-6215 - Contractual Services/Consultants	-	-	-	5,000.00	205.64	3,585.89	1,190.31	21,190.31	8,000.00	8,000.00	8,000.00	8,000.00
510-2-000-6300 - Transfer To General Fund Health Insurance	25,717.95	22,972.25	25,665.00	27,538.74	29,300.88	39,806.92	16,554.05	51,496.87	43,291.00	54,212.00	55,838.36	57,513.51
510-2-000-6303 - Transfer To Capital Improvement Fund	-	48,000.00	-	-	-	-	-	-	-	13,560.00	13,560.00	13,560.00
510-2-000-6305 - Transfer To IMRF Fund	28,325.73	29,669.91	29,245.58	30,218.55	31,344.26	17,033.99	10,038.34	14,000.00	18,000.00	17,000.00	18,000.00	19,000.00
510-2-000-6319 - Transfer to SS Fund	-	-	-	-	-	12,826.68	9,378.58	12,000.00	17,250.00	17,000.00	18,000.00	19,000.00
510-2-000-6537 - Plotter Supplies	629.72	1,615.32	1,790.40	1,586.00	-	273.92	-	500.00	2,000.00	2,000.00	2,000.00	2,000.00
510-2-000-6585 - Software Expenses	-	-	43,304.64	39,541.42	39,879.36	40,682.00	35,663.38	42,000.00	50,000.00	50,000.00	50,000.00	52,000.00
510-2-000-6586 - Hardware Expenses	-	-	29,347.98	6,292.80	38,720.01	10,775.50	64.76	6,000.00	32,000.00	8,000.00	8,000.00	8,000.00
510-2-000- - Cloud Service	-	-	-	-	-	-	-	-	-	18,000.00	18,000.00	19,000.00
510-2-000-6587 - Printer Expenses	-	-	893.23	408.22	1,139.58	516.00	-	500.00	2,000.00	2,000.00	2,000.00	2,000.00
510-2-000-6589 - Internet Expenses	-	-	-	-	-	-	1,100.19	1,500.00	1,500.00	3,000.00	3,000.00	3,500.00
510-2-000-6650 - GIS - Expenditures	63,973.34	51,629.68	509.30	843.60	-	571.30	-	800.00	2,000.00	2,000.00	2,000.00	2,000.00
510-2-000-6926 - Aerial Refilght	-	81,089.90	3,450.00	31,560.00	-	29,600.45	-	-	-	36,000.00	-	36,000.00
510-2-000-6928 - GIS - Mapping Rectification	-	-	-	-	-	-	-	16,000.00	-	16,000.00	-	-
Expenses Totals	273,871.76	502,196.74	350,805.13	356,193.85	373,566.91	358,738.99	207,581.88	386,930.91	409,934.00	463,401.00	421,317.28	470,971.05

GIS Budget Projection
Receipts set to current $16 Mapping Fee

Account	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	as of end of June 2019 Actual	2019 Actual Prediction	2019 Budget	2020 Budget	2021 Budget	2022 Budget
510-1-000-1320 - GIS - Receipts	429,604.63	291,124.79	325,565.27	318,953.13	341,368.48	299,872.25	151,193.00	267,920.00	300,000.00	272,000.00	272,000.00	272,000.00
510-1-000-1325 - Miscellaneous Revenue	-	-	-	-	-	1,026.91	1,736.48	1,736.48	-	-	-	-
Revenues Totals	429,604.63	291,124.79	325,565.27	318,953.13	341,368.48	300,899.16	152,929.48	269,656.48	300,000.00	272,000.00	272,000.00	272,000.00
510-2-000-6101 - Salaries	155,074.14	266,433.21	215,456.61	209,341.82	229,986.05	201,869.89	131,023.48	216,358.73	225,593.00	209,664.00	215,953.92	222,432.54
510-2-000-6200 - Office Supplies	104.58	261.94	54.78	67.96	108.08	42.91	-	100.00	500.00	400.00	400.00	400.00
510-2-000-6201 - Postage	2.30	4.53	0.97	5.11	-	2.36	-	10.00	50.00	40.00	40.00	40.00
510-2-000-6203 - Dues/Memberships	50.00	520.00	150.00	340.00	355.00	764.00	345.00	475.00	750.00	525.00	525.00	525.00
510-2-000-6204 - Conferences	-	-	-	2,445.60	1,218.30	-	1,283.99	2,000.00	3,000.00	3,000.00	3,000.00	3,000.00
510-2-000-6205 - Mileage	-	-	-	55.00	641.06	-	670.80	1,000.00	500.00	1,000.00	1,000.00	1,000.00
510-2-000-6206 - Training	-	-	-	314.25	-	37.70	269.00	1,000.00	2,500.00	2,000.00	2,000.00	2,000.00
510-2-000-6207 - Cellular Phones	-	-	936.64	634.78	668.69	349.48	-	-	1,000.00	-	-	-
510-2-000-6215 - Contractual Services/Consultants	-	-	-	5,000.00	205.64	3,585.89	1,190.31	21,190.31	8,000.00	8,000.00	8,000.00	8,000.00
510-2-000-6300 - Transfer To General Fund Health Insurance	25,717.95	22,972.25	25,665.00	27,538.74	29,300.88	39,806.92	16,554.05	51,496.87	43,291.00	54,212.00	55,838.36	57,513.51
510-2-000-6303 - Transfer To Capital Improvement Fund	-	48,000.00	-	-	-	-	-	-	-	13,560.00	13,560.00	13,560.00
510-2-000-6305 - Transfer To IMRF Fund	28,325.73	29,669.91	29,245.58	30,218.55	31,344.26	17,033.99	10,038.34	14,000.00	18,000.00	17,000.00	18,000.00	19,000.00
510-2-000-6319 - Transfer to SS Fund	-	-	-	-	-	12,826.68	9,378.58	12,000.00	17,250.00	17,000.00	18,000.00	19,000.00
510-2-000-6537 - Plotter Supplies	623.72	1,615.32	1,790.40	1,586.00	-	273.92	-	500.00	2,000.00	2,000.00	2,000.00	2,000.00
510-2-000-6585 - Software Expenses	-	-	43,304.64	39,541.42	39,879.36	40,682.00	35,663.38	42,000.00	50,000.00	50,000.00	50,000.00	52,000.00
510-2-000-6586 - Hardware Expenses	-	-	29,347.98	6,292.80	38,720.01	10,775.50	64.76	6,000.00	32,000.00	8,000.00	8,000.00	8,000.00
510-2-000- - Cloud Service	-	-	-	-	-	-	-	-	-	18,000.00	18,000.00	19,000.00
510-2-000-6587 - Printer Expenses	-	-	893.23	408.22	1,139.58	516.00	-	500.00	2,000.00	2,000.00	2,000.00	2,000.00
510-2-000-6589 - Internet Expenses	-	-	-	-	-	-	1,100.19	1,500.00	1,500.00	3,000.00	3,000.00	3,500.00
510-2-000-6650 - GIS - Expenditures	63,973.34	51,629.68	509.30	843.60	-	571.30	-	800.00	2,000.00	2,000.00	2,000.00	2,000.00
510-2-000-6926 - Aerial Refilght	-	81,089.90	3,450.00	31,560.00	-	29,600.45	-	-	-	36,000.00	-	36,000.00
510-2-000-6928 - GIS - Mapping Rectification	-	-	-	-	-	-	-	16,000.00	-	16,000.00	-	-
Expenses Totals	273,871.76	502,196.74	350,805.13	356,193.85	373,566.91	358,738.99	207,581.88	386,930.91	409,934.00	463,401.00	421,317.28	470,971.05

COUNTY OF KENDALL, ILLINOIS
ORDINANCE # 2019-_____

KENDALL COUNTY GEOGRAPHIC INFORMATION SYSTEMS FEES ORDINANCE

WHEREAS, 55 ILCS 5/3-5018 provides, in part, that the Kendall County Board may charge fees for filing every instrument, paper, or notice for record in order to defray the cost of implementing or maintaining a Geographic Information System (GIS); and

WHEREAS, that authority includes the ability to establish fees to support the requirements established by the County and the services provided by the County. See 55 ILCS 5/3-5018; 55 ILCS 5/3-5005.4; and

NOW, THEREFORE, BE IT ORDAINED by the County Board of the County of Kendall, State of Illinois that hereafter the following GIS fees are established in Kendall County and shall be collected by the Kendall County Recorder's Office. These fees will then be remitted to the Kendall County Treasurer in accordance with section 3 (55 ILCS 5/3-5018), unless required otherwise by applicable state statute or regulation.

1. Twenty-eight dollars ($28.00) of the total fee must be deposited into a special fund set up by the County Treasurer to be used solely for the equipment, materials, and necessary expenses incurred in implementing and maintaining a Geographic Information System.
2. The remaining $2.00 (two dollars) shall be deposited into the County Recorder's special funds created under Section 3-5005.4 which may be used at the County Recorder's discretion to defray the cost of implementing or maintaining Kendall County's Geographic Information System.

IN WITNESS OF, this amendment to the Kendall County Board Rules of Order has been enacted with the consent of at least two-thirds of the Kendall County Board members this __ day of September, 2019.

Attest:

_____	_____
Kendall County Clerk	Kendall County Board Chairman
Debbie Gillette	Scott R. Gryder