Monroe County
Land Information Plan
2019-2021

Monroe County Land Information Office
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Version: 2018-11-20
Approved/Adopted by Monroe County Land Information Council on: 2018-11-20

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EXECUTIVE SUMMARY

About this Document. This document is a land information plan for Monroe County prepared by the land information officer (LIO) and the Monroe County land information council. Under state statute 59.72(3)(b), a "**countywide plan for land records modernization**" is required for participation in the Wisconsin Land Information Program (WLIP). The purpose of this document is twofold: 1) to meet WLIP funding eligibility requirements necessary for receiving grants and retaining fees for land information, and 2) to plan for county land records modernization in order to improve the efficiency of government and provide improved government services to businesses and county residents.

WLIP Background. The WLIP, administered by the Wisconsin Department of Administration, is funded by document recording fees collected by register of deeds at the county-level. In 2017, Monroe County was awarded $87,584.00 in WLIP grants and retained a total of $63,824.00 in local register of deeds document recording fees for land information.

This plan lays out how funds from grants and retained fees will be prioritized. However, as county budgets are determined on an annual basis with county board approval, this plan provides estimated figures that are subject to change and are designed to serve planning purposes only.

Land Information in Monroe County. Land information is central to county operations, as many essential services rely on accurate and up-to-date geospatial data and land records. A countywide land information system supports economic development, emergency planning and response, and a host of other citizen services. The Monroe County land information system integrates and enables efficient access to information that describes the physical characteristics of land, as well as the property boundaries and rights attributable to landowners.

Mission of the Land Information Office. The Land Information Office will provide efficient and high quality services to its residents and county departments by maintaining land records in an efficient manner, adopting standards to streamline the use of GIS data across departments, and continue to provide services such as our geographic information web server.

Land Information Office Projects. To realize this mission, in the next three years, the county land information office will focus on the following projects:

Monroe County Land Information Projects: 2019-2021	
Benchmark 4	**Achieve Completion and Integration of PLSS**
Project #1	**Countywide LiDAR Acquisition**
Project #2	**LiDAR Enhancements**
Project #3	**Upgrade of ESRI Desktop and Server Products**
Project #4	**Countywide Aerial Imagery Acquisition**
Project #5	**Complete QA/QC of Address Point and Centerline Data and Adopt New Schema**
Project #6	**Backscanning and Rescanning of Register of Deeds Documents**
Project #7	**Acquire New Software/Hardware for Register of Deeds Office**

The remainder of this document provides more details on Monroe County and the WLIP, summarizes current and future land information projects, and reviews the county's status in completion and maintenance of the map data layers known as Foundational Elements.

1 INTRODUCTION

In 1989, a public funding mechanism was created whereby a portion of county register of deeds document recording fees collected from real estate transactions would be devoted to land information through a new program called the Wisconsin Land Information Program (WLIP). The purpose of the land information plan is to meet WLIP requirements and aid in county planning for land records modernization.

The WLIP and the Land Information Plan Requirement

In order to participate in the WLIP, counties must meet certain requirements:

- Update the county's land information plan at least every three years
- Meet with the county land information council to review expenditures, policies, and priorities of the land information office at least once per year
- Report on expenditure activities each year
- Submit detailed applications for WLIP grants
- Complete the annual WLIP survey
- Subscribe to DOA's land information listserv
- Coordinate the sharing of parcel/tax roll data with the Department of Administration in a searchable format determined by DOA under s. 59.72(2)(a)

LAND INFORMATION

Any physical, legal, economic or environmental information or characteristics concerning land, water, groundwater, subsurface resources or air in this state.

'Land information' includes information relating to topography, soil, soil erosion, geology, minerals, vegetation, land cover, wildlife, associated natural resources, land ownership, land use, land use controls and restrictions, jurisdictional boundaries, tax assessment, land value, land survey records and references, geodetic control networks, aerial photographs, maps, planimetric data, remote sensing data, historic and prehistoric sites and economic projections.

– Wis. Stats. section 59.72(1)(a)

Any grants received and fees retained for land information through the WLIP must be spent consistent with the county land information plan.

Act 20 and the Statewide Parcel Map Initiative

A major development for the WLIP occurred in 2013 through the state budget bill, known as Act 20. It directed the Department of Administration (DOA) to create a statewide digital parcel map in coordination with counties.

Act 20 also provided more revenue for WLIP grants, specifically for the improvement of local parcel datasets. The WLIP is dedicated to helping counties meet the goals of Act 20 and has made funding available to counties in the form of Strategic Initiative grants to be prioritized for the purposes of parcel/tax roll dataset improvement.

For Strategic Initiative grant eligibility, counties are required to apply WLIP funding toward achieving certain statewide objectives, specified in the form of "benchmarks." Benchmarks for parcel data—standards or achievement levels on data quality or completeness—were determined through a participatory planning process. Current benchmarks are detailed in the WLIP grant application, as will be future benchmarks.

WLIP Benchmarks (For 2016-2018 Grant Years)

- Benchmark 1 & 2 – Parcel and Zoning Data Submission/Extended Parcel Attribute Set Submission
- Benchmark 3 – Completion of County Parcel Fabric
- Benchmark 4 – Completion and Integration of PLSS

More information on how Monroe County is meeting these benchmarks appears in the Foundational Elements section of this plan document.

County Land Information System History and Context

The Wisconsin Land Information Program was created in 1989, through Act 31. Pursuant to this, the Monroe County Board of Supervisors established a Land Information Office on June 9, 1990. Lorraine Mattheisen, Real Property Lister, was designated as Monroe County's Contact person.

The Monroe County Administrative Committee, originally chaired by David Sullivan and later by Loren Pierce, with additional members including Nalani Bever, Richard Campfield and Harv Simmons formed a county staff committee to review planning options. This staff committee was chaired and directed by County Board Surpervisor Harvey Jernander. At Harvey's Direction, and with the assistance of Bentley Lein, UWEX resource agent, the staff committee reviewed and analyzed planning options. Early in the process a commitment was made to drafting Monroe County's Modernization Plan in-house. The staff committee was composed as follows:

- Harvey Jernander (Chair) — County Board Supervisor
- Norm Culpitt — Administrator of Sanitation, Forestry and Zoning
- Vicky Jo Dutton — Register of Deeds
- Annette Erickson — Treasurer
- Al Hoff — County Conservationist
- Bentley Lein — UW Extension Resource Agent
- Lorraine Mattheisen — Real Property Lister
- Mark Mulder — ASCS
- Al Roof — Solid Waste Manager
- Gary Sime — County Surveyor
- Norbert Smith — Highway Commissioner
- Gordon Stelter — Emergency Management Coordinator

Monroe County's first Land Records Modernization Plan was adopted on August 5th, 1992.

Monroe County adopted an updated Land Records Modernization Plan for 1999-2000 on June 2, 1999. Doug Avoles the Land Information Officer prepared the updated plan, with the assistance of the following staff:

- Al Hoff — County Conservationist
- Mike MacLaren — Emergency Management/911 Coordinator
- Lorraine Mattheisen — Real Property Lister
- Vicky Dutton — Register of Deeds
- Annette Erickson — Treasurer
- Jack Dittmar — County Highway Commissioner
- Bently Lein — UW Extension Agricultural Agent
- Gary Sime — County Surveyor
- Wes Bangsberg — Zoning, Sanitation & Forestry Administrator
- Dale Trowbridge — County Sheriff

Monroe County adopted an updated Land Records Modernization Plan for 2005-2010 on April 6, 2005. Mathew Eddy, the Land Information Officer, updated the plan with the assistance of the following staff:

- Al Hoff — County Conservationist
- John Mehtala — Information Systems Director
- Cindy Struve — Emergency Management
- John Burke — Register of Deeds
- Annette Erickson — Treasurer

- Jack Dittmar — County Highway Commissioner
- Amy Schanhofer — UW Extension Agricultural Agent
- Gary Sime — County Surveyor
- Wes Bangsberg — Zoning, Sanitation & Forestry Administrator
- Chuck Amundson — County Sheriff
- Mark Loether — E911 Coordinator

The plan focused on the anticipated transition into a maintenance and application stage. This essentially came to fruition as our parcel mapping project completed within this window and moved into maintenance and our website was further developed in order to serve that information as well as auxiliary data to county constituents as well as the rest of the world. We also obtained countywide ortho-imagery in this plan year cycle. The unanticipated loss of our Land Information Office hindered additional development and maintenance of our Land Information Systems during this period.

Monroe County adopted an updated Land Records Modernization Plan for 2010-2015. Jeremiah Erickson, the Real Property Coordinator, updated the plan with the assistance of the following staff:

- Al Hoff — County Conservationist
- John Mehtala — Director of Information Systems
- Cynthia Struve — Emergency Management Administrator
- John Burke — Register of Deeds
- Alison Elliott — Sanitation, Zoning & Dog Control Administrator

The Plan focused on the continued maintenance and development of our applications for public use. In this plan cycle, we accomplished a few long-term goals by improving access to information with the addition of online access to surveyor records and recorded register of deeds documents and an online tract index. We have both a GIS centric land records site as well as a treasurer and register of deeds web portal that work in companionship for excellent public access. We also achieved our goal of obtaining 6-inch county wide orthoimagery and completed a section corner maintenance project that yielded tie sheets for the remaining section corners outside of federal lands that had not been maintained or at least had no a tie sheet of record filed in the public domain. At the very end of this current cycle, we were able to hire additional staff that will allow the county to re-establish maintenance routines that ceased or went dormant during the previous two cycles following the elimination of the stand-alone land records office that will be required during the forthcoming plan cycle, 2016 through 2018.

Monroe County adopted an updated Land Records Modernization Plan for 2016-2018. Jeremiah Erickson, the Real Property Coordinator, updated the plan with land information council member assistance and approval. The members of the council at the time were as follows:

- Jeremiah Erickson, Chair — Land Information Officer
- Al Hoff, Vice-Chair — Retired, former County Conservationist
- Tim Dahlen — Real Property Coordinator
- Deb Brandt — Register of Deeds
- Annette Erickson — Treasurer
- Gen Treu — County Board Member
- Cindy Zinke — Realtor
- Randy Williams — Dispatch
- Gary Dechant — County Surveyor
- John Mehtala — Director Information Systems

The plan focused the transition to a searchable format for parcel and zoning data submission as defined by the Department of Administration under Benchmark 1 & 2.

Monroe County's Land Information Council directed the Land Information Office, Jeremiah Erickson, to amend the Land Records Modernization Plan for 2016-2018 on March 20th, 2018. Jeremiah Erickson, the Real Property Coordinator, updated the plan with land information council member assistance and approval. The members of the council at the time were as follows:

• Jeremiah Erickson, Chair	Land Information Officer
• Al Hoff, Vice-Chair	Retired, former County Conservationist
• Brannick Beatse	Real Property Coordinator
• Deb Brandt	Register of Deeds
• Annette Erickson	Treasurer
• Sharon Folcey	County Board Member
• Stacey Zellmer	Realtor
• Randy Williams	Dispatch
• Gary Dechant	County Surveyor
• John Mehtala	Director Information Systems

The plan added four projects in addition to the original document, Completion and Integration of PLSS, Acquire New Software/Hardware and Back-Scan Additional Documents, Acquire new 6" or better resolution Aerial Photography or Pictometry, and Acquire a newer Survey Grade GPS.

County Land Information Plan Process

County land information plans were initially updated every five years. However, as a result of Act 20, counties must update and submit their plans to DOA for approval every three years. The 2019-2021 plan, completed at the end of 2018, is the second post-Act 20 required update.

Plan Participants and Contact Information

Another requirement for participation in the WLIP is the county land information council, established by legislation in 2010. The council is tasked with reviewing the priorities, needs, policies, and expenditures of a land information office and advising the county on matters affecting that office.

According to s. 59.72(3m), Wis. Stats., the county land information council is to include:

- Register of Deeds
- Treasurer
- Real Property Lister or designee
- Member of the county board
- Representative of the land information office
- A realtor or member of the Realtors Association employed within the county
- A public safety or emergency communications representative employed within the county
- County surveyor or a registered professional land surveyor employed within the county
- Other members of the board or public that the board designates

The land information council must have a role in the development of the county land information plan, and DOA requires county land information councils to approve final plans.

This plan was prepared by the county LIO, the Monroe County Land Information Council, and others as listed on the following chart.

Monroe County Land Information Council and Plan Workgroup				
Name	**Title**	**Affiliation**	**Email**	**Phone**
+ **Jeremiah Erickson**	GIS Specialist, Land Information Officer	Monroe County Land Information Office	jeremiah.erickson@co.monroe.wi.us	608-269-8698
+ **Annette Erickson**	County Treasurer	Monroe County Treasurer's Office	annette.erickson@co.monroe.wi.us	608-269-8710
+ **Brannick Beatse**	Real Property Lister	Monroe County Treasurer's Office	brannick.beatse@co.monroe.wi.us	608-269-8623
+ **Sharon Folcey**	County Board Member	Monroe County Board	district14@co.monroe.wi.us	
+ **Deb Brandt**	Register of Deeds	Monroe County Register of Deed's Office	deb.brandt@co.monroe.wi.us	608-269-8716
+ **Stacey Zellmer**	Realtor	VIP Realty Inc.	staceyzellmer@gmail.com	608-374-4790
+ **Randy Williams**	Public Safety Officer	Dispatch Director	randy.williams@co.monroe.wi.us	608-269-8982
+ **Gary Dechant**	County Surveyor	Monroe County Surveyor	gary.dechant@co.monroe.wi.us	608-269-8623
+ **John Mehtala**	Director of Information Systems	Monroe County Information Systems Director	jmehtala@co.monroe.wi.us	608-269-8696
+ **Al Hoff**	Retired Monroe County Land Conservationist	Citizen	Alhoff33@gmail.com	

+ Land Information Council Members designated by the plus symbol

2 FOUNDATIONAL ELEMENTS

Counties must have a land information plan that addresses development of specific datasets or map layer groupings historically referred to as the WLIP Foundational Elements. Foundational Elements incorporate nationally-recognized "Framework Data" elements, the major map data themes that serve as the backbone required to conduct most mapping and geospatial analysis.

FOUNDATIONAL ELEMENTS

PLSS
Parcel Mapping
LiDAR and Other Elevation Data
Orthoimagery
Address Points and Street Centerlines
Land Use
Zoning
Administrative Boundaries
Other Layers

In the past, Foundational Elements were selected by the former Wisconsin Land Information Board under the guiding idea that program success is dependent upon a focus for program activities. Thus, this plan places priority on certain elements, which must be addressed in order for a county land information plan to be approved. Beyond the county's use for planning purposes, Foundational Element information is of value to state agencies and the WLIP to understand progress in completion and maintenance of these key map data layers.

PLSS

Public Land Survey System Monuments

Layer Status

PLSS Layer Status	
	Status/Comments
Number of PLSS corners (section, ¼, meander) **set in original government survey** that can be remonumented in your county	• 2876 set in original government survey that can be remonumented.
Number and percent of PLSS corners capable of being remonumented in your county that **have been remonumented**	• 2672 of 3102 corners are capable of being remonumented have been remonumented, 86.1%, this includes points monumented after the Original Government Survey (OGS). 192 of the corners capable of being remonumented fall within the Fort McCoy Military Installation and we are not planning on remonumenting those corners or obtaining coordinates within the boundaries of Fort McCoy.
Number and percent of remonumented PLSS corners with survey grade coordinates (see below for definition) • **SURVEY GRADE** – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision • **SUB-METER** – point precision of 1 meter or better • **APPROXIMATE** – point precision within 5 meters or coordinates derived from public records or other relevant information	• 1100 corners of 2910, 37.8%, including points monumented after the OGS.
Number and percent of survey grade PLSS corners integrated into county digital parcel layer	• Unknown amount of 1100, Less than 100%, we have acquired some additional Survey Grade coordinates but have not had time to adjust our PLSS or Tax Parcel layers at this time.
Number and percent of non-survey grade PLSS corners integrated into county digital parcel layer	• 1572 of 1572, 100%
Tie sheets available online?	• Yes, http://www.co.monroe.wi.us/departments/surveyor/section-corner-tie-sheets/
Percentage of remonumented PLSS corners that have **tie sheets available online** (whether or not they have corresponding coordinate values)	• 2910 of 2910, 100%, all tie sheets should be available.
Percentage of remonumented PLSS corners that have tie sheets available online (whether or not they have corresponding coordinate values) **and a corresponding URL path/hyperlink value** in the PLSS geodatabase	• 0 of 2910, 0%, plan is to add that functionality.
PLSS corners believed to be remonumented based on filed tie-sheets or surveys, but do not have coordinate values	• 238, this includes points monumented after the OGS.
Approximate number of PLSS corners believed to be lost or obliterated	• 1 corner is likely in the Black River/washed away otherwise I would not be surprised if some that fall within Fort McCoy are lost and obliterated but I have no true estimate.
Which system(s) for **corner point identification/ numbering** does the county employ (e.g., the Romportl point numbering system known as Wisconsin Corner Point Identification System, the BLM Point ID Standard, or other corner point ID system)?	• Wisconsin Corner Point Identification System
Does the county contain any **non-PLSS areas** (e.g., river frontage long lots, French land claims, private claims, farm lots, French long lots, etc.) or any special situations regarding PLSS data for tribal lands?	• No
Total number of PLSS corners along each bordering county	• 59 bordering Vernon County (one of which is also shared with La Crosse County and one also with Juneau County). • 60 bordering Juneau County (one of which is also shared with Jackson County and one also with Vernon County). • 68 bordering Jackson County (one of which is also shared with Juneau County and one also with La Crosse County). • 55 bordering La Crosse County (one also shared with Vernon County and one also with Jackson County).

Number and percent of PLSS corners remonumented along each county boundary	• 59 of 59 bordering Vernon County, 100% • 56 of 60 bordering Juneau County, 93.3% • 65 of 68 bordering Jackson County, 95.6% • 55 of 55 bordering La Crosse County, 100%
Number and percent of remonumented PLSS corners along each county boundary with survey grade coordinates	• 52 of 59 bordering Vernon County, 88.1% • 50 of 56 bordering Juneau County, 87.5% • 43 of 65 bordering Jackson County, 66.1% • 49 of 55 bordering La Crosse County, 89.1%
In what ways does your county collaborate with or plan to collaborate with neighboring counties for PLSS updates on shared county borders?	• We discuss them with our neighboring counties. We actually share a county surveyor with one of the counties and two of the other county surveyors reside within our county so overall we have good communication.

Custodian

- GIS Specialist

Maintenance

- Ongoing/contingent on County Surveyor availability and ambition of other surveyors to put effort into filling out paperwork and communicating with the County Surveyor.

Standards

- Statutory Standards for PLSS Corner Remonumentation
  - § 59.74, Wis. Stats. Perpetuation of section corners, landmarks.
  - § 60.84, Wis. Stats. Monuments.
  - Ch. A-E 7.08, Wis. Admin. Code, U.S. public land survey monument record.
  - Ch. A-E 7.06, Wis. Admin. Code, Measurements.
  - § 236.15, Wis. Stats. Surveying requirement.
- SURVEY GRADE standard from Wisconsin County Surveyor's Association:
  - **SURVEY GRADE** – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision
  - **SUB-METER** – point precision of 1 meter or better
  - **APPROXIMATE** – point precision within 5 meters or coordinates derived from public records or other relevant information
- Monroe County intends to adhere to the standards above and as time allows will continue to collect coordinates that are Survey Grade with a current priority on those where we have no coordinates followed by those that are only approximate. We have a number of coordinates that lie within the Fort Mccoy Military Installation and at this time we have no urgency to attempt to obtain them.

PLSS 1st Division

Layer Status

- 100% Complete, In Maintenance.

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- This file appears to have been initially based on landnet. It was modified to match section corners as they were available and as time allowed. Standard practice is to adjust our PLSS layers to match our PLSS Section Corners that are referenced to the Monroe County Coordinate System as defined in the *Wisconsin Coordinate Reference Systems Handbook Second Edition*.
- Survey Grade coordinates are obtained and used to upgrade our data whenever possible.

PLSS QTR Division

Layer Status

- 100% Complete, In Maintenance.

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- This file appears to have been initially based on landnet. It was modified to match section corners as they were available and as time allowed. Standard practice would be to adjust our PLSS layers to match our PLSS Section Corners that are referenced to the Monroe County Coordinate System as defined in the *Wisconsin Coordinate Reference Systems Handbook Second Edition* and break down the sections based on recorded surveys performed by Professional Land Surveyors. Where survey records are not available to break down sections following accepted practices followed by Professional Land Surveyors.
- Survey Grade coordinates are obtained and used to upgrade our data whenever possible.

PLSS Township Division

Layer Status

- 100% Complete, In Maintenance.

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- This file appears to have been initially based on landnet. It was modified to match section corners as they were available and as time allowed. Standard practice would be to adjust our PLSS layers to match our PLSS Section Corners that are referenced to the Monroe County Coordinate System as defined in the *Wisconsin Coordinate Reference Systems Handbook Second Edition* and break down the sections based on recorded surveys performed by Professional Land Surveyors. Where survey records are not available to break down sections following accepted practices followed by Professional Land Surveyors.
- Survey Grade coordinates are obtained and used to upgrade our data whenever possible.

Geodetic Control (HARN, WIDOT, NGS)

Layer Status

- 100% Complete

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Monroe County completed densification from the WHPGN under the guidance of the Jackson County Surveyor. For the primary (1 ppm) and secondary (2 ppm) level of horizontal densification, Monroe County has adhered to the acquisition and analysis standards as specified in the WLIB document: *STANDARDS, SPECIFICATIONS, AND GUIDELINES* to support

Densification of the Wisconsin High Accuracy Reference Network (HARN) Using Global Position System (GPS) Technology (June 1995).

- For the tertiary (4 ppm) level, Monroe County is also adhering to these standards except for the following:
    - No pencil rubbings of monument caps were taken during data acquisition sessions.
    - No photographs were taken during data acquisition sessions.
    - No meteorological observation were taken during data acquisition.
- Horizontal Coordinates for each station are available in both the Monroe County Coordinate System and latitude/longitude values.

Lot Corners

Layer Status

- Unknown %,

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- SURVEY GRADE standard from Wisconsin County Surveyor's Association:
    - **SURVEY GRADE** – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision.
    - **SUB-METER** – point precision of 1 meter or better.
    - **APPROXIMATE** – point precision within 5 meters or coordinates derived from public records or other relevant information.
- We have no plans to actively obtain GPS coordinates on recent Certified Survey Maps and Subdivision Plats, etc. but they are at times helpful when reconstructing tax parcel mapping and help verify that mapping is correct.

Parcel Mapping

Parcel Geometries

Layer Status

- **Progress toward completion/maintenance phase:** County-wide parcel layer is 100% complete. In Monroe County, 100% of the county's parcels are available in a commonly-used digital GIS format.
- **Projection and coordinate system:**
    - Projected Coordinate System: NAD 1983 HARN WISCRS Monroe County Feet
    - Geographic Coordinate System: North American 1983 HARN
- **Integration of tax data with parcel polygons:**
- The county does have a parcel polygon model that directly integrates tax/assessment data as parcel attributes.
- **Esri Parcel Fabric/LGIM Data Model:** The county does not use or plan to implement the Esri Parcel Fabric Data Model, and/or ESRI's Local Government Information Model until we have completed more PLSS maintenance and updates.
- **Online Parcel Viewer Software/App and Vendor name:** WebGuide Xtreme (WGX) – Applied Data Consultants.
- **Unique URL path for each parcel record:** Yes - http://monroecowi.wgxtreme.com/?parcelid=xxxxxxxxxxx
    - Parcel Number
    - Owner Name
    - Property Address

- Municipality
- Acres
- Tax Year
- There is a link to a report with all tax and assessment related data

Custodian

- GIS Specialist and Real Property Coordinator

Maintenance

- **Update Frequency/Cycle**. Parcel polygons are updated weekly

Standards

- **Data Dictionary**: There is a data dictionary but it is only on paper at this time. Some information may be in the metadata but it is incomplete. When we are running a more current version of ArcGIS in the future the tools may be more user friendly for redevelopment and refinement of our metadata. Reviewing our information is on the list of things to do when time allows.

Assessment/Tax Roll Data

Layer Status

- **Progress toward completion/maintenance phase:** NA
- **Tax Roll Software/App and Vendor name:** Property Assessment & Tax Billing Module – from GCS Software
- **Municipal Notes:** NA

Custodian

- Primary is Monroe County Real Property Coordinator and secondary is GIS Specialist

Maintenance

- **Maintenance of the Searchable Format standard:** To maintain the Searchable Format standard, the county will continue to use a GCS export tool and run a series of customized data models.
- **Searchable Format Workflow:** The county maintains parcel/tax roll data in such a way that **requires significant formatting every year**—whether by the county staff in-house, or a third-party contractor/vendor.

Standards

- Wisconsin Department of Revenue Property Assessment Manual and attendant DOR standards
- DOR XML format standard requested by DOR for assessment/tax roll data
- § 59.72(2)(a), Wis. Stats. Presence of all nine "Act 20" attributes
- § 59.72(2)(a), Wis. Stats. Crosswalk of attributes
- § 73.03(2a), Wis. Stats. Department of Revenue (DOR) – Powers and duties defined.

Non-Metallic Mine Permits

Layer Status

- 100% Complete

Custodian

- Land Conservation Department

Maintenance

- As Needed

Standards

- N/A

Simultaneous Conveyance

Layer Status

- Estimated at 98% complete

Custodian

- Shared between Real Property Coordinator and GIS Specialist

Maintenance

- Ongoing and consistent. A review of data attributes and an audit of this layer need to take place.

Standards

- Match parcel mapping standards and tie into PLSS. Surveys should meet A-E 7 and or Chapter 236 Standards.

ROD Real Estate Document Indexing and Imaging

Layer Status

- **Grantor/Grantee Index:** Monroe County's Grantor/Reception indexes exist in hard copy form between 1851 through April 3, 1996. Monroe County Grantee indexes exist in hard copy form between 1879 through April 3, 1996. Those indexes can be found in a digital database between January 1, 1980 and the latest day of business and are maintained in our Document Indexing software by GCS Software Inc. Will be migrating to Fidlar in 2019.
- **Tract Index:** Our tract index is PLSS-based. Our tract index is available in hardcopy form in bound volumes between 1851 and December 31, 1998 and a digital image format by On Q Solutions COLORTRACT is available on the Monroe County Register of Deeds website. Our tract index is also available in a digital database maintained in our Document Indexing software by GCS Software Inc. between January 1, 1980 and the latest day of business. Back-maintenance is occurring with a goal of indexing at least 30 volumes per year. The County tract index encompasses all documents recorded except DD214s and other nonpublic confidential documents. Will be migrating to Fidlar in 2019.
- **Imaging:** Our images are available online through our GCS Web Portal dating back to 1935. Migrating to Fidlar in 2019.
- **ROD Software/App and Vendor Name: GCS Web Portal** – from contractor/vendor GCS Software…coming in 2019 **Laredo/Tapestry** – from contractor/vendor Fidlar
  - We currently have Register of Deeds documents available for statutory copy fees that are $2 for the first page of a document plus $1 per each additional page. We do add a convenience fee of $1.50 per ever $50 worth of documents purchased. Escrow options are available as well waiving the convenience fee.
  - A new fee structure will be introduced in 2019.

Custodian

- County Register of Deeds

Maintenance

- Daily maintenance is occurring

Standards

- § 59.43, Wis. Stats. Register of deeds; duties, fees, deputies.
- Ch. 706, Wis. Stats. Conveyances of real property; Recording; Titles.

LiDAR and Other Elevation Data

LiDAR

Layer Status

- **Most recent acquisition year:** 2010
- **Accuracy:** Vertical 0.226ft RMSE (bare-earth)

- **Post spacing:** 1.2m
- **Contractor's standard, etc.:** USGS National Geospatial Program Base LiDAR Specification, Version 13.
- **Next planned acquisition year:** 2019

Custodian

- Monroe County

Maintenance

- NA

Standards

- Vertical accuracy was to achieve a RMSE Z of 15cm (95% confidence level of less than 30cm) or better in the "Open Terrain" land cover category based on USGS NGP Base LiDAR Specification, Version 13, collected at a nominal pulse spacing (NPS) of 1.2 meters.

LiDAR Derivatives

2ft Contours

Layer Status

- 100% Complete

Custodian

- Monroe County

Maintenance

- N/A

Standards

- The 2-foot contours were created by Ayres Associates in conjunction with the LiDAR acquisition using the hyrdro enforced breaklines and the contour key points that were critical in defining the surface. The contours were provided in ESRI Shapefile and AutoCAD DWG formats. The elevation values were embedded in the attribute table of each feature and are part of the 3D feature geometry.

LiDAR Derivatives

Digital Elevation Model (DEM)

Layer Status

- 100% Complete

Custodian

- Monroe County

Maintenance

- N/A

Standards

- The 5ft DEMs were created by Ayres Associates in conjunction with LiDAR acquisition in the following manner. First, ArcGrids in ASCII format were created using TerraModeler version 11.005 (TerraSolid Ltd.). The ASCII grids were then imported into ARC, translated to raster format, and placed in an Arc raster format.

Orthoimagery

Orthoimagery

Layer Status

- **Most recent acquisition year:** 2015
- **Resolution:** 6 inch

- **Contractor's standard:** Aerial Imagery was collected to support 0.5 foot ground sample distance (GSD) orthoimagery to meet ASPRS Class II horizontal accuracy specifications at 1" = 100' map scale. The horizontal accuracy meets or exceeds 2.0 feet RMSE using the National Standard for Spatial Data Accuracy (NSSDA) standards. Resultant orthoimagery was rectified to the new DEM from an existing LiDAR surface created as part of the CDBG funded WROC program. Orthoimagery was delivered in PLSS section GeoTiff and MrSID tiles and a project wide MrSID mosaic. The orthoimagery was delivered according to a section tile schematic. Images were color corrected to match adjacent flight lines. The resulting imagery was globally tilted in terms of contrast and color to form a radiometrically consistent orthophoto mosaic.
- **Next planned acquisition year:** 2020
- **WROC participation in 2020:** Confirmed participating in WROC 2020

Custodian

- Monroe County

Maintenance

- N/A

Standards

- ASPRS Class II horizontal accuracy specifications at 1" = 100' map scale. The horizontal accuracy meets or exceeds 2.0 feet RMSE using the National Standard for Spatial Data Accuracy (NSSDA) standards.
- Color Imagery

Historic Orthoimagery

2010 Orthoimagery

Layer Status

- **Resolution:** 18 inch
- **Contractor's standard:** Compiled to meet National Map Accuracy Standards at a 1:12,000 scale. (90% of well-defined points must fall within 33.3 feet). Uncompressed 3-band GeoTIFF and Mr. SID tiles.

Custodian

- Monroe County

Maintenance

- N/A

Standards

- 18 inches, 1" = 400' map scale.
- Color Imagery

Historic Orthoimagery

2005 Orthoimagery

Layer Status

- **Resolution:** 18 inch
- **Contractor's standard:** Compiled to meet National Map Accuracy Standards at a 1:2640 negative scale to create 1" = 400' scale with an 18" ground resolution to produce GeoTIFF and Mr. SID tiles.

Custodian

- Monroe County

Maintenance

- N/A

Standards

- 18 inches, 1" = 400' map scale.
- Black & White Imagery

Historic Orthoimagery

2005 Orthoimagery

Layer Status

- **Resolution:** 1 Meter
- **Contractor's standard:** Unknown

Custodian

- Monroe County

Maintenance

- N/A

Standards

- 1 Meter
- Black & White Imagery

Address Points and Street Centerlines

Address Point Data

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- Ongoing.

Standards

- NENA Standard for NG9-1-1 GIS Data Model (NENA-STA-006.1-2018) and the standard under development through the WLIA. The specific standards that were used for the data in the past are unknown but it is known that the spatial placement of the address points has varied in method in years past.

Building Footprints

Layer Status

- 0%

Custodian

- N/A

Maintenance

- N/A

Standards

- We may derive it from future LiDAR products.

Other Types of Address Information

Address Ranges

Layer Status

- 0%

Custodian

- N/A

Maintenance

- N/A

Standards

- Our range is grid based 1000 addresses per mile, but inconsistent. We may develop one in the future but at the moment it is more important to work on the address point data itself.

Street Centerlines

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- Ongoing, spatially the centerlines are being paired with our 2015 imagery but many other attributes related to NG911

Standards

- NENA and or WLIA standards under development are utilized.

Rights of Way

Layer Status

- 0%

Custodian

- N/A

Maintenance

- N/A

Standards

- We had a file which does not properly depict right of ways of variable width or that some town roads differ and it was likely based on centerline location from older orthoimagery. It would be better to start a new one from scratch at some point in time after address and centerline data is reviewed and our PLSS is redone.

Interstate Mile Markers

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- Updated in 2017, updated as needed.

Standards

- Placed based on visual aerial imagery evidence and Google Earth Street view for verification of what was visible on aerial imagery.

Highway Winter Maintenance Routes

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- Updated in 2017, updated as needed.

Standards

Used Road Centerline file and information furnished by the Highway Department.

Railroads

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Aerial imagery and RR Plats are used.

Trails

WDNR State Trails

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- WDNR

Maintenance

- As Needed

Standards

- Unknown

Trails

Snowmobile Trail Intersections

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- Monroe County Forester and GIS Specialist

Maintenance

- As Needed

Standards

- Coded based on norms and standards developed by other counties. Based on reports from Snowmobile clubs but it may be determined in the future by GPS being connected to a trail groomer.

Trails

Snowmobile Trails

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- Monroe County Forester and GIS Specialist

Maintenance

- As Needed

Standards

- Coded based on norms and standards developed by other counties. Based on reports from Snowmobile club but it may be determined in the future by GPS being connected to a trail groomer.

Trails

ATV TRAILS

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- As needed, occurs when changes are shared by the local municipalities and communicated to the Highway Department.

Standards

- Based on existing road centerline files and other data supplied by local government. Will attempt to adhere to standards and norms followed by other counties or the state should they present some regarding this type of data.

Land Use

Current Land Use

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- Monroe County Zoning Department

Maintenance

- As Needed

Standards

- § 66.1001, Wis. Stats. Comprehensive planning.

Future Land Use

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- Monroe County Zoning Department

Maintenance

- As Needed

Standards

- § 66.1001, Wis. Stats. Comprehensive planning.
- According to § 66.1001, Wis. Stats., beginning on January 1, 2010, if a town, village, city, or county enacts or amends an official mapping, subdivision, or zoning ordinance, the enactment or amendment ordinance must be consistent with that community's comprehensive plan.
- Future land use mapping for a county may be a patchwork of maps from comprehensive plans adopted by municipalities and the county.

Zoning

County General Zoning

Layer Status

- The County does maintain a GIS representation of county general zoning boundaries.

Custodian

- Monroe County Zoning Department

Maintenance

- Annual

Standards

- Matches zoning changes and changes to tax parcels dictated by recordings in the register of deeds office.

Shoreland Zoning

Layer Status

- Administered by county but not in GIS format.

Custodian

- N/A

Maintenance

- N/A

Standards

- N/A

Farmland Preservation Zoning

Layer Status

- The County does maintain a GIS representation of county farmland preservation zoning boundaries.
- **Year of certification:** 2018

Custodian

- Zoning Department and Land Conservation Department

Maintenance

- Annual

Standards

- Based upon parcel layer and descriptions of land entered into the agreements as recorded in the Register of Deeds Office.

Floodplain Zoning

Layer Status

- The County does maintain a GIS representation of floodplain zoning boundaries.
- The county's floodplain zoning GIS data is not the same as/identical to the FEMA map.
- FEMA revised portions of our FIRM maps this summer and our geometry does not yet reflect those changes. We have not yet obtained the digital file. For laypersons we have a file that uses the FIRM boundaries but is tagged with our zoning codes for greater simplification and understanding. Our ordinances are up-to-date with the revisions, amendments and LOMR and LOMA changes.
- **Letters of Maps Change** – FEMA Flood Insurance Rate Maps (FIRMs) can be changed through "Letters of Maps Change," which is comprised of a few things: Letters of Map Amendment, Letters of Map Revision, and Letters of Map Revision Based on Fill. These are documents

issued by FEMA that officially remove a property and/or structure from the floodplain. They are collectively called Letters of Map Change.
- **PL-566 (PL-566 Watershed Program) Breach Routes** – Some counties may have more restrictive ordinances than FEMA's maps depict—due to PL-566 Breach Routes, under the Watershed Protection and Flood Prevention Act administered by USDA.
- Monroe County Chapter 50 - Article I – Section 50-6 - Zoning - Floodplain Official Maps and Revisions.

Custodian
- Zoning Administrator – GIS Specialist

Maintenance
- Annual As Needed

Standards
- Monroe County Chapter 50 - Article I – Section 50-6 - Zoning - Floodplain Official Maps and Revisions.
- Wis. Stats. § 59.69, 59.692 and 59.694 and the requirements in Wis. Stats. § 87.30.

Hydraulic Dam Shadows

Layer Status
- 100% Complete. Static

Custodian
- Zoning Department and GIS Specialist

Maintenance
- As needed based on future LiDAR acquisition and renewed scientific analyses.

Standards
- In 2018 this data was created based on review of analyses conducted in studies of the PL566 structures applied to 2 foot contours derived from our 2010 LIDAR. Following flooding in 2017 it seemed a good idea to try and depict a more accurate picture of what may be affected during a breach rather than digitize the information based on 20' contours in old USGS topos from the time the studies were gone which at the time was the best available data. This approach resulted in an expansion in area from what was depicted by the original analyses. However this information is only used as a guide. Ironically shortly after this work was completed three of our PL566 dams breached proving that water would impact an area greater than what the study depicted or even I had depicted based on the data available to me.

Airport Protection

Layer Status
- The County does maintain a GIS representation of airport protection zoning boundaries.
- **Airport protection zoning map depicts:** Height limitation restrictions.
- Cannot give the full picture because the majority of the zoning is a 3 dimensional cone.

Custodian
- Zoning Office and GIS Specialist

Maintenance
- As Needed

Standards
- Monroe County Zoning Code Section 47.17

Municipal Zoning Information Maintained by the County

City of Sparta Extra-Territorial Zoning

Layer Status

- 100% Complete, Static

Custodian

- Monroe County

Maintenance

- Static

Standards

- City of Sparta Municipal Code Chapter 17 Article X Extraterritorial Zoning

Municipal Zoning Information Maintained by the County

City of Sparta Zoning

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- City of Sparta

Maintenance

- As Needed

Standards

- Based on tax parcel layer maintained by Monroe County.

Municipal Zoning Information Maintained by the County

Chapter 236 Review

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Wis. § 236.10

Administrative Boundaries

Civil Division Boundaries

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- GIS Specialist performs maintenance based on annexations and detachments.

Standards

- Adjust to account for changes in municipal boundaries dictated by Wisconsin State Statutes §66.0201-66.0233.

Fort McCoy Boundary

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Fort McCoy recently surveyed the perimeter of their property and we updated to match their determination.

School Districts

Layer Status

- **Progress toward completion/maintenance phase:** 100% Complete, Maintenance Phase
- **Relation to parcels:** In tax parcel attributes, also as a standalone shapefile
    - **Attributes linked to parcels:** School District and School District Number

Custodian

- GIS Specialist

Maintenance

- This layer was partially updated in 2015, with some additional review in 2018. The majority of our boundaries have been verified. Additional review may take place in the future as time allows or pending DPI review. Changes are made when necessary pursuant to changes in school district territory.

Standards

- Chapter 117 of Wisconsin Statutes
- Parcel based data.

Election Boundaries

Wards

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- As needed, based on Annexations, Detachments, Incorporation, or Redistricting.
- Wards are required to be submitted to the Legislative Technology Services Bureau (LTSB) by January 15th and July 15th of each year.

Standards

- § 66.0217, §66.0203, §66.0227, §5.5

Election Boundaries

Polling Places

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- GIS Specialist

Maintenance

- As needed

Standards

- §5.25

Election Boundaries

Assembly Districts

Layer Status

- 100% Complete

Custodian

- GIS Specialist

Maintenance

- N/A

Standards

- Based on lines dictated by 2011 State of Wisconsin Act 43 , Wisconsin State Statutes Chapter 4, Subchapter III

Election Boundaries

Senate Districts

Layer Status

- 100% Complete

Custodian

- GIS Specialist

Maintenance

- Static

Standards

- Based on lines dictated by 2011 State of Wisconsin Act 43 in §4.009

Election Boundaries

Congressional Districts

Layer Status

- 100% Complete

Custodian

- GIS Specialist

Maintenance

- Static

Standards

- Based on lines dictated by State of Wisconsin Legislature in Wisconsin State Statutes Chapter 3

Election Boundaries

Technical School Districts

Layer Status

- 100% Complete

Custodian

- GIS Specialist

Maintenance

- Static

Standards

- N/A, the county is entirely within a single Technical School District at this time.

Drainage Districts

Layer Status

- 100% Complete

Custodian

- GIS Specialist

Maintenance

- The Lemonweir Drainage District has not been dissolved and is currently inactive so no maintenance is required at this time.

Standards

- The Drainage District was identified based on the last records from when taxes were levied to maintain it. If it were to become active, again the boundaries would be revisited. We had to create the layer to comply with state laws.

Public Safety

Emergency Medical Service (EMS)

Layer Status

- 100% complete

Custodian

- GIS Specialist

Maintenance

- As needed

Standards

- Based on territorial agreements between providers and local municipalities

Public Safety

Emergency Service Zones (ESZ)

Layer Status

- 100% complete

Custodian

- GIS Specialist

Maintenance

- As needed

Standards

- Each situation of different stacked emergency response districts requires its own Emergency Service Number (ESN)

Public Safety

Fire Departments

Layer Status

- 100% complete

Custodian

- GIS Specialist

Maintenance

- As needed

Standards

- Based on territorial agreements between providers and local municipalities

Public Safety

First Responders

Layer Status

- 100% complete

Custodian

- GIS Specialist

Maintenance

- As needed

Standards

- Based on territorial agreements between providers and local municipalities

Public Safety

Law Enforcement

Layer Status

- 100% complete

Custodian

- GIS Specialist

Maintenance

- As needed, mostly due to annexations and detachments.

Standards

- Based on agreements between Sheriff's Department, local municipalities, Fort McCoy Military Installation and the Tribal Lands within Monroe County

Lake Districts

Layer Status

- 0%

Custodian

- N/A

Maintenance

- Would need to be adjusted as annexations take place as we currently have two lake districts that are coincident with the City of Sparta and the City of Tomah

Standards

- Should adhere to Lake District Rules

Sanitary Districts

Layer Status

- 0%

Custodian

- N/A

Maintenance

- Would need to be adjusted based on notifications from local officials

Standards

- Should adhere to Sanitary District documentation.

Native American Lands

Layer Status

- 100% Complete

Custodian

- Ho-Chunk Nation

Maintenance

- As Needed

Standards

- Unknown

Zip Codes

Layer Status

- 100% Complete

Custodian

- GIS Specialist

Maintenance

- Will be modified as addresses near the edges of zones are assigned.

Standards

- N/A, there is no actual zip code boundary it is fluid and is simply for reference. Zip Codes are assigned by the USPS Postmasters based on mail delivery routing.

Monroe County Forest

Layer Status

- 100% Complete

Custodian

- Monroe County Forester

Maintenance

- As needed

Standards

- Based on tax parcel mapping

Other Layers

Hydrography Maintained by County or Value-Added

Layer Status

- 0%

Custodian

- N/A

Maintenance

- N/A

Standards

- Unknown

Airfields

Layer Status

- 100% Complete, In Maintenance

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Based on Wisconsin Airport Directory and Pilots Guide from Wisconsin Department of Transportation, Bureau of Aeronautics

Airports

Layer Status

- 100% Complete, In Maintenance

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Based on Wisconsin Airport Directory and Pilots Guide from Wisconsin Department of Transportation, Bureau of Aeronautics

Towers

Layer Status

- Unknown

Custodian

- GIS Specialist

Maintenance

- As Needed and Needs attention

Standards

- Unknown
- Our Tower layer contains cell towers, wireless internet towers, radio towers, etc.

Campgrounds

Layer Status

- Unknown

Custodian

- GIS Specialist

Maintenance

- As Needed, Needs attention

Standards

- Unknown

Mobile Home Parks

Layer Status

- Unknown

Custodian

- GIS Specialist

Maintenance

- As Needed, Needs attention

Standards

- Unknown

Cemeteries

Layer Status

- 100% complete, In Maintenance

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Unknown

Town Halls

Layer Status

- 100% complete, In Maintenance

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Unknown

Unincorporated Communities

Layer Status

- 100% complete, In Maintenance

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- N/A

Critical Facilities

Layer Status

- 100% complete, In Maintenance

Custodian

- GIS Specialist

Maintenance

- Mississippi River Regional Planning Commission is updating this.

Standards

- Unknown

Water Points

Layer Status

- Unknown

Custodian

- GIS Specialist

Maintenance

- WDNR contacted us about getting this updated at some point in time

Standards

- Unknown

CREP Agreements

Layer Status

- 100% Complete, In Maintenance

Custodian

- Land Conservation Department

Maintenance

- Per Contract

Standards

- A buffer from stream for 15 Years

CREP Easements

Layer Status

- 100% Complete, In Maintenance

Custodian

- Land Conservation Department

Maintenance

- Per Contract

Standards

- Perpetual and they are based on survey

Fishing Easements

Layer Status

- 100% Complete, In Maintenance

Custodian

- Land Conservation Department

Maintenance

- Per Signed Agreement

Standards

- A 33’ buffer from stream

Manure Storage Permits

Layer Status

- 100% Complete

Custodian

- Land Conservation Department

Maintenance

- Per occurrence of issued permit

Standards

- N/A

Bridges and Culverts

Layer Status

- 0%

Custodian

- Highway Department and GIS Specialist

Maintenance

- As Needed

Standards

- Located by Highway Department with Survey 123 beginning in fall of 2018

Clinics

Layer Status

- 100%

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Unknown

Clinics

Layer Status

- 100%

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Unknown

Hospitals

Layer Status

- 100%

Custodian

- GIS Specialist

Maintenance

- As Needed

Standards

- Unknown

Non-Metallic Mine Permits Active Acres

Layer Status

- 100% Complete

Custodian

- Land Conservation Department

Maintenance

- As Needed

Standards

- Based on permitted descriptions actively mined

Nutrient Management Records

Layer Status

- 100% Complete

Custodian

- Land Conservation Department

Maintenance

- As Needed

Standards

- Unknown

3 LAND INFORMATION SYSTEM

The WLIP seeks to enable land information systems that are both modernized and integrated. Integration entails the coordination of land records to ensure that land information can be shared, distributed, and used within and between government at all levels, the private sector, and citizens.

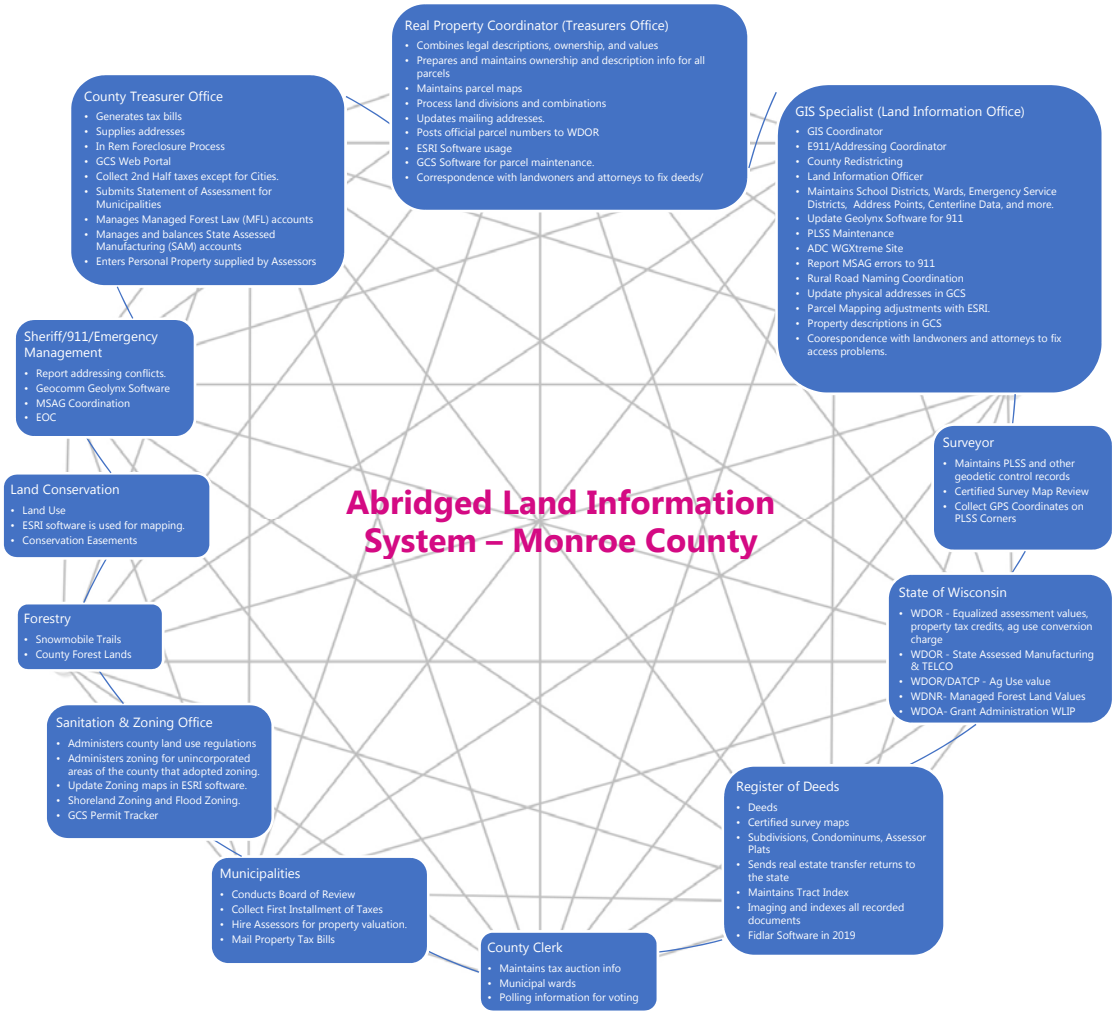
One integration requirement is listed under s. 16.967(7)(a)(1), Wis. Stats., which states that counties may apply for grants for:

- The design, development, and implementation of a land information system that contains and integrates, at a minimum, property and ownership records with boundary information, including a parcel identifier referenced to the U.S. public land survey; tax and assessment information; soil surveys, if available; wetlands identified by the department of natural resources; a modern geodetic reference system; current zoning restrictions; and restrictive covenants.

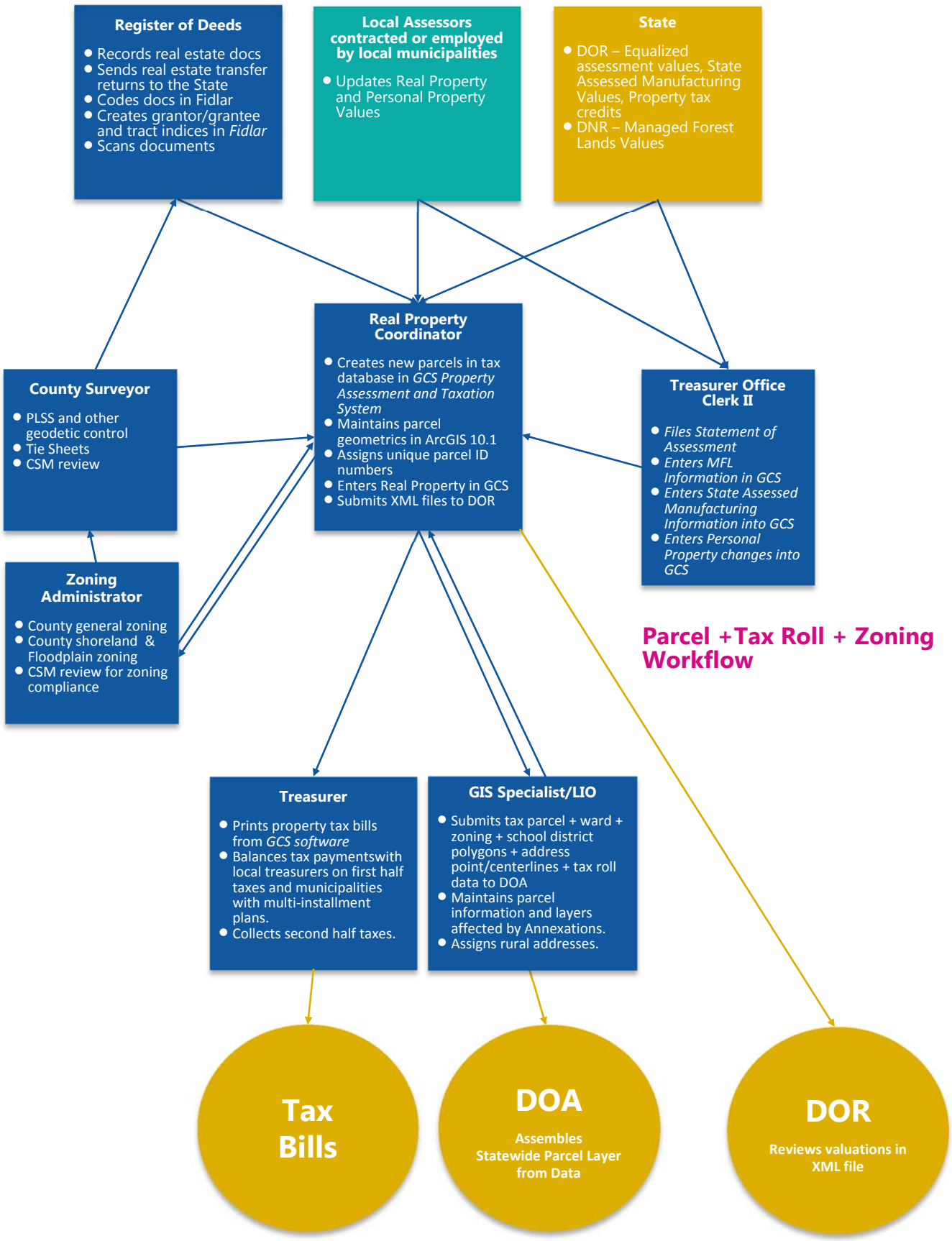
This chapter describes the design of the county land information system, with focus on how data related to land features and data describing land rights are integrated and made publicly available.

Current Land Information System

Diagram of County Land Information System



County Parcel Data Workflow Diagram



Technology Architecture and Database Design

This section refers to the hardware, software, and systems that the county uses to develop and operate computer systems and communication networks for the transmission of land information data.

Hardware

- CPU is an HP Z440 Workstation with an Intel Xeon E5-1620 v3, processor @ 3.5 GHz, 16GB of RAM and 3 HP E240Q monitors.

Software

- ESRI Mapping Software. ArcMap 10.1, ArcGIS Server Enterprise Basic

Website Development/Hosting

- Applied Data Consultants hosts our WGXtreme website for web mapping as well as our Monroe County Website where we host surveys and tie sheets. We use the GCS Webportal to share our public tax and assessment information. We use ColorTract by QSolutions for our old tract index information, http://monroe.colortract.com/ . We will be incorporating Fidlar in our Register of Deeds office beginning in 2019 for modern tract information and access to deeds.

Metadata and Data Dictionary Practices

Metadata Creation

- **Metadata creation and maintenance process:** Monroe County uses ArcCatalog to develop metadata.

Metadata Software

- **Metadata software:** ArcCatalog
  - The software does generate metadata consistent with the FGDC Content Standard for Digital Geospatial Metadata, and ISO geographic metadata standard 19115.
- **Metadata fields manually populated:** Summary/Description/Credits/Tags

Metadata Policy

- **Metadata Policy:** The custodian of the data should be creating metadata consistent with the FGDC Content Standard for Digital Geospatial Metadata.

Municipal Data Integration Process

- N/A

Public Access and Website Information

Public Access and Website Information (URLs)

Public Access and Website Information			
GIS Webmapping Application(s) Link - URL	**GIS Download Link - URL**	**Real Property Lister Link - URL**	**Register of Deeds Link - URL**
http://monroecowi.wgxtreme.com/		http://monroerodweb.co.monroe.wi.us/gcswebportal/search.aspx	http://monroerodweb.co.monroe.wi.us/gcswebportal/search.aspx Will change in 2019*

Single Landing Page/Portal for All Land Records Data
URL
http://www.co.monroe.wi.us/departments/land-information/

Data Sharing

Data Availability to Public

Data Sharing Policy

- Whenever possible we direct people to free sources of our data and will share data in kind. Monroe County charges for time and materials on custom requests. We do charge fees for hard copy map production at the equivalent of $5 for a letter size sheet of paper but do provide the ability for people to produce maps on their own via our website and will produce and email maps in a pdf format free of charge. Monroe County charges $50 per shapefile but only $200 for our entire geodatabase, our countywide orthophotography is available for $100. These data charges will be revisited in the future. In addition, we charge $200 for our tax & assessment data file.
- Register of Deeds documents are available for statutory copy fees that are $2 for the first page of a document plus $1 per each additional page. We do add a convenience fee of $1.50 per ever $50 worth of documents purchased. Escrow options are available as well thus waiving the convenience fee. Register of Deeds options will change in 2019 when Fidlar Software is utilized.

Open Records Compliance

- Monroe County adheres to Wisconsin's Open Records Law. Monroe County provides a wealth of information via our different websites. Our GIS, Tax & Assessment, and Survey Files as well as our tract index is free of charge.

Data Sharing Restrictions and Government-to-Government Data Sharing

Data Sharing Restrictions

- Monroe County's information is searchable by name. Monroe County does not currently have any opt out policy for names on the internet, however, should someone request for that we likely would be able to comply with their request. We do not currently have any official data sharing policies enacted, as our information is freely available for viewing pleasure.

Government-to-Government Data Sharing

- As opportunities arise, Monroe County has been willing to share or provide data free of charge with other government entities, scholastic institutions and students. We also have shared data with private groups or entities on behalf of local government units.

Training and Education

- Currently the users of geographic data provide technical assistance to each other and other county departments and local municipalities who are developing, maintaining, and using computerized land information. Often training grant funds are used to cover expenses associated with travel and training. When time and budgets allow Monroe County will allow employees to attend seminars and training offered via institutions and groups such as Wisconsin Land Information Association (WLIA), Wisconsin Society of Land Surveyors (WSLS)

and Wisconsin Real Property Listers Association (WRPLA). Online tutorials and seminars are another tool in self-education that is encouraged as workload allows. In addition, as opportunities arise Monroe County will coordinate with agencies, associations and educational institutions to provide education to its employees and the public. Monroe County to the best of our ability will assist and educate constituents who are using our data or have questions about our data so that they can make informed and educated decisions.

4 CURRENT & FUTURE PROJECTS

This chapter lists the current and future land information projects the county is currently undertaking or intends to pursue over its planning horizon. A project is defined as a temporary effort that is carefully planned to achieve a particular aim. Projects can be thought of as the *means* to achieving the county's mission for its land information system.

Project Plan for PLSS (Benchmark 4)

Project Title: Completion and Integration of PLSS

Project Description/Goal

Planned Approach

- To satisfactorily complete our PLSS framework and integrate that information with all of our other spatial layers. There has been a slow accumulation of PLSS data and integration of that data when time allowed. The focus will be to increase the flow of PLSS data and thus update our PLSS and all associated map layers. Satisfactory completion will mean acquiring coordinate values on all areas outside of the Fort McCoy Military Installation except for those locations that are currently underwater, with a low emphasis on ones that fall entirely within large tracts of land that are publicly held and not necessary to determination of the boundary of that publicly held land. In order to do this we have prepared by doing the following:
    - Compiled a list of needed PLSS corners created and weighted based on need.
    - Acquired a new survey grade GPS with its primary purpose to be used for survey grade coordinate acquisition.
    - The County Surveyor will re-monument where necessary or do maintenance at the selected Section Corners and collect a survey grade GPS coordinate.
    - The GIS Specialist will integrate the updated Section Corners with survey grade coordinate values in our PLSS framework and update the parcel mapping and other layers to account for the higher spatial accuracy.
- **Land Info Spending Category:** PLSS (also affects Parcel Mapping, and Other Layers)

Current Status

- **Tally of the total number of corners:** 3102 but only 2910 capable of being remonumented.
- **Remonumentation status:** 2672 of 2910
- **Coordinate status (accuracy class) if known:** 1100 are Survey Grade, 1075 are Sub-Meter, and 497 are Approximate

Goals

- **Number of corners to be remonumented and/or rediscovered:** 238 Corners need to be remonumented or rediscovered.
- **Number to have new coordinates established:** 1572 at most with a primary focus on the 238 that need to be rediscovered and the 497 that have an accuracy class of Approximate. A secondary focus would be acquiring coordinates on strategically located coordinates identified as Sub-Meter accuracy. The goal to acquire 800 coordinates of Survey Grade.
- **Accuracy class for these new coordinates:** Survey Grade
- **Way in which these points will be integrated into the parcel fabric:** They will be used to redraw our PLSS and Tax Parcel Based Data.

Missing Corner Notes

- **Documentation for any missing corner data:** 192 Corners sans tie sheet lie within Fort McCoy and we have no plans to obtain further information on them at this time.

County Boundary Collaboration

- We have been discussing corner location with three of the four adjacent counties already and there are plans to obtain survey grade coordinates on those corners. We can reproject the

locations into different county coordinate systems. We have a good working relationship with our adjacent counties.

Business Drivers

- The Project Plan for PLSS is a requirement for those counties who utilize Strategic Initiative funds for work related to PLSS completion and integration.
- With an ever increasing call for higher accuracy information and higher resolution imagery more available. A call for greater accuracy in our mapping is here. That is only possible with the acquisition of survey grade section corner coordinates. The benefits of this project are better data for the surveying community and higher accuracy geographic information for local residents, government agencies and decision makers, businesses and other interested parties. With our GIS data becoming more readily available to people this project will result in better data for use in research and studies by people locally and worldwide for that matter.

Objectives/Measure of Success

- The objective is to meet Benchmark 4 (Completion and Integration of PLSS) by 12/31/2024 date.
- The objective is satisfactory completion and integration of our PLSS and other related layers of data modified and adjusted for increased accuracy. The measurement of success will be data clean enough to transition into a modern parcel fabric environment.

Project Timeframes

Timeline – Project Plan for PLSS

Milestone	Duration	Date
Project start	–	January 1, 2018
Purchase new GPS equipment	2 months	June 6, 2018
County Surveyor	5 years	October 1, 2018-Dec 31, 2023
GIS Specialist	5 years	Spring, 2019
Project complete	-	December 31, 2024

Responsible Parties

- The GIS Specialist will achieve this goal in cooperation with the Monroe County Surveyor. Monroe County may choose to contract out some of the work in the future but the focus will be to complete this project in house if possible. The reason for this approach is our County Surveyor's local knowledge of our data and experience with our records that will surpass that of others and lead to better interpretation of existing evidence. In order to properly achieve our goals and serve our constituents and beyond the best choice is in-house staff.

Estimated Budget Information

- See table at the end of this chapter.

Project #1: Countywide LiDAR Acquisition

Project Description/Goal

- To Acquire Countywide LiDAR data.
- **Land Info Spending Category:** LiDAR

Business Drivers

- 50% cost share in the form of a USGS grant through the 3D Elevation Program.
- Our prior LiDAR does not meet current industry standards and new LiDAR would be double the density and accuracy.
- LiDAR data would support future efforts to update flood insurance rates maps (FIRMs)
- Monroe County and areas beyond our borders have been affected continually by extreme flooding events and the LiDAR data will help give us a greater snapshot of drainage routes and identify areas affected by rising water tables.
- We had three PL566 Dams that were destroyed in the latest round of flooding and that changed the landscape downstream and this information will assist in updating Hydraulic Dam Shadow Analyses for those that were not breached and will be necessary in helping determine impacts should the destroyed dams be replaced.
- There have been somewhat dramatic changes in rural topography in areas where non-metallic mining activity has taken place since LiDAR was last acquired and we have continued to see healthy development around our two cities.

Objectives/Measure of Success

- Accurate floodplain maps in the future. Thus preventing additional building in dangerous flood prone areas that are currently outside of current floodways and perhaps saving lives in the process. Proof that certain individuals lands are not in the floodplains.
- County Highway Department and Land Conservation Office will benefit from this information from a project planning perspective.

Project Timeframes

Timeline – Project #1 Countywide LiDAR Acquisition

Milestone	Duration	Date
Project #1 start	–	January 2018
Flight Date	2-4 weeks	March-May 2019
Processing of data	10 months	June 2019 – Feb 2020
Delivery of data		March 2020
Project complete	–	April 2020

Responsible Parties

- Ayres Associates (100%),

Estimated Budget Information

- See table at the end of this chapter.

Project #2: LiDAR Enhancements

Project Description/Goal

- LiDAR enhancements would provide additional basic usefulness to the data obtained to federal specs and create highly sought after peripheral products
- **Land Info Spending Category:** LiDAR

Business Drivers

- Improved Hydro Breaklines
- 1 Foot Contours

- Bare Earth Data Set
- Automated Classification of buildings and vegetation

Objectives/Measure of Success

- Countywide 1 foot contours
- Classified Dataset
- Bare Earth Dataset

Project Timeframes

Timeline – Project #2 LiDAR Enhancement		
Milestone	**Duration**	**Date**
Project #2 start	–	Fall, 2019
Development of data enhancements		TBD
Project #2 complete	–	TBD

Responsible Parties

- Ayres Associates (100%)

Estimated Budget Information

- See table at the end of this chapter.

Project #3: Upgrade of ESRI Desktop and Server Products

Project Description/Goal

- Upgrade of our ESRI Desktop from ArcMap 10.1 to 10.x.x and our Server from Enterprise Basic to Enterprise Standard.
- **Land Info Spending Category:** Software
- **Land Info Spending Category:** Hardware
- **Land Info Spending Category:** Training and Education

Business Drivers

- Our software is currently outdated and is no longer supported.
- We need to be able to interact with the new software in the Dispatch Office.

Objectives/Measure of Success

- We would be able to receive support from ESRI for troubleshooting again.
- We will be able to let a future selected CAD provider Zuercher plug into our server.

Project Timeframes

- Fall of 2019

Responsible Parties

- To be determined
- ESRI

Estimated Budget Information

- See table at the end of this chapter.

Project #4: Countywide Aerial Imagery Acquisition

Project Description/Goal

- Obtain Countywide 6 inch aerial Imagery
- **Land Info Spending Category:** Orthoimagery

Business Drivers

- There is an ever increasing interest in up to date aerial imagery.

- WROC 2020 allows us to enjoy economy of scale and group pricing.

Objectives/Measure of Success

- Leaf off imagery assists public and private developers.
- Assists local Assessors with valuation.
- Assists Zoning with enforcement and septic system placements.
- We have been acquiring imagery every 5 years and this will keep us on that cycle.

Project Timeframes

Timeline – Project #4 Countywide Aerial Imagery Acquisition		
Milestone	**Duration**	**Date**
Project #4 start	–	2020
Flight	1-2 days	April, 2020
Project #2 complete	–	2021

Responsible Parties

- Ayres Associates, 100%

Estimated Budget Information

- See table at the end of this chapter.

Project #5: Complete QA/QC of Address Point and Centerline Data and Adoption of New Schema

Project Description/Goal

- To complete spatial and attribute correction of our Address Points and Centerlines with a migration to a modern data standard.
- **Land Info Spending Category:** Address Points
- **Land Info Spending Category:** Centerlines

Business Drivers

- Increased confidence in our data.
- NextGen911 compliant.

Objectives/Measure of Success

- The data will meet the needs of the future and integrate our future Dispatch software.

Project Timeframes

- Fall of 2019 through December 31, 2019.

Responsible Parties

- GIS Specialist

Estimated Budget Information

- See table at the end of this chapter.

Project #6: Backscanning and Rescanning of Register of Deeds Documents

Project Description/Goal

- Scan illegible Subdivision Plats and additional deeds back to the beginning.
    - Compile a list of documents that need to be back-scanned.
    - Work with preferred vendor selected for prior back-scan project.

    - Draft a project RFP or work with preferred vendor to acquire new software.

- **Land Info Spending Category:** Administrative Activities and Management

Business Drivers

- Public access to additional records
- Archive old brittle subdivision plats and protect them from being handled and damaged.

Objectives/Measure of Success

- More documents at the fingertips of people doing searches.
- Readable historical records will assist county employees to do their jobs and save the time of retrieving the original documents and making copies.

Project Timeframes

- TBD

Responsible Parties

- Register of Deeds Office

Estimated Budget Information

- See table at the end of this chapter.

Project #7: Acquire New Software/Hardware for Register of Deeds Office

Project Description/Goal

- Monroe County is looking to acquire software to modernize their records system and make the workflow simpler in the Register of Deeds office.
- **Land Info Spending Category:** Administrative Activities and Management

Business Drivers

- Increase customer satisfaction, increase of documents available for public purchase, increased revenue streams in the future and decreased in office staff time devoted to particular steps in the departmental workflow.
- Archive of documents will be preserved offsite.

Objectives/Measure of Success

- Modernization of the Register of Deeds Office, including greater capability.
- Increase in productivity
- Increase in departmental revenue.

Project Timeframes

- Beginning in Fall of 2018

Responsible Parties

- Fidlar

Estimated Budget Information

- See table at the end of this chapter.

Estimated Budget Information (All Projects)

Estimated Budget Information

Project Title	Item	Unit Cost/Cost	Land Info Plan Citations Page # or section ref.	Project Total
Completion and Integration of PLSS (Benchmark 4)	County Surveyor	$175 per corner x 800 corners = $140,000	Section 4, Page 41	–
	GIS Specialist	$125 per corner x 800 corners = $100,000		–
				240,000
1) Acquire Countywide LiDAR	Ayres Associates	$112.5 per mile x 920 miles = $103,500	Section 4, Page 43	–
				103,500
2) Acquire LiDAR enhancements	Ayres Associates	$27,600	Section 4, Page 43	–
				27,600
3) Upgrade of ESRI Desktop and Server Products	ESRI	Server = $9,000	Section 4, Page 44	–
	ESRI	on-site installation and configuration = $14,000		–
	ESRI	10 credit days @ 565.00 = $5650		–
				28,650
4) Countywide Aerial Imagery Acquisition	Ayres Associates	$80 per mile x 908 miles = $72,640	Section 4, Page 44	–
				72,640
5) Complete QA/QC of Address Point and Centerline Data and Adoption of New Schema	GIS Specialist		Section 4, Page 45	–
				32,500
6) Backscanning and Rescanning of Register of Deeds Documents	On QSolutions	$1750	Section 4, Page 45	–
				1,750
7) Acquire New Software/Hardware for Register of Deeds Office	Fidlar	Bastion Implementation Fee = $5,000	Section 4, Page 46	–
	Fidlar	AVID Implementation Fee = $25,000	Section 4, Page 46	–
	Fidlar	OCR License = $750	Section 4, Page 46	–
	Fidlar	Monarch = $2,500	Section 4, Page 46	–
	Fidlar	AVID LifeCycle =$20,000	Section 4, Page 46	**53,250**
			GRAND TOTAL	**559,890**

Note. These estimates are provided for planning purposes only. Budget is subject to change.