

# Calumet County

# Land Information Plan

2019-2021

\*\*Wisconsin Land Information Program  
Wisconsin Department of Administration  
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[www.doa.wi.gov/WLIP](http://www.doa.wi.gov/WLIP)

Version: 2020-01-09

Approved/Adopted by Land Information Council on: 2018-12-11

Amended by Land Information Council on: 2020-01-20

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# EXECUTIVE SUMMARY

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**About this Document.** This document is a land information plan for Calumet County prepared by the Land Information Officer (LIO) and the land information council. By Wisconsin statute, “**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 the register of deeds at the county-level. In 2017, Calumet County received \$1,000 in WLIP training and education grants and \$28,728 in base budget grants and retained a total of \$71,272 in local register of deeds document recording fees for land information. Calumet County also received \$50,000 in Strategic Initiative Grant funds.

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 Calumet 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 Calumet 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.** In the next three years, Calumet County’s Land Information Office strives to be recognized for its exceptional web mapping site, gains in governmental efficiencies by broadening the utilization of GIS, improvements in parcel mapping accuracy, and responsiveness to meeting the land records needs of residents and businesses.

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

Calumet County Land Information Projects: 2019-2021	
Project #1	Bridge and Culvert Survey
Project #2	Maintain PLSS remonumentation with survey grade GPS coordinates
Project #3	Website Update
Project #4	Staff Development and Training
Project #5	Election Reporting System
Project #6	GIS Hardware Update
Project #7	Re-index and Publish Permit Records Online
Project #8	Orthophotography
Project #9	Full SSN redaction and online integration and availability of ROD documents
Project #10	LIDAR Acquisition
Project #11	Database Schema Update to Local Government Data Model

The remainder of this document provides more details on Calumet 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 Calumet County is meeting these benchmarks appears in the Foundational Elements section of this plan document.

## County Land Information System History and Context

Calumet County has been working on land records modernization in some form or another since 1972 when the County Board of Supervisors authorized the remonumentation program. From there the County started parcel mapping efforts in 1974 and made strides in modernization throughout the 1980's. Once the WLIP was established in 1989 the County established the Land Information Committee which successfully applied for grants to complete remonumentation and GPS a large portion of the County. By the mid-1990's the Land Information Office had established a considerable foundation and hired a mapping technician in 1996 who was largely tasked with digitizing data into a more modern GIS format. In 1999 a new GIS Administrator was hired and a revitalized effort was underway to acquire new data and get established data into a more standardized maintenance schedule. Soon the workload necessitated a second GIS staff person and in 2002 a GIS Specialist was added to the Land Information Office. By 2007 the department was reduced to just the GIS Administrator but all of the parcels were digitally mapped, the PLSS remonumentation program was on a 20 year maintenance cycle, aerial imagery acquisition was on a 5 year cycle, GIS data was freely available through online mapping portals, Enhanced 911 was fully integrated with GIS emergency district and street centerline data and operating as part of a local consortium, and nearly all Register of Deeds documents were scanned and indexed. In 2011 and 2012 the Land Information Office transitioned all GIS data into an enterprise database management system which increased efficiency, accuracy, and data availability. A year later the Register of Deeds office implemented a new records management system that revamped the entire office and allowed more universal access to ROD documents.

## 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 Calumet County Land Information Council, and others as listed below.

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+ Land Information Council Members designated by the plus symbol

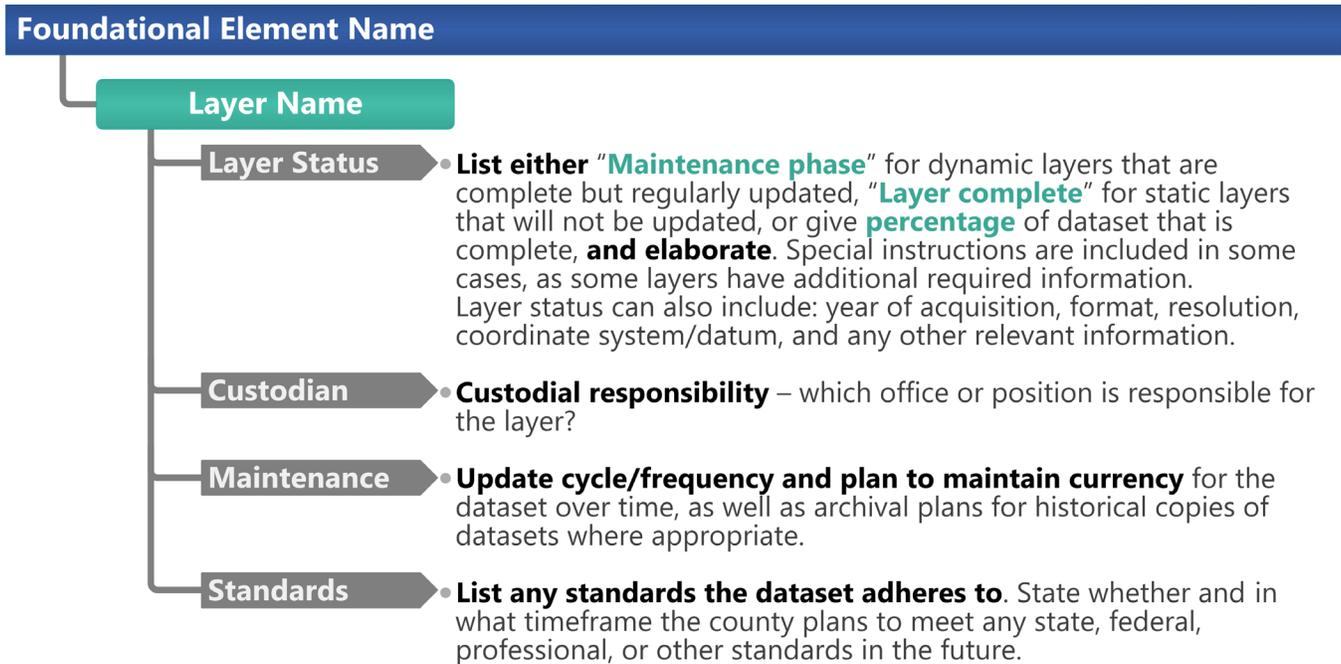
# 2 FOUNDATIONAL ELEMENTS

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.

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.

### FOUNDATIONAL ELEMENTS

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



# PLSS

## Public Land Survey System Monuments

### Layer Status

PLSS Layer Status	Status/Comments
Number of PLSS corners (selection, ¼, meander) <b>set in original government survey</b> that can be remonumented in your county	• 1813
Number and percent of PLSS corners capable of being remonumented in your county that <b>have been remonumented</b>	• 1813 – 100%
Number and percent of remonumented PLSS corners with survey grade coordinates (see below for definition) <ul style="list-style-type: none"> <li>• <b>SURVEY GRADE</b> – 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</li> <li>• <b>SUB-METER</b> – point precision of 1 meter or better</li> <li>• <b>APPROXIMATE</b> – point precision within 5 meters or coordinates derived from public records or other relevant information</li> </ul>	• 1813 – 100% survey grade coordinates
Number and percent of survey grade PLSS corners integrated into county digital parcel layer	• 1813 – 100%
Number and percent of non-survey grade PLSS corners integrated into county digital parcel layer	• 0 – 0%
Tie sheets available online?	• Yes - <a href="http://calumetcowi.wgxtreme.com/">http://calumetcowi.wgxtreme.com/</a>
Percentage of remonumented PLSS corners that have <b>tie sheets available online</b> (whether or not they have corresponding coordinate values)	• 100%
Percentage of remonumented PLSS corners that have tie sheets available online (whether or not they have corresponding coordinate values) <b>and a corresponding URL path/hyperlink value</b> in the PLSS geodatabase	• 0%
PLSS corners believed to be remonumented based on filed tie-sheets or surveys, but do not have coordinate values	• 0
Approximate number of PLSS corners believed to be lost or obliterated	• 0
Which system(s) for <b>corner point identification/numbering</b> 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)?	• Calumet County uses the Wisconsin Corner Point Identification System with some alterations in the towns of Brothertown and Stockbridge because they do not follow the traditional PLSS system.
Does the county contain any <b>non-PLSS areas</b> (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?	• Yes - The towns of Brothertown and Stockbridge use native claims.
Total number of PLSS corners along each bordering county	• Brown – 30, Manitowoc – 49, Sheboygan – 22, Fond du Lac – 39, Outagamie - 43
Number and percent of PLSS corners remonumented along each county boundary	• 183 – 100%
Number and percent of remonumented PLSS corners along each county boundary with survey grade coordinates	• 183 – 100%
In what ways does your county collaborate with or plan to collaborate with neighboring counties for PLSS updates on shared county borders?	• County GIS staff and surveyors communicate regularly. PLSS data widely available online.

### Custodian

- Calumet County Surveyor
- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### Maintenance

- The PLSS monuments are all on a 20 year maintenance cycle. A minimum of 5% of the County's section corners will be visited/maintained annually

## Standards

- Statutory Standards for PLSS Corner Remonumentation
  - s. 59.74, Wis. Stats. Perpetuation of section corners, landmarks.
  - s. 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.
  - s. 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

## Other Geodetic Control and Control Networks

e.g., HARN, Height Mod., etc.

### Layer Status

- The HARN and Height Modernization data are not located on our website, but they can be found on the state cartographers and National Geodetic Survey websites.

### Custodian

- National Geodetic Survey & Wisconsin Department of Transportation

### Maintenance

- Various Surveyors use them and report if they are missing, broken, and found

### Standards

- N/A

## Parcel Mapping

### Parcel Geometries

#### Layer Status

- **Progress toward completion/maintenance phase:** In Calumet County, 100% of the county's parcels are available in a commonly-used digital GIS format.
- **Projection and coordinate system:**
  - NAD\_1983\_HARN\_WISCRS\_Calumet\_County\_Feet
  - WKID: 103407 Authority: ESRI
  - Projection: Transverse\_Mercator
  - False\_Easting: 802999.999
  - False\_Northing: 0.016
  - Central\_Meridian: -88.5
  - Scale\_Factor: 1.0000286569
  - Latitude\_Of\_Origin: 42.71944444444445
  - Linear Unit: Foot\_US (0.3048006096012192)
- **Integration of tax data with parcel polygons:** The county does not have a parcel polygon model that directly integrates tax/assessment data as parcel attributes. Calumet County runs a script to join parcel geometries with parcel tabular data.
- **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.
- **Online Parcel Viewer Software/App and Vendor name:** Calumet County contracts with Applied Data Consultants to host parcel data via the WebGUIDE Xtreme (WGX) application (<http://calumetcowi.wgxtreme.com/>). Calumet County also hosts parcel data internally using ESRI Web AppBuilder (<http://calumet.maps.arcgis.com/apps/webappviewer/index.html?id=5416e6a99c2e4df58e9ac32241adeb89>).
- **Unique URL path for each parcel record:** Yes, WebGUIDE Xtreme (WGX) allows for each individual parcel to have a unique URL based off of the parcel id. This URL will take users to

the WGX site which has access to almost all GIS data in the county. The URL is stable and can be linked from any browser.

- Ex. <http://calumetcowi.wgxtreme.com/gis?d=1&parcelid=018-0000-0000000-000-0-191909-00-440A>

#### Custodian

- Calumet County Real Property Lister
- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- Parcel polygons are updated monthly by the Real Property Lister
- Parcel tax data is updated as it comes into the office

#### Standards

- **Data Dictionary:** Calumet County has a data dictionary in human-readable form, with thorough definitions for each element/attribute name, and explanations of any county-specific notations, particularly for parcel attributes listed by s. 59.72(2)(a)
- Calumet County submits parcel data in searchable format to the DOA annually as part of the WLIP requirements.

## Assessment/Tax Roll Data

#### Layer Status

- **Progress toward completion/maintenance phase:** NA
- **Tax Roll Software/App and Vendor name:** The Calumet County Treasurer and Real Property Lister use the Transcendent Technologies Ascent Land Records Suite software to maintain all of the assessment and tax data. In the beginning of each year they use Market Drive software to distribute assessment data to local assessors.
- **Municipal Notes:** The Cities of Appleton and Menasha prepare their own assessment/tax roll data including GIS data. They also do their own tax listing.

#### Custodian

- Calumet County Treasurer
- Calumet County Real Property Lister

#### Maintenance

- **Maintenance of the Searchable Format standard:** Calumet County utilizes the Ascent Land Records Suite and works with Transcendent Technologies to create a database view that combines all of the pertinent data in the appropriate format in order to be integrated with the parcel geometries to meet the searchable format standard.
- **Searchable Format Workflow:** The tax data and parcel geometry data is maintained by the Real Property Lister. A database view is arranged by Transcendent Technologies that combines all pertinent tax data in the appropriate format. The GIS administrator links the parcel geometries with the tax database and performs any required tweaks to get the data in the exact format required by the State.

#### Standards

- Wisconsin Department of Revenue [Property Assessment Manual](#) and attendant DOR standards
- DOR XML format standard requested by DOR for assessment/tax roll data

## Non-Assessment/Tax Information Tied to Parcels

e.g., Permits, Easements, Non-Metallic Mining, Brownfields, Restrictive Covenants

#### Layer Status

- Shoreland zoning, non-metallic mining, variances, sanitary permits

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department

- Calumet County Land and Water Conservation Department

#### Maintenance

- Updated as needed

#### Standards

- None

## ROD Real Estate Document Indexing and Imaging

#### Layer Status

- **Grantor/Grantee Index:** Indexing is done digitally using the Fidlar software suite. Redaction of social security numbers is still underway.
- **Tract Index:** Indexing is PLSS based and covers all applicable documents.
- **Imaging:** Laredo imaging system for internal staff and in the future Tapestry will be fully functional for use by the public, but full redaction of social security numbers must be done first. Both are by Fidlar
- **ROD Software/App and Vendor Name:** Laredo/Tapestry by Fidlar

#### Custodian

- County Register of Deeds

#### Maintenance

- Daily

#### Standards

- s. 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:** 2018
- **Accuracy:** USGS Quality Level 2
- **Post spacing:** 0.7 meters
- **Contractor's standard, etc.:**
- **Next planned acquisition year:** None planned as of now, but LiDAR acquisition is roughly on a 10-15 year cycle depending on costs and need.

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- This data is static and therefore has no maintenance schedule

#### Standards

- National Geospatial Program LiDAR Base Specification Version 1.2
- USGS Quality Level 2

### LiDAR Derivatives

**Bare-Earth Elevation 1 foot Contours, Bare-Earth Digital Elevation Model (DEM), Digital Surface Model (DSM), Intensity Imagery.**

#### Layer Status

- All derivatives were flown in 2018 and will be delivered in 2019

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### Maintenance

- This data is static and therefore has no maintenance schedule

### Standards

- National Geospatial Program LiDAR Base Specification Version 1.2
- USGS Quality Level 2

## Other Types of Elevation Data

### Layer Status

- N/A

### Custodian

- N/A

### Maintenance

- N/A

### Standards

- N/A

## Orthoimagery

### Orthoimagery

#### Layer Status

- **Most recent acquisition year:** 2018
- **Resolution:** 6 inch four-band orthoimagery for 1"=100' scale mapping
- **Contractor's standard:** The aerial imagery will be acquired when the sun angle is 30 degrees or greater above the horizon and during spring leaf-off, snow-free conditions. Control for the project will use Inertial Measurement Unit (IMU), Airborne Global Positioning System (ABGPS), and ground-based GPS technology.
- Prepare 6-inch resolution four-band digital orthoimagery for 1"= 100' scale mapping for the Calumet County project area which will meet ASPRS Level 2 horizontal standards, which equates to 2.4-feet at the 95% confidence level.
- **Next planned acquisition year:** 2021 – Calumet County is on a 3 year cycle
- **WROC participation in 2020:** Unsure about participation. Calumet County flew orthoimagery in 2018, so the 2020 flight is unlikely, but not ruled out.

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- This data is static and therefore has no maintenance schedule

#### Standards

- ASPRS Class 2 for 1"=100' map scale as described in the USACE Engineering and Design Manual for Photogrammetric Production
- Federal Geographic Data Committee (FGDC) compliant metadata

## Historic Orthoimagery

#### Layer Status

- Calumet County has countywide orthoimagery from 1938, 1950 (partial), 1992, 1995 (partial), 2001, 2005, 2010, and 2014

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- This data is static and therefore has no maintenance schedule

### Standards

- Varied from year to year

## Other Types of Imagery

e.g., Oblique Imagery, Satellite Imagery, Infra-red, etc.

### Layer Status

- Calumet County has countywide near infra-red imagery from 2010 and 2014

### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### Maintenance

- This data is static and therefore has no maintenance schedule

### Standards

- Varied from year to year

## Address Points and Street Centerlines

### Address Point Data

#### Layer Status

- Calumet County address points are placed where the driveway meets the right of way when possible. Address point data for Menasha and Appleton are imported when needed. Those points adhere to their respective standards.

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Appleton GIS Staff
- Menasha GIS Consultants

#### Maintenance

- As needed

#### Standards

- The numbering system is based on a grid that begins in the southeast corner of the County and then extends out to the north and west. The numbering system is based on a new address every 13.2 feet or 400 addresses per mile. Contact Calumet County cities and villages for their respective standards. Calumet County populates the address point GIS files for every municipality except Menasha and Appleton.

### Building Footprints

#### Layer Status

- Building footprints were acquired in 2010 and in 2014, both as part of orthoimagery capture. In both cases the minimum building size was 100 square feet.

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- Maintenance on this layer is infrequent but is done by the Land Information Office on an as needed basis.

#### Standards

- Minimum building size of 100 square feet

### Other Types of Address Information

e.g., Address Ranges

### **Layer Status**

- Calumet County created address range data in association with our road centerline data

### **Custodian**

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### **Maintenance**

- As needed

### **Standards**

- Meets standards required by our Enhanced 911 system software

## **Street Centerlines**

### **Layer Status**

- Calumet County street centerlines are complete throughout the county and include address range attribute data

### **Custodian**

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### **Maintenance**

- As needed

### **Standards**

- Meets standards required by our Enhanced 911 system software

## **Rights of Way**

### **Layer Status**

- Right of Way data is maintained as part of our parcel polygon dataset where applicable

### **Custodian**

- Calumet County Real Property Lister
- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### **Maintenance**

- Maintained with the parcel data

### **Standards**

- Adheres to standards required by parcel mapping

## **Trails**

### **e.g., Recreational Trails**

### **Layer Status**

- Trails owned and maintained by the County. There are also park and municipal trails but accuracy and currency remains questionable

### **Custodian**

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### **Maintenance**

- As needed

### **Standards**

- There are no set standards. In general the line work is based on the most recent orthoimagery

## Land Use

### Current Land Use

#### Layer Status

- The Calumet County land use dataset is a 2014 update of the 2010 land use study. The most current version is based on 2014 orthoimagery

#### Custodian

- East Central Regional Planning Commission GIS Staff

#### Maintenance

- As requested when funding and staff time allows

#### Standards

- NAICS coding scheme

### Future Land Use

#### Layer Status

- Calumet County created a patchwork of future land use data as part of the comprehensive planning process in the early 2000's. Some municipalities have since updated the data, while others made their own dataset

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Individual municipal agencies or their subcontractors when not created by the county

#### Maintenance

- As comprehensive plans are updated

#### Standards

- s. 66.1001, Wis. Stats. Comprehensive planning.

## Zoning

### County General Zoning

#### Layer Status

- Calumet County maintains a GIS representation of county general zoning boundaries. The County administers zoning in the towns of Brillion, Charlestown, New Holstein, and Woodville. The remaining towns (Stockbridge, Brothertown, Chilton, and Rantoul) either maintain their own zoning or are unzoned. The boundaries largely follow parcel lines but that is not a requirement.

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department Zoning Staff
- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Individual municipalities either through their own staff or contracted services

#### Maintenance

- As needed

#### Standards

- See County Zoning Ordinances and applicable State Statutes and Administrative Codes

### Shoreland Zoning

#### Layer Status

- The County does maintain a partial GIS representation of county shoreland zoning boundaries. Calumet County administers shoreland and floodplain zoning within all unincorporated areas of the County regardless of whether a town administers their own zoning program or is

unzoned. Areas included are within 1000' of a lake or 300' of navigable river or stream or the landward side of the floodplain of the river or stream.

#### **Custodian**

- Calumet County Planning, Zoning, and Land Information Department Zoning Staff
- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### **Maintenance**

- As needed

#### **Standards**

- See County Zoning Ordinances and applicable State Statutes and Administrative Codes

## **Farmland Preservation Zoning**

#### **Layer Status**

- The County does maintain a GIS representation of county farmland preservation zoning boundaries
- **Year of certification:** 2009

#### **Custodian**

- Calumet County Planning, Zoning, and Land Information Department Planning Staff
- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Calumet County Land and Water Conservation Department Staff

#### **Maintenance**

- As needed

#### **Standards**

- Chapter 91 and ATCP 49

## **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
- Letters of Maps Change: The County uses LOMR and LOMAs to update the FEMA FIRM maps

#### **Custodian**

- Calumet County Planning, Zoning, and Land Information Department Zoning Staff
- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### **Maintenance**

- As Needed

#### **Standards**

- Calumet County Code, Chapter 51
- NR116

## **Airport Protection**

#### **Layer Status**

- Not administered by the county. The city of New Holstein addresses airport protection in their zoning codes, which the county references when making decisions near the airport.

## **Municipal Zoning Information Maintained by the County**

**e.g., Town, City and Village, Shoreland, Floodplain, Airport Protection, Extra-Territorial, Temporary Zoning for Annexed Territory, and/or Zoning Pursuant to a Cooperative Plan**

### Layer Status

- Calumet County does not administer zoning within incorporated areas such as cities and villages. The Land Information Office has helped municipalities map their zoning data at no charge. Not all participate.

### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### Maintenance

- When asked

### Standards

- NA

## Administrative Boundaries

### Civil Division Boundaries

e.g., Towns, City, Villages, etc.

#### Layer Status

- Calumet County has a complete city, town, and village polygon municipal layer

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- As Needed

#### Standards

- Must follow the legal description recorded in the Register of Deeds

### School Districts

#### Layer Status

- **Progress toward completion/maintenance phase:** Complete
- **Relation to parcels:** School Districts are completely based off of parcels
  - **Attributes linked to parcels:** SCHLDIST and SCHLCODE

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Calumet County Treasurer Staff

#### Maintenance

- Monthly

#### Standards

- NA

### Election Boundaries

e.g., Voting Districts, Precincts, Wards, Polling Places, etc.

#### Layer Status

- County Supervisory Districts, Complete
- Wards, Complete
- Polling Places, Complete

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Calumet County Clerk

### **Maintenance**

- As Needed

### **Standards**

- Wisconsin Redistricting Statutes

## **Utility Districts**

**e.g., Water, Sanitary, Electric, etc.**

### **Layer Status**

- Calumet County has Sewer Service District boundaries

### **Custodian**

- East Central Regional Planning Commission

### **Maintenance**

- As Needed

### **Standards**

- N/A

## **Public Safety**

**e.g., Fire/Police Districts, Emergency Service Districts, 911 Call Center Service Areas, Public Safety Answering Points, Healthcare Facilities**

### **Layer Status**

- All the public safety data is maintained as part of the Enhanced 911 system

### **Custodian**

- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Calumet County Sheriff's Department Communication Center

### **Maintenance**

- As Needed

### **Standards**

- All boundaries are set by various entities and the GIS data matches those descriptions

## **Lake Districts**

### **Layer Status**

- There is one lake district in Calumet County. It is not maintained by the County and the County does not have any GIS data concerning the district

### **Custodian**

- N/A

### **Maintenance**

- N/A

### **Standards**

- N/A

## **Native American Lands**

### **Layer Status**

- N/A

## **Other Administrative Districts**

**e.g., County Forest Land, Parks/Open Space, etc.**

### Layer Status

- Park GIS dataset is complete

### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Calumet County Parks Department Staff
- Calumet County Municipalities

### Maintenance

- As Needed

### Standards

- Parks data follows parcel data. Attribute data is supplied by the applicable government body

## Other Layers

### Hydrography Maintained by County or Value-Added

e.g., Hydrography maintained separately from DNR or value-added, such as adjusted to orthos

#### Layer Status

- Hydrography data has been updated to match the 2014 orthophotos

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- As Needed

#### Standards

- Hydrography data is based on DNR data but adjusted spatially to match orthophotos. Data adjustment is done at a 1:2000 scale or larger

### Cell Phone Towers

#### Layer Status

- Cell phone tower data is from approximately 2005 and is out of date

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff

#### Maintenance

- None

#### Standards

- Cell phone data is gathered from outside data sources and follows any standards therein. Calumet County GIS has no defined standards for this data.

### Bridges and Culverts

#### Layer Status

- Bridge and culvert data is maintained by the highway department in flat file format. It is imported into GIS via xy data included in the flat file.

#### Custodian

- Calumet County Planning, Zoning, and Land Information Department GIS Staff
- Calumet County Highway Department Staff

#### Maintenance

- As Needed

#### Standards

- None

## Other

e.g., Pipelines, Railroads, Non-Metallic Mining, Sinkholes, Manure Storage Facilities, etc.

### Layer Status

- Railroads, complete
- Non-metallic mining, complete
- Sinkholes, as complete as possible
- Manure Storage Facilities, complete

### Custodian

- \*\* Calumet County Land and Water Conservation Department
- Calumet County Planning, Zoning, and Land Information Department GIS Staff

### Maintenance

- As Needed

### Standards

- N/A

# 3 LAND INFORMATION SYSTEM

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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.

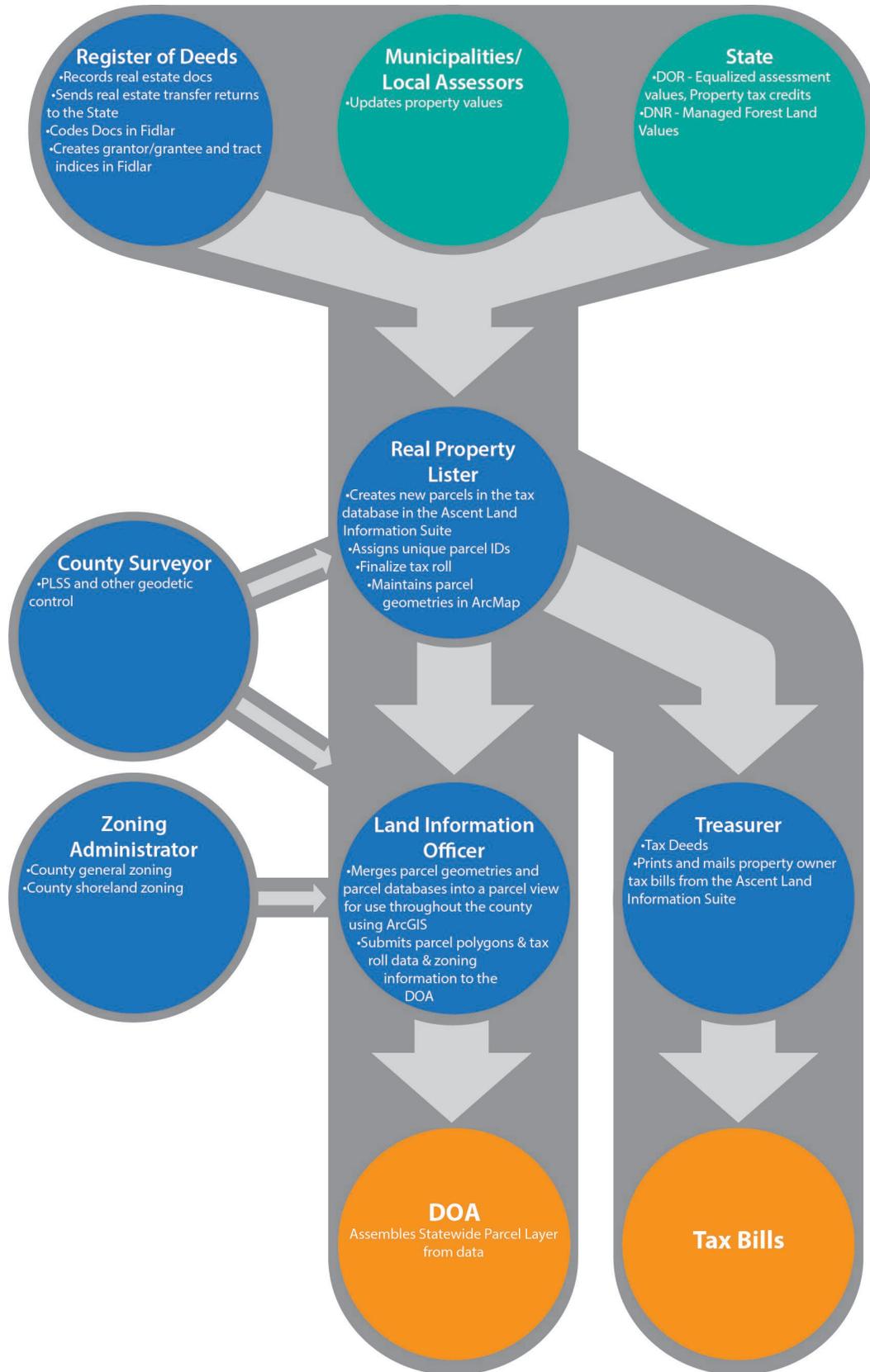
One integration requirement is listed under s. 16.967(7)(a)(1), Wis. Stats., which states that counties may apply for grants for:

- 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

## County Parcel Data Workflow Diagram



## Technology Architecture and Database Design

Calumet County's Land Information program is largely based in a Windows environment. Recently the tax side of the land records program moved from an AS400 base to a SQL based system.

The Land Information Office currently operates with ESRI and Microsoft SQL software. In the late 1990's Calumet County migrated the vast majority of its GIS data to ESRI's ArcMap platform. By 2011 the Land Information Office had migrated the GIS data to an enterprise database environment with ArcSDE, ArcGIS Server, and Microsoft SQL.

The Treasurer and Real Property Lister use the Transcendent Technologies Ascent Land Records Suite which is based in a web interface and a SQL backbone. The Real Property Lister uses ArcMap to do the parcel mapping and maintains the tax and land tabular data in the Transcendent Technologies Ascent Land Records Suite. Data from the Ascent Land Records suite is merged with the GIS polygons, which is then used by the public and staff.

The Register of Deeds office uses Fidlar for their daily operations. Once social security number redaction is complete ROD documents will be consumable online via Tapestry.

### Hardware

- Lenovo ThinkStation
- ProLiant DL380 Gen9 Server
- Trimble R2
- iPad
- Windows Surface tablet

### Software

- ESRI ArcGIS (5 basic, 2 advanced licenses), Collector
- Autodesk Map (1 license), Civil (3 licenses)
- GPS Pathfinder
- Ascent Land Records Suite
- Fidlar ROD software
- SQL 2012

### Website Development/Hosting

- GIS website is hosted and developed by ADC - <http://calumetcowi.wgxtreme.com/>
- Land Information website is hosted and developed in house - <https://calumetmaps.com/>
- ArcGIS Online Applications

## Metadata and Data Dictionary Practices

### Metadata Creation

- **Metadata creation and maintenance process:** Calumet County has metadata on most datasets. It is created on the most requested datasets and can be created if none exists.

### 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:** Any that are not automatically populated by ArcCatalog

### Metadata Policy

- **Metadata Policy:** None

## Municipal Data Integration Process

- Calumet County consumes parcel data developed by the cities of Appleton and Menasha. The county created a script that pulls the parcel data from the respective municipality ftp sites. Then it adds and calculates some fields, and merges the parcel data with the county parcel data.
- Calumet County helps municipalities with zoning mapping, but the zoning data is not integrated with the county zoning data.

## 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
<a href="https://calumetmaps.com/">https://calumetmaps.com/</a>	<a href="https://calumetmaps.com/data.html">https://calumetmaps.com/data.html</a>	<a href="https://ascent.co.calumet.wi.us/LandRecords/PropertyListing/RealEstateTaxParcel#/Search">https://ascent.co.calumet.wi.us/LandRecords/PropertyListing/RealEstateTaxParcel#/Search</a>	<a href="http://www.co.calumet.wi.us/index.aspx?nid=173">http://www.co.calumet.wi.us/index.aspx?nid=173</a>

#### Single Landing Page/Portal for All Land Records Data

##### URL

<https://calumetmaps.com/>

#### Municipal Website Information

##### Municipal Website      Municipal Website URL

City of Appleton GIS website	<a href="https://gis.appleton.org/">https://gis.appleton.org/</a>
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## Data Sharing

### Data Availability to Public

#### Data Sharing Policy

- The Land Information Office has long held the belief that all GIS data should be freely available to the public. The most frequently used and requested GIS data is available on [www.CalumetMaps.com](http://www.CalumetMaps.com) in shapefile format while more unusual GIS data is available upon request.

#### Open Records Compliance

- Calumet County strives to comply with all open records laws.

### Data Sharing Restrictions and Government-to-Government Data Sharing

#### Data Sharing Restrictions

- While the data is easily accessible online there are some use and distribution restrictions. To see the complete *License Agreement For Calumet County Digital Geographic Data Sets* document please see the Land Information page at the official Calumet County website, <http://www.co.calumet.wi.us/index.aspx?NID=203>.

#### Government-to-Government Data Sharing

- The Land Information Office has long held the belief that all GIS data should be freely available to the all government entities. The most frequently used and requested GIS data is available on [www.CalumetMaps.com](http://www.CalumetMaps.com) in shapefile format while more unusual GIS data is available upon request.

### Training and Education

- The Land Information Office takes training and education very seriously. Internal LIO training is included in the budget every year as are funds to attend national conferences and statewide land information and GIS conferences.
- As new systems or applications come online the LIO offers training to all potential users.

# 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.

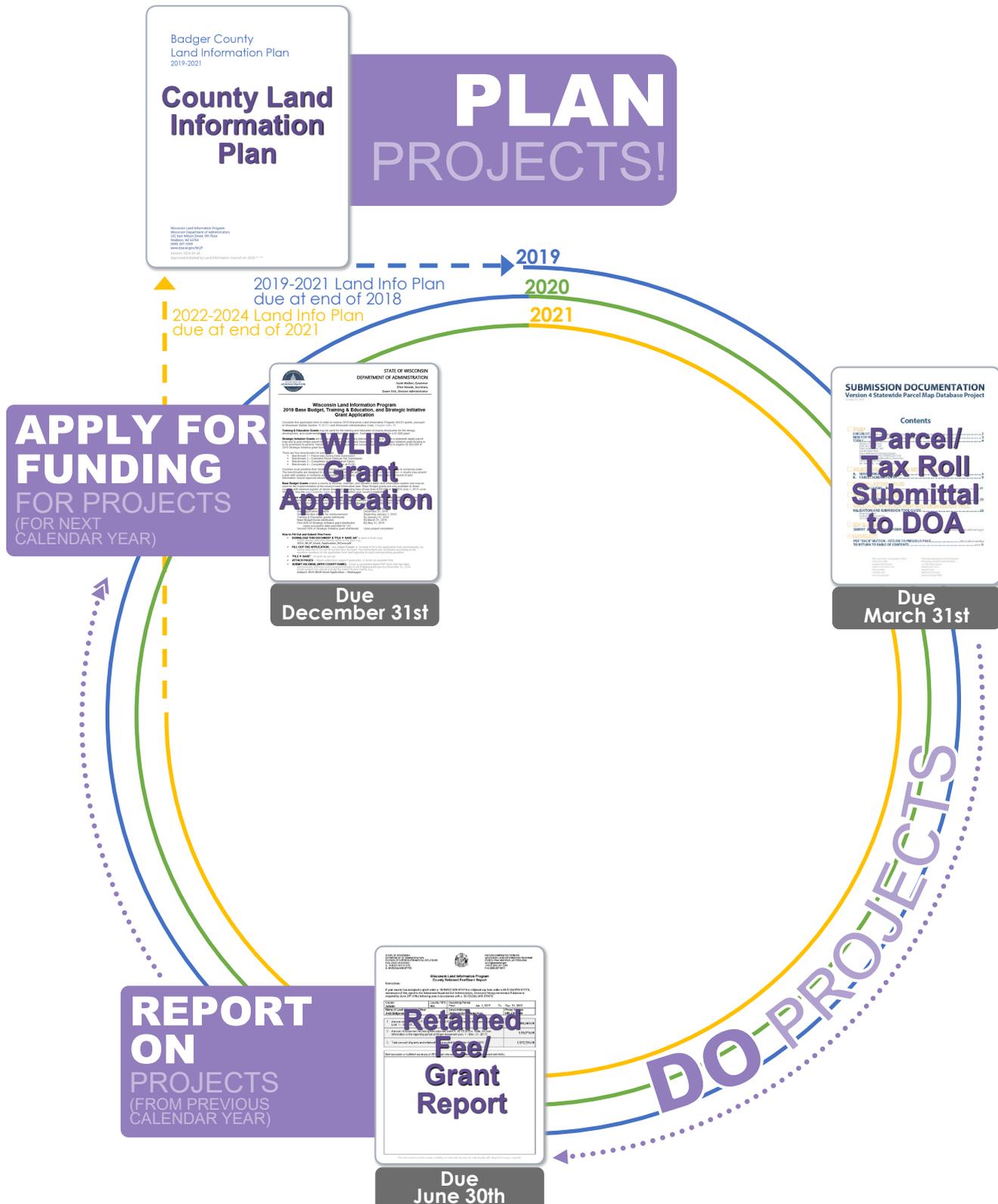


Figure 1. The WLIP Land Information Plan/Grant Project Cycle

## Project #1: Bridge and Culvert Survey

### Project Description/Goal

- To map the bridges and culverts in the county for use by Land and Water Conservation staff to better simulate land surfaces for watershed mapping
- **Land Info Spending Category:** LiDAR, Other: GIS Layers

### Business Drivers

- County lacks complete culverts and bridge dataset
- Dataset required for surface water modeling

### Objectives/Measure of Success

- The dataset is used to accurately model surface water flow

### Project Timeframes

Timeline – Project #1 Bridge and Culvert Survey		
Milestone	Duration	Date
Project start	–	May 1, 2019
Collect data using high accuracy GPS	3 months	May – August 2019
Congregate and build dataset	3 months	June 1–Sept 30, 2019
Project complete	–	Sept 30, 2019

### Responsible Parties

- Calumet County GIS Administrator and Land & Water Conservation Staff

### Estimated Budget Information

- See table at the end of this chapter.

## Project #2: PLSS Mapping, Monumentation, and Maintenance

### Project Description/Goal

- The Calumet County Land Information Office will continue to contract with our County Surveyor to maintain the County PLSS on a 20 year cycle.
- **Land Info Spending Category:** PLSS

### Business Drivers

- Nearly all land based operations in the County are based off of high accuracy PLSS
- PLSS mapping, maintenance, monumentation is necessary to maintain a survey grade PLSS

### Objectives/Measure of Success

- The PLSS continues the 20 year maintenance cycle
- Annual report submitted by the county surveyor
- Field monuments remain in place and undisturbed

### Project Timeframes

Timeline – Project #2 PLSS Mapping		
Milestone	Duration	Date
Project start	–	Ongoing
5% of PLSS Monuments maintained	All Year	Ongoing
Project complete	–	Perpetual

## Responsible Parties

- Calumet County Surveyor, Planning, Zoning, and Land Information Department

## Estimated Budget Information

- See table at the end of this chapter.

## Project #3: Website Update

### Project Description/Goal

- The goal of the project is to update and modernize the CalumetMaps website.
- **Land Info Spending Category:** Website Development/Hosting Services

### Business Drivers

- Provide reliable and easy portal for access to GIS data and information

### Objectives/Measure of Success

- Website is reliably available to the public

### Project Timeframes

Timeline – Project #3 Website Update		
Milestone	Duration	Date
Project start	–	August 2018
Website Converted to WordPress and updated	7 months	Aug 2018 – Feb 2019
Project complete	–	Feb 2019

## Responsible Parties

- Calumet County GIS Administrator

## Estimated Budget Information

- See table at the end of this chapter.

## Project #4: Staff Development and Training

### Project Description/Goal

- The Calumet County Land Information Office is always focused on continued staff development and training in order to keep up with emerging and changing technologies.
- **Land Info Spending Category:** Training and Education

### Business Drivers

- Improve public relations
- Improve interdepartmental coordination
- Keep up with changing technologies

### Objectives/Measure of Success

- Easy public access to high quality land records data and services

### Project Timeframes

Timeline – Project #3 Website Update		
Milestone	Duration	Date
Project start	Ongoing	Perpetual

## Responsible Parties

- Calumet County Planning, Zoning, and Land Information Office

## Estimated Budget Information

- See table at the end of this chapter.

## Project #5: Election Reporting System

### Project Description/Goal

- Calumet County will design and implement a GIS based system for election reporting that will modernize the current AS400 based system used by the County Clerk.
- **Land Info Spending Category:** Website Development/Hosting Services, Other: Voting

### Business Drivers

- Current system is outdated and the workflow needs to be streamlined.

### Objectives/Measure of Success

- The new system is SQL/GIS based
- Improved workflow, functionality, speed, and accuracy

### Project Timeframes

Timeline – Project #5 Election Reporting System		
Milestone	Duration	Date
Project start	–	July 2019
Development	8 months	July 2019 – Feb 2020
Test	1 month	Feb – March 2020
Project complete - Deployment	–	March 2020

## Responsible Parties

- Calumet County GIS Administrator
- Calumet County Information Technology Department
- Calumet County Clerk

## Estimated Budget Information

- See table at the end of this chapter.

## Project #6: GIS Hardware Update

### Project Description/Goal

- Update GIS Servers and Workstation
- **Land Info Spending Category:** Hardware

### Business Drivers

- Hardware ages and needs to be updated to keep up with changes in technology

### Objectives/Measure of Success

- New server and workstation installed and performing as expected

### Project Timeframes

- 2020+/- one year

## Responsible Parties

- Calumet County GIS Administrator
- Calumet County Information Technology Department

## Estimated Budget Information

- See table at the end of this chapter.

## Project #7: Re-Index and Publish Permit Records Online

### Project Description/Goal

- The Planning, Zoning, and Land Information Office will make all permit records available for consumption online.
- **Land Info Spending Category:** Other – public outreach and printing

### Business Drivers

- Increase public access to records
- Create more efficient workflow for zoning staff allowing the users to view documents on their own

### Objectives/Measure of Success

- Scanned Permit documents are available for users to consume through Ascent Land Records Portal

### Project Timeframes

Timeline – Project #7 Permit Records Online		
Milestone	Duration	Date
Project start	–	Spring 2019
Configure documents	3 months	Spring – Summer 2019
Work with Transcendent Technologies to get documents online	3 month	Summer – Fall 2019
Project complete - Deployment	–	Winter 2019

### Responsible Parties

- Transcendent Technologies - Contractor
- Calumet County Planning, Zoning, and Land Information Office

## Estimated Budget Information

- See table at the end of this chapter.

## Project #8: Orthophotography

### Project Description/Goal

- To acquire high resolution orthophotography via a statewide or regional consortium
- **Land Info Spending Category:** orthoimagery

### Business Drivers

- Zoning violations
- Data visualization
- Improved community understanding of county projects and initiatives
- Land use planning
- Changing landscape
- Natural resource management and protection
- Emergency management and response
- Updated building footprints

### Objectives/Measure of Success

- High resolution 4-band color orthophotography with ASPRS Class 1 accuracy or greater

### Project Timeframes

- Flight in spring 2021
- Delivery in winter 2021

## Responsible Parties

- Calumet County GIS Administrator and an outside contractor

## Estimated Budget Information

- See table at the end of this chapter.

## Project #9: Publish ROD Documents Online

### Project Description/Goal

- To get all of the documents prepared for publishing online for public consumption
- **Land Info Spending Category:** Software

### Business Drivers

- Register of Deeds documents need to be made available online
- Improved public service

### Objectives/Measure of Success

- ROD documents are available online

### Project Timeframes

- Redaction complete by summer 2020

### Responsible Parties

- Calumet County Register of Deeds

### Estimated Budget Information

- See table at the end of this chapter.

## Project #10: LiDAR Acquisition

### Project Description/Goal

- To acquire high accuracy LiDAR data.
- **Land Info Spending Category:** LiDAR

### Business Drivers

- Data visualization
- Improved community understanding of county projects and initiatives
- Land use planning
- Changing landscape
- Natural resource management and protection

### Objectives/Measure of Success

- High accuracy LiDAR capable of producing one foot contours or better

### Project Timeframes

- Flight spring of 2018
- Delivery in spring of 2019

### Responsible Parties

- Calumet County GIS Administrator
- Contractor

### Estimated Budget Information

- See table at the end of this chapter.

## Project #11: Database Schema Update to Local Government Data Model

### Project Description/Goal

- To convert GIS geodatabase schema design to the ESRI Local Government Information Model and parcel fabric
- **Land Info Spending Category:** Administrative Activities and Management

### Business Drivers

- Data structure standardization
- Improved integration with online resources
- Increased efficiency
- Improved integration with ArcGIS Pro software
- Improved parcel mapping

### Objectives/Measure of Success

- Data converted from internally created database schema to the standardized Local Government Information Model

### Project Timeframes

- Choose contractor spring 2020
- Delivery of finalized dataset estimated fall of 2020

### Responsible Parties

- Calumet County GIS Administrator
- Contractor

### 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
1) Bridge and Culvert Survey	Staff Time	500 hours at \$65/hour	Page 29	\$32,500
2) PLSS Mapping, Monumentation, and Maintenance	PLSS Maintenance	\$20,000	Page 29	\$20,000
3) Website Update	GIS Administrator	300 hours at \$65/hour	Page 30	\$19,500
4) Staff Development and Training	Training	\$3,000/year	Page 30	\$9,000
5) Election Reporting System	GIS Administrator	300 hours at \$65/hour	Page 31	\$19,500
6) GIS Hardware Update	Server	\$20,000	Page 31	\$25,000
	Workstation	\$5,000	Page 31	
7) Re-index and Publish Permit Records Online	Document indexing	\$7,500	Page 32	\$15,000
	Process and Make available online	\$7,500	Page 32	
8) Orthophotography	Acquisition of Orthophotography	\$40,000	Page 32	\$40,000
9) Publish ROD Documents Online	Redaction	\$50,000	Page 33	\$50,000
10) Lidar Acquisition	Acquisition of LiDAR	\$75,000	Page 33	\$75,000
11) Database Schema Update to Local Government Information Model	Database migration	\$14,000	Page 34	\$14,000
<b>GRAND TOTAL</b>				<b>\$319,500</b>

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

