

MILWAUKEE COUNTY LAND INFORMATION COUNCIL
June 2017 Council Meeting

AGENDA

Date: June 6th 2017
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD, Commission Room
260 W Seeboth St.
Milwaukee, WI. 53204

- I. Roll Call
- II. Minutes from the Council meeting held December 7th, 2016
- III. 2017 Land Information Office Workplan - Update
- IV. 2017 Land Information Office Budget – Update
- V. 2018 Budget and Organizational Request
- VI. **Reports\Activities**
 - 1. Report on 2016 SEWRPC Activities
 - 2. 2017 USGS Grant award for 2015 LiDAR Data - SEWRPC
 - 3. 2016 Retained Fees Report
 - 4. 2017 Strategic Grant Initiative.
 - 5. Submission of Version 3 of Statewide Parcel Initiative
 - 6. 2020 Census Update
- VII. **Date, time, and place of next meeting**
- VIII. **Adjournment**

MILWAUKEE COUNTY LAND INFORMATION COUNCIL
Second Council Meeting Minutes

AGENDA

Date: December 7th 2016
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD, Commission Room
260 W Seeboth St.
Milwaukee, WI 53204

Members Present

Rob Merry	Milwaukee County Surveyor
Emily Champagne	GIS Supervisor, Milwaukee Metropolitan Sewerage District
Nancy Olson, Chair	Chief Information Officer, City of Milwaukee
Mark Sifuentes	Engineer, Milwaukee County, on behalf of Greg High Vice-Chair
Dawn Neuy	Manager of EDAM Support, We Energies
Christine Westrich	Director, Office of Emergency Management
Jason Haas	Milwaukee County Supervisor
Kevin Bruhn	Manager - LIO, Milwaukee County DAS/ECD-LIO
Doug Seymour	Director of Communication Development, Oak Creek/ICC

Guest and Staff Present

LaCricia McSwain	Accountant, Milwaukee County DAS
Kathy Bach	GIS Analyst, Milwaukee County Register of Deeds
Nicole Grams	GIS Analyst, Milwaukee County LIO
Pamela Booth	GIS Project Leader, City of Milwaukee
Tammy Bronson	GIS Analyst, City of Milwaukee
Sarah Zarate	Fiscal Legislative Manager, City of Milwaukee

- I. Chair Olson called the second meeting of the Land Information Council (LIC) to order at 9:00 a.m. Roll Call was taken by circulating an attendance signature sheet.
- II. Minutes from the 1st Council meeting held June 7th, 2016 were approved without amendment
- III. 2017 Land Information Office Budget
2017 Land Information Office Budget was reviewed by LaCricia McSwain and Kevin Bruhn. Christine Westrich clarifies that tax level targets were given to all department heads, and her OEM budget looks very similar. Chairwoman Olson asked if we'll continue to keep a reserve as in previous practice. Bruhn answered that a reserve will continue as previously established.
- IV. 2017 Land Information Office Workplan
The proposed 2017 LIO Workplan was reviewed by Bruhn.
 - Chairwoman Olson requested an update on the GIS Training Program at the next council meeting (initiative #3)

- Westrich clarified the concept of “Next Generation 911,” which relies heavily on GIS (initiative #7). Doug Seymour requested the municipalities be updated on the cost to implement and operate new technology such as NG911, and Westrich assured that her office would keep communication open as they learn more. The actual technology for NG911 (sending video and texts to first responders) will not be available until 2018-2020 so it is necessary to figure out how to prepare the GIS aspect in advance.
- Emily Champagne asked if LiDAR derivatives will be included in the raster transformations to the new datum (initiative #9); answer is yes
- Chairwoman Olson requests a report with the findings from Parcel Fabric pilot (initiative #10) to clarify how changes and collaboration would work between technologies
- Bruhn added a 12th initiative pertaining to address validation for the 2018 state census.

V. Reports

A. 2016 Work Plan Status

1. Bruhn presented Report on Parcel Currency (DAT.03 – Improve Property Record Currency)
2. Bruhn presented report on Data Portal and Educational Outreach (MOL.04 – Implement Data Portal). Chairwoman Olson asked if non-spatial data would be included in Open Data Portal. Bruhn said the idea hadn’t been considered. Supervisor Jason Haas explained his personal interest in non-spatial open data, which has been historically difficult to implement due to county’s dependence on outdated mainframe. He is interested in crafting an Open Data Ordinance. Rob Merry asked if data could be charged for to offset the cost of infrastructure; Bruhn explained the cost to implement a charging mechanism would be greater than just making data open. Chairwoman Olson confirms it would be difficult and there is a big movement of governments toward open data; asked if there will be a one-stop shop for all county open data. Westrich adds that the biggest users of open data are often students and researchers and OEM is interested in sharing data as well.

B. Maintain Core Foundational Elements

1. Report on 2015 Regional Orthophotography Project was presented to provide closure on project completion
2. Report on 2015 Regional Elevation Data Project was presented to provide closure on project completion.
3. Report regarding progress on 2016 Planimetric Update Project was presented. Chairwoman Olson asked if the planimetric data was easier to work with now that it had been updated from linework; Bruhn confirmed it is.

VI. Old Business

1. Bruhn presented Review of the Horizontal Datum Update Project. Kathy Bach asked if Plats of Survey will be referenced to NAD27 or NAD83; Merry explained that needed to be decided how to manage; Champagne stated the datum update is of high importance to utilities applications and MMSD is making internal plan to reconcile.
2. Bruhn presented review of the 2017 Strategic Grant Initiative – no comments
3. Bruhn presented report on County Surveyor Services – no comments

4. Chairwoman Olson added the item of old business “City of Milwaukee Services.” Explained intent to inform Council that historically, the agreement for Milwaukee County to contract the City of Milwaukee for some data maintenance will not go forward and the county will maintain data on their own. Thus, the city will no longer meet county’s format requirements if not in best interest of the city. Bruhn explains there was an increased cost for services in the annual agreement that caused him to ask what is being produced versus paid for; the City CIO, County CIO, and County Economic Development director will produce a final agreement; none yet available. Westrich confirms that the county is taking a hard look at all contracts and assessing if costs are benefiting the entire county. Champagne asks if the Council is required to vote on the budget agreement? Chairwoman Olson answers that the Council is defined by the state’s resolution to be a body that reviews and approves only, not votes, but historically the December meeting was used to review and approve contracts. Asks for further discussion regarding data maintenance on next agenda.

VII. New Business

1. Bruhn presented report on Enterprise Asset Management. Bach asked if floorplan data will be public; Bruhn answered definitely not for House of Corrections and other secured assets that are not in our best interest to share.

VIII. Date, time, and place of next meeting:

March 7, 2017 at MMSD, 9:00 am. Champagne will check if downstairs conference room is again available. Save the date for summer meeting: June 6, 2017

IX. Adjournment

2017 Workplan	Initiative	Start Date	Completion date	Complete	Responsible	Budget	Source	Prior Workplan
1	Datum Modernization - Horizontal	1/1/2017	6/30/2017	0%	Contract With SEWRPC	\$63,000.00	2016-2017 Grant	MCAMLIS\LIO
	Update Attached	5/1/2017	12/31/2017	20%		\$33,396.00		
2	Data Currency - Cadastral Update	1/1/2017	6/1/2017	0%	LIO	\$0.00		MCAMLIS\LIO
	Complete - Report Attached			100%		\$0.00		
3	GIS Training Program	1/1/2017	12/31/2017	10%	LIO	\$5,000.00	Recording fees	MCAMLIS
	Update Attached					\$0.00		
4	Cityworks - Enterprise Asset Management	1/1/2017	6/30/2018	10%	LIO - IMSD - Facilities Management	\$145,000.00	County Capital	
	Update Attached			15%		\$101,416.00		
5	Project Reporting Software	1/1/2017	2/28/2017	0%	LIO	\$5,000.00	Recording fees	
	Postponed - Report Attached					\$0.00		
6	Migration to Cloud Based GIS - One Neck	3/1/2017	9/31/2017	0%	LIO - IMSD	\$20,000.00	Cross charge from IMSD	MCAMLIS
	Initiated 5/24/17					\$0.00		
7	Emergency Management- NG911	6/1/2017	12/31/2018	0%	LIO - Office Emergency Management	Unknown at this time	Unknown at this time	MCAMLIS - 2018
	No Update					\$0.00		
8	Orthophoto RFP	7/1/2017	12/31/2017	0%	LIO	\$150,000.00	Recording fees	MCAMLIS\LIO
	Quote is attached					\$137,286.00		
9	Data Transformation to New Datum - Rasters	8/1/2017	12/31/2017	0%	LIO	\$37,600.00	2016-2017 Grant	MCAMLIS\LIO
	Update Attached			30%		\$3,000.00		
10	Parcel Fabric Pilot	9/1/2017	3/31/2018	0%	LIO - Consultant	\$20,000.00	Recording fees	
	Tabled					\$0.00		
11	Implement Document Management System - Onbase	9/1/2017	6/31/2018	0%	LIO- IMSD	\$5,000.00	Cross charge from IMSD	MCAMLIS
	No Update					\$0.00		
12	Sanborn Fire Map (1910) - Georectification	5/1/2017	12/31/2017	25%	LIO	\$12,000.00	Recording fees	
	Update Attached			50%		\$1,500.00		
						\$462,600.00		

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607 •

TELEPHONE (262) 547-6721
FAX (262) 547-1103

Serving the Counties of:

KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



MEMORANDUM

TO: Mr. Kevin W. Bruhn
GIS Manager-Land Information Officer

FROM: Robert W. Merry, PLS
Milwaukee County Surveyor

DATE: May 31, 2017

SUBJECT: **NAD 83 (2011) HORIZONTAL DATUM CONVERSION STATUS REPORT**

BACKGROUND

Since early 1964, the Regional Planning Commission has recommended to the governmental agencies operating with Southeastern Wisconsin Region the use of a unique system of survey control as a basis for the compilation of large-scale topographic and cadastral maps; as a basis for the conduct of land and engineering surveys; and, since 1985, as a basis for the development of automated, parcel-based, land information and public works management systems within the Region. The recommended survey control system requires the remonumentation of the U.S. Public Land Survey System (USPLSS) corners within the Region and the establishment of State Plane Coordinates for those corners. The system also includes the establishment of elevations for the monumented corners and for related auxiliary bench marks to provide reliable vertical control survey control network fully integrated with the horizontal network.

Through the cooperative efforts of the Commission and its constituent counties and municipalities, the recommended survey control system has been extended over the entire seven-county Region. All of the 11,985 USPLSS corners within the Region has been remonumented, and the coordinate positions, and elevations of the remonumented corners have been determined to a high level of accuracy. The resulting survey control network has been widely used for over 50 years in the preparation of large-scale topographic and cadastral maps, in the conduct of land and engineering surveys, and in the creation of parcel-based land information and public works management systems within the Region.

All of the coordinate positions of the remonumented stations of the survey control network within the Region have been referenced to the North American Datum of 1927 (NAD 27). The elevation of the remonumented stations and certain ancillary bench marks have been referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29), a datum formerly known as the Sea Level Datum of 1929.

The Federal government in 1970's determined to undertake a readjustment of the national horizontal and vertical survey control networks, and adopt new datums now known as the North American Datum of 1983 (NAD 83) for the horizontal and the North American Vertical Datum of 1988 (NAVD 88) for the vertical.

REEVALUATION OF REGIONAL SURVEY CONTROL NETWORK

The Commission has long maintained the adoption and use of the new Federal datums within the Region do not provide any significant technical advantages over the continued use of the legacy datums. Nevertheless, in response to concerns raised about the continued use of the legacy datums within the Region, the Commission in 2012 prepared SEWRPC Memorandum Report No. 206 entitled “Estimate of the Costs of Converting the Foundational Elements of the Land Information and Public Works Management Systems in Southeastern Wisconsin from Legacy to New Datums”. Given the high estimated cost of the envisioned conversion, the report recommended the continued use of the legacy datums within the Region. Despite this recommendation, a continued desire to pursue a datum conversion within the Region and a reevaluation was requested. The Commission in 2015 undertook this reevaluation of the findings and recommendations presented in the 2012 report. The findings of the reevaluation are set forth in an Addendum to Memorandum Report No. 206 entitled “Revised Estimate of Costs of Converting the Foundational Elements of the Land Information and Public Works Management Systems in Southeastern Wisconsin from Legacy to New Datums.”

PROCEDURES FOR DATUM CONVERSION

Significant changes in surveying technology occurred after publication of SEWRPC Memorandum Report No. 206. The changes warranted reconsideration of the procedure originally proposed for the datum conversion in that report. The new technology eliminated the need to rely upon static GPS observations and having to set up attendant base stations and now utilizes the Wisconsin Department of Transportation Continuously Operating Reference Stations (CORS) network coupled with the Virtual Reference Station (VRS) technology.

More importantly, the Commission staff developed a unique procedure for the horizontal datum conversion which minimized the number of control survey stations that had to be occupied by a roving GPS receiver to accomplish the desired conversion work. This procedure combines GPS field observations on a carefully selected minimum number of USPLSS corners within a given subarea within Milwaukee County. The procedure uses these legacy measurements data to compute the coordinate positions of the remaining unoccupied stations in the subarea. This procedure is more fully described in Appendix C of the Addendum to Memorandum Report No. 206.

REVISED COMMISSION RECOMMENDATION

The results of the work accomplished in preparing the Addendum to Memorandum Report No. 206 resulted in a change in the long-standing recommendation of the Commission to continue the use of the legacy surveys datums within the Region. The conversion using the procedure developed by the Commission would have one very important, although still intangible, benefit namely, this conversion would retain the legacy lengths of the quarter-section lines, thus preserving the integrity of the legacy horizontal control survey network within the County. This benefit may be considered sufficient to warrant the relatively modest cost of the horizontal data conversion.

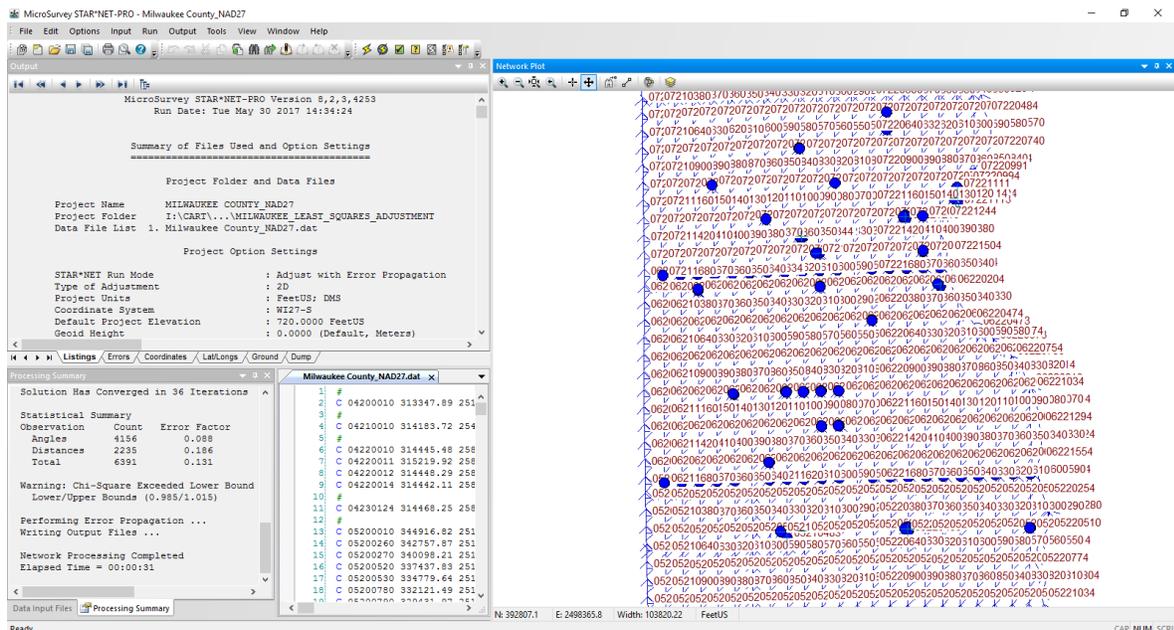
COUNTY ACTION

In a series of informal meetings held during the course of calendar year 2016, the seven county land information managers, unanimously agreed to proceed on a county-by-county basis with the conversion of the legacy horizontal datum in use within the Region to the new Federal Datum (NAD83/2011). Accordingly, on January 19, 2017, Milwaukee County entered into an agreement with the Commission under which the Commission would convert the State Plane Coordinate positions of all 1,065 USPLSS corners within the County from the legacy datum – NAD 27 – to the new Federal datum – NAD 83 (2011). The Conversion is to be accomplished by the procedures set forth in Appendix C of the Addendum to SEWRPC Memorandum Report No. 206. The deliverables once completed under this agreement are to include, in addition to the new coordinate positions of the USPLSS corners, revised control stations record sheets – commonly known as dossier sheets – for each corner, and new control survey summary diagrams, each diagram covering six USPLSS sections, and a report that documents the work accomplished and products created under this agreement.

HORIZONTAL CONVERSION STATUS UPDATE

The horizontal conversion is currently in progress and the conversion has three critical steps in the completion of the conversion and further detailed in Appendix C of the Addendum to Memorandum Report No. 206. The critical steps are as follows: 1) Input of Legacy Measurements; 2) GPS observations (control and QA/QC random sampling); and 3) Final results and data publishing.

Input of the legacy measurement procedure for the datum conversion envisions utilizing the legacy lengths of the one-quarter section lines and the interior angles of the one-quarter sections. The initial step in the computation process involves a least squares adjustment of the recorded legacy data to identify any errors or blunders that may exist in the legacy data. Currently, the input of the legacy measurements was just recently completed on May 24, 2017. This adjustment found a small number of relatively minor errors in the existing network together with a very small number of blunders involving issues such as transposition of integers that were corrected. The network at this time is ready for the next phase of the conversion process. Below is a screen capture of the network adjustment results from the legacy input measurements:



The next step is the GPS observations. Following the procedure set forth in Appendix C, approximately 10% or about 110 remonumented USPLSS corners are scheduled to be occupied for GPS measurements.

The equipment that is planned to be used in the field work includes a Trimble R-8 Global Positioning System (GPS) receiver, coupled with a Trimble TSC2 data collector. During each observation, the GPS receiver will connect to the CORS network created by the Wisconsin Department of Transportation within and adjacent to Milwaukee County by ordinary cellular telephones. This combination of equipment is capable of exceeding National Geodetic Survey (NGS) Third Order, Class I network accuracy, equivalent to an accuracy of 1 part in 10,000 for all lengths of the one-quarter section lines.

This step is planned to commence the week of May 29, 2017 and it is expected that all GPS observations should be completed by the end of June. This would include both the GPS observations used as control along with the GPS observations that will be used to verify accuracy of the horizontal adjustment (an additional 10% of USPLSS corners).

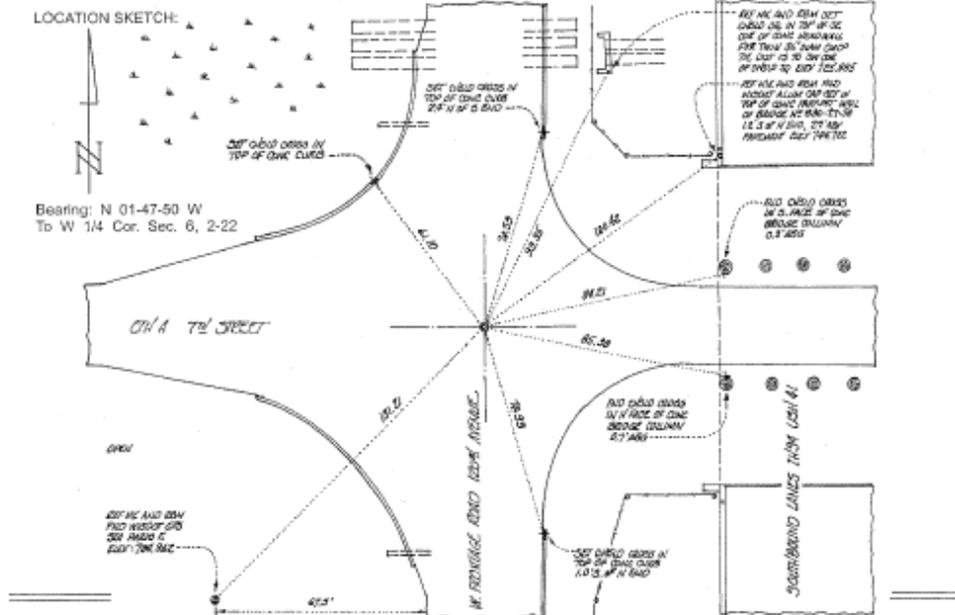
The last step is the final results (final least squares adjustment) and data publishing. Once the GPS observations have been completed, the final step is to incorporate the new positional data with the legacy input measurements into a least square adjustment. To ensure a successful campaign, an effective weighting strategy is in order for this final least squares adjustment. This effective strategy will allow displacement of the differences (measurement residuals) found between measurement types, and account for the numerous possible measurement paths between unconstrained USPLSS corners. Tolerance and weights could change once the network designed supporting Milwaukee County. However, the strategy employed by both Kenosha and Racine counties assigned an instrument accuracy standard for ground distances at 0.03 feet and an interior angles at 5 arc seconds. This has proven to be a very effective strategy allowing the distances to be maintained while the angles being able to move sufficiently due to the conventional traversing techniques between control surveys that supported the USPLSS corners.

A final quality check of the least squares adjustment results will be to independently check on the accuracy of the computed survey control station coordinates. An approximately 10% (or more) random sample of the stations – USPLS corners – within Milwaukee County for which the corners were computed from the least squares adjustment will be also GPS observed. The monuments marking the USPLSS corners comprising the sample will be recovered and occupied with GPS instrumentation to obtain independently measured coordinate values for the corners. The coordinate positions are then compared with the computed positions from the final least squares adjustment. If a USPLSS corner is found to be greater than 0.3 feet from the GPS observed value, the corner and network would not meet the desired network accuracy and an investigation will ensue. An evaluation would be to determine if this corner is isolated which would require an investigation on the monument location whereas if a series of corners are found in error would indicate a discrepancies attributed to errors or blunders made in the conduct of the precise traverses used to determine the legacy positions of the stations concerned. If the latter would occur, additional GPS observations would be required along with separate least squares adjustments to adjust these errant stations along with the revision of the six section control summary diagrams on the legacy datum given the changes to the legacy control network.

If all random sampling corners are under 0.3 feet the network is considered complete and final publishing of the data will follow. The Commission has prepared and maintains a document known as “Record of U.S. Public Land Survey Control Station” for each of the more than 11,000 control survey stations – USPLSS corners within, and in a few cases, adjacent to the Region. This documents are commonly referred to as “dossier” sheets. As a control survey station is converted from the legacy to the new datums, a new dossier sheet will be provided. A revised format will be consistent with the dossier sheet shown below. The new format provides the display of dual horizontal positions and vertical heights of the station.

The expected timeline to complete all phases and close out this horizontal conversion from NAD 27 to NAD 83 (2011) to be late summer or early fall of this year.

RECORD OF U.S. PUBLIC LAND SURVEY CONTROL STATION	
U.S. PUBLIC LAND SURVEY CORNER $\frac{16}{127}$	T 02 N, R 21 E, KENOSHA COUNTY, WISCONSIN
HORIZONTAL: NORTH AMERICAN DATUM OF 1927	HORIZONTAL: NORTH AMERICAN DATUM OF 1983/2011
VERTICAL: NATIONAL GEODETIC VERTICAL DATUM OF 1929	VERTICAL: NORTH AMERICAN VERTICAL DATUM OF 1988 (12)
HOR. CONTROL: AERO-METRIC ENGINEERING, INC. 1980	HOR. CONTROL: SEWRPC 2017
VERT. CONTROL: SEWRPC 2011	VERT. CONTROL:
NORTHING: 245,448.19 USFT	NORTHING: 245,459.31 USFT
EASTING: 2,550,596.65 USFT	EASTING: 2,519,061.05 USFT
ELEVATION: 726.597 FT	ELEVATION: FT
HOR. ACCURACY: 3rd ORDER, CLASS I	HOR. ACCURACY: 3rd ORDER, CLASS I (COMPUTED)
VERT. ACCURACY: 2nd ORDER, CLASS II	VERT. ACCURACY:
RBM ELEV. IN SKETCH BELOW TIED TO NGVD29 DATUM. CONVERSION FROM NGVD29 FT DERIVES NAVD88 HEIGHT	



SURVEYOR'S AFFIDAVIT:
STATE OF WISCONSIN)
KENOSHA COUNTY) SS

As Kenosha County Surveyor, I hereby certify that following IH 94 west frontage road reconstruction, I set a concrete monument with SEWRPC brass cap to mark the location of this corner; replacing a broken concrete monument with stem of aluminum cap still in place; said concrete monument with Wisconsin Department of Transportation aluminum cap having been found and referenced by me on September 18, 1984; said concrete monument having been set to mark the location of this corner in November 1983 by James T. Felzer, S-1028, Wisconsin Department of Transportation District Survey Supervisor, following frontage road reconstruction; replacing a concrete monument with Kenosha County brass cap set to mark the location of this corner in September 1974 by William A. Marescalco, S-826, former Kenosha County Surveyor, using information obtained from the Wisconsin Department of Transportation to perpetuate the location of this corner; that I have referenced the same as shown herein; and that this record is correct and complete to the best of my knowledge and belief.

DATE OF SURVEY: 10 OCTOBER 2011

Kurt W. Bauer
REGISTERED LAND SURVEYOR



FORM PREPARED BY SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

FORM PREPARED BY SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC)
CERTIFICATION APPLIES ONLY TO THE LOCATION SKETCH AND SURVEYOR AFFIDAVIT

02210270

27 -

* * *



**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: June 5, 2017
SUBJECT: Property Record Currency

BACKGROUND

This task will improve the processes that collect, process, and publish property record data. The result will be access to more current property ownership records and associated parcel data. The initiative would include communicating the details of the information by posting the currency of the property record information to the Land Information Office website.

ACTIVITIES THIS PERIOD: 12/16-6/17

The LIO has developed an automated process that utilizes two data sources to update the parcel ownership information. One source is from Fidlar, Fidlar is a vendor that provides a land records document storage and retrieval platform used by Register of Deeds staff. The other is from the Wisconsin Department of Revenue. The State of Wisconsin's Department of Revenue (DOR) compiles deed-related data from real estate transfer returns (RETR) that are filed when deeds are recorded. Any ownership change that has a dependency i.e. transferred upon death, is not updated. The first published update utilizing this new process was completed on May 19th. The LIO will update the ownership information on the same quarterly cycle as the cadastral update.

What is 'Fidlar'?

Fidlar is a vendor that provides a land records document storage and retrieval platform used by Register of Deeds staff.

Why is Fidlar's document data useful to MCLIO?

- In addition to providing a means for accessing documents, Fidlar compiles data from documents, such as the names and addresses of grantors and grantees shown on recorded deeds.

- Changes in grantor and grantee information provide a way to track property ownership changes that should be reflected in the property information maintained by the MCLIO.
- Fidlar deed-related data provides a single source of continuously-updated ownership information that covers all Milwaukee County municipalities.
- Previously, the only source of ownership information for all municipalities (excluding Milwaukee) that was available to the MCLIO was updated just once per year.

How does MCLIO use Fidar's document data?

- Fidar provides a data access mechanism that is used as part of a fully-automated data integration task that loads document data into the MCLIO property information database.
- Once loaded into the MCLIO property information database, Fidar's deed data supports processes that compare ownership information already in the database with Fidar data and updates parcel-related records where ownership information has changed since the last update.
- These ownership-related updates are integrated into the comprehensive countywide property information data that the MCLIO currently compiles on a quarterly basis.

What is WI DOR RETR data?

The State of Wisconsin's Department of Revenue (DOR) compiles deed-related data from real estate transfer returns (RETR) that are filed when deeds are recorded.

Why is WI DOR RETR data useful to MCLIO?

- RETR data includes the names and addresses of grantors and grantees.
- Changes in grantor and grantee information provide a way to track property ownership changes that should be reflected in the property information maintained by the MCLIO.
- In addition to Fidar-source data, RETR data provides another source of ownership data that can be integrated into, and compared with what is currently maintained in, the MCLIO property information database.

How does MCLIO use WI DOR RETR data?

- The WI DOR compiles RETR data monthly into a dataset that is downloaded as part of a fully-automated task that integrates RETR data into the MCLIO property information database.
- Once loaded into MCLIO's database, RETR data supports processes that compare Fidler ownership information, along with data already in MCLIO's database, and updates parcel-related records where ownership information has changed since the last update.
- These ownership-related updates are integrated into the comprehensive countywide property information data that the MCLIO currently compiles on a quarterly basis.

NEXT

The LIO will publish quarterly ownership updates with the cadastral updates.

* * * * *



**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: June 5, 2017

SUBJECT: Cadastral Mapping Maintenance

BACKGROUND

The cadastral update project improves the LIO to collect, process, and publish property record data. The result will allow easier access to more current property ownership records and associated parcel data. As of January 1st 2017, the LIO is maintaining a complete set of cadastral data within Milwaukee County.

ACTIVITIES THIS PERIOD: 12/16 – 6/17

The LIO utilizes the combination and division, comdiv, data published from the cadastral data for the City of Milwaukee. A comdiv is an ID that the City of Milwaukee Assessor's Office uses to track cadastral changes (**com**binations and **div**isions) that result in new and retired tax parcels. Comdiv information drives MCLIO's City of Milwaukee cadastral maintenance and quality control workflows via processes that identify new and old taxkeys, tax roll descriptions, and related information (CSMs, document numbers, addresses, etc.). The LIO has developed a fully automated workflow and process that will alert the LIO that a change has occurred. The deed information and historical data is then researched at the Register of Deeds to make the needed updates and changes. The first quarter of 2017 was published on May 19th. The next quarterly update will occur mid-August.

NEXT

- Publish the quarterly cadastral and property ownership information.
- Continue to populate the Certified Survey Maps and Plats with document numbers for online document retrieval.
- Verification on right-of-ways, easements, and County property lines for accuracy.
- Prepare scope of work and effort to add and adjust cartographic and historical parcel data i.e. tie lines and original subdivision plat information.
- Prepare scope of work and effort that is needed to clean up the annotation for 100 and 200 scale for the plat page mapping series.



**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: June 5, 2017

SUBJECT: Educational Outreach

BACKGROUND

The Land Information Office's 2017 Workplan includes an initiative meant to address the growing need for quick answers to questions such as 'What is GIS?' and 'What data is available?' in the form of a GIS Training Program.

HR assisted with an introductory training session utilizing the County's new Learning Management System, LMS. This session is directed around the GIS interactive website. The direct intent of the "GIS Training Program" is to help educate Milwaukee County employees as to how to utilize the resources of the Land Information Office, but the training is also intended to be public-facing and in support of the coordinating role described in Wis. Statute 59.72 (3)(a).

ACTIVITIES THIS PERIOD: 12/16 – 6/17

- A new interactive map tutorial "How to Find Your County Supervisor" was added to the Resources page on the LIO website
- EagleView/Pictometry rep Brandon Tourtelotte and LIO Staff hosted two Connect Online training sessions on Thursday, March 23 at the Milwaukee County Courthouse; one was 'public safety' focused and attended by analysts from the District Attorney's office, Milwaukee Police Department, and Milwaukee County Emergency Management.

NEXT

- Host an MMGUG meeting focused on upcoming major changes to web services and the datum change.



**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: June 5, 2017

SUBJECT: Enterprise Asset Management

BACKGROUND

Cityworks was selected as the enterprise work order and asset management system for Milwaukee County. The goal is to replace existing work order systems with an enterprise wide solution. This will allow Milwaukee County the ability to manage capital assets by minimizing the total cost of owning, operating, and maintaining those assets at acceptable levels of service. It will also provide greater clarity, ease of management and the ability to perform intelligent and cost effective inspections, condition assessments, and reporting which may greatly assist in the capital planning process. As we are implementing this solution across the county, it will provide us with the opportunity to review current asset management and work order tracking processes and compare to industry best practices with the goal of simplifying and aligning with best practices where possible.

Cityworks has been installed within the Airport Division of the Milwaukee County Department of Transportation (MCDOT) since 2011 and is currently being implemented for the MCDOT Highway Maintenance Division. The hardware and software installation for MCDOT will provide the starting technical foundation for the Enterprise Program. The Enterprise Cityworks Project launched in August 2015 and is planning implementation for Zoo, Parks, House of Correction, Facilities, Fleet, Transit, and Economic Development by early 2018.

ACTIVITIES THIS PERIOD: 12/16 – 6/17

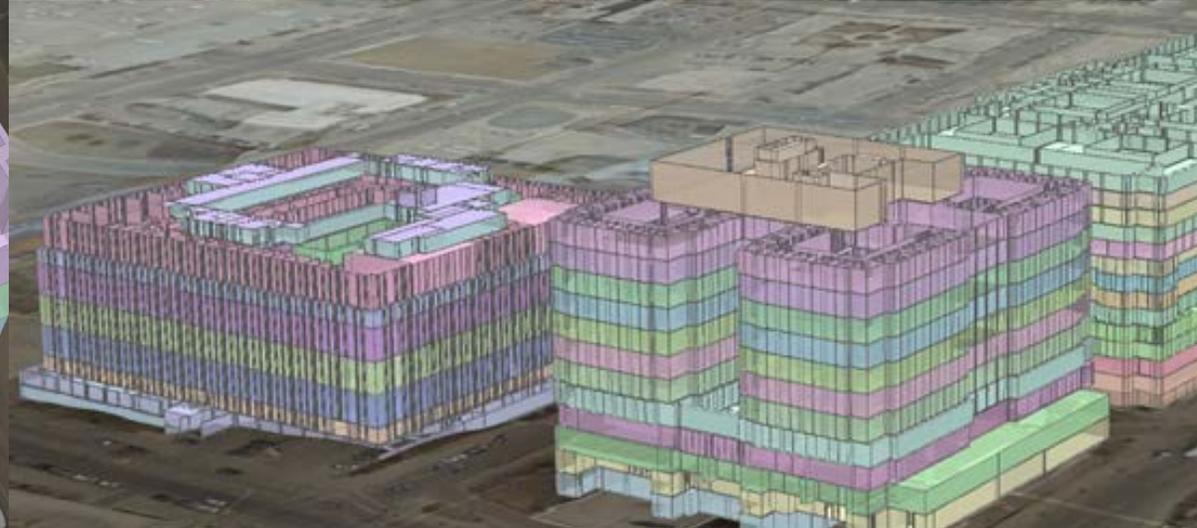
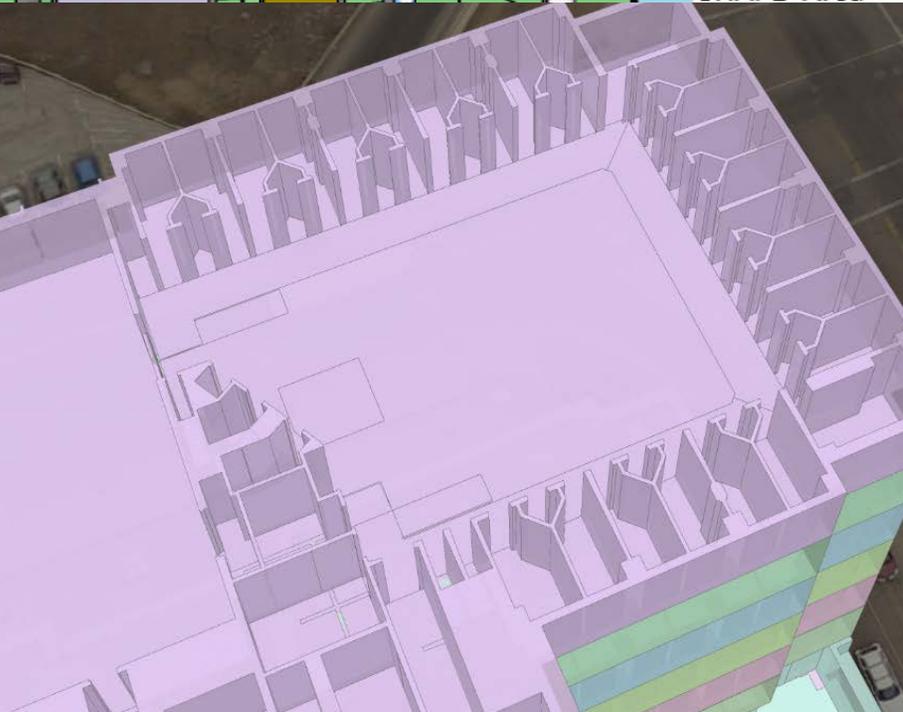
- Mapped over 500 Buildings from CADs, PDFs, aerials; including all floors, basements, roofs, rooms, doors, and windows
- Created standardized enterprise data schema for facilities-based assets
- Built equipment collector app for mobile spatial equipment collection, for Plumbing, HVAC, Electrical, Fire Systems, Grounds, and Security
- Implemented equipment collection at FMD, Zoo, HOC
- Piloted underground utilities mapping

Attached:

Example of GIS data development and the service request website
Brown Deer Park Utility Pilot Map



OBJECTID	3317
Space Identifier	1067972
Department	Administrative Services
Building	Courthouse
FloorID	1
Space Name	103-A
Description	Auditorium
Space Type	Room
Last Update	4/18/2016
Last Editor	Julian Davids
Space Category	Auditorium
Division	Jury Management
Notes	Limited Access
Access Type	Public
Capacity	85
Occupancy	0
Status	Closed for Repair
Organization	Jury Management
Floor Section ID	CH-1-SW
SHAPE_Length	221.547082
SHAPE_Area	1473.325419





[Home](#) [New](#) [Check Status](#)

Welcome MKE\LAURA.BAHR [Log off](#)

Site:

Select Site

Building:

Select Building

Floor:

Select Floor

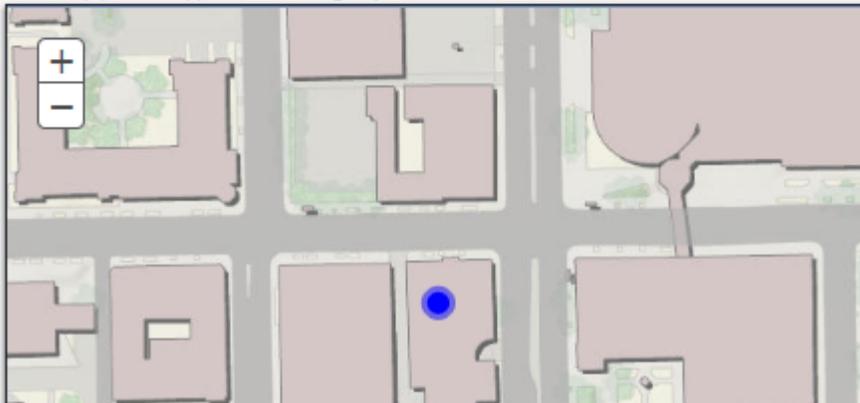
Room:

Select Room

Additional Site Details:

633 W WISCONSIN AVE

Zoom in(+) and out(-), click and drag to pan, click to select location.



By selecting the site, building, and floor, and room from the pull-downs, the user can create a work order for a specific location or specific piece of equipment.

Brown Deer Park Utilities



- Legend**
- Light
 - Sprinkler
 - Outfall
 - Catchbasin
 - Sanitary Manhole
 - Storm Manhole
 - Sanitary Line
 - Storm Lines
 - Gas Line
 - Communication Line
 - Electrical Line
 - Water Line
 - Drainage Line





**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: June 5, 2017

SUBJECT: Project Management Software

BACKGROUND

This effort is to identify a project management reporting software to manage the Land Information Council meeting materials. The LIC is in need for a more efficient and effective way to communicate and distribute materials. The current process is to rewrite the materials for each meeting. This loses the historical information due to the size of the information packet each meeting. The ideal solution will make the initiatives easy to understand and the overall information packet easy to navigate through.

ACTIVITIES THIS PERIOD: 12/16 – 6/17

- Completed two demos with company Bloomfire for knowledge management system software of the same name. LIO staff concurred it was too similar to social media and not an appropriate fit for the LIC group.
- Completed one demo with the company M Files for a document management system of the same name. LIO staff concurred that the cost seemed prohibitive for the relatively small number of users and documents.

NEXT

- Continue to search for a knowledge\project management solution that would be a suitable fit for the LIO\LIC

**AMENDMENT TO LICENSE AGREEMENT DATED MARCH 26, 2010 AND
PRIME CONSULTANT AGREEMENT DATED APRIL 22, 2010 BETWEEN
PICTOMETRY INTERNATIONAL CORP. ("PICTOMETRY") AND
MILWAUKEE COUNTY, WI ("CUSTOMER")**

1. This Amendment, including all Sections and Appendices referenced herein (collectively, this "Amendment") is entered into by and between Pictometry and Customer and supplements and modifies the terms of the License Agreement dated March 26, 2010 and the Prime Consultant Agreement dated April 22, 2010 as, to the extent applicable, previously modified by addenda or amendments thereto (collectively, the "Agreement"). Any purchase order or similar document issued by Customer in connection with this Amendment is issued solely for Customer's internal administrative purposes and the terms and conditions set forth on such purchase order shall be of no force or effect as between the parties. To the extent that there is any inconsistency between the terms set forth in this Amendment and those set forth in the Agreement, the terms set forth in this Amendment shall prevail.

Section A: Product Descriptions, Prices and Payment Terms

Section B: AccuPlus License Terms:

- Pictometry Delivered Content Terms and Conditions of Use

Appendix 1: Photogrammetric Product Specifications

Appendix 2: Map

Appendix 3: Pictometry Quality Control Program

2. MODIFICATIONS TO AGREEMENT:

Additional Fourth Image Capture

a. The initial term of the Agreement is hereby extended for an additional one-year period and the Agreement is hereby modified to add the Fourth Image Capture, as defined herein, including the products, corresponding pricing, payment obligations, and product parameters, set forth in Section A attached to this Amendment.

b. The following shall apply to the Fourth Image Capture:

i. AccuPlus License Terms: The Pictometry Delivered Content Terms and Conditions of Use set forth in Section B attached to this Amendment is hereby added to the Agreement and shall govern use of the AccuPlus products set forth in Section A attached to this Amendment.

ii. Connect Products License Terms: All use of the Connect products set forth in Section A attached to this Amendment shall be in accordance with the Online Services General Terms and Conditions, the Web Visualization Offering Terms and Conditions, and the Software License Agreement entered into between Pictometry and Customer on December 21, 2016.

iii. Product Specifications: If there is a variance between the Photogrammetric Product Specifications set forth in Appendix 1 attached to this Amendment and those set forth in Pictometry's response to "RFP for 2015 Regional Orthophotography Project" dated April 25, 2014 and prepared for the Southeastern Wisconsin Regional Planning Commission, the latter shall be controlling, unless otherwise provided for in writing.

iv. Map: The map set forth in Appendix 2 attached to this Amendment is hereby added to the Agreement.

v. Quality Control Program: The Fourth Image Capture shall be subject to the Pictometry Quality Control Program set forth in Appendix 3 attached to this Amendment and hereby added to the Agreement.

vi. Area-wide Ortho Mosaic Tile Format: The AccuPlus deliverables set forth in Section A attached to this Amendment shall include area-wide ortho mosaic tiles in both ECW and MrSID formats.

vii. Notice to Proceed: This Amendment shall be deemed Customer's notice to Pictometry to proceed with the Fourth Image Capture and, notwithstanding anything in the Agreement to the contrary, any rights that Customer may have to terminate the Agreement are hereby null and void.

Except as expressly modified by this Amendment, all other terms and conditions set forth in the Agreement shall remain in full force and effect.

3. All notices under the Agreement shall be in writing and shall be sent to the following respective addresses:

CUSTOMER NOTICE ADDRESS	PICTOMETRY NOTICE ADDRESS
633 W. Wisconsin Suite 903	25 Methodist Hill Drive
Milwaukee, WI 53203	Rochester, NY 14623
Attn: Kevin Bruhn, Land Information Officer	Attn: Contract Administration
Phone: (414) 278-3927 Fax:	Phone: (585) 486-0093 Fax: (585) 486-0098

Either party may change their respective notice address by giving written notice of such change to the other party at the other party's then-current notice address. Notices shall be given by any of the following methods: personal delivery; reputable express courier providing written receipt; or postage-paid certified or registered United States mail, return receipt requested. Notice shall be deemed given when actually received or when delivery is refused.

This Amendment shall become effective upon execution by duly authorized officers of Customer and Pictometry and receipt by Pictometry of such fully executed document.

PARTIES:

CUSTOMER	PICTOMETRY
MILWAUKEE COUNTY, WI	PICTOMETRY INTERNATIONAL CORP.
(entity type)	a Delaware corporation
SIGNATURE:	SIGNATURE:
NAME:	NAME:
TITLE:	TITLE:
DATE:	EXECUTION DATE:
	DATE OF RECEIPT (EFFECTIVE DATE):

SECTION A

PRODUCT DESCRIPTIONS, PRICES AND PAYMENT TERMS

Pictometry International Corp.
25 Methodist Hill Drive
Rochester, NY 14623

ORDER #
C1088982

BILL TO
Milwaukee County, WI
Kevin Bruhn, Land Information Officer
633 W. Wisconsin Suite 903
Milwaukee, WI 53203
(414) 278-3927
kevin.bruhn@milwaukeecountywi.gov

SHIP TO
Milwaukee County, WI
Kevin Bruhn, Land Information Officer
633 W. Wisconsin Suite 903
Milwaukee, WI 53203
(414) 278-3927
kevin.bruhn@milwaukeecountywi.gov

CUSTOMER ID	SALES REP
A116717	DLars

FOURTH IMAGE CAPTURE

QTY	PRODUCT NAME	PRODUCT DESCRIPTION	LIST PRICE	DISCOUNT PRICE (%)	AMOUNT
261	AccuPLUS 3in - Per Sector - Custom Area	Product includes 3-inch GSD AccuPlus ortho mosaic tiles (GeoTIFF format), 3-inch GSD oblique frame images (4-way), 3-inch GSD orthogonal frame images, 3-inch GSD area-wide ortho mosaic (ECW format), 1-meter GSD ortho mosaic sector tiles and one area-wide 1-meter GSD mosaic (ECW format). Orthogonal GSD 0.25 feet/pixel, Nominal Oblique GSD (all values +/-10%): Front Line 0.24 feet/pixel, Middle Line 0.28 feet/pixel, Back Line 0.34 feet/pixel. Ortho-mosaic accuracy: 0.75 ft RMSE (X or Y), 1.84 ft NSSDA 95%, meets or exceeds ASPRS Class 1 (1990) at 1"=100', NMAS Class 1 at 1"=50'. Refer to attached terms and conditions.	\$526.00		\$137,286.00
1	AccuPlus Imagery Bundle with One (1) Year of EFS Maintenance & Support	Includes digital copy of the Licensed Documentation for the License Software, two (2) End User Training Sessions, one (1) Advanced User Technical Training, one (1) Administration / IT Training Session, five (5) hours of telephone support, one copy of Pictometry Electronic Field Study (EFS) software, latest version, on the storage media specified herein, and access to download updated versions of the EFS Licensed Software for a period of one year from the initial date of shipment of the EFS software, along with a copy of the updated documentation	\$0.00		\$0.00
1	Pictometry Connect - CA - 100	Pictometry Connect - CA - 100 (Custom Access) provides up to 100 concurrent authorized users the ability to login and access the Pictometry-hosted custom imagery libraries specified elsewhere in this Agreement via a web-based, server-based or desktop integration. The default deployment is through web-based Pictometry Connect. Term commences on date of activation. License Term: 1 Year	\$3,300.00	\$0.00 (100%)	\$0.00
1	Pictometry Connect View - CA	Pictometry Connect View - CA (Custom Access) provides visualization-only access to the Pictometry-hosted custom imagery libraries specified elsewhere in this Agreement via a web application or server based integration. Requires a customer-provided web application or server based application. With respect to imagery available through this product to third parties or the Public, Pictometry reserves the right to reduce the resolution of the imagery available. Term commences on date of activation.	\$750.00	\$0.00 (100%)	\$0.00
1	Media Drive Capacity 931G - Drive Model 1T - EXTPOWER	External USB 2.0 / eSATA Externally Powered. Delivery media prices include copying a complete image library onto media. Sub-warehousing sold separately.	\$199.00	\$0.00 (100%)	\$0.00

QTY	PRODUCT NAME	PRODUCT DESCRIPTION	LIST PRICE	DISCOUNT PRICE (%)	AMOUNT
1	RapidAccess - Disaster Response Program	RapidAccess - Disaster Response Program is an emergency response program offering flights after an emergency or disaster. Refer to the attached detailed description of the Disaster Response Program.	\$0.00		\$0.00

Thank you for choosing Pictometry as your service provider.	TOTAL	\$137,286.00
---	--------------	---------------------

¹Amount per product = ((1-Discount %) * Qty * List Price)

FEES; PAYMENT TERMS

All amounts due to Pictometry pursuant to this Agreement ("Fees") are expressed in United States dollars and do not include any duties, taxes (including, without limitation, any sales, use, ad valorem or withholding, value added or other taxes) or handling fees, all of which are in addition to the amounts shown above and, to the extent applicable to purchases by Customer, shall be paid by Customer to Pictometry without reducing any amount owed to Pictometry unless documents satisfactory to Pictometry evidencing exemption from such taxes is provided to Pictometry prior to billing. To the extent any amounts properly invoiced pursuant to this Agreement are not paid within thirty (30) days following the invoice due date, such unpaid amounts shall accrue, and Customer shall pay, interest at the rate of 1.5% per month (or at the maximum rate allowed by law, if less). In addition, Customer shall pay Pictometry all costs Pictometry incurs in collecting past due amounts due under this Agreement including, but not limited to, attorneys' fees and court costs.

Due at Signing	\$34,321.50
Due at Initial Shipment of Imagery	\$102,964.50
Total Payments	\$137,286.00

PRODUCT PARAMETERS

ACCUPLUS IMAGERY

Product:	AccuPLUS 3in - Per Sector - Custom Area
Elevation Source:	Customer Provided - On file
Coverage Area Format:	Shapefile
Leaf:	Leaf Off Less than 30% leaf cover

CONNECT

Product:	Pictometry Connect - CA - 100
Admin User Name:	Kevin Bruhn
Admin User Email:	kevin.bruhn@milwaukeecountywi.gov
Geofence:	WI Milwaukee WI Ozaukee WI Racine WI Washington WI Waukesha

Product:	Pictometry Connect View - CA
Admin User Name:	Kevin Bruhn
Admin User Email:	kevin.bruhn@milwaukeecountywi.gov
Geofence:	WI Milwaukee WI Ozaukee WI Racine WI Washington WI Waukesha

SECTION B

ACCUPLUS LICENSE TERMS

PICTOMETRY DELIVERED CONTENT TERMS AND CONDITIONS OF USE

These Pictometry Delivered Content Terms and Conditions of Use (the "Delivered Content Terms and Conditions"), in combination with the corresponding Agreement into which these terms are incorporated, collectively set forth the terms and conditions that govern use of Delivered Content (as hereinafter defined) for use within computing environments operated by parties other than Pictometry. As used in the Delivered Content Terms and Conditions the terms "you" and "your" in uppercase or lowercase shall mean the Customer that entered into the Agreement into which the Delivered Content Terms and Conditions are incorporated.

1. DEFINITIONS

- 1.1 "Authorized Subdivision" means, if you are a county or a non-state consortium of counties, any political unit or subdivision located totally or substantially within your boundaries that you authorize to have access to Delivered Content pursuant to the Delivered Content Terms and Conditions.
- 1.2 "Authorized System" means a workstation or server that meets each of the following criteria (i) it is owned or leased by you or an Authorized Subdivision, (ii) it is located within and only accessible from facilities that are owned or leased by you or an Authorized Subdivision, and (iii) it is under the control of and may only be used by you or Authorized Subdivisions.
- 1.3 "Authorized User" means any employee of you or Authorized Subdivisions that is authorized by you to have access to the Delivered Content through an Authorized System.
- 1.4 "Delivered Content" means the images, metadata, data layers, models, reports and other geographic or structural visualizations or embodiments included in, provided with, or derived from the information delivered to you by or on behalf of Pictometry pursuant to the Agreement.
- 1.5 "Project Participant" means any employee or contractor of persons or entities performing services for compensation for you or an Authorized Subdivision that has been identified by written notice to Pictometry prior to being granted access to Delivered Content and, unless Pictometry expressly waives such requirement for any individual, has entered into a written agreement with Pictometry authorizing such access.

2. GRANT OF RIGHTS; RESTRICTIONS ON USE; OWNERSHIP

- 2.1 Subject to the terms and conditions of the Agreement, you are granted nonexclusive, nontransferable, limited rights to:
 - (a) install the Delivered Content on Authorized Systems;
 - (b) permit access and use of the Delivered Content through Authorized Systems by:
 - (i) Authorized Users for performance of public responsibilities of you or Authorized Subdivisions that are to be performed entirely within facilities of you or Authorized Subdivisions;
 - (ii) Project Participants under the supervision of Authorized Users for performance of tasks or preparation of materials using only hard copies (or jpg copies) of Delivered Content solely for fulfilling public responsibilities of you or Authorized Subdivisions to be performed entirely within facilities of you or Authorized Subdivisions; and
 - (iii) individual members of the public, but only through Authorized Users and solely for the purpose of making hard copies or jpg copies of images of individual properties or structures (but not bulk orders of multiple properties or structures) to the individual members of the public requesting them.
- 2.2 You may not reproduce, distribute or make derivative works based upon the Delivered Content in any medium, except as expressly permitted in the Delivered Content Terms and Conditions.
- 2.3 You may not offer any part of the Delivered Content for commercial resale or commercial redistribution in any medium.
- 2.4 You may not distribute or otherwise make available any Delivered Content to Google or its affiliates, either directly or indirectly.
- 2.5 You may not exploit the goodwill of Pictometry, including its trademarks, service marks, or logos, without the express written consent of Pictometry.
- 2.6 You may not remove, alter or obscure copyright notices or other notices contained in the Delivered Content.
- 2.7 All right, title, and interest (including all copyrights, trademarks and other intellectual property rights) in Delivered Content in all media belong to Pictometry or its third party suppliers. Neither you nor any users of the Delivered Content acquire any proprietary interest in the Delivered Content, or any copies thereof, except the limited use rights granted herein.

3. OBLIGATIONS OF CUSTOMER

- 3.1 **Geographic Data.** If available, you agree to provide to Pictometry geographic data in industry standard format (e.g., shape, DBF) including, but not limited to, digital elevation models, street centerline maps, tax parcel maps and centroids, which data, to the extent practicable, shall be incorporated into the Delivered Content. You agree that any of this data that is owned by you may be distributed and modified by Pictometry as part of its products and services, provided that at no time shall Pictometry claim ownership of that data.
- 3.2 **Notification.** You shall (a) notify Pictometry in writing of any claims or proceedings involving any of the Delivered Content within ten (10) days after you learn of the claim or proceeding, and (b) report promptly to Pictometry all claimed or suspected defects in Delivered Content.
- 3.3 **Authorized User Compliance.** You shall at all times be responsible for compliance by each Authorized User with the Delivered Content Terms and Conditions.
- 3.4 **Authorized Subdivision Compliance.** You shall at all times be responsible for compliance by each Authorized Subdivision with the Delivered Content Terms and Conditions.
- 3.5 **Project Participants.** Each notice to Pictometry identifying a potential Project Participant shall include a detailed description of the scope and nature of the Project Participants' planned work and the intended use of the Delivered Content in such work. Pictometry retains the right to restrict or revoke access to Delivered Content by any Project Participant who does not comply with the terms of the Delivered Content Terms and Conditions.

4. LICENSE DURATION; EFFECT OF TERMINATION

- 4.1 **Term.** The license granted to you in the Delivered Content Terms and Conditions is perpetual, subject to Pictometry's right to terminate the license in the event you do not pay in full the Fees specified elsewhere in the Agreement, the Agreement is terminated for any reason other than a breach of the Agreement by Pictometry, or as otherwise provided in the Agreement.
- 4.2 **Effect of Termination.** Upon termination of the license granted to you in the Delivered Content Terms and Conditions, you shall immediately cease all use of the Delivered Content, promptly purge all copies of the Delivered Content from all workstations and servers on which any of it may be stored or available at the time, and return hard drive/media containing Delivered Content to Pictometry.

5. TRADEMARKS; CONFIDENTIALITY

- 5.1 Use of Pictometry's Marks.** You agree not to attach any additional trademarks, trade names, logos or designations to any Delivered Content or to any copies of any Delivered Content without prior written approval from Pictometry. You may, however, include an appropriate government seal and your contact information so long as the seal and contact information in no way obscure or deface the Pictometry marks. You further agree that you will not use any Pictometry trademark, trade name, logo, or designation in connection with any product or service other than the Delivered Content. Your nonexclusive right to use Pictometry's trademarks, trade name, logos, and designations are coterminous with the license granted to you in the Delivered Content Terms.
- 5.2 Confidentiality of Delivered Content.** The Delivered Content consists of commercially valuable, proprietary products owned by Pictometry, the design and development of which reflect an investment of considerable time, effort, and money. The Delivered Content is treated by Pictometry as confidential and contains substantial trade secrets of Pictometry. You agree that you will not disclose, provide a copy of, or disseminate the Delivered Content (other than as expressly permitted in the Delivered Content Terms and Conditions) or any part thereof to any person in any manner or for any purpose inconsistent with the license granted to you in the Delivered Content Terms and Conditions. You agree to use your best efforts to assure that your personnel, and any others afforded access to the Delivered Content, protect the Delivered Content against unauthorized use, disclosure, copying, and dissemination, and that access to the Delivered Content and each part thereof will be strictly limited.

6. LIMITED WARRANTY; DISCLAIMER OF WARRANTIES

- 6.1 Limited Warranties; Exclusive Remedy.** Pictometry warrants that the Delivered Content will contain true and usable copies of the designated imagery as of the date of capture. As the sole and exclusive remedy for any breach of the foregoing warranty, Pictometry shall use reasonable efforts to correct any deficiency that precludes use of the Delivered Content in the manner intended.
- 6.2 Disclaimer of Other Warranties.** Except as provided in Section 6.1, above, THE DELIVERED CONTENT IS PROVIDED TO YOU "AS IS" AND "WITH ALL FAULTS." PICTOMETRY MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND, EXPRESS, IMPLIED, OR STATUTORY. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF PERFORMANCE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND ACCURACY, ARE HEREBY DISCLAIMED AND EXCLUDED BY PICTOMETRY.
- 6.3 Limitation of Liability.** With respect to any other claims that you may have or assert against Pictometry on any matter relating to the Delivered Content, the total liability of Pictometry shall, in the aggregate, be limited to the aggregate amount received by Pictometry in payment for Delivered Content during the immediately preceding twenty-four (24) month period.

7. MISCELLANEOUS PROVISIONS

- 7.1 Restricted Rights.** Delivered Content acquired with United States Government funds or intended for use within or for any United States federal agency is provided with "Restricted Rights" as defined in DFARS 252.227-7013, Rights in Technical Data and Computer Software and FAR 52.227-14, Rights in Data-General, including Alternate III, as applicable.
- 7.2 Governing Law.** This License Agreement shall be governed by and interpreted in accordance with the laws of the State of New York, excluding its conflicts of law principles.

[END OF DELIVERED CONTENT TERMS AND CONDITIONS]

AccuPlus® Premium Ortho-MosaicProduct Overview

Seamless ortho-mosaic produced from individual frames and tiled to customer's preferred tiling scheme

Acquisition

Flight plans will be prepared to capture image frames with nominal 60% forward overlap and nominal 30% sidelap in order to provide sufficient overlap for automatic aerial triangulation and mitigation of building lean in orthophotography produced. Source imagery will be acquired during times of optimal environmental conditions. Imagery will generally be captured when solar altitude is 30 degrees or greater and/or by using the most optimal four-hour window, except where capture season offers significantly longer window. Imagery will be acquired with ground free of snow cover and deciduous vegetation less than 30% of full bloom. Frames with clouds will be rejected and reflown. Any planned deviation from these conditions imposed by capture window constraints will be discussed with client prior to commencement of acquisition.

Camera

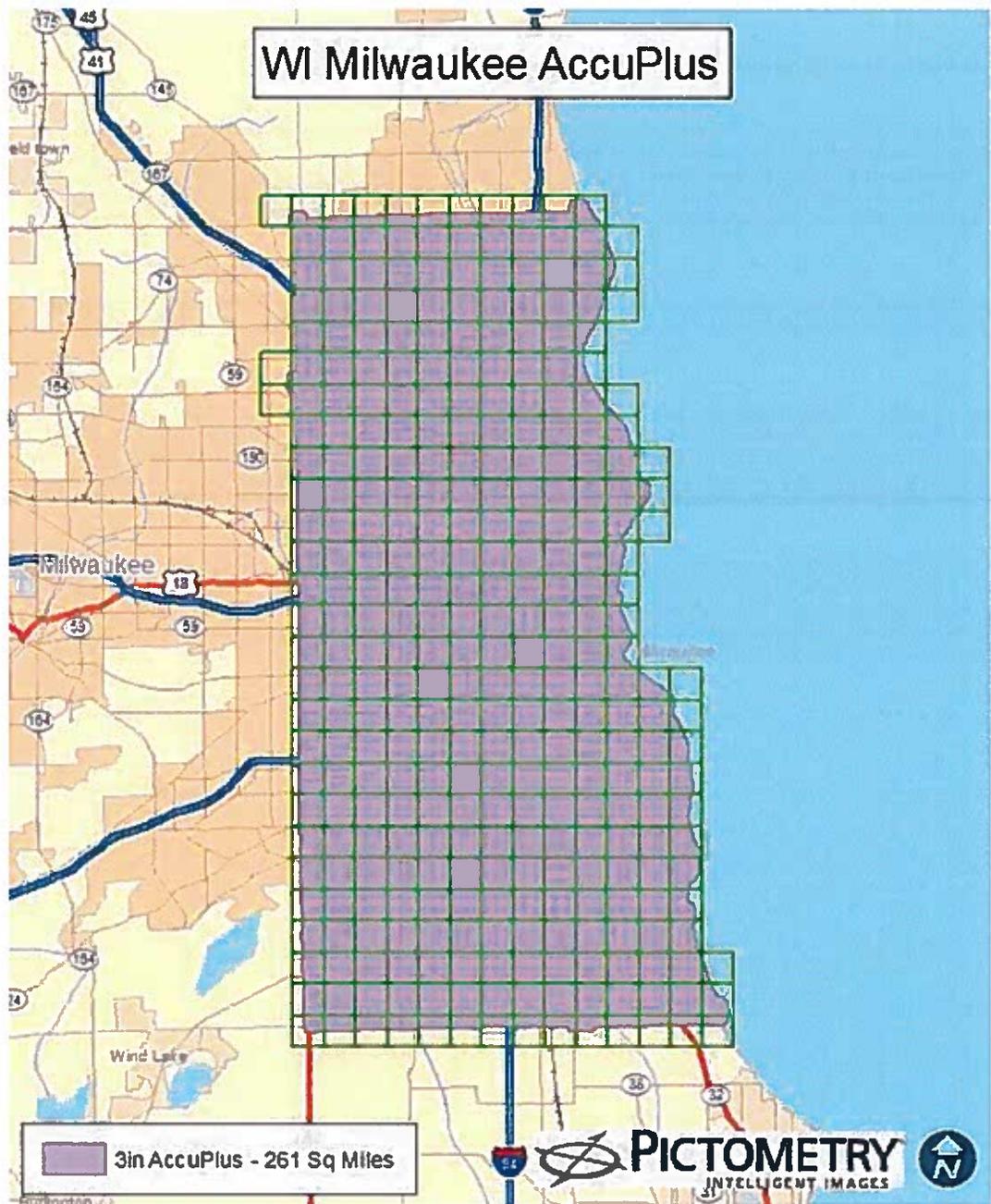
Pictometry utilizes its USGS certified, custom designed mapping camera incorporating a Kodak sensor and custom designed photogrammetric lenses. The sensor is fully calibrated according to Pictometry's USGS approved calibration process. Pictometry's sensor provides a dynamic range of 12 bits per band, RGB (resampled to 8 bits during processing).

Ortho-Rectification

Prior to the production of orthophotography, Pictometry will perform automatic aerial triangulation, utilizing the directly observed Exterior Orientations (EOs) and ground control points (GCPs), measured by a licensed surveyor, for the purpose of orienting the individual frames for creation of the final ortho imagery. In addition to the GCPs, sophisticated matching techniques will be employed to automatically create tie points for use in performing a bundle adjustment. Pictometry will utilize best available Digital Terrain Models, combined with the calibrated camera interior orientations, ground control points, and triangulated EOs to rectify the images. When the rectification requires a resampling of the source imagery, a cubic convolution method will be utilized.

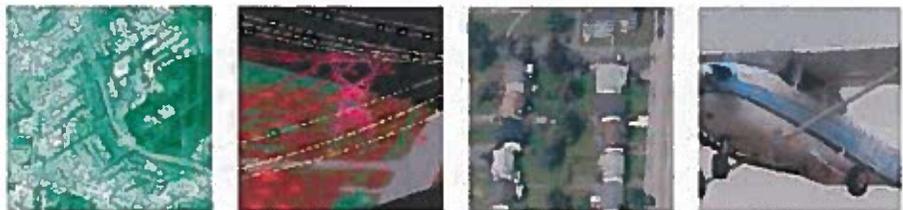
Mosaic

Global color balancing will be applied to all orthophotos to create homogeneous orthophotos within the project area. Local adjustments of brightness values, color and contrast will be performed if needed. There will be no obvious seam edge between two adjacent orthophotos. Mosaic will be created using automated seamline steering, with manual edits to eliminate feature misalignment caused by seamlines which pass thru features above the elevation surface. Feature alignment across seamlines will be 3 pixels or better. When possible, seamlines will be steered away from elevated features to improve orthophoto quality. Once the mosaic has been produced, the imagery will be tiled and named according to the customer provided (or Pictometry generated) schema for delivery.





Pictometry AccuPlus QA/QC Process



Quality Control

Commitment to Quality

Pictometry places the highest measure of importance on Quality Control and Assurance throughout the orthomosaic production process. All of Pictometry's production processes have been carefully developed and are continuously evaluated by Pictometry's Licensed Surveyors and Certified Photogrammetrists to ensure consistency and compliance with all state statutes and industry standards. Pictometry uses both automated software-based methods and visual inspection as part of its quality control processes to ensure project requirements and standards are met. Some of those quality control steps are outlined in the context of each of the sections below; some key checks are also summarized here for ease of identification:

- *Flight Planning* – Planned images are projected to DEM surface and checked for proper coverage and overlap prior to publication to aircraft
- *System Calibration* – Pictometry's sensors are calibrated for lens distortion, system geometry, color response, and accurately bore sighted
- *Image Acquisition* – Pictometry's flight management system performs several real-time quality checks during capture operations, including immediate flagging of images with excessive roll, pitch, or yaw; immediate recapture of frames with significant glare or hot spots from solar reflection
- *POS GNSS post processing* – Data is checked for completeness and quality prior to post-processing and results reviewed for consistency and accuracy
- *Image quality review* – All images are reviewed at the thumbnail level and a random sample are viewed at full resolution and intensively inspected for errors and artifacting.
- *Image selection process* – In the case duplicate imagery with similar coverage has been collected, source imagery is carefully reviewed for coverage, overlap, and radiometric consistency prior to selection for inclusion in the Aerial Triangulation process
- *Aerial Triangulation (AT)* – The aerial triangulation process is monitored and reviewed at each step, including: manual review of automatic tie point generation; review of manual point measurement; bundle adjustment runs performed with all points as check, as fixed, and with GPS as fixed to identify any internal tensions in the block; and a thorough review of the final adjustment statistics is performed
- *Orthophoto-rectification* – After orthophoto rectification, each frame containing a control point measurement is checked against the surveyed coordinates to ensure proper rectification.
- *Seam line validation* – After mosaicking, seam lines are checked for intersections with buildings and elevated structures and corrected
- *Final Mosaic Checks* – Each mosaic tile is manual reviewed prior to submission for delivery
- *Delivery Checks* – Data prepared for delivery is carefully reviewed for completeness prior to shipment.

Refly

There are several levels of checks and balances at Pictometry where the imagery is checked for anomalies and accepted or rejected for re-fly. The Image Processors are the first level, scrutinizing the imagery immediately upon receipt from the pilot. While the planes are still in the area, they ascertain whether any re-flies are necessary and, if so, the re-flies are expedited back to Pictometry's Production Group for dispatch to the pilots. Initial imagery can be shared with the client to gain their acceptance of the quality and accuracy.

Orthomosaic Imagery – Quality Control Plan

The following items are checked subsequent to the initial Mosaic Creation:

1. Verify that the number of tiles written out during the mosaic process matches the number of tiles in the tile schema loaded
2. The size of each tile (in pixels) is the same for all of the tiles created
3. The mosaic process completed successfully through visual verification of the Initial Mosaic ECW.
4. Through visual inspection of the initial mosaic:
 - a. Following roadways, streams, etc., make sure there are no or minimal breaks changing from image to image
 - b. Ensure that there are not excessive breaks through houses or other buildings. Note: there may still be some breaks through larger warehouses/malls/etc. but most smaller structures should be completely contained in a single image
 - c. Identify areas of blur or other artifacts

Tile-by-tile QA/QC Check:

Seam lines represent where the edges of each orthophoto meet, to create the overall mosaic. Along these lines there may be features that are visually affected where one image ends and another begins, such as roads, bridges and patterns. Pictometry processors visually inspect and correct the affected features.

Features that are commonly inspected and corrected on a tile-by-tile basis are as follows:

1. Ghosting of features
2. Seam lines cutting through structures causing them to be broken or warped
3. Building Lean/Building collapse
4. Color differences between images
5. Cloud shadow
6. Time of day issues between flight lines
7. Generally warping caused by imperfection in the digital elevation model (DEM)
8. Bridge warping, breaks, and lean

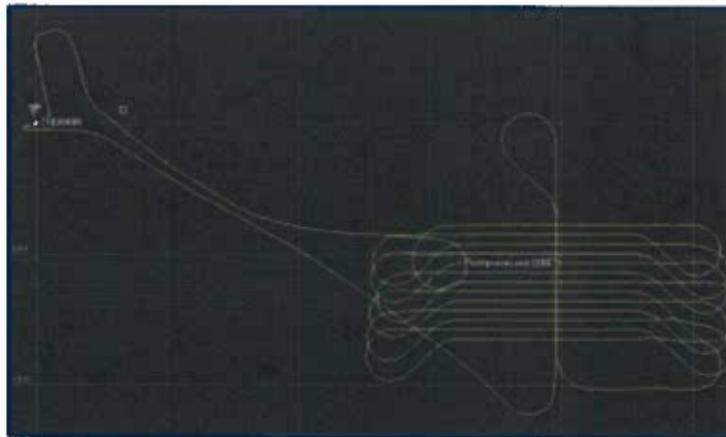
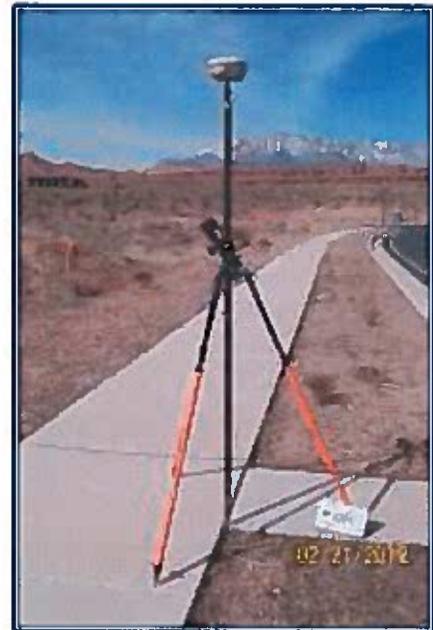
Correction of Deficiencies

Pictometry strives to eliminate the need for any post-delivery corrections. In the event that any deficiencies are identified in the delivered product, Pictometry will make all applicable corrections to the final dataset as reasonably determined or identified by the customer.

The Image Production Process

GPS/INS Post-Processing

Upon receipt in Rochester, the data is backed up and post-processing begins. Applanix POSPac software is employed to post process the GPS/IMU data utilizing the SmartBase (IN-fusion). The SmartBase technology uses a centralized filter approach to combine the GPS receiver's raw observables (pseudorange and phase observables) with the IMU data (tightly coupled solution). The Applanix SmartBase engine processes the raw observables (phase and pseudorange to each tracked satellite) from a minimum of four to a maximum of 50 continuously-working GPS reference stations surrounding the trajectory. The computed ionospheric, tropospheric, satellite clock, and orbital errors at all the reference stations will be used to correct for the errors at the location of the remote receiver. The SmartBase Quality Check tool is utilized to perform a network adjustment on all the base-lines and reference stations in the network. Quality checks are also performed on the individual reference station observation files before the Applanix SmartBase is computed. The result of this process is that the integrity of the reference station's data and coordinates are known before the data is processed.



Post-processed SBET

The smoothed best estimated trajectory (SBET) is computed from the GPS track (including Kalman Filtering). Once the final trajectory has been generated, it is applied to the imagery on the basis of the individual time stamps associated with each frame. The location (X, Y, Z) and orientation (Roll, Pitch, Yaw) values derived from the SBET and assigned to each frame serve as the initial exterior orientation (EO) values for the aerial triangulation phase of the processing.

Apply Trajectory Information

The next step in the production of Pictometry's imagery data is the application of the post-processed trajectory data to the orthogonal frame imagery. Each image is assigned a new camera center and orientation (exterior orientation or EO) based on the post-processed trajectory. This EO serves as the initial origin point for all subsequent calculations.

Image Selection

Pictometry's capture process frequently results in the collection of duplicative imagery. Pictometry photogrammetric staff members carefully evaluate these images to ensure that the best available frames are chosen for inclusion in the aerial triangulation and subsequently the orthomosaic creation processes. This careful selection of imagery not only minimizes the amount of corrections in the final mosaic, but more importantly significantly reduces the associated time and costs of said corrections. Although the use of Pictometry's PentaView Sensor System results in a larger number of frames than a typical large format camera, there are numerous benefits associated with the utilization of a medium format camera for orthophotography imagery capture. Just a few of these benefits are the collection of imagery with a more nadir perspective, better radiometric qualities due to a minimization of exposure falloff, and less absolute horizontal error being introduced by both the IMU and the digital elevation model used in the orthorectification process.

Analytic Aerial Triangulation (AT)

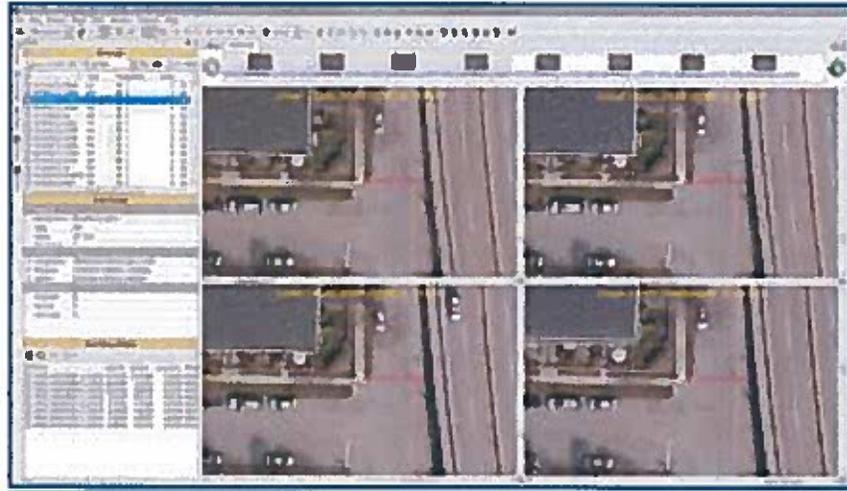
Along with the hundreds of aerial triangulation projects completed for its Color Digital Ortho customers, Pictometry's professional staff has especial experience with two of the largest aerial triangulation projects conducted to date. The Los Angeles Region Imagery Acquisition Consortium (LAR-IAC) II project comprised 295,000 frames and the LAR-IAC III project nearly 400,000 triangulated frames. The convergence of reduced frame counts due to the 29mp camera, continuing advances in hardware and software, as well as workflow enhancements, combine very favorably to significantly accelerate the timelines to which Pictometry is able to adhere.

Pictometry's solution includes aerial triangulation of all source frames to be involved in the creation of the orthomosaic. To expedite this task Pictometry has created a parallel workflow for the developing of its captured imagery. Concurrent with the development of the captured imagery to JPEG for use in Pictometry's standard product, Pictometry will develop the imagery directly to TIFF making the imagery immediately available to its Aerial Triangulation staff for review of captured image polygons enabling the verification of complete imagery coverage, the verification of available photo-identifiable GCPs for use in the AT solution, and the ability to begin initial tie point generation (TPG). This updated approach saves critical time in the review process and limits delays in the production of the final Aerial Triangulated blocks for use in subsequent orthorectification and orthomosaic production tasks.

Pictometry will perform automatic aerial triangulation (AAT) to ensure proper alignment between individual frames and the overall accuracy of the resulting orthophotos. Pictometry uses Inpho's Match-AT software to perform all phases of the AAT. As input to the overall AAT process, Pictometry utilizes the exterior orientation (EO) values resulting from the post-processing of the airborne GPS and INS data, the surveyed ground control points (GCPs), and the calibrated camera model parameters. The AAT process, in general, consists of two steps: the creation of image measurements and the bundle adjustment of those measurements. The overall process will move between these two steps in a back-and-forth fashion until a final adjustment is made and deemed to meet the standards required. The final output of the AAT process is the final, adjusted set of exterior orientations, the triangulated EOs.

Image Point Measurement

The image measurement process consists of a series of steps. In the first step, each of the surveyed GCPs is measured in each available image containing the surveyed point. These measurements will later serve to constrain the adjustment. In the second step, the software will be used to generate automatic tie points between the frames. Upon completion of the initial automatic tie point generation, a manual review is performed to ensure proper distribution and density of tie points. The targeted total density is approximately 100 measurements per frame. Any images or areas found to be lacking in the desired number of points will be reviewed. If any low density areas, other than water bodies or extremely low texture areas, are identified, the images and areas will be put through an additional automatic point generation run and/or have points measured manually. As part of the manual review process, any residual points in water areas are manually removed. If the size of the project exceeds (approximately) 25,000 frames, Pictometry will treat the project as multiple blocks and undertake the additional step of measuring common points in the overlap regions of the individual blocks. The values of these points in each of the adjustments will be compared in order to ensure a seamless transition across the block boundaries in the final orthomosaic. This is a proven method of ensuring mosaic quality that has been successfully applied in projects with as many as 28 contiguous AT blocks.



Inpho's Photo Measurement Tool (PMT)

Bundle Adjustment

The bundle adjustment process consists of a large least squares adjustment and is used iteratively, first to evaluate the status and consistency of image point measurements and ultimately the overall quality of the finalized exterior orientations and to ensure that the standards of the final deliverable will be met. The inputs to the bundle adjustment consist of the initial EO values, surveyed ground control coordinates, image measurements, and the calibrated camera model parameters.

After the preliminary bundle adjustments have been completed, Pictometry will perform an adjustment with all surveyed ground control points "set to check" (an unconstrained adjustment) to independently evaluate the relationship between the captured imagery data and the independently surveyed ground control coordinates. After each subsequent bundle adjustment, Pictometry will review all residuals between control points and tie points, and compare the calculated coordinates of any additional available check points to the surveyed coordinates. Pictometry will perform quality control checks and prepare a statistical analysis of the error propagation and the accuracy of the resulting imagery. Image point measurements will be evaluated and, as needed, new automatic or manual tie points may be added or removed to increase the strength of the solution.

Digital Orthophoto Mapping Orthorectification

To perform the orthorectification, Pictometry will utilize the triangulated EOs, the calibrated camera model parameters, and the provided LiDAR based digital elevation model (DEM) plus required updates in areas of significant change. The orthorectification process will be used to remove horizontal displacement caused by terrain height variation, earth curvature, and camera based distortions. The orthorectification process requires a resampling of the imagery; a cubic-convolution method is utilized to perform this resampling. Orthorectification will be performed using the existing County Digital Elevation Model (DEM). Pictometry will review the model and make updates to ensure that the horizontal accuracy requirements are met. The updates will only support orthorectification of the imagery from which updates have been derived.

Quality Control

After orthorectification, each frame containing a control point measurement is checked against the surveyed coordinates to ensure proper rectification.



**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: June 5, 2017

SUBJECT: Data Transformation to New Datum

BACKGROUND

This project is to move or migrate the GIS raster data to the new datum. The Land Information Office currently has 47 raster datasets. The intent of this project is to process these files by either purchasing the needed software to complete this project in house or contract with a qualified contractor. The LIO will host both sets of rasters for a transitional time so municipalities and other vendors that utilize the raster services have time to migrate to the new datasets.

“Data Transformation” is in support of the Land Information Office’s role in coordinating projects between the County and local governments, as described in Wis. Statute [59.72 \(3\)\(a\)](#).

ACTIVITIES THIS PERIOD: 12/16 – 6/17

- Rob Merry offered his guidance in training LIO staff to use Global Mapper software for transformation of recent (2010 and later) aerial photos delivered in TIFF format
- LIO Staff discussed project approach with Washington County GIS staff and concurred that older SDE rasters (which were georeferenced from hard copy images) will not be transformed, while vector layers will be transformed using a two-step process in ArcGIS.
- The 2015 imagery is 75% complete and will be followed by the 2013 and 2010 flights.

NEXT

- Continue processing TIFF imagery and begin duplication of rasters in both datum after server (One Neck) migration



**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: June 5, 2017
SUBJECT: Sanborn Fire Insurance Map Georectification

BACKGROUND

This is a new effort for the LIO. The Land Information Office has started a pilot project to gauge the interest and usefulness of georectifying a high resolution set of Sanborn Fire Insurance maps. There has been a regional interest in the ability to research the history of a specific property. The need to understand if the property has ever housed or produced hazardous materials for environmental reporting and remediation. These maps are used for various needs from basic historical research to Phase 1 Environmental Assessments. The LIO will create a publically available data service from the georeferenced images of the 1910 collection of Sanborn maps.

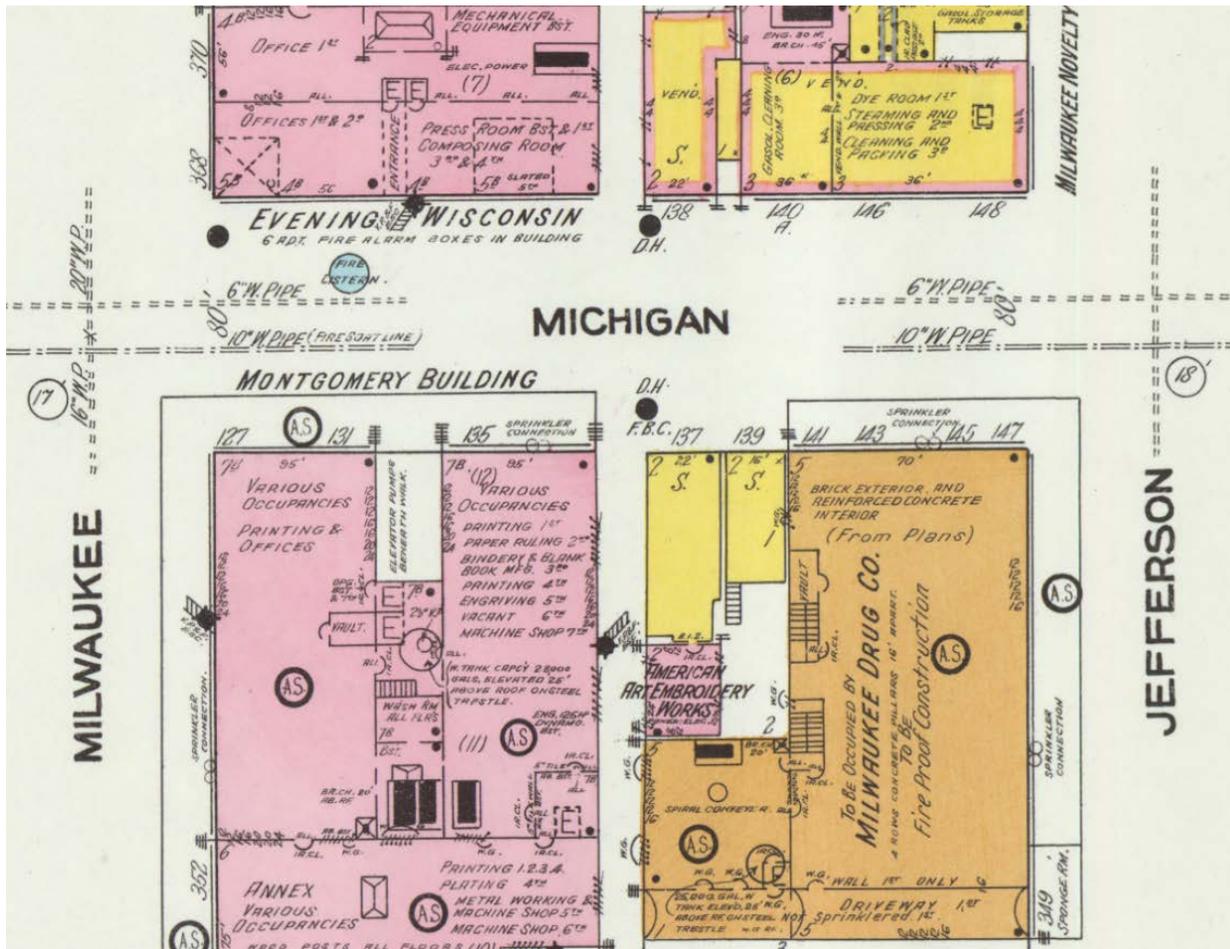
ACTIVITIES THIS PERIOD: 12/16 – 6/17

- The LIO acquired the high resolution scans of the 1910 collection of Sanborn maps from the American Geographic Societal Library at the University of Wisconsin Milwaukee.
- The LIO has georectified 643 of the 919 tiles included in 6 of the 8 volumes of images.
- A web service has been created to display this data.

NEXT

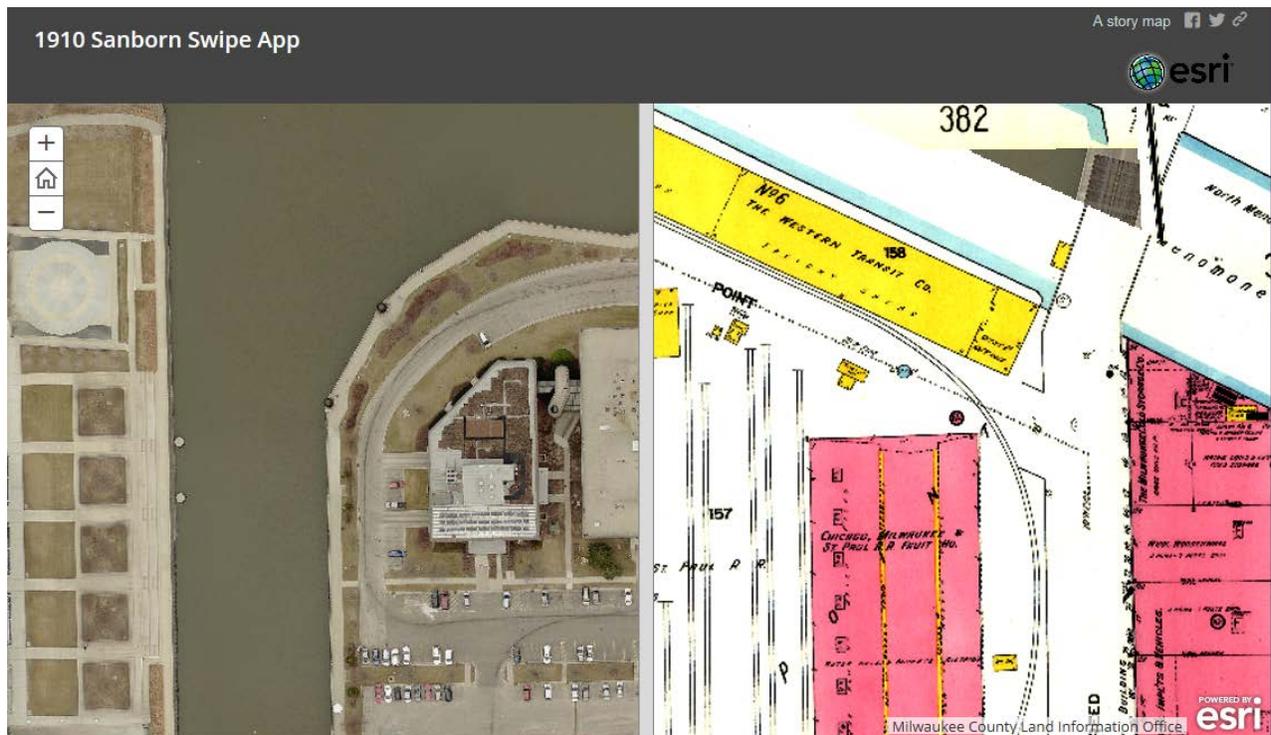
- The LIO will complete georectifying the rest of the tiles and make them available on the LIO GIS website.
- A new GIS site with the ability to swipe current and archived data will be created to showcase this dataset.
- The LIO may initiate another georectification project of high resolution tiles for the 1894 Sanborn maps based on feedback from the 1910 set.

Attached: Sample of the 1910 Sanborn Maps.
Example of website with swipe capability.



Above is a detailed example of the data. Below is the viewer with the swipe capability.

<http://arcg.is/2pXkhrX>



2017 LIO YTD

		YTD	YE Projected
REVENUES - 2017 YTD			
2017 Record & Filing Fees		\$262,144	\$797,354.67
2016 Encumbrances Carried Over		\$63,374	\$63,374
2017 Grants		\$1,000	\$1,000
2017 Misc Revenue		\$0	\$0
	TOTAL	<u>\$326,518</u>	<u>\$861,729</u>
OPERATING EXPENSES - 2017 YTD			
2017 Actual Expenditures		\$242,642	\$738,035.96
2017 Encumbrances		\$56,026	\$56,026
2017 ROD GIS Analyst		\$16,508	\$65,666
	TOTAL	<u>\$315,175</u>	<u>\$859,727</u>
2017 Est. Net Income (Loss)		<u>\$11,343</u>	<u>\$2,001</u>

Fund Balance:		YTD	YE Projected
2016 Year-End Fund Balance*		\$1,464,236	\$1,464,236
2017 Operating Revenues (Shown Above)	+	\$326,518	\$861,729
2017 Exp + Enc for \$8 Fee Projects	-	\$315,175	\$859,727
2017 Est Fund Balance**		\$1,475,579	\$1,466,237
2016 Reserve Revenue @ 10%		\$0	\$0
2017 Est Fund Balance YTD - Unrestricted		\$1,475,579	\$1,466,237
2017 Est Fund Balance YTD - Restricted		\$0	\$0

*2016 YE Fund Balance represents the current amount in reserve as of 2016 YE close.

**2017 Est YTD Fund Balance represents the 2016 YE reserve netted against the actual 2016 expenditures and revenues. This figure will change throughout the year as additional 2017 expenditures and revenues are realized.

NOTE: 2017 expenditures, revenues, and resulting fund balance are year-to-date ONLY. The figures represented in this report are not intended to project a year-end balance for the LIO budget. The purpose of the report is to provide committee members a "financial snapshot" of LIO activities within a specific point in time.

2017 YTD Fiscal Report - LIO (\$8) - as of 04/30/2017

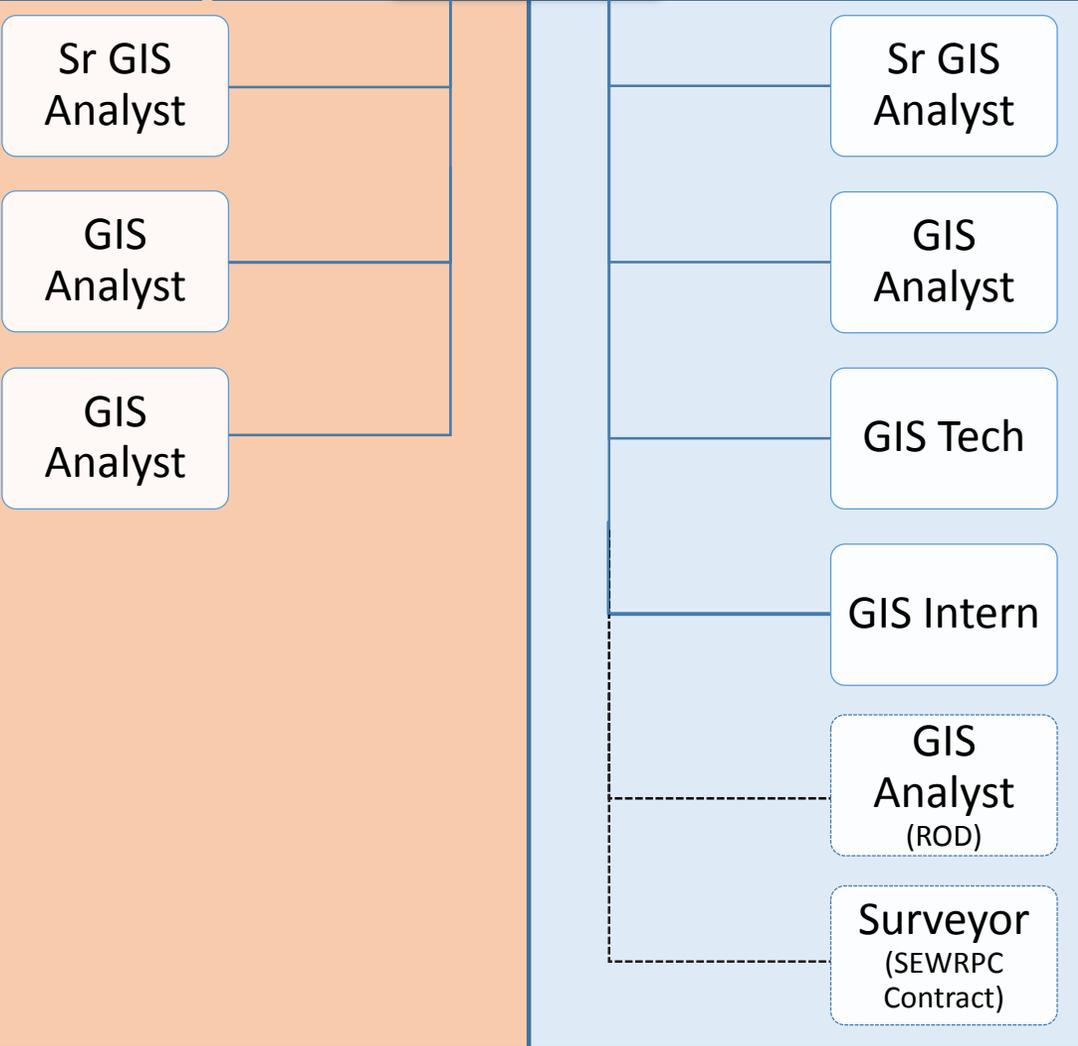
Vendor Name	Description	Amount Authorized	Amount Paid - Prior Years	Amount Encumbered	Amount Paid 2017 YTD	Total Amount Paid (Encumbrances + Actual)	Remaining Unpaid Balance
SOUTHEASTERN WI REGIONAL	County Surveyor	82,916.00	-	-	82,916.00	82,916.00	-
	<u>2017 Authorized Projects</u>					-	-
GRW	2016 Planimetric Update Project: Consulting	17,424.00	-	-	17,424.00	17,424.00	-
SEWRPC	Datum Modernization	33,396.00	-	33,396.00	-	33,396.00	-
	TOTAL	\$ 133,736.00	\$ -	\$ 33,396.00	\$ 100,340.00	\$ 133,736.00	\$ -

Facilities Management Division - GIS

5700-5761
County GIS

Manager

5700-5760
LIO



COUNTY GIS

Manager*

Land Information Office

IMSD
PMO Director

Senior Analyst**
New position = \$90K
Cityworks Growth
County focused projects

Senior GIS Analyst *

Project Manager
Liaison to IMSD
County PM for large project requests

Analyst**
New position = \$80K
Cityworks Growth
County focused projects

Analyst*
LIO Projects

Analyst**
New position = \$80K
Cityworks Growth
County focused projects

Analyst*
In Register of Deeds Org.
LIO Projects

Technician*
Assist with Register of
Deeds and LIO Duties

GIS Intern*

County Surveyor*
(SEWRPC Contract
agreement)

- Current Position
- Contract to Position
- New Position

* Paid from current LIO budget

** New position prices are fully loaded.
Positions paid from new Operating budget
Salaries equal \$250K

- No Additional County related project
money is included in the \$280 request

	No change	Life Support	Slow and Steady	Best in Class
Vision	<ul style="list-style-type: none"> No changes to current resources Once capital is expended, two LTEs leave the county LIO is successful – County needs are not met 	<ul style="list-style-type: none"> Whatever we get into the GIS before capital runs out will be maintained LIO tasks are driven by council and maintenance Hire one analyst 	<ul style="list-style-type: none"> Hire one analyst and one programmer Ability to grow at a tactical approach Incremental growth needs to be prioritized and expectations managed 	<ul style="list-style-type: none"> Hire one senior analyst, two analysts Run GIS office as service provider to County Ability to be successful with a long term sustainable strategic plan
Gains	<ul style="list-style-type: none"> No cost 	<ul style="list-style-type: none"> Ongoing Maintenance Ability to continue current commitment 	<ul style="list-style-type: none"> Ongoing maintenance Some growth for gathering Applications can be created 	<ul style="list-style-type: none"> Ability to provide analysis and process efficiencies to all engaged County departments Manage Enterprise licensing for continued growth
Risks	<ul style="list-style-type: none"> Cityworks will be obsolete in 3 years Back to where we started – no collaboration 	<ul style="list-style-type: none"> Cityworks offers no growth New asset types are not included in Cityworks 	<ul style="list-style-type: none"> Over commitment, under performance 	
Cost	\$0	\$100,000	\$180,000	\$280,000

Milwaukee County Geographic Information Program

Governance Structure
March 1, 2017

Land Information Council - Steering Committee – State Statute

Membership:

- Milwaukee County Board of Supervisors
- Land Information Office
- County Register of Deeds
- Office of Emergency Management
- County Treasurer
- County Surveyor (SEWRPC)
- Municipal Representatives (ICC, City of Milwaukee)
- Utility Representatives (We Energies, MMSD)

Roles/Responsibilities:

- Policy formulation and advice to County Board and Executive's Office
- Set program priorities
- Program budget approval
- Project oversight
- GIS program sponsorship and leadership

Fiscal/Budgetary Responsibilities:

- Overall expenditure authority of Land Record Modernization retained fees pursuant Section 59.72 of Wisconsin Statutes

ITSC

Membership:

- IMSD
- GIS

Roles/Responsibilities:

- IT Governance
- GIS Standards

Geographic Information Services Division

Roles/Responsibilities:

- Overall County Land Information Program Management
- County enterprise GIS support and project leadership
- Program analysis, recommendation and management
- Management of County's GIS infrastructure (ArcSDE\SQL Server Database, ArcGIS Server)
- Develop and Maintain County enterprise GIS applications and services.
- Creation and Maintenance of core County land information Datasets (Enterprise Address, Routable Centerline)
- Distribute County Data in accordance with License Agreements
- Contract management for Land Information projects (digital cadastral, topographic, orthophotography and other mapping layers)
- Contract management for creation and Maintenance of core County land information Datasets
- Contract management County Surveyor services
- Technical standards research, formulation, and recommendations
- Policy research, formulation, and recommendations
- Program budget recommendations

GIS Technical Group

Membership:

Department GIS Technicians, IMSD/PMO

Roles/Responsibilities:

- Discuss Technical Issues
- Review recommendations for GIS policy and procedures
- Ensure GIS standards are being met
- Ensure current GIS support is adequate to meet needs of business units

County GIS Steering Committee

Membership:

Departmental GIS, IMSD/PMO

Roles/Responsibilities:

- Discuss Business Issues and future strategies
- Create and maintain policy and standards for county departments
- Make recommendations for future GIS priorities and enterprise initiatives

Milwaukee County GIS Users Group

Membership:

Department GIS, IMSD, Engaged Users

Roles/Responsibilities:

- Discuss Technical Issues
- Discuss Department initiatives
- Education of current GIS trends
- Ensure compliance with LIO governance policies
- Discuss new technologies and strategies for growth
- Advocate GIS within departments

Metro Milwaukee GIS Technical Users Group

Membership:

- Municipalities utilizing GIS
- Consultants and Contractors representing municipal clients
- Local Utilities
- Educational Community(UWM, MPS)
- State of Wisconsin Representatives
- Non-Profits(Urban ecology Center)
- GIS vendors
- Individuals\Public

Roles/Responsibilities:

- Discuss Technical Issues
- Showcase initiatives
- Education of current GIS trends

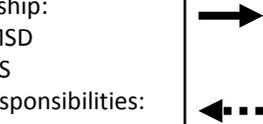
Legend

Support/Advisory 

Direction/Oversight 

Existing Group 

Proposed New Group 



WISCONSIN STATE STATUTE REQUIREMENTS FOR THE LAND INFORMATION OFFICE

16.967 Land information program.

(3) DUTIES OF DEPARTMENT. The department shall direct and supervise the land information program and serve as the state clearinghouse for access to land information. In addition, the department shall:

(a) Provide technical assistance and advice to state agencies and local governmental units with land information responsibilities.

(b) Maintain and distribute an inventory of land information available for this state, land records available for this state, and land information systems.

(c) Prepare guidelines to coordinate the modernization of land records and land information systems.

(cm) Provide standards for the preparation of countywide plans for land records modernization under s. [59.72 \(3\) \(b\)](#), including a list of minimum elements to be addressed in the plan.

(d) Review project applications received under sub. [\(7\)](#) and determine which projects are approved.

(e) Review for approval a countywide plan for land records modernization prepared under s. [59.72 \(3\) \(b\)](#).

(f) Review reports received under s. [59.72 \(2\) \(b\)](#) and determine whether county expenditures of funds received under sub. [\(7\)](#) and s. [59.72 \(5\) \(b\)](#) have been made for authorized purposes.

(g) Post reports received under s. [59.72 \(2\) \(b\)](#) on the Internet.

(h) Establish an implementation plan for a statewide digital parcel map.

(4) FUNDING REPORT. The department shall identify and study possible program revenue sources or other revenue sources for the purpose of funding the operations of the land information program, including grants to counties under sub. [\(7\)](#).

59.72 Land information.

(a) No later than June 30, 2017, the board shall post on the Internet, in a searchable format determined by the department of administration, the following information related to individual land parcels:

1. Property tax assessment data as provided to the county by municipalities, including the assessed value of land, the assessed value of improvements, the total assessed value, the class of property, as

specified in s. [70.32 \(2\) \(a\)](#), the estimated fair market value, and the total property tax.

2. Any zoning information maintained by the county.

3. Any property address information maintained by the county.

4. Any acreage information maintained by the county.

(b) No later than June 30 following the end of any year in which a county that accepts a grant under s. [16.967 \(7\)](#) or retains any fees under sub. [\(5\) \(b\)](#), the county land information office shall submit to the department of administration a report describing the expenditures made with the moneys derived from those grants or retained fees.

(3) LAND INFORMATION OFFICE. The board may establish a county land information office or may direct that the functions and duties of the office be performed by an existing department, board, commission, agency, institution, authority, or office. If the board establishes a county land information office, the office shall:

(a) Coordinate land information projects within the county, between the county and local governmental units, between the state and local governmental units and among local governmental units, the federal government and the private sector.

(b) Within 2 years after the land information office is established, develop and receive approval for a countywide plan for land records modernization. For any county in which land records are not accessible on the Internet, the plan shall include a goal of providing access to public land records on the Internet. The plan shall be submitted for approval to the department of administration under s. [16.967 \(3\) \(e\)](#). No later than January 1, 2014, and by January 1 every 3 years thereafter, the land information office shall update the plan and receive approval from the department of administration of the updated plan. A plan under this paragraph shall comply with the standards developed by the department of administration under s. [16.967 \(3\) \(cm\)](#).

(c) Review and recommend projects from local governmental units for grants from the department of administration under s. [16.967 \(7\)](#).

(3m) LAND INFORMATION COUNCIL.

(a) If the board has established a land information office under sub. [\(3\)](#), the board shall have a land information council consisting of not less than 8 members. The council shall consist of the register of deeds, the treasurer, and, if one has been appointed, the real property lister or their

designees and the following members appointed by the board for terms prescribed by the board:

1. A member of the board.

2. A representative of the land information office.

3. A realtor or a member of the Realtors Association employed within the county.

4. A public safety or emergency communications representative employed within the county.

4m. The county surveyor or a professional land surveyor employed within the county.

5. Any other members of the board or public that the board designates.

(am) Notwithstanding par. [\(a\)](#), if no person is willing to serve under par. [\(a\) 3., 4., or 4m.](#), the board may create or maintain the council without the member designated under par. [\(a\) 3., 4., or 4m.](#)

(b) The land information council shall review the priorities, needs, policies, and expenditures of a land information office established by the board under sub. [\(3\)](#) and advise the county on matters affecting the land information office.

2015 Senate Bill 21 Act 55

SECTION 6. 5.15 (4) (br) of the statutes is created to read:

5.15 **(4)** (br) 1. Except as provided in subd. 2., no later than January 15 and July 15 of each year, the county clerk shall transmit to the legislative technology services bureau a report confirming the boundaries of each municipality, ward, and supervisory district in the county together with a map of the county, in an electronic format approved by the legislative technology services bureau. Each report shall be current to the nearest January 1 or July 1 preceding the date of the report.

2. In each year following the year of a federal decennial census, the July report shall instead be transmitted no later than November 1 and shall be current to the date of the report. The November 1 report shall be accompanied by a list of the block numbers of which the county and each municipality and ward within the county are comprised.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607 •

TELEPHONE (262) 547-6721
FAX (262) 547-1103

Serving the Counties of

KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



MEMORANDUM

TO: Mr. Kevin W. Bruhn
GIS Manager-Land Information Officer

FROM: Robert W. Merry, PLS
Milwaukee County Surveyor

DATE: March 27, 2017

SUBJECT: MILWAUKEE COUNTY SURVEYOR ACTIVITIES—2016

This memorandum is intended to provide the GIS Manager-Land Information Officer with a report on the work of the Milwaukee County Surveyor in the calendar year extending from January 1, 2016, through December 31, 2016. The office and the duties and functions of the County Surveyor are prescribed by Section 59.45 of the *Wisconsin Statutes*. In Milwaukee County the necessary work, pursuant to the direction of the County Board, was funded by document recording fees retained by the County pursuant to Section 59.43(2) of the *Wisconsin Statutes*. Since the Milwaukee County Land Information Office is charged by contract with administering these retained recording fees, a report to the Committee on the activities of the County Surveyor is in order.

Within Milwaukee County, the U.S. Public Land Survey System has been combined with the State Plane Coordinate System and the National Geodetic Vertical Control System to provide the high order horizontal and vertical control survey network required for the preparation and maintenance of the large-scale topographic and cadastral maps. Therefore, the work of the Milwaukee County Surveyor entails not only the maintenance of the U.S. Public Land Survey System as such, but also the maintenance of the horizontal and vertical control survey network. Consequently, the work requires expertise in geodetic, as well as plane, surveying and in the legal aspects of property boundary determination.

Attachment 1 to this memorandum consists of a map of Milwaukee County on which are shown the location of all of the corners of the U.S. Public Land Survey System for which various types of perpetuation activities were undertaken in calendar year 2016. These activities involved the replacement of monuments marking the location of section, quarter section, center of section, witness and meander corners which were reported as damaged, disturbed, or destroyed, by construction, or other activities or actions. The work involved the setting of new monuments; and, as necessary, the replacement of attendant witness marks and benchmarks, the verification or establishment of new State Plane Coordinate values for corner monuments, and elevations for benchmarks. A total of three corners required the reestablishment of vertical control survey reference benchmarks which in turn created the need for the Commission staff to complete about five miles of high order differential level lines. New records of U.S. Public Land Survey control station records – dossier sheets – were prepared for each remonumented corner shown on Attachment 1.

A copy of each completed new dossier sheet is provided in Attachment 2 to this memorandum. As indicated on Attachment 1, a total of 27 U.S. Public Land Survey corners were involved in the perpetuation activity from January 1, 2016, through December 31, 2016. In some cases, the perpetuation activity resulted in revised elevations for both the corner monuments concerned and the attendant benchmarks. In such cases, control survey summary diagrams were updated to reflect those changes. A copy of each of the revised diagrams concerned is herewith provided as Attachment 3.

Perpetuation of the corners included, where possible and necessary, the setting of preconstruction witness marks for the corners; remonumentation of the corners; the conduct of high order vertical control surveys to establish the elevations of the corner monuments and of accessories thereto, and the preparation of new dossier sheets for the corners. Where necessary high order traverse or global positioning system (GPS) surveys were conducted to reestablish, or verify, the state plane coordinate positions of corners.

Preconstruction field work was also completed for 33 U.S. Public Land Survey corners that were expected to require perpetuation due to street and highway or utility reconstruction proposed to be carried out in 2017. These corners are identified on Attachment 1 by open circles. This work included inspection of proposed construction limits at the corner locations; the setting and the measurement of distances to temporary witness marks located outside of the anticipated construction limits; and the transfer of reference benchmark elevations to stable benchmarks set outside of the anticipated construction limits.

It should be noted that, in accordance with Milwaukee County policies relative to the participation and use of disadvantaged business enterprises in the provision of County services, a contract was entered into with the firm of Dakota Intertek Corporation of Milwaukee, Wisconsin--a minority owned firm--to provide assistance to the County Surveyor pertaining to the maintenance of the U.S. Public Land Survey System. More specifically, the contract provided for assistance in the remonumentation of broken or substandard concrete monuments marking the location of corners pertaining to the system. The contract specified nine such monument locations where the contractor was instructed by the County Surveyor as to what type of work was to be performed and the specifications that were to be followed. After completion of such work, the County Surveyor performed an inspection of the monument installations, all of which were found to be in compliance with the specifications governing the work. Payment was made to the contractor in the amount of \$16,122.06 in October 2016. This amount constituted 19.4 percent of the total cost of the County Surveyor services, thus exceeding the goal established by Milwaukee County for the participation of a disadvantaged business enterprise in this regard.

Pursuant to State Statutes, Professional Land Surveyors must provide copies of all plats of surveys other than land subdivision plats and certified survey maps conducted within the County to the Office of the County Surveyor for filing. Through December 31, 2016, the County Surveyor received, indexed, and filed 1,331 copies of new land surveys completed in 2016 within the County, bringing the total number of records of land surveys completed within the County, which have been filed with the County Surveyor since the inception of this work in 1984, to 99,213. The filed records are indexed to permit retrieval by name of the surveyor concerned, the property owner concerned, the address of the property concerned, if shown on the plat, the date of the survey plat, the civil division, and the U.S. Public Land Survey Township and Range, and Section and one-quarter section within which the plat is located.

In 2012, the County Surveyor assisted staff in the coordination of an annual program to update the Milwaukee County website in order to incorporate the copies of new land surveys received during the year and those to be received in subsequent years. In 2016, the Land Information Officer staff produced digital scans of 1,331 hardcopies, and merged the new files with the existing files to create a total of 99,213 plats

of survey that have been filed with the County Surveyor as of December 31, 2016. The purpose and intent of this project was to create a single digital database from the separate databases maintained by the Office of the County Surveyor and the Milwaukee County Land Information Office to allow the digital images of the plats of survey to be accessed by the public through the Milwaukee County Interactive Map website.

* * *

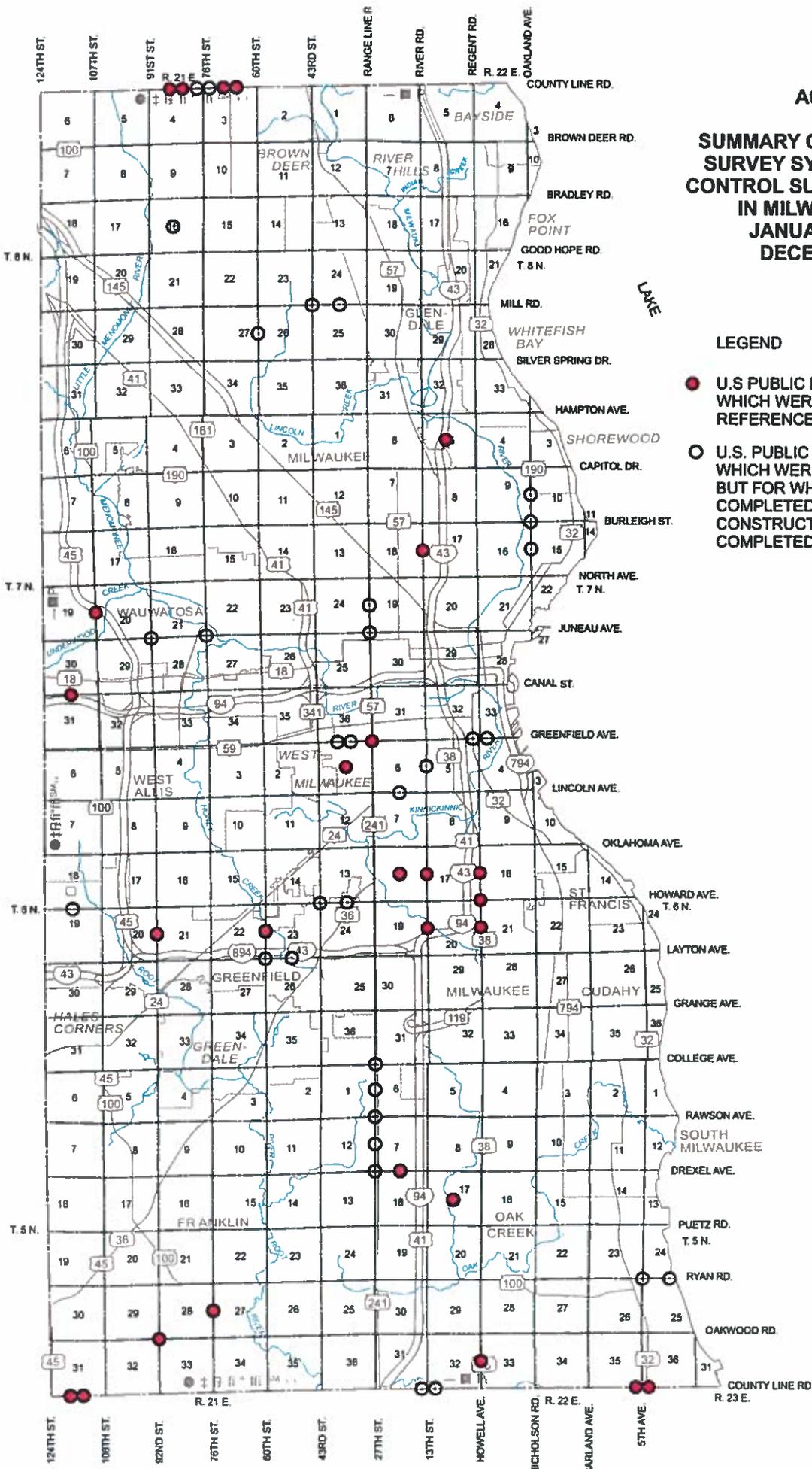
RWM/dd
Milwaukee County Surveyor Activities 2016 (00236582).DOC

Attachments

cc: Ms. Marcia G. Cornell, Manager Central Drafting and Records, City of Milwaukee
Mr. Gregory G. High, Director, Architectural, Engineering and Environmental Services,
Milwaukee County
Mr. Daniel R. Talarczyk, Survey Services Supervisor, Milwaukee Metropolitan Sewerage District
Ms. Mary Dziewiontkoski, Project Programming, City of Milwaukee

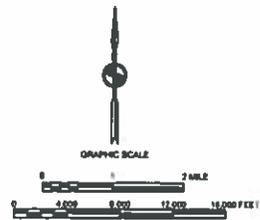
Attachment 1

SUMMARY OF U.S. PUBLIC LAND SURVEY SYSTEM CORNER AND CONTROL SURVEY PERPETUATION IN MILWAUKEE COUNTY: JANUARY 1 THROUGH DECEMBER 31, 2016



LEGEND

- U.S. PUBLIC LAND SURVEY CORNERS WHICH WERE REMONUMENTED AND/OR REFERENCED IN 2016 (27)
- U.S. PUBLIC LAND SURVEY CORNERS WHICH WERE REMONUMENTED IN 2016 BUT FOR WHICH REFERENCING WILL BE COMPLETED IN 2017 DUE TO CONSTRUCTION PROJECTS NOT FULLY COMPLETED (33)



Source: SEWRPC.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607 • TELEPHONE (262) 547-6721
FAX (262) 547-1103

Serving the Counties of

KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



April 5, 2017

Mr. Kevin Bruhn
GIS Manager-Land Information Officer
Milwaukee County Land Information Office
633 W. Wisconsin Avenue, Suite 903
Milwaukee, WI 53203

Dear Mr. Bruhn:

In 2015, Milwaukee County, together with four other counties within the Southeastern Wisconsin Region, obtained Light Detection and Ranging (LiDAR) elevation data. With respect to horizontal position, the data for Milwaukee County were referred to the North American Datum of 1927 (NAD 27) and, with respect to elevation, the data were referred to the National Geodetic Vertical Datum of 1929 (NGVD 29). The data were processed to generate contour lines having a contour interval of one foot, the contour lines being suitable for display on orthophotography having a scale of 1 inch equals 100 feet.

The LiDAR data were acquired by the firm of Quantum Spatial, Inc. under contract to the Southeastern Wisconsin Regional Planning Commission, the Commission being, in turn, under contract to the County. The data were obtained in a format specified by the County.

In October of 2016, the Commission received a request from the U.S. Geological Survey (USGS) and Wisconsin Department of Administration (DOA) to reformat the county data to meet USGS specifications. To fund the requested reformat, the Commission applied for, and in January of 2017, received a grant from the USGS in the amount of \$125,040 to fund the necessary work. The Commission is presently engaged in the work required, the initial results of which are to be presented to the USGS in August 2017. Because the cost of obtaining the LiDAR data in 2015 was borne by the five counties concerned, the Commission is proposing to return \$110,040 of the USGS grant to those five Counties which obtained the data in 2015. The amount to be returned to each of the five counties is to be proportioned on the basis of area as follows:

<u>County</u>	<u>County Area (sq. mi.)</u>	<u>Percent of Total Area</u>	<u>Amount of Rebate</u>
Milwaukee	242	11.7	\$ 12,875
Ozaukee	234	11.3	12,435
Walworth	578	27.9	30,701
Washington	436	21.0	23,108
Waukesha	581	28.1	30,921
TOTAL	2,071	100.0	\$110,040

Mr. Kevin Bruhn

Page 2

April 5, 2017

The Commission will not receive the Federal grant until the reformatted data are reviewed and accepted by the USGS. Upon receipt of the grant, the Commission will issue a check in the amount of \$12,875.00 to Milwaukee County. It is expected that the necessary USGS acceptance, Federal grant payment, and Commission disbursements to the Counties concerned can be accomplished before the end of this calendar year.

Should you have any questions concerning this matter, please do not hesitate to write or call.

Sincerely,

A handwritten signature in black ink that reads "Michael G. Hahn". The signature is written in a cursive style with a large, prominent "M" and "H".

Michael G. Hahn, P.E., P.H.
Executive Director

MGH/KWB/dd
#236773



Wisconsin Land Information Program County Retained Fee/Grant Report

Instructions:

If your county has accepted a grant under s. 16.967(7) WIS STATS or retained any fees under s.59.72 (5) WIS STATS, submission of this report to the Wisconsin Department of Administration, Division of Intergovernmental Relations is required by June 30th of the following year in accordance with s. 59.72(2)(b) WIS STATS.

County Milwaukee	County FIPS 079	Recording Period: From Jan. 1, 2016 To Dec. 31, 2016
Name of Land Information Officer Kevin Bruhn		Email Address kevin.bruhn@Milwaukeecountywi.gov Phone Number 414-278-3927

1. Amount received in WLIP grants under s. 16.967(7) Wis. Stats. in the reporting period (Jan. 1 – Dec. 31, 2016)	\$ 51,000.00
2. Amount of document recording fees retained under s. 59.72(5) Wis. Stats. for land information in the reporting period at \$8 per document (Jan. 1 – Dec. 31, 2016)	\$ 861,024.00
3. Total amount of grants and retained fees provided through the WLIP in 2016	\$ 912,024.00

Brief narrative or bulleted summary of 2016 land information activities, including relevant web-links:
<ul style="list-style-type: none"> • Orthophotography/Oblique/LiDAR Imagery and data update, June 2016. • Completed a project to update the planimetric feature data. This project utilized the 2015 imagery capture to update Planimetric data. • Quarterly aggregation and compilation of address and cadastral mapping updates, maintained by Milwaukee County and the City of Milwaukee, data is made available on public website. • Completed tasks associated with the MCAMLIS 2015-2020 Work Plan. <ul style="list-style-type: none"> VWR -01: GIS Viewer Improvement Migrated primary Land Information website from Silverlight to HTML viewers DAT-01: Non-Vector Data Improvement Generated derived products including a Digital Surface Model (DSM), and a Digital Elevation Model (DEM) from the 2015 LiDAR data using GeoCUE LP360 DAT -02: Vector Data Improvement Generated a vegetation and tree canopy data layer from the 2015 LiDAR data using GeoCUE LP360 • Facilitated the 15th Milwaukee Municipal GIS Users Group (MMGUG) Meetings • Conducted March, June, and December Land Information Council Meetings.

Brief narrative or bulleted summary of 2016 land information activities, including relevant web-links:

**Wisconsin Land Information Program
County Retained Fee/Grant Report – Continued**

Land Info Spending Category ▼	Project Description(s) If you have multiple projects in a Spending Category. Row height will automatically expand as you type.	Land Info Plan Citations Page number or section reference	Project Cost Note unit cost and project total for each project	Total Cost for Spending Category (<u>ONE</u> total per Spending Category)
Digital Parcel Mapping	Cadastral Maintenance: Suburban Communities, City of Milwaukee	LRM: 2015, II.P7	\$96,850.86 MCROD \$91,780 COM	\$188,630.86
PLSS	Milwaukee County Surveyor Services	LRM: 2015, II.P6	\$82,916 (SEWRPC)	\$82,916
Other Parcel Work (e.g., ROD indexing)	Plat of Survey parcel index maintenance	LRM: 2015, II. P8	1,431 Platt Scans @ \$.33 per	\$472.23
LIDAR	2015 QL2 - Processing	LRM: 2015, II. P9	Remainder of Contract with Vendor	\$30,667.00
Orthoimagery	2015 3" Ortho/Oblique Imagery Re-fly from Quality Control Issues	LRM: 2015, II. P10	Remainder of Contract with Vendor	\$68,643.00
Address Points	Enterprise Address System	LRM: 2015, II. P10-11	.25 FTE In house	\$19,034
Street Centerlines	Routable Street Centerline Maintenance	LRM: 2015, II. P10-11	.25 FTE In house	\$19,034
Software	Latitude Geographics GeoCortex ESRI Bluecoat Proxy maintenance GeoCue LP360	LRM: 2015, III. P18	\$3,700 Latitude \$28,840 ESRI \$1,275 Bluecoat \$7,613.40 LP360	\$49,224.03
Hardware	MCLIO Infrastructure Administration Infrastructure (Including Cross Charges)	LRM: 2015, III. P17-19	\$87,786 1 FTE \$11,574.08 Charges and Support	\$99,360.08
Website Development/ Hosting Services	GIS Website redesign and support - HTML5	LRM: 2015, IV. P20	\$38,068 .5 FTE \$13,412 Latitude	\$51,480
Administrative Activities and Management	Milwaukee County LIO Project Management, Fiscal Management & Program Staff Milwaukee County Land Information Office (MCLIO) Operations, Data Requests Dept Admin include legacy and overhead costs	LRM: 2015, III. P17-19	\$107,690 1 FTE \$1,340.88 Supplies \$104,381.91 Dept. Admin	\$213,502.88
Training and Education	WLIA, ESRI User Conference, WLIA Annual/Regional, MMGUG, EWUG	LRM: 2015, III. P17-19	\$983.44 WLIA \$3,336.82 ESRI UC \$266.96 MMGUG \$335.72 EWUG	\$4,922.94
Other (specify in second column)	Planimetric Feature Update Project from 2015 Imagery Capture	LRM: 2015, IV. P22	Planimetric Polygon Maintenance \$72,600 GRW	\$72,600.00
TOTAL				\$ 900,487.02
Amount of retained fees and grants spent on land records modernization in the reporting period Total may be more or less than the amount of grants and retained fees received in 2016 (if carried over from year to year)				

Amount of retained fees and grants carried forward to calendar year 2017 from previous years	\$1,464,236.17
--	----------------



SCOTT WALKER
GOVERNOR
SCOTT A. NEITZEL
SECRETARY

Wisconsin Land Information Program
Post Office Box 8944
Madison, WI 53708-8944
Voice (608) 266-3369
www.doa.state.wi.us/WLIP

Wisconsin Land Information Program 2017 Base Budget, Training & Education, and Strategic Initiative Grant Application

Complete this application form in order to receive 2017 Wisconsin Land Information Program (WLIP) grants, pursuant to Wisconsin Statute Section 16.967(7) and Wisconsin Administrative Code, Chapter Adm. 47.

Training & Education Grants

Training & Education grants may be used for the training and education of county employees for the design, development, and implementation of a land information system. Each county is eligible for a \$1,000 grant.

Strategic Initiative Grants

Strategic Initiative grants are for the purposes of addressing statutory directives to create a statewide digital parcel map and to post certain parcel information online in a standard searchable format. Strategic Initiative grant funding is to be prioritized to achieve “benchmarks” of parcel quality and completeness. Each county is eligible for \$50,000 in 2017 Strategic Initiative grant funding.

There are four benchmarks for parcel data:

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

Counties must prioritize their Strategic Initiative grant activities toward achieving the benchmarks in numerical order, beginning with Benchmark 1, proceeding to Benchmark 2, and so forth. The benchmarks are designed to complement and dovetail with the county land information plan. A county may amend a plan with updates or revisions as appropriate. If amended, a digital copy of the amended plan and record of land information council approval should be sent to the WLIP.

Base Budget Grants

Base Budget grants enable a county to develop, maintain, and operate a basic land information system and may be used for the implementation of the county’s land information plan. Base Budget grants are only available to those counties with retained register of deeds document recording fees of less than \$100,000 in FY 2016 (July 1, 2015–June 30, 2016). See the grant eligibility table on page 9 to confirm your county’s eligibility.

Application and Grant Timeline

All applications should be submitted by December 31, 2016, but applicants are highly encouraged to submit earlier. Please submit the application by emailing a completed digital PDF form that has been electronically filled-out (not scanned) to WLIP@wisconsin.gov.

Grant application released	September 1, 2016
Grant application deadline	December 31, 2016
Grant activities eligible for reimbursement	Beginning January 1, 2017
Training & Education grants distributed	By January 31, 2017
First 50% of Strategic Initiative grant distributed (upon successful data submittal for V3)	By April 30, 2017
Base Budget funds distributed	By June 30, 2017
Second 50% of Strategic Initiative grant distributed	Upon project completion

Contact

For questions regarding this application, please contact WLIP Grant Administrator Peter Herreid at peter.herreid@wisconsin.gov or (608) 267-3369.

How to Submit

- **DOWNLOAD** this application form
- **"FILE ► SAVE AS"** – to save a local copy. Add your county name to the end, e.g., 2017_WLIP_Grant_Application_**StCroix.pdf**
- **COMPLETE APPLICATION** – use the free Adobe Reader or, if you have a paid subscription, Acrobat, to fill in the application form electronically (not by hand)
- **"FILE ► SAVE"** – to save as you go
- **ATTACH/DELETE PAGES** – Attach addendum pages if applicable. If you have Acrobat, delete the first 9 pages of instructions and any unnecessary pages or addenda.
- **SUBMIT VIA EMAIL (WITH COUNTY NAME)** – Email a completed digital PDF form that has been electronically filled-out (not scanned) to WLIP@wisconsin.gov by December 31, 2016. Email Subject Line should include the name of your county, e.g., **2017 WLIP Grant Application – Eau Claire**

The instructions below are written in order, numbered according to the question numbers on the application form. The application form begins on page 10. Question numbers on the fill-in form hyperlink back to their corresponding instructions.

Training & Education Grant Application Instructions

- TE_#1** All counties updated their county land information plan in 2015-2016 to meet s. 59.72(3)(b). Wisconsin Administrative Code, Chapter Adm. 47.06 (3) requires that projects must be consistent with an approved county land information plan (also referred to as a county-wide land records modernization plan).
- TE_#2** According to s. 59.72(3m)(b), the county land information council shall review the priorities, needs, policies, and expenditures of a land information office and advise the county on matters affecting the land information office. The land information council must have met within the last 12 months in order for the county to be eligible for a WLIP grant.
- TE_#3** Applicants must subscribe to the WLIP's e-mail listserv, doa-landinfo@lists.wi.gov.
- TE_#4** According to s. 59.72(2)(b), a county must submit an annual report to DOA on WLIP retained fee and grant spending. All counties submitted a *Retained Fee/Grant Report* for 2015.
- TE_#5** The amount of \$1,000 is available to each county for 2017 Training & Education grants.
- TE_#6** Enter the amount requested (up to \$1,000).
- TE_#7** Brief Description of Intended Expenditures for Training & Education Grant. Provide information on plans to utilize the Training & Education grant funding. Aim for ~1,600 characters or less. The font size will shrink as you type, becoming smaller to accommodate more text.
- TE_#8** Land information officer name (typed) and date are required. Please do *not* sign and scan the form you send to WLIP. Handwritten signatures are **not** required. Submit the application by emailing a completed digital PDF form that has been electronically filled-out (not scanned) to WLIP@wisconsin.gov.

Strategic Initiative Grant Application Instructions

- SI_#1** The amount of \$50,000 is available to each county for 2017 Strategic Initiative grants.
- SI_#2** Enter the amount requested (up to \$50,000).
- SI_#3** Summary of expenditures by benchmark. Indicate which benchmarks will be addressed with the grant. Check all benchmarks that apply.

Figure 1 on the following page summarizes the benchmarks. For Benchmark 1 and 2 specifications, see the V2 submission documentation. Note that the submission documentation may be tweaked for V3, with an effort to build upon and be consistent with the V2 submission documentation. Only those elements identified as necessary or of great utility by the statewide parcel map database's users are to be added.



Figure 1. Summary of benchmarks. The searchable format for Benchmarks 1 and 2 is further detailed in the V2 submission documentation

Strategic Initiative Grant Application Instructions (Continued)

SI_#4

Indicate how the county anticipates meeting Benchmark 1 for the Version 3 Statewide Parcel Map Database Project (V3) call for data. V3 data submittals will be due March 31, 2017.

Counties are highly encouraged to meet the searchable format standard for the V3 data submittal, using grant funds to do so if necessary.

- **Searchable format** – county data submittal is ready for immediate aggregation into the statewide parcel layer. County performs all data standardization and clean-up before submitting data. The searchable format is defined in detail in the V2 submission documentation.
- **Export format** – a more flexible format, which will be converted by the parcel aggregation team into the searchable format on behalf of counties. The export format is an alternative that will accommodate several data submission options, including GIS data, text files, and an option to provide tax roll data in the Department of Revenue’s XML format.

SI_#5

Indicate whether the county will use the Strategic Initiative grant funding in the first quarter of 2017 to meet Benchmark 1 in the format you selected above in SI_#4.

Figure 2 illustrates the timeline for Strategic Initiative projects. 2017 projects have a completion deadline of March 31, 2018, the projected V4 data submission deadline.

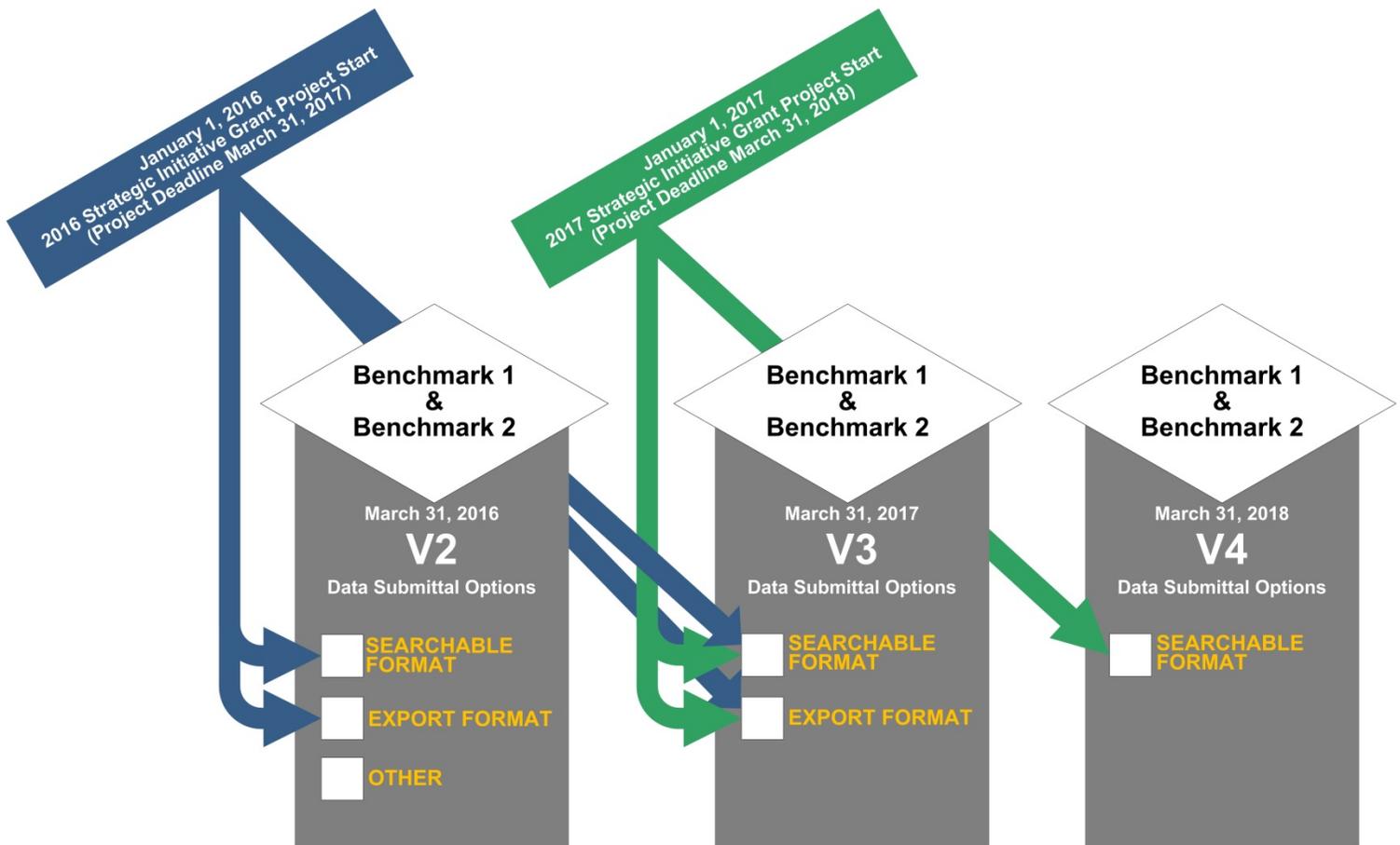


Figure 2. Strategic Initiative grant project timeline, where projects can span a calendar year plus one quarter

SI_#6

Indicate whether the county will meet the searchable format option for the V4 call for data. For V4, the **searchable format** is the required format for data submittal.

SI_#7

Indicate whether the county will use 2017 Strategic Initiative grant funding to achieve the searchable format for V4 by March 31, 2018.

SI_#8

Benchmark 1 Land Information Plan Citations. List the corresponding citation (section and page numbers) from the county’s land information plan for a *Project Plan to Achieve the Searchable Format for Benchmarks 1 & 2*. If a county believed its parcel data would already meet the searchable format standard for the V2 call for data in March of 2016, this should have been clearly stated in the “Parcel Mapping” Foundational Element layer status section of the land information plan.

LIO certification upon data submission. Land information officers will be required to certify that data meets the standards for Benchmark 1 and 2 upon submission of data for V3. Counties will certify their own level of attribute completeness relative to an **element occurrence standard**. This means that if an element (such as a property address, a total assessed value, total property tax value, etc.) actually occurs for a given parcel, then this element should be included in the submitted dataset. This also means that there may be justifiable omissions from the submitted dataset. Examples might be missing tax data for tax exempt properties, no address when no structure is present on a property, etc. Data elements must be included only if they actually occur.

SI_#9 Benchmark 1 Project Activities and Itemized Costs. For Benchmark 1, provide costs for the project to be paid with WLIP Strategic Initiative grant funds. Itemize costs where possible. Costs may be estimates determined through quotes received from vendors for specific activities. However, please do *not* include vendor estimates as attachments to this PDF form. Type a concise description for each itemized cost, beginning with row1, column1. Enter dollar amount in row1, column2. The font size will shrink as you type, becoming smaller to accommodate more text.

Note on staff funding. The county may either utilize the expertise of existing county staff or hire contractors from the private sector as part of Strategic Initiative grant expenses. As long as county staff activities funded by the Strategic Initiative grant are for the purposes specified in the grant application, it is acceptable to use grant funds to reimburse county or municipal staff.

SI_#10 Benchmark 1 Total Costs. Maximum value is \$50,000. The “Total Costs” boxes are self-adding, which means they calculate the total automatically from the Itemized Costs boxes. Include only Strategic Initiative funds in total costs.

SI_#11 Indicate how the county anticipates meeting Benchmark 2 for the Version 3 Statewide Parcel Map Database Project (V2) call for data. V3 data submittals will be due March 31, 2017. Counties are highly encouraged to meet the **searchable format** standard for the V3 data submittal, using grant funds to do so if necessary. See SI_#4 directions above.

SI_#12 Indicate whether the county will use the Strategic Initiative grant funding in the first quarter of 2017 to meet the searchable format standard for Benchmark 2. Figure 2 above illustrates the timeline for Strategic Initiative projects.

SI_#13 The **searchable format** is the only option for the anticipated V4 call for data, anticipated to be due March 31, 2018. Counties must plan to meet the searchable format by March 31, 2018.

SI_#14 Indicate whether the county will use 2017 Strategic Initiative grant funding to meet the searchable format standard for V4 for Benchmark 2 by March 31, 2018.

SI_#15 Benchmark 2 Land Information Plan Citations. List the corresponding citation (section and page numbers) from the county’s land information plan for a *Project Plan to Achieve the Searchable Format for Benchmarks 1 & 2*. See SI_#8 directions above.

SI_#16 Benchmark 2 Project Activities and Itemized Costs. For Benchmark 2, provide costs for the project to be paid with WLIP Strategic Initiative grant funds. Itemize costs where possible. Costs may be estimates determined through quotes received from vendors for specific activities. However, please do *not* include vendor estimates as attachments to this PDF form.

SI_#17 Benchmark 2 Total Costs. Maximum value is \$50,000. The “Total Costs” boxes are self-adding, which means they calculate the total automatically from the Itemized Costs boxes. Include only Strategic Initiative funds in total costs.

SI_#18 The *V2 Observation Report* describes the steps that must be taken in order to meet the **searchable format** standard. Indicate whether the county will perform all of the data cleanup and standardization tasks described in the *V2 Observation Report* to achieve the searchable format before submitting data for V3 by March 31, 2017. Counties are highly encouraged to meet the searchable format standard for the V3 data submittal, using grant funds to do so if necessary. See SI_#4 directions above.

SI_#19 Briefly describe how you will address the deficiencies identified in the *V2 Observation Report* in order to meet the searchable format standard. If the deficiencies cannot be addressed by March 31, 2017, please explain what circumstances would not allow the county to rectify them before March 31, 2017 (for the V3 call for data). Aim for ~800 characters or less. The font size will shrink as you type more text.

SI_#20 Indicate whether your county’s digital parcel fabric is complete. Give estimated year of completion if applicable. Note that there may exist within a county certain areas that do not require detailed parcel mapping, such as state forests. These areas can be treated as a single large parcel as long as they are designated as such in the submitted dataset.

SI_#21 If the county's parcel fabric is incomplete, indicate whether the county will use 2017 Strategic Initiative grant funds to work toward completion.

SI_#22 Benchmark 3 Land Information Plan Citations. If a county has an incomplete digital parcel fabric, list the corresponding citation (section and page numbers) from the county's land information plan for a *Project Plan for Parcel Completion*.

PLSS first approach. Some counties have a plan in place to complete PLSS remonumentation before completing the parcel fabric in a given area. Counties have the option of adopting a "PLSS first approach," in which PLSS should be prioritized for areas not covered by the parcel fabric. If selecting a PLSS first approach, note this in the *Project Plan for PLSS*, described in SI_#28 below.

SI_#23 Benchmark 3 Project Activities and Itemized Costs. For Benchmark 3, provide costs for the project to be paid with WLIP Strategic Initiative grant funds. Itemize costs where possible. Costs may be estimates determined through quotes received from vendors for specific activities. However, please do *not* include vendor estimates as attachments to this PDF form.

SI_#24 Benchmark 3 Total Costs. Maximum value is \$50,000. The "Total Costs" boxes are self-adding, which means they calculate the total automatically from the Itemized Costs boxes. Include only Strategic Initiative funds in total costs.

SI_#25 Indicate whether your county has reached a satisfactorily complete and integrated PLSS framework. This includes: rediscovery of PLSS corner monuments and physical remonumentation of corners without existing monuments; establishing accurate coordinates on these corners based on a modern datum; posting tie sheets online for these corners; and integrating all county PLSS corners into the county parcel fabric. Give estimated year of completion if applicable.

SI_#26 If the county has determined that its PLSS has not reached a satisfactory level of completion and integration, indicate whether 2017 Strategic Initiative grant funds will be used to make progress toward Benchmark 4.

Those counties who utilize Strategic Initiative grant funds for PLSS work will be required to submit a digital copy of all county PLSS corner coordinates values for inclusion in the State Cartographer's Office online *PLSSFinder* upon project completion (project deadline of March 31, 2018). New or updated corners must be tagged with their appropriate accuracy class (survey-grade, sub-meter, or approximate). This submission must include an attribute flag, timestamp, or other mechanism in the data to identify PLSS records that have been added or modified since the last submission.

SI_#27 **Benchmark 4 waiver request to acquire LiDAR.** Strategic Initiative funds for 2017 are intended to be used for the purposes of parcel dataset development. However, it may be possible to use Strategic Initiative funds for LiDAR, subject to the following conditions: First, a county would need to use the funds to meet parcel Benchmarks 1-3. Then, if a county has remaining Strategic Initiative grant funding, it may expend it on LiDAR *before* Benchmark 4 (Completion and Integration of PLSS).

SI_#28 Benchmark 4 Land Information Plan Citations. If a county has not achieved satisfactory completion and integration of its PLSS framework, list the corresponding citation (section and page numbers) from the county's land information plan for a *Project Plan for PLSS*.

Project Plan for PLSS. If the county has not achieved a complete and integrated PLSS framework, the county must have a project within the county land information plan in the "Current & Future Projects" section that outlines:

1. Planned approach for remonumenting, rediscovering, and establishing survey-grade coordinates for PLSS corners, and integrating corners into the parcel fabric. Due to cost, accessibility, or land ownership, lower-quality coordinates may be substituted. However, lower grade coordinates should be the exception, rather than the rule. In addition, counties may but are not required to use Strategic Initiative grant funds to upgrade their PLSS from a NAD 27 coordinate system to a more current datum.
2. Current status of PLSS data in the county including a tally of the total number of corners, their remonumentation status, and their coordinate status (accuracy class) if known. Accuracy classes include survey-grade, sub-meter, and approximate.
 - **Survey-grade** – Coordinates collected under the direction of a professional land surveyor, in a coordinate system allowed by s. 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision.
 - **Sub-meter** – Accuracies of 1 meter or better
 - **Approximate** – Accuracies of within 5 meters or to coordinates derived from public records and other relevant information.

3. Goals for the funding period, including the number of corners to be remonumented and/or rediscovered, the number to have new coordinates established, the accuracy class for these new coordinates, and the way in which these points will be integrated into the parcel fabric.
4. Documentation for any missing corner data as discussed below.
5. Efforts to collaborate with neighboring counties.

SI_#29

Benchmark 4 Project Activities and Itemized Costs. For Benchmark 4, provide costs for the project to be paid with WLIP Strategic Initiative grant funds. Itemize costs where possible. Costs may be estimates determined through quotes received from vendors for specific activities. However, please do *not* include vendor estimates as attachments to this PDF form.

SI_#30

Benchmark 4 Total Costs. Maximum value is \$50,000. The “Total Costs” boxes are self-adding, which means they calculate the total automatically from the Itemized Costs boxes. Include only Strategic Initiative funds in total costs.

SI_#31

Other County Strategic Initiative Projects. Applies only to situations in which a county has already met Benchmarks 1, 2, 3, and 4 (or 1-3 with LiDAR waiver). Specifically, this entails:

- Benchmarks 1 and 2 – Parcel and zoning data with extended parcel attributes will be submitted by March 31, 2017 for the V3 call for data in the searchable format standard
- Benchmark 3 – Parcel fabric is complete
- Benchmark 4 – PLSS framework has reached a level of satisfactory completion and integration, which is documented in the “PLSS” Foundational Element layer status section of the county land information plan (with the exception of LiDAR waiver counties described in SI_#27)

If a county has already met Benchmarks 1, 2, 3, and 4 (or 1-3 with LiDAR waiver), it will still remain eligible for \$50k in 2017 Strategic Initiative grant funding. Such a county may use the Strategic Initiative funding for a project as listed in the “Current & Future Projects” section within the county land information plan.

For example, another Strategic Initiative project might be to complete or comprehensively update another Foundational Element layer, such as LiDAR, orthoimagery, address points, street centerlines, land use, zoning, or administrative boundaries. For the expanded list of Foundational Elements, see the *2015 Uniform Instructions for Preparing County Land Information Plans*.

Strategic Initiative funding exclusions. Strategic Initiative grant funding may not be used for renewing annual software vendor contracts, ongoing operational costs, or maintenance of existing layers.

SI_#32

Estimated amount of \$50,000 to be left after applying any costs to achieve Benchmarks 1-4 (or 1-3 for LiDAR waiver counties). Enter zero or “More than zero” and dollar amount.

Addendum. If “More than zero” is selected, use the *2017 WLIP Grant Application Addendum* to document the projects the county will use the Strategic Initiative funding for. You may attach as many grant application addendum pages as necessary. Addendum pages are available for download at www.doa.state.wi.us/WLIP.

LiDAR waiver counties should also use the addendum to document the LiDAR project you will use the Strategic Initiative funding for. Others may leave blank or **delete the addendum page** if not applicable.

SI_#33

TOTAL ALL STRATEGIC INITIATIVE GRANT PROJECT COSTS should not exceed \$50,000—the Strategic Initiative Award Eligible amount. Include costs for addendum projects in Strategic Initiative total if applicable. If the county anticipates spending more than \$50,000 of Strategic Initiative funds on a project, this should have been noted in the county land information plan.

SI_#34

Land information officer name (typed) and date are required. Please do *not* sign and scan the form you send to WLIP. Handwritten signatures are **not** required. Submit the application by emailing a completed digital PDF form that has been electronically filled-out (not scanned) to WLIP@wisconsin.gov.

Base Budget Grant Application Instructions

BB_#1 The amount your county is eligible for 2017 Base Budget grant. Refer to the grant eligibility table on page 9 for amount. If your county is not eligible, you may **delete** the Base Budget application pages.

BB_#2 Enter the amount requested. The amount of funds requested/disbursed may not exceed your county's eligible amount from the grant eligibility table on page 9.

BB_#3 Project Title. Provide a title for the Base Budget project your county plans to undertake that accurately but concisely describes the project.

BB_#4 Project Activity Areas. Select the project activity area covered by the Base Budget project title. Refer to Chapter Adm. 47.03 for eligible projects and activities. Projects must fall under one of the following categories:

- Digital parcel mapping
- PLSS remonumentation
- Other parcel work (e.g., ROD indexing)
- LiDAR
- Orthoimagery
- Address Points
- Street Centerlines
- Software
- Hardware
- Website Development/Hosting Services
- Administrative Activities and Management
- Training and Education
- Other (specify)

Please do not select "Other" as a Base Budget Project Activity Area unless the project genuinely does not fit into one of the categories above.

BB_#5 Land Information Plan Citations. For each project, list the corresponding citation (section and page numbers) from the county's plan. All proposed grant activities must reflect goals and objectives contained in the county's land information plan.

BB_#6 Project Activities and Itemized Costs. For each project, provide costs for the project to be paid with WLIP grant funds. Itemize costs where possible. Costs may be estimates determined through quotes received from vendors for specific activities. However, please do *not* include vendor estimates as attachments to this PDF form. Type a concise description for each itemized cost, beginning with row1, column1. Enter dollar amount in row1, column2. The font size will shrink as you type, becoming smaller to accommodate more text.

BB_#7 Base Budget Project Total. The "Base Budget Project Total" boxes are self-adding, which means they calculate the total automatically from the Itemized Costs boxes.

BB_#8-22 Fill out questions 8-12, 13-17, and 18-22 only if your county has multiple Base Budget projects. Counties with more than four Base Budget projects should attach additional pages of the *WLIP 2017 Grant Application Addendum*. You may attach as many addendum pages as necessary or email them as separate files. Addendum pages are available for download at www.doa.state.wi.us/WLIP.

BB_#23 TOTAL ALL BASE BUDGET GRANT PROJECT COSTS should not exceed Base Budget Award Eligible amount shown in BB_#1. Include costs for addendum projects in Base Budget total if applicable.

BB_#24 Land information officer name (typed) and date are required. Please do *not* sign and scan the form you send to WLIP. Handwritten signatures are **not** required. Submit the application by emailing a completed digital PDF form that has been electronically filled-out (not scanned) to WLIP@wisconsin.gov.

2017 Grant Eligibility Table

	FY 2016 Retained Fees (July 2015-June 2016)	BB Grant Eligibility (\$100k- FY 2016 Retained Fees)	Strategic Initiative Grant Eligibility	Training & Education Grant Eligibility	Total Grant Eligibility Amount
Adams	49,040	50,960	50,000	1,000	101,960
Ashland	23,480	76,520	50,000	1,000	127,520
Barron	73,920	26,080	50,000	1,000	77,080
Bayfield	38,600	61,400	50,000	1,000	112,400
Brown	316,608	NA	50,000	1,000	51,000
Buffalo	22,408	77,592	50,000	1,000	128,592
Burnett	39,376	60,624	50,000	1,000	111,624
Calumet	70,880	29,120	50,000	1,000	80,120
Chippewa	89,088	10,912	50,000	1,000	61,912
Clark	50,184	49,816	50,000	1,000	100,816
Columbia	87,600	12,400	50,000	1,000	63,400
Crawford	24,624	75,376	50,000	1,000	126,376
Dane	658,920	NA	50,000	1,000	51,000
Dodge	102,808	NA	50,000	1,000	51,000
Door	68,096	31,904	50,000	1,000	82,904
Douglas	60,904	39,096	50,000	1,000	90,096
Dunn	52,936	47,064	50,000	1,000	98,064
Eau Claire	120,768	NA	50,000	1,000	51,000
Florence	10,744	89,256	50,000	1,000	140,256
Fond du Lac	123,424	NA	50,000	1,000	51,000
Forest	21,832	78,168	50,000	1,000	129,168
Grant	62,184	37,816	50,000	1,000	88,816
Green	51,480	48,520	50,000	1,000	99,520
Green Lake	28,352	71,648	50,000	1,000	122,648
Iowa	39,848	60,152	50,000	1,000	111,152
Iron	14,936	85,064	50,000	1,000	136,064
Jackson	33,528	66,472	50,000	1,000	117,472
Jefferson	107,208	NA	50,000	1,000	51,000
Juneau	43,544	56,456	50,000	1,000	107,456
Kenosha	185,280	NA	50,000	1,000	51,000
Kewaunee	29,072	70,928	50,000	1,000	121,928
La Crosse	148,264	NA	50,000	1,000	51,000
Lafayette	27,640	72,360	50,000	1,000	123,360
Langlade	34,872	65,128	50,000	1,000	116,128
Lincoln	43,832	56,168	50,000	1,000	107,168
Manitowoc	97,064	2,936	50,000	1,000	53,936
Marathon	174,368	NA	50,000	1,000	51,000

	FY 2016 Retained Fees (July 2015-June 2016)	BB Grant Eligibility (\$100k- FY 2016 Retained Fees)	Strategic Initiative Grant Eligibility	Training & Education Grant Eligibility	Total Grant Eligibility Amount
(Continued)	----	----	----	----	----
Marinette	78,176	21,824	50,000	1,000	72,824
Marquette	28,176	71,824	50,000	1,000	122,824
Menominee	3,744	96,256	50,000	1,000	147,256
Milwaukee	824,488	NA	50,000	1,000	51,000
Monroe	63,416	36,584	50,000	1,000	87,584
Oconto	69,136	30,864	50,000	1,000	81,864
Oneida	85,152	14,848	50,000	1,000	65,848
Outagamie	232,624	NA	50,000	1,000	51,000
Ozaukee	120,496	NA	50,000	1,000	51,000
Pepin	11,472	88,528	50,000	1,000	139,528
Pierce	54,936	45,064	50,000	1,000	96,064
Polk	80,056	19,944	50,000	1,000	70,944
Portage	85,888	14,112	50,000	1,000	65,112
Price	24,872	75,128	50,000	1,000	126,128
Racine	219,808	NA	50,000	1,000	51,000
Richland	24,872	75,128	50,000	1,000	126,128
Rock	201,248	NA	50,000	1,000	51,000
Rusk	26,704	73,296	50,000	1,000	124,296
Sauk	166,872	NA	50,000	1,000	51,000
Sawyer	42,712	57,288	50,000	1,000	108,288
Shawano	60,816	39,184	50,000	1,000	90,184
Sheboygan	140,712	NA	50,000	1,000	51,000
St. Croix	134,608	NA	50,000	1,000	51,000
Taylor	29,528	70,472	50,000	1,000	121,472
Trempealeau	43,808	56,192	50,000	1,000	107,192
Vernon	40,848	59,152	50,000	1,000	110,152
Vilas	67,088	32,912	50,000	1,000	83,912
Walworth	161,832	NA	50,000	1,000	51,000
Washburn	35,912	64,088	50,000	1,000	115,088
Washington	184,888	NA	50,000	1,000	51,000
Waukesha	514,952	NA	50,000	1,000	51,000
Waupaca	76,160	23,840	50,000	1,000	74,840
Waushara	43,568	56,432	50,000	1,000	107,432
Winnebago	204,592	NA	50,000	1,000	51,000
Wood	91,248	8,752	50,000	1,000	59,752
Total	7,503,120	2,641,648	3,600,000	72,000	6,313,648



2017 WLIP Grant Application

County:	Name of Land Information Officer:
---------	-----------------------------------

1. County submitted an adopted 2016 land information plan to DOA	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Date of last county land information council meeting (dd/mm/yyyy)		
3. LIO subscribed to the Land Information Officer's listserv	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. County's <i>Retained Fee/Grant Report</i> for 2015 submitted	<input type="checkbox"/> Yes	<input type="checkbox"/> No

TRAINING & EDUCATION GRANT APPLICATION

5. Training & Education Award Eligible	\$1,000.00
6. Training & Education Award Amount Requested	\$

7. Brief Description of Intended Expenditures for Training & Education Grant

8. Statement and Authorization of Land Information Officer
As the Land Information Officer for the above county, I am authorized to submit this application, as an eligible applicant, on the authority of the county board. I understand that application authority shall be obtained by specific action of the county board, and that the WLIP may request evidence of such authority. Project work shall meet all standards and conditions as set forth by the relevant Wisconsin State Statutes, Wisconsin Administrative Code, and policy adopted by the Wisconsin Land Information Program or the Wisconsin Department of Administration. To the best of my knowledge, the information contained in this application is accurate and complete. I understand that Training & Education grant projects must be completed by December 31, 2018.

LIO Name (typed)	Date(dd/mm/yyyy)
------------------	------------------



2017 WLIP Grant Application

County:	Name of Land Information Officer:
---------	-----------------------------------

STRATEGIC INITIATIVE GRANT APPLICATION	
1. Strategic Initiative Award Eligible	\$50,000.00
2. Strategic Initiative Award Amount Requested	\$
3. Summary of intended expenditures for 2017 Strategic Initiative grant (check all that apply)	
<input type="checkbox"/> Benchmark 1 <input type="checkbox"/> Benchmark 2 <input type="checkbox"/> Benchmark 3 <input type="checkbox"/> Benchmark 4 <input type="checkbox"/> Benchmark 4 waiver in favor of LiDAR project <input type="checkbox"/> Other county-level Strategic Initiative project(s)	

BENCHMARK 1			
4. County anticipates meeting Benchmark 1 for the V3 call for data by March 31, 2017 in which format:			
<input type="checkbox"/> Export format <input type="checkbox"/> Searchable format			
5. Will county use 2017 Strategic Initiative Funding to work toward selected V3 format for Benchmark 1 in the first quarter of 2017?			
<input type="checkbox"/> Yes <input type="checkbox"/> No			
6. County anticipates meeting Benchmark 1 for the V4 call for data by March 31, 2018 in which format:			
<input checked="" type="checkbox"/> Export format is <i>not</i> an option for V4 <input type="checkbox"/> Searchable format			
7. Will county use 2017 Strategic Initiative Funding to work toward selected V4 format for Benchmark 1?			
<input type="checkbox"/> Yes <input type="checkbox"/> No			
8. Benchmark 1 Land Information Plan Citations for <i>Project Plan to Achieve Searchable Format for Benchmarks 1 & 2</i> – Section and page numbers			
9. Benchmark 1 Project Activities and Itemized Costs ▼			
			10. Benchmark 1 Total Costs

BENCHMARK 2

11. County anticipates meeting Benchmark 2 for the **V3** call for data by March 31, 2017 in which format:

- Export format
- Searchable format

12. Will county use 2017 Strategic Initiative Funding to work toward selected **V3** format for Benchmark 2 in the first quarter of 2017?

- Yes
- No

13. County anticipates meeting Benchmark 2 for the **V4** call for data by March 31, 2018 in which format:

- Export format is *not* an option for V4
- Searchable format

14. Will county use 2017 Strategic Initiative Funding to work toward selected **V4** format for Benchmark 2?

- Yes
- No

15. Benchmark 2 Land Information Plan Citations for *Project Plan to Achieve Searchable Format for Benchmarks 1 & 2* – Section and page numbers

16. Benchmark 2 Project Activities and Itemized Costs ▼

17. Benchmark 2 Total Costs

SEARCHABLE FORMAT FOR BENCHMARKS 1 & 2

18. Will County perform all of the data cleanup and standardization tasks described in the *V2 Observation Report* in order to meet the searchable format standard before submitting data for the **V3** call for data by March 31, 2017?

- Yes
- No

19. Briefly describe how you will address the deficiencies identified in the *V2 Observation Report* in order to meet the searchable format standard. If you answered “No” to SI_#18 above, explain why the deficiencies cannot be addressed by the V3 call for data, and how they will be addressed by March 31, 2018 (at the latest):

BENCHMARK 3

20. Is your county's digital parcel fabric complete (including incorporated areas)?

Yes, parcel fabric complete (skip to Benchmark 4 section below)

No, county needs to work toward Benchmark 3 ▶ Estimated year of completion ▶

21. Will county use 2017 Strategic Initiative funding to work toward Benchmark 3?

Yes

No

22. Benchmark 3 Land Information Plan Citations for *Project Plan for Parcel Completion* – Section and page numbers

23. Benchmark 3 Project Activities and Itemized Costs ▼

24. Benchmark 3 Total Costs

BENCHMARK 4

25. Is your county's PLSS network complete and integrated into digital parcel layer?

Yes, PLSS network complete and integrated

No, county needs to work toward Benchmark 4 ▶ Estimated year of completion ▶

26. Will county use 2017 Strategic Initiative funding to work toward Benchmark 4?

Yes

No

27. Benchmark 4 waiver request: Check the waiver box if you wish to request a waiver from Benchmark 4 in favor of LiDAR costs

N/A

Yes, waiver requested in favor of LiDAR project ▶ Fill out *2017 WLIP Grant Application Addendum*

28. Benchmark 4 Land Information Plan Citations for *Project Plan for PLSS* – Section and page numbers

29. Benchmark 4 Project Activities and Itemized Costs ▼

30. Benchmark 4 Total Costs

OTHER COUNTY STRATEGIC INITIATIVE PROJECTS

31. County anticipates meeting Benchmarks 1-4 (or 1-3 with LiDAR waiver) **and** foresees having some of the 50k Strategic Initiative funding "leftover"?

- Yes
- No

32. Estimated amount of 50k to be left after applying any costs to achieve Benchmarks 1-4 (or 1-3 for LiDAR waiver counties)

- Zero
- More than zero ▶ Specify amount ▶ \$

If "More than zero" is selected, use the *2017 WLIP Grant Application Addendum* to describe the projects you will use the Strategic Initiative funding for.

33. TOTAL ALL STRATEGIC INITIATIVE PROJECTS (should equal \$50,000.00)

34. Statement and Authorization of Land Information Officer

As the Land Information Officer for the above county, I am authorized to submit this application, as an eligible applicant, on the authority of the county board. I understand that application authority shall be obtained by specific action of the county board, and that the WLIP may request evidence of such authority. Project work shall meet all standards and conditions as set forth by the relevant Wisconsin State Statutes, Wisconsin Administrative Code, and policy adopted by the Wisconsin Land Information Program or the Wisconsin Department of Administration. To the best of my knowledge, the information contained in this application is accurate and complete. I understand that Strategic Initiative grant projects must be completed by March 31, 2018.

LIO Name (typed)

Date (dd/mm/yyyy)



2017 WLIP Grant Application

County:	Name of Land Information Officer:
---------	-----------------------------------

BASE BUDGET GRANT APPLICATION

1. Base Budget Award Eligible (from grant eligibility table on page 9)	\$
2. Base Budget Award Amount Requested	\$

3. Base Budget Grant Project Title 1			
4. Land Information Spending Category			
5. Land Information Plan Citations – Section and page numbers			
6. Project Activities and Itemized Costs ▼			
		7. Base Budget Project 1 Total	

8. Base Budget Grant Project Title 2			
9. Land Information Spending Category			
10. Land Information Plan Citations – Section and page numbers			
11. Project Activities and Itemized Costs ▼			
		12. Base Budget Project 2 Total	

BASE BUDGET GRANT APPLICATION CONTINUED

13. Base Budget Grant Project Title 3

14. Land Information Spending Category

15. Land Information Plan Citations – Section and page numbers

16. Project Activities and Itemized Costs ▼

		17. Base Budget Project 3 Total	

18. Base Budget Grant Project Title 4

19. Land Information Spending Category

20. Land Information Plan Citations – Section and page numbers

21. Project Activities and Itemized Costs ▼

		22. Base Budget Project 4 Total	

23. TOTAL ALL BASE BUDGET GRANT PROJECT COSTS (not to exceed BB_#1)

24. Statement and Authorization of Land Information Officer

As the Land Information Officer for the above county, I am authorized to submit this application, as an eligible applicant, on the authority of the county board. I understand that application authority shall be obtained by specific action of the county board, and that the WLIP may request evidence of such authority. Project work shall meet all standards and conditions as set forth by the relevant Wisconsin State Statutes, Wisconsin Administrative Code, and policy adopted by the Wisconsin Land Information Program or the Wisconsin Department of Administration. To the best of my knowledge, the information contained in this application is accurate and complete. I understand that Base Budget grant projects must be completed by December 31, 2018.

LIO Name (typed)

Date (dd/mm/yyyy)

SUBMISSION DOCUMENTATION

Version 3 Statewide Parcel Map Database Project

January 31, 2017

Contents

CHECKLIST2

NEW FOR V34

APPENDICES.....5

- A. Searchable Format – Parcels.....5
- B. PARCEL SCHEMA FOR V38
- C. Searchable Format – Zoning20
- D. ZONING SCHEMA FOR V322
- E. Other Layers23
- F. Export Format.....24

VALIDATION AND SUBMISSION TOOL..... @ www.sco.wisc.edu

DIGITAL APPENDICES @ www.sco.wisc.edu

- V3_Parcel_Domain_List.xlsx
- V3_GISTemplates.zip

TOOLS AND GUIDES..... @ www.sco.wisc.edu

- Data Standardize Tool
- Address Parsing Tool
- DOR XML Parse Tool
- Condo Stack Tool
- Class of Property Dissolve Tool
- Null Fields and Set To UPPERCASE Tool
- Field Mapping Workflow Documentation
- FEMA Floodplain Guide
- Summary Table Guide

UPLOAD DATA @ wisedecade.legis.wisconsin.gov

PDF “BACK” - RETURN TO PREVIOUS PAGE..... Alt + Left arrow key

TO RETURN TO TABLE OF CONTENTS Click 

Wisconsin State Cartographer’s Office
384 Science Hall
550 North Park Street
Madison, WI 53706-1491
608-262-3065
sco@wisc.edu
www.sco.wisc.edu

Wisconsin Department of Administration
Wisconsin Land Information Program
101 East Wilson Street
Madison, WI 53703
608-267-3369
wlip@wisconsin.gov
www.doa.state.wi.us/WLIP

Tools

Tools and Guides to Assist. To help counties achieve the Searchable Format, several tools (with guides and video tutorials) are available on the V3 webpage for automating the standardization and grooming of data.

- Validation and Submission Tool
- Data Standardize Tool
- Address Parsing Tool
- DOR XML Parse Tool
- Condo Stack Tool
- Class of Property Dissolve Tool
- Null Fields and Set to UPPERCASE Tool
- Field Mapping Workflow Documentation
- Summary Table Guide
- FEMA Floodplain Guide
- GIS Templates

Dates of Data

V3 data submitted by March 31, 2017 should be a snapshot of:

- **Parcel geometry** from January 1, 2017 (or more current if available).
- **Tax roll data** associated with the parcel as finalized in December of 2016 (based on the parcel as it existed on January 1, 2016, as assessment data lags a year behind).

Counties Note

You may need to first groom the data!

Note that counties may need to clean and standardize some of the parcel and tax roll data in order to meet the Searchable Format. The county is responsible for meeting the Searchable Format standard—regardless of whether they work with a third-party vendor. All submissions should be vetted by the county before submission, as vendors do not always catch each error or deviation from the schema fields/domains.

County Incorporate ALL Municipal Data.

Counties should be the only entity submitting data for V3. If a municipality stewards 1) parcel data and/or 2) tax roll data separately from the county, the county should request, integrate, and submit data **that has been standardized** for the municipality.

Grant Timeline

Submit By March 31, 2017

State Cartographer's Office Intake of Data
≤ 2 weeks after submission

DOA Cross-Check of Submission with Grant Application

First Half of Strategic Initiative Grant Funds Dispersed
≤ 2 months after submission

Second Half of Strategic Initiative Grant Funds Dispersed
Upon county completion of expenditure activities from 2017 grant application

Questions?

- **LIO contacts in your peer counties are a great resource!**
- Check the FAQs section on the [V3 webpage](#)
- **Technical questions** – contact Codie See, csee@wisc.edu
- **Policy/grant questions** – contact Peter Herreid at 608-267-3369 or peter.herreid@wisconsin.gov

✓ PREP

- **Crucial! Review the schema documentation and [V3 webpage](#)**
- **Choose: SEARCHABLE or EXPORT FORMAT**
SEARCHABLE FORMAT – County data submittal is ready for immediate aggregation into the statewide layer, as it matches the statewide schema exactly. All attribute data exists in the GIS table. Some domains standardized.
EXPORT FORMAT – Flexible format which will be converted to the Searchable Format on behalf of counties. Be sure to select 1 of 4 models of **join type** from [Appendix F](#).
- **Become familiar with the available [tools](#) that may be useful**
- **Review your [V2 Observation Report](#) as a reminder of the ways you fell short of the Searchable Format with your V2 submission**

✓ PARCEL FEATURE CLASS WITH TAX ROLL DATA

- **All attribute data in ONE table**
- **Include county-wide digital parcel data with attributes according to [Appendix B](#) (PARCEL SCHEMA – annotated list on reverse ▶)**
- **SEARCHABLE FORMAT ONLY: Follow instructions in [Appendix A](#) to format, standardize domains, and model condos**
- **EXPORT FORMAT ONLY: Choose condo model scenario from [Fig A-1](#). If condos are not modeled geometrically (Figure A-1) so that each record attaches to one and only one parcel geometry, contact SCO.**
- **EXPORT FORMAT ONLY: If the model requires a join between the attribute data and parcel geometries, specify join PINs in submission form and, if applicable, include XREF TABLE**
- **EXPORT FORMAT ONLY: Follow instructions in [Appendix F](#) to format**

✓ CO. ZONING DATA

- **Submit a separate feature class for each of 5 types of zoning data the county administers with DESCRIPTION or LINK information**
County-administered zoning is limited to county general, farmland preservation, shoreland, floodplain, and airport protection zoning.
- **Follow instructions in [Appendix C](#) and zoning schema in [Appendix D](#)**

✓ OTHER LAYERS

Submit other layers AS IS, per [Appendix E](#):

- Rights-of-Way
- Roads/Streets/Centerlines
- Hydro
- Address Points
- Buildings/Building Footprints
- Land Use
- Parks/Open Space; Trails; Other Recreation Data

✓ VALIDATION AND SUBMISSION TOOL+FORM

- **SEARCHABLE FORMAT:** Run **Validation and Submission Tool**
You may need to REPEAT in **TEST mode** until you have reached the Searchable Format
- **BOTH FORMATS:** Run **Validation and Submission Tool** in **FINAL mode**
- Input your **Explain-Certification.txt** file in tool
- **Certify that your submission is complete** (relative to Element Occurrence Standard). Use **"3-Submission Form Basic Info"** in tool
- **Save the ".ini" file—which is your mandatory submission form**

✓ ZIP & SUBMIT

- **Submit .ini file + data to wisedecade.legis.wisconsin.gov**

Checklist Continued

Benchmarks

The 2017 WLIP grant application outlines the official benchmark requirements which follow from the directives associated with Wisconsin s. 59.72(2)(a). The original four benchmarks from the 2016 Strategic Initiative grant application are the exact same as the 2017 benchmarks. There are four benchmarks for parcel data:

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

Together, Benchmark 1 and 2 make up the **Searchable Format** standard for parcel data.

The Searchable Format

In the Searchable Format, county data submittal is ready for immediate aggregation into the statewide parcel layer. The county performs all data standardization and clean-up before submitting data. Counties are to meet the Searchable Format by March 31, 2018 at the latest and are eligible for grant funding assistance to meet this standard. The Searchable Format should be the goal for all V3 submissions. The lesser **Export Format** will not be an option for V4 or thereafter.

Standardized Domains

The checklist table identifies where standard domains are required. Standardized field names and standardized domains are required for the Searchable Format, but standardization may be used voluntarily for those submitting in the Export Format. Fields should be standardized based on Appendix B and the Digital Appendix containing acceptable values for parcel domains.

Address Parsing

Counties must provide fully parsed site address elements for both the Searchable and Export formats. While PSTLADRES and SITEADDRESS are provided as a full field and not parsed, there are **elements** of the parcel's **SITEADDRESS** which should be **parsed into individual elements with standardized domains**.

Completeness Relative to Element Occurrence Standard

This means that if an element (such as a property address, total assessed value, total property tax value, etc.) actually occurs for a given parcel, then this element should be included in the submitted dataset. This also means that there may be justifiable omissions from the submitted dataset. Examples might be missing tax data for tax exempt properties, no address when no structure is present on a property, etc. Data elements must be included only if they actually occur in the county land information system.

Parcel Splits/New Parcels

A parcel that has been split or newly created (with tax roll values not appearing until the following assessment year) will have a **<Null>** value in any attribute field that is a tax roll field (with the possible exception of TAXROLLYEAR). See schema definition for TAXROLLYEAR.

Formatting for Attribute Fields

All attributes denoted by alpha characters should be formatted as UPPERCASE strings. Currency attributes should be formatted as numeric values or doubles. See full schema for details.

Handling of Multiple Values

For several fields it is possible for more than one field value to exist for a given parcel. In these cases, specific actions should be taken to handle these values properly. Handling of multiple values properly is a requirement of both submission formats—Searchable and Export. Handling multiple values is better defined per individual attribute in the full schema documentation (see PROPCCLASS/AUXCLASS; OWERNRME1/2; PSTLADRES; SITEADDRESS; ADDRESS ELEMENTS).

Read the Full V3 Submission Documentation!

This checklist does NOT represent all schema specs and requirements. Read the full documentation and ask questions along the way as you prep your data!

ZONING SCHEMA

Statewide Field Name (Clickable)	Definition (Full Definition in Appendix D)
<input type="checkbox"/> ZONINGFIPS	3-digit county FIPS code for the county
<input type="checkbox"/> JURISDICTION	County name
<input type="checkbox"/> ZONINGCLASS	Class of zoning within the given zoning type
<input type="checkbox"/> DESCRIPTION	Description of the meaning of the zoning class
<input type="checkbox"/> LINK	Link to metadata or table describing the meaning of the zoning class

Statewide Field Name (Clickable)	Alias (Full Definition in Appendix B)	Benchmark 1 Requirement	Benchmark 2 Requirement	Standardize Domains
<input type="checkbox"/> STATEID ¹³	Auto-Populated State ID	–	–	–
<input type="checkbox"/> PARCELID	Parcel ID	Yes	Yes	–
<input type="checkbox"/> TAXPARCELID	Tax Parcel ID ¹	Yes	Yes	–
<input type="checkbox"/> PARCELDATE	Parcel Date	No	Yes	–
<input type="checkbox"/> TAXROLLYEAR	Tax Roll Year	Yes	Yes	–
<input type="checkbox"/> OWERNRME1 ²	Primary Owner Name ³	No	Yes	–
<input type="checkbox"/> OWERNRME2	Secondary Owner Name ³	No	Yes – If available	–
<input type="checkbox"/> PSTLADDRESS	Full Mailing Address (Owner) ⁴	No	Yes	–
<input type="checkbox"/> SITEADDRESS	Full Physical Street Address ^{5,6}	Yes	Yes	–
<input type="checkbox"/> ADDNUMPREFIX	Address Number Prefix	No	Yes – Parse ^{7,8}	–
<input type="checkbox"/> ADDNUM	Address Number	No	Yes – Parse ^{7,8}	–
<input type="checkbox"/> ADDNUMSUFFIX	Address Number Suffix	No	Yes – Parse ^{7,8}	–
<input type="checkbox"/> PREFIX	Prefix	No	Yes – Parse ^{7,8}	Yes - PREFIX
<input type="checkbox"/> STREETNAME	Street Name	No	Yes – Parse ^{7,8}	–
<input type="checkbox"/> STREETTYPE	Street Type	No	Yes – Parse ^{7,8}	Yes - STREETTYPE
<input type="checkbox"/> SUFFIX	Suffix	No	Yes – Parse ^{7,8}	Yes - SUFFIX
<input type="checkbox"/> LANDMARKNAME	Landmark Name	No	Yes – Parse ^{7,8}	–
<input type="checkbox"/> UNITTYPE	Unit Type	No	Yes – Parse ^{7,8}	–
<input type="checkbox"/> UNITID	Unit ID	No	Yes – Parse ^{7,8}	–
<input type="checkbox"/> PLACENAME	Place Name (Jurisdictional)	No	Yes	–
<input type="checkbox"/> ZIPCODE	Zip Code	No	Yes	–
<input type="checkbox"/> ZIP4	Zip Code Plus 4	No	Yes	–
<input type="checkbox"/> STATE	State	No	Yes	–
<input type="checkbox"/> SCHOOLDIST	School District	No	Yes	Yes - SCHOOLDIST
<input type="checkbox"/> SCHOOLDISTNO	School District Number	No	Yes	Yes - SCHOOLDISTNO
<input type="checkbox"/> IMPROVED	Improved Structure	No	Yes	Yes - IMPROVED
<input type="checkbox"/> CNTASSDVALUE	Total Assessed Value ⁹	Yes	Yes	–
<input type="checkbox"/> LNDVALUE	Assessed Value of Land	Yes	Yes	–
<input type="checkbox"/> IMPVALUE	Assessed Value of Improvements	Yes – If applicable	Yes – If applicable	–
<input type="checkbox"/> FORESTVALUE	Assessed Forested Value	Yes – If applicable	Yes – If applicable	–
<input type="checkbox"/> ESTFMKVALUE	Estimated Fair Market Value	Yes	Yes	–
<input type="checkbox"/> NETPRPTA	Net Property Tax	Yes	Yes	–
<input type="checkbox"/> GRSRPTA	Gross Property Tax	Yes	Yes	–
<input type="checkbox"/> PROPCCLASS	Class of Property ¹⁰	Yes	Yes	Yes - PROPCCLASS
<input type="checkbox"/> AUXCLASS	Auxiliary Class of Property ¹¹	No	Yes	Yes - AUXCLASS
<input type="checkbox"/> ASSDACRES	Assessed Acres	Yes	Yes	–
<input type="checkbox"/> DEEDACRES	Deeded Acres	Yes	Yes	–
<input type="checkbox"/> GISACRES	GIS Acres ¹²	No	No	–
<input type="checkbox"/> CONAME	County Name	No	Yes	Yes - CONAME
<input type="checkbox"/> LOADDATE ¹³	Load Date	–	–	–
<input type="checkbox"/> PARCELFIPS	Parcel Source FIPS	No	Yes	Yes - PARCELFIPS
<input type="checkbox"/> PARCELSRC	Parcel Source Name	No	Yes	Yes - PARCELSRC
<input type="checkbox"/> ACCESSURL ^{13,14}	Access URL	–	–	–
<input type="checkbox"/> LONGITUDE ¹³	Longitude of Parcel Centroid	–	–	–
<input type="checkbox"/> LATITUDE ¹³	Latitude of Parcel Centroid	–	–	–

Table Notes

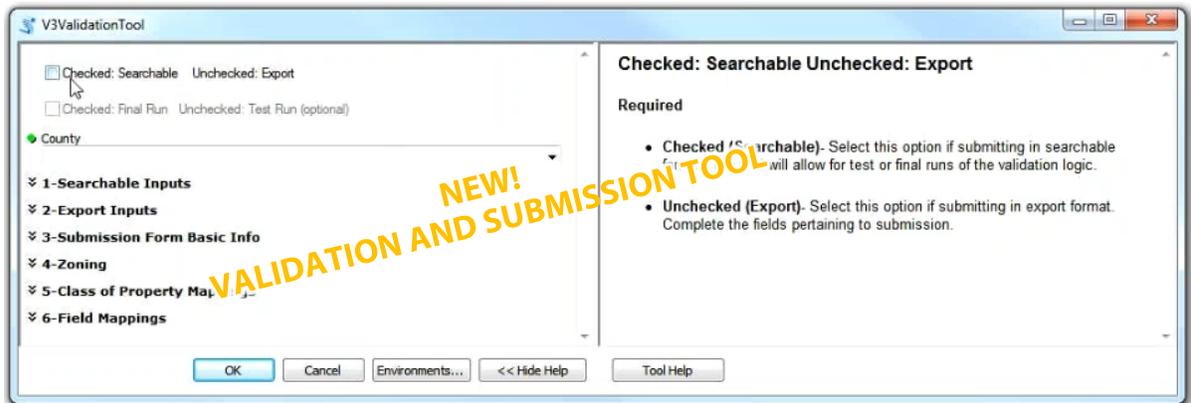
- TAXPARCELID.** The ID that will link to the tax roll; provide if this ID is distinct from PARCELID.
- REDACTION POLICY.** OWERNRME1/OWERNRME2. Owner names are necessary for data submittal to be usable by state agencies. Any redaction of owner names, as required by an existing county or municipal policy, should be handled explicitly in the data before it is submitted. If any or all owner names are not included, the county must include the written policy for excluding them as adopted by the county or municipality with the data submission. See full schema for more.
- OWERNRME1.** 2nd owner goes in OWERNRME2; 3rd owner is omitted.
- PSTLADDRESS.** Tax bill mailing address (for owner—NOT the parcel itself—owner mailing address may be out-of-state); all other mailing addresses omitted.
- SITEADDRESS.** Unless no address has been assigned (e.g., no physical structure on parcel). If a site address does not exist as segmented elements in the county land information system, the county must **parse address elements** before submitting for both the Searchable and Export formats. Address elements are (in this order): ADDNUMPREFIX, ADDNUM, ADDNUMSUFFIX, PREFIX, STREETNAME, STREETTYPE, SUFFIX, LANDMARKNAME, UNITTYPE, UNITID.
- SITEADDRESS.** Only include primary address; 2nd address is omitted.
- PARSING OF ADDRESS ELEMENTS.** (ADDNUMPREFIX through UNITID). Counties must provide fully parsed site address elements for both the Searchable and Export formats.
- ADDRESS ELEMENTS.** (ADDNUMPREFIX through UNITID). Only include address elements from the primary address; any elements from a 2nd address should be omitted.
- CNTASSDVALUE.** Total Assessed Value (CNTASSDVALUE) must be calculated before submitting. Often this is Assessed Value of Land + Assessed Value of Improvements. See full schema for more.
- PROPCCLASS.** Listed if more than one exists and delimited by commas.
- AUXCLASS.** Should be standardized for the assessment classifications of “Special” and “Tax Exempt” specified in schema. Any AUXCLASS class not meeting the definition of one of the Special/Exempt standard domains may be left as-is, but contributors must submit a document that defines each of the submitted domains in the submission form.
- GISACRES.** GIS acres is optional.
- STATEID & LOADDATE.** Include STATEID and LOADDATE with submission but **leave <Null>**. Do NOT include ACCESSURL, LONGITUDE, LATITUDE fields, as they are to be populated by the aggregation team.
- ACCESSURL.** Auto-populated. Leave **<Null>** in attribute table but specify URL value in submission form. URL should be a link to a county webpage to view and/or download most current parcel data from steward. Users of the statewide layer will be directed to this web link for the most current, comprehensive information. See full schema for more.

New For V3

The data acquired through this request will be used to develop a statewide parcel layer for the next version of the Statewide Parcel Map Database Project, Version 3.

The data you are asked to submit for V3 will be remarkably similar to the V2 data. The V3 schema is not different in any substantive way. However, there have been some clarifications, and a few other changes for V3.

Modifications for V3



- **Validation and Submission Tool.** Our project partners at the State Cartographer's Office have built a new Validation and Submission Tool that counties are asked to run in order to validate their data against the schema. Searchable Format submitters can run the tool in TEST mode to pinpoint errors. Both Export and Searchable Format submitters must run the tool in FINAL mode in order to create the mandatory submission form.
- **“.ini” Submission Form.** There is no longer an Excel Submission Form. The Submission Form (an “.ini” file) is now produced by running the Validation and Submission Tool in FINAL mode. The .ini file that results is the submission form.
- **Streamlined Documentation.** The V3 documentation contains all of the same information as V2, but in fewer pages. Therefore, the documentation pagination and appendix numbering is different. Discard any V2 documentation or V2 links. Replace with V3 Submission Documentation and V3 links.
- **Clarified Attribute Definitions and Examples.** The V3 schema remains essentially the same as the V2 schema, but with clarifications to some attribute definitions and additional examples. Counties will want to **carefully read the full schema definitions** in order to ensure they are meeting the Searchable Format and to avoid excessive error messages in the Validation and Submission Tool.
- **Expanded Domains for PREFIX.**
 - Either standard abbreviations OR fully spelled out highway domains are accepted for V3.
 - ▶ **CTH**, or COUNTY HIGHWAY, or COUNTY ROAD
 - ▶ **STH**, or STATE HIGHWAY, or STATE ROAD
 - ▶ **USH**, or US HIGHWAY
- **“ACCESSURL” To Be Added To Statewide Layer.** There is a new attribute to be added to final statewide layer containing a URL to link to a county webpage to view and/or download most current parcel data from steward. This may be a landing page listing multiple county links for various types of parcel data viewers/apps/open data download sites, or it may be a link to a county GIS web map that displays parcel data. Users of the statewide layer will be directed to this web link for the most current, comprehensive information. Counties should specify the value to be used for ACCESSURL in the FINAL mode of the Validation and Submission Tool.
- **Submit Other Layers.** DOA is combining the V3 data request with a request that has been separate in the past—that of Jaime Martindale of the UW-Madison Robinson Map Library. Therefore, we are requesting a few other layers, in addition to parcels with tax roll attributes and county-maintained zoning. See Appendix E for details.

A. Searchable Format – Parcels

The Searchable Format directly meets the data model requirements of the statewide parcel layer. When submitting in the Searchable Format, the parcel and tax roll data is prepared by the county for immediate aggregation with the statewide layer, matching the schema exactly. Counties must plan to meet the Searchable Format by March 31, 2018 at the latest.

The Searchable Format follows a “FLAT MODEL,” meaning that one-to-many, many-to-many, or many-to-one relationships between geometries and attributes cannot exist. This also means that **all attribute data exists in the GIS table**. Data submissions requiring table joins are prohibited in the Searchable Format.

1. Searchable Format Parcel Geometries

1.1 File Specifications

- **GIS Template.** A GIS template file has been provided on the V3 webpage and can be used for submission: \\GISTemplates.gdb\SearchableFormatTemplate
- **File Geodatabase.** Parcel geometries must be submitted as a file geodatabase (.gdb) containing all available digital parcels as a single feature class.
- **Naming Convention.** Parcel feature class in the Searchable Format must follow the naming convention:
 - Geodatabase named with the county name
 - Feature class containing parcel geometries named “PARCELS”
 - Spaces annotated as underscores “_”
 - Punctuation omitted
 - All alpha characters UPPERCASE
 - Examples:
 - ▶ LA_CROSSE_PARCELS.gdb\PARCELS
 - ▶ FOND_DU_LAC_PARCELS.gdb\PARCELS
 - ▶ ST_CROIX_PARCELS.gdb\PARCELS
- **Projection/CRS.** Parcel geometries **must be transformed to the following CRS** (coordinate reference system specifications) using the transformation of choice (if applicable).
 - This CRS may be imported from GISTemplates.gdb\SearchableFormatTemplate on the V3 webpage.
 - ▶ Datum: NAD_1983_HARN_Wisconsin_TM
 - ▶ WKID: 3071
 - ▶ Authority: EPSG
 - ▶ Projection: Transverse Mercator
 - ▶ False Easting: 520000.0
 - ▶ False Northing: -4480000.0
 - ▶ Central Meridian: -90.0
 - ▶ Scale Factor: 0.9996
 - ▶ Latitude Of Origin: 0.0
 - ▶ Linear Unit: Meter (1.0)

Note. If your data is in a county-specific native projected coordinate system (PCS), you must first **re-project the data**. If you do not re-project before merging into the template, you may encounter the problem of your parcels being relocated to the middle of Lake Michigan (which you can check by overlaying the data to be submitted with a statewide basemap).

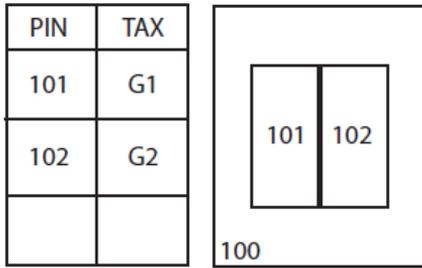
1.2 Geometric Specifications

- **1 Feature Class.** All available digital parcel geometries must be included as one GIS feature class for the county parcel jurisdiction.
- File must include all available digital parcels, regardless of tax exemption status.
- Counties should be the only entity submitting data.
 - If a municipality stewards 1) parcel data and/or 2) tax roll data separately from the county, the county should request, integrate, and submit data for the municipality that has been standardized.
- **Missing Municipal Geometries.** Counties should NOT include a municipal gap covered by a large placeholder polygon. Complete municipal data should be integrated with the county’s initial data submission.
- Only current parcels should be included. Historic parcels should be omitted.
- **Non-parcel features (ROW, GAP, HYDRO, RAIL, etc.).** Geometries that are not tax parcels, such as rights of way (ROW), gaps, or hydrography, need not join to a tax roll element. These elements, however, should be annotated with the appropriate “non-parcel” label in the PARCELID field. The PARCELID field should contain a label of the non-parcel feature. See examples in the schema definition for PARCELID.
- **One-to-One Relationship.** There must be a one-to-one relationship between parcel geometries and records in the attribute table. Each tax parcel geometry must attach to one and only one record; each record must attach to one and only one parcel.
- **Condos.** In the case of condos, or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry. Condos may be presented with one of the following geometric representations (Figure A-1): Condo Type #1–Discrete; Condo Type #2–Stacked; Condo Type # 3–Divided; or Condo Type #4–Distributed.



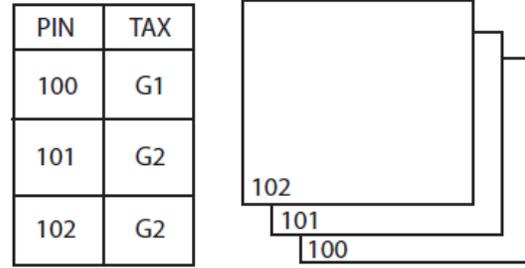
Tip: The CONDO STACK TOOL may help model condos by stacking condo parcel geometries by owner

Condo Type #1



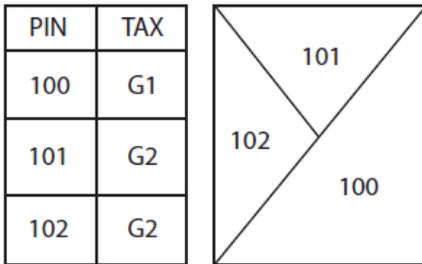
**No record in tax roll for PIN 100

Condo Type #2



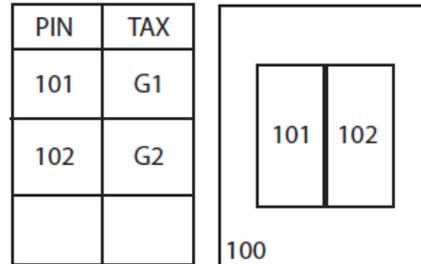
**Stacked parcels, 1 per owner

Condo Type #3



**Main parcel divided up into segments.
Not representative of individual unit/parcel geometry. (Common legal description)

Condo Type #4



**Follows same model as #1, but
PIN 100 contains common taxable
elements prorated across 101 & 102

Figure A-1. Condo Model Scenarios #1-4

2. Parcel-Attribute Relationships for Searchable Format

2.1 Attaching Geometries To Attribute Records

- There must be a one-to-one relationship between parcel geometries and records in the attribute table. Each parcel must attach to one, and only one, record; each record must attach to one, and only one, parcel.
- Every record in the tax roll should attach to a parcel geometry. If a record exists in the tax roll but not in the parcel geometry, it is a missing parcel geometry. There should be no missing parcel geometries.
- In the case of condos, or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry. See Figure A-1 for acceptable geometric condo model scenarios.
- Multiple parcels should not be used to denote multiple site addresses, multiple owners, multiple classes of property, or any other attribute within the same real property. See the full schema in Appendix B for specifications on how to treat multiple elements per individual attribute.

3. Searchable Format Attributes

3.1 Attribute Schema Specifications

- **Standards.** The file geodatabase feature class must include an attribute table adhering to the schema specifications in Appendix B. This includes standardized field names and some standardized domains. A Digital Appendix containing acceptable values for parcel domains is available on the V3 webpage.



Tip: The DATA STANDARDIZE TOOL may help standardize a file geodatabase feature class data via the creation of a lookup table

- The attribute table must include complete, current tax roll elements for **all taxable real property** in the county.
- **Parcel ID.** A parcel ID must be included that uniquely identifies each parcel via the PARCELID field.
- **Non-Parcel Features.** Geometries that are not tax parcels, such as rights of way (ROW), gaps, or hydrography need not join to a tax roll element. These elements, however, should be annotated with the appropriate “non-parcel” label in the PARCELID field (i.e., hydrography name, “ROW”, or “GAP”—see the PARCELID schema definition for more).
- Multiple attribute elements within one real property must be treated according to specifications described in Appendix B. Handling of multiple attribute elements is detailed per attribute in the schema (Appendix B).
- Attributes are defined in the full parcel attribute schema, Appendix B.

- **Attributes Denoted by Alpha Characters as UPPERCASE Strings.** All alpha characters within the statewide database are annotated as UPPERCASE characters. Convert your alpha strings to UPPERCASE.

 **Tip:**
The NULL FIELDS AND SET TO UPPERCASE TOOL may help format all attributes within a feature class to <Null>/UPPERCASE

- **Format Currency Attributes as Numeric Values/Doubles.** All currency values (values measuring dollar amounts) are annotated in the statewide layer as **numeric values in character format** that exclude any currency formatting such as the dollar sign or comma separators such as the thousands delimiter. Decimal values are rounded up to the nearest hundredth (two decimal places to the right of the decimal) for all currency values, while measurement values (acreages) should be annotated as non-rounded numbers. Currency/measurement values are also **acceptable as doubles** (double-precision floating-point number format).
- **Parsed Address Components for SITEADDRESS are Required** for those submitting in both the Searchable and Export formats.
 - While PSTLADRES and SITEADDRESS are provided as a full field and not parsed, there are elements of the parcel's SITEADDRESS which should be parsed into individual elements with standardized domains.

 **Tip:**
The ADDRESS PARSING TOOL may help parse site addresses into sub-address elements

4. Element Occurrence Standard

4.1 Attribute Completeness and the Element Occurrence Standard

- Attribute completeness is subject to the "Element Occurrence Standard." This means that if an element (such as a property address, a total assessed value, total property tax value, etc.) actually occurs for a given parcel, then this element should be included in the submitted dataset. This also means that there may be justifiable omissions from the submitted dataset. Examples might be missing tax data for tax exempt properties, no address when no structure is present on a property, etc. Data elements must be included only if they actually occur in the county land information system.
- **All Non-Existing Values Must be Populated as <Null>.** For all instances across all fields where a data value does not exist, a true SQL <Null> should be used.

- A true SQL <Null> should be used instead of blank fields (e.g. "") or whitespace (e.g. " ").
- A true null is NOT a string of text that spells out "NULL" in alpha characters.

- A <Null> value can be calculated in a field using the *Field Calculator* with the formula pictured in Figure A-2, or use the Null Fields and Set To UPPERCASE Tool.
- Note that a true <Null> is not supported by the .dbf (database) format. The database format uses blank values to indicate nulls. Therefore, you will need to use a tool or manually convert nulls from database format into true SQL <Null> in the Searchable Format feature class submission.
- <Null> indicates that a data value does not exist in the database. (This should not be confused with a value of 0. A null value indicates a *lack of a value*—a lack of a value is not the same thing as a value of zero.)

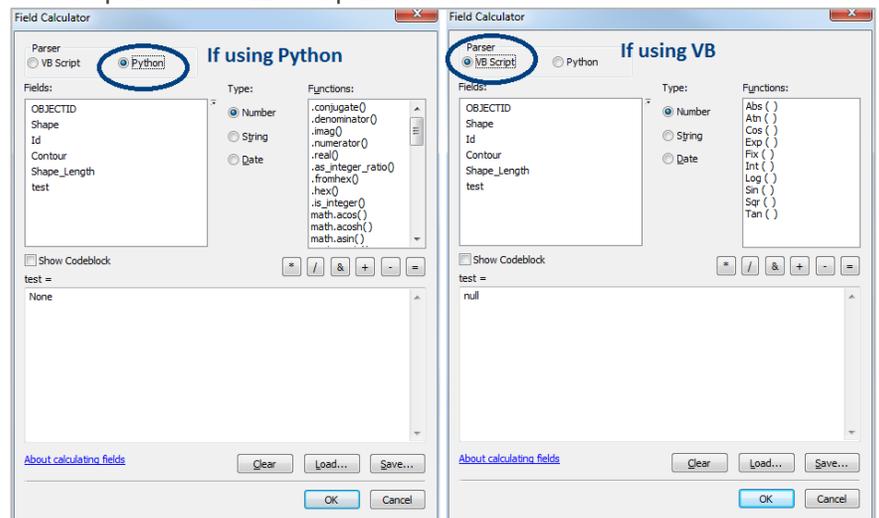


Figure A-2. Populating with <Null>

4.2 Missing Values

- **Designate Missing Values.** If a field is missing data that should be populated in-part or in the field's entirety, the missing data should be noted in the **Explain-Certification.txt** file (in FINAL mode of the Validation and Submission Tool), with a brief description of the missing data and reason for missing data. For example:
 - PHYSICAL GAP PARCEL GEOMETIRES – Missing 7,000 parcel records. These parcels have not yet been digitized.
 - DEEDACRES – Missing 5,660 parcel records (within the VILLAGE OF XYZ). No DEEDACRES values are available within VILLAGE OF XYZ for deeds predating 1985.

5. Parcels Searchable Format – Validation and Submission Tool + Form

- See the Validation and Submission Tool Guide for further instructions.

B. PARCEL SCHEMA FOR V3

Parcel Schema Legend	
V3 ELEMENTNAME	Denotes database field name
(Element Name)	Full English database field name (Alias)
(Standardized Domains)	Standardized field names and standardized domains required (available as a Digital Appendix)
[FGDC: <FGDC Element>]	Denotes database field name modeled after the FGDC <i>U.S. Thoroughfare, Landmark, and Postal Address Data Standard</i> . If name is different from FGDC, the FGDC element's name is also listed.
ELEMENT [AUTO-POPULATED]	Denotes that this field is AUTO-POPULATED by the V3 Project's aggregation team. These fields should be left <Null> for V3 submission.
{TEXT:<#> CHAR}	Denotes the datatype of the file (all are TEXT) and the character length of the field
▶	Arrows point to examples

STATEID [AUTO-POPULATED] (State ID) {TEXT:100 CHAR}

- This string field contains the contributing jurisdiction's FIPS code appended to the PARCELID (the unique number or identifier assigned to a parcel by the local authority). Calculate the STATEID by the following syntax:
 - ▶ <PARCELFIPS>+<PARCELID>
 - ▶ Example: If PARCELFIPS = "083" and PARCELID = "123456789," then:
STATEID = 083123456789
- Where PARCELFIPS is the three-digit **county FIPS code** from Table B-1, with leading zeros maintained in PARCELFIPS, and PARCELID is as defined below.
- **Counties include field but leave field <Null> for V3 submission.**

PARCELID (Parcel ID) {TEXT:100 CHAR}

- Unique number or identifier assigned to a parcel by the local GIS authority. The PARCELID is specific to GIS functionality and serves as the primary key to GIS joins or relationships.
 - ▶ **071006113329**
 - ▶ **010-0640.01**
- **PARCELID for non-parcel features** – If the attribute element's geometry is not a parcel, then the PARCELID field should contain a label of the non-parcel feature.
- Right-of-ways and hydrography polygon labels should be included with parcel feature class submission.
 - ▶ PARCELID = **BALSAM LAKE** (to label a hydrography/lake polygon)
 - ▶ PARCELID = **LAKE** (to label a hydrography/lake polygon)
 - ▶ PARCELID = **HYDRO** (to label a hydro polygon)
 - ▶ PARCELID = **WATER** (to label a hydro polygon)
 - ▶ PARCELID = **ROW** (to label a street right-of-way polygon)
 - ▶ PARCELID = **GAP** (to label a gap in the parcel geometries)
 - ▶ PARCELID = **RAIL** (to label a railroad polygon)

TAXPARCELID (Tax Parcel ID) {TEXT:100 CHAR}

- Unique number or identifier assigned to a parcel that directly joins to the parcel numbers shown in the final tax roll.
- This ID is specific to the tax roll and serves as primary key in joining parcel geometries to tax roll.
- This ID may have commonalities with the Parcel ID but is somehow distinct, or may be completely distinct from the Parcel ID.
- If the TAXPARCELID is the same as PARCELID, enter a true SQL <Null>

PARCELDATE (Parcel Date) {TEXT:25 CHAR}

- Modification date for parcel **geometry**, describing when the parcel geometry was last edited or revised.
- In lieu of individual parcel date records, the parcel dataset's last known geometric editing date can be used. Such geometric edits include the following:
 - ▶ Parcel creation (date the digital geometry for the parcel came into existence)
 - ▶ Parcel division
 - ▶ Parcel merge
 - ▶ Change of parcel vertices
 - ▶ Spatial adjustment of parcel
- **Do NOT populate with the "cut date" or date the data was extracted/exported for V3 submission.**
- If no attribute is maintained for the date of last geometric revision, enter a true SQL <Null>
- Parcels migrated to (Esri) parcel fabric WITHOUT a geometric edit date/GIS parcel creation date: Enter <Null>
 - ▶ For parcels that have been revised or added to the parcel fabric since migrating, include the date of last geometric edit or creation date
- Dates must be formatted as follows:
 - ▶ Syntax: MM/DD/YYYY
 - ▶ Example: **01/20/1984**

TAXROLLYEAR (Tax Roll Year) {TEXT:10 CHAR}

- The year of the tax roll from which tax information is procured. For V3, this should be 2016.
 - ▶ Example: **2016**
- Submitted data should be a snapshot of:
 - ▶ Parcel geometry from January 1, 2017 or more current if available
 - ▶ Tax roll data associated with the parcel as finalized in December of 2016 (based on the parcel as it existed on January 1, 2016, as assessment data lags a year behind).
- **Parcel Splits/New Parcels.** To designate a parcel that has been split or newly created:
 - ▶ It is acceptable to enter the first year tax roll data will be available in TAXROLLYEAR
 - ▶ This will be a “future” year for new parcels that lack tax roll data for the V3 submission
 - ▶ Example: 2017
 - ▶ Alternatively, it is acceptable for TAXROLLYEAR for parcel splits/new parcels to be <Null>

OWNERNME1 (Primary Owner Name) {TEXT:254CHAR}

- The primary owner name of a parcel.
- In the case of multiple owners, if it is not clear which owner is the primary owner, discretion may be used to place an owner in this field.
- If not feasible to parse owners into separate fields, more than one owner may be included in this field.
- 2nd owner goes in OWNERNME2; 3rd owner is omitted.
- Owner name does not follow formatting syntax and may be provided as-is.
- OWNERNME1 can be ordered in any order (First, Last, Middle Initial).
 - ▶ May or may not include middle initial.
- Owner’s first and last names are provided, except in cases when owners share last names.
 - ▶ JANE AND JAMES SMITH
 - ▶ SMITH, JAMES & JANE
- OWNERNME1 example formats:

JOHN SMITH	SMITH, JOHN R	JOHN R and SUE SMITH	SMITH, SUE & JOHN
JOHN R SMITH	JOHN R & SUE SMITH	JANE, JOHN & SUE SMITH	Other(s)
- **OWNERNME1 – Redaction Policy**
 - ▶ Owner names are necessary for data submittal to be usable by state agencies. Any redaction of owner names, as required by an existing county or municipal policy, should be handled explicitly in the data *before* it is submitted. If any or all owner names are not included, the county must include the written policy for excluding them as adopted by the county or municipality (by link or full text) within the V3 submission form.
 - ▶ If redaction of owner name is implemented on the submitted data, these names should be attributed as “NOT AVAILABLE” within each redacted record’s OWNERNME1 and/or OWNERNME2 field.
 - ▶ The exception is public lands. Public lands that have a government-entity as a primary owner in the OWNERNME1 field shall NOT be redacted.
- **OWNERNME1 – Public Lands Policy**
 - ▶ Public lands should be designated by way of owner name in the OWNERNME1 field
 - ▶ Example: OWNERNME1 = DEPARTMENT OF NATURAL RESOURCES
 - ▶ All county-owned public parcels must have a value in OWNERNME1
 - ▶ For publicly owned parcels, the same owner should be designated the same way if they own multiple parcels. In other words, standardize the owner names of public parcels.
 - ▶ Example: “ASHLAND COUNTY FOREST” every time, not interchanged with “Ashland Co. Forest”
 - ▶ For publicly-owned parcels, the order of words should be natural language order (with contiguous strings of text being next to each other)
 - ▶ Example: DEPARTMENT OF NATURAL RESOURCES
not “SOURCE DEPARTMENT OF NATURAL RE; URCH ST JOHN’S EV LUTHERAN CH”
 - ▶ **No redaction of public lands in OWNERNME1.** Public lands that have a government-entity (federal, state, county, or local) as a primary owner in the OWNERNME1 field shall NOT be redacted.

OWNERNME2 (Secondary Owner Name) {TEXT:254 CHAR}

- If available. The secondary owner name of a parcel.
- 2nd owner goes in OWNERNME2; 3rd owner is omitted.
 - ▶ If there are more than two total owners exist for the property, discretion may be used to select the first two owners for the purpose of populating OWNERNME1 and OWNERNME2. Remaining owner names will not be included in the dataset.
 - ▶ In the case of multiple owners, if it is not clear which owner is the secondary owner, discretion may be used to place an owner in this field.
- If not feasible to parse owners into separate fields, more than one owner may be included in this field.
- Owner name does not require formatting and may be provided as-is.
- When possible, OWNERNME2 should not be an overflow from OWNERNME1.
- OWNERNME2 Redaction Policy – OWNERNME2 adheres to the same redaction policy as that of OWNERNME1.

PSTLADDRESS (Full Mailing Address) {TEXT:200 CHAR}

- The primary **owner's full mailing address** or the full mailing address for the tax bill associated with the parcel, whichever is available.
- PSTLADDRESS may have nothing to do with the physical location of a parcel, and may be outside of Wisconsin.
- PSTLADDRESS is a **single field** comprised of:
 - ▶ Address Number Prefix*, Address Number, Address Number Suffix*, Prefix*, Street Name, Street Type*, Suffix*, Unit Type*, Unit ID*, USPS Postal Place Name, State, and Zip Code.
*Where applicable
 - ▶ If owner mailing address is maintained as two lines (e.g., as two separate mailing label lines), it should be concatenated into one field.
 - ▶ A comma or a space may be used as the separator element.
 - ▶ Example – Single-line with comma separator: **123 MAIN ST, MIDTOWN, WI 53611**
 - ▶ Example – Single-line concatenated from 2 lines: **123 N MAIN ST MIDTOWN WI 53611**
- **Domain standardization optional.** Owner's mailing address can contain elements with non-standardized domains.
 - ▶ Standard USPS Postal domains/**abbreviations are acceptable** in the owner's mailing address.
- **No partial addresses.** If mailing address in the native data is partial and not a full mailing address, do NOT submit mailing addresses for those specific parcels.
 - ▶ Incorrect: CITY, STATE, ZIP ▶ enter <Null> instead
 - ▶ Incorrect: STATE, ZIP ▶ enter <Null> instead
 - ▶ Incorrect: STATE, 00000 ▶ enter <Null> instead
- If there is no full owner mailing address, PSTLADDRESS should be populated with a true SQL <Null>
- **PSTLADDRESS – Public Lands Policy**
 - ▶ For county-owned public parcels, enter either a full mailing address for the county, or for the appropriate county department. Enter address uniformly if the same entity owns more than one parcel.
 - ▶ For publicly owned parcels, it is acceptable to enter the full mailing address of the parcel steward's central administration. Enter address uniformly if the same entity owns more than one parcel.
 - ▶ If mailing address in the native data is partial and not a full mailing address, do NOT submit mailing addresses for those specific parcels. Full mailing addresses only.
 - ▶ If no mailing address is available for publicly-owned parcels, enter <Null>

SITEADDRESS (Full Physical Address) (Standardized Domains – when broken into individual elements) {TEXT:200 CHAR}

- The full physical address (or site address) of a parcel.
- A **single field** comprised of the following elements:
 - ▶ **ADDNUMPREFIX***
 - ▶ **ADDNUM**
 - ▶ **ADDNUMSUFFIX***
 - ▶ **PREFIX*** (Standardized Domains – when broken into individual element)
 - ▶ **STREETNAME**
 - ▶ **STREETTYPE*** (Standardized Domains – when broken into individual element)
 - ▶ **SUFFIX*** (Standardized Domains – when broken into individual element)
 - ▶ **UNITTYPE***
 - ▶ **UNITID***

City, State, Zip ▶ **Do NOT include "city, state, zip"** anywhere in SITEADDRESS
*Where applicable
- Only include primary address; 2nd address is omitted.
 - ▶ If there are more than two physical addresses associated with a parcel, such as with an apartment, then a valid primary address is to be used, if available. Such an example of this would be an apartment's on-site office address. Alternatively, discretion may be used to select one "primary" physical address for the parcel.
- Address ranges are not accepted. Field should **not** have multiple address numbers.
- **Domain standardization optional.** Full physical address (SITEADDRESS) can contain elements with non-standardized domains. However, individual address elements require domain standardization in their respective fields.
 - ▶ Standard USPS Postal domains/**abbreviations are acceptable** in SITEADDRESS.
- When a true site address does not exist, populate with <Null>

ADDNUMPREFIX (Address Number Prefix) [FGDC] {TEXT:50 CHAR}

- The portion of the complete address number which precedes the address number itself.
- In Wisconsin, this field is of particular interest due to grid address examples, such as "**W180N**8085 TOWN HALL ROAD." Other examples include ordinal directions as a prefix to the address number, such as "**N**2554 JOHNSON STREET"
 - ▶ N
 - ▶ S
 - ▶ W180N
 - ▶ S379W

ADDNUM (Address Number) [FGDC] {TEXT:50 CHAR}

- The whole number component of a posted building identifier.
- Address numbers should always be whole numbers.
 - ▶ 2554

- ▶ 8085
- ▶ 4215
- ▶ 10
- ADDNUM should not be a range. Address ranges (listing one number through a second number) are not accepted.
 - ▶ If there are multiple address numbers, select the primary address number (such as the first number in the range) and remove all secondary address numbers from ADDNUM.

ADDNUMSUFFIX (Address Number Suffix) [FGDC] {TEXT:50 CHAR}

- Rarely used extension of the address number for a posted building identifier.
- Not to be confused with unit divisions within a building (UNITID).
- Examples and contexts:
 - ▶ **A** ▶ (798 **A** 26TH STREET)
 - ▶ **-856** ▶ (2554-**856** MAIN STREET)
 - ▶ **½** ▶ (678 **½** MORRISON STREET)
 - ▶ **.5** ▶ (6895.**5** GORHAM STREET)
- Uncommon – For alpha characters that are part of the actual address number—and NOT a street directional prefix, the alpha characters may be put in ADDNUMSUF
 - ▶ Address = 1234**N** E ISLAND LAKE RD
 - ▶ ADDNUM = 1234
 - ▶ **ADDNUMSUF = N**
 - ▶ PREFIX = E
 - ▶ STREETNAME = ISLAND LAKE
 - ▶ STREETTYPE = ROAD

PREFIX (Prefix) (Standardized Domains) [FGDC: Street Name Pre Type; Street Name Pre Directional] {TEXT:50 CHAR}

- One letter street direction or abbreviation that precedes the street name.
- This field also contains the highway jurisdiction indicator for any Wisconsin highways. See examples below for highway classification context and standardization.
- **PREFIX domains for street name pre directionals – Abbreviated**

N
S
E
W
NW
SW
NE
SE

- **PREFIX domains for Highways – Abbreviated as below OR fully spelled out as below**

CTH	COUNTY HIGHWAY	COUNTY ROAD
N CTH	N COUNTY HIGHWAY	N COUNTY ROAD
E CTH	E COUNTY HIGHWAY	E COUNTY ROAD
S CTH	S COUNTY HIGHWAY	S COUNTY ROAD
W CTH	W COUNTY HIGHWAY	W COUNTY ROAD
STH	STATE HIGHWAY	STATE ROAD
N STH	N STATE HIGHWAY	N STATE ROAD
E STH	E STATE HIGHWAY	E STATE ROAD
S STH	S STATE HIGHWAY	S STATE ROAD
W STH	W STATE HIGHWAY	W STATE ROAD
USH	US HIGHWAY	
N USH	N US HIGHWAY	
E USH	E US HIGHWAY	
S USH	S US HIGHWAY	
W USH	W US HIGHWAY	

INTERSTATE

- ▶ Highways – highway prefixes can either be fully spelled-out OR abbreviated as above.
- ▶ Any of the following are acceptable in PREFIX:
 - ▶ **COUNTY HIGHWAY / COUNTY ROAD / CTH**
 - ▶ **STATE HIGHWAY / STATE ROAD / STH**
 - ▶ **US HIGHWAY / USH**
 - ▶ “COUNTY” by itself is NOT an acceptable prefix
 - ▶ Usage should be consistent throughout the countywide dataset. Do not use multiple highway domain spelling conventions to designate the same particular highway type.
- Highway classification examples in context:
 - ▶ For address: 2554 **COUNTY HIGHWAY C**
 - ▶ PREFIX = COUNTY HIGHWAY
 - ▶ STREETNAME = C

- ▶ For address: "2554 **COUNTY HIGHWAY C/H**"
 - ▶ PREFIX = COUNTY HIGHWAY
 - ▶ STREETNAME = C/H
- ▶ For address: "2554 **S STATE HIGHWAY XX**"
 - ▶ PREFIX = S STATE HIGHWAY
 - ▶ STREETNAME = XX
- Road "alias" names should not be included in the STREETNAME field alongside a highway PREFIX and route ID.
 - ▶ For example, for address: "2554 COUNTY HIGHWAY C/MAIN ST"
 - ▶ PREFIX = COUNTY HIGHWAY; STREETNAME = C (The street name here would be incorrect as "C/MAIN")
 - Or:
 - ▶ STREETNAME = MAIN; STREETTYPE = STREET

STREETNAME (Street Name) [FGDC: Street Name; Street Name Pre Modifier; Street Name Post Modifier] {TEXT:50 CHAR}

- Primary Street Name
- The legal street name as assigned by local address authority.
- STREETNAME does not include the street type of a named street.
- STREETNAME does not include the suffix direction of a coordinate street. Suffix direction belongs in SUFFIX.
- STREETNAME might incorporate a *Street Name Pre Modifier* and/or a *Street Name Post Modifier* (which do not have their own separate fields). In some cases, *Street Name Pre Modifier* might be acceptable in PREFIX field.
- For highways or county roads that share more than one route number or letter (e.g., USH **151/51**), these routes are listed with a delimiter
 - ▶ A forward slash ("/") is the preferred route delimiter, or a hyphen ("-") is an acceptable delimiter.
- STREETNAME does not include street aliases.
 - ▶ For example: 2554 STH 23/MAIN ST
 - ▶ Contains a state highway street name ("23") OR the local street name ("MAIN"), but not both.
 - ▶ "23/MAIN" would be incorrect as the street name.
- Do not include PREFIX values still being attached to this field (e.g., CTH, STH, USH, etc.)
- Do not include STREETTYPE values in street name.
- Do not include extraneous information attached to STREETNAME, such as building descriptors.
- STREETNAME examples (in bold):
 - ▶ **MAIN STREET**
 - ▶ 4215 W **112TH STREET**
 - ▶ N54W16164 W **BECKER LANE**
 - ▶ 199 USH **151 SOUTH**
 - ▶ 1505 USH **151/51**
 - ▶ 111 #20 **JOHNSON STREET**
 - ▶ 134 CTH **A/D**

STREETTYPE (Street Type) (Standardized Domains) [FGDC: Street Name Post Type] {TEXT:50 CHAR}

- Street type of a named street (for the site address) written to full name of type:
 - ▶ E WASHINGTON **ROAD**
- **Fully spell-out** STREETTYPE domains.
- Values that do not translate to any of the domains listed here will be accepted as-is.
- STREETTYPE example domains:

ACCESS	CRESCENT	HEIGHTS	PASS	SPRINGS
ACRES	CREST	HIGHWAY*	PASSAGE	SPUR
ALLEY	CROSS	HILL	PATH	SQUARE
AVENUE	CROSSING	HILLS	PATHWAY	STREET
BAY	CURVE	HOLLOW	PIKE	STRIP
BEACH	DALE	ISLAND	PLACE	SUMMIT
BEND	DRIVE	ISLE	PLAZA	TERRACE
BLUFF	END	JUNCTION	POINT	TOWER
BOULEVARD	ESTATE	KNOLL	PRAIRIE	TRACE
BRANCH	ESTATES	KNOLLS	PRIVATE DRIVE	TRAIL
BYPASS	EXPRESSWAY	LAKE	RAPIDS	TRAILS
CAUSEWAY	EXTENSION	LANDING	RESERVE	TRAILWAY
CENTER	FIELDS	LANE	RETREAT	TURN
CHASE	FOREST	LOOP	RIDGE	TURNPIKE
CIRCLE	FORK	MALL	ROAD	VALE
CLIFF	GARDENS	MANOR	ROUND	VALLEY
CLOSE	GATE	MEADOW	ROW	VIEW
COMMON	GATEWAY	MEADOWS	RUN	VISTA
COMMONS	GLENN	MEWS	SCHOOL	WALK
COURSE	GREEN	NEST	SETTLEMENT	WAY
COURT	GROVE	OVERLOOK	SHORE	WELLS
COVE	HARBOR	PARK	SHORES	
CREEK	HAVEN	PARKWAY	SPRING	

- *Note that "Highway" is seldom a STREETTYPE, as it is most often a PREFIX.

SUFFIX (Street Name Post Directional) (Standardized Domains) [FGDC: Street Name Post Directional; Street Name Post Modifier] {TEXT:50 CHAR}

- Street Name Post Directional
- One letter street direction that follows the street name.
 - ▶ MAIN STREET **NW**
- In rare cases, SUFFIX field may incorporate a *Street Name Post Modifier*.
- Abbreviate directionals.
- Values that do not translate to any of the domains listed here will be accepted as-is.
- SUFFIX accepted domains:

N	North
S	South
E	East
W	West
NW	North West
SW	South West
NE	North East
SE	South East

LANDMARKNAME (Landmark Name) [FGDC] {TEXT:50 CHAR}

- The common place name of a parcel feature.
 - ▶ WISCONSIN STATE CAPITOL
 - ▶ EAST ENTRANCE - IRVINE PARK
- Provided as available.

UNITTYPE (Unit Type) [FGDC: Subaddress Type] {TEXT:50 CHAR}

- Indicates the unit type associated with a parcel feature (e.g., apartment, room, suite, unit, etc.). Provided as available.
- UNITTYPE should not contain any type of property/structure descriptor.
- **Fully spell-out** UNITTYPE domains.
- Values that do not translate to any of the domains listed here will be accepted as-is.
- UNITTYPE example domains:

APARTMENT	DEPARTMENT	LOT	SEAT	TOWER
BASEMENT	FLOOR	LOWER	SIDE	TRAILOR
BERTH	FRONT	OFFICE	SLIP	TRAILER
BLOCK	HANGAR	PENTHOUSE	SPACE	UNIT
BUILDING	HANGER	PRIVATE MAIL BOX	STOP	UPPER
CONDOMINIUM	KEY	PIER	STORY	WING
CORRIDOR	LEVEL	REAR	SUITE	
CUBICLE	LOBBY	ROOM	TERMINAL	

UNITID (Unit ID) [FGDC: Subaddress Identifier] {TEXT:50 CHAR}

- UNITID includes the number or letter identification string for a building, apartment, room, suite, unit, room or desk (as well as other examples).
- Not to be confused with **ADDNUMSUFFIX**, which is a component to the address number.
- UNITID delineates a unit within an address.
 - ▶ Example: "123 ½ APARTMENT **A**"
 - ▶ 123 = ADDNUM
 - ▶ ½ = ADDNUMSUFFIX
 - ▶ APARTMENT = UNITTYPE
 - ▶ **A** = UNITID
- UNITID should **not** contain any property/structure descriptions.
- UNITID should not contain any values which belong in UNITTYPE (e.g., words like "APARTMENT" or "UNIT").

PLACENAME (Place Name) [FGDC: Complete Place Name] {TEXT:100 CHAR}

- The name of the authoritative jurisdiction that the parcel belongs to.
- This is **NOT the USPS Postal place name** of the parcel, instead, it is the city/village/town where the parcel is actually located.
 - ▶ The jurisdictional place name for a parcel is NOT necessarily the same as the USPS postal place name.
 - ▶ Note. The parcel's USPS Postal place name is NOT required in this field, nor anywhere else in the V3 schema.
 - ▶ USPS place name is a place name listed in the USPS *City State* file for delivery of mail to an address. Although preferred for postal operations, USPS place names are often not the best-suited place names for non-postal purposes such as navigation, public service delivery, emergency response, etc.—where jurisdictional place name may be preferred.
- Each PLACE NAME should be standardized to **include the following LSAD descriptors**, as appropriate:
 - ▶ LSAD descriptors:
 - ▶ CITY OF
 - ▶ TOWN OF
 - ▶ VILLAGE OF
 - ▶ PLACENAME examples:
 - ▶ CITY OF CHIPPEWA FALLS
 - ▶ TOWN OF MADISON
 - ▶ CITY OF MADISON
 - ▶ VILLAGE OF LAKE HALLIE
- ***All*** parcels must have a PLACENAME value, even parcels that have not been assigned an address.

ZIPCODE (Zip Code) [FGDC: ZIP Code] {TEXT:50 CHAR}

- The 5-digit zip code for the parcel's site address.
- This is the mailing zip code for the parcel itself (NOT the owner, whose zip code is provided in PSTLADDRESS and may be out-of-state).
- Provided where available.
- Enter <Null> if no zip code for the parcel's site address is maintained.

ZIP4 (Zip Code Plus 4) [FGDC: ZIP Plus 4] {TEXT:50 CHAR}

- The 4 additional digits appended to the 5-digit zip code for the parcel's site address.
- This is the mailing zip4 for the parcel itself (NOT the owner, whose zip code is provided in PSTLADDRESS and may be out-of-state).
- Provided where available.
- Enter <Null> if no zip4 for the parcel's site address is maintained.

STATE (State) [FGDC: State Name] {TEXT:50 CHAR}

- Two letter state abbreviation of a parcel feature's physical site address
 - ▶ **WI**
- This is the state where the parcel itself is located (NOT the owner, whose mailing address in PSTLADDRESS may be out-of-state).
- Unless parcels are outside of the state of Wisconsin, this value will be "WI"

SCHOOLDIST (School District) (Standardized Domains) {TEXT:50 CHAR}

- The school district name, as defined in the authoritative file at:
www.sco.wisc.edu/parcels/V3_Parcel_Domain_List.xlsx
 - ▶ **LITTLE CHUTE AREA SCHOOL DISTRICT**
- All parcels for a given county should be populated with SCHOOLDIST domains.
- Domains must remain in UPPERCASE.
- Domain for district name should **exactly** match the domain list with the words "SCHOOL DISTRICT" at the end, separated by a space.
- A parcel should never contain multiple school districts.
 - ▶ For areas that apply a Union High School (UHS) district, the UHS district should be the district populating this field. Elementary districts within a UHS are known as "children" of the "parent" UHS district and should not be included in the data submission.

SCHOOLDISTNO (School District Number) (Standardized Domains) {TEXT:50 CHAR}

- The 4-digit school district number, as defined in the authoritative file at:
www.sco.wisc.edu/parcels/V3_Parcel_Domain_List.xlsx
- All parcels for a given county should be populated with SCHOOLDISTNO domains.
- Domains must remain as four-digit IDs and **maintain leading zeros**.
 - ▶ Include the leading zero(s) on school district codes
 - ▶ e.g., **0084**
 - ▶ Tip: To maintain leading zeros within a .csv table when opening with Excel, use the *Data > Get External Data > From Text* function in Excel to import the .csv to text fields.
- A parcel should never contain multiple school districts.
 - ▶ For areas that apply a Union High School (UHS) district, the UHS district should be the district populating this field. Elementary districts within a UHS are known as "children" of the "parent" UHS district and should not be included in the data submission.

- Note that DOR's electronic file utilizes a 6-digit code.
 - ▶ If you are submitting from DOR's XML, use the [Validation and Submission Tool](#) to remove the first two digits for submission, or manually remove the first two digits (representing the alphabetized WI county name).
 - ▶ e.g., **0070**, not ~~310070~~

IMPROVED (Improved Structure) (Standardized Domains) {TEXT:10 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- Indicates whether the parcel contains an improved value within the IMPVALUE field.
- IMPROVED is calculated by the county, based on the type of value in IMPVALUE.
- IMPROVED accepted domains:
 - YES** if IMPVALUE is > \$0
 - NO** if IMPVALUE is = \$0 ▶ Value of "NO" (IMPVALUE of \$0) might apply to parcels with no improvements
 - <Null>** if IMPVALUE is <Null> ▶ Might apply to tax exempt parcels, designated by AUXCLASS field
 - ▶ Applies to non-parcel features as labeled in PARCELID—such as GAP, HYDRO, SLIVER, etc.

CNTASSDVALUE (Total Assessed Value) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The total assessed value of the parcel, in US dollars.
- Assessed values are the property values determined by local assessors for individual parcels of real property.
- In most counties, this is equal to:
 - ▶ <Assessed Value of Land> + <Assessed Value of Improvements>
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For tax exempt properties, enter <Null>

LNDVALUE (Assessed Value of Land) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The total value of land, without improvements, in US dollars. The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For tax exempt properties, enter <Null>

IMPVALUE (Assessed Value of Improvements) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The total value of improvements on the land, in US dollars.
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For taxable parcels without an improved value, enter "0"—to indicate a taxable parcel with no improvements.

FORESTVALUE (Assessed Forested Value) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- ***If* part of the CNTASSDVALUE equation.**
- The total value of forested land, in US dollars (assessed value of forested land).
- This field is not applicable to most counties, as values in this field are required to be provided only in cases where counties have a "forest value" included as a part of the formula that totals the amount of Total Assessed Value.
- A county **MUST** populate this field **IF** Assessed Forest Value is a variable within the Total Assessed Value formula (CNTASSDVALUE).
 - ▶ e.g., Assessed Value of Land + Assessed Value of Improvements + **Assessed Forest Value** = Total Assessed Value
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For counties lacking assessed forested land parcels, this field will be <Null>

ESTFMKVALUE (Estimated Fair Market Value) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The estimated fair market value, in US dollars. This is the most probable price paid by a willing buyer to a willing seller in an arm's-length transaction.
- Sometimes referred to as "market value," "full value," "full market value," or "equalized value."
- $ESTFMKVALUE = \text{Total Assessed Value} \div \text{Assessment Ratio}$ (where Assessment Ratio is provided by the state Department of Revenue).
 - ▶ Note that there are deviations from this formula.
 - ▶ Parcels that are exclusively **Undeveloped** (PROPCLASS = 5) or **Agricultural Forest** (PROPCLASS = 5M), are valued at 50% of full market value.
 - ▶ Parcels that are exclusively **Agricultural** (PROPCLASS = 4) are valued at "use value" therefore, $ESTFMKVALUE = \text{<Null>}$
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For tax exempt properties (designated by AUXCLASS field), enter <Null>

NETPRPTA (Net Property Tax) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The net amount of annual property tax, in US dollars. This is the actual property tax paid after deductions or credits are applied.
- $NETPRPTA = \text{Gross tax minus (reduced by) state property tax credits.}$
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 3670.98 (Not \$3,670.98)
 - ▶ 1780.65 (Not 1780.649)
- For parcels "assessed with" other parcels, this value may be <Null>
- Provide at least one—NETPRPTA or GRSPRPTA.
- NETPRPTA may be <Null> if GRSPRPTA is populated for a given county.
- For tax exempt properties, enter <Null>

GRSPRPTA (Gross Property Tax) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The gross amount of annual property tax, in US dollars. This is the total property tax before deductions or credits; the sum of the taxes levied on a property by all local taxing jurisdictions (municipalities, counties, school districts, technical college districts, and special purpose districts).
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 3670.98 (Not \$3,670.98)
 - ▶ 1780.65 (Not 1780.649)
- Provide at least one—NETPRPTA or GRSPRPTA.
- GRSPRPTA may be <Null> if NETPRPTA is populated for a given county.
- For tax exempt properties, enter <Null>

PROPCLASS (Class of Property) (Standardized Domains) {TEXT:150 CHAR}

- The General class of property for **taxable** real estate, as specified in Wisconsin s. 70.32(2)(a). Wisconsin law requires assessors to classify land on the basis of use. Sometimes this involves a judgment of the predominant use. There are eight statutory classifications for real property.
- Domains should either match the 8 classes listed as PROPCLASS domains for taxable properties, OR have a <Null> value for PROPCLASS and a value in AUXCLASS field for tax exempt/special properties (with the exception of non-parcel features, designated as such in PARCELID field).
- **Multiple values.** If more than one class exist for a parcel, each class is listed in PROPCLASS field delimited by commas, as in:
 - ▶ **1,3,4**
 - ▶ **3,4,5M**
 - ▶ List each class once only. No duplicate values.
- If the native data contains a preceding "G" in front of the numeric ID, **this "G" should be omitted** ("3" not "G3").
- If native PROPCLASS domains do not exactly match standard schema domains, provide domains in submission form or provide a web link to a file describing PROPCLASS fields.
- PROPCLASS accepted domains and definitions:

1	Residential	General – Taxable Real Estate
2	Commercial	General – Taxable Real Estate
3	Manufacturing	General – Taxable Real Estate
4	Agricultural	General – Taxable Real Estate
5	Undeveloped	General – Taxable Real Estate
5M	Agricultural forest	General – Taxable Real Estate
6	Productive Forest Land	General – Taxable Real Estate
7	Other	General – Taxable Real Estate



Tip:

The CLASS OF PROPERTY DISSOLVE TOOL may help format class of property data to these schema definitions

AUXCLASS (Auxiliary Class of Property) (Standardized Domains) {TEXT:150 CHAR}

- This field contains any domains that are listed in the native dataset as a class of property that does not fit the domains specified in s. 70.32(2)(a), including properties classified in the tax roll as Tax Exempt/Special.
 - ▶ Exempt – defined as federal, state, county, and other-tax exempt
 - ▶ Special – designating Private Forest Cropland, Managed Forest Land, and County Forest Crop Property
- Standard domains apply to properties in the Exempt and Special classifications.
- Domains should either match the those listed as AUXCLASS domains, OR have a <Null> value for AUXCLASS and a value in PROPCLASS field (with the exception of non-parcel features, designated as such in PARCELID field).
 - ▶ Any native domains other than those listed within the standard Exempt/Special fields may be left unstandardized within this field, but **MUST** be defined in the submission form.
- Any classes that meet the definition of class of property specified in s. 70.32(2)(a) are not included in the AUXCLASS field—instead belonging in PROPCLASS.
- **Multiple values.** Listed if more than one exists and **delimited by commas.**
 - ▶ If multiple AUXCLASSES classes exist upon a give parcel, each class is listed within the AUXCLASS field, delimited by commas, as in:

- ▶ **X1,W3,X4**
- ▶ **X3,W5**

- **AUXCLASS EXEMPT** accepted domains and definitions:

X1	Federal	Exempt – Exempt from General Property Taxes
X2	State	Exempt – Exempt from General Property Taxes
X3	County	Exempt – Exempt from General Property Taxes
X4	Other exempt	Exempt – Exempt from General Property Taxes

- **AUXCLASS SPECIAL** accepted domains and definitions:

W1	PFC Regular Class1- Forest Cropland Before 01/01/72	Special – PFC, MFL and County Forest Crop Property
W2	PFC Regular Class2- Forest Cropland After 01/01/72	Special – PFC, MFL and County Forest Crop Property
W3	PFC Special Class- Forest Cropland Special	Special – PFC, MFL and County Forest Crop Property
W4	County Forest Crop Land	Special – PFC, MFL and County Forest Crop Property
W5	MFL Before 2005 Open	Special – PFC, MFL and County Forest Crop Property
W6	MFL Before 2005 Closed	Special – PFC, MFL and County Forest Crop Property
W7	MFL After 2004 Open	Special – PFC, MFL and County Forest Crop Property
W8	MFL After 2004 Closed	Special – PFC, MFL and County Forest Crop Property
W9	MFL Ferrous Mining	Special – PFC, MFL and County Forest Crop Property

- **AUXCLASS UNSTANDARDIZED**

<Unstandardized> Other classifications not included in the definition of AUXCLASS or PROPCLASS. Provide definitions in FINAL mode of the Validation and Submission Tool.

ASSDACRES (Assessed Acres) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The parcel area, in acres, as specified as total assessed acres for taxation purposes.
- ASSDACRES is not to be confused with DEEDACRES or GISACRES, but may match either or both.
- For parcels “assessed with” other parcels, this value may be <Null>
- Enter <Null> if the local assessor does not provide acre calculations for small parcels.
 - ▶ Parcels less than <1 acre may = <Null>

DEEDACRES (Deeded Acres) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The parcel area, in acres, as specified within the legal property description.

GISACRES (GIS Acres) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The calculated GIS parcel area, in acres, derived directly from GIS features.
- GISACRES is optional and may be left <Null>

CONAME (County Name) (Standardized Domains) {TEXT:50 CHAR}

- The name of the **county** which the parcel is administratively part of.
- Counties should be the only entity submitting data.
 - ▶ If a municipality stewards 1) parcel data and/or 2) tax roll data separately from the county, the county should request, integrate, and submit data for the municipality **that has been standardized**.
- Spaces and periods are permitted in county names in the CONAME field. See Table B-1 for county spelling conventions.
- Do **not** include the word “_County” in CONAME.

LOADDATE [AUTO-POPULATED] (Load Date) {TEXT:10 CHAR}

- The date (MM/DD/YYYY) when a parcel feature is submitted to the Parcel Initiative project from the data contributor. This field will be populated by the parcel aggregation team.
- **Counties include field but leave field <Null> for V3 submission.**

PARCELFIPS (Parcel Source FIPS) (Standardized Domains) {TEXT:10 CHAR}

- Indicates the 3-digit FIPS code of the **county**(the contributing jurisdiction of the parcel dataset), from Table B-1.
- Maintain FIPS code leading zeros in PARCELFIPS.
 - ▶ Domain example:
 - ▶ **009** (for Brown County)

PARCELSRC (Parcel Source Name) (Standardized Domains) {TEXT:50 CHAR}

- Indicates the name of the **county** (the contributing jurisdiction of the parcel dataset), standardized as shown in Table B-1.
- Spaces and periods are permitted in county names in the PARCELSRC field.
- Do **not** include the word “_County” in PARCELSRC.

COUNTY NAMES & COUNTY FIPS CODES

- Spelling conventions and county FIPS codes (which should maintain leading zeroes):

ADAMS	001	IOWA	049	POLK	095
ASHLAND	003	IRON	051	PORTAGE	097
BARRON	005	JACKSON	053	PRICE	099
BAYFIELD	007	JEFFERSON	055	RACINE	101
BROWN	009	JUNEAU	057	RICHLAND	103
BUFFALO	011	KENOSHA	059	ROCK	105
BURNETT	013	KEWAUNEE	061	RUSK	107
CALUMET	015	LA CROSSE	063	ST. CROIX	109
CHIPPEWA	017	LAFAYETTE	065	SAUK	111
CLARK	019	LANGLADE	067	SAWYER	113
COLUMBIA	021	LINCOLN	069	SHAWANO	115
CRAWFORD	023	MANITOWOC	071	SHEBOYGAN	117
DANE	025	MARATHON	073	TAYLOR	119
DODGE	027	MARINETTE	075	TREMPEALEAU	121
DOOR	029	MARQUETTE	077	VERNON	123
DOUGLAS	031	MENOMINEE	078	VILAS	125
DUNN	033	MILWAUKEE	079	WALWORTH	127
EAU CLAIRE	035	MONROE	081	WASHBURN	129
FLORENCE	037	OCONTO	083	WASHINGTON	131
FOND DU LAC	039	ONEIDA	085	WAUKESHA	133
FOREST	041	OUTAGAMIE	087	WAUPACA	135
GRANT	043	OZAUKEE	089	WAUSHARA	137
GREEN	045	PEPIN	091	WINNEBAGO	139
GREEN LAKE	047	PIERCE	093	WOOD	141

Table B-1. V3 County Naming and FIPS Codes

ACCESSURL [AUTO-POPULATED] (Access URL) {TEXT:254 CHAR}

- Contains a web link (URL) to a valid webpage to view and/or download most current parcel data from steward.
 - ▶ Preferred—This may be a landing page listing all possible county links for various types of parcel data viewers/apps/open data download sites (e.g., GIS webmapping site, RPL, ROD webpages, etc.)
 - ▶ This may be a link to a county GIS web map that displays parcel data
 - ▶ ACCESSURL should contain a link to documentation that is specific to parcel data—not the general county homepage.
- The link provided must remain valid until a subsequent layer is submitted, an anticipated time period of one year.
- Users of this layer will be directed to this web link for the most current, comprehensive information.
- **Counties do NOT include field with V3 submission.**

LONGITUDE [AUTO-POPULATED] (Longitude of Parcel Centroid) {DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The longitude, in decimal degrees, of the parcel's centroid. The centroid of a parcel shape is calculated as is the average position of all the points that participate in the shape. The centroid should not be confused
- This point is also calculated as and "inside" centroid, meaning that the point is subject to the following contextual qualities:
 - ▶ A non-convex (concave) feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ A donut-shaped feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ A multi-part feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ **Counties do NOT include field with V3 submission.**

LATITUDE [AUTO-POPULATED] (Latitude of Parcel Centroid) {DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The latitude, in decimal degrees, of the parcel's centroid. The centroid of a parcel shape is calculated as is the average position of all the points that participate in the shape. The centroid should not be confused
- This point is also calculated as and "inside" centroid, meaning that the point is subject to the following contextual qualities:
 - ▶ A non-convex (concave) feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ A donut-shaped feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
- A multi-part feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
- **Counties do NOT include field with V3 submission.**

C. Searchable Format – Zoning

In addition to parcel elements, submission of zoning information is required. Wisconsin statute 59.72(2)(a)(2) refers to “any zoning information maintained by the county,” which is interpreted by DOA to mean **zoning ordinances administered by the county**. Zoning information should be submitted and will be aggregated as **several SEPARATE GIS layers**.

1. Zoning Layers for Inclusion

1.1 5 Zoning Layers

- Table C-1 lists the five zoning types that must be submitted **IF** they are administered by the county.
- Zoning is limited to county general, farmland preservation, shoreland, floodplain, and airport protection.
 - Do **not** submit zoning ordinance data administered by cities, villages, and towns.
- If any of these five zoning types are unavailable as zoning information maintained by the county, then the feature class cannot be submitted but should be annotated in the *Validation and Submission Tool* as: “NOT ADMINISTRED BY COUNTY” or “ADMINISTERED BY COUNTY BUT NOT IN GIS FORMAT”

Table C-1. Zoning Types Maintained by Counties			
Zoning Category	Zoning Type	Statutory Authority	County Ordinance
General	County General Zoning	59.64(4)	Yes
Special Purpose	Farmland Preservation Zoning	59.64(4), 61.35, 62.23(7), 60.61, or 60.62	Yes
Special Purpose	Shoreland Zoning	59.692, 61.351, or 62.231	Yes
Special Purpose	Floodplain Zoning	87.3	Yes
Special Purpose	Airport Protection Zoning	114.136	Yes

2. Zoning Geometries

2.1 Zoning Geometries

- **≤ 5 Separate Feature Classes.** Each of the five zoning types must be submitted as separate GIS layers of file geodatabase feature class format.
 - If county zoning types are combined into one common layer, the appropriate features for each layer must be queried and separated into their respective layers.
 - If your feature class for county general zoning contains any of the other four zoning types, submit each layer as a standalone feature class.
 - ▶ e.g., single zoning feature class containing both GENERAL and SHORELAND ▶ Submit two separate feature classes
 - Submit a standalone feature class for zoning, even if zoning info is maintained as an attribute within a parcel dataset. Parcel geometries need not be dissolved in such a case—parcel geometries may be submitted as-is.
- **GIS template.** A GIS template file (GISTemplates.gdb\ZoningFormatTemplate) is available on the V3 webpage and can be used for submission.
- Files must be named with the following syntax and **must reside in the .gdb of the parcel** feature class being submitted (with the exception of XML data, which can exist on the root level of the zipped package):
 - County General ▶ LA_CROSSE_PARCELS.gdb\GENERAL
 - Farmland Preservation ▶ LA_CROSSE_PARCELS.gdb\FARMLAND
 - Shoreland ▶ LA_CROSSE_PARCELS.gdb\SHORELAND
 - Floodplain ▶ LA_CROSSE_PARCELS.gdb\FLOODPLAIN
 - Airport Protection ▶ LA_CROSSE_PARCELS.gdb\AIRPORT
- **Zoning Projection/CRS.** Before submitting zoning data, ensure the data meets the schema requirements.
 - Zoning layers **must be transformed to the following CRS** (coordinate reference system) specifications using the transformation of choice (if applicable):
 - ▶ Datum: NAD_1983_HARN_Wisconsin_TM
 - ▶ WKID: 3071
 - ▶ Authority: EPSG
 - ▶ Projection: Transverse Mercator
 - ▶ False Easting: 520000.0
 - ▶ False Northing: -4480000.0
 - ▶ Central Meridian: -90.0
 - ▶ Scale Factor: 0.9996
 - ▶ Latitude Of Origin: 0.0
 - ▶ Linear Unit: Meter (1.0)
 - Note.** If your data is in a county-specific native projected coordinate system (PCS), you must first **re-project the data**. If you do not re-project before merging into the template, you may encounter the problem of your parcels being relocated to the middle of Lake Michigan (which you can check by overlaying the data to be submitted with a statewide basemap).
- The nature of geometries within the datasets may vary—the geometries may be bound discretely to parcels or zoning areas may split parcels.

3. Zoning Attribute Requirements

3.1 Zoning Schema Specifications

- **Standards.** The zoning format follows a simple attribute schema. Detailed descriptions of attributes are in the full zoning schema, [Appendix D](#).
- Ensure each submitted feature class includes the 4 minimum required fields:
 - ZONINGFIPS
 - JURISDICTION
 - ZONINGCLASS
 - DESCRIPTION **or** LINK
- Zoning feature classes **should NOT include excess fields**.
- For directions for processing FEMA floodplain zoning, see the [FEMA Floodplain Guide](#).
- **Attributes Denoted by Alpha Characters as UPPERCASE Strings.** All alpha characters within the statewide database are annotated as UPPERCASE characters. Convert your alpha strings to UPPERCASE.



Tip:

The NULL FIELDS AND SET TO UPPERCASE TOOL may help format all attributes within a feature class to <Null>/UPPERCASE

- **All Non-Existing Values Must be Populated as <Null>.** For all instances across all fields where a data value does not exist, a true SQL <Null> should be used.
 - A true SQL <Null> should be used instead of blank fields (e.g. "") or whitespace (e.g. " ").
 - A true null is NOT a string of text that spells out "NULL" in alpha characters.
 - A <Null> value can be calculated into a field using the *Field Calculator* with the formula pictured in [Figure A-2](#), or use the *Null Fields and Set To UPPERCASE Tool*.
 - Note that a true <Null> is not supported by the .dbf (database) format. The database format uses blank values to indicate nulls. Therefore, you will need to use a tool or manually convert nulls from database format into true SQL <Null> in the Searchable Format feature class submission.
 - <Null> indicates that a data value does not exist in the database. (This should not be confused with a value of 0. A null value indicates a *lack of a value*—a lack of a value is not the same thing as a value of zero.)

4. Zoning Searchable Format – Validation and Submission Tool + Form

- See the [Validation and Submission Tool Guide](#) for further instructions.

D. ZONING SCHEMA FOR V3

Zoning Schema Legend

V3 ELEMENTNAME	Denotes database field name Field names/ definitions are applicable to all five county-administered zoning layers: <ul style="list-style-type: none"> - County General Zoning - Farmland Preservation Zoning - Shoreland Zoning - Floodplain Zoning - Airport Protection Zoning
(Element Name)	Full English database field name (Alias)
(Standardized Domains)	Standardized field names and standardized domains required (available as a Digital Appendix)
ELEMENT [AUTO-POPULATED]	Denotes that this field is AUTO-POPULATED by the V3 Project's aggregation team. These fields should be left <Null> for V3 submission.
{TEXT:<#> CHAR}	Denotes the datatype of the file (all are TEXT) and the character length of the field
▶	Arrows point to examples

ZONINGFIPS (Zoning Source FIPS) (Standardized Domains) {TEXT:10 CHAR}

- Indicates the three-digit county FIPS code for the **county** (from Table B-1), with leading zeroes maintained.
 - ▶ **025** (for Dane County)
 - ▶ **009** (for Brown County)
- Do not populate with FIPS for municipality

JURISDICTION (Jurisdiction) (Standardized Domains) {TEXT:100 CHAR}

- The name of the **county** contributing zoning data from Table B-1, as only county-administered (and not municipal) zoning ordinances are required by statute.
- Do not populate with FIPS for municipality
- Do **not** include the word “_County” in JURISDICTION.
- Spaces and periods are permitted in county names in the JURISDICTION field.
 - ▶ FOND DU LAC

ZONINGCLASS (Zoning Class) {TEXT:100 CHAR}

- The class name for the zoning feature. Class names are unrestricted but all must contain or link to a DESCRIPTION. Class names may vary across jurisdictions. There are no restrictions on this field, however the content of this field should correlate with the descriptions provided through DESCRIPTION or LINK fields.
 - ▶ R1
 - ▶ R2
 - ▶ Agricultural

DESCRIPTION (Description) {TEXT:254 CHAR}

- A 254-character unrestricted field to contain a description of the class name of the zoning feature.
- DESCRIPTION can optionally be used for additional information of value to the end-user:
 - ▶ e.g., zoning sub-classifications or sub-categories
 - ▶ <body_of_water> + “Setback” + <setback>
 - ▶ “Height Limitation: “ + <height_limitation> + “ FT”
- DESCRIPTION is optional if LINK is correctly populated.

LINK (Link) {TEXT:254 CHAR}

- Contains a web link (URL) to a valid webpage or web document that contains authoritative/official descriptions of the given feature's zoning class or all zoning classes within the jurisdiction. This may be one document describing all zoning types and their sub categories or a page describing the feature's zoning class exclusively. The link provided must remain valid until a subsequent zoning layer is submitted, an anticipated time period of one year. Users of this layer will be directed to this web link for zoning class definitions.
- LINK should contain a link to **documentation that is specific** to the zoning type—not the general county zoning page.
- LINK is optional if DESCRIPTION is correctly populated.
 - ▶ http://www.waukeshacounty.gov/uploadedFiles/Media/PDF/County_Ordinance/Appendix_A_09.09.14.pdf
 - ▶ <https://www.waukeshacounty.gov/ZoningOrdinances/>
 - ▶ http://danedocs.countyofdane.com/webdocs/PDF/plandev/zoning/district_fact_sheets/A-1.pdf
 - ▶ http://danedocs.countyofdane.com/webdocs/PDF/plandev/zoning/district_fact_sheets/C-1.pdf

E. Other Layers

For Version 3 of the Statewide Parcel Map Database Project, the data request has been coordinated between DOA/SCO and the UW-Madison [Robinson Map Library](#). Additional GIS layers are being requested, as a check to enhance accuracy of the V3 parcel layer, but also so that they can be shared with the Robinson Map Library.

The Robinson Map Library at the University of Wisconsin-Madison has made an effort each year to collect and archive local GIS data across Wisconsin. They have focused efforts on collecting annual snapshots of several framework vector layers which are available for download via [GeoData@Wisconsin](mailto:GeoData@Wisconsin.gov), a geoportal developed in partnership with the State Cartographer's Office.

1. Other Layers – Robinson Map Library Submission

1.1 Other Layers to Submit

- Separately from parcels, submit the following layers AS IS:
 - Rights-of-Way
 - Roads/Streets/Centerlines
 - Hydrography (line and/or polygon)
 - Address Points
 - Buildings/Building Footprints
 - Land Use
 - Parks/Open Space; Trails; Other Recreation Data

1.2 Format for Other Layers

- Submission format(s) for other layers are flexible:
 - 1 single file geodatabase
 - Multiple geodatabases
 - Multiple shapefiles

1.3 Other Layers Files Specifications

- It is recommended that you use the following naming convention:

Layer/Theme	Naming Convention	Format
<input type="checkbox"/> Parcels with Tax Roll Attributes	LA_CROSSE_PARCELS.gdb\PARCELS	File geodatabase feature class
<input type="checkbox"/> County-Maintained Zoning	LA_CROSSE_PARCELS.gdb\GENERAL LA_CROSSE_PARCELS.gdb\FARMLAND LA_CROSSE_PARCELS.gdb\SHORELAND LA_CROSSE_PARCELS.gdb\FLOODPLAIN LA_CROSSE_PARCELS.gdb\AIRPORT	File geodatabase feature class

<input type="checkbox"/> OTHER LAYERS:		
Rights-of-Way	COUNTYNAME_ROW_YEAR*	Flexible
Roads/Streets/Centerlines	COUNTYNAME_ROADS_YEAR	Flexible
Hydrography (line and/or polygon)	COUNTYNAME_HYDRO_YEAR_POLY(or_LINE)	Flexible
Addresses	COUNTYNAME_ADDRESSES_YEAR	Flexible
Buildings/Building Footprints	COUNTYNAME_BUILDINGS_YEAR	Flexible
Land Use	COUNTYNAME_LANDUSE_YEAR	Flexible
Parks/OpenSpace (e.g., county forests)	COUNTYNAME_PARKS_YEAR	Flexible
Trails	COUNTYNAME_TRAILS_YEAR	Flexible
Other Recreation (boat launches, etc.)	COUNTYNAME_RECREATION_YEAR	Flexible

* YEAR represents the year from the **date of the content** (YYYY).

- Regardless of the format in which you submit the other layers, the **other layers must be separate from parcels** (e.g., not in the same file geodatabase).
 - Counties might feasibly submit separate geodatabases—for 1) parcels with separate zoning feature classes, and 2) other layers.
- Submit the above layers only IF they already exist.
 - The data can and should be submitted if it exists in the county land information system. However, **the county NEED NOT CREATE new data for “Other Layers”** if it does not exist. Indicate which other layers you are submitting with in FINAL mode of the [Validation and Submission Tool](#).
- To reduce the number of data requests, the data submitted to DOA for V3 will be shared with the Robinson Map Library, archived, and made publicly available.

F. Export Format

The Export Format is designed as a temporary exchange standard that facilitates transformation of parcel and tax roll data into the Searchable Format. The Export Format is an exchange standard with a specification that will change over future iterations of the Parcel Initiative, evolving toward and eventually being **replaced by the Searchable Format**.

In addition to the data, a submission form is required. This submission form describes the submitted data in a manner similar to a crosswalk. The major components of data submission are illustrated in Figure F-1.

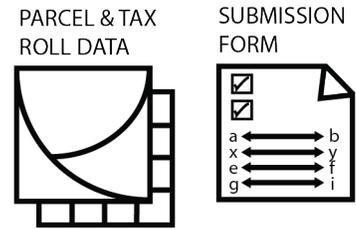


Figure F-1. Components of Data Submission

There is an option of four separate models for submitting in the Export Format. Each county will have discretion in deciding which model they choose. The models for the Export Format describe how the data components—geometries and parcel attributes—are submitted.

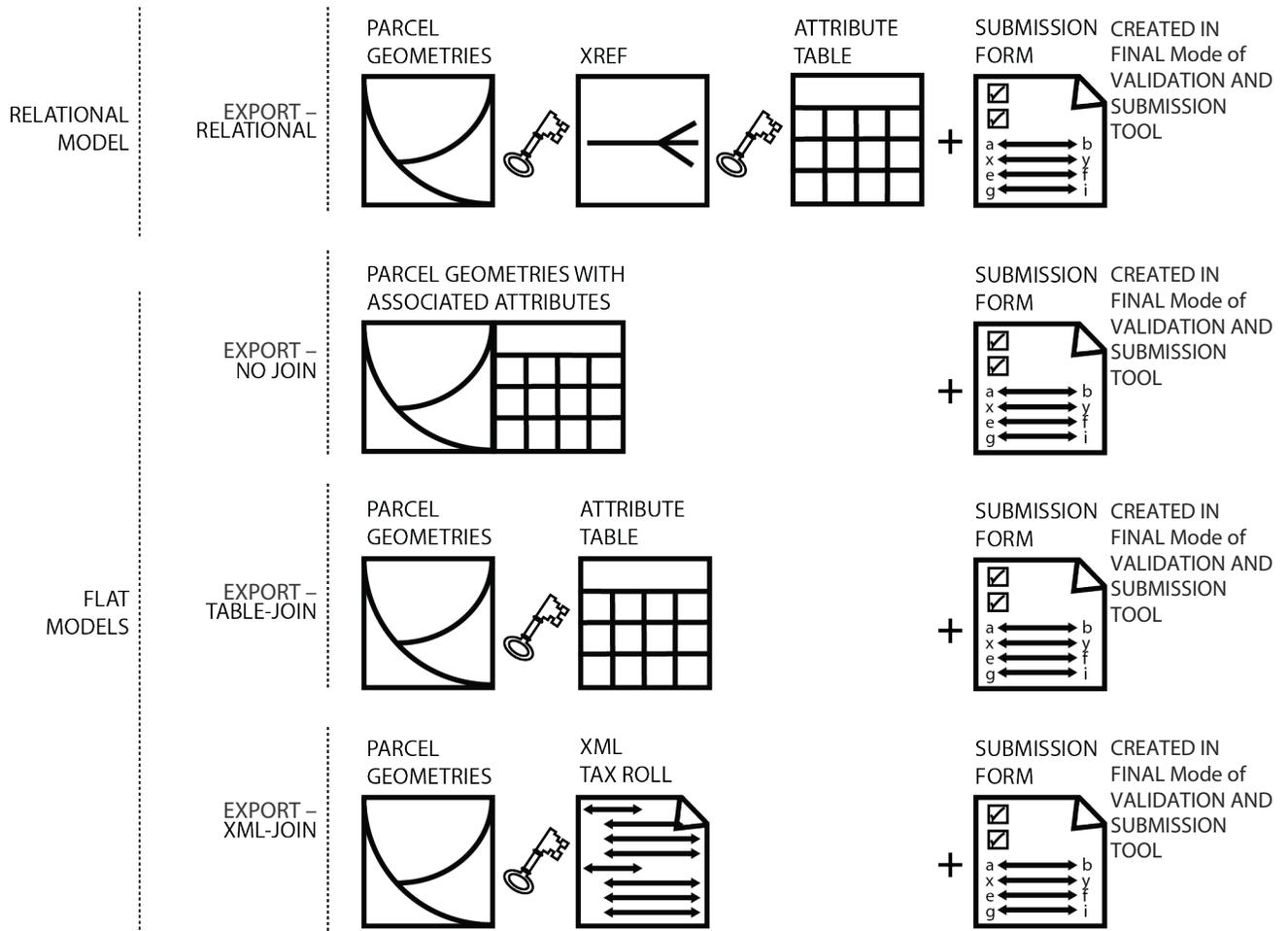


Figure F-2. Models for V3 Data Submission for Those Submitting in Export Format

All data that is stewarded by the county must be submitted following one of these models, not a combination of these models. Figure F-2 shows there is one Export Format pathway for submitting as a “RELATIONAL MODEL” (where a cross-reference or “XREF” table is used to facilitate a join), and three possible pathways for submitting as a “FLAT MODEL.”

1. General Specifications for Export Format

1.1 Export Format Attribute Specifications

- All tabular information submitted must meet the attribute requirements identified in the checklist and full schema. However, attribute field names do not need to be submitted conforming to schema definitions in Appendix B as long as the appropriate attribute crosswalk is completed in the submission form.
- All submitted tabular information must be in one, and only one, common table, in File Geodatabase (.gdb) table format or DOR XML format.

 **Tip:**
The DOR XML PARSE TOOL may help translate valid DOR tax roll XML into a GIS table

- Multiple tables are not allowed.
- Attribute requirements are detailed in Appendix B.
- For those submitting in the Export Format, the schema specification of formatting **all attributes denoted by alpha characters in UPPERCASE** is encouraged.
- **<Null>** values: For all instances across all fields where a data value does not exist, a true SQL **<Null>** should be used instead of blank fields (e.g. "") or whitespace (e.g. " "). A **<Null>** value can be calculated into a field using the *Field Calculator*, as shown in Figure A-1, or use the Null Fields and Set to UPPERCASE Tool.

 **Tip:**
The NULL FIELDS AND SET TO UPPERCASE TOOL may help format all attributes within a feature class to **<Null>/UPPERCASE**

- **Non-Parcel Features.** Geometries that are not tax parcels, such as rights of way (ROW), gaps, or hydrography need not join to a tax roll element. These elements, however, should be annotated with the appropriate "non-parcel" label in the PARCELID field.
 - e.g., hydrography name, "ROW", or "GAP"—see the PARCELID schema definition for details.

1.2 Join and Relationship Specifications

- If the model requires a join or relationship between the attribute data and the parcel geometries, then the join or relationship field pairings must be explicitly stated in the submission form. Tables F-1 through F-4 display the information that must be included in the submission form, per the model of choice (i.e., Export-RELATIONAL, Export-NO JOIN, Export-TABLE JOIN, or Export-XML-JOIN).

Table F-1. Export- RELATIONAL MODEL Elements	
Parameter	Definition
Model Name	The model type submitted (Export- RELATIONAL)
Geometry PIN	The parcel field that relates to the XREF table
XREF Geometry PIN	The XREF table field that relates to the parcel field
XREF Table PIN	The XREF table field that relates to the attribute table
Table PIN	The attribute table field that relates to the XREF table

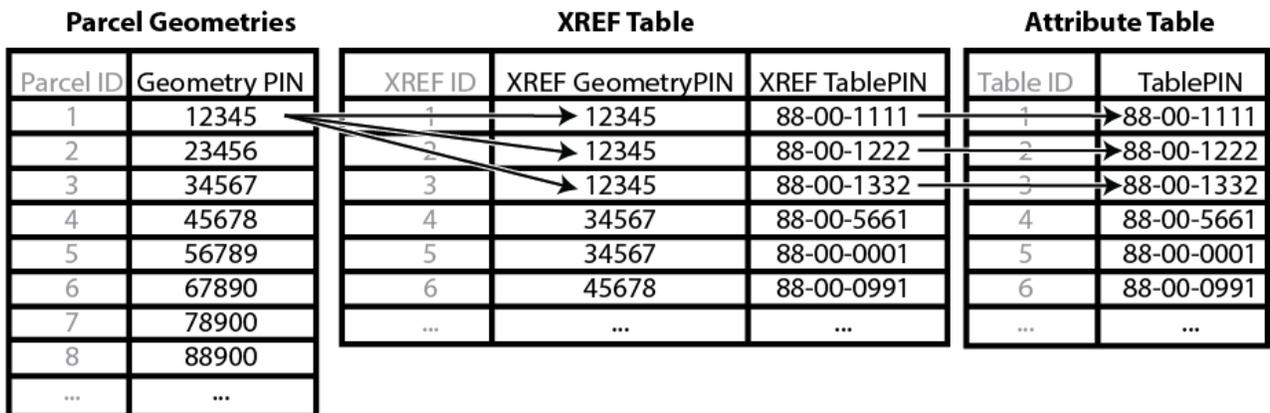


Figure F-3. Illustration of EXPORT-RELATIONAL MODEL fields, which require an XREF table

Table F-2. Export–NO JOIN MODEL Elements

Parameter	Definition
Model Name	The model type submitted (Export– NO JOIN : meaning the county has already included parcel geometries and attributes in the same file geodatabase feature class)

Table F-3. Export–TABLE-JOIN MODEL Elements

Parameter	Definition
Model Name	The model type submitted (Export– TABLE-JOIN)
Geometry PIN	The parcel field that joins (1:1) to the attribute table
Table PIN	The attribute table field that relates (1:1) to the parcel field

Table F-4. Export–XML-JOIN MODEL Elements

Parameter	Definition
Model Name	The model type submitted (Export– XML-JOIN)
Geometry PIN	The parcel field that joins (1:1) to the DOR XML ID
DOR XML ID	The XML field that joins records (1:1) to parcel field (LocalID1, LocalID2, or ParcelID)* *These fields are documented in the DOR County Rolls XML Schema Documentation located at revenue.wi.gov/Pages/Developers/file-transmission-2016-16home.aspx

2. Export Format GIS File Specifications

2.1 File Delivery Format

- **GIS Template.** A GIS template file has been provided on the [V3 webpage](#) and can be used for submission to the Export Format: \GISTemplates.gdb\SearchableFormatTemplate
- **File Geodatabase.** Parcel geometries must be submitted as a file geodatabase (.gdb) containing all parcels as a single feature class. Shapefiles and CAD files are not accepted.
- **Naming Convention.** The parcel geometry feature class in Export Format must follow this naming convention:
 - Geodatabase named with the county name
 - Feature class containing parcel geometries named "PARCELS"
 - Spaces annotated as underscores "_"
 - Punctuation omitted
 - All alpha characters UPPERCASE
 - Examples:
 - ▶ LA_CROSSE_PARCELS.gdb\PARCELS
 - ▶ FOND_DU_LAC_PARCELS.gdb\PARCELS
 - ▶ ST_CROIX_PARCELS.gdb\PARCELS
- **Projection/CRS.** Parcel **geometries must be transformed to the following CRS** (coordinate reference system) specifications using the transformation of choice (if applicable).
 - This CRS may be imported from GISTemplates.gdb\SearchableFormatTemplate on the [V3 webpage](#)
 - ▶ Datum: NAD_1983_HARN_Wisconsin_TM
 - ▶ WKID: 3071
 - ▶ Authority: EPSG
 - ▶ Projection: Transverse Mercator
 - ▶ False Easting: 520000.0
 - ▶ False Northing: -4480000.0
 - ▶ Central Meridian: -90.0
 - ▶ Scale Factor: 0.9996
 - ▶ Latitude Of Origin: 0.0
 - ▶ Linear Unit: Meter (1.0)

Note. If your data is in a county-specific native projected coordinate system (PCS), you must first **re-project the data**. If you do not re-project before merging into the template, you may encounter the problem of your parcels being relocated to the middle of Lake Michigan (which you can check by overlaying the data to be submitted with a statewide basemap).

3. Export Format Attribute File Specifications

3.1 Attribute Specifications

- **Attributes Denoted by Alpha Characters as UPPERCASE Strings.** All alpha characters within the statewide database are annotated as UPPERCASE characters. Convert your alpha strings to UPPERCASE.



Tip:

The NULL FIELDS AND SET TO UPPERCASE TOOL may help format all attributes within a feature class to <Null>/UPPERCASE

- **Format Currency Attributes as Numeric Values/Doubles.** All currency values (values measuring dollar amounts) are annotated in the statewide layer as **numeric values in character format** that exclude any currency formatting such as the dollar sign or comma separators such as the thousands delimiter. Decimal values are rounded up to the nearest hundredth (two decimal places to the right of the decimal) for all currency values, while measurement values (acreages) should be annotated as **non-rounded numbers**. Currency/measurement values are also **acceptable as doubles** (double-precision floating-point number format).
- **Parsed Address Components for SITEADDRESS are Required** for those submitting in both the Searchable and Export Format.
 - For those submitting in the Export-XML-JOIN format, note that they are not a part of the Department of Revenue's XML schema.
- If following Export-XML-JOIN Model, any information that cannot be derived from the DOR XML (such as fully parsed addresses) must be included within the attribute table of the feature class containing the parcels. In order to submit parsed addresses with the DOR XML submission, a county must include parsed address elements within the attribute table of the feature class containing parcel geometries.



Tip:

The ADDRESS PARSING TOOL may help parse site addresses into sub-address elements

- **Attribute Table File.** Unless following the XML-JOIN or NO JOIN MODELS, tabular data must be submitted as specified here:
 - All attributes for the county's parcel jurisdiction must be included in one table file.
 - Acceptable tabular file types include: file geodatabase (.gdb) table or dBASE (.dbf) table.
 - Attributes do not need to be submitted with standardized field names conforming to the schema in Appendix B and as long as the attribute crosswalk is completed in the submission form. However, **standardization of attribute field names** is encouraged.
- **Attribute Table Naming Convention.** Attribute tables must follow this naming convention:
 - If .gdb ▶ DODGE_PARCELS.gdb\ATTR
 - If .dbf ▶ DODGE_ATTR.dbf
- **XREF/RELATIONSHIP Table.** XREF/RELATIONSHIP tables must follow this naming convention:
 - If .gdb ▶ DODGE_PARCELS.gdb\XREF
 - If .dbf ▶ DODGE_XREF.dbf

4. Export Format Geometric Specifications

4.1 Geometries

- All digital parcel geometries must be included as one GIS feature class for the county's parcel jurisdiction.
- File must include all parcels, regardless of tax exemption status.
- Only current parcels will be included. Historic parcels should be omitted.
- Unless following the Export-RELATIONAL MODEL, there must be a one-to-one relationship between parcel geometries and records in the attribute table. Each parcel geometry must attach to one and only one record; each record must attach to one and only one parcel.
- In the case of condos, or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry. Condos may be presented with one of the four preferred geometric representations from Figure A-2:
 - Condo Type #1-Discrete
 - Condo Type #2-Stacked
 - Condo Type #3-Divided
 - Condo Type #4-Distributed



Tip:

The CONDO STACK TOOL may help model condos by stacking condo parcel geometries by owner

- Condo Type #5-Export-RELATIONAL: If condo or other collective real property ownerships do not follow a Condo Type from #1-4 as seen in Figure A-2, they can follow the Export-RELATIONAL model depicted in Figure F-2. These condos require submission of a special XREF table.
- If unable to submit in condo types #1-5, contact the State Cartographer's Office for directions on how to submit a condo-alternative format.

5. Export Format – Validation and Submission Tool + Form

- See the Validation and Submission Tool Guide for further instructions.

**DIGITAL APPENDICES
TOOLS AND GUIDES
VALIDATION AND SUBMISSION TOOL
UPLOAD DATA
@sco.wisc.edu**

2020 Census Local Update of Census Addresses Operation (LUCA) Information Guide

Issued December 2016
D-2101

What Is LUCA?

The Local Update of Census Addresses Operation (LUCA) is a voluntary decennial census operation. LUCA is the only opportunity prior to the 2020 Census for tribal, state, and local governments (including the District of Columbia and Puerto Rico) to review and update the U.S. Census Bureau's residential address list for their jurisdiction. The Census Bureau relies on a complete and accurate address list to reach every living quarters and associated population for inclusion in the census. The Census Address List Improvement Act of 1994 (Public Law 103-430) authorizes LUCA.

Active, functioning, legal governments are eligible to participate in LUCA, including:

- Federally recognized tribes with a reservation and/or off reservation trust lands.
- States.
- Counties.
- Cities (incorporated places).
- Townships (minor civil divisions).

If your government lacks the resources to participate in LUCA, you can arrange for a higher level of government, such as a county; or an organization, such as a regional planning agency or council of governments, to conduct your address review.

Why Participate in LUCA?

The accuracy and completeness of the address list is critical to the accuracy and completeness of the decennial census. Participating in LUCA can help ensure an accurate census for your community.

Although the primary purpose of the decennial census is to apportion seats in the U.S. House of Representatives, census data are used to:

- Distribute federal funds for over 1,000 programs administered by 26 federal agencies to tribal, state, and local governments.
- Provide statistical support for grant applications that fund community and regional development, education, agriculture, energy, and environmental programs, as well as other needed community improvements and enhancements.
- Help your community plan for future needs.

What Is New for LUCA?

- Pre-LUCA activities, such as the on-going Geographic Support System (GSS) Partnership Program, provide more opportunities to submit address information and receive non-Title 13 feedback.
- New streamlined participation through the full address list review.
- Online viewing availability for the Census Bureau housing unit counts by census block for your jurisdiction starting in January 2017.
- Ease of use with standard data formats for viewing the Census Bureau's digital address list (Excel [.xlsx] and Comma Delimited Text [.csv]).
- Availability of the Census Bureau Geographic Update Partnership Software, a self-contained Geographic Information System (GIS) tool.
- Access to comprehensive data that include residential structure latitude/longitude coordinates and ungeocoded census residential addresses.
- Digital participants may submit residential structure coordinates as part of their address updates.

LUCA Schedule

2020 Census LUCA Operation Schedule	
Timeframe	Activity
January 2017	Advance notice mailed to Highest Elected Officials (HEOs), Tribal Chairs (TCs), Governors, and other LUCA contacts.
March 2017	LUCA promotional workshops begin.
July 2017	LUCA invitation and registration materials mailed to HEOs, TCs, and Governors.
October 2017	LUCA training workshops begin.
February–April 2018	Participants review and update the Census Bureau’s address list.
February–September 2018	Census Bureau processes LUCA submissions.

LUCA Preparation Checklist

- ✓ Participate in the GSS.
- ✓ Review your boundaries and respond to the 2017 Boundary and Annexation Survey (BAS).
- ✓ Complete and return the *Contact Information Update Form*.
- ✓ Attend a LUCA promotional workshop or access information at the LUCA Web site.
- ✓ Access the Census Address Count List for your jurisdiction online.
- ✓ Determine and assemble local address sources.
- ✓ Update your address list with information needed for LUCA:
 - Unit designations for multiunit housing (e.g., Apt 1, Apt 2, Unit A, Unit B, etc.) (required).
 - Residential address status (required, the LUCA Operation only accepts residential addresses).
 - ZIP Codes for mailing addresses desired.
- ✓ Geocode your local address list using the online Census Geocoder (digital address list required).
- ✓ Determine your LUCA materials format.
- ✓ Develop your address review strategy.
- ✓ Highest Elected Official (HEO), Tribal Chair (TC), or Governor registers for LUCA.
- ✓ Attend a training workshop or Webinar.
- ✓ Review and update LUCA materials.
- ✓ Receive address feedback.

Participate in the GSS.

Pre-LUCA activities provide more opportunities to submit address information and receive non-Title 13 feedback through the continuous GSS Partnership Program.

Review your boundaries and respond to the 2017 BAS.

The 2017 BAS is the last opportunity to ensure that your boundaries are correct before LUCA begins. Because LUCA participants receive only addresses inside their jurisdictional boundaries for review and update, you may not be able to view your entire address list if your boundaries are incorrect. The 2017 BAS starts in December 2016. For more information, visit the BAS Web site at <www.census.gov/geo/partnerships/bas.html>.

Complete and return the *Contact Information Update Form*.

In January 2017, the HEO, TC, Governor, and other contacts that the Census Bureau has associated with each government will receive a LUCA notification package. The package includes information about LUCA and a *Contact Information*

Update Form. Complete the form and return it using the postage-paid envelope. If you prefer, you may scan it and return it via e-mail to <GEO.2020.LUCA@census.gov>.

Attend a LUCA promotional workshop or access information on the LUCA Web site.

Plan to attend a LUCA promotional workshop or Webinar to obtain additional information about participating in LUCA. You may also obtain additional information by accessing the LUCA Web site at <www.census.gov/geo/partnerships/luca.html>.

Access the Census Address Count List for your jurisdiction online.

Your government's Address Count List, which contains the Census Bureau's count of residential addresses for each census block within your jurisdiction, is available on the LUCA Web site. Compare the census counts to your counts to help focus your participation efforts. Each census block record is at least 12 characters in length and contains seven fields of information <www.census.gov/geo/maps-data/data/geocoder.html>.

Digital Address Count List

Maximum character length	Field name	Description
12	Entity ID	Unique code assigned by the Census Bureau to each entity.
2	State code	2-digit current state code.
3	County code	3-digit current county code.
6	Census tract number	6-digit current census tract number, with an implied decimal point between the fourth and fifth digit.
4	Census block number	4-digit current census block number.
7	Count of housing unit addresses	Census Bureau's most recent count of housing unit addresses.
7	Count of group quarters addresses	Census Bureau's most recent count of group quarters addresses.

✔ Determine and assemble local address sources.

Potential local address sources for compiling your residential address list include:

- E-911 address files.
- New housing construction or building permits.
- Housing inspection records.
- Planning and zoning records.
- Local utility records.
- School enrollment records.
- Driver license files.
- Annexation records.
- Assessment or tax files (residential units).
- Voter registration files.

✔ Update your Address List with information needed for LUCA.

Unit Designation: LUCA **requires** that each record include unit identifiers (e.g., Apt 1, Apt 2, Unit A, Unit B). Basic street address and the individual unit designation should be provided for multiunit buildings.

Residential Status: LUCA accepts only **residential** address updates.

ZIP Code: A ZIP Code in a mailing address is useful to the Census Bureau.

✔ Geocode your local address list using the online Census Geocoder (digital address list required).

The Census Bureau defines geocoding as assigning a state, county, census tract, and census block number to an address. Used in conjunction with the Address Count List, the Census Geocoder allows you to compare your digital address list to the Census Bureau's count of addresses by census block. You can focus your address review on the census blocks with the greatest address count differences between your address list and the Census Bureau's. For more information, see <www.census.gov/geo/maps-data/data/geocoder.html>.

✔ Determine your LUCA materials format.

The LUCA address lists and maps are available in digital or paper formats. The digital format requires the use of spreadsheet or database software, such as Excel (.xlsx) or Comma Delimited Text (.csv). The paper format is available only to governments with 6,000 or fewer addresses.

Example: Available LUCA materials formats
 Copy provided for reference only; do NOT return this form.

<p>PRODUCT PREFERENCE FORM</p> <p>2020 CENSUS LOCAL UPDATE OF CENSUS ADDRESSES OPERATION (LUCA)</p>	<p>Entity ID _____</p> <p>Government Name _____</p>		
<p>Please mark (X) to select a product preference format (Choose #1 OR #2 below)</p> <p>1. <input type="checkbox"/> GUPS – The Census Bureau’s Geographic Update Partnership Software (GUPS) is a self-contained Geographic Information System (GIS) tool. It includes the Census Bureau’s address list, address count list by census block, and partnership shapefiles. GUPS allows you to add external geospatial data (shapefiles, geodatabases, and imagery) for comparison and update purposes. GUPS functions on Windows XP, Vista, and Windows 7, 8, and 10, and Apple Mac OS X with additional bridge software.</p> <p style="text-align: center;">OR</p> <p>2. <input type="checkbox"/> Select one address list format in Section A and one map format in Section B.</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top; border-right: 1px solid black; padding-right: 10px;"> <p>A. Address List – Select Digital or Paper</p> <p><input type="checkbox"/> Digital – Requires the use of a spreadsheet or database software. We will provide the files in Excel (.xlsx) and Comma Delimited Text (.csv) format.</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> Paper – Available only to governments with 6,000 or fewer addresses. Each 8 1/2" X 14" page contains six (6) addresses (1,000 pages maximum). Choose one address sort preference below:</p> <p><input type="checkbox"/> Census Tract#/Block#/Street Name/House#/Unit#</p> <p><input type="checkbox"/> Street Name/House#/Unit#/Census Tract#/Census Block# (alphanumeric sort)</p> <p><i>Current number of residential housing units on file for your jurisdiction as of date X.</i></p> </td> <td style="width: 50%; vertical-align: top; padding-left: 10px;"> <p>B. Maps – Select Digital or Paper</p> <p><input type="checkbox"/> Digital –Partnership shapefiles that require the use of GIS software. Address structure points are not included in the partnership shapefiles but can be created from the lat/long coordinates included on the digital address list.</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> Paper – Large format paper map(s) (42" X 36") with one or more sheets. This includes a DVD of small format (8 1/2" X 14") block maps in Adobe PDF format that contain address structure coordinates showing the location of residential addresses.</p> <p>Note: The shapefiles do NOT contain address points. If you choose a paper address list and digital maps, you will not see map spots in the digital environment. You will have to use the block PDF maps.</p> </td> </tr> </table>		<p>A. Address List – Select Digital or Paper</p> <p><input type="checkbox"/> Digital – Requires the use of a spreadsheet or database software. We will provide the files in Excel (.xlsx) and Comma Delimited Text (.csv) format.</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> Paper – Available only to governments with 6,000 or fewer addresses. Each 8 1/2" X 14" page contains six (6) addresses (1,000 pages maximum). Choose one address sort preference below:</p> <p><input type="checkbox"/> Census Tract#/Block#/Street Name/House#/Unit#</p> <p><input type="checkbox"/> Street Name/House#/Unit#/Census Tract#/Census Block# (alphanumeric sort)</p> <p><i>Current number of residential housing units on file for your jurisdiction as of date X.</i></p>	<p>B. Maps – Select Digital or Paper</p> <p><input type="checkbox"/> Digital –Partnership shapefiles that require the use of GIS software. Address structure points are not included in the partnership shapefiles but can be created from the lat/long coordinates included on the digital address list.</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> Paper – Large format paper map(s) (42" X 36") with one or more sheets. This includes a DVD of small format (8 1/2" X 14") block maps in Adobe PDF format that contain address structure coordinates showing the location of residential addresses.</p> <p>Note: The shapefiles do NOT contain address points. If you choose a paper address list and digital maps, you will not see map spots in the digital environment. You will have to use the block PDF maps.</p>
<p>A. Address List – Select Digital or Paper</p> <p><input type="checkbox"/> Digital – Requires the use of a spreadsheet or database software. We will provide the files in Excel (.xlsx) and Comma Delimited Text (.csv) format.</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> Paper – Available only to governments with 6,000 or fewer addresses. Each 8 1/2" X 14" page contains six (6) addresses (1,000 pages maximum). Choose one address sort preference below:</p> <p><input type="checkbox"/> Census Tract#/Block#/Street Name/House#/Unit#</p> <p><input type="checkbox"/> Street Name/House#/Unit#/Census Tract#/Census Block# (alphanumeric sort)</p> <p><i>Current number of residential housing units on file for your jurisdiction as of date X.</i></p>	<p>B. Maps – Select Digital or Paper</p> <p><input type="checkbox"/> Digital –Partnership shapefiles that require the use of GIS software. Address structure points are not included in the partnership shapefiles but can be created from the lat/long coordinates included on the digital address list.</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> Paper – Large format paper map(s) (42" X 36") with one or more sheets. This includes a DVD of small format (8 1/2" X 14") block maps in Adobe PDF format that contain address structure coordinates showing the location of residential addresses.</p> <p>Note: The shapefiles do NOT contain address points. If you choose a paper address list and digital maps, you will not see map spots in the digital environment. You will have to use the block PDF maps.</p>		

✔ Develop your address review strategy.

To conduct your address review, consider your time, staff, and available local address information. If a complete review is not possible, focus your review on these areas:

- Group quarters (e.g., college dorms, nursing homes, correctional facilities, etc.).
- Areas of new construction.
- E-911 address conversion areas.
- Single-family homes converted to multifamily homes, and vice versa.

- Warehouses converted to residential units.
- New mobile homes.
- Apartment buildings with irregular or missing numbering schemes for the individual units.
- Annexed land.
- Areas along governmental boundaries.
- Blocks with the greatest count differences between the Census Bureau’s address block count and your address block count.

✔ Highest Elected Official (HEO), Tribal Chair (TC), or Governor registers for LUCA.

In July 2017, the Census Bureau will mail the invitation letter and registration form to your HEO, TC, or Governor. This invitation package will include information about LUCA and a registration form for the HEO, TC, Governor, and the LUCA liaison (designated by the HEO, TC, or Governor) to complete and return to the Census Bureau for participation in LUCA.

✔ Attend a LUCA training workshop or Webinar.

Training workshops will offer “hands-on” experience using the LUCA materials. Self-training aids and Webinars will be available online at the LUCA Web site. In addition, the *2020 Census Local Update of Census Addresses Operation (LUCA) Respondent Guide* contains detailed instructions and examples for conducting your address and map review.

✔ Review and update LUCA materials.

You have 120 calendar days from the receipt of your materials to conduct your address review and return your updates to the Census Bureau. We estimate that it will take between 16 to 672 hours to complete your address review and submit your updates, depending on your jurisdiction’s size and number of changes.

✔ Receive address feedback.

After validating LUCA submissions, the Census Bureau will provide address feedback on your LUCA updates.

? Questions

For more information about LUCA, call 844-344-0169, e-mail us at <GEO.2020.LUCA@census.gov>, or visit our Web site at <www.census.gov/geo/partnerships/luca.html>.

Digital Address List Record Layout

The information contained on each census address record includes census state and county codes, census tract and block numbers, and group quarters flag. The character length for each record may vary.

Maximum character length	Field name	Description
7	Line number	Sequential number for each address record in the file.
9	MAFID	Unique control number assigned to each MAF address.
12	Entity ID code	Unique number assigned by the Census Bureau to each entity.
1	Action code	Entered by the participant to indicate an action to be taken on the address.
2	State code	2-digit Current State Code.
3	County code	3-digit Current County Code.
6	Census tract number	6-digit current census tract number, with an implied decimal point between the fourth and fifth digit (e.g., 123401 and 000300).
4	Census block number	4-digit Census Block Number.
15	Geo ID	15-digit combination of State Code, County Code, census tract, and census block numbers.
1	Group quarters flag	Displays a 'Y' if the address is a group quarters.
35	Complete address number	Housing unit or group quarter's assigned address number, alone or with an address number prefix and/or address number suffix, that identifies a location along a thoroughfare or within a community.
100	Complete street name	Full street or road name. The official name of a thoroughfare as assigned by a governing authority, or an alternate (alias) name that is used and recognized.
65	Apartment/unit number	Within structure descriptor or identifier, such as APT 5 or 1st FL FRN.
5	City-style mailing ZIP Code	5-digit ZIP Code for city-style mailing address.
100	Group quarters name	Name of group quarter (e.g., Dobbs Hall).
100	Facility name	Name of group quarter facility (e.g., University of Illinois).
100	Location description	Description of the location and physical characteristics of a living quarters (e.g., red ranch w/white shutters).
50	Noncity-style mail delivery address (RR#, HCR#, or PO Box #)	Rural Route and Box number, Highway Contract Route number, or Post Office Box number.
5	Noncity-style mailing ZIP Code	5-digit ZIP Code for noncity-style mailing address.
4	Map spot ID	Unique number assigned by the Census Bureau for each map spot within a block. Numbering starts over in each block.
1	Address use	A value entered by the participant indicating if the address is used for M) mailing purposes, L) location purposes, including emergency services, B) both mailing and location purposes.
11	Structure latitude	Address structure latitude, populated only if the Census Bureau has captured an address structure point for the address, otherwise blank. If blank, participants can populate this field.
12	Structure longitude	Address structure longitude, populated only if the Census Bureau has captured an address structure point for the address, otherwise blank. If blank, participants can populate this field.
1	City-style address flag	Displays "Y" if city-style address, an "N" if noncity-style address.

Paper Address List

The information contained in the paper address list includes state and county codes, census tract and block numbers, address information, and group quarters flag. The paper address list is available only to governments with 6,000 or fewer addresses. Each 8 1/2" x 14" page contains six addresses (1,000 pages maximum). You may choose one of two sort preferences: Census Tract#/Block#/Street Name/House#/Unit# or Street Name/House #/Unit#/Census Tract#/ Census Block#.

*Example sort: Census Tract/Block
Example sort: Street Name/House#/Unit#/Census Tract#/Census Block#*

U.S. DEPARTMENT OF COMMERCE ECONOMICS AND STATISTICS ADMINISTRATION U.S. CENSUS BUREAU												
Form D-2007 (XX-XX-XXXX) OMB Control No. XXX-XXXX												
2020 LOCAL UPDATE OF CENSUS ADDRESSES OPERATION (LUCA)												
ADDRESS LIST												
DISCLOSURE PROHIBITED BY TITLE 13, U.S.C.												
Entity: Winter County CO88009												
Sort: Tract/Block												
Date: 01/04/2018												
Page: 17 of 20												
1 Line Number	2 MAFID	3 Action Code	4 Census Geographic Location of Address			6 City-Style Mail Delivery Address or E-911 Address or Physical Location Description and Road Name			7 Noncity-Style Mail Delivery Address (RR Number, HCR Number, PO Box Number) (7a) Noncity-Style Mailing ZIP Code	8 Map Spot Number	9 City-Style Address Flag	10 Map Spot ID Coordinates (10a) Latitude (10b) Longitude
			(4a) State County Code	(4b) Census Tract Block	(4c) Census Block	(5) GQ Flag	(6a) Complete Address Number	(6b) Complete Street Name				
102	999999993		88009	0054.00	2001	Y	5503	JEFFRAS DR SUNSET ASSISTED LIVING COMMUNITY			Y	40.361373 -73.543799
103	999999994		88009	0054.00	2001		5507	JEFFRAS DR	APT 1		Y	40.361377 -73.543799
104	999999995		88009	0054.00	2001		5507	JEFFRAS DR	APT 2		Y	40.361381 -73.543799
105	999999996		88009	0054.00	2001		5509	JEFFRAS DR			Y	40.361785 -73.543799
106	999999997		88009	0054.00	2001			REDWOOD RAMBLER W/LONG FRNT PORCH, ON LAKE		RTE 2, BOX 175		40.361791 -73.543799
107	XXXXXXXXXX		88009	0054.00	2002		XXXXXXXX	***NO KNOWN ADDRESS IN THIS BLOCK***	XXXXXXXXXX	XXXXXXXXXX	X	XXXXXXXXXX XXXXXXXXXX

FICTITIOUS INFORMATION –FOR EXAMPLE ONLY
Action Codes
 C – Correction to this address D – Delete this address J – Address is not in this Jurisdiction N – Address is Nonresidential

Sort: Street Name/House Number
 Entity: Winters County CO88009

Page: 5 of 20
 Date: 01/04/2018

1 Line Number	2 MAFD	3 Action Code	4 Census Geographic Location of Address			5 GQ Flag	6 City-Style Mail Delivery Address or E-911 Address or Physical Location Description and Road Name			7 Noncity-Style Mail Delivery Address (RR Number, HCR Number, PO Box Number) Noncity-Style Mailing ZIP Code	8 Map Spot Number	9 City-Style Address Flag	10 Map Spot ID Coordinates (10a) Latitude (10b) Longitude
			(4a) State County Code	(4b) Census Tract	(4c) Census Block		(6a) Complete Address Number	(6b) Complete Street Name	(6c) Group Quarters Name				
25	999999993		88009	0045.00	1055		4007	AMPHORA ST			3	Y	40.361373 -73.543799
26	999999994		88009	0045.00	1055		4009	AMPHORA ST			4	Y	40.361377 -73.543799
27	999999995		88009	0045.00	1058		5001	AMPHORA ST			1	Y	40.361381 -73.543799
28	999999996		88009	0045.00	1058		5003	AMPHORA ST			2	Y	40.3613785 -73.543799
29	999999997		88009	0045.00	1065		402	W CAMERON AVE			11	Y	40.3613791 -73.543799
30	999999999		88009	0045.00	1065		404	W CAMERON AVE			12	Y	40.3613796 -73.543799

Action Codes
 C – Correction to this address D – Delete this address J – Address is not in this Jurisdiction N – Address is Nonresidential

FICTITIOUS INFORMATION –FOR EXAMPLE ONLY

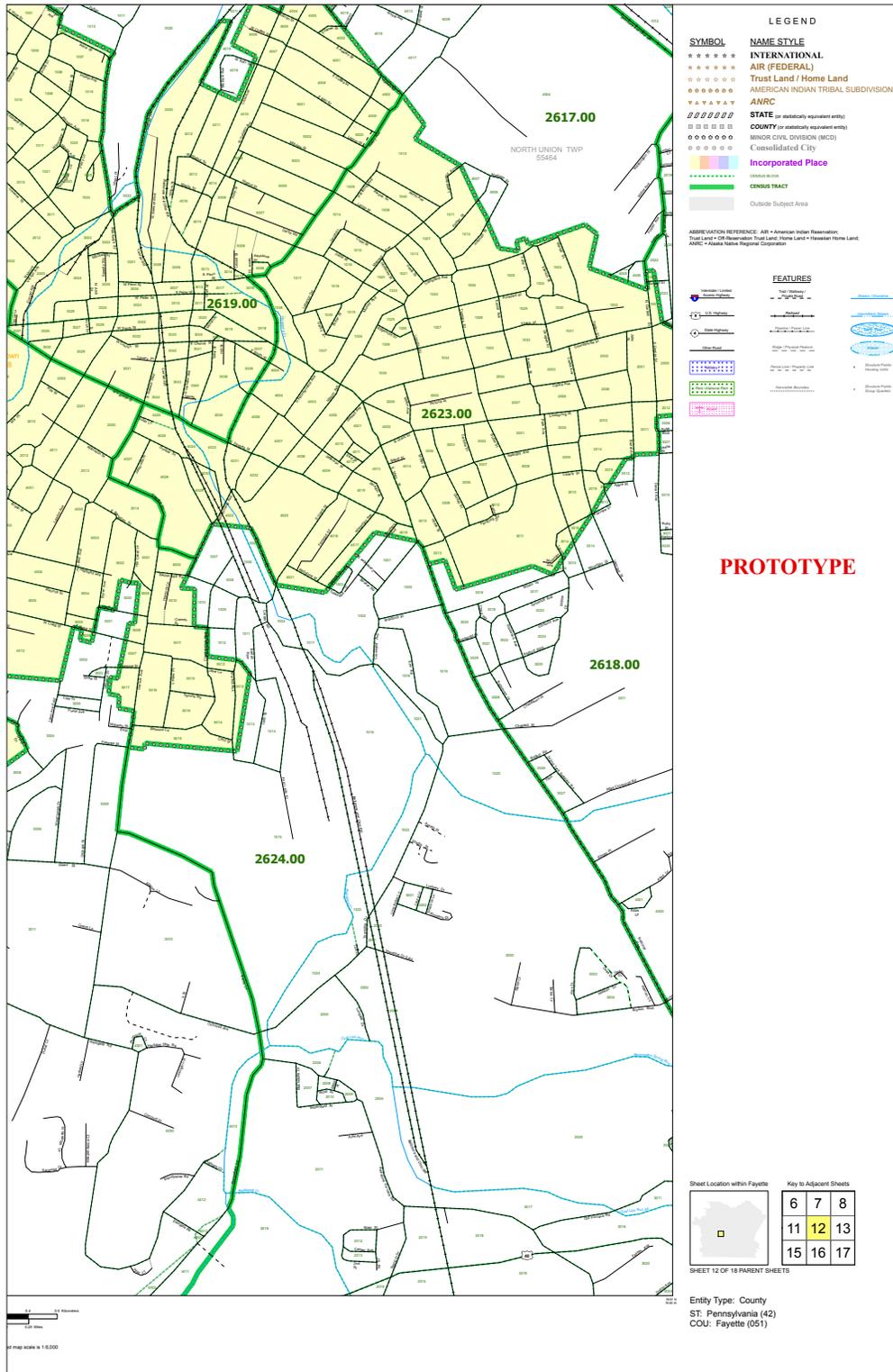
Paper Address Count List

The LUCA address count list contains the count of housing unit and group quarters addresses for each census block within your jurisdiction. The list contains 90 census blocks per page. This list is for reference only.

Example: Address Count List

Form D-2009 (XX-XX-XXXX) OMB Control No. XXXX-XXXX				ADDRESS COUNT LIST 2020 CENSUS LOCAL UPDATE OF CENSUS ADDRESSES OPERATION (LUCA)				U.S. DEPARTMENT OF COMMERCE ECONOMICS AND STATISTICS ADMINISTRATION U.S. CENSUS BUREAU			
ST/CO: 52 / 003								Page: 1 of 1			
Entity: ANY TOWN PL5212345								Date: 12/02/2017			
Census Tract Number	Census Block Number	Count of Housing Unit Addresses	Count of Group Quarters Addresses	Census Tract Number	Census Block Number	Count of Housing Unit Addresses	Count of Group Quarters Addresses	Census Tract Number	Census Block Number	Count of Housing Unit Addresses	Count of Group Quarters Addresses
9708.01	2345	9	1	9708.03	1100	9					
9708.01	2346	11		9708.03	1101	4					
9708.01	2347	3		9708.03	1102	4					
9708.01	2348	9		9708.03	1103	6					
9708.01	2349	12		9708.03	1104	6					
9708.01	2350	12		9708.03	1105	5					
9708.01	2351	14		TOTAL	36	217	2				
9708.01	2352	6									
9708.01	2353	15	1								
9708.01	2354	12									
9708.01	3301	6									
9708.01	3302	8									
9708.01	3303	5									
9708.01	3304	12									
9708.02	3305	13									
9708.02	3306	5									
9708.02	3307	7									
9708.02	3309	6									
9708.02	3310	6									

Example: Paper Map



Census Bureau Paper Maps and Digital Shapefiles

Paper—Large format paper map(s) (42" x 36") with one or more sheets. This includes a DVD of small format (8 1/2" x 14") block maps in Adobe PDF format that contain address structure coordinates showing the location of residential addresses. For a full-color paper map example, visit our Web site at www.census.gov/geo/partnerships/luca.html.

Digital—Topologically Integrated Geographic Encoding and Referencing (TIGER) Partnership shapefiles that require the use of GIS software. Address structure points are not included in the partnership shapefiles but can be created from the latitude/longitude coordinates included on the digital address list.