



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

2711 West Wells Street, Rm 426, Milwaukee, WI 53208 (414) 278-2176

**MEMORANDUM**

**TO:** FILE FILE FILE  
Milwaukee County Automated Mapping and Land Information System  
2711 W. Wells St.  
City Campus - Rm 426  
Milwaukee, WI. 53208

**FROM:** William C. Shaw, MCAMLIS Project Manager

**DATE:** September 13, 2013

**SUBJECT:** MCAMLIS 93<sup>rd</sup> Steering Committee Meeting Materials

Enclosed please find a set of materials that the steering committee will take up at its scheduled September 24<sup>th</sup> Meeting.

- I. Meeting Agenda
- II. Meeting Minutes of the 92<sup>nd</sup> Steering Committee meeting held July 9<sup>th</sup>, 2013
- III. Reports
  - A. **Maintain Core Foundational Elements**
    1. Report materials related to the status of the 2013 Orthophotography/Oblique Imagery Program
    2. Report materials related to the status of the Planimetric Map Replacement Program
  - B. **Promote the Integration of Parcel Based Land Information**
    1. Report materials related to the status of MCAMLIS street address and Cadastral map maintenance operations.
  - C. **Educational Outreach**
    1. Report materials related to the status of work performed on behalf of MCAMLIS in support of local community GIS efforts
    2. Report materials regarding current progress and status of the Milwaukee County Business Needs Assessment (BNA) Project.
  - D. **Countywide Initiatives**
    1. Report materials related to the status of work performed regarding Countywide Program Initiatives

E. **Fiscal**

1. Report materials related to the MCAMLIS Program Fiscal status
2. Register of Deeds YTD Document Counts

IV. Old Business

- A. NA

V. New Business

- A. NA

VII. Correspondence

- A. Draft Floodplain Boundaries – Menomonee River W. North Av to Wauwatosa
- B. Wisconsin State Statutes Act 20 and the WLIP

\* \* \* \* \*

MINUTES OF THE 92<sup>nd</sup> MEETING  
MILWAUKEE COUNTY AUTOMATED MAPPING AND LAND INFORMATION SYSTEM  
STEERING COMMITTEE

Date: July 9<sup>th</sup> 2013  
Time: 9:00 a.m.  
Place: Milwaukee Metropolitan Sewerage District  
MMSD Hdqtrs, Room 401  
260 W Seeboth St.  
Milwaukee, WI. 53204

Members Present

Kurt W. Bauer	Milwaukee County Surveyor
Donald R. Nehmer, Chair	Capital Program Business Manager, Milwaukee Metropolitan Sewerage District
Greg High	Director, Architecture, Engineering and Environmental Services Division, representing Milwaukee County Department of Administrative Services Facilities Management
Dana Kahle	GIS Supervisor, We Energies representing Timothy Marquardt, Manager - EDAM Support, We Energies
Dan Laurila	Budget Analyst, Milwaukee County DAS, representing Don Tyler, Director of Milwaukee County Department of Administrative Services
Nancy A. Olson, Vice Chair	Chief Information Officer, City of Milwaukee
Kathleen Bach	GIS Tech representing John La Fave, LIO, Milwaukee County Register of Deeds
John M. Bennett	City Engineer, City of Franklin, representing the Intergovernmental Coordinating Council of Milwaukee County

Members Absent

Guest and Staff Present

Emily Champagne	GIS Analyst, MMSD
Pamela Booth	GIS Developer - Project Leader, City of Milwaukee, ITMD
William C. Shaw	MCAMLIS Project Manager, Milwaukee County DAS/ECD-MCAMLIS
Hardy Meihnsner	Consultant, Spatial Data Solutions
Marsha Cornnell	Civil Engineer - Senior, City of Milwaukee, DPW
Dave Mockert	Consultant, GEODECISIONS
Patrick Empey	Consultant, GEODECISIONS

**I. ROLL CALL**

Chairman Nehmer, called the Ninety-Second meeting of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee to order at 9:00a.m. Roll Call was taken by circulating an attendance signature sheet and a quorum was declared present.

**II. MEETING MINUTES**

**CONSIDERATION OF THE MINUTES OF THE 91ST STEERING COMMITTEE MEETING HELD MARCH 26TH, 2013**

Nehmer: stated that a copy of the minutes was provided with the meeting materials and asked if any corrections are required.

**Motion: Bennett moved approval of the minutes**

**Second: Bauer, motion carried unanimously**

**III. REPORTS**

**A. MAINTAIN CORE FOUNDATIONAL ELEMENTS**

**1. REPORT BY MCAMLIS STAFF ON THE STATUS OF THE 2012/2013 ORTHOPHOTOGRAPHY/OBLIQUE IMAGERY PROGRAM**

Shaw: directed the Committee to the report included with the meeting materials and noted that the Milwaukee County Board had approved this project on 3/15/12. Adding that the project was delayed due to vendor schedule commitments and logistical problems brought on by the unseasonably warm 2012 spring weather. Subsequently staff determined it necessary to postpone the 2012 flight for completion scheduled in spring 2013.

Shaw: stated that the new photography was flown the week of 4/15. The oblique photography was delivered to MCAMLIS the week of 5/28 and can be viewed via the MCLIO website and also via Pictometry On Line (POL) and informed the Committee that POL is now available to up to 100 concurrent users. MCAMLIS Partner organizations can obtain a login to POL by contacting the MCLIO. He then drew the Committee members attention to an exhibit provided as an attachment to the report. He noted that the exhibit highlighted the differences between the 2010, 6" ground sample distance (GSD) imagery and the recently delivered 4" GSD imagery. He further informed the Committee that the AccuPlus orthophotography is expected to be delivered in late August.

Secretary's Note: Delivery of the AccuPlus Orthophotography is now scheduled to be made available by mid-September

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file

## **2. REPORT BY MCAMLIS STAFF ON THE STATUS OF THE 2010 PLANIMETRIC UPDATE PROGRAM**

Shaw: directed the Committee to the report included with the meeting materials. Noting that the Committee had earlier approved a replacement mapping project and that staff had drafted an RFP and had established a contract for this work to be completed by GRW Inc. Lexington, KY. He then summarized for the Committee noting this project includes updates of areas scattered throughout the county comprising roughly 17 sq. mi. that staff had identified through the use of various change detection and interpretation techniques. A pilot was conducted in March to test GRW production procedures and staff concluded that after some revision that full production could begin in May. The first delivery is expected in mid-July followed by monthly deliveries through February of 2014. He then informed the Committee that as a matter of revising the techniques employed to conduct the planimetric updates that GRW would be able to deliver along with the updated planimetric features a complete set of building and traveled right of way polygons. He then added that this would provide for a significantly improved map product and would aid future analysis of such things as impervious surface modeling and improved cartographic products for purposes of mobile applications.

High: expressed a concern that the final product be able to maintain the same level of accuracy as the original planimetric mapping. That is +/- 3.333 ft at a scale of 1" equals 100'.

Shaw: explained that the pilot was used to validate the contractor's procedures and that as deliveries continue that accuracy would be maintained through an iterative random check of the contractors work until each delivery meets the accuracy specification in the contract.

Bauer: asked if the contract included a requirement that the delivered products would be certified to meet National Map Accuracy Standards (NMAS) at a scale of 1" equals 100'.

Shaw: answered that yes the delivered features would be certified to NMAS at a scale of 1" equals 100' by the contractor.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file

## **B. PROMOTE THE INTEGRATION OF PARCEL BASED LAND INFORMATION**

### **1. REPORT BY MILWAUKEE COUNTY REGISTER OF DEEDS STAFF ON MCAMLIS STREET ADDRESS AND CADASTRAL MAP MAINTENANCE OPERATIONS**

Bach: directed the Committee to the report included with the meeting materials.

Bennett: asked about the volume of map record changes.

Bach: replied that this varied and that while the volume of some changes was down that others seemed to be increasing.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file.

**2. REPORT BY CITY OF MILWAUKEE STAFF ON MCAMLIS STREET ADDRESS AND CADASTRAL MAP MAINTENANCE OPERATIONS**

Olson: directed the Committee to the report included with the meeting materials.

Bauer: commented that perhaps the map exhibit showing address changes throughout the City could simply reflect that the address information was current without identifying where specific updates had occurred.

Olson: acknowledged that this was possible but did not commit to a change in future reports.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file.

**C. EDUCATIONAL OUTREACH**

**1. REPORT BY MCAMLIS STAFF ON THE STATUS OF WORK PERFORMANCE ON BEHALF OF MCAMLIS IN SUPPORT OF LOCAL COMMUNITY GIS EFFORTS.**

Shaw: directed the Committee to the report included with the meeting materials, noting that staff had recently facilitated the 6<sup>th</sup> meeting of the Milwaukee Municipal GIS Users Group (MMGUG) and that the meeting was held on 6/11/13 at the City of Franklin. The next meeting is tentatively scheduled to be held at the Village of Shorewood on 9/10.

Shaw: continued with an explanation of a MCLIO website Dashboard Report Exhibit noting that there have been 3 million operations logged on the website since the beginning of the year. A discussion followed regarding what constitutes an operation on the website versus identification of a unique user. Mr. Shaw described an operation as a use of the website in performance of a work task e.g., an assessor review of property information whereby many operations may be completed in performance of the assessor's review. He confirmed to Mr. Bennett that the number of operations performed on the website did not constitute a count of users of the website and that such a count could only be managed for SECURE users whereby a username is supplied as opposed to the PUBLIC site wherein user credentials are not readily traceable.

Nehmer: inquired regarding whether the reported users of the SECURE website changed over time.

Shaw: replied that in general the SECURE website users remain constant although usage varies especially at the lower end of the chart e.g., MMSD may supplant Cudahy for a period of time. The top users remain fairly constant with Milwaukee County, City of Milwaukee and many times AT&T rounding out the top user organizations.

Olson: wanted to know where the website statistics came from and whether these were obtained from Google Analytics.

Shaw: indicated that the website statistics were derived from log files generated by the website itself and were not obtained from Google Analytics.

Shaw: continued reporting and highlighting various activities with special note of the work being performed on the new Silverlight Viewer that is targeted for beta launch in the September timeframe.

Bennett: inquired as to what information may be available on the viewer. Wherein a discussion followed with Mr. Shaw describing the new website data and functionality noting that features of the website may 'in the future' reach out into neighboring counties in order to support an interest by users to cross seamlessly into other jurisdictions.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file.

## **2. REPORT BY MCAMIS STAFF REGARDING CURRENT PROGRESS AND STATUS OF THE MILWAUKEE COUNTY BUSINESS NEEDS ASSESSMENT (BNA) PROJECT**

Shaw: Directed the Committee to the report materials that were provide at the meeting. Introducing Dave Mockert – GEODECISIONS to the Committee and noting that Dave would inform the Committee of the current status and future plans related to the BNA.

Mockert: continued with a discussion of the recently completed BNA Champion and Target Area interviews noting that there were clear distinctions between many of the organizations that were interviewed wherein there where about 50% who were interviewed that were very aware of MCAMLIS and the other 50% had very limited understanding of MCAMLIS and the services provided. He then suggested that this gap could possibly mean that a major educational initiative about MCAMLIS would be necessary to bring organizations along.

Mockert: concluded his report by outlining the next steps of the BNA to include a prioritization process that requires an on-line priority survey response from each organizations followed by an Organization Representative summit meeting at the end of July followed by a BNA Sub-Committee meeting in August leading to a draft report and final presentation to the Steering Committee at a future meeting.

Nehmer: added that Dave and his staff have done a great job of reaching out to MCAMLIS Partner organizations in an attempt to include everyone's input. He further stated for the minutes that the report was accepted by consensus and is to be placed on file.

## **D. COUNTYWIDE INITIATIVES**

### **1. REPORT BY MCAMLIS STAFF REGARDING 2013 COUNTYWIDE INITIATIVES AND PROGRAM ACTIVITY STATUS**

Shaw: directed the Committee to the report included with the meeting materials. Noting the growing importance of address information and related accomplishments

e.g., Historical Aerial photo, street centerline, plat of survey and Community Basemap Projects among others.

Shaw: confirmed the completion of a set of addresses to be used by the County Sheriff's Office regarding 100 block addresses within the State and Federal Highway systems. He announced completion of a series of 1958 aerial images located in the City of Greenfield and the beginning of a compilation of 1961 aerial photos located in the City of Oak Creek.

Shaw: continued, relaying progress on non-project related efforts e.g., websites enhancements and migration to new technologies, most notably HTML5, Silverlight and Pictometry Connect.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file..

## **2. REPORT BY MCAMLIS STAFF REGARDING 2012 ACCOMPLISHMENTS**

Shaw: directed the Committee to the supplemental report materials provided to the Committee at the meeting and proceeded to highlight and feature efforts and accomplishments performed by MCAMLIS in 2012.

Bauer: commended Mr. Shaw and stated that he considered that the work performed by MCAMLIS should be considered a model for the state and that in his opinion the program was being carried out in a manner that was in keeping with its original vision.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file.

## **E. REPORT BY MILWAUKEE COUNTY DAS STAFF ON MCAMLIS FISCAL STATUS**

Laurila: directed the Committee to the fiscal report supplement provided to the Committee at the meeting along with the meeting materials. He stated that the fiscal reports reflected a current worst case scenario whereby encumbrances and expenditures appear to be double counted and overstate a potential shortfall . Mr. Laurila explained that as actual revenue and expenditures continue through the remainder of the year the shortfall would become increasingly smaller and that in any event if nothing changed there would remain a positive balance of \$880,000. He then reported the \$6 and \$2 fund balances noting that beginning in 2014 that these balances would be combined due to recently enacted Wisconsin State statutes that govern the Land Records administration.

A discussion continued regarding the relationship between encumbrances and various projects that were underway. Mr. Laurila confirmed that all the encumbered funds are associated with projects e.g., the \$274,000 encumbrance related to the SEWRPC Floodplain Mapping project among others. Mr. Bauer requested that he be shown where in the report that he would find a balance available for new projects. Mr. Laurila pointed to two locations in the report; 1) the annual revenue less expenses and 2) the projected 2013 fund balance. Mr. Laurila confirmed Mr. Nehmer's estimate that with the

projected shortfall, the projected 2013 fund balance and the 10% reserve that there would be \$782,000 available for projects. Mr. Bennett expressed discomfort regarding the manner in which the fiscal report appears to overstate a possible loss when this is unlikely to occur and expressed concern as to how this may look to an outside observer. Mr. Laurila concluded his report suggesting that he would change the way that encumbrances were represented such that these would correctly reflect a more positive budget outcome.

Mr. Shaw directed the Committee to reports included with the materials regarding 2012 WLIP Funding and the Register of Deeds Retained Fee Progress and briefed the Committee on their contents.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file.

#### **IV. OLD BUSINESS**

##### **A. MCAMLIS STAFF SUMMARY REGARDING ITEMS CURRENTLY UNDER CONSIDERATION BY THE WISCONSIN LEGISLATURE**

Shaw: directed the Committee to the report included with the meeting materials regarding State budget legislation that was approved by the Joint Finance Committee and presented to the Governor for final approval. He noted that he was unable to reach the Milwaukee County Executive and Board regarding the MCAMLIS Steering Committee motion at its 3/26 meeting directing the MCAMLIS Steering Committee Chairman and the Milwaukee County Land Information Officer to request a meeting to express MCAMLIS Steering Committee disapproval of the proposed actions by the State Legislature regarding changes to the WLIP funding especially as these relate to fees collected locally for purposes of a statewide program. He then continued his report by highlighting the relevant sections of the approved legislation noting any expected impact on the MCAMLIS Program.

Bauer: voiced a concern regarding the possible duplication of effort by the state notwithstanding that the MCAMLIS Program would continue to be funded by the current retained fee of \$8. He further stated his concern regarding the requirement for the County to provide zoning information wherein the county does not currently collect zoning data.

Shaw: addressed Mr. Bauer's concern regarding zoning by noting that the legislation qualifies each directive of this type by inserting a qualifying 'if' the county collects 'this...then..' thus allowing that for those counties that do not have a responsibility to collect a specific type of data to optionally elect to ignore directives that did not pertain.

Nehmer: stated for the minutes that the report was accepted by consensus and is to be placed on file.

#### **V. NEW BUSINESS**

NA

**VI. CORRESPONDENCE**

NA

**VII. DATE, TIME, AND PLACE OF NEXT MEETING**

September 24<sup>th</sup>, 2013 @ 9:00am, MMSD (next regular meeting)

**VIII. ADJOURNMENT**

**Motion: Bauer, moved to adjourn**

**Second: Bennett, motion carried unanimously**

Respectfully submitted,  
William Shaw



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**MEMORANDUM**

**TO:** MCAMLIS Steering Committee  
**FROM:** William C. Shaw, MCAMLIS Project Manager  
**DATE:** September 11, 2013  
**SUBJECT:** 2012-2013 Milwaukee County Orthophotography Project

**BACKGROUND**

At its meeting held September 13<sup>th</sup>, 2011, the MCAMLIS Steering Committee approved a staff recommendation to proceed with the acquisition of Pictometry International Inc. AccuPLUS orthophotography. Beginning with the 2005 Regional Orthophotography Project, Milwaukee County has acquired spring digital orthophotography every two or three years e.g., 2005, 2007, 2010. The spring of 2013 is the next scheduled acquisition of orthophotography covering Milwaukee County.

**PROJECT**

This project will complete the second flight of a three (3) flight six-year license agreement with Pictometry International Inc. The original contract entered into in spring of 2010 specified a six-year agreement for imagery to be acquired in years 2010, 2012 and 2014/15 assuming that funds are available and authorized for this purpose.

The project includes acquisition of Pictometry International AccuPlus 4-inch pixel, color, digital orthophotography and oblique image photography as a package costing a total of \$134,495. The 2013 flight is scheduled between mid-March, and mid-April depending on conditions.

**ACTIVITIES THIS PERIOD: 6/13 – 9/13**

- Delivery delayed to the week of September 22<sup>nd</sup>
- No other reportable activities.

**NEXT**

- AccuPlus Orthophotography delivery scheduled the week of September 22<sup>nd</sup>.

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**MEMORANDUM**

**TO:** MCAMLIS Steering Committee

**FROM:** William C. Shaw, MCAMLIS Project Manager

**DATE:** September 12, 2013

**SUBJECT:** REPLACEMENT PLANIMETRIC MAPPING

**BACKGROUND**

At its meeting held on September 13<sup>th</sup>, 2011, the MCAMLIS Steering Committee approved a MCAMLIS Staff recommendation allowing staff to proceed with the development of a Planimetric Map Replacement Program. The Map Replacement program is regarded a priority in the MCAMLIS PROGRAM STRATEGIC ASSESSMENT FOR 2010-2013 and the project is scoped to meet requirements for updating the 2004 - 2009 Topographic/Planimetric Map Series and maintaining this series going forward.

**PLANIMETRIC FEATURE UPDATES**

The aggregate total of identified change in square miles is estimated to be approximately 7% by area from 2005 through 2010 - approximately 17 square miles.

**PROJECT SPECIFICATIONS**

MCAMLIS Staff prepared a set of detailed planimetric map maintenance specifications to address the planimetric mapping update process and presented these to the Steering Committee for approval. As approved by the Committee the update process will be overseen by a certified photogrammetrist and managed by MCAMLIS staff.

**ACTIVITIES THIS PERIOD: 6/13 – 9/13**

- Project is in full production since the last update
- Areas 1 through 7 of 22 production areas have been accepted (refer to attached status map)
- Areas 8 and 9 have been received and staff in review by staff (refer to attached status map)
- Started discussions regarding an 18 sq. mi. pilot area wherein all planimetric line features representing areas outside of the current update areas e.g., sidewalks, driveways, surface parking will be converted to polygon features (pilot area proposal exhibit attached)

**NEXT**

- Receive remaining areas. Starting with areas 10-12 (refer to attached status map)

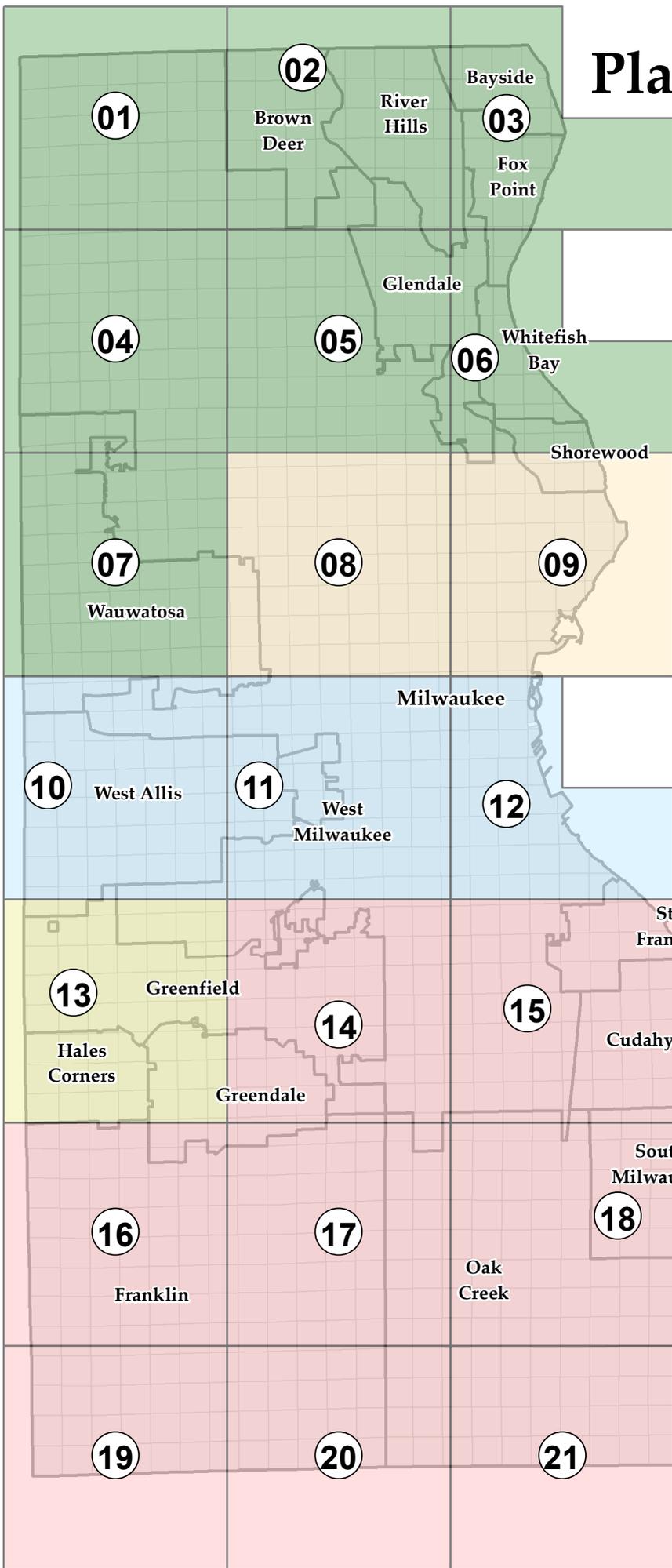
- QA/QC processes will be applied to each delivery and returned to GRW until fully accepted
- Deliveries will proceed on a monthly basis until the project is complete and the final delivery is accepted.
- Continue full polygon pilot area product evaluation and report back findings regarding future project costs going forward

Attach: Planimetric Mapping Update Status map  
Pilot Project polygon Proposal exhibit

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# Planimetric Mapping Update

September 13, 2013

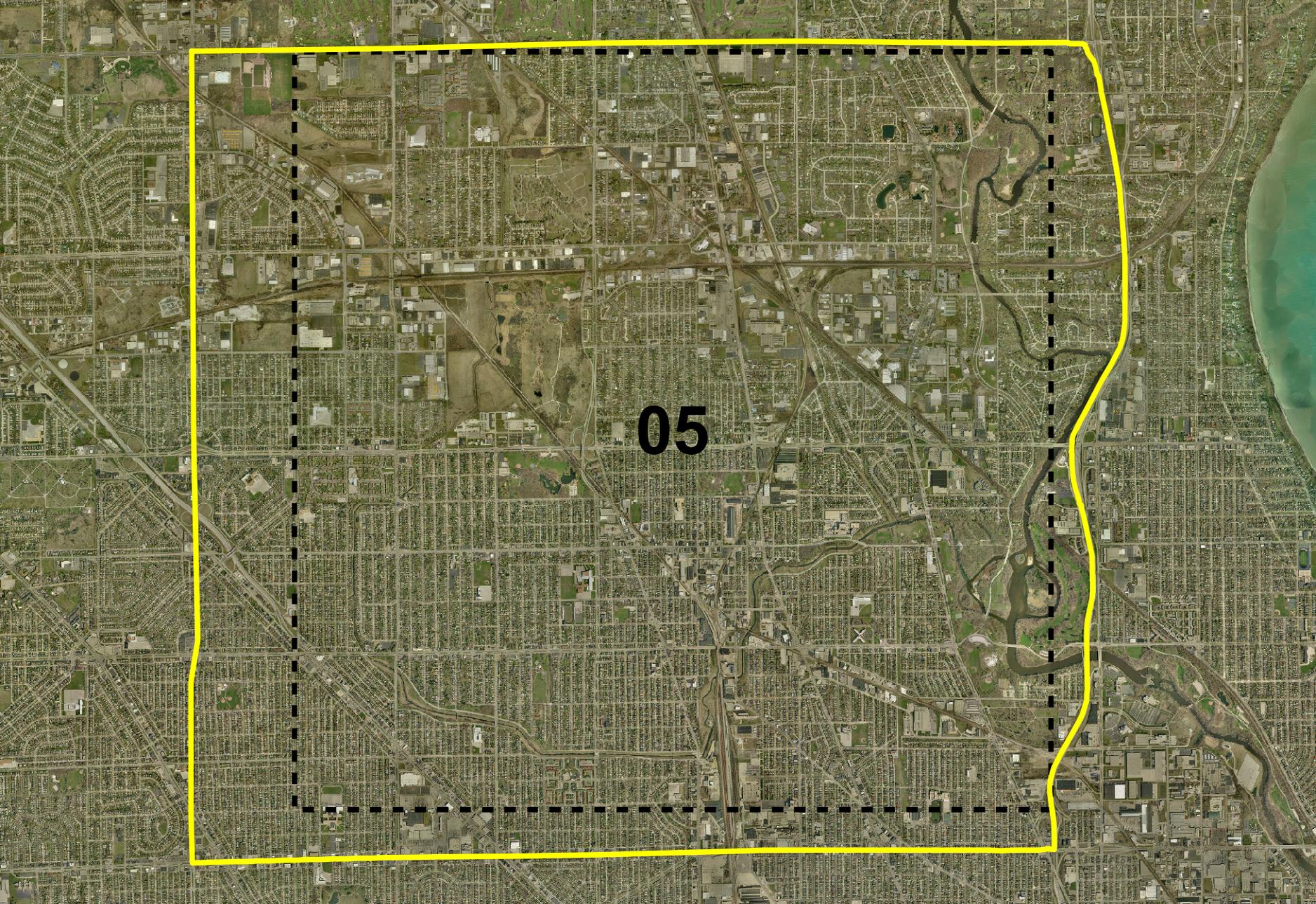


### Planimetric Update Tiles

**Update Tile**

- Completed and Accepted
- In Review - At County
- QA\QC & Polygon Processing - At Contractor
- Currently Being Digitized - At Contractor
- To Be Completed

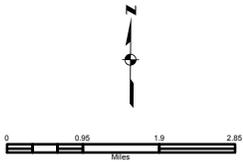
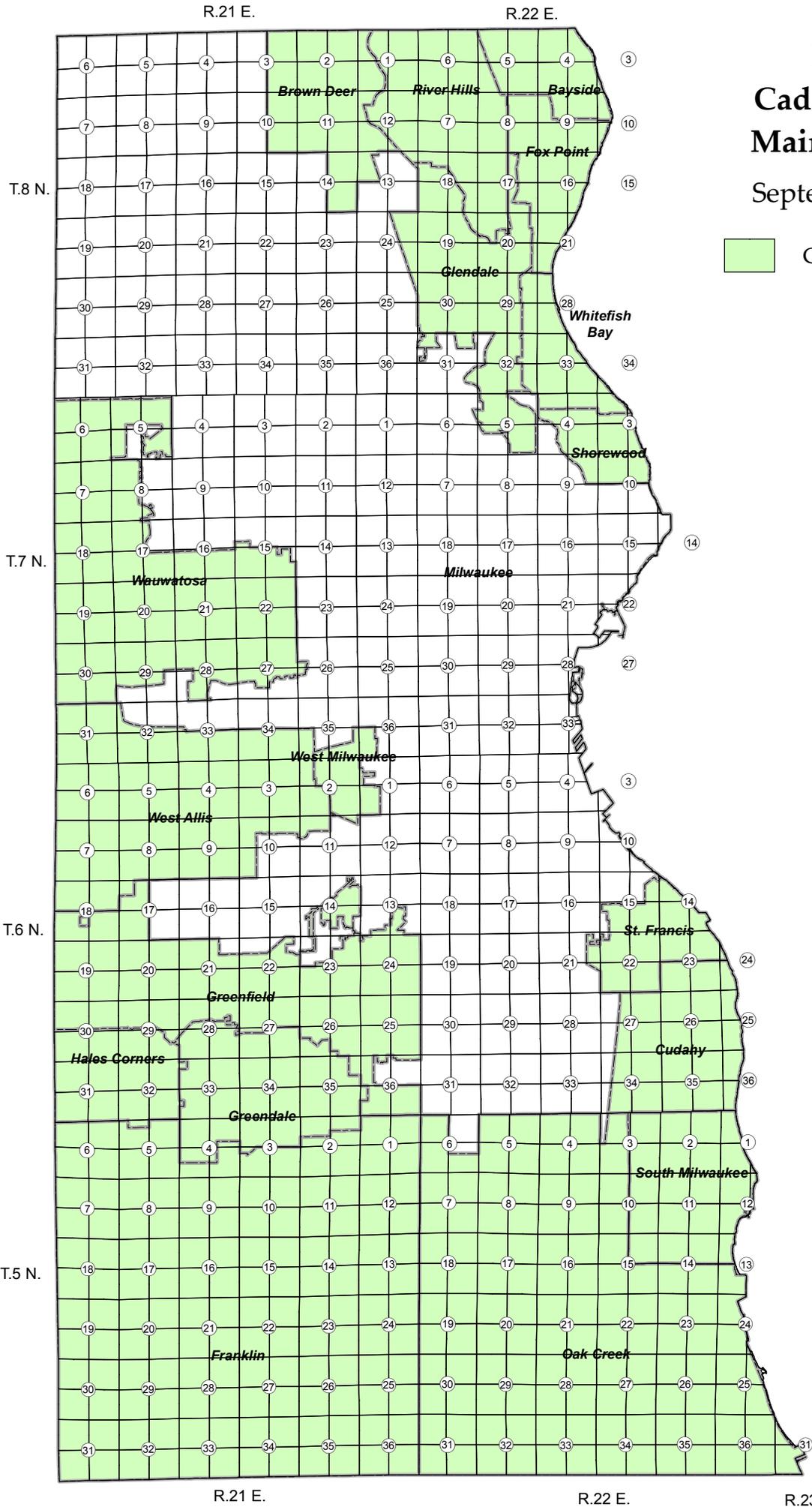




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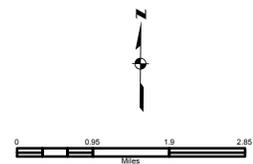
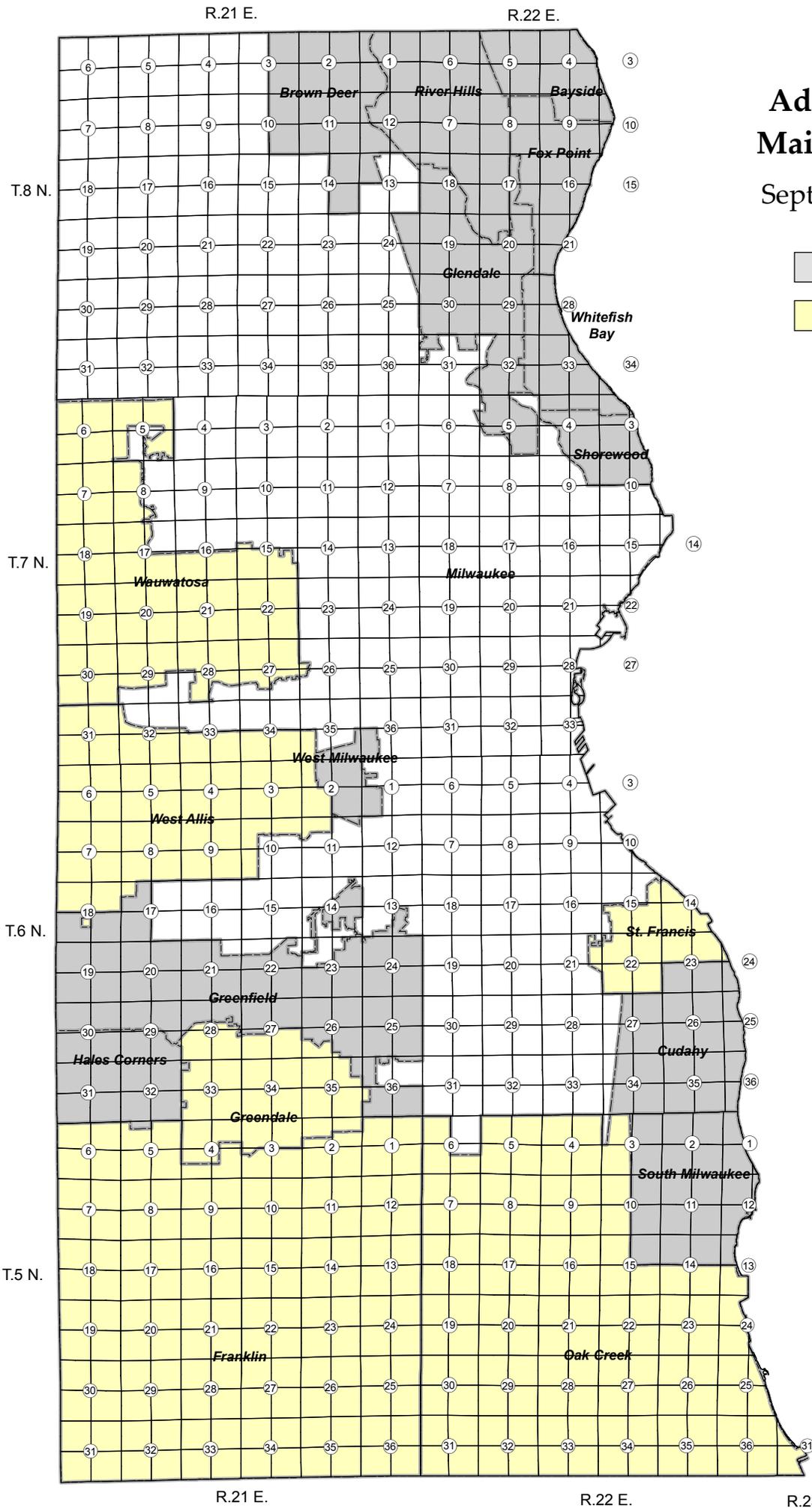
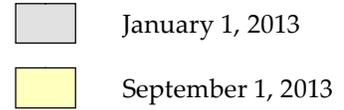
# MCAMLIS Cadastral Database Maintenance Status September 2013 Status

 Current as of August 1, 2013



Source: MCAMLIS Project Manager

# MCAMLIS Address Database Maintenance Status September 2013 Status



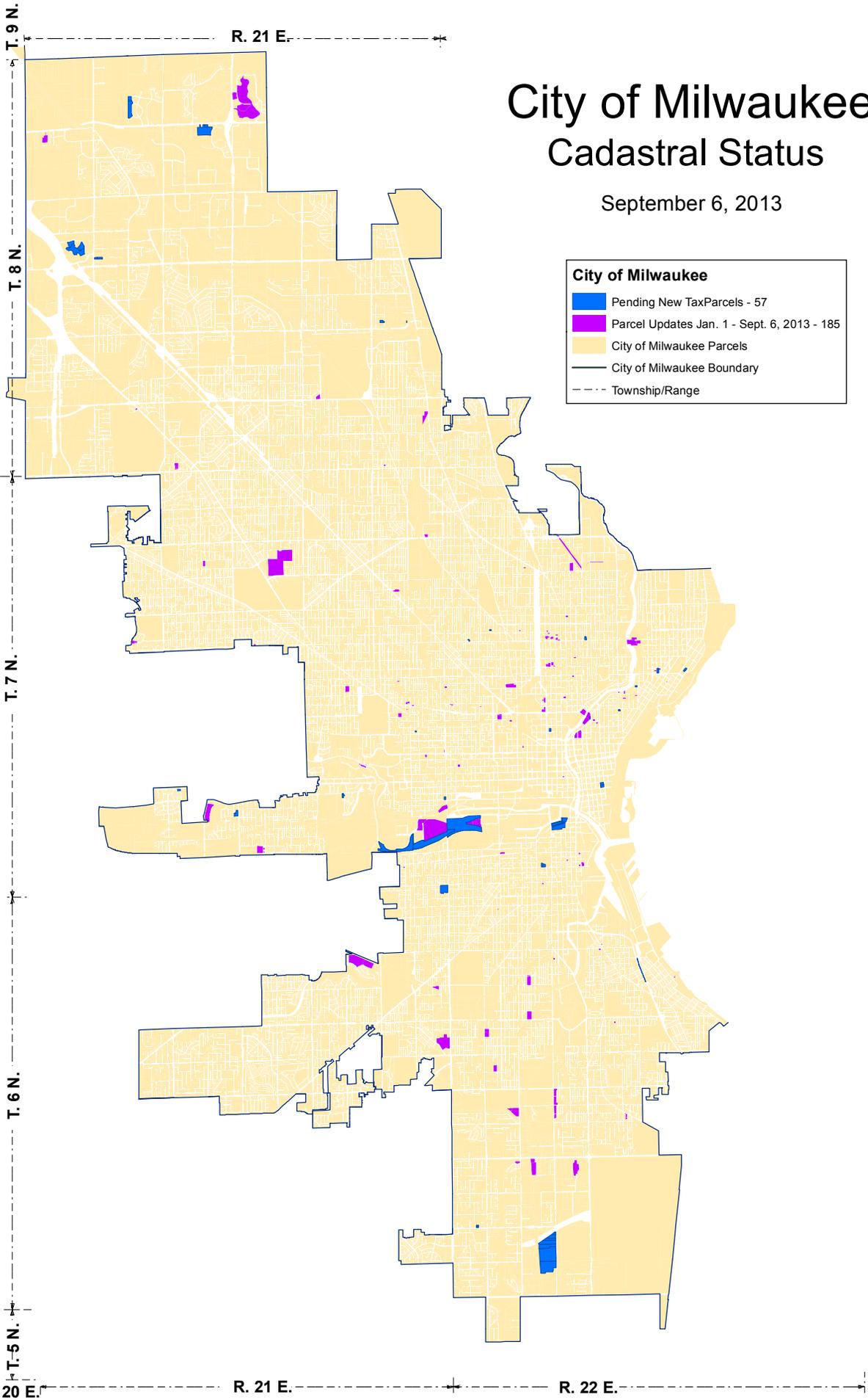
Source: MCAMLIS Project Manager

# City of Milwaukee Cadastral Status

September 6, 2013

**City of Milwaukee**

-  Pending New TaxParcels - 57
-  Parcel Updates Jan. 1 - Sept. 6, 2013 - 185
-  City of Milwaukee Parcels
-  City of Milwaukee Boundary
-  Township/Range

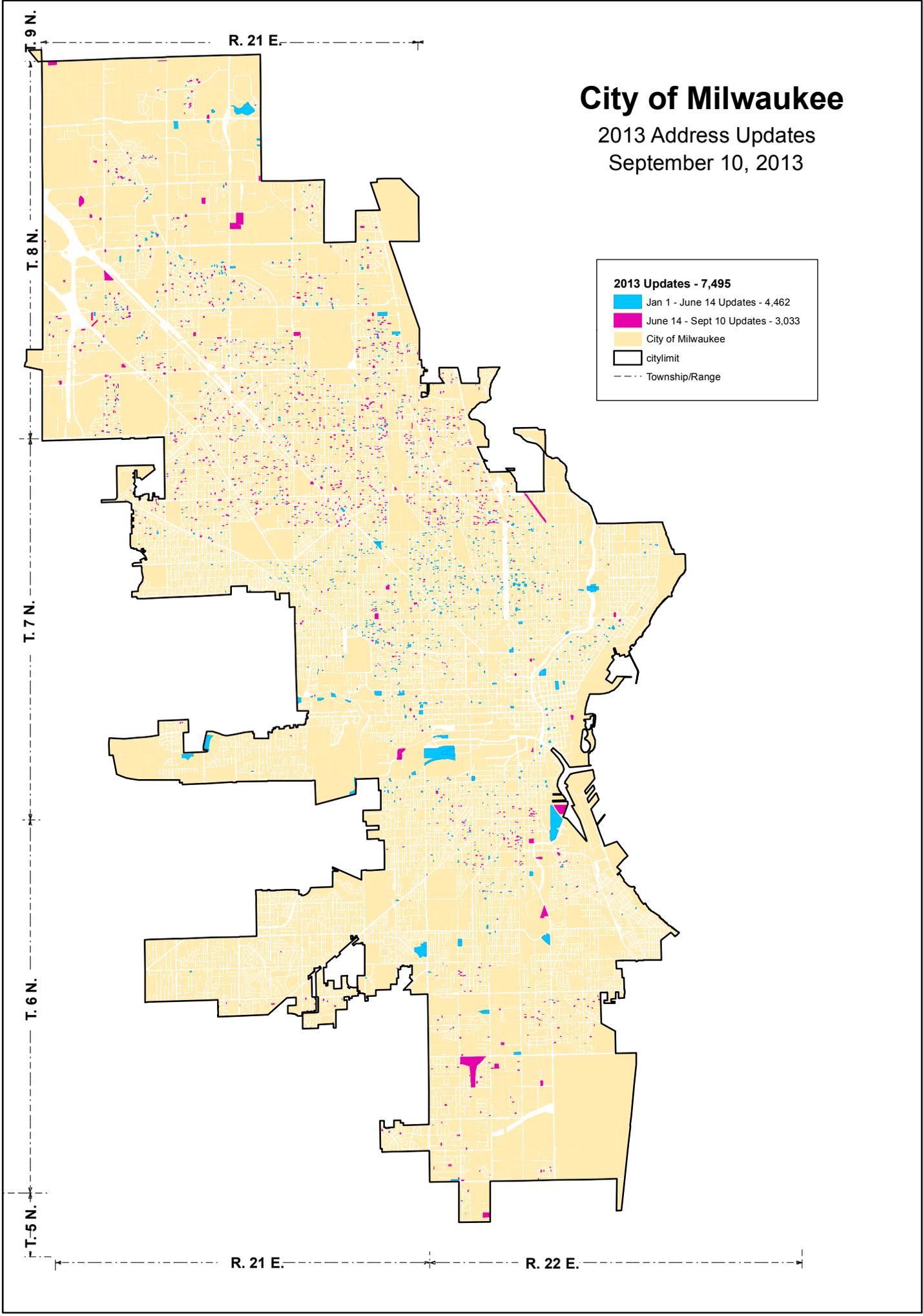


# City of Milwaukee

2013 Address Updates  
September 10, 2013

**2013 Updates - 7,495**

- Jan 1 - June 14 Updates - 4,462
- June 14 - Sept 10 Updates - 3,033
- City of Milwaukee
- citylimit
- Township/Range





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**MEMORANDUM**

**TO:** MCAMLIS Steering Committee  
**FROM:** William C. Shaw, MCAMLIS Project Manager  
**DATE:** September 12, 2013  
**SUBJECT:** Educational Outreach Activity Status

**BACKGROUND**

The MCAMLIS Program Goals and Objectives included in the 'Land Information Strategic Assessment for 2013 –2016 identified the need for MCAMLIS Staff to develop and promote MCAMLIS products and services to MCAMLIS Partners and especially to include contacts and assistance related to local municipalities. The following describes MCAMLIS Staff activities under this objective for the preceding period:

**ACTIVITIES THIS PERIOD – 6/13- 9/13**

1. Organized and facilitated the seventh meeting of the Milwaukee Municipal GIS Users Group (MMGUG)
  - Meeting held on 9/10/2013 @ Village of Shorewood (see attached agenda)
  - Presented Beta version of the MCLIO website
  - Scheduled next MMGUG meeting to be held @ the MMSD Headquarters scheduled on January 14<sup>th</sup> 2014
2. Maintained production MCLIO web services (see attached Dashboard);
3. Incorporated updated tutorial materials and announcements to users of the MCLIO Interactive Mapping Service website including:
  - Posting 2<sup>nd</sup> Qtr 2013 foreclosure data
4. Maintained open channels of communication regarding web hosting and repositing data on the MCLIO website:
  - continued working with the City of Cudahy to assist their asset management system implementation utilizing Cartegraph Cloud services
  - initiated discussions with Rukert & Mielke regarding Service Level Agreement/Memorandum of Understanding in support of municipal clients e.g., Wauwatosa, Greenfield and Fox Point

**NEXT**

1. Continue MCLIO website training, data distribution and product enhancements; and
2. Prepare for MMGUG Meeting – January 14<sup>th</sup>
3. Continue to work with member participants to further their GIS goals

Attach: 7<sup>th</sup> MMGUG Meeting Agenda  
MCLIO Interactive Mapping Services Dashboard

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**Mark Your Calendar for the Milwaukee County Land Information Office's**

**Milwaukee Municipal GIS Users Group Meeting  
-MMGUG -**

**WHEN: Tuesday, September 10, 2013  
10:30 am – 1:30 pm**

**WHERE: Village Center  
Lower Level North Room  
3920 N. Murray Ave  
Shorewood, WI**

**AGENDA**

1. Registration/Welcome (5 Minutes).....Bill Shaw
2. MMGUG 6<sup>th</sup> Meeting June 11<sup>th</sup> Summary (5 Minutes ).....MCLIOStaff
3. MCAMLIS Business Needs Assessment Update (15 Minutes).... Dave Mockert , GEODECISIONS
4. Public Works Mobility and ArcGIS (60 Minutes).....Chris Liske, ESRI
5. Lunch (30 Minutes) .....(Einstein Bagel Sandwich & Beverage Selection - \$5.00 at the door)
6. Local GIS Web Experiences (45 – 60 Minutes) .....Alice Hagen, City of Milwaukee  
Tim Anderson, Ruekert & Mielke  
Kevin Bruhn, MCLIO
7. Next Meeting – topics, date/time, location (remaining time).....All
8. Adjourn



“The Milwaukee Municipal GIS Users Group serves to provide a venue for information sharing, professional communication, ongoing education, vendor presentations, and outreach to the GIS community located in Milwaukee and surrounding areas. The group is open to all users and persons having an interest in Geospatial Technologies (Geographic Information Systems, Land Information Systems, Remote Sensing and Land Survey) in the public and private sectors, as well as all levels of education or professional involvement.”

**PLEASE PRE-REGISTER BY VISITING:**

[http://www.county.milwaukee.gov/LandInformationProgr23113/MMGUG\\_Registration.htm](http://www.county.milwaukee.gov/LandInformationProgr23113/MMGUG_Registration.htm)

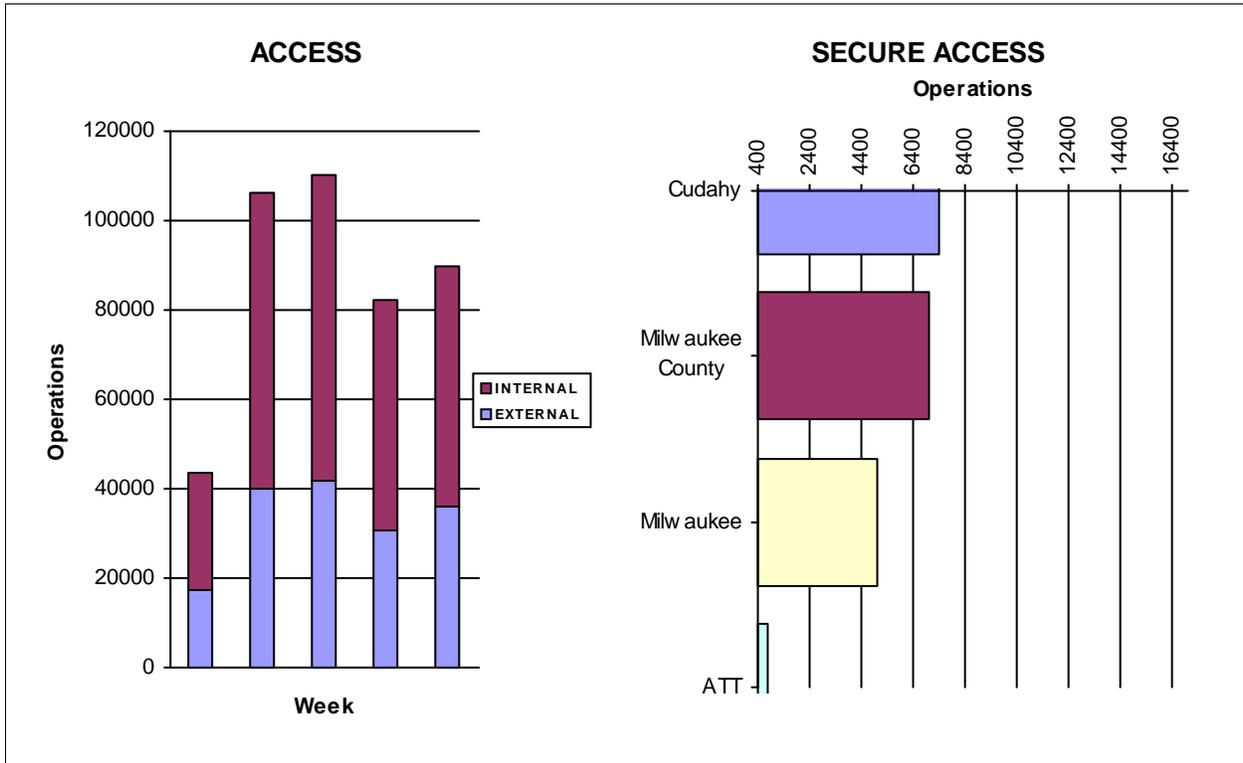


William Shaw, MCAMLIS Project Manager  
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**Milwaukee County  
Land Information Office**

# MCLIO Map Services Dashboard



## GEODECISIONS MCAMLIS BUSINESS NEEDS ASSESSMENT PROGRESS REPORT (9/12/2013)

### 1. Project overview:

This document provides a MCAMLIS Business Needs Assessment (BNA) project progress report for the MCAMLIS Steering Committee.

The first three phases of the project are complete and we are currently working towards completion of the 5 Year Program Task Analysis Phase (phase 4).

Since project inception on March 8th, GeoDecisions has completed the following tasks:

1. Conducted BNA Steering Committee Kick-off meeting at MMSD (3/8).
2. Presented BNA project at MMGUG meeting at Mitchell Field (3/12).
3. Compiled a baseline study of existing municipal and partner organizational mapping capabilities and services.
4. Coordination and identification of Organizational Representatives –
  - o Sent out mailing to confirm participation
  - o Received target area reps from some org reps
5. Facilitated the BNA Stakeholder kick-off meeting at MMSD (5/1).
6. To gather input for the BNA, GeoDecisions conducted 10 in-person champion and key decision-maker interviews (4/11-4/26). These interviews were to gain insight into MCAMLIS, to gather testimonials on some of the uses of MCAMLIS data and services, and lead the way to what these advocates would like to see MCAMLIS focus on in the future.
7. In addition, GeoDecisions interviewed 13 groups of representative target area stakeholders (5/20-6/5) to solicit input on issues and opportunities.
8. GeoDecisions developed an on-line survey to solicit information on how location based data and technologies (LBDT) is being used in their department and organizations, how well MCAMLIS data and services are meeting department needs, and what potential LBDT services could be provided by MCAMLIS in the future. The survey was released on May 24<sup>th</sup> and remained open through June 14<sup>th</sup>. 100 responses representing all partner groups except AT&T answered the survey.
9. Presented BNA status report at the MMGUG meeting in Franklin (6/11).
10. Compiled Needs Inventory from BNA survey, stakeholder interviews, BNA Subcommittee meeting, and the baseline study and industry case studies.
11. Compiled results into prioritization matrix.
12. Developed Needs Prioritization survey.
13. Presented the BNA status update at the MCAMLIS Steering Committee meeting (7/9).

14. Needs Prioritization survey and distributed (7/15) to Org Reps and selected project participants.
15. Analyzed results from the prioritization survey.
16. Conducted Needs Prioritization summit meeting (7/30).
17. Completed Needs Assessment summary findings document.
18. Completed Draft of the Preliminary Initiatives and Improvement Tasks document.
19. Conducted a review of the Preliminary Initiatives and Improvement Tasks findings with the BNA Sub Committee (9/6).

## 2. Project Next Steps and Anticipated Completion Dates:

The following table provides a schedule of upcoming project activities on the BNA.

Task Name	Anticipated dates
<b>Phase 4: Five-Year Program Task Analysis</b>	
Prioritization of Initiatives and Improvement Tasks Meeting	9/18
BNA Steering Committee Meeting – Project Status	9/24
Finalize Initiatives and Improvement Tasks document	9/27
<b>Phase 5: Five-Year Program Development</b>	<b>9/30-10/31</b>

Submitted to:

**Milwaukee County Automated Mapping  
and Land Information System  
(MCAMLIS)**

**Preliminary Initiatives  
and  
Improvement Tasks**

Submitted by:



**September 12, 2013**

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Introduction

The Milwaukee County Automated Mapping and Land Information System (MCAMLIS) has been providing location-based products and services (Data, Collaboration, and Capabilities) in various and growing capacities to its Partners for more than two decades (see Figure 1). More recently, several influencing factors have provided MCAMLIS with the opportunity to improve the value it provides to its Partners.

Among these factors are the advances that have been made in location-based data and technologies (LBDT). MCAMLIS should take advantage of technologies such as data services and mobile technologies to improve its value to MCAMLIS Partners.

Another factor is that MCAMLIS Partners' needs and priorities are changing. Partner LBDT abilities vary from rudimentary to highly advanced, and MCAMLIS needs to quickly adjust to changing and varied Partner needs.

Finally, the MCMALIS program could increase its value to Partners by implementing improvements to MCAMLIS Program data and processes.

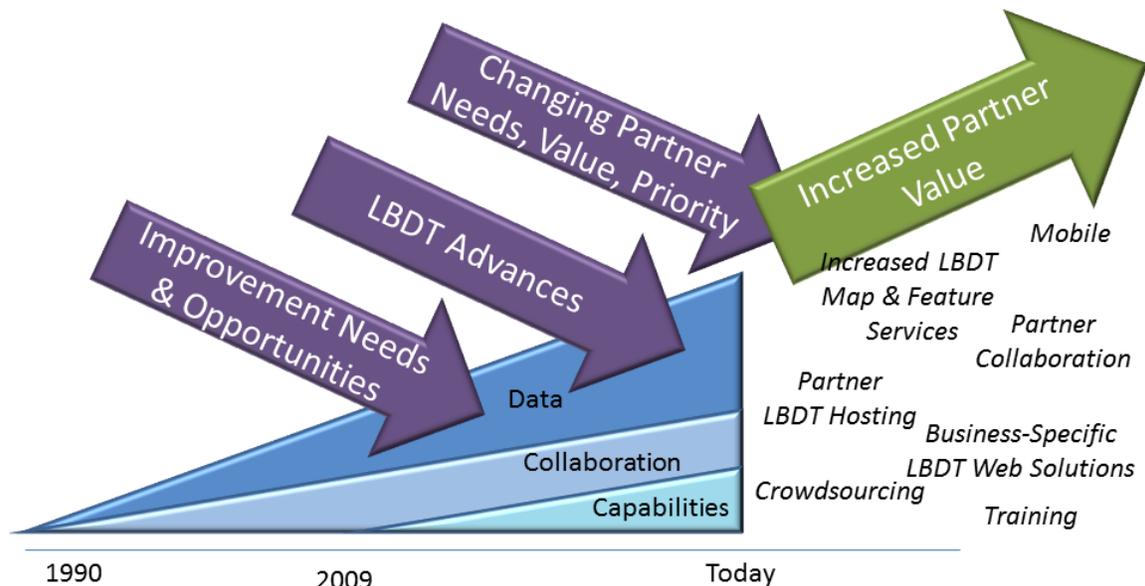


Figure 1: MCAMLIS Direction

## BNA Project Overview

In March 2013, the MCAMLIS consortium of Partners initiated a Business Needs Assessment (BNA) Project. The ultimate goal of this project is to foster improvements in effective and efficient management of LBDT across as many MCAMLIS Partners as can be engaged to do so, and to the extent that each Partner or group of Partners finds value in its participation. The MCAMLIS Program anticipates these improvements will include improved access to MCAMLIS location-based data and Partner data, and will facilitate access to LBDT consulting services and core LBDT applications and services.

The current phase of the BNA Project involves the identification of the potential initiatives and associated improvements derived from the Business and Program needs identified and prioritized earlier in the project. The initiatives and improvement tasks detailed in this document are proposed after careful analysis and consideration of many guiding principles, which include, but are not limited to:

- MCAMLIS' mission and objectives;
- Current technologies used or to be implemented in the near future, and, equally important, the organizational strategies/perceptions/resources behind these choices;
- Stakeholder perceptions;
- GIS best practices;
- Industry trends; and
- Real-world experience.

These initiatives and improvement tasks will be presented to the BNA subcommittee to initiate discussion and gather feedback. The proposed improvement lists reflect a plan to build on past success, while also keeping an eye on future trends. We understand that MCAMLIS is not comfortable with being on the "cutting edge." The "blended" approach described in this document proposes some improvements that may appear to be out of the organization's comfort zone. Getting feedback from the BNA subcommittee at this stage is vital to the project's success and the usefulness of the resulting Work Plan. Ultimately, the BNA Project will identify Partner-driven and program-driven initiatives for MCAMLIS and set the direction for MCAMLIS services over the next five years.

## MCAMLIS Five-Year Vision

The MCAMLIS five-year strategy plan outlines a vision for the Program. The future of MCAMLIS is to advance and expand the use of its data and services. The more the data is used by MCAMLIS Partners and the public, the more value is derived. The intent is not to duplicate the Partner provided data and capabilities, but to provide complementary location-based data and services to local municipalities and utility Partners.

The figure on the following page depicts the vision of MCAMLIS. At this stage of the Project, the diagram shows the components but is not specific regarding technologies. These details will be incorporated after the initiatives and improvement tasks are discussed and prioritized with the BNA subcommittee.

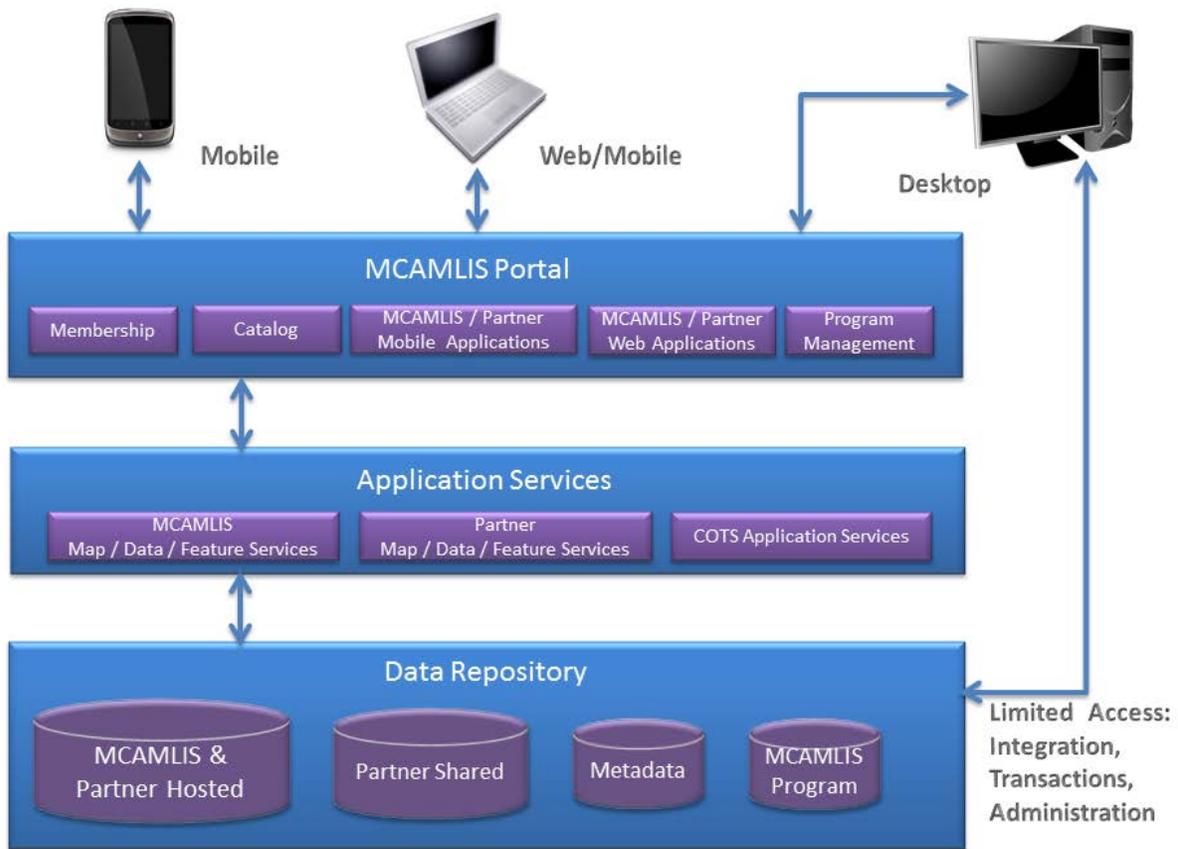


Figure 2: MCAMLIS Vision

The vision of MCAMLIS in five years should reflect the guiding goals and objectives.

The goals for the BNA Project are:

- Demonstrate the value that MCAMLIS data and services provide to local communities;
- Explore new uses of LBDT;
- Identify information and services that MCAMLIS could provide to Partners to support their organizations' businesses;
- Prioritize project initiatives for MCAMLIS funding; and
- Develop and implement a five-year action plan for MCAMLIS.

The underlying impetus for the BNA is to identify improvements to the MCAMLIS organization and program to enhance the use and value provided by MCAMLIS. Objectives include:

- Continue to maintain core foundational elements
- Increase use of MCAMLIS data and services
- Promote Integration
  - Internet Services

- Improve MCAMLIS Program Management
  - Educational Outreach
- Promote and encourage Partner participation in MCAMLIS
  - Forums
  - Business planning input
  - Data sharing.

To reach the MCAMLIS vision in five years, GeoDecisions recommends taking the following steps:

- Architect and deploy a hosted MCAMLIS **Data** Sharing Portal:
  - Where Partners can access data via a feature data service.
  - Where Partners and the public can extract data for certain data sets and geographic locations.
  - Where Partners can post business data (e.g. public works) and retrieve business data from other Partners.
  - Where municipalities can update current property ownership and address records.
- Facilitate data integration:
  - Current property information incorporated into MCAMLIS provided data.
  - Complete listing of data available with metadata.
- Enhance MCAMLIS-provided **Capabilities**:
  - Access to MCAMLIS data and services anywhere, anytime, on any device:
    - Milwaukee County Land Information Office (MCLIO) web mapping.
    - ArcGIS Online (AGOL).
    - Mobile Applications.
- Improve awareness and involvement in MCAMLIS:
  - MCAMLIS website:
    - Accessible data and service offerings.
    - Current initiatives and program information.
  - MCAMLIS **Program Management**:
    - Membership services.
    - Project prioritization process with Partner input.
    - Formal Organizational representation.
  - MCAMLIS-facilitated education and training program.
- Facilitate **Collaboration** between Partners:

- Milwaukee Municipal GIS Users Group (MMGUG) and new LBDT forums.
- Frequent interaction of Partners regarding technology.
- Use of a single portal for program communications.

## Initiatives and Improvement Tasks

The following section provides details on the five project initiatives (i.e., Data Distribution, Data Integration, Capabilities/Solutions, Collaboration/Training, and Program Management) and associated improvements tasks. For each improvement task, the following information is provided:

- Improvement ID
- Improvement Name
- Description
- Participants
- Cross-referenced Perceptions and Objectives (see Appendix B)
- Cross-referenced Business and Program needs (identified and prioritized earlier in the project) (See Appendix C)
- High-level cost estimate
- MCAMLIS staff involvement (Low, Medium, and High)
- Duration
- Predecessors (other improvement tasks)
- Benefits
- Risks
- Assumptions.

Initiative 1: Data Distribution

The data distribution initiative focuses on improving users' ability to retrieve reference data from MCAMLIS, and on posting and retrieving other Partner business data.

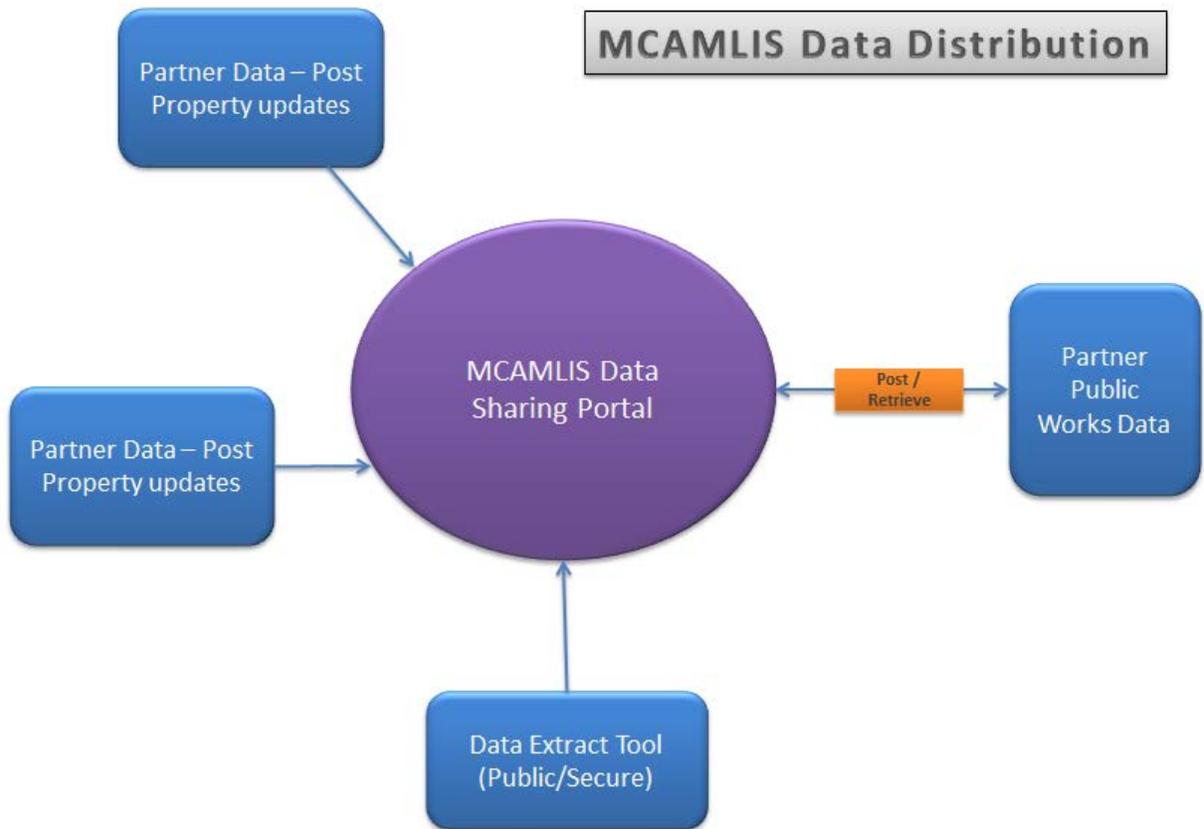


Figure 3: Data Distribution

## 1. Develop MCAMLIS Feature Data Service for Parcels

<b>Improvement Task ID:</b> IT-01-01		
<b>Improvement Task Name:</b> Develop MCAMLIS Feature Data Service for Parcels		
<p><b>Description:</b></p> <p>This task includes the development of a feature data service for parcels. The feature data service will be established using a direct connect and will be accessed through REST endpoints. The Web feature service will expose the parcel data layer for use by MCAMLIS Partners. They can pull that data layer service into their desktop application or enterprise solution for publishing along with their own business data.</p> <p>Users can:</p> <ul style="list-style-type: none"> <li>• Query and retrieve parcel attribution and symbology</li> <li>• Control access to features using ownership-based access control</li> <li>• Prevent users from editing feature geometry.</li> </ul> <p>The feature service will allow MCAMLIS to serve parcel features over the Internet, and will provide the symbology to use when displaying the features. Partners can execute queries to get features that can be used in client applications. Partners can consume feature services using either a web client (Geocortex), ArcGIS for Desktop, or Mobile applications.</p>		
<p><b>Participants:</b></p> <p>Milwaukee Metropolitan Sewerage District (MMSD), We Energies, City of Milwaukee</p>	<p><b>Objectives/Perceptions:</b></p> <p>O1, O2, O3, O5; P1, P8</p>	<p><b>Needs:</b></p> <p>BN01, BN21, BN04 PN1, PN2</p>
<p><b>High-level Cost Estimate:</b> \$50,000</p> <p>This includes technology configuration and implementation, consulting costs, and training costs.</p>		
<b>MCAMLIS Staff Involvement:</b> High (Staff)		
<b>Duration:</b> 3 months	<b>Predecessors:</b> None	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides the data for use within a user’s application (ArcGIS Desktop, Web clients, and AGOL mobile applications).</li> <li>• Provides immediate access to most current data available at MCAMLIS.</li> <li>• Involves limited data management tasks for consumer.</li> <li>• Reduces MCAMLIS staff effort spent on responding to user data requests.</li> <li>• Provides a means for users from outside (e.g., developers) to access the data for use in their projects.</li> <li>• Follows industry best practices by moving away from creating copies of data.</li> </ul>		
<b>Risks:</b>		

- High risk in user management and permissions prior to the Portal being in place.
- Accepting current quality of data with incremental improvement
- Getting buy-in from the Partners regarding quality control and new data update workflows.

**Assumptions:**

- Initial implementation is read-only data.
- Powerful enough to be used by desktop and connected mobile users.
- Can be accessed by both GIS and CAD users.
- Future considerations would include an update and corrections response.
- Assume start with Parcels and add more features with time.
  - Some data, such as utility data, will be restricted.
- Improves on the access and parcel currency issues with the data extract tool.

## 2. Implement Initial MCAMLIS Data Extract Service

<b>Improvement Task ID:</b> IT-01-02		
<b>Improvement Task Name:</b> Implement Initial MCAMLIS Data Extract Services		
<p><b>Description:</b></p> <p>This initiative would provide users with a service that will allow them to select one or more MCAMLIS reference data layers to be extracted for a user-specified geographic area, which would result in downloadable datasets in one of a predetermined set of data formats. The current extract service for extracting shapefiles and personal geodatabases will be enhanced using the Geocortex Silverlight API and will be included as part of the next release of the MCLIO Interactive Mapping Service under IT-03-01. The Silverlight API also provides for extract to AutoCAD (.dxf or .dwg) and MicroStation (.dgn) formats.</p> <p>A "how to" instructional guide needs to be included with the service.</p>		
<p><b>Participants:</b></p> <p>MCAMLIS Partners, capital improvement contractors, and land developers</p>	<p><b>Objectives/Perceptions:</b></p> <p>O1, O2, O3, O5; P1, P6, P8</p>	<p><b>Needs:</b></p> <p>BN01, BN21, BN04 PN1, PN2</p>
<b>High-level Cost Estimate:</b> \$10,000 (Training and instructional promotion of service)		
<b>MCAMLIS Staff Involvement:</b> High (Staff)		
<b>Duration:</b> 3 months	<b>Predecessors:</b> IT-03-01	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• This on-demand service to extract the data reduces the turn-around time for Partners to obtain the needed data.</li> <li>• Reduces MCAMLIS staff effort spent on responding to user data requests.</li> <li>• Provides a service to select data from a specified geographic area.</li> <li>• Provides a means for users from outside (e.g., developers) to access the data for use in their projects.</li> <li>• Adopts best practice.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Tracking use of the data.</li> <li>• Data currency – Users extracting data instead of accessing directly via a web service may become outdated information and not suitable for many purposes.</li> </ul>		

**Assumptions:**

- Begin with Parcel data and expand to allow users to select the target data layers to extract.
- To accommodate this need as quickly as possible, strong consideration should be given to using existing capabilities, such as the data extract service that is included as a feature in the new MCLIO viewer application (Geocortex Silverlight viewer).
- Target communities (that could make use of the tool) to pilot the process.
- Through training, address the use of web services as a preferred method of data sharing.

### 3. Determine MCAMLIS Portal Architecture

<b>Improvement Task ID:</b> IT-01-03		
<b>Improvement Task Name:</b> Determine MCAMLIS Portal Architecture		
<p><b>Description:</b></p> <p>The improvement task would involve hiring a consultant to determine the architecture for a MCAMLIS portal. The portal will be the location for Partners and the public to access MCAMLIS data and services. MCAMLIS will manage the portal to include access of MCAMLIS Web and Mobile applications. In addition, the portal should provide the means for MCAMLIS Partners to post and access their own web and mobile applications. The portal will also provide the framework for the data sharing repository.</p> <p>The portal architecture will need to provide for managing membership and access, cataloging data and services, and potentially managing content for program management-related information (examples include what/who is MCAMLIS, current MCAMLIS Initiatives, MMGUG, and training).</p> <p>Options for the portal architecture could include the Socrata Open Data Portal, Esri's AGOL, Esri's ArcGIS Portal, or Open Source Data Portals such as CKAN. The primary output from this task will be a document that presents two to three options, along with their associated initial and five-year operating costs.</p>		
<p><b>Participants:</b></p> <p>County, City, MMSD</p>	<p><b>Objectives/Perceptions:</b></p> <p>O5; P1, P8</p>	<p><b>Needs:</b></p> <p>BN03, BN04, BN17 PN01, PN02, PN03, PN05</p>
<b>High-level Cost Estimate:</b> \$75,000		
<b>MCAMLIS Staff Involvement:</b> High (Staff)		
<b>Duration:</b> 3 months	<b>Predecessors:</b> None	
<p><b>Benefits:</b> (once implemented)</p> <ul style="list-style-type: none"> <li>• Provides a single location for MCAMLIS information and services.</li> <li>• Provides access to MCAMLIS data and services.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Recommended architecture may require changes in infrastructure and administration of services.</li> <li>• Issues both internal and external with the direction of the County Information Technology (IT) may affect the adoption of a portal.</li> <li>• A single product may not include all the necessary functionality for MCAMLIS services (e.g., Partners posting data, single membership sign-on, metadata retrieval for both data and services).</li> </ul>		

**Assumptions:**

- This service will allow Partners to access information posted by other MCAMLIS participants.
- Partners will engage and put resources toward sharing their data with other MCAMLIS participants.
- Metadata is included with the data.
- MCAMLIS will develop a service for Partners to post their data (public works initially).
- The portal can meet the membership needs for obtaining information about the MCAMLIS Program (see IT-05-02), in particular, access to secure or public content, and notification services to inform members when new data and services are posted to the site.
- After the portal is operating for public works data, the process will be applied for zoning information.
- The data sharing repository would allow for posting data in multiple formats, including Esri, AutoCAD, spreadsheets, Google, and other formats.
- Once a particular object is selected, the user can then link to capabilities that allow access to that object (e.g., MCLIO Web Map application, a map or feature data service, or Partner application).
- Implementation may include piloting and/or iterative deployment.

### 4. Implement the MCAMLIS Portal

<b>Improvement Task ID:</b> IT-01-04		
<b>Improvement Task Name:</b> Implement the MCMALIS Portal		
<p><b>Description:</b>                  This task would implement the MCAMLIS Partner portal solution determined in IT-01-03. This Portal would be a single location where Partners would interface with MCAMLIS. It would provide Partners with access to and use of MCAMLIS data and services as well as a location to publish their business data. In addition, the portal would offer a location for Partner collaboration.</p>		
<p><b>Participants:</b>                  County, City, MMSD</p>	<p><b>Objectives/Perceptions:</b>                  O1, O2, O3, O5; P1, P6, P7, P8</p>	<p><b>Needs:</b>                  BN03, BN04, BN17                  PN01, PN02, PN03, PN05</p>
<b>High-level Cost Estimate:</b> (Depends on recommended solution)		
<b>MCAMLIS Staff Involvement:</b> High (Staff)		
<b>Duration:</b> 3 months	<b>Predecessors:</b> IT-01-03	
<p><b>Benefits:</b> (once implemented)</p> <ul style="list-style-type: none"> <li>• Provides a one-stop-shop secure location for Partner access to MCAMLIS data and services.</li> <li>• Alleviates staff from having to administer multiple individual services and sites.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Recommended architecture may require infrastructure investment and changes.</li> <li>• The owner of a portal object (e.g., MCLIO Web Map application, a map or feature data service, or Partner application) will not keep the metadata up-to-date.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• MCAMLIS will maintain and administer the portal.</li> <li>• The portal will provide for Partners to access all MCAMLIS services.</li> <li>• Partners will engage and use the MCAMLIS portal.</li> </ul>		

## 5. Develop Partner Data Sharing Repository

<b>Improvement Task ID:</b> IT-01-05		
<b>Improvement Task Name:</b> Develop Partner Data Sharing Repository		
<p><b>Description:</b></p> <p>Based on the recommended portal architecture in IT-01-03, MCAMLIS would develop and deploy the selected data sharing repository solution.</p> <p>This action would provide a service where Partners could post their data on the MCAMLIS website, which would be available to other MCAMLIS Partners via a secure login. For example, Partners would post their own spatially enabled public works data, such as municipal storm and sanitary sewer utility data, capital improvement project information, and street projects, to the repository. It would then be available for access by other municipalities and MCAMLIS Partners. Once this repository is established for public works data, Partners would use this same method for sharing zoning and land use data.</p> <p>Items included in the Partner data sharing repository may eventually migrate to formalized data integration processes that MCAMLIS may host.</p>		
<p><b>Participants:</b></p> <p>County, City, MMSD</p>	<p><b>Objectives/Perceptions:</b></p> <p>O1, O2, O3, O5; P1, P6, P8</p>	<p><b>Needs:</b></p> <p>BN03, BN04, BN17 PN01, PN02, PN03, PN05</p>
<b>High-level Cost Estimate:</b> (Depends on recommended solution)		
<b>MCAMLIS Staff Involvement:</b> High (Staff)		
<b>Duration:</b> 9 months	<b>Predecessors:</b> IT-01-03	
<p><b>Benefits:</b></p> <p>Same benefits as IT 01-03, as well as:</p> <ul style="list-style-type: none"> <li>• Allows users/organizations to upload their data, extract data, and use applications hosted by MCAMLIS, and to download application templates to be used within their own environments. This frees up MCAMLIS staff time.</li> <li>• Besides data, can also include a web service catalog/directory for all of MCAMLIS.</li> <li>• Besides data, can also include a web application catalog/directory for all of MCAMLIS.</li> <li>• Offers pushing of new data/apps/functionality to all organizations as a service by MCAMLIS.</li> <li>• Grows user adoption and involvement.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Uncertainty of MCAMLIS Partner adoption.</li> <li>• MCAMLIS staff administration will be required.</li> <li>• May require MCAMLIS to invest in new technology.</li> </ul>		

- Will require staff and Partner training.
- New data update workflows and quality assurance/quality control (QA/QC) processes.

**Assumptions:**

- Architecture fits well into the existing MCLIO environment.
- MCAMLIS will have staff to administer the data sharing repository.
- This service will allow Partners to access information posted by other MCAMLIS participants.
- Partners will engage and put resources toward sharing their data with other MCAMLIS participants.
- Metadata is included with the data.
- MCAMLIS will develop a service for Partners to post their data (public works initially).
- Notification service alerts members when new data is posted to the site.
- After this repository is operational for public works data, the process will be applied for zoning information.
- The data sharing repository would allow for posting data in multiple formats, including Esri, AutoCAD, spreadsheets, Google, and other formats.

## Initiative 2: Data Integration

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The need for MCAMLIS-provided data remains strong, and with advances in technology such as application services (e.g., map services, data/feature services) and mobile devices, the needs for MCAMLIS data are evolving. Consumers seek to have access to data changes more quickly, require access to potentially large amounts of spatially enabled data across various platforms (web, mobile, and desktop), and seek to spatially register MCAMLIS data with their own and external data sources (via WMS or other mapping services).

MCAMLIS currently has back-end data processing that will need to support these changing needs (see Figure 4, left side of diagram). This back-end processing includes data integration (extract-transform-load or ETL) that brings data from disparate sources together and provide that data out to MCAMLIS data consumers (e.g., parcel and address data). MCAMLIS also has back-end transaction activities (e.g., on historic aerial images) and loading new versions of framework data (e.g., planimetric, topographic, and orthophotography).

In addition to these formal back-end data processing activities, MCAMLIS will need to determine how best to provide data handling for it's likely increased role in hosting collaborative data activities among MCAMLIS Partners (see Figure 4, right side of diagram). One example is hosting a Partner-to-Partner data sharing repository. Another is hosting a place where recommended changes to data (e.g., parcels or addresses) discovered by field staff can be posted and accessed by MCAMLIS Partners.

This initiative will enhance the MCAMLIS data architecture to meet the overall growing demands on MCAMLIS-hosted data.

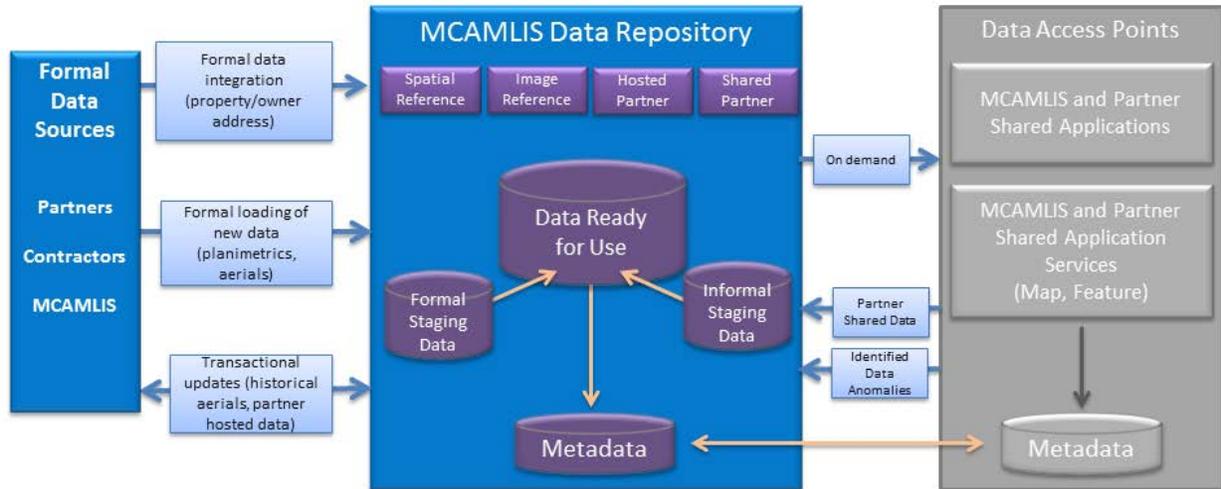


Figure 4: Data Integration Vision

## 1. Improve Property Record Currency

<b>Improvement Task ID:</b> IT-02-01		
<b>Improvement Task Name:</b> Improve Property Record Currency		
<p><b>Description:</b></p> <p>This task will improve the processes that collect, process, and publish property record data. This includes working with GCS, which provides a property record service to all but three municipalities and villages in the county, to provide access to current property ownership records and a potential link to the MCLIO web map through the portal. The initiative would include communicating the details of the information by posting the currency of the property record information to the MCAMLIS website.</p>		
<p><b>Participants:</b></p> <p>Municipal Partners</p>	<p><b>Objectives/Perceptions:</b></p> <p>O2, P1, P8</p>	<p><b>Needs:</b></p> <p>BN02, BN07, BN15 PN01, PN02, PN03</p>
<p><b>High-level Cost Estimate:</b> \$100,000+</p> <p>This includes consulting services, development, training, and limited support costs. Note that costs are unknown for MCAMLIS to obtain access to GCS data (attribute) or data services.</p>		
<b>MCAMLIS Staff Involvement:</b> High (Staff)		
<b>Duration:</b> 12-15 months		<b>Predecessors:</b> IT-02-03
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides a process for delivering more current property-related data.</li> <li>• Offers consistency with the update process.</li> <li>• Is more in sync with the Partner property record data.</li> <li>• Instills confidence in the use of property data being provided via MCAMLIS.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• GCS will not collaborate, or costs are prohibitive.</li> <li>• Partner organizations may resist changing their internal business practices.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• This includes both parcel features as well as property/owner data.</li> <li>• This would require MCAMLIS to refine or redesign the process for scheduling data transfer with the MC Treasurer’s office, the City of Milwaukee Assessor’s office, and other municipalities for the data to be as current as the data available at the municipalities.</li> <li>• Will begin working with one suburban organization (Shorewood, for example) and GCS on the process to better time the delivery of property records and translate this process to the remaining suburban areas.</li> </ul>		

2. Determine How to Support New Datum Needs

<b>Improvement Task ID:</b> IT-02-02		
<b>Improvement Task Name:</b> Determine How to Support New Datum Needs		
<p><b>Description:</b></p> <p>The current NAD 27 datum standard limits the interoperability of certain web services and use of MCAMLIS data in certain applications. This task will assess and recommend how to cost-effectively accommodate the needs of MCAMLIS Partners and other stakeholders who need to integrate MCAMLIS data with other data that is available in new datums. This task will leverage the work accomplished in the SEWPRC studies on the multiple datum issue.</p>		
<p><b>Participants:</b></p> <p>All and WIDOT</p>	<p><b>Objectives/Perceptions:</b></p> <p>O5; P6</p>	<p><b>Needs:</b></p> <p>BN12, PN01</p>
<p><b>High-level Cost Estimate:</b> \$75,000</p> <p>Includes consulting services.</p>		
<p><b>MCAMLIS Staff Involvement:</b> Low (Staff)</p>		
<p><b>Duration:</b> 6 months</p>	<p><b>Predecessors:</b> None</p>	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Can offer map/data services that integrate with commercially available data.</li> <li>• Use statewide and national datasets with MCAMLIS services.</li> <li>• Use of MCAMLIS data in mobile and field applications that include location-based services that accommodate consumer-grade or mapping-grade accuracy requirements.</li> <li>•</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Recommended solutions may still be cost-prohibitive.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• Analysis should include approaches that may incrementally resolve the issue.</li> <li>• MCAMLIS and MCAMLIS Partners will implement the recommendations.</li> <li>• Will build off the results of at least SEWRPC Memorandum Report No. 206 and Technical Report No. 49.</li> </ul>		

### 3. Assess MCAMLIS Vector Data Repository Architecture

<b>Improvement Task ID:</b> IT-02-03		
<b>Improvement Task Name:</b> Assess MCAMLIS Vector Data Repository Architecture		
<p><b>Description:</b></p> <p>This task will assess and recommend improvements to the data management practices and technologies that get MCAMLIS vector reference data into the MCAMLIS data repository and prepare it for efficient access. MCAMLIS vector reference data refers to the following: Topographic / Planimetric Mapping, Enterprise Address System, and the Routable Street Centerline. This does not include Partner-shared or Partner-hosted data, and does not include non-vector data (imagery, video, audio). The task will review current practices in these areas, determine gaps, assess high-level costs to close gaps, and produce a recommended implementation plan.</p> <p>This assessment will cover the following areas:</p> <ul style="list-style-type: none"> <li>• Data loading processes: how effective and efficient current back-end data integration and data loading processes are, especially for integrating data from source systems on a more transactional basis (versus replace), and assigning permanent and temporally based identifiers.</li> <li>• Data transactional processes: how effective and efficient is the edit, QA, and publish procedures, and how well these constructs would support Partners editing their data if a Partner requests MCMALIS host their data.</li> <li>• Data-based metadata: how both spatial and non-spatial metadata is structured so this metadata can be updated and then accessed via services to multiple applications (e.g., MCLIO website, MCAMLIS website, mobile apps, Partner web apps).</li> <li>• Data mart constructs: whether the current data structures are efficient enough to satisfy web services, or must additional data integration capabilities be introduced to support services-oriented or data extraction access.</li> </ul>		
<p><b>Participants:</b> MCAMLIS Staff</p>	<p><b>Objectives/Perceptions:</b> O5; P1, P8</p>	<p><b>Needs:</b> Based on MCAMLIS Program Assessment</p>
<p><b>High-level Cost Estimate:</b> \$45,000 Costs include consulting services.</p>		
<p><b>MCAMLIS Staff Involvement:</b> Low (Staff)</p>		
<p><b>Duration:</b> 3 months</p>	<p><b>Predecessors:</b> IT-01-03</p>	

**Benefits:**

- Identifies a clear path for structuring MCAMLIS data for an information services-oriented program.
- Expected to result in quicker access to more current data (data integration improvements).
- Expected to result in asset identifiers to which Partners can reference to link their data.
- Defines current and necessary capabilities and specifications for ETL procedures (both for providing data to MCAMLIS and extracting data out of MCAMLIS) and database APIs for developing against web services to the data.
- Promotes the function and benefit of what MCAMLIS provides and how it goes about providing it, resulting in increased use.

**Risks:**

- Increased automation of data integration procedures may require further development and a wider range of skills for the small number of MCAMLIS staff.
- Partners may be slow to take advantage of new feature identifiers.

**Assumptions:**

- IT-02-01 focuses on cadastral data (parcel and property/owner) so this task will not focus attention there but ensure the solutions fit into the overall architecture defined here.
- The architecture defined here will be integrated with the architecture from IT-02-04.

#### 4. Assess MCAMLIS Non-Vector Data Repository Architecture

<b>Improvement Task ID:</b> IT-02-04		
<b>Improvement Task Name:</b> Assess MCAMLIS Non-Vector Data Repository Architecture		
<p><b>Description:</b></p> <p>This task will assess and recommend improvements to the data management practices and technologies that get MCAMLIS non-vector reference data into the MCAMLIS data repository and prepare it for efficient access. MCAMLIS non-vector reference data refers to the following: geo-referenced imagery (Imagery: Ortho, Oblique, LiDAR), documents and photos, and potentially, video and audio.</p> <p>This does not include Partner-shared or Partner-hosted data, and does not include MCAMLIS vector reference data (see IT-02-03). The task will review current practices in these areas, determine gaps, assess high-level costs to close gaps, and produce a recommended implementation plan.</p> <p>This assessment will cover the following areas:</p> <ul style="list-style-type: none"> <li>• Data-based metadata: how both spatial and non-spatial metadata is structured so this metadata can be updated and then accessed via services to multiple applications (e.g., MCLIO website, MCAMLIS website, mobile apps, Partner web apps).</li> <li>• Data loading processes: how effective and efficient current back-end data integration and data loading processes are, especially for integrating data from source systems on a more transactional basis (versus replace), and assigning permanent and temporally based identifiers.</li> <li>• Data transactional processes: how effective and efficient is the edit, QA, and publish procedures,</li> <li>• Data mart constructs: whether the current data structures and caching are efficient enough to satisfy web services, or must additional data integration capabilities be introduced to support services-oriented or data extraction access.</li> <li>• Image and Document Management: whether georeferenced image data management and document management capabilities are necessary, and whether unstructured data such as audio/video require a data management strategy.</li> </ul>		
<b>Participants:</b> MCAMLIS Staff	<b>Objectives/Perceptions:</b> O5; P1, P8	<b>Needs:</b> Based on MCAMLIS Program Assessment
<p><b>High-level Cost Estimate:</b> \$40,000 Costs include consulting services.</p>		
<b>MCAMLIS Staff Involvement:</b> Low (Staff)		

<b>Duration:</b> 3 months	<b>Predecessors:</b> IT-01-03
<b>Benefits:</b> <ul style="list-style-type: none"><li>• Identifies a clear path for structuring MCAMLIS image data for an information services-oriented program, including the appropriate caching products.</li><li>• Expected to result in quicker access to more current data (data integration improvements).</li><li>• Defines current and necessary capabilities and specifications for ETL procedures (both for providing data to MCAMLIS and extracting data out of MCAMLIS) and database APIs for developing against web services to the data.</li><li>• Promotes the function and benefit of what MCAMLIS provides and how it goes about providing it, resulting in increased use.</li></ul>	
<b>Risks:</b> <ul style="list-style-type: none"><li>• Increased automation of data integration procedures may require further development and a wider range of skills for the small number of MCAMLIS staff.</li><li>• May result in modifying current caching products.</li></ul>	
<b>Assumptions:</b> <ul style="list-style-type: none"><li>• IT-02-01 focuses on cadastral data (parcel and property/owner) so this task will not focus attention there but ensure the solutions fit into the overall architecture defined here.</li><li>• The architecture defined here will be integrated with the architecture from IT-02-03.</li></ul>	

## 5. Implement MCAMLIS Data Repository Enhancements

<b>Improvement Task ID:</b> IT-02-05		
<b>Improvement Task Name:</b> Implement MCAMLIS Data Repository Enhancements		
<p><b>Description:</b></p> <p>This task will implement priority recommendations identified in IT-02-03 and IT-02-04. More specifically, this task is expected to first refine the understanding of priority enhancements identified in these preceding tasks, implement these, roll out the enhancements to MCAMLIS Partners, and begin operations.</p> <p>The enhancements are expected to streamline and improve the currency of MCAMLIS reference data, implement data structures for mobile device performance, as well as be structured to receive data from web and mobile applications.</p>		
<p><b>Participants:</b></p> <p>MCAMLIS Staff</p>	<p><b>Objectives/Perceptions:</b></p> <p>O5; P1, P8</p>	<p><b>Needs:</b></p> <p>Based on MCAMLIS Program Assessment</p>
<p><b>High-level Cost Estimate:</b> Depends on Recommendations</p> <p>Costs may include further investments in ETL tools and processing, and investment in tools like Esri Image Server or a document management system.</p>		
<p><b>MCAMLIS Staff Involvement:</b> High (Staff)</p>		
<p><b>Duration:</b> TBD</p>	<p><b>Predecessors:</b> IT-01-03, IT-02-03, IT-02-04</p>	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides faster access to more current data (data integration improvements).</li> <li>• Promotes the functions and benefit that MCAMLIS provides, and how it goes about providing it, resulting in increased use.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• See IT-02-03, IT-02-04.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• Priorities will be based on meeting priority partnering needs.</li> <li>• Implementation of property/owner record processing is not in the scope of this work (see IT 02-01).</li> <li>• Implementation may include piloting and/or iterative deployment.</li> </ul>		

## 6. Acquire Cadastral Data From Outside Milwaukee County

<b>Improvement Task ID:</b> IT-02-06		
<b>Improvement Task Name:</b> Acquire Cadastral Data From Outside Milwaukee County		
<p><b>Description:</b></p> <p>This task will assess, acquire, and then make available data or data services (e.g., map or feature services) obtained from public agencies that border Milwaukee County. In particular, the focus will be on cadastral data (parcels, property, CSM, ROW). This task should also consider collaboration with GCS. This task will also inventory the availability of planimetric mapping data (e.g. trans, facilities, utilities) and imagery (e.g. Ortho, Oblique, LiDAR) data, but does not focus on its acquisition. This task would end with MCAMLIS putting in place processes and procedures to refresh the external cadastral data as needed or as able.</p> <p>While outside the scope of this task, the longer term vision would be to incorporate this external data into the same data and data services that MCAMLIS provides so Partners can apply the data seamlessly.</p>		
<p><b>Participants:</b></p> <p>Municipal Partners (especially public safety business areas) along Milwaukee County borders, We Energies, MMSD</p>	<p><b>Objectives/Perceptions:</b></p> <p>O4, O5; P8</p>	<p><b>Needs:</b></p> <p>BN10, BN18, BN19 PN01, PN02</p>
<p><b>High-level Cost Estimate:</b> \$50,000</p> <p>This includes consulting services, ETL and metadata development, and limited support costs.</p>		
<b>MCAMLIS Staff Involvement:</b> Medium (Staff)		
<b>Duration:</b> 6 months	<b>Predecessors:</b> IT-02-01, IT-02-03, IT-02-04	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides a process for delivering property-related data from outside the County area.</li> <li>• Offers consistency with the update process.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Costs to process and make the data available may be significantly higher than estimated.</li> <li>• GCS will not collaborate, or costs are prohibitive.</li> <li>• Partner organizations may resist changing their internal business practices to have the data made available thru MCAMLIS or apply the data once it is available.</li> </ul>		

**Assumptions:**

- This includes both parcel features as well as property/owner data.
- Will work to acquire, load, and publish the data only in the areas where Partners are willing and able to participate and apply the data.

### **Initiative 3: Capabilities/Solutions**

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The initiative for capabilities and solutions will provide a set of applications and services for MCAMLIS to implement. These capabilities will expand on the applications and services currently provided by MCAMLIS. The near-term improvement tasks of this initiative are to outline improvements for the MCLIO web viewer and establish a framework for development of mobile applications and services. The immediate improvement tasks account for current activities and include a migration plan to the Silverlight version of the Geocortex Web Viewer. The improvement tasks outlined under this initiative will take into consideration the future architecture and services environment.

## 1. Improve the MCLIO Viewer

<b>Improvement Task ID:</b> IT-03-01		
<b>Improvement Task Name:</b> Improve the MCLIO Viewer		
<p><b>Description:</b></p> <p>This task would provide multiple improvements to the MCLIO website. The new site will offer improved responsiveness (timeliness of data rendering and tool functions), accessibility (map printing, pictometry, CSM retrieval), usability (GUI), and availability of data.</p> <p>List out the specific improvements include the following:</p> <ul style="list-style-type: none"> <li>• Improved usability and GUI experience</li> <li>• Faster response times</li> <li>• Enhanced search capabilities – locate by feature, address or intersection.</li> <li>• Data extraction service – ability to clip and ship data sets for a defined geographic location.</li> <li>• Support services and documentation on how to run certain functions such as CSM, Plats of Survey, and document retrieval)</li> </ul> <p>The task involves creating a roll-out plan, transitioning to the new Geocortex Silverlight viewer, and executing this plan. It includes:</p> <ul style="list-style-type: none"> <li>• Identifying new functionality (e.g., extract tool) and implementation.</li> <li>• Developing a MCLIO web viewer user guide. This would be specific to how to access certain data (e.g., CSMs) and functions (e.g., Pictometry oblique imagery).</li> <li>• Developing and executing training tasks (online, self-paced, group, etc.).</li> <li>• Marketing/support of new viewer.</li> </ul>		
<b>Participants:</b> All	<b>Objectives/Perceptions:</b> O1,O2, O3, O5; P1,P6, P8	<b>Needs:</b> BN08, PN02
<p><b>High-level Cost Estimate:</b> \$50,000</p> <p>Costs include customization, configuration, and implementation of the viewer, as well as documentation and training.</p>		
<b>MCAMLIS Staff Involvement:</b> High (Staff)		
<b>Duration:</b> 6 months	<b>Predecessors:</b> None	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Improves on current web version</li> <li>• Increases use of the MCLIO Viewer.</li> <li>• Improves functionality and tools available through the viewer.</li> </ul>		

**Risks:**

- May not meet all Partner improvement requests.
- All users may not be informed of the change to the viewer and therefore will not be adequately trained on the new product.

**Assumptions:**

- Geocortex Silverlight viewer provides enhanced capabilities and ease of use.
- Training and tutorials on how to use the new site are included.
- The Geocortex products will continue to increase its use of services-based capabilities so these capabilities can be exposed to other information access interfaces that Partners use in their own applications.
- This Improvement Tasks represents an "early win."

2. Research and Possible Adoption of ArcGIS Online (AGOL)

<b>Improvement Task ID:</b> IT-03-02		
<b>Improvement Task Name:</b> Research and Possible Adoption of AGOL		
<p><b>Description:</b></p> <p>This task would provide a pathway toward AGOL for MCAMLIS. This will offer a collaborative content management system for maps, applications, and data. AGOL will be an important technology that MCAMLIS can leverage to provide Partners and public users with access to data and services through mobile, web browsers, and desktop applications in the future.</p> <p>In addition to the MCLIO viewer, AGOL would be a means for accessing MCAMLIS hosted data and services.</p> <p>This project includes an assessment of the proper implementation architecture and approach of AGOL capabilities, and a determination of initial and operating costs, associated with a MCAMLIS AGOL site that Partners can access. A Go/No-Go determination will be made based on this assessment.</p>		
<p><b>Participants:</b></p> <p>All</p>	<p><b>Objectives/Perceptions:</b></p> <p>O1, O2, O3, O5; P1, P4, P5, P6, P8</p>	<p><b>Needs:</b></p> <p>BN08, PN02</p>
<p><b>High-level Cost Estimate:</b> \$70,000*</p> <p>Costs include the initial assessment; should the project be a GO decision, this includes the consulting services, training plan, and implementation.</p> <p>*The cost structure for AGOL varies based on type of use and number of credits. Establishing individual user accounts is free but transactions for editing and posting data services to ArcGIS.com require use of credits.</p>		
<b>MCAMLIS Staff Involvement:</b> Medium (Staff)		
<b>Duration:</b> 6 months		<b>Predecessors:</b> IT-01-03
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Increases usage of MCAMLIS data.</li> <li>• Allows non-programmers to deploy and share web maps containing their own GIS data through the ArcGIS.com map viewer.</li> <li>• Allows mapping applications to be shared with a group or the public through a web browser, smart phone applications, social media, or emails.</li> <li>• Embeds maps into websites.</li> <li>• Enables layer editing by multiple authors and tracks edits for data sets (volunteered geographic information – VGI).</li> <li>• Leverages AGOL expertise from Partners.</li> </ul>		

**Risks:**

- AGOL pricing structure has not yet stabilized.
- Enough MCAMLIS Partners will not invest in integrating AGOL into their LBDT websites and business functions to justify the investment in software and support.

**Assumptions:**

- Services will be provided via MCAMLIS servers and registered to AGOL; implementation includes AGOL-based security.
- MCAMLIS is moving in the same direction as Esri in technology.
- Users will need to create an Esri account (free).
- Training and tutorials on how to use AGOL are included.

### 3. Explore Mobile Framework

<b>Improvement Task ID:</b> IT-03-03		
<b>Improvement Task Name:</b> Explore Mobile Frameworks		
<p><b>Description:</b>                  This task will include a consulting assignment to explore mobile technology framework options and offer alternatives for future mobile applications provided by MCAMLIS. There are several commercial products that are available, including but not limited to, the Geocortex HTML 5 viewer, Esri AGOL, asset management tools from solution providers such as Cityworks or Cartegraph, or low-cost products such as Google Maps. This task will also examine requirements for MCAMLIS providing the data services to support partner mobile applications.</p>		
<p><b>Participants:</b>                  MCAMLIS Technology Committee</p>	<p><b>Objectives/Perceptions:</b>                  O1; P1, P6, P8</p>	<p><b>Needs:</b>                  BN11, BN13, BN16                  PN02, PN05</p>
<p><b>High-level Cost Estimate:</b> \$30,000                  Costs include consulting services.</p>		
<p><b>MCAMLIS Staff Involvement:</b> Low (PM)</p>		
<p><b>Duration:</b> 3 months</p>	<p><b>Predecessors:</b> None</p>	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>A formal analysis will help determine the most effective solution.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>Top solutions may not meet all key requirements.</li> <li>Solution may not be compatible with frameworks established by some MCAMLIS Partners.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>Must be able to write and read Esri data structures for spatial data fields.</li> <li>The task will leverage experiences gained from the mobile applications in place at We Energies and MMSD.</li> </ul>		

#### 4. Deploy Mobile Asset Viewer Application

<b>Improvement Task ID:</b> IT-03-04		
<b>Improvement Task Name:</b> Deploy Mobile Asset Viewer Application		
<p><b>Description:</b></p> <p>The mobile asset viewer application will provide MCAMLIS secured users with access to MCAMLIS-provided asset information via mobile devices. Partner facility data currently available through the MCLIO Secure Web application will be made available to Partner staff in the field. Capabilities include the ability to retrieve the user’s current location, or to retrieve asset information based on a user-supplied address.</p> <p>It is assumed that this is the first mobile application to be implemented; therefore, this task will include establishing the mobile application framework that this and other mobile applications will apply.</p>		
<p><b>Participants:</b></p> <p>Mobile users</p>	<p><b>Objectives/Perceptions:</b></p> <p>O1; P1, P6</p>	<p><b>Needs:</b></p> <p>BN11, BN13, BN16 PN02, PN05</p>
<p><b>High-level Cost Estimate:</b> \$35,000</p> <p>Costs include consulting services, training, and implementation.</p> <p>This cost does not include an investment in the mobile application framework.</p>		
<b>MCAMLIS Staff Involvement:</b> Low (PM)		
<b>Duration:</b> 6 months	<b>Predecessors:</b> IT-03-03	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides access to MCAMLIS asset data via a mobile application on a phone or tablet.</li> <li>• Provides a platform on which future mobile applications can be efficiently deployed.</li> <li>• In the near future, provides map and data services developed for this application to secure Partners who have their own web or mobile applications.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• MCAMLIS Partners will not be able to commit to the use of the application.</li> <li>• The ability to manage secure access to the data.</li> <li>• Reliable mobile connections across the County geographic area.</li> <li>• New data update workflows and QA/QC processes</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• Estimated costs are based on using Esri AGOL. If another mobile framework is selected in IT-03-03, the costs will be different.</li> <li>• Initial MCAMLIS asset data to be exposed will be sanitary and stormwater utility data.</li> <li>• Initial mobile application users are expected to be any Partner that requires access to</li> </ul>		

this data in the field.

- Mobile connections are reliable.
- MCAMLIS and Partner data will be served up via map and feature services.
- Multiple applications will be developed on the same framework (from IT-03-03).
- The application can be extended to include the capability to provide data corrections or updates back to the proper authority.
- Improvements to data distribution processes are complete.

## 5. Deploy Mobile Property Locator Application

<b>Improvement Task ID:</b> IT-03-05		
<b>Improvement Task Name:</b> Deploy Mobile Property Locator Application		
<p><b>Description:</b></p> <p>The mobile property mapping application will provide organizations with the ability to view property ownership information in the field via a mobile application for phone or tablet. Core capabilities include the ability to retrieve the property and owner information at or near the user's current location, or to retrieve property information based on a user-supplied address.</p>		
<p><b>Participants:</b></p> <p>All</p>	<p><b>Objectives/Perceptions:</b></p> <p>O1, O2, O3, O4, O5; P1, P6, P8</p>	<p><b>Needs:</b></p> <p>BN11, BN13, BN16 PN02, PN05</p>
<p><b>High-level Cost Estimate:</b> \$35,000</p> <p>Includes consulting services, implementation, configuration, and training of the property locator application.</p>		
<b>MCAMLIS Staff Involvement:</b> Low (PM)		
<b>Duration:</b> 6 months		<b>Predecessors:</b> IT-01-01, IT-03-03
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides access to MCAMLIS-based property data via a mobile application on a phone or tablet.</li> <li>• In the future, provides map and data services developed for this application to Partners who have their own mobile applications.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• MCAMLIS Partners will not be able to commit to the use of the application.</li> <li>• Reliable mobile connections across the County geographic area.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• Initial data to be exposed will be the property and ownership data available through MCAMLIS.</li> <li>• Initial users of the application will be the City of Milwaukee Assessor's office and Planning Department.</li> <li>• MCAMLIS and Partner data will be served up via map and feature services.</li> <li>• Multiple applications will be developed on the same framework (IT-03-03).</li> <li>• Estimated costs are based on using Esri AGOL. If another mobile framework is selected in IT-03-03, the costs will be different.</li> <li>• The application can be extended to include the capability to provide data corrections or updates back to the proper authority.</li> </ul>		

## 6. Deploy Field Data Collection Application

<b>Improvement Task ID:</b> IT-03-06		
<b>Improvement Task Name:</b> Deploy Field Data Collection Application		
<p><b>Description:</b>                  This application would create versions of a tool for Partner organizations to capture their data in the field via mobile devices.</p>		
<p><b>Participants:</b>                  MC Parks (to begin)</p>	<p><b>Objectives/Perceptions:</b>                  O1, O2, O3, O4, O5; P1, P6, P8</p>	<p><b>Needs:</b>                  BN11, BN13, BN16                  PN02, PN05</p>
<p><b>High-level Cost Estimate:</b> \$70,000                  Includes consulting services, training, and implementation.</p>		
<b>MCAMLIS Staff Involvement:</b> Medium (PM)		
<b>Duration:</b> 6 months	<b>Predecessors:</b> IT-03-03, IT-03-04	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides basic services for field data capture on mobile devices.</li> <li>• Could also allow field workers to update information or take pictures and upload changes to the system.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• MCAMLIS Partners will not be able to commit to the use of the application.</li> <li>• Reliable mobile connections across the County geographic area.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• Initial data to be collected will be park assets (e.g., lighting, facilities, and amenities).</li> <li>• Initial users of the application will be Milwaukee County Parks. Multiple applications would be developed on the same template.</li> <li>• Costs assume the use of Esri AGOL. If another mobile framework is selected in IT-03-03, the costs will be different.</li> <li>• MCAMLIS and Partner data will be served up via map and feature services.</li> <li>• Application will leverage experiences gained from the MMSD and We Energies mobile AGOL applications.</li> <li>• Future versions would allow for disconnected data “check-out/check-in” application for mobile devices.</li> </ul>		

## 7. Implement Pictometry Desktop Plug-In

<b>Improvement Task ID:</b> IT-03-07		
<b>Improvement Task Name:</b> Implement Pictometry Desktop Plug-in		
<b>Description:</b> This task would provide either an ArcGIS Desktop plug-in (Esri's Pictometry Extension) for users or access to the Pictometry viewer via a web service on a Partner's desktop (Pictometry Online).		
<b>Participants:</b> City of Milwaukee Planning	<b>Objectives/Perceptions:</b> O1, O2, O4, O5; P1, P4, P5, P6, P8	<b>Needs:</b> BN08, PN02
<b>High-level Cost Estimate:</b> \$5,000 Costs include a limited number of Esri Pictometry desktop extensions for users and/or accounts for accessing Pictometry Online.		
<b>MCAMLIS Staff Involvement:</b> Low (PM)		
<b>Duration:</b> 3 months	<b>Predecessors:</b> None	
<b>Benefits:</b> <ul style="list-style-type: none"> <li>• Provides users with access Pictometry data without having to go to a separate viewer or application.</li> <li>• Increases use of Pictometry and MCAMLIS-provided data.</li> </ul>		
<b>Risks:</b> <ul style="list-style-type: none"> <li>• Managing licenses and supporting desktop installed capabilities in Partner organizations.</li> </ul>		
<b>Assumptions:</b> <ul style="list-style-type: none"> <li>• MCAMLIS will offer the Pictometry extension to users who request this service and assume the cost of these extensions in their contract with Pictometry/Esri.</li> <li>• MCAMLIS will manage and provide accounts for requested user access to Pictometry Online.</li> </ul>		

## **Initiative 4: Collaboration/Training**

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This initiative builds on the success of the Milwaukee Municipal GIS Users Group (MMGUG). The tasks in this initiative improve MMGUG and expand the collaboration consulting services that MCAMLIS offers, including additional collaboration activities like MMGUG, and formal training and education available through coordinated efforts by MCAMLIS. These improvement tasks are directly linked to the feedback received by MCAMLIS Partners as part of the BNA Project.

### 1. Improve MMGUG Forums

<b>Improvement Task ID:</b> IT-04-01		
<b>Improvement Task Name:</b> Improve MMGUG Forums		
<b>Description:</b> This task will clarify and execute an improvement program given recent MMGUG member feedback on the MMGUG collaboration activities and tools.		
<b>Participants:</b> Milwaukee metropolitan area LBDT Professionals	<b>Objectives/Perceptions:</b> O4; P1, P2, P7, P8	<b>Needs:</b> BN14, PN03
<b>High-level Cost Estimate:</b> \$20,000 Costs include consulting services, website content.		
<b>MCAMLIS Staff Involvement:</b> Medium (Staff)		
<b>Duration:</b> 3 months	<b>Predecessors:</b> IT-05-03	
<b>Benefits:</b> <ul style="list-style-type: none"> <li>Improves the MMGUG experience driven by MMGUG members.</li> <li>Shares LBDT best practices with colleagues in context to forum business perspective.</li> <li>Allows MCAMLIS Partners to stay up on the latest trends and co-Member practices in LBDT.</li> </ul>		
<b>Risks:</b> <ul style="list-style-type: none"> <li>Duties to proactively improve and support and MMGUG grow beyond what can be accomplished by MCAMLIS staff.</li> </ul>		
<b>Assumptions:</b> <ul style="list-style-type: none"> <li>Partners continue to participate in such forums.</li> </ul>		

## 2. Invest in LBDT/Collaboration Education and Training

<b>Improvement Task ID:</b> IT-04-02		
<b>Improvement Task Name:</b> Invest in LBDT/Collaboration Education and Training		
<p><b>Description:</b></p> <p>This task will establish and execute an education and training program sponsored by MCAMLIS for Partners and support staff. The program would focus initially on responding to immediate needs associated with the other initiatives outlined in this document: a) establishing and operating technology architectures that are new to MCAMLIS/Partners: hosted mobile/web LBDT, hosted integrated data and data distribution solutions, and b) providing consulting support services: consensus building, collaborative decision-making, and business analysis associated to these new technology architectures. This program would also include training for c) current and future GIS technologies (e.g., Esri, Geocortex; and if relevant, core applications that are based on LBDT, e.g., ProPhoenix).</p> <p>This initiative will determine the necessary core competencies and skill levels necessary to support the initiatives outlined in this document, will identify and negotiate prices for local training, and will organize training seminars, meetings, and documentation.</p>		
<p><b>Participants:</b></p> <p>MCAMLIS Support Staff, All Interested Partners</p>	<p><b>Objectives/Perceptions:</b></p> <p>P8, P7, P1, P2; O4</p>	<p><b>Needs:</b></p> <p>BN11, BN13, BN16, BN20, BN22; PN05</p>
<p><b>High-level Cost Estimate:</b> \$40,000</p> <p>Costs include consulting services, training program website content, and limited support.</p>		
<b>MCAMLIS Staff Involvement:</b> Low (Staff)		
<p><b>Duration:</b> 6 months</p>	<p><b>Predecessors:</b> IT-05-03, Over time: IT-01-03, IT-02-02, IT-02-03, IT-03-03 and resulting products (e.g., new workflows, data, solutions)</p>	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides more cost-effective education and training.</li> <li>• Develops a more educated user community.</li> <li>• Reduces time for MCAMLIS and Partner staff in supporting general user inquiries.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Partner organizations will not approve staff for training due to limited budgets.</li> </ul>		

**Assumptions:**

- Consulting services provided by organization that has proven experience in developing LBDDT-related training programs.
- As necessary, consider contracting expert consulting services for any new support services or technology architectures, so MCAMLIS and Partner staff can learn from experts and make certain that best practices are established up-front.
- Consider online training when possible.

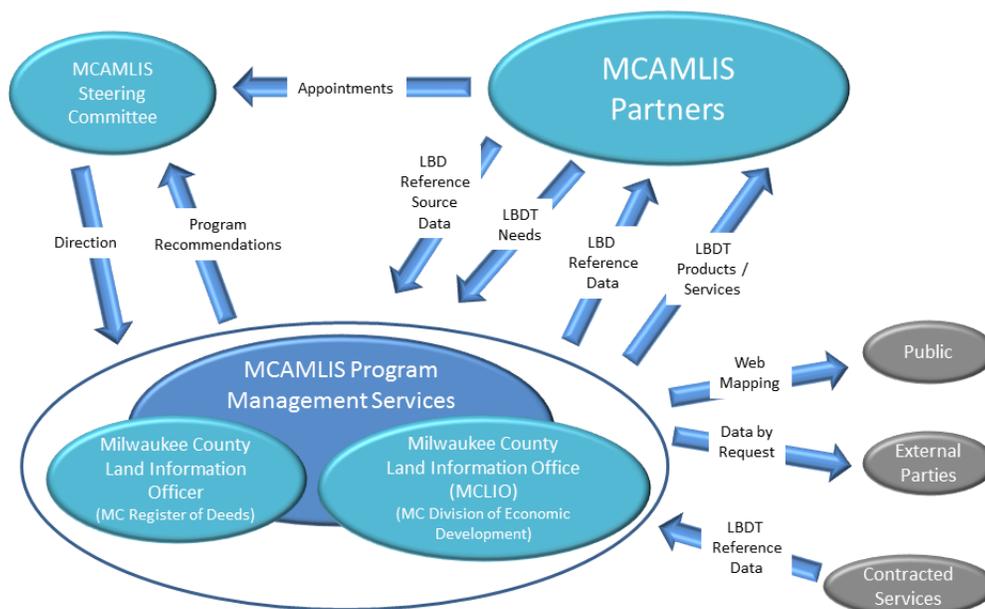
### 3. Facilitate Business-Driven LBDT Forums

<b>Improvement Task ID:</b> IT-04-03		
<b>Improvement Task Name:</b> Facilitate Business-Driven LBDT Forum		
<p><b>Description:</b></p> <p>This task proactively leverages one business area forum (e.g., regional public works or safety conference) to promote LBDT and what MCAMLIS and its Partners can offer. It then follows through with a project that implements a product of value to the collaborative parties.</p> <p>One example is to bring together public works engineers and field staff from municipalities to create an application and data flow that allows field staff members to report back asset problems or data issues identified in the field to neighboring public works municipalities (e.g., data, capabilities). Another example is to hold a forum for Partner safety staff who will or are using ProPhoenix to share how they handle certain workflows -especially as it relates to using LBDT to their advantage – and subsequently support a pilot or implementation of improved location-based data or capabilities that can be shared among Partners.</p>		
<p><b>Participants:</b></p> <p>Partner Public Works or Safety professionals.</p>	<p><b>Objectives/Perceptions:</b></p> <p>O4; P1, P2, P4, P7, P8</p>	<p><b>Needs:</b></p> <p>BN14, PN03</p>
<p><b>High-level Cost Estimate:</b> \$60,000</p> <p>Costs include consulting services, training, and data and/or capability.</p>		
<b>MCAMLIS Staff Involvement:</b> Low (Staff)		
<b>Duration:</b> 6 months	<b>Predecessors:</b> IT-05-03	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Shares LBDT best practices with colleagues in context to forum business perspective.</li> <li>• Learn about ROI in context to the business perspective.</li> <li>• Initiates data, capability, and other collaboration initiatives.</li> <li>• Reduces time from MCAMLIS and Partner staff in supporting general user inquiries.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• The MCAMLIS budget will not be able to support the prioritized business area project.</li> <li>• Partners do not incorporate the data or capabilities into their business practices.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• Partners would participate and encourage their users to engage in such forums.</li> <li>• This task may drive the specific needs of or replace the need for one of the other improvement tasks, such as IT-03-04 through -07.</li> </ul>		

**Initiative 5: Program Management**

These improvements focus on organizational relationships, processes, and communications associated with three MCAMLIS entities: MCAMLIS Partners, MCAMLIS Program, and the MCAMLIS steering committee. This includes tasks that will clarify and improve the processes and associated roles that are behind the relationships illustrated in the figure below, and in particular, those associated to MCAMLIS Partners.

**MCAMLIS Program Management**



**Figure 5: MCAMLIS Program Management**

Once this is done, MCAMLIS will improve the understanding of MCAMLIS value, and more importantly, the efficient access to MCAMLIS-related activities and updates in data and services. A focus of this initiative is part of the MCAMLIS Portal that will become the one-stop for the what/why/how of MCAMLIS (see the figure below)

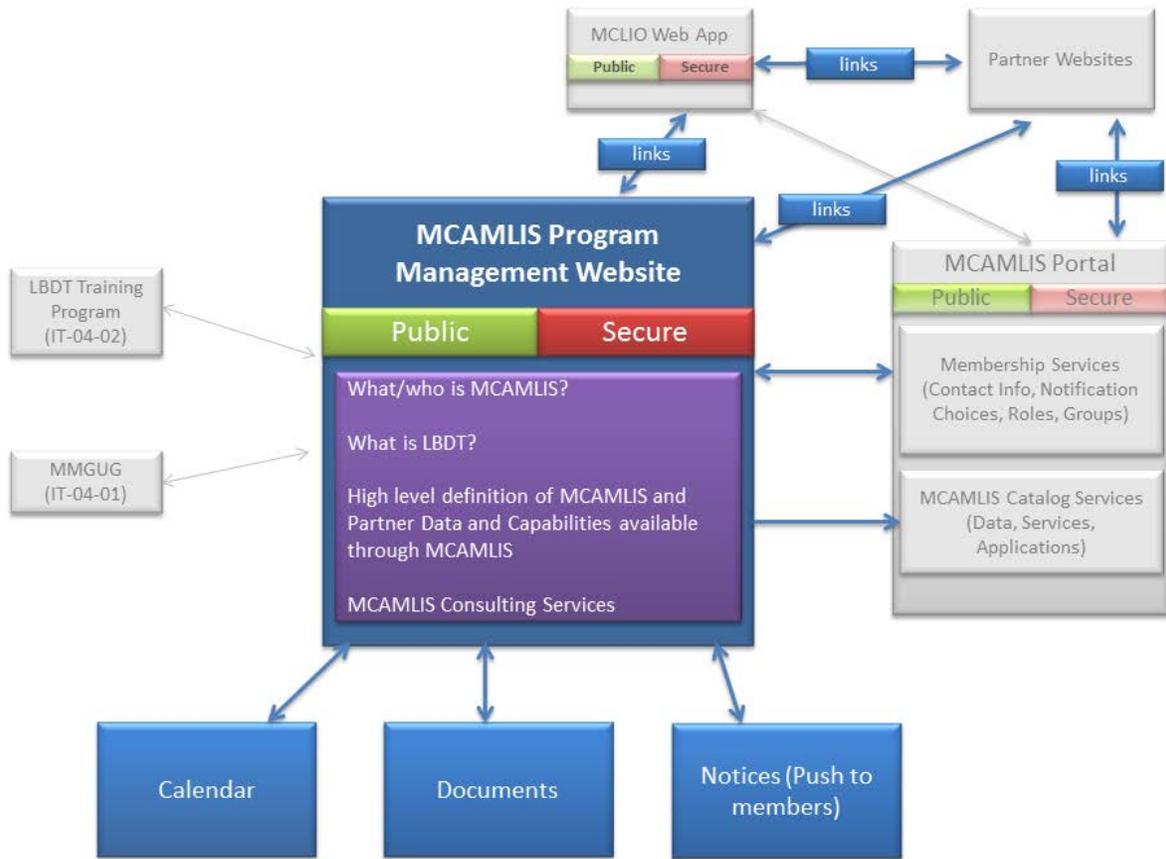


Figure 6: MCAMLIS Program Management Website

## 1. Improve MCAMLIS Identity

<b>Improvement Task ID:</b> IT-05-01		
<b>Improvement Task Name:</b> Establish and Market the New MCAMLIS		
<p><b>Description:</b></p> <p>This task will establish a new look and feel for MCAMLIS; it will initiate activity to clarify to LBDT stakeholders the purpose and value MCAMLIS provides to Partners and their stakeholders. This task will define a MCAMLIS brand (colors, logo, etc.) and marketing material, and will define and assist MCAMLIS in the execution of an outreach campaign that most likely includes presenting at business forums and having a more aggressive presence on Partner Internet and intranet websites.</p>		
<p><b>Participants:</b></p> <p>MCAMLIS Partner Business Area Representatives; MCAMLIS Steering Committee Members or proxy</p>	<p><b>Objectives/Perceptions:</b></p> <p>P8</p>	<p><b>Needs:</b></p> <p>PN06</p>
<p><b>High-level Cost Estimate:</b> \$10,000-\$25,000+</p> <p>Costs include consulting services.</p>		
<b>MCAMLIS Staff Involvement:</b> Medium (Staff)		
<b>Duration:</b> 3 months		<b>Predecessors:</b> IT-05-03
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>Clarifies MCAMLIS value proposition with Partner senior leadership and key operational decision makers in Partner business areas.</li> <li>Positions MCAMLIS image for the future.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>Branding and MCAMLIS message requires more refinement than estimated.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>Costs assume contracting with a local small business or individual that specializes in marketing for IT service provider companies, and corresponding web site design and development.</li> </ul>		

2. Develop a MCAMLIS Program Management Website

<b>Improvement Task ID:</b> IT-05-02		
<b>Improvement Task Name:</b> Develop a MCAMLIS Program Management Website		
<p><b>Description:</b></p> <p>This task will develop a website for MCAMLIS (MCAMLIS.com) to provide a focal point for MCAMLIS organizational collaboration. This website must be part of the overall MCAMLIS Portal architecture. The website will provide: general information about MCAMLIS and the definition of LBDT; general information on key data, information services, and consulting services available through MCAMLIS; information on upcoming events; information on current and planned MCAMLIS initiatives and related projects.</p> <p>This website will have both secure and publicly available information. This content should be integrated with the MCAMLIS Portal to take advantage of membership and cataloging capabilities to be supported by the MCAMLIS Portal. The primary purpose of have access to membership capability is to allow both MCAMLIS support staff and MCAMLIS Partners to efficiently disseminate MCAMLIS-related information to each other. Accordingly, the membership system on the Portal must include the ability to establish certain subgroups; for example, MCAMLIS roles. Processes will be established to make certain that the system is managed over time. Expected outputs/outcomes include the system becoming operational with an initial set of MCAMLIS members loaded, and members having access to and receiving training on how to use the system.</p> <p>Regardless of the solution, web analytics capabilities must be included.</p>		
<p><b>Participants:</b></p> <p>MCLIO staff, MCAMLIS Partners</p>	<p><b>Objectives/Perceptions:</b></p> <p>O2, P1, P7, P8</p>	<p><b>Needs:</b></p> <p>BN05, PN02, PN06, BN14, BN15, BN21, PN03</p>
<p><b>High-level Cost Estimate:</b> \$2,000-\$50,000+ for initial costs</p> <p>Costs include set-up, content population, and training development and delivery. Low end is using basic content management system websites as a service (e.g., www.squarespace.com) linked to, but not integrated with, the MCAMLIS Portal, and MCAMLIS/Partners entering content; mid-range costs are component-based websites set-up by WordPress resellers; and high-range costs are enterprise portals (e.g., SharePoint, AGOL) or custom development.</p>		
<p><b>MCAMLIS Staff Involvement:</b> Medium (Staff)</p>		
<p><b>Duration:</b> 6 months</p>	<p><b>Predecessors:</b> IT-01-03, IT-05-03, IT-05-01</p>	

**Benefits:**

- Increases use of MCAMLIS services and applicability of the data.
- Improves exposure to the MCAMLIS Program.
- Efficiently distributes MCAMLIS-related information.

**Risks:**

- To reduce costs, a separate logon to secure information may be required and may discourage Partner participation.
- Members will not keep their contact information or roles updated.
- Restrictions that government and quasi-government organizations place on creating, managing, having access to, or receiving notifications from a website outside of the organization's firewall.

**Assumptions:**

- MCAMLIS will secure and develop a website apart from the existing MCLIO website and Milwaukee County government for promoting itself and its services.
- MCAMLIS will create an updated comprehensive list of data and service offerings and post this to an easily accessible location on the website. The list would be searchable and sortable, and include file currency information, metadata, and information about new services that are available from MCAMLIS.
- For MCAMLIS Membership:
  - The Project will first focus on MCAMLIS Partners and their proxies; others like business Partners, LBDT solution and service providers, and certain public groups can be the second phase.
  - The expected system will be based on an existing product that can be provided via the web, most likely as a software as a service; and may be as simple as capabilities provided as part of the MCAMLIS website initiative.
  - Members will keep their information up-to-date.
- Content for MMGUG and the MCAMLIS-supported training program would be managed here (see Initiative 4).
- Milwaukee County IT would prefer not to manage SharePoint logons from stakeholders external to Milwaukee County government.

### 3. Clarify Partner Opportunities in MCAMLIS

<b>Improvement Task ID:</b> IT-05-03		
<b>Improvement Task Name:</b> Clarify Partner Opportunities in MCAMLIS		
<p><b>Description:</b></p> <p>This task will clarify and implement refined roles and responsibilities that MCAMLIS Partners have regarding the MCAMLIS Program. In particular, Partner involvement in the following MCAMLIS activities will be explored at a high level to make certain that proper roles and responsibilities are established: MCAMLIS business planning, accessing MCAMLIS-collaborated data and services, providing data and services to MCAMLIS Partners, and participating in MCAMLIS initiatives. This task will include clarifying the relationships between the MCAMLIS Program, MCAMLIS Steering Committee, and MCAMLIS Partners.</p> <p>Expected outputs include: MCAMLIS Partner-related processes defined at a high level, established Partner roles and responsibilities (e.g., Steering Representative, Organizational Representative, Business Area Representative or Champion), and established levels of involvement (e.g., directing member, active member, and member).</p> <p>Expected outcomes are: Partners have determined their roles in MCAMLIS and people are assigned to those roles; selected Partner members are assigned to participate in other initiatives that will implement and test the improved roles and responsibilities; MCAMLIS Program will incorporate the processes into their operations.</p>		
<p><b>Participants:</b></p> <p>MCAMLIS Support Staff, All Partners, MCAMLIS Steering Committee Members</p>	<p><b>Objectives/Perceptions:</b></p> <p>P7, P8</p>	<p><b>Needs:</b></p> <p>PN03</p>
<p><b>High-level Cost Estimate:</b> \$60,000</p> <p>Costs include consulting services.</p>		
<p><b>MCAMLIS Staff Involvement:</b> Medium (Staff)</p>		
<p><b>Duration:</b> 3 months</p>	<p><b>Predecessors:</b> None</p>	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Allows MCAMLIS support staff and Partners to clearly understand how they can participate in and more effectively benefit from MCAMLIS.</li> <li>• Allows MCAMLIS Support Staff and Partners to have contacts to make certain that Partners can be engaged in or informed of the proper MCAMLIS activities for their role; in particular: business planning, updates or changes in data and services, opportunities for collaboration, or LBDT networking.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• The initial MCAMLIS Partner staff members assigned to certain roles may change frequently (e.g., business area representatives).</li> </ul>		

**Assumptions:**

- Task will leverage the roles and responsibilities and lessons learned from the BNA Project.

4. Formalize Partner Input in MCAMLIS Business Planning

<b>Improvement Task ID:</b> IT-05-04		
<b>Improvement Task Name:</b> Formalize Partner Input in MCAMLIS Business Planning		
<p><b>Description:</b></p> <p>This task will establish the process and procedures to make certain that Partner needs and priorities are included in MCAMLIS Programming and planning activities. This will include involvement in strategic planning, but also tactical planning: the process needs to be able to adjust to opportunities as they surface. The process will need to be able to balance providing solutions for countywide needs with those that might be more specialized (smaller area, select set of Partners). This task will result in a detailed process and a first run-through of the process for tactical planning.</p>		
<p><b>Participants:</b></p> <p>MCAMLIS Support Staff, All Partners, MCAMLIS Steering Committee Members</p>	<p><b>Objectives/Perceptions:</b></p> <p>P8, P7, P1</p>	<p><b>Needs:</b></p> <p>PN03</p>
<p><b>High-level Cost Estimate:</b> \$30,000</p> <p>Costs include consulting services.</p>		
<p><b>MCAMLIS Staff Involvement:</b> Medium (PM)</p>		
<p><b>Duration:</b> 3 months</p>		<p><b>Predecessors:</b> IT-05-03</p>
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Includes explicit Partner input in MCAMLIS project priorities.</li> <li>• MCAMLIS Partner input will be standard operating procedure.</li> </ul>		
<p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>• Balancing countywide needs versus more specialized needs.</li> </ul>		
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• Task will assess the process, tools, and lessons learned from the BNA Project.</li> <li>• Partner staff will participate in the process.</li> <li>• Task will be executed immediately preceding the need for tactical planning (~a few months preceding budget planning for new operating year).</li> <li>• First run through results include estimated costs for services, technology, training, and Partner/MCAMLIS staff involvement for resulting projects/project adjustments.</li> </ul>		

**Appendix A: Acronyms**

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AGOL – ArcGIS Online

BNA – Business Needs Assessment

CAD – Computer Aided Design

GIS – Geographical Information System

LBDT – Location-Based Data and Technologies

MCAMLIS – Milwaukee County Automated Mapping and Land Information System

MCLIO – Milwaukee County Land Information Office

MMGUG – Milwaukee Municipal GIS Users Group

MMSD – Milwaukee Metropolitan Sewerage District

VGI – Volunteer Geographic Information

## Appendix B: Objectives and Perceptions

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### Anticipated LBDT Objectives for MCAMLIS

Listed here are the LBDT objectives for the MCAMLIS Program, anticipated by MCAMLIS BNA Subcommittee at the beginning of this project.

- O1. Use of Web and mobile technologies software/hardware to address local community operational and service delivery objectives.
- O2. Promote and facilitate core applications and services to enable local communities to engage in flexible and effective service delivery solutions.
- O3. Provide hosted solutions, by MCAMLIS, that incorporate common seamless feature rich data and services that can be further enhanced to address a wide ranging set of unique situations and community demands.
- O4. Provide resources to local municipalities to minimize their capital investments in using and implementing spatial/location data and applications.
- O5. Promote data sharing among MCAMLIS Stakeholders (such as utility data) with MCAMLIS assuming an active facilitation role.

### Perceived Challenges for MCAMLIS

Below are perceived challenges for the MCAMLIS Program, which were identified by MCAMLIS with the inception of this project.

- P1. MCAMLIS is seen as a passive partner; not particularly suited to supporting local needs beyond traditional data support.
- P2. Partnering with the MCAMLIS and by extension Milwaukee County could be considered risky e.g., shared cost agreements not being upheld.
- P3. Local management and technical resources are comfortable with their autonomy.
- P4. Local leadership lack the time/resources to commit to understand and act on LBDT implementation needs within their communities.
- P5. Fear of escalating costs without supporting evidence of ROI.
- P6. Existing technology gaps at both the local level and MCAMLIS.
- P7. Limited MCAMLIS marketing and business planning.
- P8. Limited analysis by MCAMLIS of local needs.

## Appendix C: Prioritized Business Needs

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The following section lists the most important LBDT needs that MCAMLIS Partners believe the MCAMLIS Program should meet over the next three to five years. These needs are listed in decreasing priority order based on Partner voting and consensus decision-making tools. The top five needs stood out as the highest priorities stemming from the needs prioritization summit.

### 1) Data Extract Application

- Organizations need the ability to extract MCAMLIS data directly from the web via a web mapping application. This would involve defining a geographic area or filtered set of data and extracting data layers to use as needed. It would allow more efficient access to data and alleviate the need for partners to contact the MCLIO to request data. Although the focus initially would be on existing reference data, this could be expanded to be a place where partners can share their data with others.
- This could be done with an area clip and download from a user specified area.

### 2) Access to Current Property Ownership Records

- Organizations need the ability to view current property ownership records throughout Milwaukee County. Currently, ownership records are updated infrequently and are often outdated. For instance, the MCLIO website data is from 2011. Some partners have access to their own changes daily; some less frequent (e.g. Greenfield updates the data monthly); and others update annually (e.g. Franklin). MCAMLIS currently updates property data quarterly, including land divisions and combinations across the county. Primary interest is updates to address and owner information, with other data (assessment, etc.) is secondary. This provides an opportunity to work with GCS to get access to the data from the communities they serve more frequently, which includes all the suburban areas except Greenfield and West Allis. This need is to be consistent with the update process and be more in sync with the partner property record data.

### 3) Public Works (utility data, capital improvement) Business Data within Milwaukee County

- Organizations require access to Public Works data (water, wastewater, capital improvement plans, and road projects) from other organizations within Milwaukee County. This includes the need for accessing utility data, capital improvement project information, and street projects from other municipalities and MCAMLIS partners.

### 4) Data Integration between Partners

- Organizations need MCAMLIS to facilitate data integration between partners in Milwaukee County facilitating partner connections. This need specifically refers to improving integration of data between the City of Milwaukee and the County, between municipalities and MMSD, etc. For the city this would be integrating street centerline and parcel data with the county. MMSD currently receives data from municipalities in different formats and standards.

**5) Understanding and Communicating what Data and Services MCAMLIS Offers**

- The need for MCAMLIS to communicate what data and services it offers, and to make accessible a list of service offerings. This need is to provide updated data sets and services that MCAMLIS provides. Updates to file currency information, metadata, and information about new services that are available from MCAMLIS.

**6) Coordinate Data Collection (countywide pavement project website, private/public ash tree inventory)**

- Organizations need a process for collecting field data throughout Milwaukee County. With a process and the correct applications and tools, organizations can begin to collect data using the same standards, making data sharing easier.

**7) Assessment (easements, property ownership) Business Data within Milwaukee County**

- Organizations require access to ownership and property data from other organizations within Milwaukee County. This is especially helpful to neighboring /bordering organizations.
- Parcel features with a key number used to join other data. Assimilate the tax rolls from suburban communities and the City of Milwaukee to provide assessment and cadastral information – lots, dimensions as a graphic feature and parcel polygon with key number. The City of Milwaukee currently mass distributes their master property file.

**8) Improve MCLIO Viewer**

- There is a need for an improved web mapping service from the county. This includes Responsiveness (i.e. Timeliness of data rendering and tool functions), Accessibility (e.g. Map printing, pictometry, CSM retrieval), Usability, and Availability (needed data is there).

**9) Pictometry Online (Viewer or Plug-in)**

- Organizations need the ability to view pictometry via desktop application or other web application (ArcGIS). This could be provided as a plug in to a desktop application or a web service for use in existing applications.

**10) Cadastral (Parcels, CSM, ROW) Reference from outside Milwaukee County**

- Organizations need access or a method of downloading/using parcel and right of way data from neighboring counties. This need is important to We Energies and MMSD for accessing this information within their service territories, as well as communities that border the county.

- Organizations need the ability to use and search an updated address database/application in areas outside of Milwaukee County.
  - Public safety also was interested in having access to this information when responding to calls outside the county.
- MCAMLIS could gather data from willing neighbors and provide a download dashboard.

#### **11) Mobile Asset Viewer Application (more specific to a particular asset: sewers, trees)**

- Organizations need to view asset information in the field via a mobile application on a phone or tablet.
- Each organization could have an application customized to their data but also have the capability to view data from other organizations.
- We Energies has a mobile AGOL application for viewing assets.

#### **12) Addressing Multiple Datums**

- Overall, the need for having a consistent set of data on more than one datum. This includes educating the partners on the use of base data provided by MCAMLIS as well as the potential to make the data available in formats for use in concert with other web map services (e.g. weather services, volunteered geographic information, etc.), federal and state data, and commercially available data sets.

#### **13) Mobile Property Mapping Application (have access to property records while out in the field)**

- Organizations need the ability to view property ownership records and other property information in the field via a mobile application for phone or tablet.
- This need comes up frequently, especially with parks. MMSD has a mobile AGOL application that uses the property data.
- This application could also be interactive, allowing field workers to update property ownership information or take pictures and upload changes instantly.

#### **14) Develop and Promote User Groups (e.g., MMGUG)**

- Organizations need MCAMLIS to promote and market user groups to involve more members of Milwaukee County in data initiatives and issue resolution. Continue to support and promote MMGUG and potentially expand to other user group communities.

#### **15) Data Updates/Timeliness**

- There is a need for MCAMLIS to increase the frequency of data updates and provide a more efficient delivery of data, specifically property and address information.

- Post information on new data updates (e.g. new aerials, new pictometry, new topos) and when this information will be available from MCAMLIS and on the MCLIO Viewer.
- 16) Field Data Collection Application (e.g., utility poles, trees) – may be disconnected (brand new)**
- Organizations need to collect asset information via mobile app or disconnected “check-out/check-in” application for mobile devices.
  - MCAMLIS could develop this application and customize for each organization
- 17) Planning (e.g., zoning, land use, census data) within Milwaukee County**
- Organizations need access and ability to share zoning and land use data with other organizations within Milwaukee County.
  - Census data is provided by the US government and is available to anyone.
    - MCAMLIS could provide information and educate on what census data is available and how to access this information. Provide a link to the US Census data download site.
- 18) Planimetric Mapping (e.g., trans, facilities, utilities) Reference from outside Milwaukee County**
- Organizations would like access or a method of downloading/using planimetric data from neighboring counties. Would have to determine what of this information is available.
  - MCAMLIS could gather data from willing neighbors and provide a download dashboard.
- 19) Imagery (e.g. Ortho, Oblique, LiDAR) Reference from outside Milwaukee County**
- Organizations need access or a method of downloading/using aerial photos, oblique photos, and available LiDAR data from outside Milwaukee County.
  - Currently, the MCLIO web viewer extends one mile outside of the county, users would like to be able to view additional aerial and pictometry images throughout the Milwaukee Metro area.
- 20) Facilitation of Training on Specific Technologies (e.g. ProPhoenix, AGOL, Geocortex, etc.)**
- Organizations need MCMALIS to organize training seminars, meetings, and documentation for a variety of new technologies.

**21) Data distribution process**

- Organizations need MCAMLIS to improve the current data distribution process by having data more easily accessible. This could be done with a download dashboard, FTP site, or web service.

**22) General support and training for GIS technology**

- Organizations need MCMALIS to organize training seminars, meetings, and documentation for a variety of new technologies as well as provide ongoing support for current and future GIS technologies.
- Support the integration of data between the City of Milwaukee and the County, between municipalities and MMSD, etc.



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

2711 West Wells Street, Rm 426, Milwaukee, WI 53208 (414) 278-2176

**TO:** MCAMLIS Steering Committee  
**FROM:** William C. Shaw, MCAMLIS Project Manager  
**DATE:** September 12, 2013  
**SUBJECT:** COUNTYWIDE PROGRAM INITIATIVES

## **BACKGROUND**

This Goal states that - Where appropriate, identify, initiate, and complete projects proposed by Milwaukee County or its constituent municipalities, agencies of the federal, state or regional government, public utilities and by private entities, including, importantly, interested citizens which would, by understanding of the MCAMLIS Steering Committee, prepare information and maps useful for meeting the needs of the County and its local units of government and contributing toward the implementation of the Wisconsin Land Information Program.

## **CURRENT PROJECT STATUS SUMMARIES**

### **1. Address Database Maintenance**

#### **Activities this Period – 6/13 – 9/13**

- Deployed 2<sup>nd</sup> qtr consolidated Milwaukee County and City of Milwaukee Cadastral Data;
- Maintained address point "situs" relationship to structure location; and .

#### **Next**

- Continuation of ongoing efforts incorporating updated multiple address source information

### **2. Plat-of-Survey Maintenance**

Plat of Survey Documents received from the Milwaukee County Surveyors Office are scanned and indexed to their respective parcel(s). The public is able to access these as they are posted to the MCLIO Interactive Mapping website. In total, there are 95,000 parcel references to 83,055 documents. In 2013 a total of 1,762 documents have been scanned and indexed into the Plat of Survey scanned document library.

### **3. Historical Aerial Photo Geo-rectification**

1961 – The City of Oak Creek recently submitted a set of 115 quarter-section centered aerial photos covering the entire city. MCAMLIS staff has completed the process of scanning and preparing these photos for purposes of geo-referencing and posting the resulting data to the website.

1951 - MCAMLIS staff has completed the process of geo-referencing section-centered black and white images. These images were taken by Abrams Aerial Survey Corporation, Lansing Michigan for Milwaukee County, WI. Circa 1951-1952. There were eight books containing approximately 520 prints that were scanned and geo-referenced.

1958 – The City of Greenfield recently submitted a set of 73 quarter-section centered aerial photos covering the entire city. MCAMLIS staff has completed the process of scanning and preparing these photos for purposes of geo-referencing and posting the resulting data to the website.

1928 – MCAMLIS Staff recently discovered a cache of what appears to be circa 1928 aerial imagery covering a portion of Milwaukee County. It is believed that there are possibly more photos from this series located throughout various Milwaukee County municipal archives. The State Cartographers Office has been consulted in this regard and has initially suggested that these photos may be among the oldest known to be available throughout the state. (see attached Status Map)

Staff intends to pursue the process of geo-referencing the available photos and seeking further input from local communities to identify the availability of these and other photos needed to complete this series.

#### **4. Routable Street Centerline**

The structure of the MCAMLIS Street Centerline database allows for address geocoding but does not allow for routing and other forms of network analysis e.g., emergency evacuation and turn by turn directions. An effort is underway to enhance the MCAMLIS Street Centerline to allow for the support of routing applications. Staff continues to complete the remaining portion of centerline segments as resources allow.

#### **5. Non-project related activities**

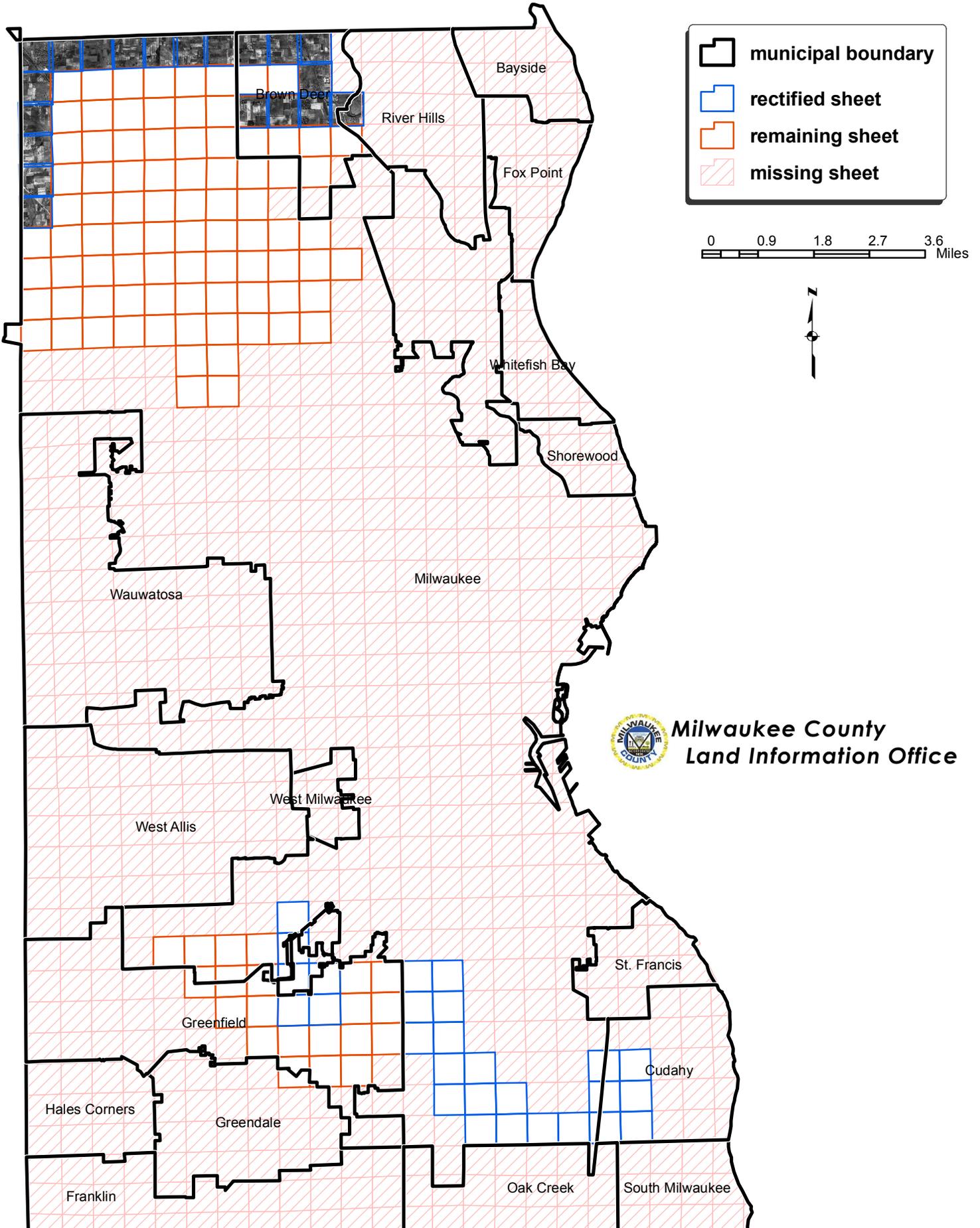
- Review and develop new technologies e.g., ESRI 10.2 and Latitude Geographics ‘Silverlight’ and ‘HTML5’ based viewers and opportunities to use Feature Data Services;
- Management and administration of Pictometry Connect services. Authorized Website SECURE users are automatically included as valid POL users.

Attach: 1928 Historical Aerial Photo Geo-rectification Status Map

\*\*\*\*\*

# 1928 Milwaukee County Aerial Photo Rectification Project Status

47 of 153 sheets rectified (31%) as of September 7, 2013



**2013 MCAMLIS YTD**

<b>\$2 &amp; \$6 Fees Combined</b>		<b>YTD</b>	<b>YE Projected</b>
<b>REVENUES - 2013 YTD</b>			
2013 Actual Revenue		\$691,941	\$998,255
2012 Encumbrances Carried Over		\$580,082	\$580,082
<b>TOTAL</b>		<b><u>\$1,272,023</u></b>	<b><u>\$1,578,337</u></b>
<b>OPERATING EXPENSES - 2013 YTD</b>			
2013 Actual Expenditures		\$697,067	\$1,005,651
2013 Encumbrances		\$550,615	\$550,615
<b>TOTAL</b>		<b><u>\$1,247,682</u></b>	<b><u>\$1,556,266</u></b>
<b>2013 Est. Net Income (Loss)</b>		<b><u>\$24,341</u></b>	<b><u>\$22,071</u></b>

<b>Fund Balance:</b>		<b>YTD</b>	<b>YE Projected</b>
<b>2012 Year-End Fund Balance*</b>		<b>\$1,525,990</b>	<b>\$1,525,990</b>
2013 Operating Revenues (Shown Above)	+	\$1,272,023	\$1,578,337
2013 Exp + Enc for \$2 and \$6 Fee Projects	-	\$1,247,682	\$1,556,266
<b>2013 Est Fund Balance**</b>	<b>=</b>	<b>\$1,550,331</b>	<b>\$1,548,061</b>
2013 Reserve Revenue @ 10%		\$100,078	\$100,078
2013 Est Fund Balance YTD - Unrestricted		\$1,408,030	\$1,405,761
2013 Est Fund Balance YTD - Restricted		\$42,223	\$42,223

\*2012 YE Fund Balance represents the current amount in reserve as of 2012 YE close.

\*\*2013 Est YTD Fund Balance represents the 2012 YE reserve netted against the actual 2013 expenditures and revenues. This figure will change throughout the year as additional 2013 expenditures and revenues are realized.

**NOTE:** 2013 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 MCAMLIS budget. The purpose of the report is to provide committee members a "financial snapshot" of MCAMLIS activities within a specific point in time.

**2013 MCAMLIS YTD**

**\$6 Fee**

2013 Income Statement:		YTD	YE Projected
<b>REVENUES - 2013 YTD</b>			
2013 Actual Revenue		\$518,419	\$747,917
2012 Encumbrances Carried Over		\$534,433	\$534,433
	<b>TOTAL</b>	<b><u>\$1,052,852</u></b>	<b><u>\$1,282,350</u></b>
<b>OPERATING EXPENSES - 2013 YTD</b>			
2013 Actual Expenditures		\$561,510	\$810,084
2013 Encumbrances		\$502,995	\$502,995
	<b>TOTAL</b>	<b><u>\$1,064,505</u></b>	<b><u>\$1,313,079</u></b>
<b>2013 Est. Net Income (Loss) YTD</b>		<b><u>(\$11,653)</u></b>	<b><u>(\$30,729)</u></b>
Fund Balance:		YTD	YE Projected
<b>2012 Year-End Fund Balance</b>			
		<b>\$1,118,790</b>	<b>\$1,118,790</b>
2013 Actual Revenues (Shown Above)	+	\$1,052,852	\$1,282,350
2013 Exp + Enc for \$6 Fee Projects	-	\$1,064,505	\$1,313,079
	<b>=</b>	<b>\$1,107,137</b>	<b>\$1,088,061</b>
<b>2013 Est YTD Fund Balance</b>			
2013 Reserve Revenue @ 10%		\$75,500	\$75,500
2013 Est Fund Balance YTD - Unrestricted		\$1,025,847	\$1,006,771
2013 Est Fund Balance YTD - Restricted		\$5,790	\$5,790

**\$2 FEE**

2013 Income Statement:		YTD	YE Projected
<b>REVENUES - 2013 YTD</b>			
2013 Operating Cash Flow		\$173,522	\$250,338
2012 Encumbrances Carried Over		\$45,649	\$45,649
	<b>TOTAL</b>	<b><u>\$219,171</u></b>	<b><u>\$295,987</u></b>
<b>OPERATING EXPENSES - 2013 YTD</b>			
2013 Actual Expenditures		\$135,557	\$195,566
2013 Encumbrances		\$47,620	\$47,620
	<b>TOTAL</b>	<b><u>\$183,177</u></b>	<b><u>\$243,186</u></b>
<b>2013 Est. Net Income (Loss) YTD</b>		<b><u>\$35,994</u></b>	<b><u>\$52,801</u></b>
Fund Balance:		YTD	YE Projected
<b>2012 Year-End Fund Balance</b>			
		<b>\$407,200</b>	<b>\$407,200</b>
2013 Operating Revenues (Shown Above)	+	\$219,171	\$295,987
2013 Exp + Enc for \$2 Fee Projects	-	\$183,177	\$243,186
	<b>=</b>	<b>\$443,194</b>	<b>\$460,001</b>
<b>2013 Est YTD Fund Balance</b>			
2013 Reserve Revenue @ 10%		\$24,578	\$24,578
2013 Est Fund Balance YTD - Unrestricted		\$382,183	\$398,990
2013 Est Fund Balance YTD - Restricted		\$36,433	\$36,433

Est. Documents to be Recorded: 125,000

**2013 YTD Combined Fiscal Report - MCAMLIS (\$6) - as of 9-10-2013**

Year Authorized	Project Description	Amount Authorized	Amount Paid 2002-2012	Amount Paid 2013	Amount Encumbered 2013	2013 Total Amount Paid (Encumbrances + Actual)	Remaining Unpaid Balance	Complete
2002	Large Format Scanner	\$13,090	\$13,090	\$0	\$0	\$ -	\$ -	Yes
2003	Improvements to Computer System	\$240,000	\$240,000	\$0	\$0	\$ -	\$ -	Yes
2003	Electronic Recording	\$45,000	\$45,000	\$0	\$0	\$ -	\$ -	Yes
2003	External Hard Drive/Two SNAP Servers	\$40,000	\$40,000	\$0	\$0	\$ -	\$ -	Yes
2003/2005	Digital Images; Conversion of Microfiche	\$400,000	\$400,000	\$0	\$0	\$ -	\$ -	Yes
2005	Scanning A Card	\$50,000	\$50,000	\$0	\$0	\$ -	\$ -	Yes
2005	Improvements to Computer System II	\$450,000	\$450,000	\$0	\$0	\$ -	\$ -	Yes
2007	Improvements to Computer System III	\$150,000	\$150,000	\$0	\$0	\$ -	\$ -	Yes
2008	Improvements to Computer System IV	\$150,000	\$150,000	\$0	\$0	\$ -	\$ -	Yes
2009	Improvements to Computer System V	\$120,000	\$120,000	\$0	\$0	\$ -	\$ -	Yes
2009	Enterprise Address System*	\$65,000	\$65,000	\$0	\$0	\$ -	\$ -	Yes
2009	Improvements to Computer System VI +	\$95,000	\$94,961	\$0	\$0	\$ -	\$ 39	Yes
2012	Cadastral Address Maintenance-2012	\$90,010	\$67,507	\$22,503	\$0	\$ 22,503	\$ -	Yes
2012	Staff Projects \$2 Fee	\$73,234	\$35,383	\$1,457	\$0	\$ 1,457	\$ 36,394	No
2013	Cadastral Address Maintenance-2013	\$91,780	\$0	\$45,890	\$45,890	\$ 91,780	\$ -	No
<b>Total</b>		<b>\$2,073,114</b>	<b>\$ 1,920,941</b>	<b>\$ 69,850</b>	<b>\$ 45,890</b>	<b>\$ 115,740</b>	<b>\$ 36,433</b>	

Data from Register of Deeds as of 9/10/2013

**NOTES**

+ Project is substantially complete. \$39 BAL to fall to Reserve's unrestricted balance.

**2013 YTD Combined Fiscal Report - MCAMLIS (\$6) - as of 9-10-2013**

Vendor Name	Description	Amount Authorized	Amount Paid - Prior Years	2013 Amount Encumbered	Amount Paid 2013 YTD	Total Amount Paid 2013 (Encumbrances + Actual)	Remaining Unpaid Balance
SOUTHEASTERN WI REGIONAL	MCAMLIS Floodland Mapping Phase 2	\$ 436,000	\$ 161,300	\$ 274,700	\$ -	\$ 274,700	\$ -
SOUTHEASTERN WI REGIONAL	County Surveyor	\$ 78,719	\$ -	\$ -	\$ 78,719	\$ 78,719	\$ -
PICTOMETRY INTL	Orthophotography Acquisition	\$ 134,495	\$ -	\$ 67,248	\$ 67,247	\$ 134,495	\$ -
PLANIMETRIC	Planimetric Map Replacement	\$ 125,000	\$ -	\$ 85,532	\$ 33,678	\$ 119,210	\$ 5,790
GeoDecisions	Business Needs Assessment	\$ 149,845	\$ -	\$ 60,778	\$ 89,067	\$ 149,845	\$ -
	<b>TOTAL</b>	<b>\$ 924,059</b>	<b>\$ 161,300</b>	<b>\$ 488,258</b>	<b>\$ 268,711</b>	<b>\$ 756,969</b>	<b>\$ 5,790</b>

**2013 - Milwaukee County Documents Recorded**  
**Monthly Totals & Daily Average**

The 2013 Budget estimates 137,000 documents recorded.

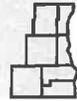
Month	# of Recorded Documents	MORTGAGES	Percentage Mortgages	# of Days in Month	Daily Average	Month on Budget Pace ?	Y-T-D on Budget Pace ?
JAN	11,878	3,129	26.34	22	539.9	Y	Y
FEB	10,144	2,575	25.38	20	507.2	N	N
MAR	10,528	2,651	25.18	21	501.3	N	N
APRIL	11,116	2,726	24.52	22	505.3	N	N
MAY	11,034	2,798	25.36	22	501.5	N	N
JUNE	11,350	2,900	25.55	20	567.5	Y	N
JULY	11,618	3,066	26.39	22	528.1	N	N
AUG	11,797	2,862	24.26	22	536.2	N	N

# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607 • TELEPHONE (262) 547-6721  
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July 11, 2013

Mr. William Shaw  
MCAMLIS Project Manager  
Land Information Office  
Milwaukee County Department of Transportation  
2711 West Wells Street, Room 426  
Milwaukee, WI 53208

Dear Mr. Shaw:

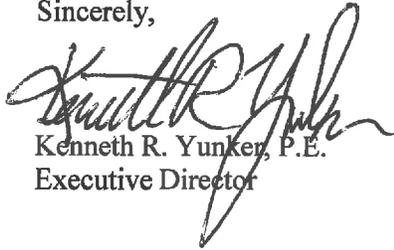
We are providing you, by electronic mail, a geodatabase file of preliminary draft, updated floodplain boundaries for the Menomonee River main stem from W. North Avenue in the City of Wauwatosa to its confluence with the Milwaukee River in the City of Milwaukee. These maps were developed under a joint program funded by the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee, the Milwaukee Metropolitan Sewerage District (MMSD), and the Southeastern Wisconsin Regional Planning Commission (SEWRPC). The maps show floodplain and floodway boundaries for the one-percent-annual-probability (100-year recurrence interval) flood occurring under planned land use and existing channel conditions, and they reflect the effects of major flood mitigation projects that have been constructed by MMSD. The 10-, 50-, and 500-year recurrence interval floodplain boundaries occurring under those same conditions are also delineated. The vertical datum is National Geodetic Vertical Datum, 1929 adjustment, and the horizontal datum is based on State Plane Coordinates, South Zone, North American Datum of 1927.

In addition to the Menomonee River main stem floodplain boundaries, downstream portions of Woods, Honey, and Underwood Creeks where the floodplain extent is influenced by the Menomonee River are also provided. The information provided is considered to be draft, pending review and approval by the Wisconsin Department of Natural Resources and the Federal Emergency Management Agency; however, it is the best available representation of the floodplain boundaries along the subject stream reaches. The floodplain boundaries provided for the subject streams supersede those shown as "SEWRPC floodplains" on the MCAMLIS web site.

Mr. William Shaw  
Page 2  
July 11, 2013

Should you have any questions concerning this matter, please do not hesitate to contact Michael G. Hahn of the Commission staff directly at (262) 547-6722, extension 243, or [mhahn@sewrpc.org](mailto:mhahn@sewrpc.org).

Sincerely,



Kenneth R. Yunker, P.E.  
Executive Director

KRY/MGH/dad

Enclosure  
# 212193.DOC

cc: Mr. Timothy Thur, P.E., City of Milwaukee  
Mr. William T. Wehrley, P.E., City of Wauwatosa  
Mr. Thomas W. Chapman, P.E., Milwaukee Metropolitan Sewerage District  
Ms. Tanya Lourigan, P.E., WDNR-Milwaukee



**SCOTT WALKER**  
GOVERNOR

**MIKE HUEBSCH**  
SECRETARY

Wisconsin Land Information Program  
Post Office Box 8944  
Madison, WI 53708-8944  
Voice (608) 267-3369  
WLIP@wisconsin.gov  
www.doa.state.wi.us/WLIP

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## **Act 20 and the Wisconsin Land Information Program**

Act 20, the biennial state budget for state fiscal years 2014 and 2015, has wide-ranging implications for the Wisconsin Land Information Program (WLIP). Changes to the WLIP generated by Act 20 fall under five broad categories:

- Initiative to Create a Statewide Digital Parcel Map
- Increase in Base Budget and Training & Education Grant Eligibility
- Increase in Land Information Fund Revenue
- Update Frequency for County Land Information Plans
- Penalties and Deadlines

Some of these changes, such as increased grant eligibility, take effect in the near term, while other measures, such as an increase in Land Information Fund revenue, will be implemented over the course of the next few years.

One of the most novel provisions of Act 20 affecting the WLIP is the directive for DOA to create an implementation plan for a statewide digital parcel map, which will be a collaborative effort with local governments. A complete, accurate, and continuously maintained digital parcel map would protect and grow Wisconsin's \$460 billion in taxable real estate assets, improve governmental services, and enhance the state's economic competitiveness.

### **Initiative to Create a Statewide Digital Parcel Map**

**Section 186.**<sup>1</sup> Act 20 directs DOA to create an implementation plan for a statewide parcel map and directs counties to coordinate their digital parcel mapping with the state. The implementation planning process will define the end product envisioned for a five-year process of statewide digital parcel map development—a geographic information system (GIS) that meets end users' business needs, whether at the state or local levels of government, as well as those of the private sector.

---

<sup>1</sup> **SECTION 186.** 16.967 (3) (h) of the statutes is created to read:

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

**SECTION 186k.** 16.967 (7) (a) 2m. of the statutes is created to read:

16.967 (7) (a) 2m. In coordination with the department, the creation, maintenance, or updating of a digital parcel map.

The statewide digital parcel map implementation planning process will likely feature the following objectives:

- Establishment of an unimproved statewide parcel GIS layer by aggregating existing county parcel datasets and process for at least quarterly updates
- Analysis of current county parcel datasets
- Creation of a standard for county digital parcel datasets that meets stakeholders' business needs and maximizes benefits to the public, determined through a participatory process with stakeholders
- Determination of grant eligibility criteria for strategic grants to local governments for local source data development related to the statewide digital parcel map initiative
- Update of DOA Administrative Rule 47, which governs WLIP grant administration. The implementation planning process for the statewide digital parcel map will inform the update to Adm. Rule 47

#### **Section 1247d, h, and p.<sup>2</sup>**

- DOA-provided searchable format for the following information related to individual land parcels to be posted online:
  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

#### **Section 186f.<sup>3</sup>**

- DOA will report to the legislature's Joint Committee on Finance by January 1, 2017 on progress in developing the statewide digital parcel map

The implementation planning process will also consider other potential base map layers to include in a statewide GIS database, such as aerial imagery, LiDAR elevation, land cover, address points, and street centerlines, as well as derived or value-added layers, such as school districts, floodplains, municipal boundaries, and public hunting grounds, among other possibilities.

---

<sup>2</sup> **SECTION 1247d.** 59.72 (2) (a) of the statutes is renumbered 59.72 (2) (a) (intro.) and amended to read: 59.72 (2) (a) (intro.) 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.

**SECTION 1247h.** 59.72 (2) (a) 3. of the statutes is created to read:

59.72 (2) (a) 3. Any property address information maintained by the county.

**SECTION 1247p.** 59.72 (2) (a) 4. of the statutes is created to read:

59.72 (2) (a) 4. Any acreage information maintained by the county.

<sup>3</sup> **SECTION 186f.** 16.967 (6) (b) of the statutes is created to read:

16.967 (6) (b) No later than January 1, 2017, the department shall submit to the members of the joint committee on finance a report on the progress in developing a statewide digital parcel map.

## Increase in Base Budget and Training & Education Grant Eligibility

**Section 186p.**<sup>4</sup> Act 20 increases WLIP Base Budget grant eligibility from a \$50k to a \$100k retained fee threshold. DOA will award WLIP Base Budget grants for eligible projects to enable a county land information office to develop, maintain, and operate a basic land information system. Base Budget grant eligibility equals a minimum of \$100k minus the register of deeds document recording fees a county retains for land information (\$8 per document recorded)

### Base Budget Grant Eligibility Formula

Example: County records 5,000 documents  
 $5,000 \times \$8$  per document recorded = \$40,000  
 $\$100,000 - \$40,000 = \$60,000$

\$60,000 = minimum level of Base Budget grant eligibility

Based on FY 2012 revenue figures, eligibility at the \$100k level would increase the number of counties eligible for Base Budget grants from 33 to 45, increasing total grants to be awarded from \$720k to \$2.3 mil. If before 2015 funding available for Base Budget grants totals less than minimum Base Budget grant eligibility, DOA may prorate the grants.

**Section 1250g.**<sup>5</sup> Act 20 removes the designation for \$2 of the recording fee to be used for provision of land information on the internet by the county, so that all \$8 is to be used for land records modernization, including provision of land information on the internet.

**Section 186s.**<sup>6</sup> Act 20 increases county WLIP Training and Education Grant eligibility from maximum of \$300 to a minimum of \$1,000 for every county. This will amount to an increase in total Training and Education Grant eligibility from \$21,600 in previous years to at least \$72,000 for all counties combined.

### Training and Education Grant Levels

≥ \$1,000 per county

<sup>4</sup> **SECTION 186p.** 16.967 (7) (am) of the statutes is created to read:

16.967 (7) (am) 1. Subject to subds. 2. and 3., the department shall award land information system base budget grants for eligible projects under par. (a) to enable a county land information office to develop, maintain, and operate a basic land information system.

2. The minimum amount of a grant under this paragraph is determined by subtracting the amount of fees that the county retained under s. 59.72 (5) (b) in the preceding fiscal year from \$100,000. The department is not required to award a grant to a county that retained at least \$100,000 in fees under s. 59.72 (5) (b) in the preceding fiscal year.

3. If the moneys available for grants under this paragraph in a fiscal year are insufficient to pay all amounts determined under subd. 2., the department shall establish a system to prorate the grants.

<sup>5</sup> **SECTION 1250g.** 59.72 (5) (b) 3. of the statutes is amended to read:

59.72 (5) (b) 3. The county uses the fee retained under this paragraph to satisfy the requirements of sub. (2) (a), or, if the county has satisfied the requirements of sub. (2) (a), to develop, implement, and maintain the countywide plan for land records modernization.

<sup>6</sup> **SECTION 186s.** 16.967 (7) (b) of the statutes is amended to read:

16.967 (7) (b) In addition to any other grant received under this subsection, the department may award a grant to any county in an amount not less than \$1,000 per year to be used for the training and education of county employees for the design, development, and implementation of a land information system.

## Increase in Land Information Fund Revenue

**Section 530m.**<sup>7</sup> Act 20 puts WLIP program revenue into a segregated continuing appropriation, the Land Information Fund, with specific statutory direction not to lapse (transfer) the funds into other appropriations, such as a general program revenue appropriation in order to cover general state budget deficits.

**Section 1241-1242.**<sup>8</sup> Act 20 sets the register of deeds document recording fee at \$30 for all counties.

**Section 1242g.**<sup>9</sup> Act 20 repeals 59.43(2)(L), the section of the state statute that designated \$5 of the document recording fee for social security number redaction purposes. Therefore, counties can retain the \$5 portion to spend at their discretion until January 1, 2015. However, counties must still complete their redaction projects and report on their progress to DOA.

**Section 1248 and Section 9429.**<sup>10</sup> Beginning January 1, 2015, counties will submit \$7 per document recorded to the state's Land Information Fund, which will increase the Land Information Fund revenue to approximately \$8 mil per year. Much of the revenue collected will be targeted for investment at the local level, likely in the form of WLIP Base Budget and Strategic Initiative grants to develop local geospatial data, such as parcel datasets, for integration into a statewide GIS.

**Section 1249.**<sup>11</sup> Counties are still enabled to retain \$8 of the \$30 fee per document recorded for land information purposes.

### \$30 Document Recording Fee

#### Before 2015:

\$20 County Undesignated  
\$8 County Retained for Land Information  
\$2 State Land Information Fund

#### Beginning January 1, 2015:

\$15 County Undesignated  
\$8 County Retained for Land Information  
\$7 State Land Information Fund

<sup>7</sup> SECTION 530m. 25.55 of the statutes is created to read:

**25.55 Land information fund.** There is created a separate nonlapsible trust fund designated as the land information fund, consisting of moneys received under s. 59.72 (5) (a).

<sup>8</sup> SECTION 1241. 59.43 (2) (ag) 1. of the statutes is amended to read:

59.43 (2) (ag) 1. Subject to s. 59.72 (5) for recording any instrument entitled to be recorded in the office of the register of deeds, \$30, except that no fee may be collected for recording a change of address that is exempt from a filing fee under s. 185.83 (1) (b) or 193.111 (1) (b).

SECTION 1242. 59.43 (2) (e) of the statutes is amended to read:

59.43 (2) (e) Subject to s. 59.72 (5) for filing any instrument which is entitled to be filed in the office of register of deeds and for which no other specific fee is specified, \$30.

<sup>9</sup> SECTION 1242g. 59.43 (2) (L) of the statutes is repealed.

<sup>10</sup> SECTION 1248. 59.72 (5) (a) of the statutes is amended to read:

59.72 (5) (a) Before the 16th day of each month a register of deeds shall submit to the department of administration \$15 from the fee for recording or filing each instrument that is recorded or filed under s. 59.43 (2) (ag) 1. or (e), less any amount retained by the county under par. (b).

SECTION 9429. **Effective dates; Local Government.**

(1i) REGISTER OF DEEDS FEES. The treatment of section 59.72 (5) (a) of the statutes takes effect on January 1, 2015.

<sup>11</sup> SECTION 1249. 59.72 (5) (b) (intro.) of the statutes is amended to read:

59.72 (5) (b) (intro.) Except as provided in s. 16.967 (7m), a county may retain \$8 of the portion of each fee submitted to the department of administration under par. (a) from the fee for recording or filing each instrument that is recorded or filed under s. 59.43 (2) (ag) 1. or (e) . . .

## Update Frequency for County Land Information Plans

Before Act 20, counties were required by statute to develop and receive approval for a countywide plan for land records modernization (county land information plan) within 2 years of the land information office being established. Because land information offices were established in the early 1990s, WLIP policy required counties to update their plans and submit them for approval every five years in order for the approval to remain valid.

**Section 1247t.**<sup>12</sup> Act 20 will require a more frequent update and approval of county land information plans—every three years. Act 20 requires that the original plan be updated and approved by January 1, 2014. All 72 counties have already met this requirement, because previous DOA-approved updates to original plans satisfy this requirement. Act 20 requires that county land information plans be updated every three years, with the first post-Act 20 required update deadline January 1, 2017.

**Section 185r.**<sup>13</sup> Act 20 requires DOA to provide standards for the preparation of countywide land information plans, including a list of minimum elements to be addressed in the plan. This codifies current practice, as DOA last updated instructions in 2009. The instructions were updated with input from county land information officers and a list of minimum elements was provided, describing required framework data or “foundational” GIS datasets.

## Penalties and Deadlines

**Section 186y.**<sup>14</sup> Act 20 adds penalties for not meeting the requirements in s. 59.72 for a county land information system. Act 20 also adds new requirements to s. 59.72, which states counties must provide certain information related to individual parcels of land online in a searchable format determined by DOA by June 30, 2017 (Section 1247d. 59.72(2)(a)). If a county does not meet this June 30, 2017 deadline, the county will lose WLIP grant eligibility, will lose 25% of the fees retained at the county level for land information, and the remaining retained fee revenue must be dedicated to meeting the requirements of s. 59.72(2)(a).

### County Land Information Plan Updates

Every 3 Years  
Next Update and DOA Approval Due by  
January 1, 2017

<sup>12</sup> **SECTION 1247t.** 59.72 (3) (b) of the statutes is amended to read:

59.72 (3) (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).

<sup>13</sup> **SECTION 185r.** 16.967 (3) (cm) of the statutes is created to read:

16.967 (3) (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.

<sup>14</sup> **SECTION 186y.** 16.967 (7m) (b) of the statutes is created to read:

16.967 (7m) (b) If the department determines that a county has violated s. 59.72, the department shall suspend the eligibility of the county to receive grants under sub. (7) and, after June 30, 2017, the county shall be eligible to retain only \$6 of the portion of each fee submitted to the department under s. 59.72 (5) (a). After not less than one year, if the department determines that the county has resolved the violation, the department may reinstate the eligibility of the county for grants under sub. (7) and for retaining \$8 of the portion of each fee submitted to the department under s. 59.72 (5) (a).