



DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
MILWAUKEE COUNTY LAND INFORMATION OFFICE

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

MEMORANDUM

TO: 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: August 10, 2011

SUBJECT: **MCAMLIS Steering Committee 87th Meeting Notice**

Date: September 13th, 2011
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD Hdqtrs, Room 401
260 W Seeboth St.
Milwaukee, WI. 53204

******* Please NOTE the location *******

Please review the attached meeting agenda and refer any questions or additional items to me directly. Items that require fiscal impact analysis should be submitted to the MCAMLIS Project Manager, no later than August 26th, to be included for consideration. Additional meeting materials will be forwarded the week of August 29th. In addition, you can obtain materials as they become available at the Milwaukee County Land Information Program website:
<http://www.county.milwaukee.gov/LandInformationProgr23113.htm>

Attached: Proposed Meeting Agenda

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**MILWAUKEE COUNTY AUTOMATED MAPPING
AND LAND INFORMATION SYSTEM**

Eighty-Seventh Steering Committee Meeting

AGENDA

Date: September 13th, 2011
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD Hdqtrs, Room 401
260 W Seeboth St.
Milwaukee, WI. 53204

- I. Roll Call
- II. Meeting Minutes
 - Consideration of the minutes of the 86th Steering Committee meeting held June 14th, 2011
- III. Reports
 - A. **Maintain Core Foundational Elements**
 - 1. Report by MCAMLIS staff on the evaluation of Orthophotography Products; the 2010 Regional Orthophotography Program; the Pictometry "AccuPlus" Orthophotography; and Oblique Imagery Products, and;
 - 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;
 - 2. Report by City of Milwaukee staff on MCAMLIS street address and cadastral map maintenance operations.
 - 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.
 - D. **Countywide Initiatives**
 - 1. Report by MCAMLIS Staff regarding 2011 Countywide Initiatives and program activity status
 - E. **Financial**
 - 1. Report by Milwaukee County DAS staff on MCAMLIS Fiscal status

- IV. Old Business
 - A. MCAMLIS Staff Report and Recommendation regarding Copyright and Data Distribution Policy
- V. New Business
 - A. Consideration of a MCAMLIS Staff recommendation regarding 2012 Orthophotography Acquisition Program
 - B. Consideration of MCAMLIS Staff recommendations regarding a proposed Planimetric Map Maintenance Program
- VI. Correspondence
 - A. 8/10/2011, Letter from John La Fave, Milwaukee County Register of Deeds to William Shaw, MCAMLIS Project Manager, Re: U.S. Department of Housing and Urban Development (HUD) request for parcel data, and;
 - B. 7/20/2011, Letter from Mark B. Williams, Flood Recovery Specialist, Wisconsin State Department of Administration to William Shaw, MCAMLIS Project Manager, Re: Contract Close Out - CDBG-EAP Contract 08-36
- VII. Date, time, and place of next meeting
- VIII. Adjournment

MINUTES OF THE 86th MEETING
Milwaukee County Automated Mapping and Land Information System
Steering Committee

Date: June 14th, 2011
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, Chairman	Capital Program Business Manager, Milwaukee Metropolitan Sewerage District
John M. Bennett	City Engineer, City of Franklin, representing the Intergovernmental Coordinating Council of Milwaukee County
Gregory G. High	Director, Architecture, Engineering and Environmental Services Division, Milwaukee County Department of Transportation and Public Works, representing Jack Takerian, Director, Milwaukee County Department of Transportation and Public Works
Timothy Marquardt	Manager - EDAM Support, We Energies
John L. La Fave, LIO	Milwaukee County Register of Deeds
Josh Fudge	Fiscal Mgt Analyst representing Patrick Farley, Director of Milwaukee County Department of Administrative Services
Nancy A. Olson	Chief Information Officer, City of Milwaukee

Members Absent

Guest and Staff Present

John Place	We Energies, Retired
Mike G. Hahn	Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission
Pamela Booth	City of Milwaukee, Information and Technology Management Division
Tammy Bronson	City of Milwaukee, Information and Technology Management Division
William C. Shaw	MCAMLIS Project Manager, Milwaukee County DTPW/AE&ES
Hardy Meihnsner	Spatial Data Solutions
Kathleen Bach	Milwaukee County Register of Deeds
Marcia Cornell	City of Milwaukee, DPW

VI. ROLL CALL

Chairman Nehmer called the Eighty-Sixth 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.

VII. SPECIAL ORDER OF BUSINESS

II (a) Recognition of John Place for 10 years of service to the Steering Committee

II (b) CDBG-EAP Grant Public Hearing

Shaw: presented materials describing the CDBG – EAP LiDAR Project

Hahn: presented materials describing the use of LiDAR data in floodplain mapping

VIII. MEETING MINUTES

II (a) CONSIDERATION OF THE MINUTES OF THE 85TH STEERING COMMITTEE MEETING HELD MARCH 22ND, 2011.

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

Motion: Bauer moved to accept minutes

Second: High, motion carried unanimously

IX. REPORTS

IV (a) Maintain Core Foundational Elements

1. REPORT BY MCAMLIS STAFF ON THE STATUS OF THE EVALUATION OF ORTHOPHOTOGRAPHY PRODUCTS; THE 2010 REGIONAL ORTHOPHOTOGRAPHY PROGRAM; THE PICTOMETRY “ACCUPLUS” ORTHOPHOTOGRAPHY AND OBLIQUE IMAGERY PRODUCTS

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

Olson: inquired as to the total cost of the 6-year agreement with Pictometry?

Shaw: replied that the total 6 year contract is approximately \$400,000.

[Secretary’s Note: The contract cost breakdown is included in the following table:

Year	\$ per Sector	% of Discount	Net \$ per Sector	# of Sectors	\$ Total	Subsidy	MCAMLIS
2010	\$246	10%	\$221	\$269	\$59,472	\$35,683	\$23,789
2011	\$246	10%	\$221	\$269	\$59,472	\$59,472	\$0
2012	\$263	5%	\$250	\$269	\$67,248	\$0	\$67,248
2013	\$263	5%	\$250	\$269	\$67,248	\$0	\$67,248
2014	\$263	0%	\$263	\$269	\$70,747	\$0	\$70,747
2015	\$263	0%	\$263	\$269	\$70,747	\$0	\$70,747
					\$394,934	\$95,155	\$299,779

]

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 STRATEGIC INITIATIVES REGARDING TOPOGRAPHIC/PLANIMETRIC MAP MAINTENANCE

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

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

IV (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.

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

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

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

3. REPORT BY MCAMLIS STAFF REGARDING ON-GOING ENTERPRISE ADDRESS SYSTEM (EAS) EFFORTS

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

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

IV (c) Educational Outreach

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

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

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

IV (d) Countywide Initiatives

1. REPORT BY MCAMLIS STAFF ON THE STATUS OF CDBG-EAP GRANT APPLICATION AND LIDAR DATA ACQUISITION PROGRAM

2. REPORT BY THE MILWAUKEE COUNTY SURVEYOR ON THE STATUS OF 2010 SURVEYOR ACTIVITIES

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

3. REPORT BY MCAMLIS STAFF REGARDING 2010 ACCOMPLISHMENTS

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

Nehmer: stated for the minutes that the report(s) were accepted by consensus and are to be placed on file

IV (e) Report by Milwaukee County DAS staff on MCAMLIS Fiscal status

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

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

V. OLD BUSINESS

V (a) MCAMLIS Staff report regarding status of the Land Information Modernization and Integration Plan

V (b) MCAMLIS Staff Report and Recommendation regarding Copyright and Data Distribution Policy

Nehmer: The Committee shall review the data requisition policy document, consider any changes, prepare comments and questions for Mr. Shaw, and consider this at our next meeting.

VI. NEW BUSINESS

VI (a) NA

VII. CORRESPONDENCE

VII (a) Letter from Mike Friis, WLIP Program Manager, Wisconsin Department of Administration Re: WLIP Training Grant Opportunity

VII (b) Letter from Michael Jankowski, Division 107 Fire Chiefs Re: MCAMLIS Address Data

Nehmer: directed the Committee to the correspondence included with the meeting materials.

VIII. DATE, TIME, AND PLACE OF NEXT MEETING

September 13th, 2011 @ 9:00am, MMSD (next regular meeting)

IX. ADJOURNMENT

Motion: Marquardt moved to adjourn

Second: High, motion carried unanimously



**DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

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

MEMORANDUM

TO: MCAMLIS Steering Committee
FROM: William C. Shaw, MCAMLIS Project Manager
DATE: August 16, 2011
SUBJECT: 2010 Regional Orthophotography Program; Pictometry AccuPlus Comparison and Oblique Imagery Project Status

BACKGROUND

At five-year intervals in years ending in zero and five, SEWRPC typically acquires aerial photography/orthophotography sufficient to cover its seven-county planning jurisdiction and immediate environs. The 2010 program envisioned the acquisition of 1-foot pixel, color, and digital orthophotography for the entire seven county region. Milwaukee County, however, has requested a project approach that combines the acquisition of 6" Orthophotography and Oblique Imagery in the form of Pictometry International Corporation's AccuPlus product as an alternative to meet the underlying image requirements of the regional planning commission. In consideration of the requested approach it was determined that a comparative study would be required to establish the suitability of the AccuPlus technology to address the Commission's requirements.

The MCAMLIS Steering Committee approved this project at its 9/22/2009 meeting authorizing the comparative evaluation of orthophotographs produced by conventional photogrammetric technology and by the "AccuPlus" technology developed by the Pictometry International Corporation of Rochester, New York. The conventional orthophotographs concerned will be prepared by the firm of Aero-Metric, Inc. of Sheboygan, Wisconsin under the 2010 Regional Orthophotography Program. Federal funds from the Surface Transportation Program will be utilized to fund the study. STP-M funds will be combined with MCAMLIS matching funds to complete the project funding requirements.

A Technical Advisory Committee (TAC) comprised of representatives of Pictometry, Aero-Metric, USGS, WISDOT, MCAMLIS, a LIO and the Commission will oversee and guide the project.

ACTIVITIES THIS PERIOD – 6/11 – 9/11

1. Letter - July 14, 2011 from Kenneth R. Yunker, SEWRPC Executive Director to Land Information Officers within Southeastern Wisconsin, Subject: Final Report Transmittal (letter attached)

2. June 2011 publication of the
MEMORANDUM REPORT NO. 200
COMPARISON OF THE RELATIONSHIP OF ALTERNATIVE 2010
ORTHOPHOTOGRAPHS FOR MILWAUKEE COUNTY TO NATIONAL MAP
ACCURACY STANDARDS
(<http://www.sewrpc.org/SEWRPCFiles/Publications/mr/mr-200-comparison-of-alternate-2010-orthophotography.pdf>)

NEXT

1. No further action is required.

Attach: July 14, 2011 letter from Kenneth R. Yunker, SEWRPC Executive Director to Land Information Officers within Southeastern Wisconsin, Subject: Final Report Transmittal

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SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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

Serving the Counties of:

KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



MEMORANDUM

TO: Land Information Officers within Southeastern Wisconsin

FROM: Kenneth R. Yunker, P.E.
SEWRPC Executive Director

DATE: July 14, 2011

SUBJECT: FINAL REPORT TRANSMITTAL

At the request of Mr. William C. Shaw, Milwaukee County Automated Mapping and Land Information System Project Manager, the Regional Planning Commission recently completed a comparative evaluation of conventional orthophotography produced for the Commission and AccuPlus orthophotography produced for Milwaukee County by Pictometry International, Corp. The purpose of the comparative evaluation was to assess the ability of the two products to meet National Map Accuracy Standards.

We believe that the findings of the comparative evaluation may be of interest to county and municipal Land Information Officers within the seven-county Southeastern Wisconsin Region. We are, therefore, providing to you herewith a copy of SEWRPC Memorandum Report No. 200, *Comparison of the Relationship of Alternative 2010 Orthophotographs for Milwaukee County to National Map Accuracy Standards*.

Should you have any questions concerning the findings of the evaluation as set forth in the memorandum report, or should you desire additional copies of the report, please call me at 262-547-6721.

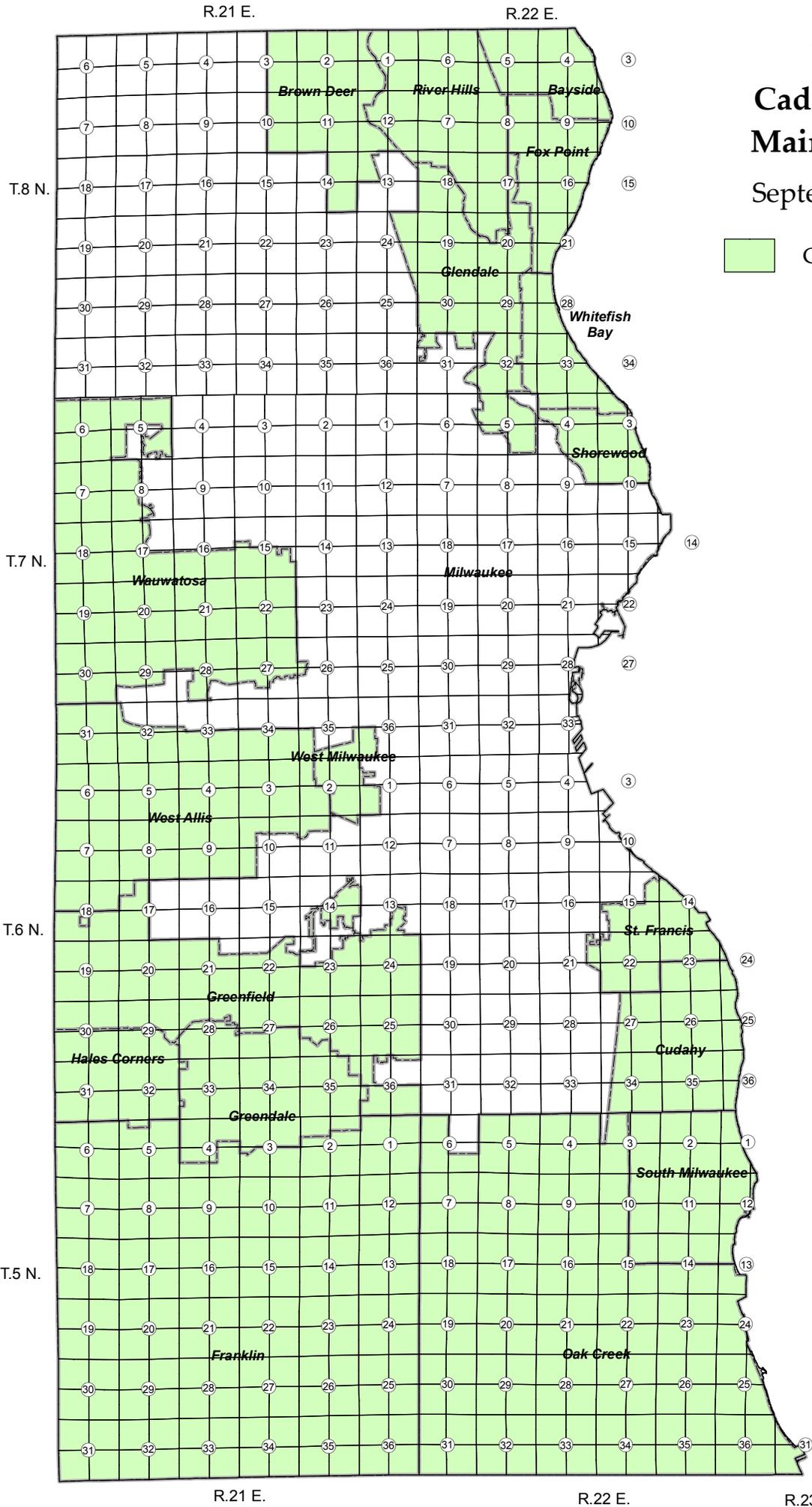
* * *

KRY/KWB/dad
#157902 v1 - Report Transmittal-Land Information Officers

Enclosure

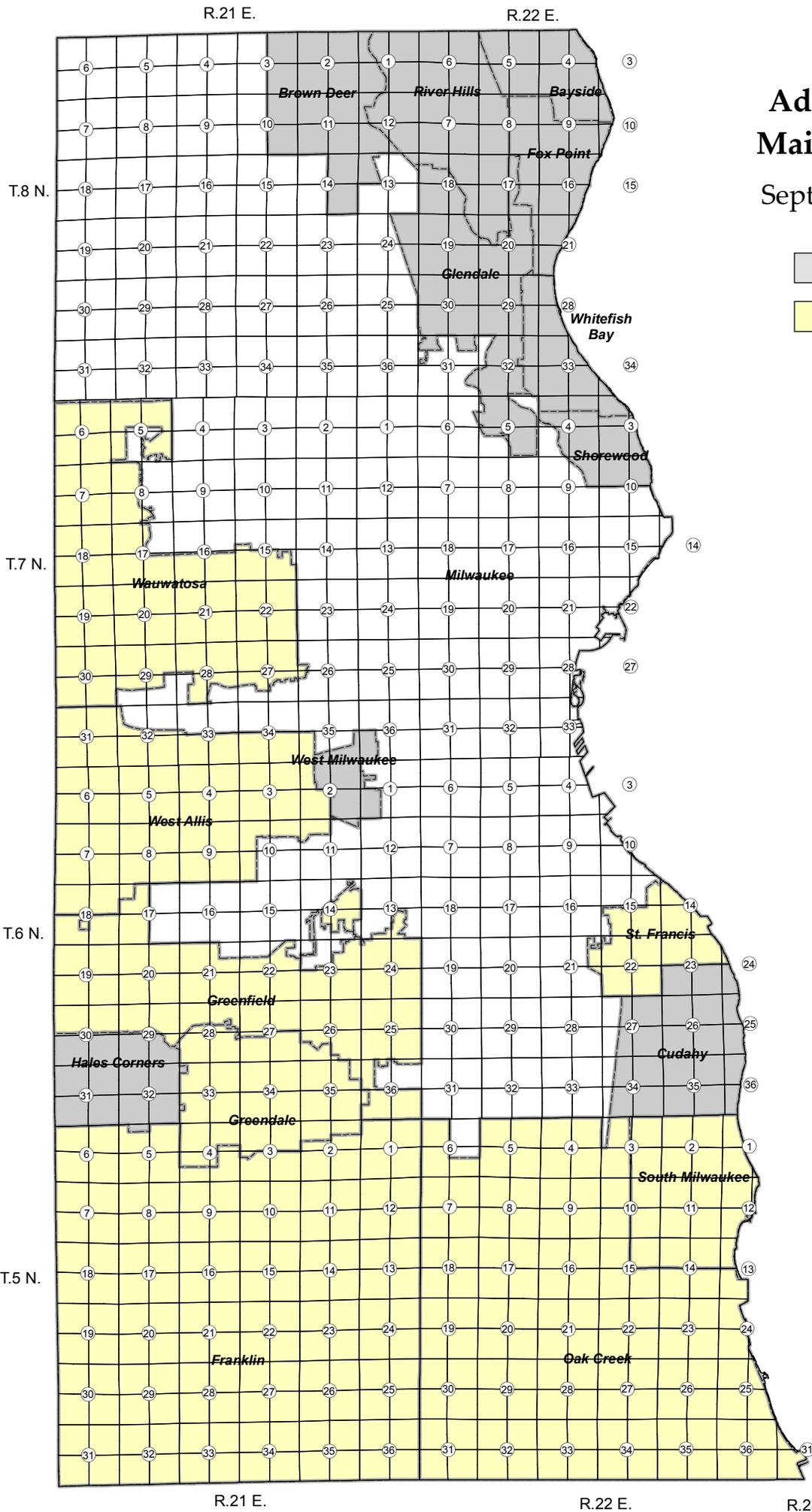
MCAMLIS Cadastral Database Maintenance Status September 2011 Status

 Current as of August 1, 2011

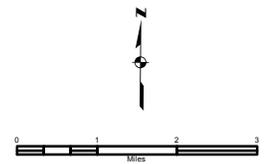


Source: MCAMLIS Project Manager

MCAMLIS Address Database Maintenance Status September 2011 Status



- January 1, 2011
- August 1, 2011



Source: MCAMLIS Project Manager

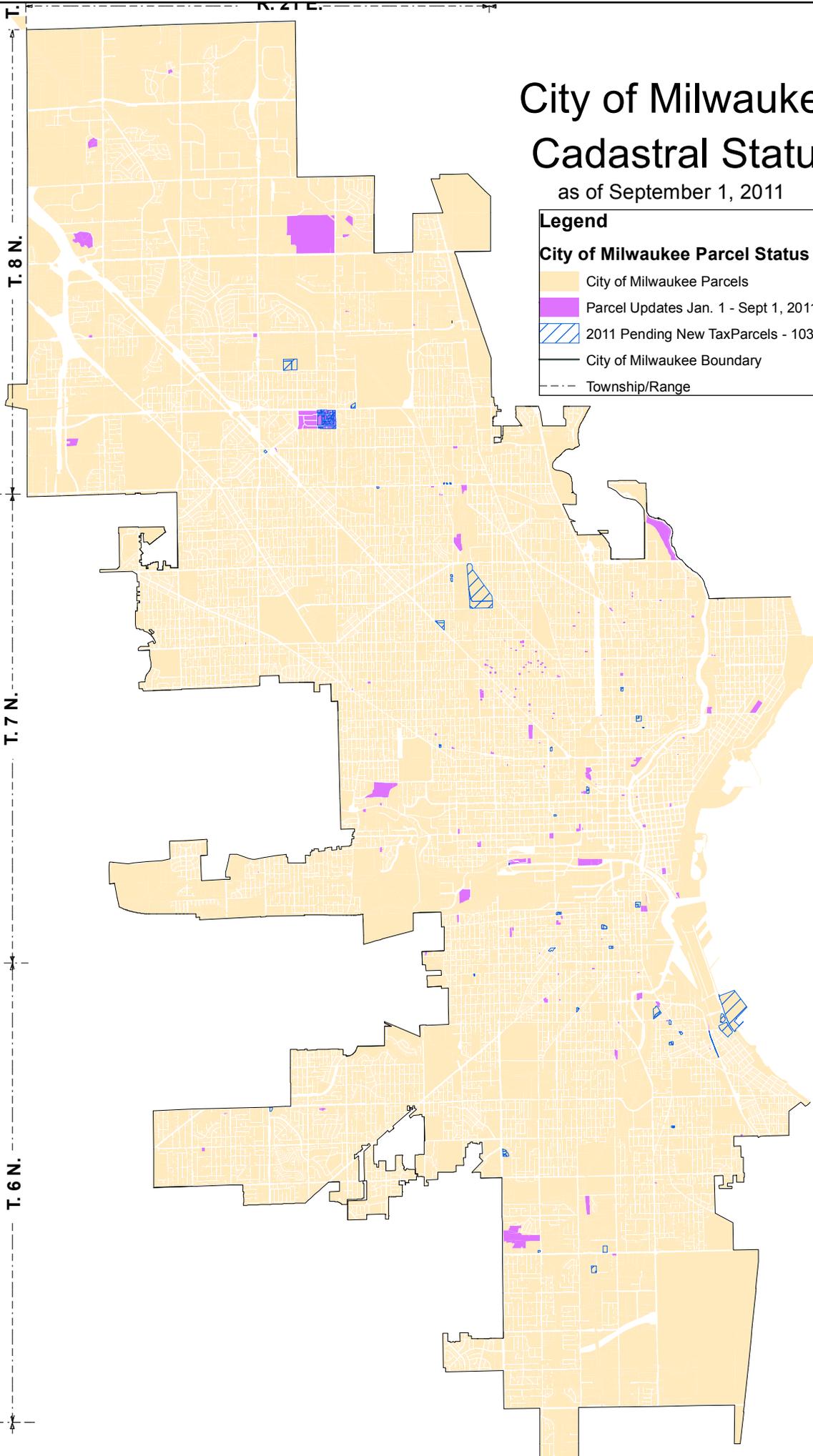
City of Milwaukee Cadastral Status

as of September 1, 2011

Legend

City of Milwaukee Parcel Status

- City of Milwaukee Parcels
- Parcel Updates Jan. 1 - Sept 1, 2011 - 227
- 2011 Pending New TaxParcels - 103
- City of Milwaukee Boundary
- Township/Range





**DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

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

MEMORANDUM

TO: MCAMLIS Steering Committee
FROM: William C. Shaw, MCAMLIS Project Manager
DATE: September 1, 2011
SUBJECT: Educational Outreach Activity Status

BACKGROUND

At its meeting held September 21st, 2010, the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee approved the 'Land Information Strategic Assessment for 2010 –2013' including a set of staff recommended 'Program Goals and Objectives' for purposes of establishing future program strategy and overall direction.

Among the Program Goals and Objectives in the 'Land Information Strategic Assessment for 2010 –2013' is 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.

ACTIVITIES THIS PERIOD – 6/11 – 9/11

1. Solicited municipality input on creating a Milwaukee Municipal GIS Users Group (MMGUG)
 - Drafted MMGUG Mission Statement and contact report (see attached)
 - Prepared for MMGUG Organizational Meeting – 9/27,
 - New staff assigned to User Group events and activities
2. Moved the production MCLIO web server to the county's VM cloud (see attached Dashboard);
3. Incorporated updated tutorial materials and announcements available to users of the MCLIO Interactive Mapping Service website including:
 - Report Assessing Planimetric Change 2010,
 - Implemented new version of the MCLIO Interactive Mapping Service,
 - Posted 2nd Qtr foreclosure data, and
 - Posted Orthophotography Comparative Study results
4. Completed new version of the North Shore Fire Department Street and Hydrant Atlas

NEXT

1. Continue MCLIO website training, data distribution and product enhancements; and
2. Schedule MMGUG Organizational Meeting – 9/27

Attach: MMUG User Group Organizational Meeting Announcement
MCLIO Interactive Mapping Services Dashboard

Mark Your Calendar for the Milwaukee County Land Information Office's
Milwaukee Municipal GIS Users Group Meeting
- MMGUG -

WHEN: Tuesday, September 27, 2011
10:30 am – 1:30 pm

WHERE: PORT OF MILWAUKEE
2323 S. Lincoln
Memorial Drive
Milwaukee, WI 53208

AGENDA

1. Opening and Introductions.....Bill Shaw
2. Background – Goals
3. Organization and Structure
4. Lunch (Provided)
5. MCLIO Project Updates.....MCLIO Staff
6. Next Meeting Topics
7. Adjournment and Next Meeting Date

INTEREST

- *17 of 26 organizations contacted the MCLIO and provided feedback, responding “Yes” to the proposed formation of a Users Group*
- *10 of 15 respondents specified that Quarterly meetings would best suit their organization*

MMGUG Mission Statement

“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.”

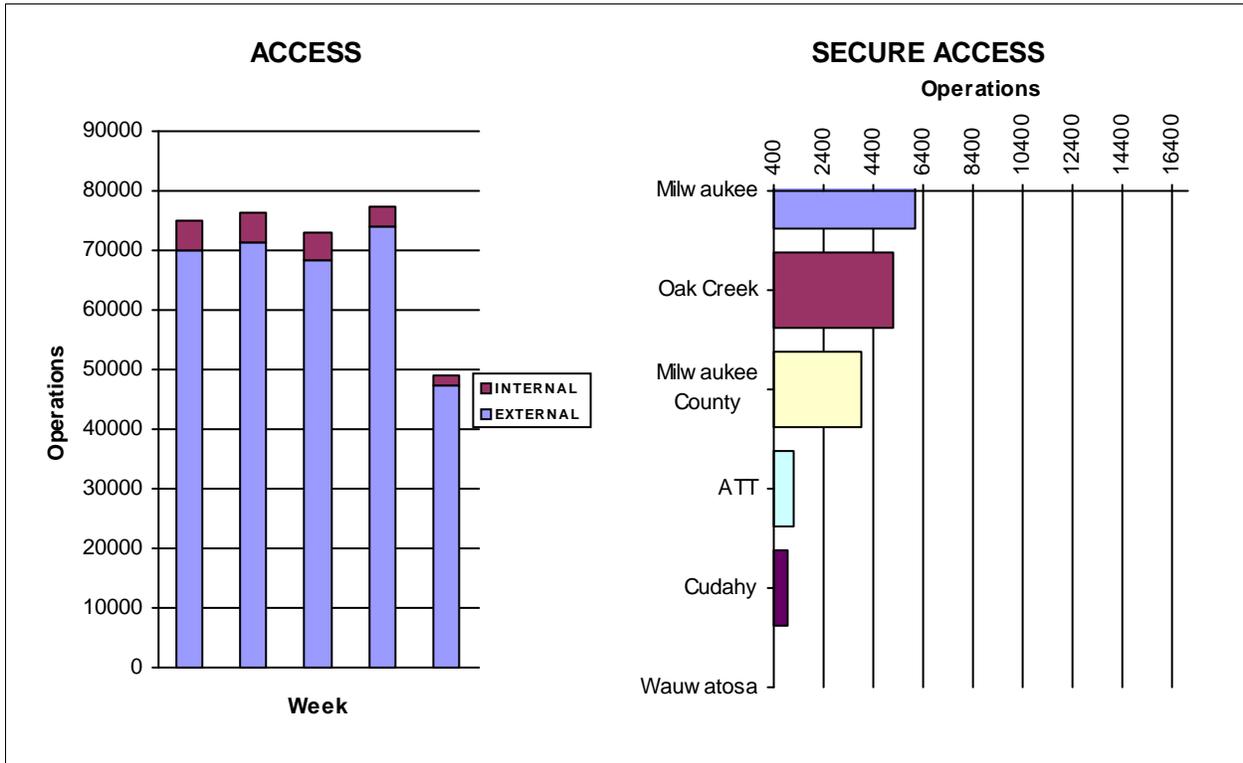
PLEASE PRE-REGISTER BY VISITING:

[http://www.county.milwaukee.gov/.....](http://www.county.milwaukee.gov/)

William Shaw, MCAMLIS Project Manager
Milwaukee County Land Information Office
Milwaukee Co. Dept. of Transportation and Public Works
City Campus, Room 426
2711 W Wells St.
Milwaukee, WI. 53208
414.278.2176 phone
414.223.1982 fax
email: bill.shaw@milwcnty.com



MCLIO Map Services Dashboard





DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS 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: August 31, 2011
SUBJECT: COUNTYWIDE PROGRAM INITIATIVES

BACKGROUND

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

The EAS program development effort has been completed and the data is now maintained as the MCAMLIS Enterprise Address System whereby street, parcel, building and unit addresses are fully integrated across the entire county.

Activities this Period – 6/11 – 9/11

- Deployed 2nd qtr consolidated Milwaukee County and City of Milwaukee Cadastral Data;
- Continued implementation of address point "situs" relationship to structure location; and
- Delivered 'draft' DIME_MCLIO compatible street centerline to the City of Milwaukee for review and comment.

Next

- Ongoing effort toward incorporating updated multiple address source information
- Participate and represent MCAMLIS in a meeting of the City of Milwaukee's "Address Assignment Workgroup" scheduled 9/16.

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 91,3106 documents with the bulk of this work being completed through 2010. In 2011 through August the MCLIO has added 645 documents with the most recent document dated 7/29/2011.

3. Historical Aerial Photo Geo-rectification

MCAMLIS staff is currently in 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. There are eight books containing approximately 520 half-image prints to be scanned and geo-referenced. The images are generally in excellent condition and scanned such that they can be reasonably viewed at a scale of one-inch equals two hundred feet (1"= 200') (exhibit attached). Staff has nearly completed the old 'Town of Lake' as shown in the (attached) status map.

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 has completed a significant portion of this as shown in the (attached) status map.

5. Non-project related activities

- Review and develop new technologies e.g., ESRI and Latitude Geographics 'Silverlight' based viewers and opportunities to use cache services;
- Contributed updates to ESRI Community Base Map initiative. Recent updates include revised building/structure footprints and detailed planimetric data regarding Lake Michigan shoreland parks and recreation areas located north of the Milwaukee River (see attached example depicting similar details of MacArthur Square);
- Applied SECURE updates of We Energies Electric and Gas Distribution facility assets;
- Initiated informal tests regarding ArcGIS Server 10.x applications e.g., Silverlight and Flex based applications that consume on-line map services. This testing is in cooperation with MMSD and their contemplated adaptation of internally used viewer technology
- Provided support to Milwaukee County Board of Supervisors 2012 Supervisory Redistricting Plan(s)

Attach:

Historical Aerial Photo Status

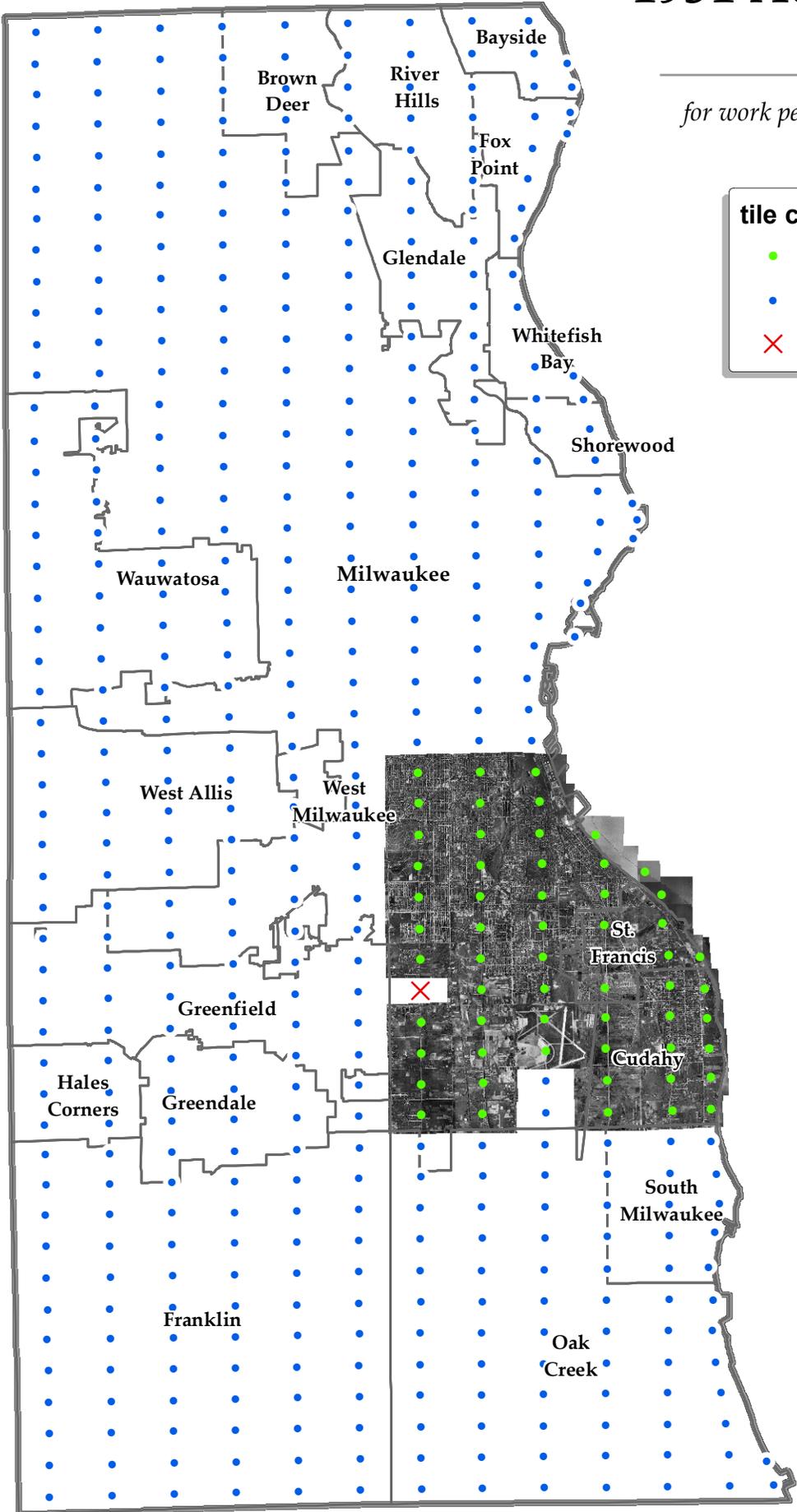
Historical Aerial Photo Exhibit: 1951_vs_2010

Divided Centerlines Status

ESRI Community Base Map Exhibit: MacArthur Square

1951 Aerial Photo Project Status

for work performed through August 25, 2011



tile center points

- rectified (58 of 512 tiles - 11.3%)
- not yet rectified
- ✗ not available



**Milwaukee County
Land Information Office**



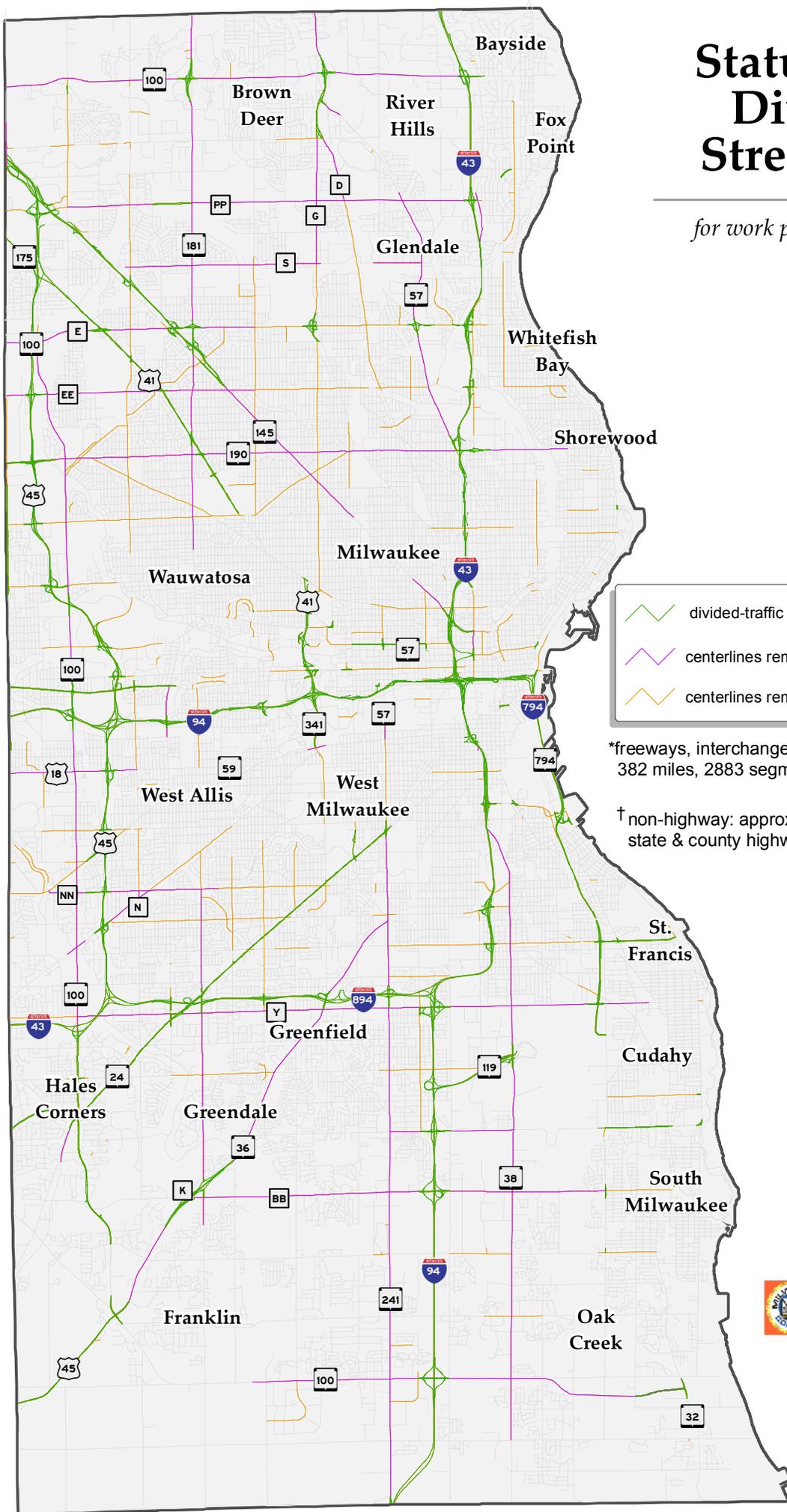
1951



2010

Status of Routable Divided-Traffic Street Centerlines

for work performed through August 16, 2011



- divided-traffic centerlines completed to date*
- centerlines remaining to be modeled as divided-traffic: highway[†]
- centerlines remaining to be modeled as divided-traffic: non-highway[†]

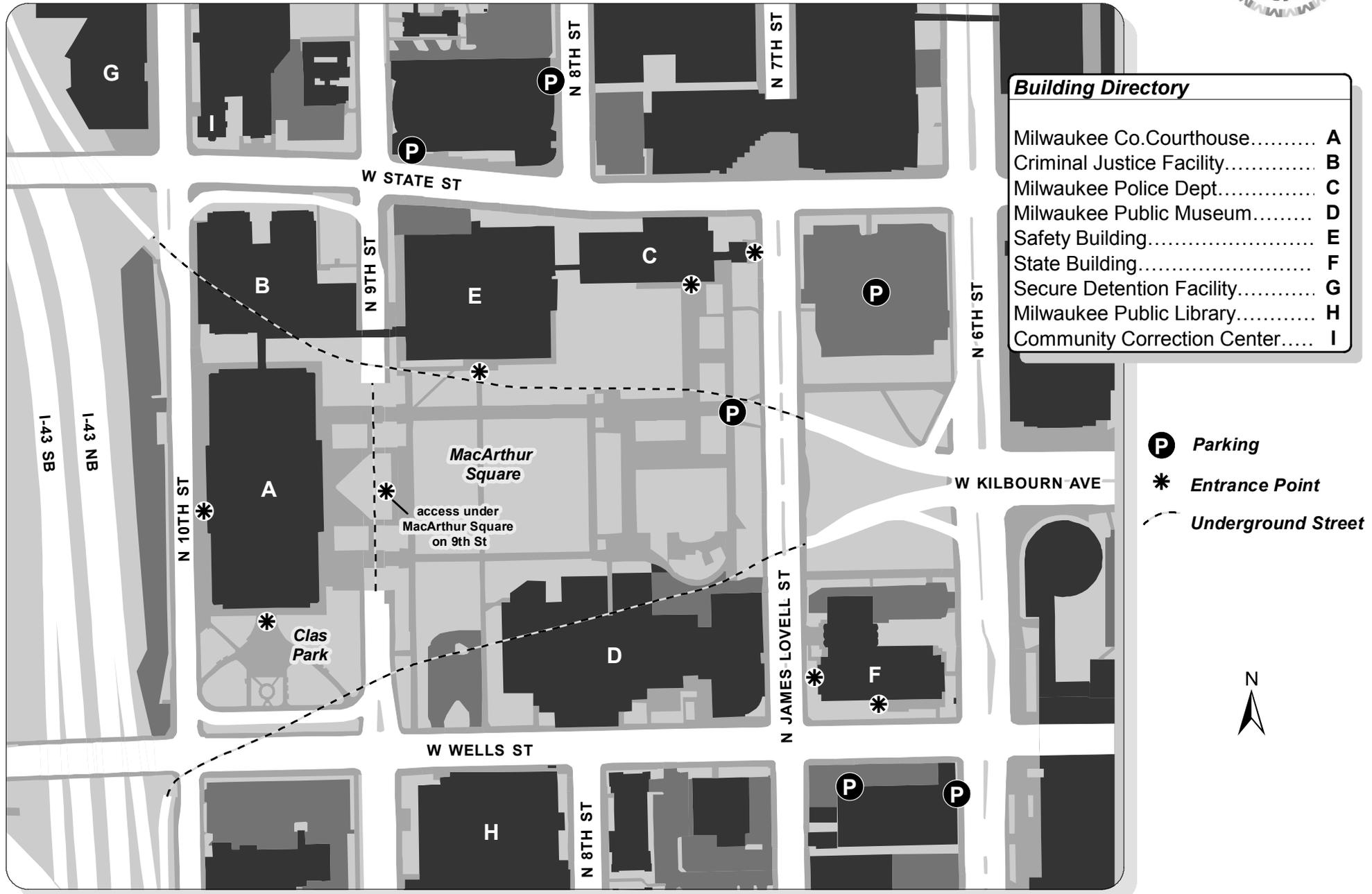
*freeways, interchanges, US, and state highways:
382 miles, 2883 segments completed

[†] non-highway: approx. 280 miles, 3000 segments remain
state & county highway: approx. 240 miles, 1900 segments remain



Milwaukee County Courthouse Complex

Entrance Points and Parking Locations



Building Directory	
Milwaukee Co. Courthouse.....	A
Criminal Justice Facility.....	B
Milwaukee Police Dept.....	C
Milwaukee Public Museum.....	D
Safety Building.....	E
State Building.....	F
Secure Detention Facility.....	G
Milwaukee Public Library.....	H
Community Correction Center.....	I

- P** Parking
- *** Entrance Point
- Underground Street



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MILWAUKEE COUNTY LAND INFORMATION OFFICE**

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

MEMORANDUM

TO: MCAMLIS Steering Committee
FROM: William C. Shaw, MCAMLIS Project Manager
DATE: August 16, 2011
SUBJECT: MCAMLIS Copyright and Data Distribution Policies Status

BACKGROUND

In June 2009 the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee directed staff to implement recommended changes to existing MCAMLIS Copyright and Data Distribution Policies resulting from approval of the Utilities Sub-Committee recommendations regarding these same policies.

The Utilities Sub-Committee recommended the following:

- The Utilities Sub-Committee interest in the MCAMLIS Copyright should be dissolved and that action should be taken to affect this change;
- MCAMLIS Staff should continue to work, assisted by Mr. Schwartz, Attorney, Quarles & Brady LLP, to compose an appropriate letter to AT&T requesting a statement regarding their continuing interest in the MCAMLIS Copyright;
- MCAMLIS Staff (assisted by Mr. Schwartz) would then report the impact of this action and recommend suitable alternative policy to the Steering Committee once action to dissolve the copyright had been completed.

ACTIVITIES THIS PERIOD – 6/09 - 9/11

- MCAMLIS Staff, assisted by Mr. Schwartz, Attorney, Quarles & Brady LLP, attended to the execution of a revised License Agreement between the MCAMLIS Steering Committee and the member Utilities securing Steering Committee copyright regarding hard copy and digital materials and dissolving the member Utilities interest therein;
- MCAMLIS Staff presented draft MCAMLIS Commercial and Non-Commercial Data license agreements specifying MCAMLIS as acquiring full copyright interests as per Carl Swartz
- MCAMLIS Staff drafted MCAMLIS Requisition and Distribution Policy Guidelines (see attached).

NEXT

- MCAMLIS Steering Committee review/approve staff recommendation regarding MCAMLIS Requisition and Distribution Policy Guidelines thereby directing staff as to the disposition of MCAMLIS Copyright materials and the on-going requirement to further administer digital material distribution via license agreement

Attach: draft MCAMLIS Requisition and Distribution Policy

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DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS MILWAUKEE COUNTY LAND INFORMATION OFFICE

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

DATA REQUISITION AND DISTRIBUTION GUIDELINES

BACKGROUND

The Milwaukee County Automated Mapping and Land Information System (MCAMLIS) is a public-private consortium begun in 1990 by and between Milwaukee County, the Milwaukee Metropolitan Sewerage District, Wisconsin Bell, the Wisconsin Electric Power Company, and the Wisconsin Gas Company. A Steering Committee comprised of representatives from each of the above entities plus representatives from the City of Milwaukee and the Intergovernmental Cooperation Council of Milwaukee County oversees all activities of the consortium.

MCAMLIS was formed to develop and maintain the automated mapping base essential for the creation of a modernized land information system for Milwaukee County. In so doing, MCAMLIS oversees the implementation of the [Milwaukee County Land Records Modernization Plan](#), originally set forth in the Southeastern Wisconsin Regional Planning Commission's (SEWRPC) Community Assistance Planning Report No. 177, [Feasibility Study for a Milwaukee County Automated Mapping and Land Information System](#). Accordingly, the Milwaukee County Land Information Modernization Plan is required to be revised every 5 years. The most recent plan was approved by the Wisconsin State Department of Administration in April 2011. The mapping effort detailed in the County plan builds upon historic, coordinated base mapping efforts carried out by Milwaukee County, the Utilities, the cities and villages in the County, and the Southeastern Wisconsin Regional Planning Commission.

In December 1993 (revised June 2009), the Steering Committee executed a formal License Agreement pertaining to matters of copyright ownership and use of MCAMLIS derived data. With respect to mapping products, the License Agreement distinguishes between hard copy as derived from the digital mapped materials and the actual digital mapped materials. Under the License Agreement, the Steering Committee has taken copyright title to both hard copy maps and digital materials included under implementation of the adopted County plan.

As included in an implementation study completed in 1991 and subsequently modified over time, the MCAMLIS work program consists of the following:

- The completion of the location and remonumentation of all U. S. Public Land Survey corners in the County, including the centers of the sections.
- The completion of high-order horizontal and vertical control surveys to establish the State Plane Coordinates and elevations of the U. S. Public Land Survey corners.
- The completion of large-scale topographic base maps in digital form at a scale of one-inch equals 100 feet with one-foot contour intervals.
- The completion of companion cadastral maps to the topographic maps in digital form at a scale of one inch equals 100 feet providing detailed information on the location and configuration of all real property boundaries, including the boundaries of all streets and public ways and other public land holdings; and assigning a parcel identification number

(tax key number) to each ownership parcel to enable the linking of geographic with non-geographic data files.

- Street address data for all parcels in Milwaukee County.

All MCAMLIS mapping products are based upon the Wisconsin State Plane Coordinate System, South Zone (North American Datum of 1927) and referenced to the National Geodetic Vertical Datum of 1929.

DATA SHARING POLICY GUIDELINES AND PROCEDURES

As noted above, Milwaukee County, the local units of government in Milwaukee County, and the private utilities created the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) program in response to the need for the development of an automated mapping base. At the outset, it was recognized that an infusion of monetary resources from the private sector was necessary to create an automated mapping base for the County in a timely fashion. In response to this need, We Energies (formerly Wisconsin Gas Company and Wisconsin Electric Power Company), AT&T (formerly SBC AMERITECH, Wisconsin Bell) and The Milwaukee Metropolitan Sewerage District invested significant private capital in the MCAMLIS program.

In order to protect their investments, the private utility members of MCAMLIS were granted the MCAMLIS copyright to the mapping base in its digital form. The utility member copyright interest was dissolved in 2009 and the MCAMLIS Steering Committee now holds copyright to all MCAMLIS digital and hardcopy materials. Nevertheless, the overall goal of the MCAMLIS program has been, and continues to be, the construction of the automated mapping system that is consistent with the standards specified in the County plan, and to make the end products created as a result of the MCAMLIS program available to the widest possible range of users in a fair and efficient manner. Monies generated as a result of the sale of MCAMLIS derived data to commercial entities--other than those commercial entities requesting data for non-commercial, internal use--are to be returned to the MCAMLIS budget, and used in the continued development of the MCAMLIS automated mapping base. The MCAMLIS program is not, and was not intended to be, a 'for profit' venture. Accordingly, the Data Requisition and Distribution Guidelines presented herein are intended to embody a spirit of fair and reasonable access to the MCAMLIS digital materials.

The MCAMLIS Steering Committee has formulated the following policies attendant to the distribution and use of the copyrighted mapped data developed under the MCAMLIS program.

Accommodation of Requests

All requests for MCAMLIS digital materials shall be made through the MCAMLIS Project Manager.

MCAMLIS Project Manager
Milwaukee County Land Information Office
Department of Transportation and Public Works
2711 West Wells Street, Room 426
Milwaukee, Wisconsin 53208-3509
Telephone (414) 278-2176
Fax (414) 223-1982

Distribution and Use of Print Ready Electronically Formatted Materials

It is generally not the policy of the MCAMLIS Steering Committee to make available MCAMLIS products in hard copy form. All such products are now made available as print ready electronically formatted documents and can be obtained electronically through the use of readily available Internet browser technology. This includes topographic maps, cadastral maps, and records of control survey stations, control survey summary diagrams, plat of survey documents, condo/subdivision plats and certified survey maps. The cost schedule for hard copy products that are made available at the cost of reproduction and distribution is attached as Exhibit A. Digital copies of these same materials may be accessed directly through use of the Milwaukee County Land Information Office website located at maps.milwaukeecounty.org at no cost. In addition to those listed here, other types of documents may be made available over time.

Distribution and Use of Digital Materials

The Steering Committee has established a policy that distinguishes between the commercial and noncommercial use of the digital maps produced under the MCAMLIS program. Noncommercial use is defined to include the periodic internal use of selected digital mapping materials--not the entire digital mapping file--by private firms and individuals. For noncommercial purposes, it is the general policy of the MCAMLIS Steering Committee to make available duplicate copies of the copyrighted digital MCAMLIS products subject to reimbursement of the cost of reproduction, handling, and distribution. Local units of government within or outside of Milwaukee County; State and Federal agencies; private firms and individuals requesting digital data for internal, noncommercial use; and nonprofit organizations may request duplicate copies of the digital address, street centerline, topographic and cadastral map files. The MCAMLIS data are typically made available as specified within customized boundaries—area of interest (AOI). A boundary description of the AOI should accompany requests directed to the MCAMLIS Project Manager.

Current cost guidelines for obtaining such duplicate digital mapping files, intended to cover the costs of reproduction, handling, and distribution, are attached as Exhibit B. These guidelines reflect average costs associated with the reproduction, handling, and distribution of digital files as those files are presently stored. All monies received by the MCAMLIS Project Manager under this section will be retained by the MCAMLIS program as reimbursement for the actual expenses incurred.

Any party requesting duplicate digital files containing MCAMLIS copyrighted mapped data will be required to execute a license agreement in addition to paying for the costs of duplication set forth on Exhibit B. A copy of the license agreement is attached as Exhibit C. The license agreement provides the conditions under which the categories of noncommercial users described above may use the digital map data and prohibits the user from providing access to the data in digital form by a third party except in the case of 3rd parties working as agents of a Licensee or in cases where a Licensee's own internal policy requires a release of MCAMLIS data to comply with a record request. The MCAMLIS Project Manager is authorized by the MCAMLIS Steering Committee to act on the Steering Committee's behalf for action in a timely manner regarding requests for a license to obtain and use the digital MCAMLIS mapping files. The MCAMLIS Project Manager will review the request for consistencies with the policies set forth herein. The MCAMLIS Project Manager will not unreasonably refuse to provide access to the digital materials where the intended use is for a governmental, educational, non-profit, or internal private purpose. The MCAMLIS Project Manager will make findings and act to approve or disapprove the request. The MCAMLIS Project Manager will then formulate an appropriate

response with respect to each request and shall report all requests for licenses and specific determinations with respect thereto to the Steering Committee.

For commercial purposes, that is, where private firms or individuals seek to acquire all or substantially all of the digital files for internal or external use, it is the general policy of the MCAMLIS Steering Committee to make available duplicate copies of the digital copyrighted MCAMLIS mapping files in the native format within which the data is maintained. The Steering Committee will consider requests for duplicate digital copyrighted files for commercial purposes on a case-by-case basis. Requests should be directed to the MCAMLIS Project Manager at the address noted above. The Project Manager will report all such requests to the Steering Committee for their consideration and determination. The Steering Committee will make findings and act to approve or disapprove the request. If the Steering Committee disapproves the request, it shall be denied. All actions to approve a request shall include the terms of a license agreement. The MCAMLIS Project Manager will then carry out the Steering Committee's direction with respect to each request.

As a matter of general policy, it is the intent of the MCAMLIS Steering Committee to usually require any commercial entity requesting a duplicate copyrighted digital file of the MCAMLIS mapping database to acquire that database at a cost of \$7,647 per feature class e.g., tax parcel. This amount is derived from \$520,000 --representing a full cost equivalent of each utility member's investment whereby the complete database herein restricted by copyright, if acquired would total this sum. An additional maintenance fee totaling 20% of the original charge is assigned each requested update of the requested data used for commercial purposes. The total amount will be paid directly to the MCAMLIS Steering Committee and will be used by that Committee in furtherance of the objectives of the MCAMLIS program. All commercial entities intending to acquire a duplicate digital file of the copyrighted MCAMLIS mapping database for commercial purposes as defined above will be required to enter into a license agreement for the use of that database. That license agreement--which will be generally based upon the standard license agreement set forth in Exhibit C, but which will be adapted on a case-by-case basis as directed by the Steering Committee--will govern how, if at all, the commercial entity may provide access to the data in digital form by a third party and will provide for appropriate payment or payments.

MCAMLIS DATA AVAILABILITY

The following represents the availability of MCAMLIS print formatted electronic copy and digital data as of August 16, 2011:

- Records of control survey stations have been completed and are available for all U. S. Public Land Survey section and quarter section corners in the County.
- Control survey summary diagrams prepared for six-square-mile areas are available for the entire County.
- Digital files of large-scale topographic base maps are available from MCAMLIS for all of Milwaukee County.
- Digital files of continuously maintained cadastral maps are available from MCAMLIS for all of Milwaukee County.
- Street centerline, parcel address and building address data are available for all of Milwaukee County.

The status of available digital map products under the MCAMLIS program is continually changing. Interested parties should contact the MCAMLIS Project Manager to inquire about the availability of additional products.

* * *

Exhibit A

MCAMLIS HARDCOPY MATERIALS DISTRIBUTION COST SCHEDULE FOR ALL USERS

Item	Geographic Unit of Coverage	Scale	Sheet Size	First Page Unit Price	Second Page(s) Unit Price
Record of Control Survey Station	One U.S. Public Land Survey Section or Quarter-Section Corner	Not Applicable	8.5" x 11'	\$ 1.00*	N/A
Control Survey Summary Diagram	Six Square-Miles	Not Applicable	17" x 11"	\$ 5.00*	N/A
Plat of Survey	Selected Parcel(s)	Not Applicable	Various	\$2.00*	\$1.00
Condo/Subdivision Plat	Selected Parcel(s)	Not Applicable	Various	\$5.00*	\$2.00
Certified Survey Map	Selected Parcel(s)	Not Applicable	Various	\$2.00*	\$1.00

Plus shipping costs and sales taxes where applicable.

* Available for free download at maps.milwaukeecounty.org

Source: MCAMLIS Project Manager; August 16, 2011

EXHIBIT B

MCAMLIS DIGITAL MATERIAL DISTRIBUTION COST SCHEDULE FOR NON-COMMERCIAL USERS*

Digital Format**	Digital Base Materials Area of Interest (AOI)	
	Minimum Request including 1 st .5 hour of labor*	Each Additional Hour of Labor***
ArcGIS (specify format)	\$ 65.00	\$ 75.00
AutoCAD DWG/DXF	\$ 65.00	\$ 75.00

Plus shipping costs and sales taxes where applicable.

* Most fees are waived for government agencies; MCAMLIS partner organizations; non-profit; and for academic purposes that do not incur custom labor commitments beyond a minimum request.

** The two digital formats included in the table are the most frequently requested. Delivery in other formats may not be feasible. Any party desiring to explore delivery in other formats will be expected to pay the costs entailed in determining the feasibility of such delivery.

*** Ordered simultaneously with additional labor beyond the 1st .5 hour required to complete request selection.

Source: MCAMLIS Project Manager; August 16, 2011

EXHIBIT C

MILWAUKEE COUNTY AUTOMATED MAPPING AND LAND INFORMATION SYSTEM

LICENSE AGREEMENT PERTAINING TO THE NON-COMMERCIAL USE OF COPYRIGHTED DIGITAL BASE MAPPING MATERIALS

WHEREAS, the Milwaukee County Automated Mapping and Land Information System Steering Committee (the "Steering Committee"), a committee whose members currently are the Southeastern Wisconsin Regional Planning Commission, Milwaukee County, Wisconsin Bell Telephone now dba/"AT&T", Wisconsin Electric Power Company and Wisconsin Gas now dba/"We Energies", The City of Milwaukee, the Milwaukee Metropolitan Sewerage District, and the Intergovernmental Cooperation Council of Milwaukee County, is the copyright owner of certain digital base mapping materials developed under the Milwaukee County Automated Mapping and Land Information System (hereinafter referred to as "MCAMLIS"); and

WHEREAS, the MCAMLIS program is presently being administered by the Milwaukee County Land Information Office within the Milwaukee County Department of Transportation and Public Works through an employee designated as the MCAMLIS "Project Manager"; and

WHEREAS, _____ a unit or agency of government, a not-for-profit organization, an educational institution, or a private firm or individual seeking MCAMLIS digital data for internal, non-commercial use, (hereinafter referred to as the "Requestor"), has filed a request with the MCAMLIS Project Manager to obtain duplicate files of the digital MCAMLIS base mapping materials (hereinafter referred to as the "digital base maps"); and

WHEREAS, the Steering Committee is willing to permit the Requestor to obtain the digital base maps subject to the following conditions and understandings:

1. Within ten days after the later of the execution of this License Agreement or the Project Manager's receipt of the Paragraph 6 payment, the Steering Committee will provide Requestor with one digital copy of the requested MCAMLIS data in a mutually agreed format. Subject to the limitations set forth below, the Steering Committee agrees not to object to the Requestor using, reproducing, modifying, and/or displaying the digital base maps; preparing or distributing in non-digital form reports incorporating the base maps derived from the digital files; and distributing the base maps and reports in non-digital form to all parties concerned.
2. The Steering Committee agrees not to object to the Requestor making duplicate copies of the digital base map files for its own internal use. Such files, however, are intended only for the use of the employees and agents of the Requestor; and the Requestor and its employees and agents are expressly prohibited from providing copies of the digital base map files to any other party.
3. The Requestor agrees to use the digital base maps only for noncommercial purposes; that is, for governmental and educational purposes and for private purposes when a private firm or individual periodically uses selected digital materials -- not the entire MCAMLIS digital files -- for internal use.

4. The Requestor agrees to hold the digital base map files in confidence and prevent any third party from having access to those files or to any materials in digital form derived there from except as otherwise authorized by the Steering Committee by special agreement with the Requestor.
5. The distribution or use of the digital base maps in violation of the foregoing provisions shall be deemed a copyright violation and shall automatically terminate all rights of the Requestor relative to the digital base maps or any materials derived there from.
6. The Requestor agrees to reimburse the Steering Committee (via payment to the Project Manager), if requested, in the amount set forth in the attached cost schedule in connection with obtaining a copy or copies of the digital base maps.
7. The Requestor understands that the digital base maps and materials are being provided AS IS, WITHOUT ANY WARRANTY BY THE STEERING COMMITTEE OR ITS MEMBERS OR THE PROJECT MANAGER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND WITHOUT ANY WARRANTY OF ACCURACY. The Requestor hereby agrees to indemnify, defend, and hold harmless the Steering Committee, its members, and the Project Manager, and their subcontractors, from any claims arising out of the Requestor's use of the digital base maps or any information or materials derived there from.
8. The Requestor understands that none of the Steering Committee, or its members, or the Project Manager, or their subcontractors, has any obligation to supplement or update any of the digital base maps provided. Should, however, the Steering Committee or its members provide any updated digital base maps to the Requestor; such updated maps shall automatically be covered hereunder.
9. In the event that MCAMLIS derived hardcopy maps depicting the MCAMLIS copyright have been modified by Requestor, the Requestor shall describe such modification and depict the modification as clearly distinguishable from the original MCAMLIS base maps. The Requestor agrees not to misrepresent modified maps as being the original MCAMLIS base maps, nor to state or imply that modifications made by Requestor were reviewed or approved by MCAMLIS.

AGREED TO:

Requestor: _____

By: _____

Date: _____

Title: _____

Steering Committee

By: _____

Date: _____

Title: Project Manager

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**DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

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

MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: William C. Shaw, MCAMLIS Project Manager

DATE: August 30, 2011

SUBJECT: 2012 Pictometry AccuPLUS Orthophotography Project

BACKGROUND

At its meeting held September 22nd, 2009, the MCAMLIS Steering Committee approved a staff recommendation to proceed with the acquisition of Pictometry International Inc. AccuPLUS certified orthophotography. This project was approved coincident with a project to acquire separate six-inch resolution digital orthophotography as included with the SEWRPC 2010 Regional Orthophotography Program. Both sets of digital orthophotography were acquired and delivered through 2010. Subsequent to delivery a comparative study was conducted. The results of this study were published June 2011 and included in SEWRPC MEMORANDUM REPORT NO. 200: "COMPARISON OF THE RELATIONSHIP OF ALTERNATIVE 2010 ORTHOPHOTOGRAPHS FOR MILWAUKEE COUNTY TO NATIONAL MAP ACCURACY STANDARDS". This report concludes that both digital orthophotography acquisition methods exceed MCAMLIS benchmark horizontal accuracy standards.

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 next scheduled acquisition period requiring orthophotography covering Milwaukee County is in spring of 2012. As in spring 2007, digital orthophotography acquired for Milwaukee County may be eligible for partial funding by USGS for the Milwaukee Area footprint, this area generally covers Milwaukee, Waukesha and Ozaukee counties.

PROJECT

This project is to complete the second flight year of a six-year contract 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 assuming that funds are available and authorized for this purpose.

The project includes acquisition of Pictometry International AccuPLUS 6-inch pixel, color, digital orthophotography and oblique image photography as a package costing a total of

\$134,498 (see WI_Milwaukee_SCHEDULE_A_SIX YEAR_ACCUPLUS_2010). Portions of the 2012 flight cost may be offset by USGS. Details of the USGS 2012 Urban Mapping Program are TBD.

RECOMMENDATION

Staff recommends:

That the MCAMLIS Steering Committee authorize expenditure of \$67,249 in each of the next two years beginning with 2012 and ending 2013 for a total of \$134,498. This project would complete the second flight year of a six-year contract for the acquisition of Pictometry International AccuPLUS 6-inch pixel, color, digital orthophotography and oblique image photography package.

Attach: WI_Milwaukee_SCHEDULE_A_SIX YEAR_ACCUPLUS_2010 R1.pdf
Pictometry International, AccuPLUS Technical Specifications

* * * * *

SIX YEAR AGREEMENT - ACCUPLUS SCHEDULE "A" – THREE FLIGHTS

Six Year Agreement with *Long Term Incentive ("LTI") applied

1. The following products shall be delivered to Milwaukee County, Wisconsin ("Licensee") by Pictometry International Corp.:

A. Licensed Images procured with a 16 megapixel camera (as listed below and also portrayed on the attached Schedule D – Sectorized Map):

1) **PREMIER Four Way ACCUPLUS Neighborhood Images (N5)** covering 269 sectors of the Licensee as indicated on the Schedule D. Premier Neighborhood Images are nominal 6" GSD with submeter accuracy.

Each sector will have approximately:

- a. 36 Ortho-rectified orthos, 4 six inch mosaic tiles available in a TIFF, GeoTIFF or JPG format.
- b. 52 Oblique images from four perpendicular directions
(note: Nominal image counts above are based on flat terrain captures and will increase in mountainous terrain captures)

PREMIER Neighborhood Images will be taken when there is less than 30% leaf cover

PREMIER NEIGHBORHOOD **ACCUPLUS** Image Price:

PREMIER NEIGHBORHOOD Image Price	\$ 245.65 per sector per year
Less first capture 10% LTI*	\$ 24.565
	\$ 221.085 @ 269 Sectors = \$59,471.86 per year – 1st Image Capture
PREMIER NEIGHBORHOOD Image Price	\$ 263.15 per sector per year
Less first capture 5% LTI*	\$ 13.16
	\$ 249.99 @ 269 Sectors = \$67,247.31 per year – 2nd Image Capture
PREMIER NEIGHBORHOOD Image Price	\$ 263.00 per sector per year
	\$ 263.00 @ 269 Sectors = \$70,747 per year – 3rd Image Capture

B. Ancillary Products:

- 1) Oblique images are to be delivered with an image size of approximately 3-5 MB.
- 2) The mosaics will be delivered in a tiling scheme agreed upon by Milwaukee and Pictometry.
- 3) FGDC compliant metadata will also be provided at no cost.
- 4) One project-wide seamless 6" mosaic in MrSID or ECW format covering the sectors in Schedule D.

C. US Census Bureau TIGER line files of County or a base map supplied by Licensee.

D. DEMS (Digital Elevation Models): Pictometry will fly LiDAR with 1.0 meter spacing suitable for 2 foot contours. Both the LiDAR data and ancillary products are available for purchase. This contract may be amended up until March 1st, 2010 to allow for the LiDAR to be taken at .7 meter spacing suitable for 1 foot contours for an additional charge.

2. Documentation: Pictometry International Corp. shall furnish 1 digital copy of the Licensed Documentation for the Licensed Software.

3. Training included in License Fee: Pictometry International Corp. shall conduct two (2) End User orientation sessions of up to 25 people for employees of the Licensee or Authorized Subdivisions thereof at the Licensee's site. In addition there will be one (1) Advanced User technical training for one group of up to 10 people using Licensee computers. Licensee has the option of receiving two (2) End User Orientation Sessions and one (1) Advanced User technical training upon shipment of second and third Image Library. Pictometry also provides one Administration / IT training session designed to provide the administrators of the Pictometry image library with the knowledge they will need to manage and distribute access to the Pictometry solution. This session is done

CONFIDENTIAL

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Pictometry _____ Licensee_____

remotely using online tools such as GotoMeeting. Licensee has the option of receiving two (2) End User Orientation Sessions, one (1) Advanced User technical training and one (1) Administration/IT training upon shipment of second and third Image Library. Training class may be changed to make the training more applicable to the needs of Milwaukee County. These changes will be mutually agreed upon by all parties.

4. Telephone Support: During the six (6) years of this Agreement, Pictometry shall provide thirty (30) hours of telephone support to the people who have completed the Advanced User technical trainings and who are individually identified by Licensee.
5. Licensed Software: Pictometry International Corp. shall supply one copy of the Pictometry Electronic Field Study (EFS) software, latest version, on the Storage Media supplied as specified herein. Licensee and Authorized Users may download updated versions of the Licensed Software free of charge for a period of two years from the initial date of shipping of the EFS software, along with a copy of the updated documentation.
6. Annual License Fee of Fifty-Nine Thousand, Four Hundred and Seventy-One Dollars and Eighty-Six Cents (\$59,471.86) for 1st capture
Annual License Fee of Sixty-Seven Thousand, Two Hundred and Forty-Seven Dollars and Thirty-One Cents(\$67,247.31) for 2nd capture
Annual License Fee of Seventy Thousand, Seven Hundred and Forty-Seven Dollars (\$70,747) for 3rd capture
7. This is the Annual License Fee for the Licensed Images, Licensed Software, Licensed Documentation and support.
 - Long Term Incentives ("LTI") have been applied to the fees shown above. In the event License terminates this Agreement prior to the end of the six (6) year Agreement term, all LTI monetary considerations shall be revoked and these funds shall be immediately due and payable to Pictometry. **Repayment of LTI considerations does not apply if funds for Oblique Imagery are not appropriated.** If such funds are not appropriated, Licensee shall provide Pictometry with written documentation of non-appropriation from the funding source (such notification shall be prior to any pending image capture). If funds are not appropriated for the purchase of Oblique Imagery, contract shall stay in force but new Image Libraries shall not be captured or delivered until outstanding balances due have been paid.
 - The duration of the License is six (6) years at the above fees.
 - At the end of the term of this Agreement, the Licensee is granted a Perpetual License for all Licensed Images and Licensed Software at no additional cost. In the event that Milwaukee County opts out of future flights, all flights that are paid for will receive a Perpetual License.
 - At the end of this License Term, optional Support and Upgrades for Licensed Software may be continued by:
 - Entering into a new license for new images, or
 - Paying an annual Support and Maintenance Fee of 5 % of the Annual License Fee of the last capture
 - **Pictometry Economic Alliance Partnership** – Licensee shall be eligible for the Pictometry Economic Alliance Partnership as outlined on Schedule B. The EAP Program described on the attached Schedule B shall stay in effect for a two (2) year term. EAP coverage shall continue for an additional four (4) year term and offerings will be based on the then prevailing EAP Program.
 - The annual cost of the Images is fixed for a period of five (5) years from the date of this License Agreement with Pictometry to provide consistency in pricing should the Licensee wish to amend the Schedule A to purchase annual imagery (an additional set of images on the one year anniversary of this License).
8. Storage Media. For each delivery, Pictometry will provide external harddrives for delivery. Milwaukee County agrees to return the drives within 30 days or be billed appropriately.
9. Total Cost: The Total Cost of this License Agreement is Three Hundred and Ninety-Four Thousand, Nine Hundred and Thirty-Two Dollars and Thirty-Four Cents (\$394,932.34) of which Milwaukee County is obligated to pay \$118,943.72. The remaining \$275,988.62 included for years 3 through 6 is payable only if funds are appropriated. It is broken down as follows:

First Year
Annual License Fee \$59,471.86

Second Year
Annual License Fee \$59,471.86

Third Year

Annual License Fee \$ 67,247.31

Fourth Year

Annual License Fee \$ 67,247.31

Fifth Year

Annual License Fee \$ 70,747.00

Sixth Year

Annual License Fee \$ 70,747.00

10. Taxes: All License Fees or other prices listed in this Agreement are exclusive of Federal, State and Local taxes. Licensee will be responsible for any taxes due under this License Agreement, including sales tax, unless a tax exempt certificate is submitted to Pictometry.
11. Payment: The Licensee shall remit to Pictometry International, Corp. twenty percent (20%) of the Two Year Total Fee upon signing this Agreement and the balance of the First Year Total Fee within 30 days of the shipment of the Licensed Software and first Image Library, as specified in this Schedule A. All shipment efforts by Pictometry International Corp. shall be coordinated with the Licensee. Payment of the Second Year Total Fee shall be due on the one-year anniversary of the first Image Library shipment date.

Payment of the Third Year Total Fee shall be within 30 days of the shipment of the second Image Library, as specified in this Schedule A. Payment of the Fourth Year Total Fee shall be due on the one-year anniversary of this second Image Library shipment date.

Payment of the Fifth Year Total Fee shall be due within 30 days of the shipment of the third Image Library, as specified in this Schedule A. Payment of the Sixth Year Total Fee shall be due on the one-year anniversary of this third Image Library shipment date.

It is understood that the payment schedule is for the convenience of the Licensee. All monies are considered earned upon shipment of the first Image Library. Payment of the Second, Third, Fourth, Fifth and Sixth Year Total Fees with the First Year total Fee will receive a 2% discount on those Second, Third and Fourth Year Total Fees. Fees past due for 30 days shall be charged a late fee of 1.5% per month.

Payment Breakdown:

Down payment due at signing = \$ 23,788.40

Balance of First Year Total Fee due on first Image Library shipment = \$ 35,683.46

Second Year Total Fee due on one-year anniversary of first Image Library shipment = \$ 59,473.21

Third Year Total Fee due on second Image Library shipment = \$ 67,247.31

Fourth Year Total Fee due on one-year anniversary of second Image Library shipment = \$ 67,247.31

Fifth Year Total Fee due on third Image Library shipment = \$ 70,747.00

Sixth Year Total Fee due on one-year anniversary of third Image Library shipment = \$ 70,747.00

12. Delivery Schedule: The image capture process and the delivery date may be affected by weather conditions or aircraft availability. Licensee will accept delivery within thirty (30) days of notification by Pictometry.
13. Recommended Minimum System Requirements for Electronic Field Study. A Pentium III with a 450 MHz processor, 256MB memory minimum 512MB+ recommended, Windows 2000/XP, a video card with 4 MB memory capable of 1024 x 768 resolution, , display color of 24bit or higher, 100MB NIC and 50MB free disk space for software.
14. Training and Support Services: Additional training and support services are available to Licensee at the then prevailing prices.
15. The LiDAR and orthophotography will meet the specifications outlined in Schedule C.

Acquisition:

Flight plans will be prepared to capture image frames with 60% forward overlap and 30% sidelap in order to provide sufficient overlap for automatic aerial triangulation and mitigation of building lean in orthophotography produced.

Source imagery will be acquired during times of optimal environmental conditions. Imagery will be captured only when solar altitude is 30 degrees or greater, and generally between 10 a.m. and 2 p.m., except where capture season offers significantly longer window. Imagery will be acquired with ground free of snow cover and deciduous vegetation less than 30% of full bloom. Frames with clouds will be rejected and reflight. Any planned deviation from these conditions imposed by capture window constraints will be discussed with client prior to commencement of acquisition.

Camera:

Pictometry utilizes a custom-designed mapping camera incorporating a Kodak sensor and custom-designed photogrammetric lenses. The sensor is fully calibrated according to Pictometry's calibration process which was licensed to the USGS in 2003. Pictometry's sensor provides a dynamic range of 12 bits per band, RGB (resampled to 8 bits during processing).

Ortho-Rectification:

Prior to the production of orthophotography, Pictometry will perform automatic aerial triangulation, utilizing the directly observed Exterior Orientations (EOs) and ground control points (GCPs), measured by a licensed surveyor, for the purpose of orienting the individual frames for creation of the final ortho imagery. In addition to the GCPs, sophisticated matching techniques will be employed to automatically create tie points for use in performing a bundle adjustment.

Pictometry will utilize high accuracy LiDAR, combined with the calibrated camera interior orientations, ground control points, and adjusted EOs to rectify the images. When the rectification requires a resampling of the source imagery, a cubic convolution method will be utilized.

Horizontal Accuracy:

4" orthos: 1.50 ft., NSSDA 95%, meets or exceeds the following:
1:600 (1" = 50') National Map Accuracy Standards (+/- 1.67ft.)
1:1200 (1" = 100') ASPRS Class I Standards (RMSE = 1.0 ft)

6" orthos: 1.73 ft., NSSDA 95%, meets or exceeds the following:
1:1200 (1" = 100') National Map Accuracy Standards (+/- 3.33ft.)
1:1200 (1" = 100') ASPRS Class I Standards (RMSE = 1.0 ft)

12" orthos: 3.46 ft., NSSDA 95%, meets or exceeds the following:
1:1200 (1" = 100') National Map Accuracy Standards (+/- 3.33ft.)
1:2400 (1" = 200') ASPRS Class I Standards (RMSE = 2.0 ft.)

Mosaic:

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

Once the mosaic has been produced, the imagery will be tiled and named according to the customer-provided (or Pictometry-generated) scheme for delivery.

Deliverables:

All deliverables in customer preferred coordinate system.

- Project-wide seamless mosaic in MrSID or ECW format*
- Tiled imagery according to customer-provided tiling scheme – available as TIFF, GeoTIFF or JPG
- FGDC compliant metadata

*Customer may prefer several smaller mosaics if project area is especially large.

3. TECHNICAL SPECIFICATIONS: High Accuracy Obliques

- See High Accuracy Oblique technical specs

4. TECHNICAL SPECIFICATIONS: LiDAR

- See LiDAR 1.0M Bare Earth Model technical specs

5. TECHNICAL SPECIFICATIONS: Near IR

- See Near IR technical specs



DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
MILWAUKEE COUNTY LAND INFORMATION OFFICE

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MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: William C. Shaw, MCAMLIS Project Manager

DATE: August 23, 2011

SUBJECT: REPLACEMENT PLANIMETRIC MAPPING

BACKGROUND

At its meeting held on October 6th, 2010, the MCAMLIS Steering Committee approved a staff report regarding the MCAMLIS PROGRAM STRATEGIC ASSESSMENT FOR 2010-2013. The assessment recommended that the MCAMLIS Project Manager develop a project scope that met requirements for updating the 2004 - 2009 Topographic/Planimetric Map Series and maintaining this series going forward.

The Steering Committee has determined that the useful life of topographic mapping to be between 4 and 10 years. With the most recent Topographic Mapping project completed in 2010 it is clear that continued maintenance should be considered to preserve the value of this investment into the future. Notwithstanding past efforts, any new project of this type should be examined through an objective lens given the initial project cost, the mitigating factors that can influence future costs, and how the topographic mapping program maintenance can be sustained within an economic framework that is suitable to the needs of Milwaukee County.

TOPOGRAPHIC ELEVATION UPDATES

LiDAR - In 2009 the MCAMLIS Steering Committee authorized staff to enter into a program to acquire LiDAR data capable of producing 1 foot' contours covering Milwaukee County. Subsequently, the derivation of updated contour elevations using the 2010 LiDAR data have provided a rich database of highly accurate elevation data that have proved capable of producing topographic map products at 1"= 100' scale. These products generally exceed National Map Accuracy Standards (NMAS) at the 1"= 100' scale and can serve as a replacement for the MCAMLIS topographic products. LiDAR terrain and derived image products are recommended to be refreshed on a bi-annual cycle i.e., 2012 & 2014/15.

ORTHOGRAPHY UPDATES

Orthophotography – In 2009 the MCAMLIS Steering Committee authorized staff to enter into a program to acquire Orthophotography at a resolution of 6" across Milwaukee County. Subsequent acquisition of orthophotography coincident with oblique imagery captured in the

spring of 2010 adds to the already rich inventory of imagery that is available across the county. These image-based products serve to augment the potential analysis and identification of planimetric feature changes. Orthophotography and Oblique image products are recommended to be refreshed on a bi-annual cycle i.e., 2012 & 2014/15 (to coincide with the regional 5 year cycle).

PLANIMETRIC FEATURE UPDATES

Photo observable planimetric features are changing on a daily basis and fortunately a significant number of these are easily detected via selected use of remote sensing techniques e.g., comparing surface model elevations assisted with multiple years of orthophotography and currently existing mapped planimetric features can be used to identify building demolitions, new construction and transportation changes (see MCLIO Report: Summary of Planimetric Change: 2005 – 2010). Change detection accuracy is further improved by conducting an inventory of the locations of recorded developments.

The total of identified change in square miles is estimated to be approximately 7% by area from 2005 through today, or 17 square miles as described in table below.

		CHANGE TYPE					Total
		Within parcel			TRANSPORTATION within ROW		
		UNIMPROVED- to-IMPROVED	IMPROVED-to- IMPROVED	IMPROVED-to- UNIMPROVED		TRANSPORTATION	
	# Of parcels or portions of ROW	2,152	792	802	273	382	4,401
Area by assessment type (sq. miles)	Agricultural	0.0	0.0	0.0	0.0	0.0	0.0
	Commercial	0.9	1.8	0.4	0.4	0.0	3.4
	County	0.1	1.1	0.1	1.9	0.0	3.1
	Federal	0.0	0.3	0.0	0.0	0.0	0.3
	Manufacturing	0.1	0.6	0.0	0.1	0.0	0.8
	Mixed	0.2	0.0	0.2	0.0	0.0	0.5
	Other	0.4	2.4	0.3	1.1	0.0	4.2
	Residential	1.3	0.8	0.2	0.3	0.0	2.6
	State	0.0	0.1	0.0	0.1	0.0	0.2
		Total	2.9	7.0	1.2	3.9	1.9
	% Of total county area	1.2%	2.9%	0.5%	1.6%	0.8%	7.0%

PROJECT SPECIFICATIONS

MCAMLIS Staff has completed drafting a set of detailed planimetric map maintenance specifications that address the planimetric mapping update process to be overseen by a certified photogrammetrist (see Digital Planimetric Mapping Specification).

RECOMMENDATIONS

On the basis of the products and materials developed and discussed with the Steering Committee, and as included as part of the MCAMLIS PROGRAM STRATEGIC ASSESSMENT FOR 2010-2013 regarding the need for and utility of continuing to maintain both topographic and planimetric features, staff offers the following comments, observations, and recommendations to the MCAMLIS Steering Committee.

The Utility of the Presently Available MCAMLIS Digital Planimetric Mapping Products for their intended audience

- Staff believes that the presently available MCAMLIS digital planimetric products do have value for their intended audience, and it is expected that the use of these maps will become even more important as they are integrated into future web based mapping and mobile applications e.g., Community Base Map Project.
- Staff believes that the more current the information contained on the maps, the more value the maps have for their originally intended and expanding audience.
- Staff recommends that the Steering Committee consider the formal adoption of a policy that would include the acquisition of six-inch pixel, color, digital orthophotography, and .7 meter NPS LiDAR on a two to three year schedule, noting that these products are critical to the continuing maintenance of both topographic and planimetric digital mapping datasets. Whereby staff believes that the recent availability of these data has immeasurably increased the possibility and utility of any proposed re-mapping effort.

The Conformance of the Substantive Map Feature Specifications, the Digital Geodatabase Structure Specifications, and the Digital Operating Environment Specifications to State-of-the-Art Practices

- Staff believes that the current map accuracy specifications meet all needs for the preparation of the MCAMLIS digital mapping products and recommends that the use of these accuracy specifications be continued.
- Staff recommends that the current 10,000 ft. by 10,000 ft. “map grid” focused delivery of the digital Planimetric mapping be revised to provide delivery of a countywide “seamless” File Geodatabase.
- Staff has reviewed and considered the need for compatibility with both GIS and CAD (Computer Aided Drafting) and recommends that the ESRI File Geodatabase affords the most flexibility and inter-operable functionality of any offering currently in the marketplace.

The Need for a Replacement Digital Planimetric Mapping Program

- Staff recommends that the MCAMLIS Steering Committee undertake a Digital Planimetric Mapping Replacement Program utilizing the attached “Digital Planimetric Mapping Specifications”
- As with the report produced by the Subcommittee on Topographic Mapping dated 10/28/2004¹, staff has found that that the useful life cycle of the Topographic/Planimetric mapping continues to be in the range of between 4 to 10 years. Although the Subcommittee in 2004 arrived at this range anecdotally, staff’s assessment of the “% of Change” between 2005 and 2010 (a five year period) being 7% can be extrapolated (at 1.4% change per year) to an expected 10% change by year seven along this continuum.

Noting that National Map Accuracy Standards (NMAS) require that 90 percent of positions of well-defined points be within 3.3 feet of their correct position suggests that by year seven, at an expected 10% change the MCAMLIS planimetric map products would no longer meet the standards adopted for MCAMLIS mapping. Further noting that the Topographic map product was updated in 2010 and that the changed planimetric features no longer are coincident with these updated digital topographic products.

This lends further support to the fact that the planimetric mapping products produced using 2004/2005 aerial photography are now well within the range requiring replacement and that the program as described is warranted.

- Finally, staff recommends that the MCAMLIS Steering Committee authorize solicitation of Professional Services Contract proposals (not to exceed \$125,000) and based on a favorable response proceed with the proposed Planimetric Mapping Replacement Program as described herein.

Attach: MCLIO Report: Summary of Planimetric Change: 2005 – 2010
Digital Planimetric Mapping Specification

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¹ Pg 5 of the Report to the Steering Committee, “At the third meeting of the Subcommittee, members were again unable to reach consensus concerning a useful life cycle for the topographic mapping; other than to agree that such a life cycle lies between 4 to 10 years.”

DETAILED SPECIFICATIONS FOR ONE-INCH EQUALS 100 FEET SCALE DIGITAL PLANIMETRIC MAP MAINTENANCE

I. GENERAL

These products and specifications set forth the requirements of Milwaukee County for photogrammetric mapping services to perform maintenance of existing digital planimetric features.

II. PHOTOGRAPHY

The Engineer shall perform work specified in SECTION VII utilizing existing aerial photographic coverage, obtained in spring 2010 of Milwaukee County, Wisconsin, an area of approximately 242 square miles in extent, as shown on the sketch map attached hereto as Exhibit A.

III. DIGITAL ORTHOPHOTOGRAPHY

The Engineer shall perform work specified in SECTION VII utilizing existing six-inch pixel, digital orthophotography obtained in spring 2010 of Milwaukee County, Wisconsin, an area of approximately 242 square miles in extent, as shown on the sketch map attached hereto as Exhibit A. The digital orthophotography images were prepared in such a manner as to be compatible with topographic/planimetric maps prepared to National Map Accuracy Standards for one-inch equals one hundred feet (1"= 100') scale mapping.

Digital orthophoto files - 100-foot scale, six-inch pixel resolution color digital orthophoto files are referenced to the Wisconsin State Plane Coordinate System, South Zone, North American Datum of 1927, and are rendered in "GeoTIFF" raster format. Alternatively, these same images are available in compressed MrSID format.

The digital orthophoto files are organized into "tiles" covering an area of 10,000 grid feet by 10,000 grid feet in size, yielding approximately 90 whole or partial, color, six-inch pixel, digital orthophoto image files. Optional compressed file configurations are also available e.g., township and countywide.

IV. DIGITAL ELEVATION AND TERRAIN PRODUCTS

The Engineer shall perform the work specified in SECTION VII utilizing either of two forms of existing digital elevation and terrain products as described herein:

A. LiDAR

Existing products certified in accordance with 2004 National Digital Elevation Program guidelines for determining accuracy of LiDAR data for 1 ft. contours. These LiDAR derived digital elevation and terrain products were obtained in spring 2010 of Milwaukee County, Wisconsin.

B. Photogrammetric

Existing photogrammetrically derived digital elevation and terrain products provided that such elevation and terrain products meet or exceed National Map Accuracy Standards for two-foot contour interval, one inch

equals one hundred feet (1" = 100') scale mapping and these products are updated to reflect elevation and terrain conditions in Milwaukee County in the spring of 2010.

V. DIGITAL TOPOGRAPHIC/PLANIMETRIC MAPPING

A. General

The Engineer shall perform the work specified in SECTION VII utilizing existing digital topographic/planimetric feature classes maintained in ESRI Geodatabase format meeting National Map Accuracy Standard for Milwaukee County, Wisconsin. Existing topographic/planimetric data compiled from aerial photography collected in spring of 2004, 2005 and 2009. The data therein reflects the specification herein for areas compiled respective to each flight location and date of capture.

B. Existing Topographic/Planimetric Feature Class Data

The existing digital feature classes show correctly the following information:

1. Hypsography by contour lines having a vertical interval of two feet. All contours are shown clear and sharp as smooth continuous solid lines except through structures. Every fifth contour is accentuated and numbered. Elevations of saddles, kettles, summits, high points of all crests and low points of all sags in existing roadways, all existing road intersections, and all bridge decks at both ends of the bridge are shown as determined photogrammetrically, except where field evaluation is referenced to the National Geodetic Vertical Datum of 1929 as established by the National Geodetic Survey.
2. All planimetric details, such as pavements, curbs, paved sidewalks appurtenant to public streets, highways, and other public ways having a width of five feet or greater, driveways, trails, centerlines of railway tracks, power and telephone line poles and towers, buildings, fences, wooded areas, and other identifiable features on the photography, are shown in their correct positions and orientation within the tolerances of these specifications
3. All hydrographic features, such as marshes, lakes, streams, watercourses, and drainage ditches, shall be shown in their correct positions and orientation within the tolerances of these specifications. Hydrographic features having a width of five feet or greater are shown by double lines.
4. Lettering as furnished by Milwaukee County relative to the names of the salient geographic features. The names of all state and county truck highways, public streets, and major streams and lakes are included as annotation class features in the digital Geodatabase files.

VI. DIGITAL PLANIMETRIC CHANGE LOCATIONS

A. General

The Engineer shall perform the work specified in SECTION VII utilizing existing digital files describing the locations throughout Milwaukee County where planimetric change has been detected. The planimetric change locations are delineated within a single ESRI Geodatabase formatted polygon file. The engineer shall use these delineated areas to identify and discretely update the planimetric features contained therein.

B. Types of change detected

Two primary types of change detected:

1. Changes to Primary/Addressable Structure(s)
 - Improved-to-Unimproved - 2004-2005 primary structure(s) razed by 2010; and
 - Unimproved-to-Improved – parcels undeveloped in 2004-2005, developed by 2010; and
 - Improved-to-Improved – changes in shape, size, or location of primary structure(s)
2. Transportation-Related Change
 - Changes within rights-of-way, e.g.: Intersections, Interchanges, Sidewalks, Roadway alignments and Roadway widths and;
 - Changes within parcel boundaries, e.g.: Parking lots, Driveways and Private roadways

VII. DIGITAL PLANIMETRIC MAPPING

A. General

The Engineer shall prepare planimetric updates to the existing digital planimetric feature classes in ESRI File Geodatabase format meeting National Map Accuracy Standard for Milwaukee County, Wisconsin. For the purpose of interpreting these standards within the context of the digital feature classes, the “publication scale” of these digital maps shall be one inch equals one hundred feet (1” = 100’). The area to be mapped, totaling approximately 17 square miles, is shown on the sketch map attached hereto as Exhibit A. The Engineer shall prepare these updated features utilizing the aerial photography acquired in accordance with Section II herein and the digital elevation and terrain products provided in accordance with Section IV herein.

The Engineer shall provide copies of the digital planimetric features to Milwaukee County for review and editing, and for field checking to determine compliance with the standards and specifications set forth herein. Upon completion of this review, Milwaukee County will advise the Engineer of any revisions needed to bring the digital planimetric features into full compliance with the applicable standards and

specifications. The Engineer will revise the features requested and return the corrected features to Milwaukee County.

If requested, the Engineer shall furnish a letter of certification from the Professional Engineer or Registered Land Surveyor verifying that the updated digital planimetric features meet National Map Accuracy Standards.

B. Planimetric Feature Data to be updated

The digital features shall show correctly the following information:

1. All planimetric details, such as pavements, curbs, paved sidewalks appurtenant to public streets, highways, and other public ways having a width of five feet or greater, driveways, trails, centerlines of railway tracks, power and telephone line poles and towers, buildings, fences, wooded areas, and other identifiable features on the photography, shall be shown in their correct positions and orientation within the tolerances of these specifications
2. All hydrographic features, such as marshes, lakes, streams, watercourses, and drainage ditches, shall be shown in their correct positions and orientation within the tolerances of these specifications. Hydrographic features having a width of five feet or greater shall be shown by double lines.
3. Such lettering as may be secured from “authoritative content” maps of the area or as may be furnished by Milwaukee County relative to the names of the salient geographic features. The names of all state and county truck highways, public streets, and major streams and lakes shall be included in the updated digital planimetric annotation feature class data.

C. Digital Geodatabase Feature Class Organization and Specifications

The Engineer shall organize the digital features in such a manner as to enable the plotting of digital planimetric maps similar in appearance to the planimetric feature maps historically prepared for Milwaukee County

1. The digital planimetric features shall be referenced to the Wisconsin State Plane Coordinate System, South Zone, North American Datum of 1927. The features shall be organized into two separate ESRI File Geodatabase folders. Each file folder will contain a complete set of feature classes with subtypes associated with each feature class. ESRI File Geodatabase naming conventions for the file folders containing the digital planimetric features shall be as follows:

File Geodatabase Name	Description
Topo_Planimetric_10_04_updates.gdb	Planimetric updates only
Topo_Planimetric_10_04_merged.gdb	Planimetric updates merged with original data

2. The ESRI File Geodatabase digital features shall be organized in such a manner that data types e.g., points, lines, areas and text, can be selectively retrieved, manipulated, and displayed, either singly or in combination with other data types. The categories of data types within the file structure shall be as listed in the table attached hereto as Table 1. The table is made up of columns that describe the name and type of the features, as well as the graphic attributes such as level, color, weight, and line code assigned to the features.
3. Point and line symbolization and lettering styles and sizes shall be established by the Engineer in such a manner that the maps plotted from the digital files will conform in appearance, insofar as is possible, maps historically prepared for Milwaukee County.
4. The digital topographic feature classes in ESRI File Geodatabase format shall be prepared with the following enhancements:

a. Hydrography Features

Water lines depicting double line open water features consistently greater than five feet in width such as lakes, ponds, and streams shall be topologically continuous and shall be capable of forming closed polygon features. Water lines depicting single line water features consistently less than five feet in width such as streams, watercourses, and drainage ditches shall be continuous, connected segments capable of forming a continuous hydrography network.

b. Transportation Features

The road features shall be created as the edge of pavement or roadway for a paved or unpaved road. Paved road and unimproved road line segments that are broken or “clipped” for creation of openings for driveways shall be saved and uniquely identified in the digital planimetric feature classes. The combination of paved and unimproved road features and “clipped” paved and unimproved road line segments shall form a continuous, connected road edge without gaps or openings for driveways, and capable of forming a closed polygon feature.

c. Clipped Features

Certain features in the digital planimetric feature classes may require that portions of these line segments be trimmed or “clipped” for the placement of other line features or the placement of text. For example, road edges may be clipped for the creation of openings for driveways. As previously mentioned, all clipped features shall be saved and uniquely identified in the digital feature classes, such that the “clipped” segments can be used in combination with appropriate features to form closed polygon areas or continuous, connected line features. Examples of features

that may necessitate the creation of “clipped” line segments include paved and unimproved roads.

d. Closeable Features

Selected features in the digital planimetric feature classes shall be created in such a way that they are closed and connected line segments and shall be amenable to the formation of closed polygons. For example, water lines and shorelines shall be connected such that they are capable of forming polygons for open water features. Similarly, paved and unimproved roads-with the addition of appropriate “clipped” line segments – shall be capable of forming closed polygon features. Refer to Table 1 to identify features designated with a TYPE of “Line/Area” for a complete list.

5. The Engineer shall collaborate with Milwaukee County to establish correct format and procedures for the transfer and delivery of the ESRI File Geodatabases. The Engineer shall also provide hard copy listing of the names of the files included on any delivered media.
6. All computer software used by the Engineer in the preparation and transfer of the digital feature classes shall be capable of maintaining the full mathematical precision of the horizontal and vertical control survey information described under Sections VII.A, VII.D.1, and VII.E.2, of these contract specifications. This may require the use of computer software written in double precision.
7. The Wisconsin State Plane Coordinate System, South Zone, shall be utilized as the coordinate system for the encoding of all File Geodatabase features class data elements.

D. Editing, Field Checking, and Quality Assurance of the Digital Planimetric Feature classes

The following procedures shall be employed in the development of the final digital planimetric feature classes.

1. The Engineer shall provide copies of the completed Geodatabases. Milwaukee County will prepare check plots in the form of planimetric maps. The check plots prepared by Milwaukee County shall include U.S. Public Land Survey System section and quarter-section corner and line features, including the eastings, northings, and elevations of each U.S. Public Land Survey System corner, as previously established as a component of the Milwaukee County Automated Mapping and Land Information System. Each check plot shall cover one U.S. Public Land Survey System quarter section in the project area. The U.S. Public Land Survey System corners and their connecting lines, which have been established by ground surveys, shall constitute the higher order control system against which the digital

planimetric features will be compared to determine the compliance of the digital maps with National Map accuracy Standards.

2. Milwaukee County shall conduct office editing and field checking of the planimetric map check plots.
3. Milwaukee County shall apply a line to area conversion utility to those features identified in Table 1 as having both line and area properties i.e., all features having a TYPE designation of "Line/Area" when combined with clipped line features must be able to form closed area polygons.
4. At the conclusion of the review, Milwaukee County shall provide the annotated planimetric map check plots to the Engineer.
5. The Engineer shall revise the digital feature classes to reflect the annotations shown on the planimetric map check plots.
6. The Engineer shall provide the corrected digital features; together with the annotated check plots, to Milwaukee County.
7. The digital topographic features shall be checked by Milwaukee County to determine compliance with the digital specifications.
8. Should the digital planimetric features be found by Milwaukee County to meet all applicable specifications, Milwaukee County shall notify the Engineer of acceptance by Milwaukee County of the digital Geodatabase features.
9. Should the digital planimetric features be found by Milwaukee County to require further revisions to comply with the specifications, Milwaukee County shall so notify the Engineer.
10. The Engineer shall then follow the procedures noted in paragraph numbers 5 through 7 above as may be necessary to produce and deliver to Milwaukee County the final digital planimetric Geodatabase feature classes as set forth in paragraph number 7 above.

E. Precision and Accuracy Standards

1. The digital Geodatabases shall be prepared to meet National Map Accuracy Standards at the scale of one inch equals on hundred feet (1" = 100'), and a certificate to this effect shall be provided if requested by Milwaukee County.
2. Ninety percent of all well-defined planimetric features shall be plotted so that their position in the digital Geodatabase shall be accurate to within 1/30 of an inch of their true coordinate position and no point shall be more than 1/20 of an inch from its true position at the map scale specified herein.
3. The completed digital Geodatabase feature classes shall be field checked by Milwaukee County. The Engineer shall furnish instruments and assistance to Milwaukee County for such field

checking. The field measurements shall be compared against the map data, and any feature classes that do not conform to national Map Accuracy Standards and the requirements of these specifications shall be corrected by the Engineer to fully meet the specified accuracy.

Summary of Planimetric Change: 2005 vs. 2010



Milwaukee County Land Information Office

Milwaukee County maintains digital mapping of photo-observable ground (or “planimetric”) features including buildings, sidewalks, fences, utility equipment, and hydrologic feature locations. As part of this effort, the Milwaukee County Land Information Office has recently conducted a countywide evaluation of planimetric change for the purpose of targeting areas where updates to the existing topographic/planimetric mapping (based on 2004-2005 orthophotography) are necessary.

Two primary types of change were considered (click on the hyperlinks in blue to view maps summarizing each type of change):

1) Changes to Primary/Addressable Structure(s) at the Parcel Level

- a. [Improved-to-Unimproved](#) - 2004-2005 primary structure(s) razed by 2010
- b. [Unimproved-to-Improved](#) – parcel undeveloped in 2004-2005, developed by 2010
- c. [Improved-to-Improved](#) – change in shape, size, or location of primary structure(s)

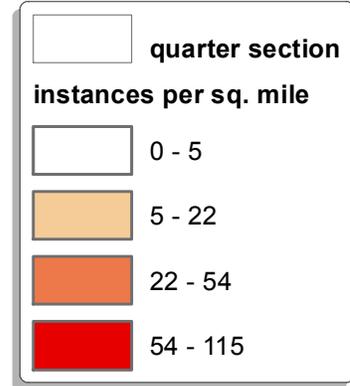
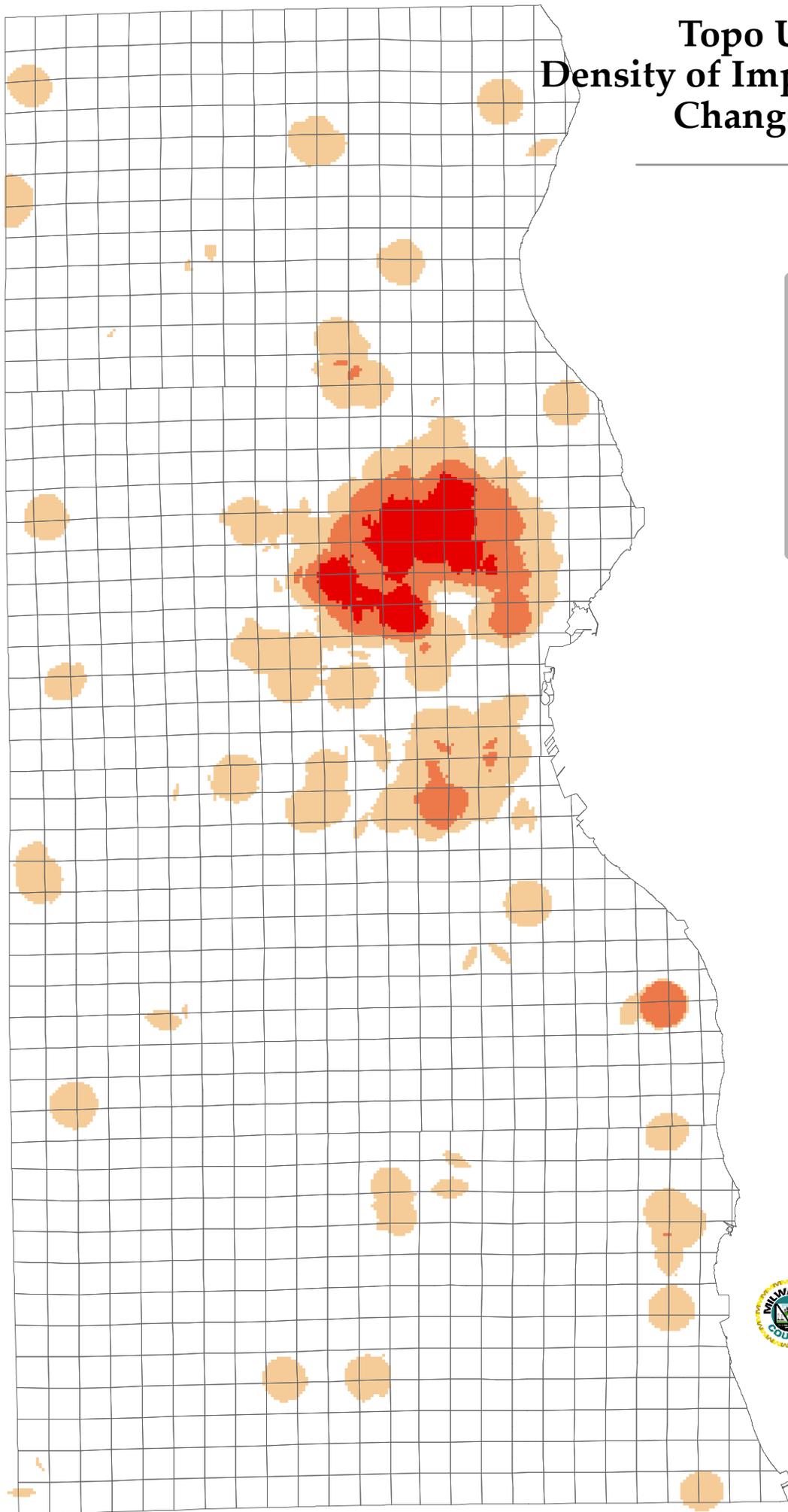
2) Transportation-Related Change

- a. Changes within rights-of-way, e.g.:
 1. Intersections
 2. Interchanges
 3. Sidewalks
 4. Roadway alignments
 5. Roadway widths
- b. Changes within parcel boundaries, e.g.:
 1. Parking lots
 2. Driveways
 3. Private roadways

A [composite of all structure- and transportation-related](#) change has been prepared to indicate areas of high change density between 2005 and 2010, based on the number of change instances observed per square mile.

Topo Update Map 4: Density of Improved to Unimproved Change, 2005 vs. 2010

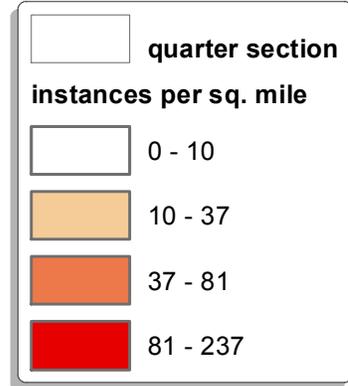
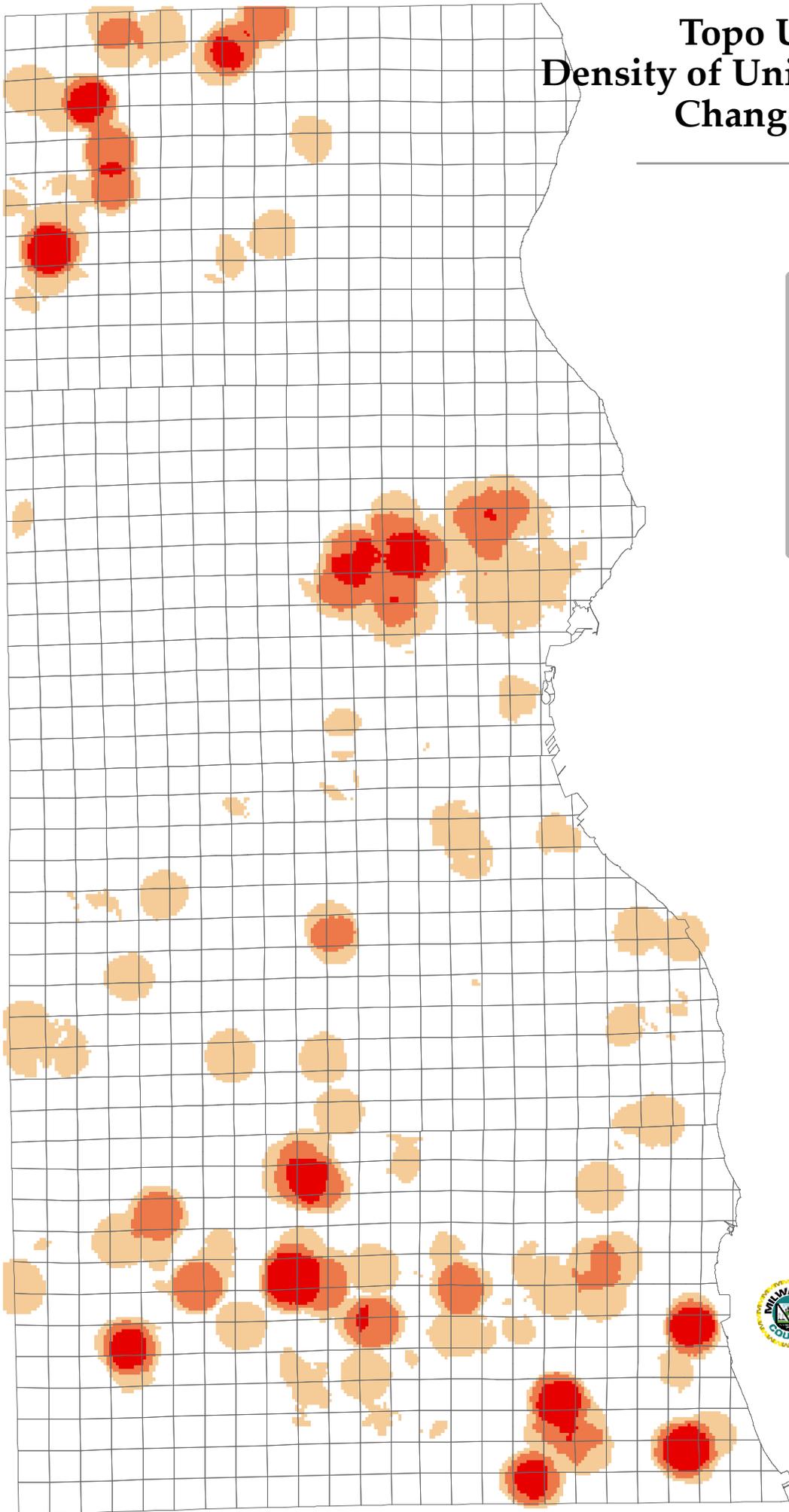
2011 Q3



Milwaukee County
Land Information Office

Topo Update Map 3: Density of Unimproved to Improved Change, 2005 vs. 2010

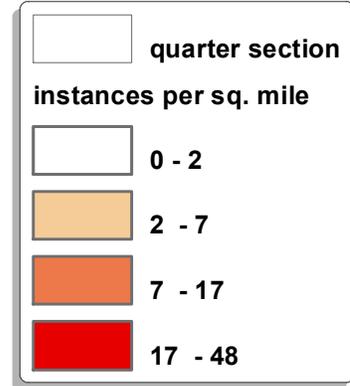
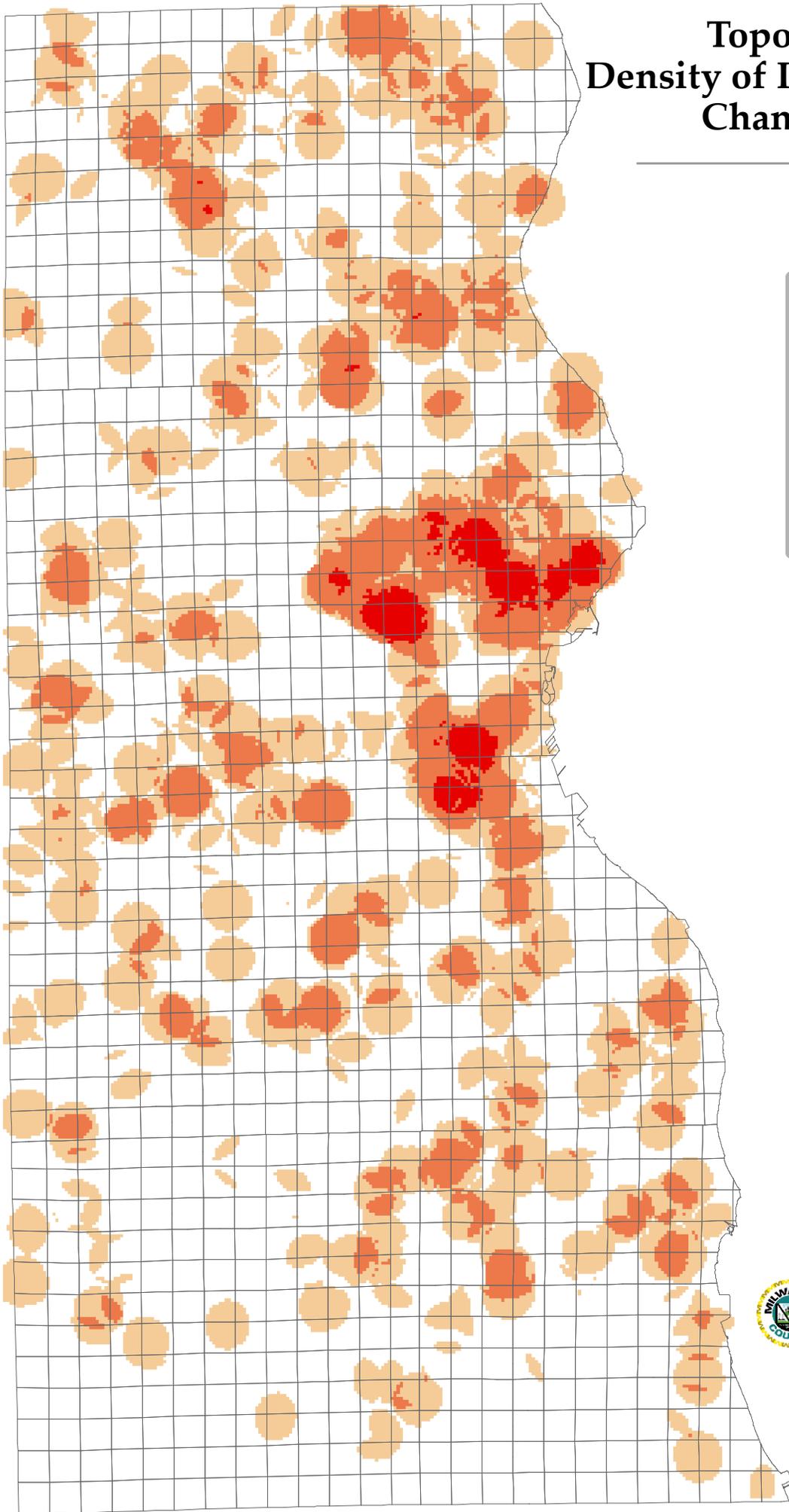
2011 Q3



**Milwaukee County
Land Information Office**

Topo Update Map 1: Density of Improved-to-Improved Change, 2005 vs. 2010

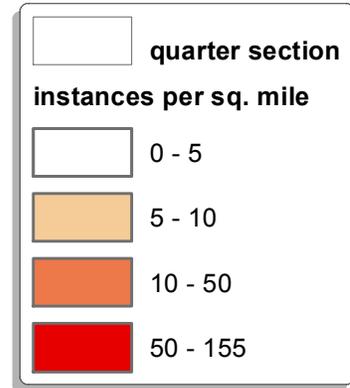
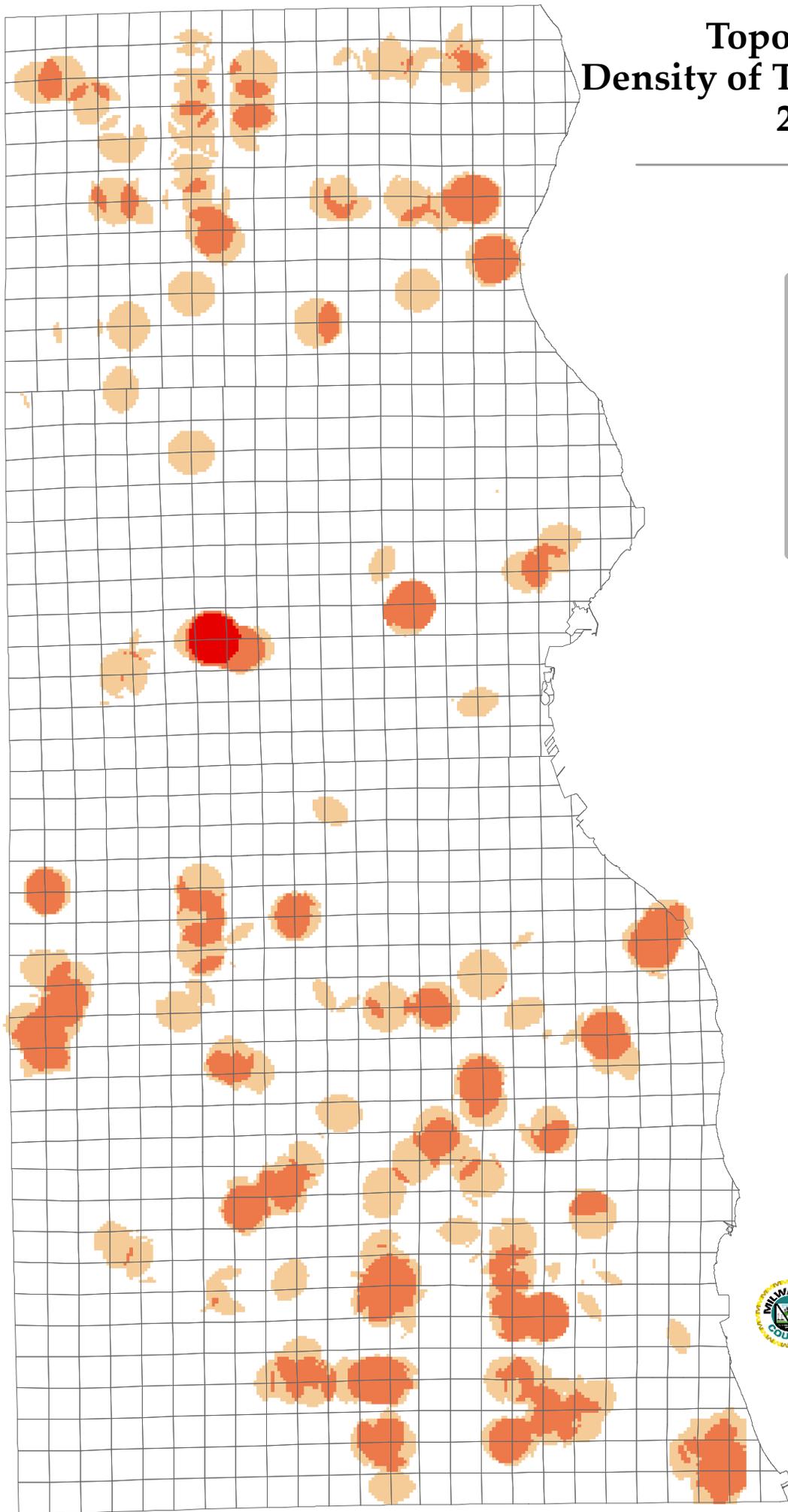
2011 Q3



**Milwaukee County
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Topo Update Map 2: Density of Transportation Change, 2005 vs. 2010

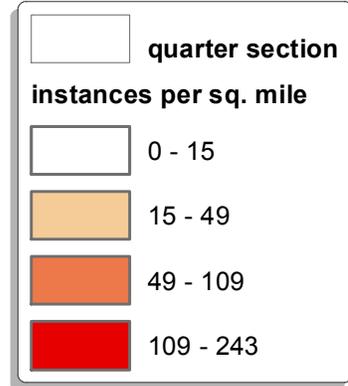
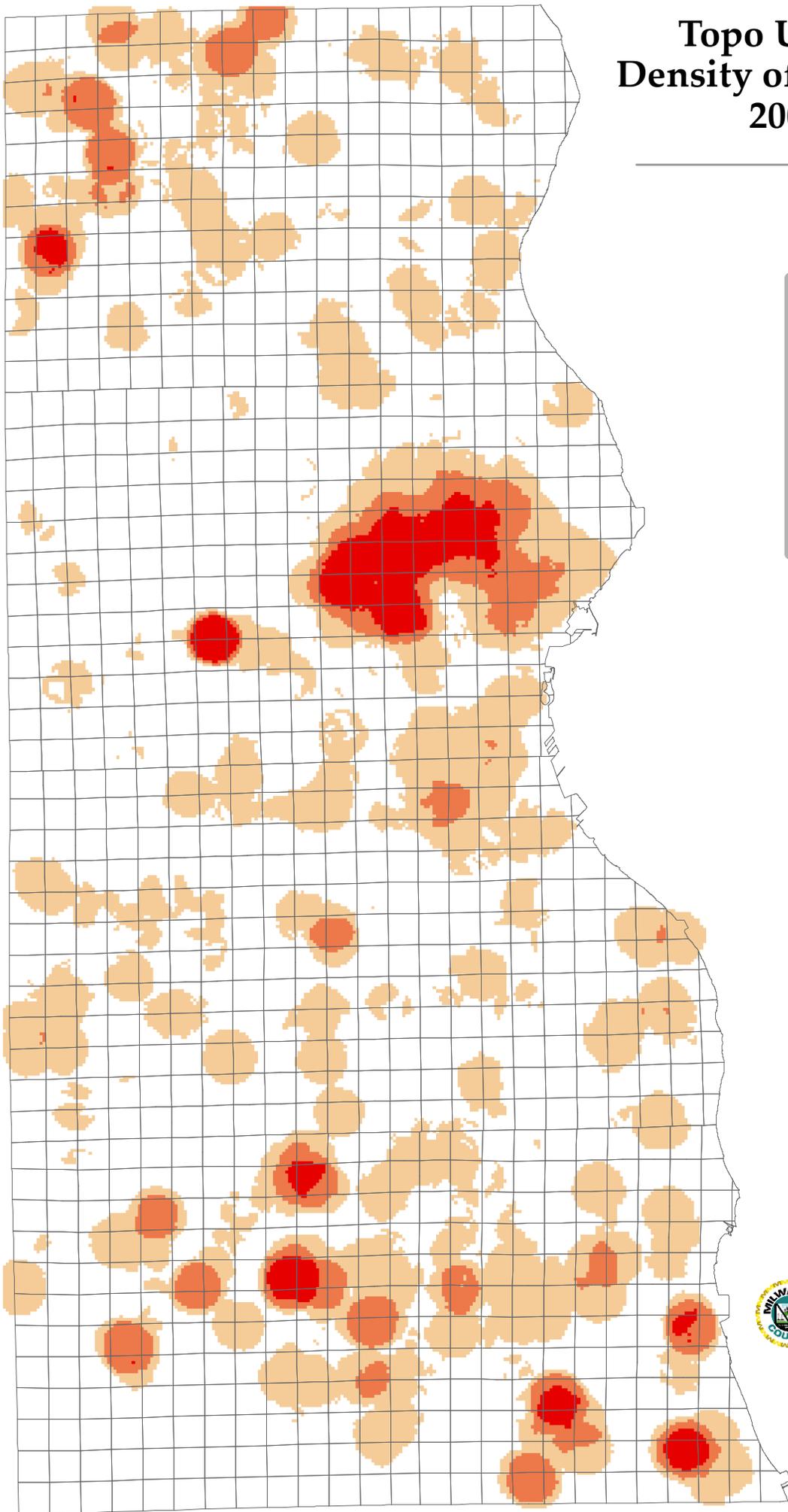
2011 Q3



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Topo Update Map 5: Density of Overall Change, 2005 vs. 2010

2011 Q3



**Milwaukee County
Land Information Office**

Table 1
MILWAUKEE COUNTY PLANIMETRIC MAPPING FEATURES
ESRI File Geodatabase Feature Class Data Definition
1" = 100' Scale

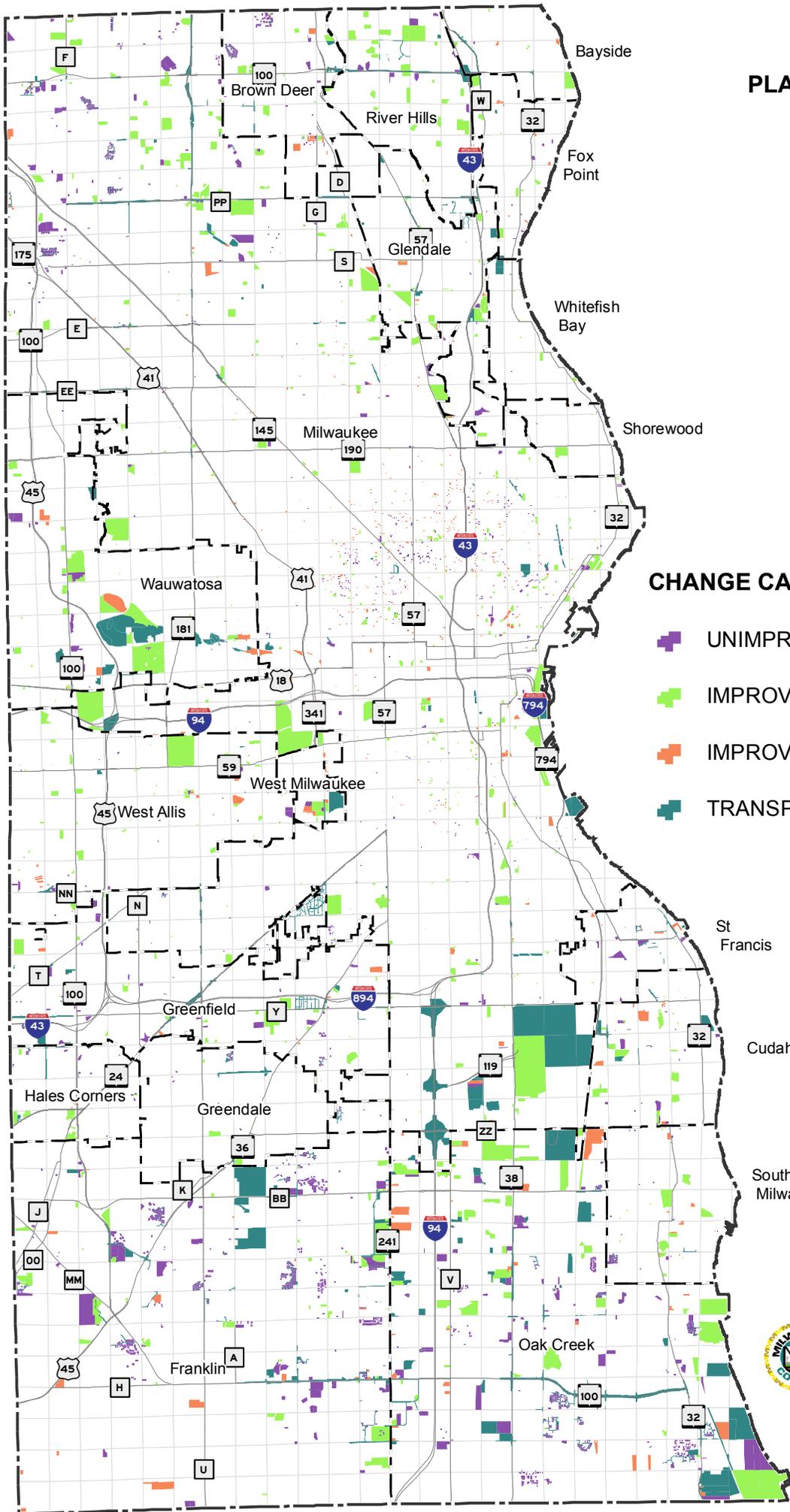
FEATURE NAME	FID	SubTypeName	SubType	TYPE	LV	CO	WT
Environmental	7	Marsh Line	10012	Line/Area	10	1	2
Environmental	7	Marsh Text	10022	Text	10	2	2
Environmental	7	Marsh Symbol	10032	Point	10	3	2
Environmental	7	Tree	33010	Point	33	1	0
Environmental	7	Tree Text	33022	Text	33	2	2
Environmental	7	Tree Line	33030	Line/Area	33	3	0
Hydrologic	11	Water Body (boundary for open water feature greater than 5 feet in width)	8012	Line/Area	8	1	2
Hydrologic	11	Water Body Text	8022	Text	8	2	2
Hydrologic	11	Water Flow Arrow	8030	Point	8	3	0
Hydrologic	11	Water Line (narrow water feature less than 5 feet in width)	9012	Line	9	1	2
Hydrologic	11	Water Line Text	9022	Text	9	2	2
Hydrologic	11	Culvert Symbol (point symbol representing ends of culvert)	24010	Point	24	1	0
Hydrologic	11	Culvert Line (dashed line showing underground location of culvert)	24030	Line	24	3	0
Parks	14	Recreational: Athletic Fields, Courts, Baseball Diamonds	32010	Line/Area	32	1	0
Parks	14	Recreational Features Text	32022	Text	32	2	2
Parks	14	Recreational: Bleachers	32030	Line/Area	32	3	0
Parks	14	Recreational: Golf Course Related	32050	Line/Area	32	5	0
Planimetric	19	Fence	17010	Line	17	1	0
Planimetric	19	Structure	21012	Line/Area	21	1	2
Planimetric	19	Structure Text	21022	Text	21	2	2
Planimetric	19	Ruin Foundation Outline	22012	Line/Area	22	1	2
Planimetric	19	Ruin Text	22022	Text	22	2	2

FEATURE NAME	FID	SubTypeName	SubType	TYPE	LV	CO	WT
Planimetric	19	Dam	23013	Line	23	1	3
Planimetric	19	Dam Text	23022	Line	23	2	2
Planimetric	19	Pier	23030	Line/Area	23	3	0
Planimetric	19	Pier Text	23042	Text	23	4	2
Planimetric	19	Sea Wall or Dock Wall	23053	Line	23	5	3
Planimetric	19	Sea Wall or Dock Wall Text	23062	Text	23	6	2
Planimetric	19	Bridge	25011	Line/Area	25	1	1
Planimetric	19	Bridge Text	25022	Text	25	2	2
Planimetric	19	Bridge Wing or Retaining Wall Line	25033	Line	25	3	3
Planimetric	19	Cemetery	27050	Line/Area	27	5	0
Planimetric	19	Cemetery Text	27062	Text	27	6	2
Planimetric	19	Concrete or Paved Slab	27070	Line/Area	27	7	0
Planimetric	19	Concrete or Paved Slab Text	27082	Text	27	8	2
Planimetric	19	Open Storage, Stockpile, Areas Under Construction, Quarry)	27090	Line/Area	27	9	0
Planimetric	19	Open Storage Related Text	27102	Text	27	10	2
Planimetric	19	Guard Rail	27130	Line	27	13	0
Planimetric	19	Overhead Structure	27150	Line	27	15	0
Planimetric	19	Overhead Structure Text	27162	Text	27	16	2
Planimetric	19	Patio or Deck	27170	Line/Area	27	17	0
Planimetric	19	Pool	27192	Line/Area	27	19	2
Planimetric	19	Pool Text	27202	Text	27	20	2
Planimetric	19	Tank or Silo	27212	Line/Area	27	21	2
Planimetric	19	Tank or Silo Text	27222	Text	27	22	2
Planimetric	19	Sign or Billboard Symbol	27230	Point	27	23	0
Planimetric	19	Sign or Billboard Text	27242	Text	27	24	2
Planimetric	19	Sign or Billboard Line	27250	Line	27	25	0
Planimetric	19	Wall	27293	Line	27	29	3
Planimetric	19	Wall Text	27302	Text	27	30	2

FEATURE NAME	FID	SubTypeName	SubType	TYPE	LV	CO	WT
Planimetric	19	Propane Tank	27310	Point	27	31	0
Planimetric	19	Propane Tank Text	27322	Text	27	32	2
Planimetric	19	Other Planimetric Features	27331	Line	27	33	1
Planimetric	19	Other Planimetric Features Text	27342	Text	27	34	2
Survey_Control	6	NGS Triangulation Station	2010	Point	2	1	0
Survey_Control	6	NGS Triangulation Station	2020	Text	2	2	0
Survey_Control	6	Traverse Station	2030	Point	2	3	0
Survey_Control	6	Traverse Station Text	2040	Text	2	4	0
Survey_Control	6	Photo Center	2050	Point	2	5	0
Survey_Control	6	Photo Center Text	2060	Text	2	6	0
Survey_Control	6	Bench Mark	2070	Point	2	7	0
Survey_Control	6	Bench Mark Text	2080	Text	2	8	0
Transportation	16	Paved Road	11011	Line/Area	11	1	1
Transportation	16	Paved Road Text	11022	Text	11	2	2
Transportation	16	Paved Road Median or Boulevard	11031	Line/Area	11	3	1
Transportation	16	Clipped Paved Road Line	11051	Line	11	5	1
Transportation	16	Private Road	12010	Line/Area	12	1	0
Transportation	16	Private Road Text	12022	Text	12	2	2
Transportation	16	Private Road Median or Boulevard	12030	Line/Area	12	3	0
Transportation	16	Unimproved Road	13011	Line/Area	13	1	1
Transportation	16	Unimproved Road Text	13022	Text	13	2	2
Transportation	16	Clipped Unimproved Road Line	13031	Line	13	3	1
Transportation	16	Paved Driveway	14011	Line/Area	14	1	1
Transportation	16	Driveway and Parking Text	14022	Text	14	2	2
Transportation	16	Unpaved Driveway	14031	Line/Area	14	3	1
Transportation	16	Paved Parking	14051	Line/Area	14	5	1
Transportation	16	Unpaved Parking	14071	Line/Area	14	7	1
Transportation	16	Trail	15011	Line	15	1	1

FEATURE NAME	FID	SubTypeName	SubType	TYPE	LV	CO	WT
Transportation	16	Trail Text	15022	Text	15	2	2
Transportation	16	Sidewalk	16010	Line/Area	16	1	0
Transportation	16	Sidewalk Text	16022	Text	16	2	2
Transportation	16	Railroad	20012	Line	20	1	2
Transportation	16	Railroad Text	20042	Text	20	4	2
Transportation	16	Railroad Signal	20050	Point	20	5	0
Transportation	16	Abandoned Railway	20072	Line	20	7	2
Transportation	16	Paved Airport Runway	26011	Line/Area	26	1	1
Transportation	16	Airport Text	26022	Text	26	2	2
Transportation	16	Unpaved Airport Runway	26031	Line/Area	26	3	1
Transportation	16	Paved Shoulder	27010	Line/Area	27	1	0
Transportation	16	Unpaved Shoulder	27030	Line/Area	27	3	0
Utilities	18	Tower Footing	18010	Line	18	1	0
Utilities	18	Transmission Tower	18030	Line/Area	18	3	0
Utilities	18	Communications Tower	18050	Line/Area	18	5	0
Utilities	18	Power or Telephone Pole	19010	Point	19	1	0
Utilities	18	Light Pole	19030	Point	19	3	0
Utilities	18	Pipeline	27110	Line	27	11	0
Utilities	18	Pipeline Text	27122	Text	27	12	2
Utilities	18	Substation Structure	27270	Line/Area	27	27	0
Utilities	18	Substation Structure Text	27282	Text	27	28	2

PLANIMETRIC CHANGE, 2004-05 vs. 2010



CHANGE CATEGORY [area in square miles]

-  UNIMPROVED TO IMPROVED [2.9]
-  IMPROVED TO IMPROVED [7.0]
-  IMPROVED TO UNIMPROVED [1.2]
-  TRANSPORTATION [5.8]



**Milwaukee County
Land Information Office**



REGISTER OF DEEDS

Milwaukee County

JOHN LA FAVE • Register of Deeds

August 10, 2011

Mr. William Shaw
Project Manager
Milwaukee County Land Information Office

Dear Bill,

I'm forwarding to you the attached letter which is a request from the U.S. Department of Housing and Urban Development (HUD) for parcel level information.

I would ask that you consider whether MCAMLIS has any information to share with HUD.

Register of Deeds does is not able to provide any of the information requested by HUD in their letter. As for tax assessment valuation and property sales information, I think they would be better off contacting each municipal assessor.

The letter states that Smart Data Strategies will be contacting me. When they do so, I will explain our situation in that the County is not involved with maintaining assessment roles and sales information. As for the potential of sharing GIS data with them, I will then refer them to speak with you.

Sincerely,

A handwritten signature in blue ink that reads "John La Fave".

John La Fave
Register of Deeds



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-6000

OFFICE OF POLICY DEVELOPMENT
AND RESEARCH

John La Fave
Register of Deeds
Milwaukee County
901 N. 9th Street, Courthouse Room 103
Milwaukee, WI 53233

August 1, 2011

Dear John La Fave:

We are contacting you to request your community's parcel level information to support a U.S. Department of Housing and Urban Development (HUD) project called the County Data Record Project. Through this project, HUD is seeking to collect parcel level data on ownership, values, and characteristics of residential land parcels from counties receiving the Neighborhood Stabilization Program (NSP) grants. To date, HUD has provided approximately \$7 billion in funding to local communities through NSP. The parcel level data collected through this project will be used to track housing trends and neighborhood conditions such as foreclosures and abandonment, support future evaluation of NSP and other HUD programs, and possible use related to natural disaster response.

We are requesting access to available parcel data for your community, including parcel characteristics, historical tax assessment valuation, historical property sales information, easements and liens for free or nominal charge if applicable. A complete list of requested attributes is attached to the letter. Your community's assistance in this project is greatly appreciated and is important for supporting HUD activities and programs.

HUD has contracted with Abt Associates to contact the department of revenue or an equivalent agency in counties and states nationwide to compile parcel data for use by HUD. You will be contacted by Smart Data Strategies, an Abt subcontractor, in the next two weeks to request copies of available parcel data, including GIS data.

If you have any questions about this project or request, please contact us using the phone numbers provided below. Again, HUD appreciates your participation in the County Data Record Project.

Sincerely

Handwritten signature of Jon Sperling.

Jon Sperling
Phone: (202) 402-5640

Handwritten signature of Ashaki Robinson Johns.

Ashaki Robinson Johns
Phone: (202) 402-7545

HUD's County Data Record Project: Background

Introduction

The U.S. Department of Housing and Urban Development's (HUD's) County Data Record Project is seeking to collect parcel level data on ownership, values, and characteristics of residential land parcels for counties receiving HUD's Neighborhood Stabilization Program (NSP) grants. In brief, the project can be described as follows:

- *What we need:* a) electronic data files with attribute information describing ownership, sales history, value, location and other relevant information and b) any associated GIS files to provide location information.
- *What we are doing with the data:* a) assessing the feasibility of collecting parcel data from counties regularly (e.g. annually); and b) standardizing the collected parcel data, both attributes and GIS files, and using it to assess the needs for and effectiveness of NSP and other HUD programs.
- *What we will NOT do with the data:* a) resell any collected parcel data; or b) redistribute the collected data outside of the HUD research community, except in aggregate geographic level of Census tracts or higher.

HUD's Needs and Usage of Parcel Data

HUD funds several grant programs to assist and stabilize the housing market in communities affected by natural disaster or economic hardship. HUD's Neighborhood Stabilization Program (NSP), HOME Investment Partnership Program, and Disaster Recovery Assistance Program help communities redevelop and rehabilitate homes that are foreclosed, damaged or abandoned and replenish the affordable housing stock. The level of these and other federal funds to states and local communities can be viewed at usaspending.gov.

To evaluate some of these HUD programs and to track housing trends and neighborhood conditions, HUD needs reliable, timely and comprehensive data on the housing stock across the nation. While counties and townships do maintain land parcel data locally, a national non-proprietary aggregation of this data does not yet exist. Therefore this pioneering project will provide HUD with unprecedented access to data such as home sales, foreclosures and tax assessments for many counties, which will help gauge the level of neighborhood distress, identify underlying causes of distress, and inform the development of appropriate policy responses. Future HUD evaluations using this parcel data will position HUD to respond effectively and efficiently to economic and natural disasters that may occur in the future. Furthermore, parcel data is also useful for effective management of these grant programs.

Neighborhood Stabilization Program: The spillover effect of individual foreclosures on neighborhood property values led to the establishment of the Neighborhood Stabilization Program (NSP). With nearly \$4 billion already distributed under Phase I and another \$2 billion of funding for Phase II, NSP supports local initiatives that transition foreclosed properties to productive use by purchase, maintenance, redevelopment, or other methods. By reducing the presence of foreclosed and abandoned homes in a community, NSP seeks to stabilize neighborhood property values and, as a result, neighborhood communities. The evaluation of NSP's effectiveness in stabilizing neighborhood home prices rests on the reliable identification of property values and sales transactions. Because the intended impacts of NSP relate to neighborhood home values external to the set of foreclosed properties targeted by NSP grantees, comprehensive data at the parcel-level provides the foundation for an eventual evaluation dataset.

HOME Investment Partnership Program: The HOME program provides block grants to states and local governments to support the provision of affordable housing for low-income households. In addition to the direct provision of rental assistance, eligible activities include the construction, purchase, or rehabilitation of units for renter or owner occupancy. Similar to NSP, the issues involved in evaluating the HOME program relate to both tracking individual properties and understanding any impacts of HOME activities on the surrounding neighborhoods.

Disaster Recovery Assistance: Coordinating with the Federal Emergency Management Agency (FEMA), HUD programs are tightly connected to federal disaster recovery efforts. In addition to providing disaster housing assistance, HUD also uses the Community Development Block Grant (CDBG) program to deliver recovery funds to states and affected homeowners. The identification and tracking of individual parcels is central to several elements of disaster recovery, including damage estimation, assessment of the housing stock, and provision of assistance to affected property owners.

Benefits to Counties from HUD's Usage of Parcel Data

The use of parcel data for HUD's research and monitoring efforts directly relates to HUD's goals of increasing home ownership opportunities, promoting affordable housing, and ensuring equal opportunities in housing in addition to the specific goals of the grants programs mentioned above. Furthermore, the use of parcel data will enable HUD to respond effectively and efficiently to economic and natural disasters that may occur in the future. When disasters impact multiple counties, standardized data is very helpful in generating estimates of region wide effects for disaster declaration. HUD has many programs that benefit local governments and communities directly and having access to standardized parcel information will help HUD better identify areas in need and assist in the equitable delivery of support. This standardized data, which will be available to counties after the completion of this project, can also be used by communities to obtain direct benefits. For example, counties benefit from having standardized parcel data to respond to Stafford Act requests for emergency loans and recovery dollars during disaster response.

List of Parcel Level Data Fields Requested

Parcel Attribute	Attribute Description
FIPS	state and county FIPS
Parcel ID	parcel identifier assigned and managed by local authority
Alternative ID	alternative parcel identifier used
Parcel Year	year associated with parcel identifier
Situs Address	address of the parcel location
Neighborhood	subdivision or neighborhood identifier
Owner Type	indicator that property is owner-occupied or rental
Multi-Family Unit	indicator that property is multi-family
Structure	type of home, e.g. single-family, townhouse, condominium etc.
Assessment History	current and available historical assessment data
Assessed Value	total assessed value of property as determined by local assessor
Assessed Date	date for reported assessed value
Assessed Cycle	cycle of assessment
Assessed Use Code	code used by assessor to establish parcel use for assessment purposes
Assessed Use Text	text or description of tax use classification code
Sales History	current and available historical sales data
Sales Price	value of sales
Sales Type	type of sales such as foreclosure sale, normal sale, distress sale
Sales Date	date of sales transaction
Sales Attributes	any additional information that may be available that will assist in determining qualifications to sales price
Foreclosure Details	additional details about foreclosure sales if available that may help determine conditions of foreclosure
Lot Area	lot size
Lot Area Units	units of lot size
Improvement Area	area of improvements such as building square footage—this may also be expressed as living area in some assessment systems
Improvement Area Units	units of improvement area
Improvement Year	last year changes or upgrades were made to improvements
Year Built	year improvement was originally built
Land Use	land use code—how parcel is used—this may be a zoning classification
Easement	current easements of property
Liens	liens on property
Property Class	condition of property
Property Class Year	year associated with condition of property

In addition, we also request metadata and data documentation for these data fields.



**WISCONSIN DEPARTMENT OF
ADMINISTRATION**

SCOTT WALKER
GOVERNOR
MIKE HUEBSCH
SECRETARY

Division of Housing
201 W. Washington Avenue, Floor 5
P.O. Box 7970
Madison, WI 53707-7970

July 20, 2011

Mr. William Shaw
MCAMLIS Project Manager
Milwaukee County Land Information Office
Milwaukee County Department of Transportation and Public Works
City Campus - Room 426
2711 W Wells St.
Milwaukee, WI. 53208

RE: Contract Close Out
CDBG-EAP Contract 08-38

Dear Mr. Shaw:

The Division of Housing issued a conditional contract close out letter to Milwaukee County for the CDBG-EAP funded LiDAR project on February 14, 2011. With the receipt of the single audit for 2010 from the County all conditions of the conditional close out have been met. CDBG-EAP Contract 08-38 is now closed. Congratulations on successfully completing your LiDAR data collection project.

Sincerely,

Mark B. Williams, P.E.
Flood Recovery Specialist
Division of Housing
Department of Administration
201 W. Washington Ave.
Madison, WI 53707-7970
(608) 2646158
(608) 266-8969 Fax
MarkB.Williams@Wisconsin.gov

cc: Lee Holloway, Chair Milwaukee County Board of Supervisors