

MILWAUKEE COUNTY AUTOMATED MAPPING
AND LAND INFORMATION SYSTEM

Fifty-Ninth Steering Committee Meeting

MINUTES

DATE: Tuesday, July 20, 2004

TIME: 9:00 A.M.

PLACE: Milwaukee County Courthouse
Room 203P
901 North Ninth Street
Milwaukee, Wisconsin

NOTE MEETING LOCATION

I. Roll Call

II. Meeting Minutes

aggr. Consideration of the minutes of the 58th Steering Committee meeting held on November 18, 2003 (copy of minutes enclosed).

III. Reports

Place on file

A. Report by project staff on the filing of Milwaukee County's WLIP 2003 program status report (copy of 2003 program status report enclosed).

POF

B. Report by project staff on the status of the MCAMLIS Floodland Mapping Projects (copies of Memoranda enclosed; copy of letter received from Mr. Scott Hassett, Secretary, Wisconsin Department of Natural Resources also enclosed).

C. Report by project staff on the status of the publication of the first and second MCAMLIS Newsletters. - *holding off until GIS study completed*

POF

D. Report by Milwaukee County Register of Deeds staff on MCAMLIS street address file and cadastral map maintenance operations (copies of status maps enclosed).

POF

E. Report by City of Milwaukee staff on the status of Milwaukee cadastral map transformation projects (copy of report and status maps enclosed).

POF

(F) Report by Milwaukee County Register of Deeds staff on the status of projects funded from the \$1 retained document filing fee (copy of status report enclosed).

POF

G. License Agreements executed on behalf of the Utilities Subcommittee (copy of table of executed license agreements enclosed).

POF

H. Report by project staff on the submittal of the MCAMLIS Program 2005 Requested Budget (copy of requested budget enclosed).

I. Status of MCAMLIS cash flow (copies of cash flow tables for December 31, 2003, and June 30, 2004 enclosed).

*- interest \$ should be applied to MCAMLIS Budget
- if funding is available (3.7 mil) where is it located?*

*Postponed
sub-committee review*

*Sevprc
withdraws
until next meeting*

*pending
report
SBC answer*

Consideration of a proposed four-year program to update older digital topographic mapping in Milwaukee County (copy of memorandum enclosed).

Consideration of a proposal to participate in a regional water supply study (copy of memorandum and proposed contract enclosed).

Review of the status of discussions between SBC and project staff relative to MCAMLIS digital map copyright and attendant License Agreement practices.

- Review of the status of discussions between the City and County of Milwaukee relative to partially duplicative real property listing and mapping functions.
- E. Review of the Status of the Milwaukee County GIS needs assessment (review materials to be available at meeting).**

1. **Discussion of the potential transfer of MCAMLIS Program Management responsibilities from SEWRPC to Milwaukee County (review materials to be available at meeting).**

2. **Discussion of Potential Changes to the structure of the MCAMLIS Steering Committee (review materials to be available at meeting).**

VI. New Business

*hold
to next
meeting*

A. Guidelines for the use of MCAMLIS copyrighted materials on municipal web sites (copy of memorandum enclosed).

B. Review of the findings of an audit of the Tax Listing Service Division, Register of Deeds Office, and discussion of the recommendations of the audit as these recommendations might affect the MCAMLIS Program (copy of audit report, with annotated comments by the Register of Deeds, enclosed).

app.

C. Consideration of a proposed amendment to the adopted Milwaukee County Land Records Modernization Plan providing for the designation of the \$1 locally retained document filing fee as a "technology fund" for an ongoing program of technology improvements in the Register of Deeds Office (copy of proposed plan amendment enclosed).

VII. Correspondence

VIII. Date, time, and place of next meeting

8/24/09

IX. Adjournment

Kurt W. Bauer
Chairman

MILWAUKEE COUNTY AUTOMATED MAPPING
AND LAND INFORMATION SYSTEM

Sixtieth Steering Committee Meeting

RECEIVED

SEP 03 2004

Milwaukee County
Dept. of Public Works

AGENDA

DATE: Tuesday, September 14, 2004
TIME: 9:00 A.M.
PLACE: Milwaukee County Courthouse
Room 306
County Executive Conference Room
901 North Ninth Street
Milwaukee, Wisconsin

(PLEASE NOTE DIFFERENT
MEETING ROOM)

I. Roll Call

II. Meeting Minutes

Consideration of the minutes of the 59th Steering Committee meeting held on July 20, 2004 (copy of minutes will be mailed prior to meeting). *appr.*

III. Reports

A. License Agreements executed on behalf of the Utilities Subcommittee (copy of table of executed license agreements enclosed). *POF*

B. Status of MCAMLIS cash flow (copy of cash flow table for July 31, 2004 will be mailed prior to meeting). *POF*

IV. Old Business

A. Report on the August 13, 2004, and September 2, 2004, meetings of the Subcommittee on Topographic Mapping, and consideration of a proposed four-year program to update older digital topographic mapping in Milwaukee County (copies of subcommittee meeting minutes and copy of Subcommittee Report and Recommendations will be mailed prior to meeting; copy of United States Geological Survey letter relating to The National Map and copy of replacement program memorandum enclosed). *POF let next Proj Mtg. discuss further*

app 4.2 B. Consideration of a proposal to participate in a regional water supply study (copy of memorandum and proposed contract enclosed).

C. Review of two reports concerning the Milwaukee County GIS needs assessment (a copy of the GIS Situation Assessment and Conceptual Design Report enclosed; a copy of the Requirements and Design Document will be mailed prior to meeting).

app 9.0 1. Discussion of the potential transfer of MCAMLIS Program Management responsibilities from SEWRPC to Milwaukee County.

2. Discussion of potential changes to the structure of the MCAMLIS Steering Committee.

VI. New Business

- A. Guidelines for the use of MCAMLIS copyrighted materials on municipal web sites (copy of memorandum enclosed). *POF*
- B. Discussion of request from Register of Deeds to use MCAMLIS funds for selected projects in the Register of Deeds Office.

VII. Correspondence

VIII. Date, time, and place of next meeting

IX. Adjournment

Kurt W. Bauer
Chairman

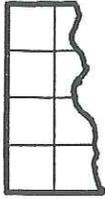
KWB/TDP/lgh/lw/mlh
#97835 v1 - MCAMLIS Agenda

Tues
10/19/04 *9:00 AM*

RECEIVED

SEP 03 2004

Milwaukee County
Dept. of Public Works



MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Southeastern Wisconsin
Regional Planning Commission
W239 N1812 Rockwood Drive
PO Box 1607
Waukesha, Wisconsin 53187-1607

MEMORANDUM

TO: MCAMLIS Steering Committee Members and Alternates
FROM: Thomas D. Patterson, MCAMLIS Project Manager
DATE: September 10, 2004
SUBJECT: **ADDITIONAL MATERIALS FOR REVIEW PRIOR TO THE SEPTEMBER 14, 2004 MCAMLIS STEERING COMMITTEE MEETING**

Enclosed herewith please find several additional items for your review prior to the upcoming MCAMLIS Steering Committee meeting. More specifically, these items are:

- The Minutes of the 59th MCAMLIS Steering Committee Meeting held on July 20, 2004
- The Minutes of the Second MCAMLIS Subcommittee on Topographic Mapping Meeting held on September 2, 2004
- The Report and Recommendations to the Steering Committee of the MCAMLIS Subcommittee on Topographic Mapping

Enclosures

* * * * *

#99360 V1 - Memo To MCAMLIS Steering Committee Members

RECEIVED

SEP 13 2004

Milwaukee County
Dept. of Public Works



"Thomas D. Patterson"
<TPATTERSON@SEW
RPC.org>

08/18/2004 08:26 AM

To: <GDrent@milwcnty.com>
cc: <GHigh@milwcnty.com>, <KWhite@milwcnty.com>
Subject: RE: GIS needs Assessment [Virus checked] ['Watchdog': checked]

Gary,

Mr. Bauer has cancelled the MCAMLIS Steering Committee meeting that was scheduled for Tuesday next week. A meeting cancellation notice was sent to all Steering Committee members in yesterday's mail. The postponement of the next Steering Committee meeting to a later date should give you and your consultant time to complete the second of the two GIS Needs Assessment reports so that we can distribute both reports for Committee review prior to the next Steering Committee meeting.

Any questions or concerns, please contact me.

Tom Patterson
MCAMLIS Project Manager
SEWRPC
262-547-6721
tpatterson@sewrpc.org

*rescheduled
9/14/04*

From: GDrent@milwcnty.com [mailto:GDrent@milwcnty.com]
Sent: Thursday, August 12, 2004 10:14 AM
To: Thomas D. Patterson
Cc: GHigh@milwcnty.com; KWhite@milwcnty.com
Subject: GIS needs Assessment [Virus checked] ['Watchdog': checked]

Attached is the GIS Assessment and Conceptual Design report for inclusion in the MCAMLIS meeting to be held 8/24/04. This is one of two documents that we are planning on having the members review. The second document is still being finalized and it's possible that it may be sent out early next week or we can just hand it out at the meeting. The second is very technical and we had planned on doing a presentation on it at the meeting. Any questions please contact me.

MINUTES OF THE 59th MEETING

Milwaukee County Automated Mapping and Land Information System Steering Committee

DATE: July 20, 2004
TIME: 9:00 A.M.
PLACE: Milwaukee County Courthouse
Room 203P
901 North Ninth Street
Milwaukee, Wisconsin

Members Present

Kurt W. Bauer, Chairman	Milwaukee County Surveyor
John M. Bennett	City Engineer, City of Franklin, representing the Intergovernmental Coordination Council of Milwaukee County
Mary B. Dowdle	Design Area Manager – Milwaukee Metro North, SBC
Karen A. Gross (representing John C. Place)	Supervisor, Maps and Records, WeEnergies
Gregory G. High (representing Susan Black)	Director, Architectural and Engineering Services, Milwaukee County Department of Parks and Public Infrastructure
John LaFave	Register of Deeds, Milwaukee County
Thomas F. Lewandowski	Fiscal and Management Analyst, Milwaukee County Department of Administrative Services
David S. Misun	Facilities Information Supervisor, Milwaukee Metropolitan Sewerage District
Nancy A. Olson	Enterprise Information Manager, Information and Technology Management Division, City of Milwaukee
William C. Shaw	Manager, Geographic Information Systems, WeEnergies

Guests and Staff Present

Alissa Bails	GIS Division Manager, R.A. Smith & Associates
Gary E. Drent	Fiscal & Budget Manager, Architectural and Engineering Services, Milwaukee County Department of Parks and Public Infrastructure
Nicholas Fuchs	Community Development Planning Assistant, City of Glendale
Marcia G. Lindholm	Central Drafting and Records Manager, Infrastructure Services Division, City of Milwaukee
Reinhard B. Meihnsner	Consultant, Spatial Data Solutions, Inc.
Philip Mroczkowski	Engineering Technician, Central Drafting and Records, Infrastructure Services Division, City of Milwaukee
Clare O'Brien	Fiscal and Management Analyst, Milwaukee County Department of Administrative Services
Thomas D. Patterson	MCAMLIS Project Manager
Loretta Watson	SEWRPC Executive Secretary
Kevin R. White	GIS Supervisor, Department of Parks and Public Infrastructure, Milwaukee County

ROLL CALL

The 59th meeting of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee was called to order by Chairman Bauer at 9:00 a.m. Roll call was taken by circulating an attendance signature sheet, and a quorum was declared present.

CONSIDERATION OF THE MINUTES OF THE 58TH STEERING COMMITTEE MEETING HELD ON NOVEMBER 18, 2003

Chairman Bauer noted that copies of the minutes of the 58th meeting of the Steering Committee held on November 18, 2003, had been distributed to all members of the Committee for review prior to the meeting and asked that the Committee consider those minutes.

There being no questions, comments, or corrections, on a motion by Mr. Bennett, seconded by Ms. Olson, and carried unanimously, the minutes of the meeting of November 18, 2003, were approved as published.

REPORTS

Report By Project Staff On The Filing Of Milwaukee County's WLIP 2003 Program Status Report

Chairman Bauer noted that copies of the Milwaukee County WLIP 2003 Program Status Report had been distributed to all members of the Committee for review prior to the meeting. He then asked Mr. Patterson to review the report with the Committee.

Mr. Patterson noted that the report was required on an annual basis and that its filing was one of the WLIP requirements for counties to remain eligible for WLIP grants and to retain their authorization to continue collection of the locally retained document filing fees which, on a yearly basis, constitute the single largest source of MCAMLIS Program funds. Mr. Patterson stated that, because of the report's length, he would not review it in detail with the Committee, but did direct the Committee's attention to Section 18, pages 34-35 of the report. Mr. Patterson further stated that the contents of these two pages provided a summary of the WLIP's measurement of Milwaukee County's progress in achieving completion of those program elements considered to be of basic importance within the WLIP.

There being no questions or comments on the report it was the consensus of the Committee that the report be placed on file via the minutes of the meeting (copy of report attached to these minutes).

Report By Project Staff On The Status Of The MCAMLIS Floodplain Mapping Projects

Chairman Bauer noted that copies of two staff memoranda setting forth the current status of the two MCAMLIS floodland mapping projects had been provided to all members of the Committee for review prior to the meeting. He further noted that a letter received from Mr. Scott Hassett, Secretary, Wisconsin Department of Natural Resources (WDNR), had also been provided for review.

Chairman Bauer reminded the Committee members that at the Steering Committee meeting held on November 18, 2003, the Steering Committee had taken action directing the project staff to write to Mr. Hassett on behalf of the Steering Committee inquiring about the delays that were occurring with respect to the WDNR's review of floodplain modeling work being carried out in Milwaukee County with the partial funding by the MCAMLIS program. He further reminded the Committee members that in the letter to Mr. Hassett he had specifically expressed the Steering Committee's concerns about the lack of

timeliness on the part of the Department's review of the results of the modeling efforts as those results were submitted to the Department. A copy of the letter dated November 26, 2003, he noted, had been attached to the minutes of the November 18, 2003, meeting.

Mr. Bennett noted that the letter from Secretary Hassett did not specifically respond to the Steering Committee's concern over the WDNR's continued reluctance to approve the use of a continuous simulation modeling. Mr. Bennett further noted that WDNR's lack of action extended back for at least the past three years. Chairman Bauer agreed with and noted that the WDNR is still declining to approve the use of continuous stimulation modeling. Chairman Bauer further noted that in the previous meeting a question had been raised concerning the risk entailed in continuing to pursue the modeling without WDNR approval. He noted that the risk was between 25 to 30 percent of the total project cost. Chairman Bauer noted further that, in his opinion, the risk involved in continuing with the use of continuous modeling simulation in the absence of WDNR approval of that approach would not be born totally by the MCAMLIS Program, but shared with SEWRPC. In the event that the WDNR should not approve the use of the continuous simulation modeling technique, the SEWRPC would probably be obligated to share in the costs of using an alternate approach.

Mr. Bennett asked if WDNR was waiting for the Federal Emergency Management Agency (FEMA) to advise the WDNR that the use of the continuous simulation modeling was appropriate. Chairman Bauer responded that FEMA had already approved the use of continuous modeling; however, final approval of the technique still rests with the WDNR and that the WDNR is still not ready to act, believing that it lacks the staff qualifications needed to review the results of continuous simulation modeling.

Mr. Shaw noted that Secretary Hassett's response was dated December 30, 2003, and asked about the statement in Secretary Hassett's letter indicating that WDNR and FEMA would have their review effort completed in "the next month or two". Mr. Shaw further noted that more than several months had passed since the date of the letter and asked if any progress had been made on this issue. Mr. Patterson responded that the last status report received by Commission staff on this issue continued to indicate that the resolution should be forthcoming within "the next month or two".

Mr. Bennett asked if, in light of this continued uncertainty, the project was proceeding with the use of continuous simulation modeling. Chairman Bauer replied that it was and that indeed the SEWRPC staff had recently assisted the City of Milwaukee in preparing the materials needed to file a WDNR/FEMA Floodplain Study Submittal for Lincoln Creek. The floodplain and floodway delineations submitted had been determined using continuous simulation modeling. Chairman Bauer noted that assistance in completing the Study Submittal had been requested by the City of Milwaukee and that it was probable to assume that similar filings would be made over the next several years, many of which would be based, in part, upon the results of continuous simulation models.

There being no further questions or comments on the reports or the letter, it was the consensus of the Committee that the reports and letter be placed on file via the minutes of the meeting (copy of each Memorandum and Secretary's Hassett's letter attached to these minutes).

Introduction of New Milwaukee County Department of Administration Services representative to the MCAMLIS Steering Committee.

Mr. Lewandowski asked to be permitted to introduce Ms. Clare O'Brien to the Subcommittee noting that Ms. O'Brien needed to leave this meeting to attend another meeting within the County Courthouse. Mr. Lewandowski stated that this would be his last meeting as a member of the MCAMLIS Steering

Committee and that due to staff and program reassignments within the Department of Administrative Services, Ms. O'Brien would henceforth be responsible for liaison between the Department of Administrative Services and the MCAMLIS Program.

Report By Project Staff On The Status Of The Publication Of The First And Second MCAMLIS Newsletters

Mr. Patterson reported that a contract governing the preparation of the MCAMLIS newsletter had been entered into on October 16, 2003, between the Steering Committee and the Regional Planning Commission. The contract provides for the publication of one MCAMLIS newsletter in calendar year 2003 and two in calendar year 2004.

Mr. Patterson further reported that he was engaged in the preparation of both the first and second issues, which, as previously suggested by the Steering Committee, were to include a brief history of the MCAMLIS program, and an inventory of the materials and information available from MCAMLIS given the uncertainties concerned with respect to the future arrangement and structure of the MCAMLIS program, he believed it prudent to halt work on the preparation pending completion of the County GIS needs assessment.

There being no questions or comments on the report, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting.

Report By Milwaukee County Register Of Deeds Staff On MCAMLIS Street Address File And Cadastral Map Maintenance Operations

Chairman Bauer noted that all Committee members had received copies of maps showing the status of the Milwaukee County cadastral map and street address file maintenance as of June 28, 2004, for review prior to the meeting. In the absence of Ms. Kathleen A. Bach, GIS Technician, Milwaukee County Register of Deeds Office, Chairman Bauer asked Mr. Patterson to report on the status of the work concerned.

Mr. Patterson briefed the Committee on the status of the work using the two maps, one relating to the MCAMLIS cadastral file maintenance and one relating to the MCAMLIS street address database maintenance. Mr. Patterson noted that with respect to maintenance of the cadastral maps, these maps were now current through March 1, 2004. Mr. Patterson further noted that the maintenance of the street address database continued to suffer from the lack of timely reporting from several communities, but that Ms. Bach was continuing to work with these communities to secure the necessary timely cooperation.

Chairman Bauer asked about the "in transition" status reported for the City of West Allis on the parcel mapping status map submitted by Ms. Bach. Mr. Patterson replied that the parcel mapping in West Allis had been completed by the City of West Allis under an Agreement with the MCAMLIS Steering Committee. This mapping was completed about two years ago and turned over to the MCAMLIS Program for maintenance. Mr. Patterson further stated that because of differences in the software used by the City of West Allis to create the maps, and by the County to maintain the maps, Ms. Bach had been going through the West Allis maps systematically to recode some small differences in the manner in which some data had been encoded, thus making the internal data structure of the West Allis maps consistent with the data structure of the rest of the MCAMLIS cadastral mapping. In the interim, Ms. Bach is continuing to keep the West Allis maps up-to-date.

With reference to the address status map, Mr. Lewandowski asked if the project staff had yet to work on site with any communities to update the address files. Mr. Patterson indicated that they had not been able to schedule any onsite visits yet, but that it was still the intention of project staff to do so.

Chairman Bauer asked Mr. Bennett about the reported street address maintenance status for the City of Franklin. Mr. Bennett replied that the City had offered to transfer the City's address information to the county electronically, but that to date the County had not taken advantage of that offer. Mr. Bennett noted further that the address files maintained locally by the City were up-to-date because City ordinances require the assignment of a street address prior to the issuance of a building permit.

There being no further questions or comments on the report, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting (copies of the status maps attached to these minutes).

Report by City of Milwaukee Staff On The Status Of The City Of Milwaukee Cadastral Map Transformation Project

Chairman Bauer noted that all members of the Steering Committee had received a copy of the report on the City of Milwaukee cadastral map transformation project for review prior to the meeting. Chairman Bauer asked Ms. Olson to review the report with the Committee, which Ms. Olson did with reference to the status map attached to the report.

Ms. Olson reported that the transformation project was proceeding on schedule, directing the Committee's attention to the final page of the report and commenting that a total of 280 transformed maps had been accepted as meeting project specifications as of June 30, 2004, the date of the status report. Mr. Olson further reported that work was being actively pursued in the remaining areas of the project and that there was no reason to expect that the project would not be completed on schedule, the project completion date being the end of October of the current year.

Chairman Bauer noted that, with the exception of the file revision work remaining to be completed in the City of West Allis, all of Milwaukee County would be covered by MCAMLIS format cadastral maps by the end of 2004. Chairman Bauer further noted that the Steering Committee would still need to address the issue of maintaining those MCAMLIS format cadastral maps lying within the City of Milwaukee.

Mr. Shaw inquired as to the age range for the City of Milwaukee maps with respect to those maps being placed in a continuous maintenance cycle. Mr. Patterson responded that the oldest City maps had a currency date of 1999.

There being no further questions or comments on the report, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting (copy of report attached to these minutes).

Report by Milwaukee County Register of Deeds Staff on the Status of Projects Funded From the \$1 Retained Document Filing Fee

Chairman Bauer noted that Mr. LaFave, as the County Register of Deeds, had prepared a list of projects which his Office was currently undertaking with funding derived from the \$1 portion of the locally retained document filing fees. He noted further that all members of the Steering Committee had received a copy of the list as compiled by the Milwaukee County Register of Deeds for review prior to the meeting. He then asked Mr. LaFave to review the list with the Committee.

Mr. LaFave noted that the funds received from the \$1 retained fee were being utilized in upgrading computer software; in procuring new or replacement computers and monitors; in expanding services for the electronic recording of documents; in modernizing the existing optical imaging system; and in acquiring and processing recorded document optical images from the Chicago Title Company.

Mr. LaFave stated that although these expenditures had been approved by the MCAMLIS Steering Committee, his office still had not been reimbursed for the expenses incurred. Mr. Lewandowski responded that this was an internal County accounting issue and should be no cause for concern since Mr. LaFave had been given the authority by the Steering Committee to expend the funds in question.

Ms. Olson noted that in 2003 Mr. LaFave had made a presentation to interested individuals concerning several interactive software systems being installed in the Register of Deeds Office. Ms. Olson inquired of Mr. LaFave whether or not those programs were being utilized.

Mr. LaFave indicated that there were two basic programs involved. One of these programs was "Larado" which was intended for professional or high frequency use. To this date, there has been only one subscriber to that program. Mr. LaFave stated that at a user fee of \$700 per month, the program may be priced too high to attract any but the heaviest users of recorded document images. Mr. LaFave stated that the second program, "Tapestry", is designed for occasional use and is more useful and less costly to those users who only wish to review records occasionally. Subscribers to "Tapestry" pay on a "minutes of usage" basis.

Mr. LaFave further reported that the software vendor who supplied the "Larado" system had agreed to make this program available at no cost to the municipal governments in Milwaukee County. Mr. LaFave stated that because of this, the Register of Deeds Office no longer transfers records to municipal offices by paper copy. These records now are sent via "Larado".

Mr. Lewandowski asked Mr. LaFave about the purchase of optical images from Chicago Title Company and particularly how Chicago Title Company had acquired these images. Mr. LaFave responded that in the past Chicago Title Company had acquired microfilm reels from Milwaukee County and converted the microfilm images to digital optical images using its own scanning equipment. Some of the optical images had also been created by Chicago Title by scanning paper documents, again using its own equipment. Mr. LaFave indicated that his office was now acquiring these images from Chicago Title at four cents per image rather than performing its own microfilm frame to optical image conversion.

Mr. Lewandowski asked Mr. LaFave about the intended usage of these digital images once acquired. Mr. LaFave responded that these images will be used as backup records to replace the Office's older microfilm files. The microfilm files will be destroyed as they are replaced.

In answer to a question from Ms. Olson, Mr. LaFave stated that his Office was manually processing about 1000 documents daily, but that he believed that within ten years, 50 to 90 percent of documents will be filed electronically rather than manually.

There being no further questions or comments on the report, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting (a copy of the project status list is attached to these minutes).

License Agreements Executed on Behalf of the Utilities Subcommittee

Chairman Bauer noted that all members of the Steering Committee had received a copy of a table listing all of the license agreements governing the provision of MCAMLIS base maps and related data to users as executed from January 1, 2003, through June 30, 2004, for review prior to the meeting.

Mr. Shaw asked Mr. Patterson if he knew the type of activity in which the firm "GeoComm" was involved. Mr. Patterson replied that GeoComm was a consulting firm that had recently done some work on behalf of the City of West Allis School District and the company had executed a License Agreement in order to carry out that work.

There being no further questions or comments on the report, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting (a copy of the License Agreement table attached to these minutes).

Report by Project Staff On the Submittal of the MCAMLIS Program 2005 Requested Budget

Chairman Bauer noted that all members of the Steering Committee had received a copy of the calendar year 2005 MCAMLIS budget request made to the Milwaukee County Executive and County Board. He then asked Mr. Patterson to brief the Committee on the budget request.

Mr. Patterson reported that in accordance with past practice, Milwaukee County Department of Administrative Services staff and MCAMLIS project staff had collaborated on the preparation of a proposed MCAMLIS 2005 budget request. This budget request, he said, had been submitted to the County review process and was currently progressing through that process. Mr. Patterson stated that the requested budget anticipated total income in the amount of \$954,000, comprised of \$700,000 from the \$4 document filing surcharge collected by the Register of Deeds and \$175,000 in receipts from the \$1 surcharge also collected by the Register of Deeds. An additional \$79,000 is expected to result from the payments on grants awarded to the county by the Wisconsin Land Information Program.

The proposed budget requested expenditure authority in the amount of \$954,000 of which \$717,000 was intended to continue the development and maintenance of the automated base maps and parcel based land information system; \$175,000 to develop and maintain a computerized indexing of the County's housing related land information records; \$60,000 for surveying services provided by the Milwaukee County Surveyor; \$1,000 to obtain needed materials from the Register of Deeds; and \$1,000 for meeting and travel expenses.

Mr. LaFave drew attention to the reference to Smart Growth legislation contained in the budget document. Mr. LaFave asked if that reference was intended to imply that, should the Steering Committee approve funding the Regional Water Supply Study, the intended source of funds for that study would be the \$1 retained fee rather than the \$4 retained fee. Mr. Patterson responded that that was not the intention of the language contained in the budget document.

Chairman Bauer added that the State Legislature had specifically earmarked the use of the \$1 retained fee and that --as far as he knew-- it was never intended by the County Executive for use to fund the Regional Water Supply Study. Chairman Bauer further added that it will be, necessary for all counties and municipalities in the State to have prepared "Smart Growth" plans by 2010. Failure to do so would result in the lose of statutory authority to exercise any control over land use development through zoning and land subdivision control.

Mr. Lewandowski stated that the process for reviewing and approving the County budget required that a public hearing be held by August 15. Currently no date for that public hearing has been set. The County Executive must submit a County Executive's budget to the County Board for its review by October 1st of each year. Generally, the County Board will have adopted a County Budget by the middle of November. The MCAMLIS 2005 requested budget will move through this review and approval process along with all other Milwaukee County department and program budget requests.

There being no further questions or comments on the report, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting (a copy of the 2005 budget request is attached to these minutes).

Status Of MCAMLIS Cash Flow

Chairman Bauer noted that copies of tables summarizing the status of the MCAMLIS program cash flow as of December 31, 2003, and June 30, 2004, had been provided to all Committee members for review prior to the meeting. He then asked Mr. Patterson to review the reports with the Committee.

Mr. Patterson stated that MCAMLIS cash flow tables provided for review at the present meeting presented a very different picture of the MCAMLIS fiscal situation than did cash flow tables provided to the Steering Committee as recently as the meeting of November 18, 2003. Mr. Patterson further stated that late in 2003 errors had been discovered in several formulas used to calculate the entries appearing in a spreadsheet which was in turn used to produce the cash flow statement. These errors had been present for an unknown number of years and had resulted in partial double counting between the earlier reported amounts for project expenses and project encumbrances. The status of the MCAMLIS funds at the conclusion of each calendar year had been understated for at least the past seven years. Further, this understatement had been cumulative from year to year with the result that by 2003 the ending fund balance had been understated by more than \$3.5 million.

Mr. Patterson went on to state that the error in the computation formulas had been corrected by Mr. Lewandowski. Mr. Lewandowski had been running cash flow tables monthly under both sets of formulas for the past six months. Mr. Patterson and Mr. Lewandowski had been comparing those cash flow statements and Mr. Patterson was now convinced that the year ending balance stated for December 31, 2003, was accurate; further noting that the amount shown for the year end balance on the December 31, 2003, report was approximately equivalent to the existing balance shown on the June 30, 2004, statement indicating that since January 1, 2004, project receipts had been approximately equal to project expenditures.

Mr. Lewandowski noted that, although the Steering Committee had not seen cash flow reports for March, April, and May, the revenue from document filings for 2004 had been trending down on a monthly basis and asked Mr. LaFave if he would comment on that trend. Mr. LaFave noted that because of increasing mortgage loan rates, his office was experiencing fewer mortgage recordings, particularly for refinancing, during 2004 as compared to previous years.

Chairman Bauer, noting that the corrected cash flow reporting form indicated a 2003 year end balance of \$3.78 million, asked what the equivalent amount would have been under the previous reporting scheme. Mr. Patterson replied that the old methodology for preparing the cash flow report would have shown a 2003 year end balance of about \$316,000 or less than 10 percent of the correct amount.

Mr. Shaw asked whether or not the use of any of this additional \$3.78 million was in any way reflected in the MCAMLIS 2005 requested budget which the Steering Committee had just finished reviewing. Mr. Lewandowski responded that it was not, and further noted that had the budget request been submitted with the intent to use significant portions of that \$3.78 million, the budget request might have been subject to significant scrutiny by Milwaukee County staff and elected officials.

Mr. Shaw asked that since no evidence of this increased fund balance was reflected in the MCAMLIS 2005 requested budget reviewed earlier in the meeting, was there any intent to amend the spending authority in the requested budget to take advantage of the existence of these additional funds and of their possible use for additional program opportunities. Mr. Lewandowski replied that the requested budget did not include any provisions to expend any additional amounts. Mr. Patterson noted that on past occasions the requested budget had been adjusted after originally submitted.

Chairman Bauer stated that this discussion raised an interesting question since under the original contract between the utilities and the Milwaukee County Board, the Board had given authority to expend MCAMLIS Program receipts to the Steering Committee. Clearly the Committee has this \$3.78 million at its disposal. On the other hand, the Committee has in the past been careful to maintain good relationships with the County Executive and County Board with regard to its expenditures. Chairman Bauer further stated that the identified funds are there and under State law must be used for the MCAMLIS Program; these funds cannot lapse into the County's general fund.

Mr. Lewandowski offered an example. He stated that the MCAMLIS Steering Committee might decide to undertake a \$1 million project if the Steering Committee should act to approve that expenditure. Then the Steering Committee would ask for an adjustment to the budget by the County Executive by including both the income contribution from MCAMLIS reserve fund and the additional expenditures based upon contracts executed.

Mr. Shaw noted that Mr. Lewandowski's example seemed to indicate that different sets of procedures were involved based upon whether or not funds were expended from the MCAMLIS reserve fund or from current year receipts. Mr. Lewandowski indicated that Mr. Shaw's assessment was correct.

Mr. LaFave asked Mr. Lewandowski to explain where this \$3.78 million was actually located. Mr. Lewandowski replied that there is a non-lapsing reserve fund that has been established for the MCAMLIS Program and that the \$3.78 million currently resides in that fund.

Chairman Bauer noted that it would be a violation of State law to use those MCAMLIS reserve funds for anything other than the implementation of the MCAMLIS Program, but asked Mr. Lewandowski to meet with the County Comptroller and report back on the procedure that would be needed to secure the use of the reserve funds. Chairman Bauer further stated that the Committee should assume that if the funds were in a specified account, the Committee has the authority to spend those funds. He further noted that the MCAMLIS Steering Committee has been granted substantial authority by the County Board in this regard.

There being no further questions or comments on the report, it was the consensus of the Committee that the reports be placed on file via the minutes of the meeting (copies of tables setting forth the MCAMLIS cash flow status as of December 31, 2003 and June 30, 2004, attached to these minutes).

OLD BUSINESS

Consideration of a Proposed Four-Year Program to Update All Digital Topographic Mapping in Milwaukee County

Chairman Bauer noted that copies of a memorandum setting forth a proposed four year program to update the existing digital topographic mapping in Milwaukee County had been provided to Steering Committee members for review prior to the meeting. He then asked Mr. Patterson to review the memorandum with the Committee.

Mr. Patterson stated that in spite of the Steering Committee's long standing desire to replace the older digital topographic mapping within Milwaukee County, the lack of funding to carry this out had prevented the initiation of such a program. Mr. Patterson further stated that the discovery at the end of 2003 of an amount in excess of \$3,000,000 in previously unreported, MCAMLIS program reserve funds now made initiation of a replacement digital topographic mapping program feasible. Mr. Patterson stated that increasingly the comments received from users of these maps indicated that the continually advancing age of the topographic mapping adversely affects the utility of these maps for these users. Mr. Patterson noted that this work element had previously been approved, pending the identification of funding, by the Steering Committee as part of the MCAMLIS Strategic Assessment adopted by the Committee at its meeting held on June 10, 2003.

Mr. Patterson pointed out that a proposed program for the replacement of the older Milwaukee County digital topographic mapping was set forth in the table on page 2 of the memorandum and was also delineated on the map attached to the memorandum as Map 2. He noted that the two most recently completed digital topographic mapping projects carried out by the MCAMLIS Program: the 1999 Cudahy - St. Francis - South Milwaukee - General Mitchell International Airport mapping project; and the 2002 Lincoln Creek mapping project were both relatively recent and were not included in the replacement mapping program.

Mr. Patterson stated that the estimated cost to carry out this program is approximately \$2,700,000 to be spread over a four year period as set forth in the table on page 2 of the memorandum. Mr. Patterson further stated that project staff were recommending that this program be funded through the use of the available previously unreported reserve funds which were estimated to total about \$3,784,000 as of December 31, 2003.

Chairman Bauer then asked the Committee members for their questions or comments on the proposal. A lengthy discussion then ensued during which a number of issues emerged.

Mr. LaFave, Mr. Lewandowski and Mr. Shaw inquired as to what could be considered a useful lifespan for maps of this nature. Mr. Bennett stated that in his professional experience maps of this type could continue to be useful until the age of about ten years depending upon the rate of development and re-development in the area concerned. He further stated, however, that in his view, maps that were older than 20 years would be considered suspect under any circumstances.

Mr. LaFave and Ms. Olson inquired as to why the proposal was proposing a four year time span to carry out the work. Mr. Patterson responded that the four year cycle proposed was not associated in any manner to an expected useful lifespan. The project could be carried out in as little as two years assuming sufficient resources were available, or could be carried out over a period of time longer than four years.

Ms. Olson asked about the users of topographic maps and how the maps were used in their work. Mr. Bennett responded that municipal engineering staffs had a constant demand for use of maps of this type. Chairman Bauer noted further that these maps form an integral part of County Land Information Systems and were indeed considered one of the basic elements of such a system.

Mr. Lewandowski and Mr. Shaw raised questions concerning the manner in which the program would be funded and budgeted over multiple budget years. Chairman Bauer noted that sufficient funding was available to carry out the entire recommended project and that the identified funding source, under State law, could be spent only for the purposes of establishing and improving the Milwaukee County Land Information System. Therefore, with funding assumed, budgeting to accomplish the work required only that sufficient amounts be made available annually over the number of budget years the Steering Committee should decide to spread the work.

Mr. Shaw asked if the MCAMLIS 2005 requested budget included funds for this project. Mr. Lewandowski and Mr. Patterson responded that the 2005 budget did not specifically identify this project, but then neither did it specifically identify any other projects.

Ms. Olson asked about the manner in which the proposed topographic mapping project would correlate with 2005 digital orthophotography. Mr. Patterson responded that these two projects were separate and that there were no plans to integrate them. Photography for the orthophotography would be acquired in the Spring of 2005 by the SEWRPC, in any case, as part of its regional planning work program. Any photography associated with digital topographic mapping in Milwaukee County would be acquired over several years at larger photography scales in order to support the higher accuracy standards required for the topographic maps as opposed to the orthophotography.

Mr. Shaw inquired about whether Federal initiatives, particularly The National Map proposed by the U.S. Geological Survey (USGS), had been investigated during the development of the Milwaukee County topographic mapping proposal. Chairman Bauer noted that the USGS had in the past been pleased to acquire SEWRPC mapping products – particularly orthophotography – and to pay the Commission for the use; however, he said neither the SEWRPC nor MCAMLIS had any responsibility whatsoever to produce products for Federal use. Moreover, he said, MCAMLIS topographic maps far exceed the utility of Federal maps, being at 20 times larger scale and meeting National Map Accuracy Standards at that larger scale. Mr. Shaw responded that the old paper quadrangle mapping program were indeed at the smaller scale referenced by Chairman Bauer, but that he understood The National Map to be of larger scale and of higher accuracy than the program it replaced. Mr. Shaw suggested that it would be prudent to determine the standards and specifications being promulgated for The National Map to determine if there might be a way to integrate the two projects.

Mr. Lewandowski and Mr. Shaw asked why staff were proposing a short term replacement program rather than initiating some type of cyclical replacement program for the digital topographic maps. Mr. Shaw noted that if one were to assume a ten year replacement cycle, an annual cost of approximately \$400,000 in current dollars could be budgeted to fund such a process.

Ms. Olson, Mr. Shaw and Mr. High expressed concern over proposed digital file formats for the proposed mapping program particularly in view of emerging technology as it related to the storage of digital map information in geodatabases. Mr. High suggested that it might be wise to investigate the evolving file specifications of Walworth County; both from the standpoint that Walworth County was moving into a geodatabase environment and from the standpoint that the SEWRPC staff also provides technical

assistance to the Walworth County effort and has been involved in helping to establish those newer specifications.

Mr. Lewandowski and Ms. Olson suggested that the proposal should be examined by a knowledgeable Subcommittee who could then provide counsel to the Steering Committee on how to proceed with respect to some of these issues.

At the conclusion of the discussion, it was moved by Mr. Lewandowski, seconded by Mr. Shaw and carried unanimously, that Chairman Bauer appoint a Subcommittee to carefully review the proposal made to the Steering Committee and to report back to the Steering Committee on a recommended course of action.

[Secretary's Note: Chairman Bauer subsequently appointed a Subcommittee as requested by the Steering Committee. Appointees were reported to the Steering Committee by memorandum dated July 30, 2004. The appointed Subcommittee consisted of Mr. Timothy R. Bate, P.E., Engineering Planning Manager, Milwaukee Metropolitan Sewerage District and President, Wisconsin Section, American Society of Civil Engineers as Chairman; Mr. Rick Norris, P.E., President, Norris and Associates, Inc., Consulting Engineers; Mr. Gregory G. High, Director, Architectural and Engineering Services, Milwaukee County Department of Parks and Public Infrastructure; Mr. William C. Shaw, GIS Manager, WeEnergies; Mr. Timothy J. Thur, P.E., Chief Sewer Design Manager, Environmental Engineering Division, City of Milwaukee.

Consideration of a Proposal To Participate in a Regional Water Supply Study

Chairman Bauer stated that he had been asked by the SEWRPC Executive Director to hold consideration of this business item over to a future meeting.

In answer to questions from Ms. Olson, Mr. Bennett and Mr. Shaw, Chairman Bauer stated that he did not know the specific reason that the SEWRPC Executive Director had asked for consideration of this topic to be held over. Chairman Bauer further stated that he did know that normally the Commission's work is funded by tax levy; however, with respect to this particular effort, the Commission had decided that there should be consultation with individual counties regarding the manner in which this study was funded. Chairman Bauer stated that possibly the counties have yet to decide on how to fund this study.

Review of the Status of Discussions between SBC and Project Staff Relative to the MCAMLIS Digital Map Copyright and Attendant License Agreement Practices

Chairman Bauer recalled that the Committee had, at its meeting of July 15, 2003, approved a project staff memorandum reviewing the MCAMLIS digital map copyright and attendant license agreement practices. In accordance with that staff memorandum, the Steering Committee had authorized the project staff to contact individual Utilities Subcommittee members to brief them on the history of this issue, organize a meeting of the Utilities Subcommittee and interested County staff to consider the current interest in continuing the current practices; and to prepare a report for consideration by the Steering Committee that reflected the Utilities Subcommittee position on this matter. He noted that the project staff had retained Mr. Reinhard B. Meihnsner, consultant, Spatial Data Solutions, Inc., and a former member of the Steering Committee, to prepare the authorized report.

Chairman Bauer reminded the Committee that the requested report had been reviewed with the Committee at its November 18, 2003 meeting. He noted that Wisconsin Electric Power Company and Wisconsin Gas Company, both now part of WE Energies, had stated that they were willing to relinquish control of the MCAMLIS digital mapping materials copyright. He further noted that SBC was not prepared to take a position at that time.

Chairman Bauer further noted that, as recounted in the report, the group convened to discuss the copyright issue had acknowledged that the concurrence of SBC should be sought before any final action was taken on the release by the utilities of the copyright on the MCAMLIS digital map materials. Chairman Bauer noted that the relationship between the Steering Committee and the private utilities concerning the copyright is, in effect, a private contract and that it is not clear whether or not the Utilities Subcommittee can relinquish the copyright without unanimous concurrence of the utilities, which currently does not exist. Chairman Bauer then asked Mr. Meihnsner to brief the Committee on actions taken since the previous meeting to secure the participation of SBC in this discussion.

Mr. Meihnsner stated that since the last meeting of the Steering Committee, further efforts had been made to secure the designation of an SBC representative to the MCAMLIS Steering Committee and to encourage the active participation of SBC's designated representative in the Steering Committee's work. As a result of that effort, Ms. Mary Dowdle of SBC had been designated to be the SBC representative to the Steering Committee.

Mr. Meihnsner further stated that at the last meeting of the utilities subcommittee, it had been agreed that it would not be appropriate to move ahead with relinquishment by the utilities of the current copyright to the Steering Committee without the participation of SBC in the discussion. Mr. Meihnsner further stated that there had been agreement between the utilities, less SBC, that were the utilities to relinquish the copyright, the current License and Copyright Agreement would need to be changed to reflect the fact that the copyright had reverted to the Steering Committee. Mr. Meihnsner stated that continued efforts to secure the participation of SBC in this discussion had not been successful.

Ms. Dowdle stated that she was having difficulty getting the attention of SBC corporation counsel but that she would continue in her attempts to secure the needed attention. Ms. Dowdle asked if her understanding that WeEnergies was in favor of relinquishing the copyright was correct.

Mr. Shaw responded that WeEnergies was in favor of relinquishing the copyright provided that revisions were made to the current License and Copyright Agreement such that the utilities, including SBC, would continue to have access to all maps and associated information previously available to them under the original agreement. Mr. Shaw stated that other than that provision, WeEnergies saw no direct benefit to continuing to hold the copyright.

Chairman Bauer noted that if the utilities decided to relinquish the copyright, the copyright would not disappear. Initially that relinquishment by the utilities would mean that the copyright would revert to the MCAMLIS Steering Committee. The Steering Committee would then have to decide if it wanted to leave the current copyright provisions in place. Chairman Bauer further noted that, in the past, the Steering Committee had received advice from special counsel with respect to the Steering Committee's options if it were to hold the copyright. He further noted that in the past, Mr. Barczak, a previous Milwaukee County Register of Deeds, had always opposed relinquishing the copyright.

By way of conclusion, Chairman Bauer stated that at some point, SBC will respond to the Steering Committee's inquiries and that Mr. Meihnsner will then be able to finish his report to the Steering Committee.

There being no further questions or comments on those issues, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting.

Review of the Status of Discussions Between the Milwaukee County Register of Deeds and the City of Milwaukee Assessor to Consider Elimination of Duplicative Work Between the County and City Staffs

Chairman Bauer noted that the Committee had, at its meeting held on January 28, 2003, requested that Ms. Olson arrange a meeting between the Milwaukee County Register of Deeds and the City of Milwaukee Assessor to consider the elimination of duplicative work between the County and City staffs. The request, he said, was reiterated at the Committee's April 8, 2003, and June 10, 2003, meetings. He recalled that it was reported at the July 15th Steering Committee meeting that an initial meeting of representatives of the Milwaukee County Register of Deeds Office and the City of Milwaukee Assessor's Office was held on July 7, 2003. Chairman Bauer then asked Mr. Patterson to summarize the present status of these discussions.

Mr. Patterson noted that Ms. Olson had reported at the November 18, 2003, Committee meeting that meetings held between the Milwaukee County Register of Deeds and the City of Milwaukee Assessor had initially been intended to deal with maintenance issues concerning the assumption of the maintenance by the Register of Deeds Office of the MCAMLIS digital cadastral maps covering the City of Milwaukee. She noted, however, that discussions had moved from this issue to tax listing functions because the County does not prepare the tax listing for the City of Milwaukee, thereby making the maintenance of the City maps by County staff more difficult, and because the City Assessor was surprised to learn that while the City of Milwaukee performs its own tax listing, Milwaukee County performs this function for the remaining 18 municipalities in the County.

The City Assessor, Ms. Mary Reavey, believes that the current tax listing arrangements are inequitable for City of Milwaukee residents in that they pay the full costs for tax listing in the City of Milwaukee and a portion of the total cost for the tax listing function in the remaining 18 Milwaukee County municipalities. She is further of the opinion that given current budgetary constraints and staffing considerations within her office, this would now be an opportune time to explore opportunities for reducing the apparent duplication of effort in the tax listing process. At the time, Ms. Reavey acknowledged, however, that changes in the City procedures would require involvement of the Mayor's office, and that with the then current mayor leaving office at the end of 2003, and the election of his successor not occurring until April 2004, it was unlikely that any fruitful discussions could occur until after the spring election.

Mr. Patterson further noted that Mr. LaFave had stated at the November 18, 2003, meeting that the current arrangement for tax listing is longstanding and that the City of Milwaukee apparently chose to exercise this function for itself sometime ago. He further noted that State Statutes do not require counties to provide tax listing for municipalities; that tax listing is a voluntary county procedure and that indeed the County had attempted to transfer this function to the 18 suburban municipalities about a decade ago, but had been dissuaded from this action by the assessors of the suburban municipalities concerned. Mr. LaFave further noted that his assessment of the current situation indicated that absorbing the tax listing function for the City of Milwaukee would require the addition of one to two additional staff positions in his office. He stated that it was his opinion that, with the County's current budgetary constraints, he

would be unlikely to convince the County Board to approve adding tax listing for the City of Milwaukee to the County's present tax listing activities.

Lastly, Mr. Patterson stated that since the Steering Committee had last considered this issue an audit of the Tax Listing Services Division of the Milwaukee County Register of Deeds Office had been completed. This audit, requested by Mr. LaFave, recommended several areas where improvements could be secured in the management of this function. Two of these recommendations are pertinent to the issue under discussion. The first of these pertains to the elimination of redundant mapping activities. The second pertains to the evaluation of combining the tax listing functions of the City of Milwaukee and Milwaukee County.

Chairman Bauer stated that the April elections had now passed and that the Honorable Thomas Barrett was now the duly elected mayor of the City of Milwaukee. He further noted that Ms. Reavey had been retained by Mayor Barrett as the City Assessor and that Mr. LaFave continued in his position as the County Register of Deeds.

Chairman Bauer noted that the internal audit report of the Register of Deeds Office to be reviewed later in the meeting recommended consolidating the two tax listings and mapping functions presently being carried out separately by Milwaukee County and the City of Milwaukee under the direction of the Milwaukee County Register of Deeds. Mr. LaFave responded that his request to the County Audit Department was for a review of the County tax listing function only. He continued to believe that the County was not capable of taking on the extra work involved with assuming the City's present tax listing and tax mapping functions. He noted that these were currently provisions for five staff positions within the Register of Deeds office concerned with the tax listing and tax mapping operations; currently, due to vacancies and retirements, only two of these five staff positions are filled. Current County policy is to leave vacancies unfilled, therefore, Mr. LaFave stated that even if he were in favor of implementing these recommendations, he would not be able to do so with his existing level of resources.

Ms. Olson stated that she had talked to Ms. Reavey and asked if Ms. Reavey was still interested in pursuing the consolidation of the two functions. Ms. Reavey had stated that she was still interested. Ms. Olson noted that this discussion had originally been initiated not as a discussion concerning consolidation on these two functions, but rather as an investigation concerning maintenance of the MCAMLIS cadastral maps lying within the City of Milwaukee. She further noted that whether or not consolidation of these functions proceeds, the Steering Committee still must deal with the issue of maintaining the MCAMLIS cadastral maps lying within the City of Milwaukee. She noted in this record that it was currently extremely difficult for Ms. Bach to maintain the MCAMLIS cadastral maps covering the City at the County Courthouse. Ms. Bach does not have easy access to the needed information because the tax listing procedure for parcels lying within the City is carried out by and at the City and not by and at the County.

Mr. Lewandowski stated to Mr. LaFave that it was his understanding from previous discussions of this issue that Mr. LaFave believed that additional staff beyond the five currently authorized positions would be required to take on the property listing and tax mapping function currently carried out by the City. He asked Mr. LaFave whether he was saying that he would need additional staff or that if all five current staff positions were filled, his office would be able to handle the additional work. Mr. LaFave said that he did not know. If and when he is able to fill currently vacant positions, he could determine how many staff were required to handle the current work load and whether or not they would be able to take on the additional work currently carried out by the City.

Chairman Bauer stated that additional discussion of this issue at this time appeared to be fruitless. The public officials concerned would have to be willing to aggressively pursue this discussion until it is elevated to the level of the Mayor and the County Executive. Perhaps some arrangement would have to be made at that time to establish a working group to look into all of the issues involved.

At the conclusion of the discussion, it was the consensus of the Steering Committee that the report and its ensuing discussion be placed on file via the minutes of the meeting.

Review of the Status of the Milwaukee County GIS Needs Assessment

Chairman Bauer recalled that the Steering Committee, at the request of the Milwaukee County Department of Public Works staff, had, at its meeting of July 15, 2003, acted to table proposals for three MCAMLIS projects: the conversion of the MCAMLIS digital cadastral maps to a seamless map environment; the development of a transactional map update capability for the resulting MCAMLIS cadastral map layer; and the extension of the MCAMLIS street address database to include the City of Milwaukee street address database. In taking these three actions, the Committee had also acted to request the Milwaukee County Department of Public Works staff to brief the Committee on the status of the creation of a County geodatabase as soon as the County staff was ready to present a cogent briefing regarding this issue. Chairman Bauer further recalled that the Steering Committee had, at its meeting on July 15, 2003, acted to provide up to \$45,000 of MCAMLIS funding to the County Department of Public Works for the purpose of conducting a County GIS needs assessment. Finally, Chairman Bauer recalled that the Steering Committee had at its meeting on November 18, 2003, acted to provide an additional \$70,000 of MCAMLIS funding, or a total of \$115,000, to the Department of Public Works for the purpose of expanding this study to include the design of a geodatabase.

Chairman Bauer then asked Mr. High if he would provide the Steering Committee with a report on the current status of the County's study with particular emphasis upon the two important issues listed on the agenda; namely:

1. Discussion of the potential transfer of MCAMLIS Program Management responsibilities from SEWRPC to Milwaukee County; and,
2. Discussion of potential changes to the structure of the MCAMLIS Steering Committee.

Mr. High distributed a memorandum titled "Status Report on the GIS Needs Assessment and Database Specification for Cadastral and Streets/Street Address Databases Project" (copy of memorandum attached to these minutes). Mr. High then asked Mr. White to review the status report with the Committee.

Mr. White stated that the project consisted of three phases: Phase 1 being a situation assessment and conceptual database design; Phase 2 being a logical data base design; and Phase 3 being a physical data base design and implementation plan. Mr. White stated that Phase I was now substantially complete and the consultants carrying out the study have met with County staff to finalize the conceptual data base design phase. He noted that the consultant had met with different County departments, with SEWRPC technical staff, WeEnergies technical staff, and City of Milwaukee technical staff to help in structuring the final database design. Mr. White finished by stating that the County staff currently expected the project to be completed on or about July 30, 2004.

Mr. Shaw asked about the expected outcome of the project; in particular, a description of the implementation plan. Mr. Shaw noted that he was particularly interested in the County's intended plan for the work that would follow the completion of the database design; that is, what specific information will be included in the data model and the time it would be required to fully populate the data model.

Mr. White responded that the County intends to come back to the Steering Committee with an implementation plan and intends to discuss with the Steering Committee the manner in which the implementation plan is proposed to be carried out.

In response to a question from Mr. Shaw, Mr. White stated that the County GIS needs assessment would be provided to the Steering Committee as a hard copy document for the Committee's review.

Discussion of the Potential Transfer of MCAMLIS Program Management Responsibilities from SEWRPC to Milwaukee County

Mr. High then distributed a memorandum titled "MCAMLIS Program Management and Governance Structure" (copy of memorandum attached to these minutes). Mr. High stated that with respect to the future management of the MCAMLIS Program, the consultants report would recommend that this responsibility be transferred from SEWRPC to the County. He further noted that this possibility has been discussed with SEWRPC on previous occasions and that SEWRPC has indicated that it would be pleased to relinquish management of the MCAMLIS Program to the County when the County was prepared to assume the management responsibilities concerned. Mr. High stated that the County would ultimately request consideration of that recommendation by the Steering Committee.

Mr. Lewandowski stated that it was his understanding that the County Department of Parks and Public Infrastructure (DPPI) had included a line item in its budget for management expenses associated with this assumption of responsibility and asked Mr. High to report the dollar amount involved. Mr. High responded that the amount was \$200,000 annually. Mr. Lewandowski stated that SEWRPC was presently receiving \$100,000 annually for project management and asked what justification there was for doubling the costs entailed.

Mr. White responded that, based upon DPPI staff analysis of the situation, DPPI envisioned a much higher degree of interaction with other Milwaukee County municipalities as a partial explanation for the increased cost.

Mr. Shaw asked how the increased project management costs would affect the MCAMLIS 2005 requested budget. Mr. Lewandowski responded that the Steering Committee could request an increase of \$100,000 in the MCAMLIS 2005 budget to cover the additional project management expenses or that it could allocate \$100,000 less of the total budget to carry out individual work projects.

Discussion of Potential Changes to the Structure of the MCAMLIS Steering Committee

Chairman Bauer asked if the consultant's report would deal with the continuation of the MCAMLIS Steering Committee; specifically, whether or not the report might recommend either the dissolution of the Steering Committee or its continuation in an advisory capacity to County staff.

Mr. High responded that the report would indeed address that issue. Mr. High stated that he believed that the report would recommend that the current Steering Committee structure be maintained for a period of

time while the County and the Steering Committee discuss the manner in which their relationship might evolve in the future.

Chairman Bauer stated that for the Steering Committee to evaluate the recommendations coming from the needs assessment, it would be important that a written report be available to the Steering Committee for its consideration and asked if County staff believed such a report could be provided to the Steering Committee for consideration at its next meeting. Mr. White responded that he believed that this would be the case.

NEW BUSINESS

Guidelines for the Use Of MCAMLIS Copyrighted Materials on Municipal Web Sites

Chairman Bauer noted that copies of a memorandum discussing guidelines for the use of MCAMLIS copyrighted materials on municipal web sites had been provided to Committee members for review prior to the meeting. Chairman Bauer further noted that Mr. Bennett had requested, at the Steering Committee Meeting held on November 18, 2003, that a discussion of this topic be included at the next scheduled Steering Committee meeting. As a result of that request, the memorandum now before of the Steering Committee had been prepared.

Chairman Bauer, noting that the time was already late, asked Mr. Bennett if he had any objection to this topic being carried to the next meeting. Mr. Bennett replied that he did not object to such action.

Review of the Findings of an Audit Of The Tax Listing Service Division, Register Of Deeds Office, And Discussion of the Recommendations of the Audit As These Recommendations Might Affect The MCAMLIS Program

Chairman Bauer noted that the a copy of an audit report of the Tax Listing Services Division of the Register of Deeds Office Committee had been provided to all Committee members for review prior to the meeting. Mr. Bauer noted that Mr. LaFave, Milwaukee County Register of Deeds, had requested this audit from the Milwaukee County Audit Department. Following its completion, Mr. LaFave had asked that copies of this audit be provided to the Steering Committee members and had further asked that the Committee review and discuss the findings of the audit as these findings might affect the MCAMLIS Program. Chairman Bauer than asked Mr. LaFave to review the audit report with the Steering Committee.

Mr. LeFave stated that the draftsman who previously was responsible for maintaining the tax listing maps in his office had retired. He further stated that Ms. Bach had taken over a portion of this work in addition to the work she carries out for the MCAMLIS project. Ms. Bach feels comfortable in making adjustments to the digital maps to incorporate certain information that the draftsman had previously entered on the tax listing maps. Mr. LaFave stated that Ms. Bach had showed him language in an Agreement that basically stated that the MCAMLIS digital cadastral maps should eventually be used as the basis for County tax mapping. Mr. Patterson responded that it was correct that the Agreement between the SEWRPC, acting on behalf of the Steering Committee, and the Register of Deeds Office concerning the maintenance of the MCAMLIS cadastral maps stated that, as these maps become available, the County tax mapping function should be carried out using the MCAMLIS digital maps.

Mr. LaFave noted that if the determination is made that Ms. Bach is unable to handle these additional work requirements, the Register of Deeds Office would take steps to provide an assistant for her to replace the previous draftsman, but not with the intent of having the assistant work in a manual mapping environment.

Chairman Bauer stated that he saw no reason that the Register of Deeds could not come to the Steering Committee and request additional funding if he hired an assistant to handle the maintenance of the digital cadastral maps. He noted that Ms. Bach will also have maintenance responsibility for the MCAMLIS cadastral maps lying within the City of Milwaukee and that that additional work may also warrant consideration of additional staffing.

Ms. Olson directed Mr. LaFave's attention to page 6 of the audit report, specifically his statement that the County's right to charge a fee for digital information must be legally established. Mr. LaFave responded that that was a finding from the auditors and further stated that the auditors may not have a full understanding of the various agreements under which the MCAMLIS Program operates.

Chairman Bauer stated that there seemed to be nothing in the current audit report that would require specific action by the Steering Committee at this time. He did note however, that as the City of Milwaukee maps move into a continuous update mode, some additional arrangements may need to be established to serve that function whether or not there is a consolidation of tax mapping functions between the City and the County. Chairman Bauer stated that it was quite likely additional help for the Register of Deeds Office would be necessary. He suggested that Mr. LaFave take that under consideration and come back to the Steering Committee at some future meeting with a specific proposal.

There being no further questions or comments on the audit report, it was the consensus of the Committee that the report be placed on file via the minutes of the meeting (a copy of the audit report is attached to these minutes).

Consideration of a Proposed Amendment to the Milwaukee County Land Records Modernization Plan Providing For The Designation Of The \$1 Locally Retained Document Filing Fee as a "Technology Fund" for an Ongoing Program of Technology Improvements in the Register Of Deeds Office

Chairman Bauer noted that a copy of a proposed amendment to the adopted Milwaukee County Land Records Modernization Plan had been provided to all Committee members for review prior to the meeting. Chairman Bauer stated that Mr. LaFave had requested that the Steering Committee consider designating the locally retained \$1.00 document recording fee as a "technology fund" and that the use of the fees so designated be directed toward efforts to both automate and improve efficiency in the handling of materials in the Register of Deeds Office. Chairman Bauer stated that project staff upon review of the adopted Milwaukee County Land Records Modernization Plan as amended by Steering Committee action on July 15, 2003; a review of the Wisconsin Department of Administration document "*Guidelines for Use of Additional \$1.00 Retained by the County*"; and of past actions taken by the Steering Committee had concluded that the optimal way to implement Mr. LaFave's request, should the Steering Committee desire to do so, would be through a further amendment to the County's adopted Land Records Modernization Plan as previously amended. Chairman Bauer then asked Mr. LaFave to review the pertinent points of his request with the Steering Committee.

Mr. LaFave stated that the MCAMLIS Steering Committee had been gracious in receiving his past requests, but that he was seeking greater authority to make expenditures directly from the collected \$1 fee

receipts. Mr. LaFave further stated that it was his intention that these funds be designated for use in the Register of Deeds Office for purposes of providing better service to the public without the Register of Deeds having to come back to the Steering Committee to get approval for each individual project. Ms. Olson, Mr. Lewandowski and Mr. Shaw each expressed reservations about establishing a protocol whereby the Register of Deeds could make expenditures without first having the review of the Steering Committee.

Mr. LaFave stated that it would always be his intention to report to the Steering Committee how the money was being expended. In answer to a question from Mr. Bauer, Mr. Patterson stated that the staff in developing this amendment to the Land Information Plan, had never intended nor had it included language that these funds could be expended without the approval of the Steering Committee. Mr. Patterson further stated that he was unsure whether or not the Steering Committee could give such latitude to the Register of Deeds Office for two reasons; the first having to do with the guidelines that have been established by the State concerning the permitted expenditures for the \$1 fee collections; and the second having to do with the delegation of authority to manage expenditures from all MCAMLIS Program income resources that had been given to the Steering Committee by the Milwaukee County Board of Supervisors.

Mr. Patterson stated that what the staff had attempted to do in the amendment was to make stronger and more focused statements about the manner in which the \$1 collections would be used in order to supply the Register of Deeds with some flexibility in qualifying particular projects as land records modernization efforts. In answer to a question from Mr. Lewandowski, Mr. Patterson replied that there was no language in the plan amendment that would give the Register of Deeds authority to make expenditures from the \$1 fee without first obtaining approval of the Steering Committee for such expenditures.

There being no further questions or comments on the proposed amendment, on a motion by Mr. Shaw, seconded by Mr. LaFave and carried unanimously, Amendment No. 2 to the Milwaukee County Land Records Modernization Plan was adopted and project staff were directed to file the Amendment as may be appropriate with the Wisconsin Department of Administration and to pursue the necessary steps to achieve their review of, and action on, the Amendment.

[Secretary's Note: Amendment No. 2 to the MCAMLIS Land Records Modernization Plan was forwarded to the Wisconsin Department of Administration on July 27, 2004. A copy of the letter of transmittal and Amendment No. 2 as adopted are attached to these minutes.

CORRESPONDENCE

Chairman Bauer noted that there was no correspondence to be brought before the Committee.

DATE, TIME, AND PLACE OF NEXT MEETING

Chairman Bauer then asked the Committee to consider the date, time, and place of the next Committee meeting. After some brief discussion, it was tentatively determined that the next meeting of the Steering Committee should be held on August 24th 2004, at 9:00 a.m., in Room 203P of the Courthouse.

ADJOURNMENT

There being no further business to come before the Steering Committee, on a motion by Mr. Shaw, seconded by Ms. Gross and carried unanimously, the meeting was adjourned at 11:55 a.m.

Respectfully submitted,

Thomas D. Patterson
MCAMLIS Project Manager

#96970 v1 - MCAMLIS 59th MIN

WISCONSIN LAND INFORMATION PROGRAM

2003 STATUS REPORT

MILWAUKEE COUNTY

Milwaukee county

Section 1: Organizational Information

1. Who is the Land Information Officer in your county?

John La Fave

2. What is the telephone number of the LIO?

414-278-4011

3. What is the fax number of the LIO?

414-223-1257

4. What is the email of the LIO?

regdeeds@milwcnty.com

5. To whom does the LIO report?

Register of Deeds

6. Does your Land Information Office have a website?

- Yes
- No

7. If yes, what is the URL(s) (website address)?

8. Does the Land Information Officer have other duties?

- Yes
- No

If yes, identify the percent of the job that is LIO related. 10 %

9. Including the Land Information Officer, indicate the total number of full time equivalent staff positions allocated to Land Information Office activities.

3

10. Please provide: Name, Title, and Phone Number for each person who completed the survey

Name	Title	Phone
John La Fave	Register of Deeds	414-278-4011
Kurt W. Bauer	Milwaukee County Surveyor	262-547-6721
Kevin White	DPW GIS Supervisor	414-278-2176
Thomas Lewandowski	DOA Budget Analyst	414-278-5330
Thomas D. Patterson	MCAMLIS Project Manager	262-547-6721

11. Comments:

John La Fave has served as the Land Information Officer and Register of Deeds for Milwaukee County since January 6, 2003.

Milwaukee county

Section 2: GIS Software

1. Which of the following GIS software programs are used by your county?

Please check all that apply

<input checked="" type="checkbox"/>	AutoCad by Autodesk
-------------------------------------	---------------------

<input checked="" type="checkbox"/>	AutoCad Map by Autodesk
<input checked="" type="checkbox"/>	Microstation by Bentley Systems
<input checked="" type="checkbox"/>	ArcGIS by ESRI
<input checked="" type="checkbox"/>	ArcView by ESRI
<input checked="" type="checkbox"/>	Map Objects IMS by ESRI
<input checked="" type="checkbox"/>	ARC IMS by ESRI
<input checked="" type="checkbox"/>	ARC SDE by ESRI
<input type="checkbox"/>	GenaMap by Genasys II
<input type="checkbox"/>	FRAMME by Intergraph
<input type="checkbox"/>	MGE by Intergraph
<input type="checkbox"/>	GeoMedia by Intergraph
<input type="checkbox"/>	GeoMedia Professional by Intergraph
<input type="checkbox"/>	MapInfo
<input type="checkbox"/>	Smallworld
<input checked="" type="checkbox"/>	Other <i>please specify</i> GGM-Printrak

2. Which of the following database software systems are used by for your land records?

check all that apply

<input checked="" type="checkbox"/>	Oracle
<input checked="" type="checkbox"/>	Microsoft Access
<input checked="" type="checkbox"/>	Microsoft SQL
<input type="checkbox"/>	Informix
<input type="checkbox"/>	AS/400
<input type="checkbox"/>	FoxPro
<input type="checkbox"/>	

<input type="checkbox"/> Other please specify

3. Please indicate the primary vendor of GIS mapping software possessed by various county departments

County Office	Package 1	Package 2	Package 3	Other
Agricultural/ Extension	--Specify--	--Specify--	--Specify--	
Emergency Government	--Specify--	--Specify--	--Specify--	
Forestry	--Specify--	--Specify--	--Specify--	
Highways/ Transportation	--Specify--	AutoCad	Microstation	Paver, Cartograph
Information Services/ Data Processing	--Specify--	--Specify--	--Specify--	
Land Conservation	--Specify--	--Specify--	--Specify--	
Land Information Office	ArcView	ArcView	--Specify--	
Parks and Recreation	AutoCad	AutoCad	--Specify--	
Planning	--Specify--	--Specify--	--Specify--	
Public Health	--Specify--	--Specify--	--Specify--	
Public Works/				

Infrastructure/ Solid Waste	AutoCad	MGE	ArcView	
Real Property Lister	--Specify--	--Specify--	--Specify--	
Register of Deeds	ArcView	ArcView	--Specify--	
Sheriff	--Specify--	--Specify--	--Specify--	GGM Printrak
Surveyor	--Specify--	--Specify--	Microstation	AutoCad
Treasurer	--Specify--	--Specify--	--Specify--	
Zoning	--Specify--	--Specify--	--Specify--	
Other, please specify Transit	ArcView	AutoCad	--Specify--	
Other, please specify County Board	ArcView	--Specify--	--Specify--	

4. Identify metadata software used.

Please check all that apply

<input checked="" type="checkbox"/>	Arc Catalog
<input type="checkbox"/>	Spatial Metadata Management Software (SMMS)
<input checked="" type="checkbox"/>	Other please specify TKME

5. Comments?

[Empty rectangular box for comments]

Milwaukee county

Section 3: Geodetic Control Networks

The WLIP geographic reference frameworks foundational element includes geodetic control networks (e.g., horizontal and vertical networks), the Public Land Survey System (section corner remonumentation and coordinates), and geographic control data (e.g., features captured on planimetric and topographic base maps, and by aerial photography and digital orthophotography).

Horizontal Geodetic Control Networks

In the early 1990's, the Wisconsin Department of Transportation (WisDOT), together with the National Geodetic Survey (NGS), developed a High Accuracy Reference Network (HARN) to provide primary horizontal control for Wisconsin.

- 1. Does your county have a horizontal geodetic control network that pre-dates or is not based on the Wisconsin HARN?
 - Yes
 - No
- 2. Has your county developed a densified horizontal control network using the Wisconsin HARN?
 - Yes
 - No, but our county plans to, *Skip to Question #5*
 - No, and there are no plans to, *Skip to Question #5*

3. If yes, were WLIB, FGCS, and/or WisDOT guidelines followed in the densification of the HARN?

Check all that apply.

<input type="checkbox"/>	Yes, WLIB Specifications and Guidelines to Support Densification of the Wisconsin High Accuracy Reference Network (HARN) Using Global Positioning System (GPS) Technology – June 1995 were used.
<input type="checkbox"/>	Yes, Federal Geodetic Control Subcommittee guidelines were used.
<input type="checkbox"/>	Yes, WisDOT guidelines were used.
<input type="checkbox"/>	No, none of these guidelines were used.

4. If densification of the horizontal control network has been initiated, how much densification work has been completed within your county?

	Number of stations completed in your county	Additional stations needed or planned
HARN		
Primary Stations (1 part per million)		
Secondary Stations (2 parts per million)		
Tertiary Stations (4 parts per million)		
Tertiary Stations (10 parts per million)		

5. Were the horizontal control stations for your county blue booked (i.e. conform to the Input Formats and Specifications of the National Geodetic Survey Data Base of the Federal Geodetic Control Subcommittee) and submitted to the National Geodetic Survey for inclusion in their national database?

- Yes
- No

Vertical Geodetic Control Networks

6. Has your county developed a densified vertical control network based on the National Spatial Reference System?

- Yes
- No, but our county plans to
- No, and there are no plans to

7. Comments?

A densified control system based upon the National Geodetic Vertical Datum of 1929 was completed before the Harn was proposed.

Milwaukee county

Section 4: Coordinate Data

1. What is the primary coordinate system used by your county for digital mapping/GIS?

State Plane Coordinates - South Zone

2. What is the primary horizontal datum used by your county for digital mapping/GIS?

North American Datum of 1927 (NAD27)

3. What is the primary vertical datum used by your county for digital mapping/GIS?

National Geodetic Vertical Datum of 1929 (NGVD 29)

4. Does your county have the ability to convert non-compliant data to the coordinate system used by your county?

- Yes, we process it internally
- Yes, we contact it out
- No

5. Comments?

Milwaukee county

Section 5: Public Land Survey System

1. Does your county have an active remonumentation program?
 - Yes
 - No
 - Planned

2. How many PLSS corners (section, 1/4, meander) in your county have been remonumented meeting or exceeding 1970 Wisconsin statute requirements?

1065 corners of 1065 corners total.

3. When PLSS corners in your county are being remonumented or reestablished, are coordinates developed and tied to the geodetic control network?
 - Yes
 - No
 - Planned

4. How many PLSS corners in your county have FGCC Third Order Class I coordinate values?

1065 corners of 1065 corners total.

5. Comments?



Milwaukee county

Section 6: Digital Base Maps

A base map can be defined in several different ways. For the purposes of this survey, a base map consists of natural and human-made features (those that can be identified and mapped using photogrammetric or field methods) in a digital vector format (represented through points, lines, and polygons). Examples of base map features may include waterways and tree lines as representations of natural features and building outlines and street pavement edges as representations of human-made features. A list of base map features is included in Question #3. Image bases (including digital orthophotography) and digital elevation data (contours, spot elevations, digital elevation models, etc.) are addressed in later sections of this survey.

1. Has your county created or acquired a digital base map in vector format?

- Yes
- No, but my county intends to
- No, and there are no plans to

2. Which of the following features do you include as part of your digital base map?

Please check all that apply

Feature	Percent Complete	Plan to Complete?	Plan to Maintain or update?
<input checked="" type="checkbox"/> Building footprints	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Building Centroids	%	<input type="checkbox"/>	<input type="checkbox"/>

<input checked="" type="checkbox"/>	Address points	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Surface hydrography	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Wetlands and swamps	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Street centerlines	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Center of right-of-way	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Street edge of pavement	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Railroads	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Driveways	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Parking lots	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Sidewalks	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Trees and wooded areas	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Utility poles and towers	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Fencelines	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Municipal and County boundaries	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Other>Please Specify:	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Other>Please Specify:	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Which of the following best represents the compilation scale of digital base mapping maintained by your county?

- 1:1200 scale (1"=100') or larger scale
- 1:1201 to 1:2400 scale (1"=200')

- 1:2401 to 1:4800 scale (1"=400')
- 1:4801 to 1:9600 scale (1"=800')
- 1:9601 to 1:12,000 scale (1"=1000')
- 1:12,001 to 1:24,000 scale (1"=2000')
- Smaller scale than 1:24000 scale (1"=2000')

4. Have cities, villages, and towns in your county developed their own digital base maps?

- Yes
- No

If yes, please list the cities.

5. Comments?

Milwaukee county

Section 7: Digital Elevation Data

Digital Elevation Data

1. Has your county created or acquired digital elevation data?

- Yes
- No, but our county plans to, *Skip to Next Section*
- No, and there are no plans to, *Skip to Next Section*

2. If yes for Question #1, what is the format of the digital elevation data maintained by your county?

Please check all that apply

Format of Digital Elevation Data	Contour Interval	Resolution (grid cell size)	Vertical Accuracy (+/-)	Percent Complete
Contours	2'	N/A	1'	100 %
Other Elevations (e.g. spot elevations, mass points, and break lines)	N/A	N/A	0.5'	100 %
Terrain Matrices (e.g. raster array, such as the USGS DEM)	N/A			%
Triangulated Irregular Network (TIN)	N/A	N/A		%
Other, <i>Please Specify:</i>				%

3. Comments?

Milwaukee county

Section 8: Image Base Maps

Image Bases

1. Has your county created or acquired digital orthophotography?

- Yes
- No, but our county plans to, *Skip to Question #4*
- No, and there are no plans to, *Skip to Question #5*

2. If yes to Question #1, how much of your county is complete?

100 %

Is it in your primary county coordinate system?

- Yes
- No

3. Does your county intend to acquire or update digital orthophotography?

- Yes
- No

If no, Please skip to Question 4

If yes, Please specify the resolution of the next update: 1'

and the year: 2005

4. Please provide information about the date, scale, and resolution of the digital orthophotography for the appropriate source(s):

Source	Date of photography	Scale of image product	Resolution of DOPs (grid cell size)	Color or Black and White
Digital Orthophoto Quarter Quadrangles by the U.S. Geological Survey			--Select Resolution--	--Specify Color--
County or County Consortium			--Select Resolution--	--Specify Color--
Regional Planning Commission	2000	1:2400	12 inch	Black and White
Other Please Specify			--Select Resolution--	--Specify Color--

5. Comments?

Milwaukee County

Section 9: Parcels

1. What is the current number of tax parcels in your county (please include woodland tax law lands, private forest croplands, managed forest lands, county forest crop, and tax-exempt parcels)?
2. Has your county created or acquired digital parcel mapping?

- Yes
- No, but our county plans to
- No, and there are no plans to

3. What percentage of the total parcels in your county are in digital form, including cities, villages, and towns?

100 %

4. Have cities, villages, and towns in your county developed their own digital parcel mapping?

- Yes
- No

5. For the parcels you have mapped, what percentage were based on each or any of the following methods? Note, the percentage may total more than 100%.

Compilation Method	Percent Complete
Developed parcel boundary lines by digitizing existing paper/mylar/linen maps, but with no adjustment to a known geographic reference framework.	<input type="text"/> %
Developed parcel boundary lines by digitizing existing paper/mylar/linen maps and adjusting them to the best available PLSS coordinates	60 <input type="text"/> %
Created digital parcel boundary lines using coordinate geometry from property descriptions, but with no adjustment to a geographic reference framework.	<input type="text"/> %
Created digital parcel boundary lines using coordinate geometry from property descriptions into a geographic reference framework.	40 <input type="text"/> %
Digitized existing maps using orthophotos/aerial photography to adjust the boundaries.	<input type="text"/> %
Incorporated digital data (e.g. certified survey maps) from an outside	<input type="text"/> %

source.	
Other compilation method, Please Specify:	%

6. **Digital parcel mapping for your county was:**

- Completed by an outside vendor
- Completed "in-house" by county staff
- Combination % by county

7. **Digital parcel maps for your county are now maintained:**

- Maintained by an outside vendor
- Maintained "in-house" by county staff
- Combination % by county

8. **Which of the following graphic features do you consider as part of your digital parcel mapping?**

Check all that apply.

<input checked="" type="checkbox"/>	Deed/title boundaries (ownership parcels)
<input checked="" type="checkbox"/>	Parcel overlaps and gaps
<input checked="" type="checkbox"/>	Tax parcel boundaries
<input checked="" type="checkbox"/>	PLSS framework
<input checked="" type="checkbox"/>	Subdivision boundaries
<input checked="" type="checkbox"/>	Administrative/political boundaries
<input checked="" type="checkbox"/>	Road rights-of-way
<input checked="" type="checkbox"/>	Railroad rights-of-way
<input checked="" type="checkbox"/>	Easements
<input checked="" type="checkbox"/>	Meandered water bodies
<input checked="" type="checkbox"/>	All water bodies (streams, rivers, ponds, and lakes)
<input checked="" type="checkbox"/>	Building footprints

<input type="checkbox"/>	Building centroids
<input checked="" type="checkbox"/>	Text strings
<input type="checkbox"/>	Owner names
<input checked="" type="checkbox"/>	Hydrography
<input checked="" type="checkbox"/>	Bearings and distances
<input type="checkbox"/>	Other, please specify: <input type="text"/>

9. Does your county's digital parcel mapping have topology? (For the purpose of this survey, topology is defined as digital parcels structured as polygons with all lines ending at a node without under- or over-shoots.)

- Yes
 No

10. Are digital parcels coded with unique parcel identification numbers?

- Yes
 No

11. If yes, what standards are used for developing unique parcel identification numbers?

Check all that apply.

<input type="checkbox"/>	WLIB Parcel Identification Numbering System
<input checked="" type="checkbox"/>	Standard developed by county government
<input type="checkbox"/>	If not WLIB Standard, please describe or provide document name <input type="text"/>

12. Can a linkage be made between digital parcel mapping and tax roll/assessment databases? (e.g., to support thematic mapping of attributes such as assessed value, assessment class, and ownership)

- Yes, such a linkage is simple
 Yes, but on a project-by-project basis with some additional manipulation of digital parcel mapping and/or the tax roll/assessment database

No

13. **Comments?**

The City of Milwaukee maintains its own digital parcel mapping capability outside of the system developed in the balance of the County. The City's digital parcel maps are being integrated into the County system in a transition effort that will require about five years to complete. At

Milwaukee county

Section 10: Zoning

1. Does your county have zoning?

Yes

No

If no, skip the rest of this section.

2. Has your county created or acquired digital mapping of zoning boundaries?

Yes

No

If no, does your county intend to create or acquire digital mapping of zoning boundaries?

Yes

No

If no, skip the rest of this section.

3. Does your county have separate series of maps depicting the following zoning elements in digital form?

Please check all that apply and include the percent complete for the entire county.

Zoning Element	Percent Complete	Plan to complete?	Plan to maintain or update?
Shoreland zones	%	No <input type="checkbox"/>	No <input type="checkbox"/>
Wetland zones	100 %	N/A <input type="checkbox"/>	Yes <input type="checkbox"/>
Floodplain zones	80 %	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
General ordinance zones (residential, commercial, industrial, agricultural, etc.)	%	No <input type="checkbox"/>	No <input type="checkbox"/>
Environmental corridors	100 %	N/A <input type="checkbox"/>	Yes <input type="checkbox"/>
Urban Service Areas	%	No <input type="checkbox"/>	No <input type="checkbox"/>
Steep Slopes	%	No <input type="checkbox"/>	No <input type="checkbox"/>
Other, please specify	%	No <input type="checkbox"/>	No <input type="checkbox"/>

4. Is general ordinance zoning (residential, commercial, industrial, etc.) administered on a countywide basis?

- Yes
- No

5. Does the county presently have the capability to integrate multiple types of zoning boundaries into a single comprehensive zoning map in a digital format?

- Yes, for county and municipal zoning
- Yes for county zoning only
- No

6. Comments?

Milwaukee County has no remaining unincorporated territory. All zoning is under the jurisdiction of the County's cities and villages. Some of these jurisdictions have developed or are planning to develop digital zoning maps.

Milwaukee county

Section 11: Soils

Soils

The primary source of digital soils mapping in Wisconsin is the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). (NRCS was formerly known as the Soil Conservation Service). The Soil Survey Geographic Database (SSURGO) is the most detailed level of digital soil mapping done by NRCS. SSURGO digitizing duplicates the original soil survey maps. SSURGO is designed for use by landowners, townships, and county natural resource planning and management.

1. **Has your county acquired digital soils data from the U.S. Department of Agriculture, Natural Resources Conservation Service?**

- Yes
- No Skip to Question #3

2. **If yes, has your county modified or refined NRCS digital soils data?**

- Yes
- No

If yes, please briefly describe the modifications or refinements made.

3. **Has your county acquired or developed digital soils data from another source?**
(Note: This refers to the source of the digital data only; the original source material -- soil surveys -- may still be from NRCS)

- Yes
- No

If yes, please describe the source for digital soils other than NRCS.

Less than half of Milwaukee County is covered by an operational soil survey. Those areas covered utilize the digital soil survey created by the Southeastern Wisconsin Regional Planning Commission from SCS source material.

If yes, is it in a format consistent with the counties primary coordinate system?.

- Yes
- No

4. **Comments?**

Milwaukee county

Section 12: Wetlands

The primary source of digital wetlands mapping in Wisconsin is the Wisconsin Wetlands Inventory (WWI). The custodian and sole distributor of digital WWI data is the Wisconsin Department of Natural Resources, Bureau of Fisheries Management and Habitat Restoration. WWI maps are the regulatory base for all state wetland protection programs.

1. Has your county acquired digital Wisconsin Wetlands Inventory data from the Wisconsin Department of Natural Resources?

- Yes
- No Skip to Question #4

If no, why not.

Milwaukee County utilizes the digital wetlands data compiled by the Southeastern Wisconsin Regional Planning Commission. These digital files were developed cooperatively with the Wisconsin DNR.

2. If yes, has your county modified or refined digital Wisconsin Wetlands Inventory data?

- Yes
- No

If yes, please briefly describe the modifications or refinements made.

3. Has your county acquired or developed digital wetlands data from another source?

- Yes
- No

If yes, please describe the source for digital wetlands other than WWI.

The Southeastern Wisconsin Regional Planning Commission.

4. Comments?

Milwaukee county

Section 13: Administrative Boundaries

1. Does your county have digital mapping of administrative boundaries?

- Yes
- No, but our county plans to.
- No, and there are no plans to.

2. Which of the following administrative boundaries are locally produced?

Please check all that apply

Administrative Boundary	Source	Percent Complete	Plan to Complete?	Plan to Maintain or update?	Consistent with Parcel Mapping?
<input checked="" type="checkbox"/> County Boundaries	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Minor civil divisions (cities,	Local		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

villages, and towns)	<input type="checkbox"/>		100 %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sewerage districts	<input checked="" type="checkbox"/>	Local	100 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Water supply districts	<input checked="" type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electric utility districts	<input checked="" type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gas utility districts	<input checked="" type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phone utility districts	<input checked="" type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cable television utility districts	<input checked="" type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legislative districts	<input checked="" type="checkbox"/>	Local	100 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Voting ward boundaries	<input checked="" type="checkbox"/>	Local	100 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tax increment financing districts	<input checked="" type="checkbox"/>	Local	100 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
School districts	<input checked="" type="checkbox"/>	Local	100 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lake districts	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Census geographies (tracts, block groups, blocks)	<input checked="" type="checkbox"/>	Local	100 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Native American reservations	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency administrative districts	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zip codes	<input checked="" type="checkbox"/>	Fed (TIGER)	100 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Public lands	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
911 / E911 Service areas	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, Please Specify:	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, Please Specify:	<input type="checkbox"/>						

Specify:		--Source--	%				
----------	--	------------	---	--	--	--	--

3. Comments?

All district boundaries affected by the recent legislative redistricting process were revised during 2002 as the new boundary information became available.

Milwaukee county

Section 14: Street Network System

1. What type of street network mapping does the county have?
 - Digital
 - Hard Copy Only
 - None
2. If the county has digital and/or hardcopy street network mapping, how much of the county is complete?
 - Digital
 - Hard Copy
3. If the county does not currently have street network map in digital form, do you intend to create one?
 - Yes

- No
- N/A

Format of Street Network Mapping

4. Which of the following features do you include as part of your street network system?

Please check all that apply

Digital	Hardcopy	Features
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Street centerlines
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Street edge of pavement
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Street Rights-of-Way
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bridges
<input type="checkbox"/>	<input type="checkbox"/>	Address ranges
<input type="checkbox"/>	<input type="checkbox"/>	Other, <i>Please Specify:</i> _____

5. How current is your street network data

Digital

Hard Copy

6. What are the methods used for compiling street network data?

Please check all that apply

Digital	Hardcopy	Compilation Method
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Compiled for the county using photogrammetric methods.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Digitized by or for the county from existing paper or mylar source.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Digitized by or for the county from orthophotos or aerial photography.

<input type="checkbox"/>	<input type="checkbox"/>	Modified from TIGER/Line files.
<input type="checkbox"/>	<input type="checkbox"/>	Created using coordinate geometry (COGO) software from an existing source.
<input type="checkbox"/>	<input type="checkbox"/>	Acquired from vendor (e.g. GDT, TeleAtlas, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	Other, Please Specify: _____

Street Addressing

7. Does the digital street network system for the county include information on individual street addresses?

- Yes
- No
- Planned

8. Does the digital street network system for the county include information on street address ranges?

- Yes
- No
- Planned

9. Is address information linked to digital mapping of the street centerline for the county?

- Yes
- No
- Planned

10. Is address information linked to digital mapping of buildings for the county?

- Yes
- No
- Planned

11. Does your county follow United States Postal Service addressing standards?

- Yes
- No

12. What type of addressing system is generally used by your county?

Urban Addressing

Numbers / Unit

/

eg. 100 / Block
1000 / Mile

Other, Please Specify

13. Comments?

Milwaukee county

Section 15: Land Use Mapping

1. What type of land use mapping does the county have?

Existing Land Use	Future Land Use
<input type="radio"/> Digital	<input type="radio"/> Digital
<input type="radio"/> Hard Copy Only	<input type="radio"/> Hard Copy Only
<input type="radio"/> None	<input type="radio"/> None

2. If the county has digital and/or hard copy land use mapping, how much of the

county is complete?

Existing Land Use		Future Land Use	
Digital	100 %	Digital	100 %
Hard Copy	100 %	Hard Copy	100 %

3. If the county has digital and/or hard copy land use mapping, what time period does that mapping represent?

Existing Land Use	2000	Future Land Use	2020
Digital	yr	Digital	yr
Hard Copy	2000	Hard Copy	2020
	yr		yr

4. If the county does not currently have land use mapping in digital form, do you intend to create it?

Existing Land Use	Future Land Use
<input type="radio"/> Yes	<input type="radio"/> Yes
<input type="radio"/> No	<input type="radio"/> No
<input type="radio"/> N/A	<input type="radio"/> N/A

5. What classification system do you use for land use mapping?

- Wisconsin Department of Revenue Land Use Classification System
- Land Use Based Classification Standards (American Planning Association)
- Standard Land Use Coding Manual (Federal Highway Administration and Department of Housing, 1965)
- Modified SLUCM
- Standard Industrial Code / North American Industrial Classification System

- (SIC/NAICS)
- Modified SIC/NAICS
 - USGS Land Use and Land Cover Classification System (Anderson et al., 1976)
 - SEWRPC Land Use Codes
 - County-created system
 - Other
- Other, *Please specify*:

6. What is the source for digital land use mapping in the county?

Please check all that apply

- Interpretation of aerial photography
- Field surveys
- Linkage of tax assessment class to digital parcel mapping
- Other, *Please specify*:

7. Comments?

Digital land use mapping for 2000 utilizing digital orthophotography obtained during 2000 was completed during 2003.

Milwaukee county

Section 16: Natural Resources

1. Does your county have digital mapping of natural resources?

- Yes

- No, but my county intends to. *Skip to Next Section*
- No, and there are no plans to. *Skip to Next Section*

2. Which of the following natural resources are mapped in digital format?

Please check all that apply

Natural Resource	Source	Percent Complete	Plan to Complete?	Plan to Maintain or update?
Land cover	--Source--	%	<input type="checkbox"/>	<input type="checkbox"/>
Geology	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Watersheds	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hydrogeology	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Forests	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hydrography	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Endangered resources	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Impacts on the environment	--Source--	%	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify:	--Source--	%	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify:	--Source--	%	<input type="checkbox"/>	<input type="checkbox"/>

3. Comments?



Milwaukee county

Section 17: Infrastructure and Facilities Management

1. Does your county have digital mapping of infrastructure systems?

- Yes
- No, but my county intends to. *Skip to Next Section*
- No, and there are no plans to. *Skip to Next Section*

Please check all that apply

Facility	Source	Percent Complete	Plan to Complete?	Plan to Maintain or update?
Railroads	--Source--	%	<input type="checkbox"/>	<input type="checkbox"/>
Harbors	--Source--	%	<input type="checkbox"/>	<input type="checkbox"/>
Transit systems	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Airports	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Recreational trails	--Source--	%	<input type="checkbox"/>	<input type="checkbox"/>
Natural gas network	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Electric network	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sewer network	Local	50 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Water network	<input checked="" type="checkbox"/>	Local	50 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Phone network	<input checked="" type="checkbox"/>	Local	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Telecommunications network	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government facilities	<input checked="" type="checkbox"/>	Local	25 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other, please specify:	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify:	<input type="checkbox"/>	--Source--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Comments?

Digital infrastructure systems for natural gas distribution, electric distribution, and telephone services have been developed by the private utilities concerned. Digital infrastructure systems for water distribution, sewerage, and government facilities are being developed by

Milwaukee county

Section 18: Completion Time for Foundational Elements

1. When do you contemplate completing the following spatial data elements in digital form?

Activity	Expected Completion
Densification of horizontal control from (HARN)	Not planned
Densification of vertical control network	Already Complete

Remonumentation of PLSS section corners	Already Complete
Coordinate values on PLSS section corners	Already Complete
Digital base map in vector format	Already Complete
Image bases (digital orthophotography)	Already Complete
Vector elevation data (contours/spot elevations)	Already Complete
Raster elevation data (DEM)	Complete after 2006
Parcels	Already Complete
Zoning	Complete after 2006
Soils	Already Complete
Wetlands	Already Complete
Administrative boundaries	Already Complete
Street centerlines	Already Complete
Street addresses	Already Complete
Land use mapping	Already Complete
Natural resources	Complete after 2006
Infrastructure and facilities management	Complete after 2006

2. Comments?

Milwaukee county

Section 19: Data Integration

1. Has the county acquired and/or combined digital spatial data from municipalities within the county to study a cross-jurisdictional issue?

- Yes
- No, but this is technically feasible
- No, data are not available or are incompatible

If yes, please briefly describe the most significant data integration project within the county, including data themes shared, successes, problems (technical and institutional), and lessons learned.

The county has implemented a temporary parcel layer with parcel outlines and ID's, a rights-of-way layer and a storm sewer layer. The biggest issue was creating a consistent format between the different software platforms (DGN, SHP, DWG) involved.

2. Has the county acquired and/or combined digital spatial data with adjacent counties to study a cross-jurisdictional issue?

- Yes
- No, but this is technically feasible
- No, data are not available or are incompatible

3. Comments?

Milwaukee county

Section 20: Institutional Arrangements

1. Does your county have formal (written) or informal arrangements with other entities?

Yes

No

If no, please skip to next section.

2. Please list the institutional arrangements that exist for your county. Indicate which agencies participate and if the nature of the arrangement is formal (written) or informal (verbal) or are to be negotiated in the future.

Multi-Departmental/Single Governmental Unit	Nature of Arrangement
Cartographer	--Type of Arrangement--
Conservationist	--Type of Arrangement--
Data Processing Department	Formal
Emergency Government	Informal
Forest and Park Administration	Formal
Land Information Office	Formal
Planning and Zoning	--Type of Arrangement--
Real Property Lister	Informal
Register of Deeds	Formal

Sheriff	Informal
Solid Waste Department	--Type of Arrangement--
Surveyor	Formal
Transportation	Formal
Treasurer	--Type of Arrangement--
Zoning	--Type of Arrangement--
Other (Please specify)	--Type of Arrangement--

3. Indicate the number of formal (written) or informal (verbal) arrangements your county has with each of the following types of entities.

	Formal	Informal
Municipalities within the county	19	0
Municipalities outside the county	0	0
Other counties	6	0
Regional agencies	2	0
State agencies	5	0
Federal agencies	0	0
Private sector organizations	79	0

4. Copy and paste a sample arrangement into the text box below, if applicable.

5. Comments?

Milwaukee county

Section 21: Communications, Education, and Training

1. Rate the following activities based on the amount of activity. Communications is the mechanism to disseminate information. Education and training is based on learning concepts and "hands-on" experience. Please rank the amount of activity from 1-5, where 5 indicates a high degree of activity.

Communications
Education and training

2. Does your county support any of the following activities?

- Publishes a land information newsletter
 - Yes
 - No
- Provides financial support to attend land information conferences
 - Yes

- No
- Sponsors land information conferences
 - Yes
 - No
- Sponsors land information training seminars for staff members
 - Yes
 - No
- Sponsors land information training seminars and short courses for professionals outside the county
 - Yes
 - No
- Provides support for staff to obtain degrees in related fields
 - Yes
 - No

3. Comments?

A land information newsletter is planned.

Milwaukee county
Section 22: Public Access

- 1. Does your county use any of the following means to provide public access to digital spatial data?**

Please check all that apply

- Public access terminal
- Electronic kiosk
- Compact disc or other media
- Internet web site --- please specify URL
- Dial-up or FTP access please --- please specify IP Address
- Other --- please specify

2. If your county has a web site for public access, what functions are available?

- View spatial data
- View tabular data
- View static maps
- View static tables
- Make maps
- Query tabular data
- View GIS product catalog
- View Metadata
- Download data
- Order data
- View information policies
- Track land information events
- Other, --- please specify:

3. Does your county have plans to provide access to digital spatial data through the Wisconsin Land Information Clearinghouse (WISCLINC)?

- Yes
- No, but we plan to in the future

No, we have no plans to because:
No local discussion. No policy established.

4. Does your county have plans to provide access to metadata about digital spatial data through the Wisconsin Land Information Clearinghouse (WISCLINC)?

Yes
 No, but we plan to in the future
 No, we have no plans to because:

5. Has your county developed a formal information sharing policy that addresses issues such as pricing, copyright, privacy, liability, data sharing, etc.?

Yes
 No, but we plan to in the future
 No, we have no plans to do so

6. Does your county utilize any of the following when providing digital spatial data to other government agencies?

Please check all that apply
 Copyright
 License agreement
 Restrictions on dissemination of data
 Charge for the cost of reproduction
 Charge in addition to the cost of reproduction
 Other restrictions -- please specify

7. Comments?

Milwaukee county

Section 23: Modernization Stages

Development of an automated land information system for a variety of users can be categorized into six different stages based upon the kinds of activities for which that system is being used. These six stages are listed in the question below. [Note: This question was originally asked as part of a 1996 survey in Wisconsin on evaluating the diffusion of Multipurpose Land Information Systems in local governments.]

1. Which of the following stages most accurately describes the current stage of land information system development by your local government organization or the one with which you work most closely?

Please check all that apply

- no modernization activities**-- activities are limited to manual processes and there are currently no planned modernization efforts;
- system initiation stage** -- activities are directed toward establishing the prerequisites for such a system (e.g., database design, needs assessment, procurement);
- database development stage** --building databases to support land information management (e.g., geographic frameworks, resource boundaries, parcel map construction);
- recordkeeping stage** --existing data are used in routine queries and selective information retrieval (e.g., tax assessment, number of new building permits);
- analysis stage** --existing data enable the performing of complex queries (e.g., 911 emergency routing, land-fill siting);
- democratization stage** --existing data enable agency decision-makers and the public to conduct spatial analyses (e.g., alternative scenarios for future land and resource use or

evaluation of social services).

2. Comments?

Milwaukee county

Section 24: WLIP & Survey Questions

1. What do you consider the most significant benefit to your county that has resulted, thus far, from the Wisconsin Land Information Program?

The creation of a dedicated funding mechanism for land records modernization activities.

2. In the last year, how would you rate the performance of the Wisconsin Land Information Board?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments:



3. What are your impressions of the survey?

- The survey was too short and did not cover enough detail about county LIS activities.
- The survey was reasonable in length and covered county LIS activities in adequate detail.
- The survey was too long and covered county LIS activities in too much detail.

4. How many people were involved in completion of this survey?

People

(Please make sure that all persons who completed the survey are listed in Section 1, Question 10, thanks)

5. What was the total staff time devoted to completion of this survey?

Hours

6. Describe any specific benefits deriving from the county's land records modernization activities. Your responses will help demonstrate the effectiveness of the WLIP.

The program has allowed Milwaukee County to develop a uniform set of digital mapping layers accross the entire county. The availability of these materials have permitted a number of County cities and villages to speed up their GIS implementation activities by making it

7. Estimate the annual investment of county fiscal resources above & beyond that amount directly attributable to WLIP Grants and retained fees.

On the order of \$300,000 to \$350,000 on an annual average basis.

Any additional comments on this section:

Milwaukee County

Section 25: Retained Fees

Retained Fees

The County is required to use \$1 of each \$5 fee retained to develop and maintain a computerized indexing of the county's land information records relating to housing, including the housing element of the county's land useplan under s. 66.1001(2)(b), Wis. Stats., in a manner that would allow for greater public access via the Internet. There were four categories of eligible activities specified in the guidelines:

- Property Assessment and Tax Information accessible via the Internet;
- Current Housing Supply and Forecasted Demand of Residential, Commerical, Industrial and other Lands;
- Affordable and Special Needs Housing Information;

- Housing Sales Information.

Eligible Expenditures of this \$1 retained fees to achieve the above would include:

- Computer Hardware;
- Computer Web-Enabled Software;
- Vendor Contracting;
- Metadata Development.

1. The total retained fees represented by the collection of the additional \$1 for the 2003 calendar year:?

295988

2. Indicate total retained fees of the additional \$1 for the 2003 calendar year which have been expended on these activities?

35000

3. Please briefly describe the activities that have led to the accessibility of property assessment, tax housing, and/ or sales information via the internet. This space accommodates 4- 5 Sentences.

During 2003, Milwaukee County purchased hardware and software to continue and expand ongoing efforts in the Register of Deeds office to convert additional data to digital form for eventual uploading to a web accessible site as Internet capability is expanded in the County.

4. Please list all URLs (web site addresses) for those internet sites that demonstrate activity in the area of the providing property assessment, tax, housing and / or sales data accessible via the internet for your country.

www.landrecords.net/index.asp

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: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: July 12, 2004

SUBJECT: STATUS REPORT NO. 9 ON PHASE I OF THE MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT

This memorandum sets forth the progress made on Phase I of the Milwaukee County Floodland Mapping project from November 1, 2003, through June 30, 2004. That project phase includes all streams that are to be studied in the County, with the exception of those in the Root River watershed. This status report addresses project progress in the following three major areas and also identifies major issues that have arisen:

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

Overall, the Phase I portion of the project is about 75 percent completed. Progress is summarized in the attached Exhibit 1 and is graphically summarized on the map attached hereto as Exhibit 2.

DATA ACQUISITION

During the period of November 1, 2003, through June 30, 2004, the following data acquisition activities were carried out:

- Work continued on coordination with the Milwaukee Metropolitan Sewerage District (MMSD), the Wisconsin Department of Natural Resources (WDNR), the Wisconsin Department of Transportation (WisDOT), and the City of Milwaukee. In general, where Phase I data have not been acquired, cooperative efforts are underway to obtain the data.
- Obtained an updated hydraulic model for the first phase of the U.S. Environmental Protection Agency (USEPA) Superfund project along the Little Menomonee River from the Union Pacific Railroad located just downstream of W. Brown Deer Road to W. Bradley Road. That model generally represents as-built conditions. In addition, the hydraulic model for reaches 2 and 3 located downstream of W. Bradley Road were obtained along with construction drawings for those phases.

- The Commission staff collected field survey data for five bridges along the main stem of the Kinnickinnic River in order to verify the elevations and dimensions of key features of those structures.
- Obtained from MMSD hydraulic model cross section plots for the Kinnickinnic River, Lyons Park Creek, S. 43rd Street Ditch, Villa Mann Creek, the Villa Mann Creek Tributary, and Wilson Park Creek. Also received from MMSD digital cross section alignment data for the Kinnickinnic River.
- The Commission staff collected detailed field survey data for nine bridges or culverts along the Dretzka Park Tributary.
- Obtained from the Village of Brown Deer grading plans for development in the vicinity of Beaver Creek at N. Green Bay Road (STH 57).
- The Commission staff made a field reconnaissance to collect updated information on hydraulic conditions along Southbranch Creek and to check specifics of the MMSD flood control project.

HYDROLOGIC AND HYDRAULIC MODELING

During the reporting period, progress on hydrologic and hydraulic modeling for Phase I of the project included the following:

Kinnickinnic River Watershed

- Began a detailed review of the hydraulic models for the main stem of the Kinnickinnic River and Lyons Park Creek and continued work on the model for Edgerton Channel/Wilson Park Creek.
- Completed a detailed review of the USEPA HSPF model developed for the Kinnickinnic River watershed under Phase 1 of the MMSD watercourse system management plan.

Milwaukee River Watershed

- Completed the hydraulic model of Lincoln Creek for the 10-, 50-, 100-, and 500- year floods, incorporating the components of the Lincoln Creek environmental restoration and flood control project. Prepared the supporting documentation necessary for the City of Milwaukee to submit the floodplain study for review and approval by the WDNR and the Federal Emergency Management Agency.
- Substantially completed work on the USEPA SWMM hydrologic model of the Southbranch Creek subwatershed, applying consistent methodology throughout the subwatershed. Work continued on the hydraulic model.
- Work continued on review and revision of the U. S. Army Corps of Engineers HEC-RAS hydraulic model and on the USEPA SWMM hydrologic model for Beaver Creek.

Menomonee River Watershed

- Completed a detailed review of the planned year 2020 land use, existing channel condition hydrologic model for the Menomonee River watershed. The base model used was developed under previous Regional Planning Commission studies and revised and updated under the MMSD Phase 1 and 2 watercourse system planning efforts.
- Began work on the hydraulic model for the Dretzka Park Tributary.

FLOODLAND MAP PREPARATION

- Completed digitizing of the 10-, 50-, and 500-year floodplain boundaries and the 100-year floodway boundaries along Underwood Creek and the South Branch of Underwood Creek in the Cities of Wauwatosa and West Allis.
- Prepared final automated delineations of the Lincoln Creek 100-year floodplain boundary using the HEC-GeoRAS model and the digital terrain model recently developed along the stream under the MCAMLIS large-scale topographic mapping program. Completed digitization of the 100-year floodway boundary. Completed first drafts of the digital 10-, 50-, and 500-year floodplain boundaries.

MAJOR PROJECT ISSUES AND CONSIDERATIONS

Hydrologic Modeling Procedure Approvals—It was reported in the sixth and seventh status reports, dated January 10, 2003, and May 29, 2003, that, as part of their review of the hydrologic study for the Pike River watershed in Kenosha and Racine Counties, Post, Buckley, Schuh & Jernigan (PBS&J), the Federal Emergency Management Agency's (FEMA) map coordination contractor, was developing a set of standards for acceptable continuous simulation modeling studies. The final FEMA report entitled "Pike River Watershed Hydrology and Continuous Simulation Modeling Review and Summary," was issued on August 14, 2003. As we had speculated in past status reports, the PBS&J review and the resulting FEMA report support the continuous simulation modeling procedures as practiced by the Commission and the MMSD. The Commission wrote to FEMA and WDNR indicating Commission acceptance of the findings of the report; the Commission staff intention to proceed with continuous simulation modeling under the MCAMLIS floodplain mapping project; and asking that WDNR provide review comments on the hydrology memoranda that were submitted in 2002 and 2003 as described below.

SEWRPC Staff Memoranda summarizing the proposed hydrologic modeling approach for the Milwaukee River main stem, the entire Underwood Creek subwatershed, and the Menomonee River watershed were submitted to WDNR and FEMA on July 24, 2002, September 16, 2002, and April 24, 2003, respectively. Favorable reviews of the modeling approaches for the Milwaukee River main stem and the Underwood Creek subwatershed have been obtained from FEMA. Issues raised by FEMA regarding the Menomonee River watershed will be addressed under the process described below. To date, there still has been no response from the WDNR on any of the three memoranda; however, the Commission staff is continuing with the hydraulic modeling and floodplain mapping for the streams.

In December 2003, FEMA initiated a study to develop additional criteria for continuous simulation hydrologic analyses and to address the issues raised in the initial FEMA review of the proposed Menomonee River hydrologic analysis. The additional study is an extension of the August 14, 2003, FEMA study mentioned above. The Commission staff provided detailed comments on the draft scope of work for the additional study proposed in December 2003 and received assurances that FEMA would consider those comments. A draft of a key appendix from the additional study report was received in April 2004 and Commission staff comments were provided to FEMA. As of the date of this status report, additional work products were expected from FEMA around mid-July 2004.

* * *

Exhibit 1

STATUS OF MCAMLIS PHASE I MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: JUNE 30, 2004

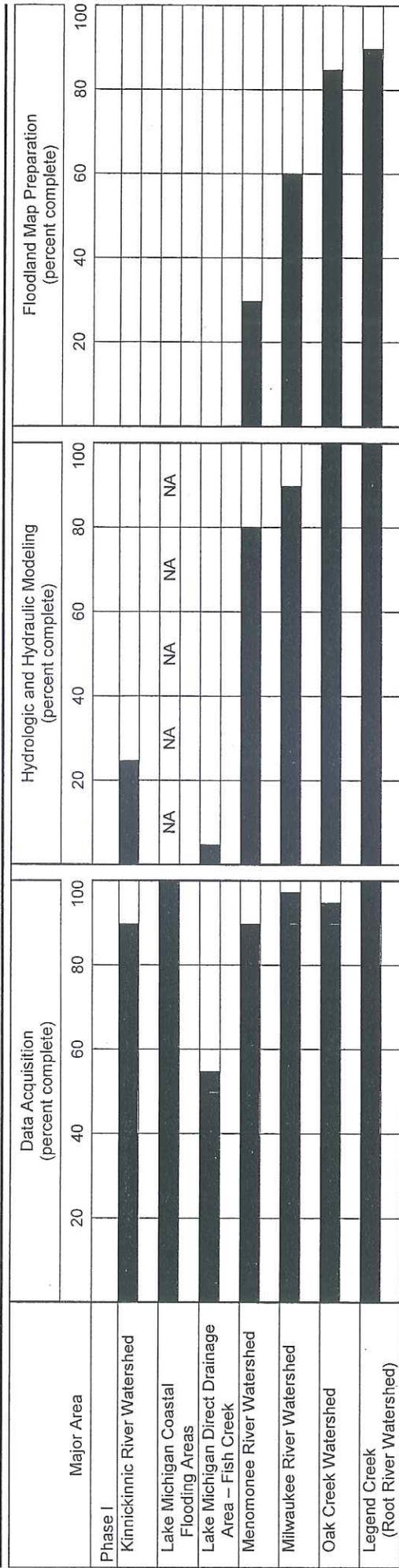
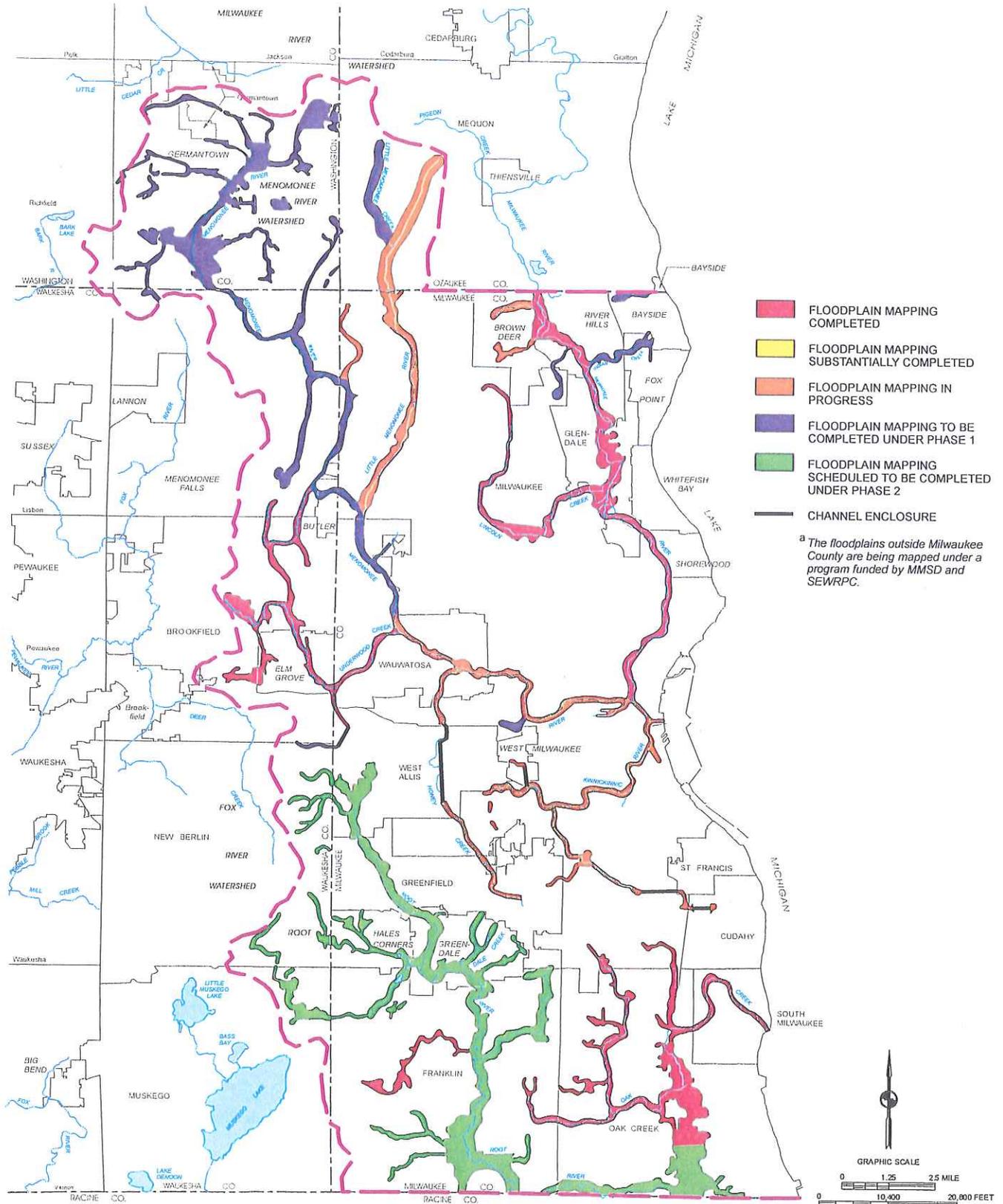


Exhibit 2

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN
 MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY^a JUNE 30, 2004



Source: SEWRPC.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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

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

Serving the Counties of:

KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: July 12, 2004

SUBJECT: STATUS REPORT NO. 1 ON PHASE II OF THE MILWAUKEE COUNTY
FLOODLAND MAPPING PROJECT

This memorandum sets forth the progress made on Phase II of the Milwaukee County Floodland Mapping project from January 22, 2004, through June 30, 2004. As shown on Exhibit 1, that project phase includes the streams that are to be studied in the County in the Root River watershed except for Legend Creek, which was studied under Phase I. In general status reports will address project progress in the following three major areas and they will also identify major issues that have arisen:

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

This status report only lists data acquisition activities, since the modeling and map preparation stages of the project have not yet begun. Overall, the Phase II portion of the project is about 3 percent completed. Progress is summarized in the attached Exhibit 2.

DATA ACQUISITION

During the period of January 22, 2004, through June 30, 2004, the following data acquisition activities were carried out:

- Obtained from MMSD the U.S. Environmental Protection Agency HSPF continuous simulation hydrologic model of the North Branch of the Root River subwatershed as developed by MMSD consultants under phases 1 and 2 of the MMSD watercourse system planning program. Also obtained the U.S. Army Corps of Engineers HEC-RAS river analysis systems hydraulic models developed by consultants to MMSD for the North and East Branches of the Root River and the 104th Street Branch.
- Contracted with National Survey & Engineering and coordinated the collection of hydraulic structure survey data for 29 structures located on the North Branch of the Root River, an Unnamed Tributary to the

North Branch of the Root River, Ryan Creek, an Unnamed Tributary to Ryan Creek, the Northwest Branch of Whitnall Park Creek, Tess Corners Creek, and Wildcat Creek. The survey data collection was funded with a Strategic initiative Grant from the Wisconsin Land Information Board.

- Obtained from the Milwaukee Metropolitan Sewerage District (MMSD) project record drawings for a recently constructed flood control project along the North Branch of Whitnall Park Creek and for the Grant Street pump station.
- Work continued on coordination of other data acquisition efforts with the MMSD.

MAJOR PROJECT ISSUES AND CONSIDERATIONS

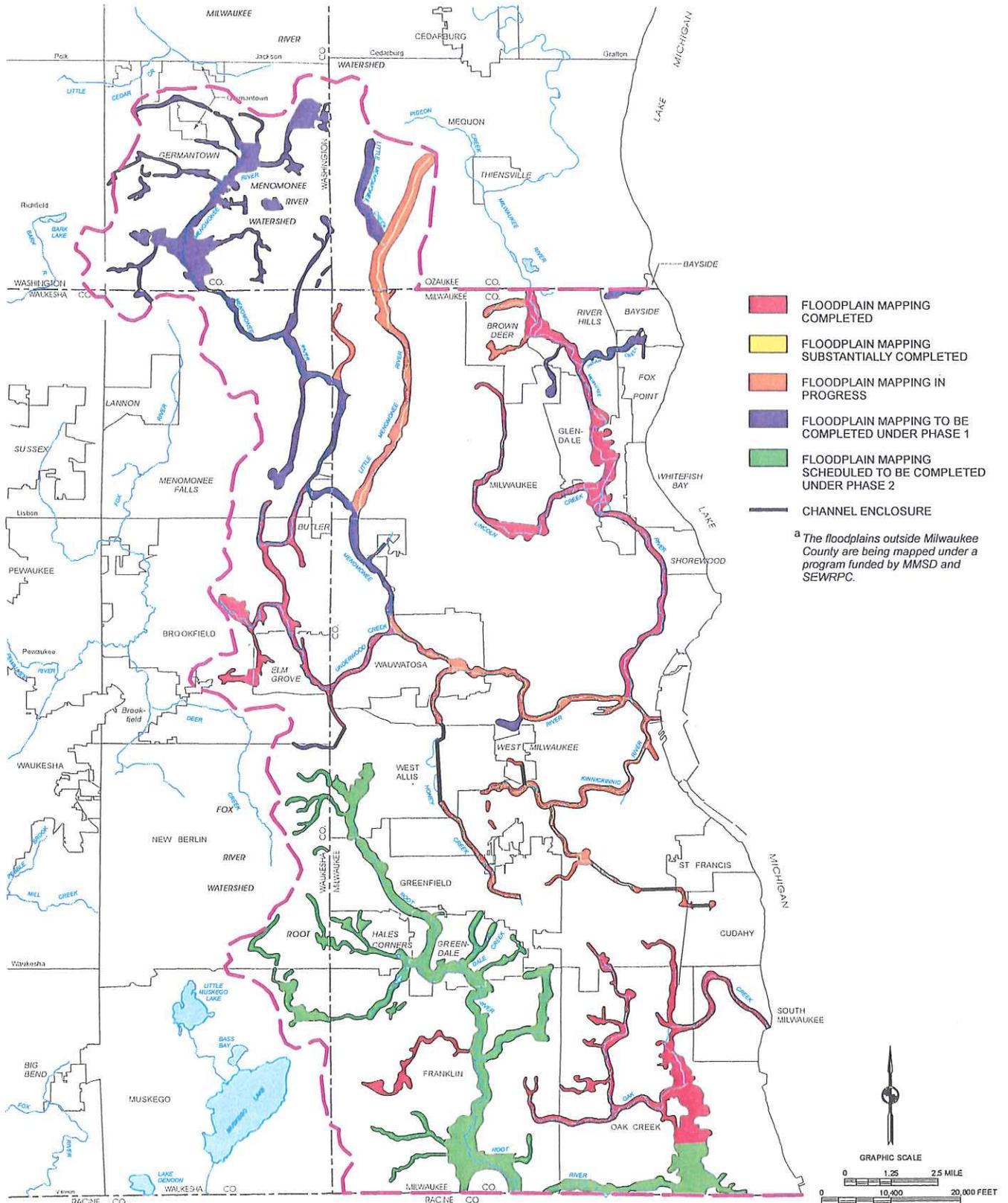
Hydrologic Modeling Procedure Approvals—Because the hydrologic analyses intended to be applied in the Root River watershed are based on continuous simulation methodology, as are most of the analyses made under Phase I, Phase II of the project requires resolution of issues raised by the Wisconsin Department of Natural Resources and the Federal Emergency Management Agency. It was reported in the sixth and seventh status reports for Phase I, dated January 10, 2003, and May 29, 2003, that, as part of their review of the hydrologic study for the Pike River watershed in Kenosha and Racine Counties, Post, Buckley, Schuh & Jernigan (PBS&J), the Federal Emergency Management Agency's (FEMA) map coordination contractor, was developing a set of standards for acceptable continuous simulation modeling studies. The final FEMA report entitled "Pike River Watershed Hydrology and Continuous Simulation Modeling Review and Summary," was issued on August 14, 2003. As we had speculated in past status reports, the PBS&J review and the resulting FEMA report support the continuous simulation modeling procedures as practiced by the Commission and the MMSD. The Commission wrote to FEMA and WDNR indicating Commission acceptance of the findings of the report; the Commission staff intention to proceed with continuous simulation modeling under the MCAMLIS floodplain mapping project; and asking that WDNR provide review comments on the hydrology memoranda that were submitted in 2002 and 2003. To date, there still has been no response from the WDNR on any of the memoranda; however, the Commission staff is continuing with the hydraulic modeling and floodplain mapping for the streams.

In December 2003, FEMA initiated a study to develop additional criteria for continuous simulation hydrologic analyses and to address the issues raised in the initial FEMA review of the proposed Menomonee River hydrologic analysis. The additional study is an extension of the August 14, 2003, FEMA study mentioned above. The Commission staff provided detailed comments on the draft scope of work for the additional study proposed in December 2003 and received assurances that FEMA would consider those comments. A draft of a key appendix from the additional study report was received in April 2004 and Commission staff comments were provided to FEMA. As of the date of this status report, additional work products were expected from FEMA around mid-July 2004.

* * *

Exhibit 1

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN
 MEMOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY^a JUNE 30, 2004



Source: SEWRPC.

Exhibit 2

STATUS OF MCAMLIS PHASE II MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: JUNE 30, 2004

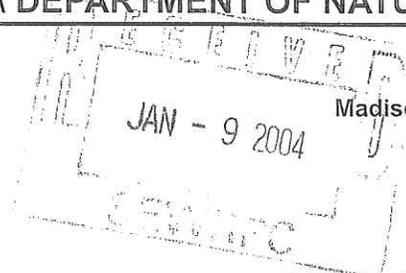
Major Area	Data Acquisition (percent complete)					Hydrologic and Hydraulic Modeling (percent complete)					Floodland Map Preparation (percent complete)				
	20	40	60	80	100	20	40	60	80	100	20	40	60	80	100
Phase II															
Root River Watershed															



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897



December 30, 2003

File Ref:H 574

Mr. Kurt Bauer
Chairman, MCAMLIS Steering Committee
PO BOX 1607, W239 N1812 Rockwood Drive
Waukesha, WI 53718-1607

Subject: Floodplain Mapping

Dear Mr. Bauer:

This is in response to your letter dated November 26, 2003 regarding DNR review and approvals of several flood studies.

As you know, the Department, in cooperation with FEMA, has undertaken a major flood remapping initiative. The attached fact sheet describes this effort. As part of this process we are looking forward to seeing Ozaukee, Milwaukee, Washington, and Waukesha Counties being the first set to be remapped on a countywide basis. As part of this effort we will be reviewing all applicable flood studies including those referenced in your letter. We especially appreciate SEWRPC's support and technical capabilities that they've offered to help us complete the flood map modernization effort in Wisconsin.

As we have previously indicated as part of our review of the Pike River study, the issue is not with the fact that a continuous simulation model was used, but rather the application of those models for floodplain mapping purposes. We are currently working with FEMA to establish criteria we both can use for reviewing models such as those already submitted. It is our understanding that FEMA will have this effort completed in the next month or two.

We agree with you that it is important to get the issue resolved and are confident that once this review criteria is established, we'll be able to move forward and complete our review process.

Sincerely,

Scott Hassett
Secretary

Cc: Mike Hahn, SEWRPC
Gloria McCutcheon

Flood Map Modernization in Wisconsin

Introduction

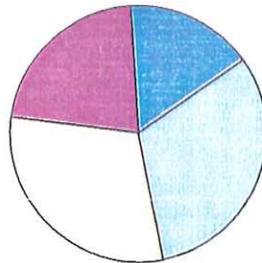
Floods are the nation's most frequent and costly natural disaster. The Federal Emergency Management Agency (FEMA) is the federal agency responsible for developing and maintaining the nation's flood hazard maps. Lending institutions use them to determine who needs flood insurance for federal bank loans and community zoning administrators use them when evaluating land use permit applications. Additionally, these maps are used by emergency management staff when responding to flood disasters. FEMA flood hazard maps are an essential tool for reducing flood damages in the U.S. Many of the nation's floodplain maps are outdated and of poor quality. The Federal Emergency Management Agency (FEMA) – the federal agency responsible for maintaining the floodplain maps – estimates modernizing the maps will cost \$1 Billion.

FEMA has encouraged States to take on additional responsibility in conjunction with Flood Map Modernization. Those activities include flood map needs assessment, project scoping, project management, contract management, map production, serving flood data to public via the web, outreach and maintenance.

Background

Floods cause a significant threat to life and property in Wisconsin. Wisconsin is tenth in the nation in documented flood damages. Flooding has been a principle cause in 16 out of last 24 Presidential Disaster Declarations in Wisconsin.

As shown in the figure below, most of the flood hazard maps in **Wisconsin** are outdated.



Age of Effective Map Panels



In many cases, the older maps reflect outdated flood hazard information that limits their utility for insurance and floodplain management purposes. Additionally, most of the maps were prepared using now outdated road network information and manual cartographic techniques, which make the maps difficult for State and local customers to use and expensive to maintain. In addition, FEMA has not produced flood maps for many of the streams in Wisconsin. Landowners on these unmapped streams are building homes unaware that they are in a flood hazard area.

Flood Map Modernization in Wisconsin

To address this problem, Congress passed a budget for Fiscal Year (FY) 2003 (which started on October 1, 2002) that increased the funding from \$50 to \$200 million. This past October, Congress increased the FY 04 funding to \$250 million. Similar funding levels are proposed for subsequent fiscal years.

State Role in the Flood Hazard Mapping Program

FEMA plans to remap all the floodplain maps in the state. The **Wisconsin DNR** ranked each county to determine the order in which the counties' mapping needs should be addressed. Priorities were established based on availability of elevation data, benefit cost ratio, floodplain mapping efforts underway and distribution of workload.

WDNR is requesting funding from FEMA to perform and/or manage all of the mapping activities in Wisconsin.

Summary

The Department of Natural Resources' floodplain management program has been in existence since 1967. WDNR has requested authorization and funding to direct/manage the Wisconsin's portion of FEMA's Flood Map Modernization Initiative.

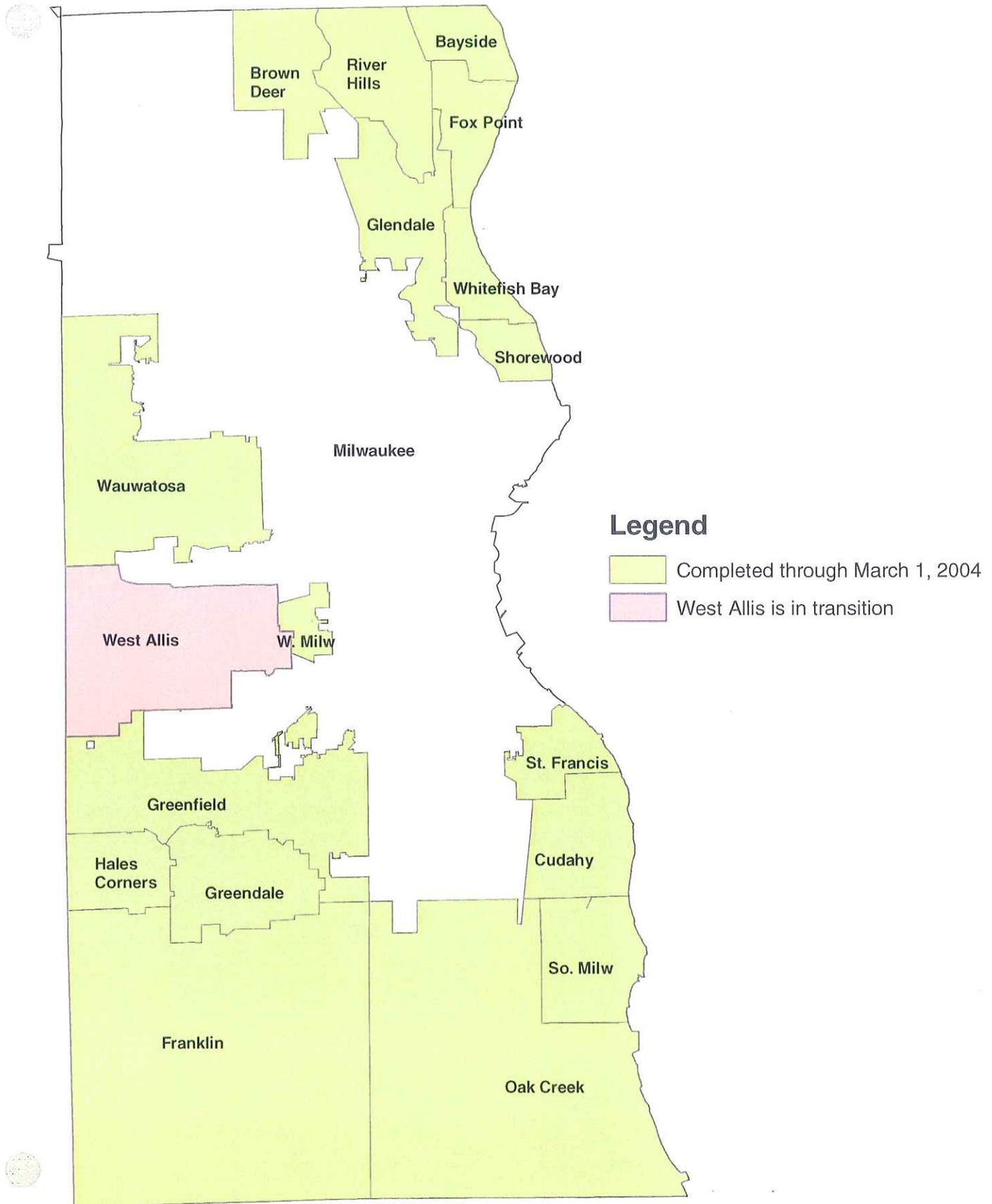
WDNR has developed a list of contractors qualified to do floodplain modeling and mapping in Wisconsin. These Wisconsin engineering consultants are more familiar with Wisconsin standards and mapping needs than FEMA's contractors located in St. Louis, Kansas City, Chicago and Washington D.C.

WDNR has received a \$800,000 grant for floodplain mapping for this fiscal year. Over half of the funding will go to Wisconsin engineering consulting firms to conduct the necessary engineering analysis and map production tasks. Seven county-wide floodplain mapping projects will be started this fiscal year:

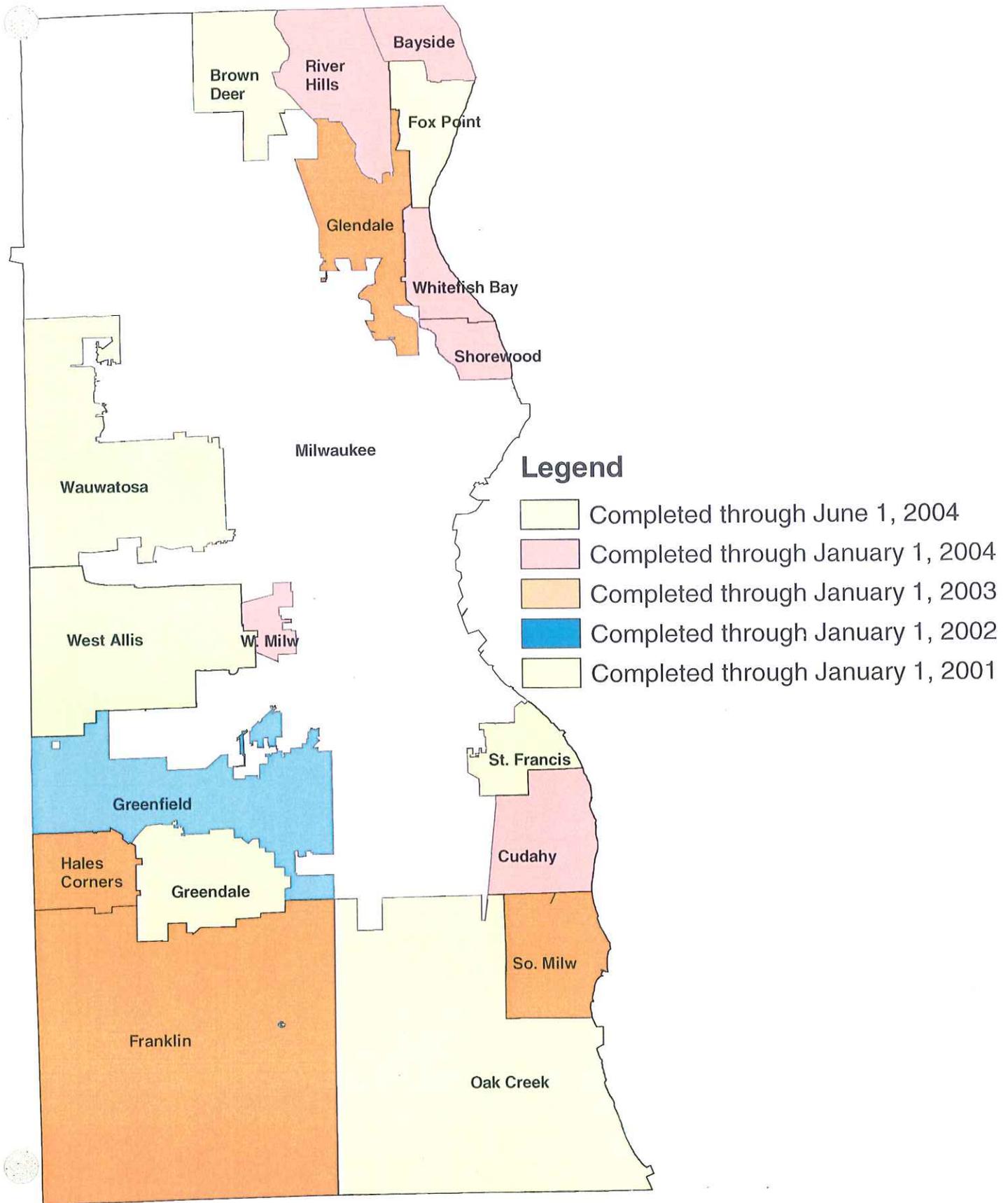
- Waukesha,
- Dane,
- Ozaukee,
- Milwaukee,
- Washington
- Rock.
- Brown

Projections indicate that Wisconsin will receive somewhere between \$10 and \$20 million over the next five years for flood map modernization.

Milwaukee County Cadastral Status as of June 28, 2004



Milwaukee County Address Status as of June 28, 2004



**STATUS OF MCAMLIS MAPPING PROJECTS
BEING CARRIED OUT BY CITY OF MILWAUKEE STAFF**

The City of Milwaukee recompilation project was comprised of 40 U.S. Public Land Survey one-quarter section-based maps as delineated on the status map attached hereto. These cadastral maps were compiled to fit the MCAMLIS survey control system utilizing original land records and associated descriptions and documents. This work was carried out by the staff of the City of Milwaukee, Infrastructure Service Division, Central Drafting and Records Office. This project was completed November 30, 2001.

The City of Milwaukee cadastral map transformation project (Phase 1) consisted of 93 U.S. Public Land Survey one-quarter-section-based existing City of Milwaukee maps that were refit to the MCAMLIS survey control system utilizing computer algorithms. These 93 one-quarter section maps are also delineated on the attached status map. This work was carried out by the staff of the City of Milwaukee, Department of Administration, Information and Technology Management Division. All 93 of the map sheets have been accepted by SEWRPC staff as substantially meeting the relevant specifications. The agreement governing this project called for work to be completed by October, 2002. This project was completed February 25, 2003. On April 28, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by December 31, 2003. This project was completed September 16, 2003.

The City of Milwaukee cadastral map transformation project (Phase 2) consisted of 24 U.S. Public Land Survey one-quarter-section-based maps as delineated on the attached status map. All 24 of the map sheets have been accepted as being in substantial compliance with the specifications for this project area. The agreement governing this project called for work to be completed by June 2002. This project was completed February 14, 2002.

The City of Milwaukee cadastral map transformation project (Phase 3) also consisted of 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. All 24 map sheets have been accepted as being in substantial compliance with the specifications. The agreement governing this project called for work to be completed by June 2002. This project was completed February 14, 2002.

The City of Milwaukee cadastral map transformation project (Phase 4) also consisted of 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. All 24 map sheets have been accepted as being in substantial compliance with the specifications. The agreement governing this project called for work to be completed by December 2002. This project was completed February 15, 2003. On April 23, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by June 30, 2003. This project was completed June 18, 2003.

The City of Milwaukee cadastral map transformation project (Phase 5) also consisted of a further 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on an accompanying status map. The agreement governing this project called for work to be completed by December 2002. This project was completed January 3, 2003. On April 25, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by June 30, 2003. This project was completed June 27, 2003.

The City of Milwaukee cadastral map transformation project (Phase 6) consisted of 26 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. The agreement governing this project called for work to be completed by December 2003. On April 30, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by December 31, 2003. This project was completed September 16, 2003.

The City of Milwaukee cadastral map transformation project (Phase 7) consisted of 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. The agreement governing this project called for work to be completed by April 2004. This project was completed January 30, 2004.

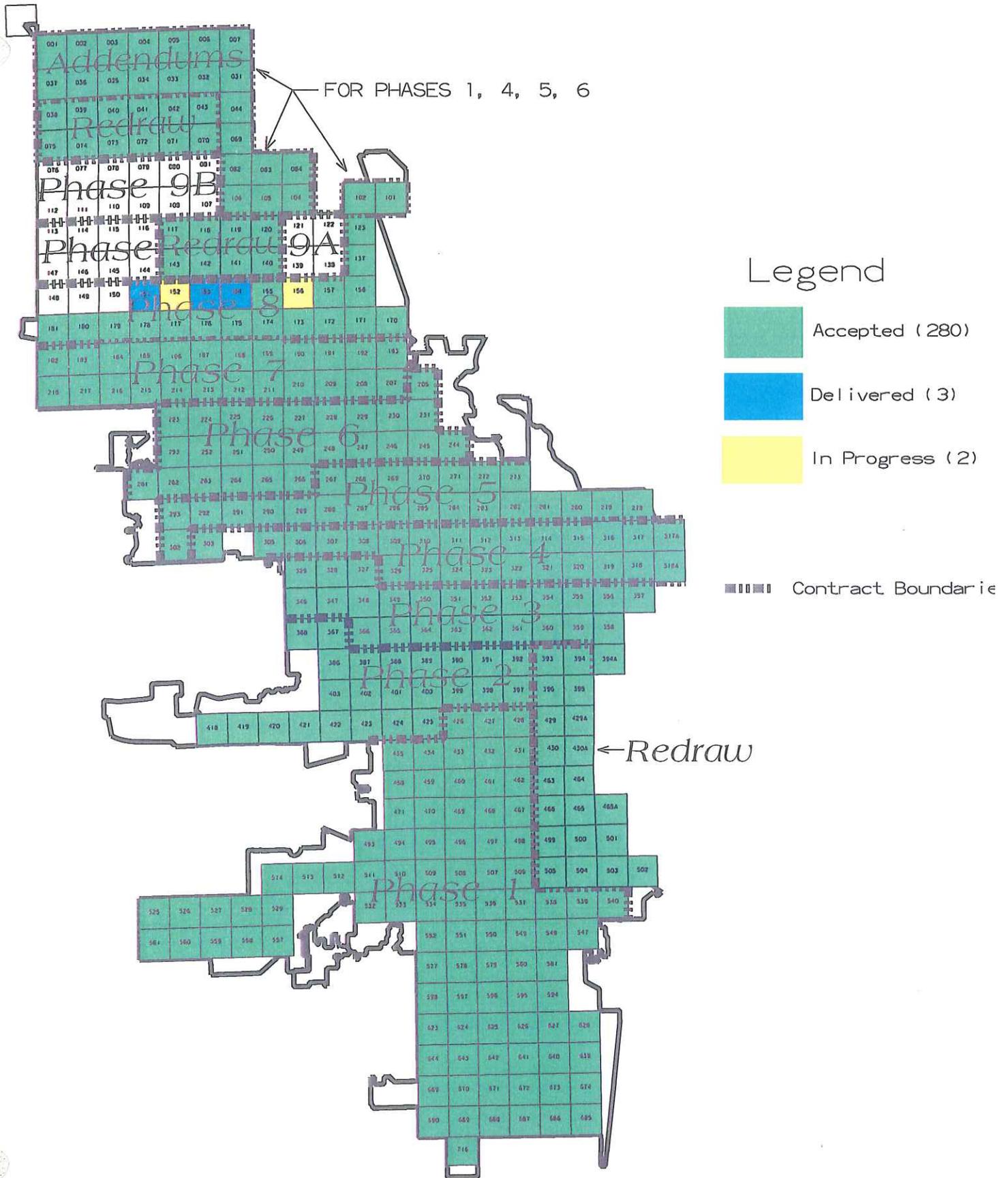
The City of Milwaukee cadastral map transformation project (Phase 8) consists of 25 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. As of June 30, 2004, 20 maps from this project area have been submitted to SEWRPC staff for review and 17 map sheets have been accepted as being in compliance with the specifications. The agreement governing this project calls for work to be completed by October 2004. There is currently no reason to expect that the project completion schedule will not be met.

The City of Milwaukee cadastral map transformation project (Phase 9A) consists of 12 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. As of June 30, 2004, no maps from this project area have been submitted to SEWRPC staff for review and, accordingly, no map sheets have been accepted as being in compliance with the specifications. The agreement governing this project calls for work to be completed by October 2004. There is currently no reason to expect that the project completion schedule will not be met.

The City of Milwaukee cadastral map transformation project (Phase 9B) consists of 12 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. As of June 30, 2004, no maps from this project area have been submitted to SEWRPC staff for review and, accordingly, no map sheets have been accepted as being in compliance with the specifications. The agreement governing this project calls for work to be completed by October 2004. There is currently no reason to expect that the project completion schedule will not be met.

* * *

MCAMLIS Transformation Project Progress Map



July 9, 2004

From: John La Fave, Register of Deeds

To: MCAMLIS Steering Committee members

Re: Status of Register of Deeds (ROD) projects funded from the \$1.00 retained fee.

Improvements to computerized system (MCAMLIS authorized \$240,000)

During June 2004 ROD's software system was upgraded to Fidlar's iDocumentXF. iDocumentXF allows for split-screen viewing of documents which means staff can work with document images on the computer screen rather than handling the actual paper documents. The software upgrade will also result in improvements and efficiencies in cashiering, imaging, tax listing and public searching both in our office and on the Internet. Also, the turn around time for the mailing back of original documents will be reduced to a couple of weeks rather three months.

ROD will be signing off on a five-year agreement to use iDocumentXF in December 2004. The payment option that ROD is leaning towards includes an initial payment of \$142,000 from the \$1.00 retained fee account to Fidlar Software in January 2005. Annual maintenance fees would then come from the County's ROD budget.

Register of Deeds purchased 16 computers, 13 monitors and 16 network cards at a cost of \$24,371.

With the installation of the new software system, the Register of Deeds will pay a pro-rated charge of \$6000 for a courthouse comprehensive tape back-up system.

Electronic Recording (MCAMLIS authorized \$45,000)

ROD has spent \$30,550.81 towards hardware and software items to enable E-Recording via Ingeo Company. Within a few months additional E-Recording will be available through our own software vendor, Fidlar. The plan is to then have Ingeo Company send their E-Documents to our Fidlar system. 6500 documents have been electronically recorded thus far. We are currently averaging about 40 E-documents per day.

External hard drive (SNAP server) (MCAMLIS authorized \$40,000)

ROD spent \$24,997.56 for the purchase of two SNAP servers. The second one will serve as a mirrored backup. They will replace the old jukebox technology for housing images.

Conversion of microfiche images to digital format (MCAMLIS authorized \$200,000)

ROD expects to purchase two million digital images of our own records (years 1995-1999) from ChicagoTitle/Property Insight for about \$80,000 within the next few months. ROD would then pursue putting out to bid the conversion of microfiche images for the years 1988-1994.

~~Making available on-line access to Federal Tax Lien (FTL) database (MCAMLIS authorized \$20,000)~~

This project is now unnecessary. As per a change in state law, Federal Tax Liens are now recorded in the Register of Deeds rather than filed. Because they are recorded, these documents can now be accessed in our current real estate records system.

EXECUTED LICENSE AGREEMENTS

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 2003	2003	
90.	1.	North Shore Fire Department	1/13/03
91.	2	Planning & Design Institute, Inc.	2/6/03
92.	3.	Nancy M. Aten	2/12/03
93.	4.	Graef, Anhalt, Schloemer and Associates, Inc.	4/2/03
94.	5.	Sandridge Commercial Real Estate, LLC	4/25/03
95.	6.	Bloom Consultants LLC	7/11/03
96.	7.	Landscape Architects, Inc.	7/22/03
97.	8.	Jenkins Survey and Design, Inc.	7/23/03
98.	9.	Access Engineering LLC	7/30/03
99.	10.	Fifth Ward Association	12/08/03
100.	11.	West Allis-West Milwaukee School District	12/10/03
Since 1995	For 2004	2004	
101.	1.	The Sigma Group	01/21/02
102.	2.	T N & Associates	02/20/04
103.	3.	Hayes Engineering Company	02/23/04
104.	4.	Geocomm	03/30/04
105.	5.	J. Spear Associates, Inc.	06/16/04

REQUESTED 2005 BUDGET

DEPT: MILWAUKEE COUNTY AUTOMATED LAND INFORMATION SYSTEM

UNIT NO. 1923

FUND: General - 0001

FUND General-0001

OPERATING AUTHORITY & PURPOSE

Pursuant to Sections 15.105(16), 16.971, 20.505(4)(im) and 59.72 of the Wisconsin Statutes and County Board Resolution File 90-707(a), approved on November 8, 1990, the Milwaukee County Automated Land Information System (MCAMLIS) may design, develop and implement a land information system integrating property and ownership records with U.S. Public Land Survey referenced parcel-identified boundary information; prepare boundary-referenced parcel property maps suitable for producing accurate land title or survey boundary line information; and prepare maps of documented accuracy suitable for local planning.

Pursuant to Section 59.43, funding for a land information office, modernization of land records and the State of Wisconsin Land Information Program and Board is collected via a seven-dollar surcharge on the County's existing four dollar Recording Fee. Four dollars of the additional seven-dollar surcharge are retained locally and specifically designated for expenditures associated with the creation, maintenance, and enhancement of the Milwaukee County

Automated Land Information System within guidelines established by the Wisconsin Land Information Board (WLIB). One dollar of the additional seven-dollar surcharge is also retained locally and specifically designated for expenditures associated with initiatives to develop and maintain a computerized indexing of the County's land information records relating to housing, including the housing element of the County's land use plan under Section 66.001(2)(b) (Smart Growth law) also within guidelines established by the WLIB. (No portion of the four dollar and one dollar surcharges are available for general County purposes.) Two dollars of the additional seven-dollar surcharge are forwarded to the WLIB. The County continues to retain its four dollar share of the Recording Fee.

Previous Register of Deeds Recording Fees	\$4
Fee for MCAMLIS	4
Fee for Land Records Modernization Initiatives	1
Fee for State Land Information Board	<u>2</u>
	\$11

BUDGET SUMMARY

	2003 <u>Actual</u>	2004 <u>Budget</u>	2005 <u>Budget</u>	2004/2005 <u>Change</u>
Services	\$ 866,757	\$ 911,500	\$ 953,000	\$ 41,500
County Service Changes	0	1,000	1,000	0
Abatements	<u>(1,975)</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Expenditures	\$ 864,782	\$ 912,500	\$ 954,000	\$ 41,500
Encumbrances	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Expenditures & Encumbrances	\$ 864,782	\$ 912,500	\$ 954,000	\$ 41,500
State Grants	\$ 223,055	\$ 100,000	\$ 79,000	\$ (21,000)
Sewer District & Utility Contributions	0	0	0	0
Recording Fee Surcharge	<u>1,474,750</u>	<u>812,500</u>	<u>875,000</u>	<u>62,500</u>
Total Revenue	\$ 1,697,805	\$ 912,500	\$ 954,000	\$ 41,500
Contribution to Reserve Account	<u>833,023</u>	<u>0</u>	<u>0</u>	<u>0</u>
Property Tax Levy	\$ 0	\$ 0	\$ 0	\$ 0

REQUESTED 2005 BUDGET

DEPT: MILWAUKEE COUNTY AUTOMATED LAND INFORMATION SYSTEM

UNIT NO. 1923

FUND: General - 0001

BUDGET HIGHLIGHTS

- This appropriation provides 2005 expenditure authority of \$954,000 for the Automated Land Information System. Revenue of \$700,000 is projected to be received from the four-dollar surcharge collected by the Register of Deeds earmarked for land information modernization by Section 59.72(5) of the *Wisconsin Statutes*. Revenue of \$175,000 is projected to be collected from the one-dollar surcharge which is also collected by the Register of Deeds. An additional \$79,000 is expected to result from grants to be awarded to the County by the Wisconsin Land Information Board (WLIB). Contributions to this project from the Private utilities, SBC, Wisconsin Electric and Wisconsin Gas, of \$520,000 each, were completed in 1994. A contribution from the Milwaukee Metropolitan Sewerage District, also in the amount of \$520,000 was completed in 2000. Milwaukee County is not required to provide tax levy dollars.
- Expenditure authority of \$954,000 is comprised of \$717,000, to continue to develop and maintain the automated base map and parcel-based land information system as provided for in the plan approved by the County Board and to undertake selected plan development work; \$175,000 to develop and maintain a computerized indexing of the County's land information records related to housing in a manner consistent with the requirements of Section 66.001(2)(6) *Wisconsin Statutes*; \$60,000 for surveying services provided by the Southeastern Wisconsin Regional Planning Commission (SEWRPC) in performance of its duties as the Milwaukee County Surveyor under the requirements of Section 59.635, *Wisconsin Statutes*; \$1,000 to obtain subdivision and map survey prints from the Register of Deeds; and \$1,000 for meeting and travel expenses.
- With the exception of that portion of the County comprised of the City of Milwaukee, work on the initial digital base map was largely completed by the end of 1998. By the end of 1999, work on the creation of a street address and real property parcel database linked to the digital maps was also completed, again for that portion of the County outside the City of Milwaukee. Also during 1999, activities related to an ongoing maintenance effort were initiated to ensure that the automated base map is kept up-to-date for that portion of the County outside the City of Milwaukee. These activities continued during 2000, 2001, 2002, 2003, and 2004.
- During 1999, an update and extension of the County Land Records Modernization Plan was prepared and submitted to the Wisconsin Land Information Board (WLIB) in accordance with program requirements. The preparation of the updated Land Records Modernization Plan was needed to maintain County eligibility to retain Register of Deeds filing fees and to continue to receive grants under the provisions of the Wisconsin Land Information Program. The updated and extended plan was approved by the WLIB during 2000.
- The automated mapping base is to be enhanced by the creation of additional layers of information useful to County and local government. For example, during 2000, a digital land use mapping layer was completed. During 2002, an integrated set of administrative, legislative, and statistical area boundary overlay maps was completed. The preparation of a flood plain layer was initiated in 2001. This work continued during 2004 and will continue during 2005.
- During 1999 a major multi-year project to integrate the existing City of Milwaukee digital cadastral mapping into the County-wide system was initiated. This effort, expected to be completed by the end of 2004, will have required a total expenditure of about \$1.73 million at the time of its completion.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003-Per 13	TOTAL
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
Beginning Period Reserve-January 1	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	2,748,988
Mid-Year Reserve Changes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Period Reserve	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	2,748,988
Recording Fees (\$4.00 Portion)	101,886	324,983	612,592	676,093	647,355	503,342	574,328	644,508	769,820	773,078	609,683	743,977	918,012	1,178,762	9,078,419
Recording Fees (\$1.00 Portion)	0	0	0	0	0	0	0	0	0	0	0	72,968	230,597	295,988	599,553
State Grants	0	0	0	150,000	200,000	165,000	138,500	55,300	139,226	152,270	103,895	325,997	197,979	223,055	1,851,222
1 Private Utility Contributions	312,000	312,000	312,000	312,000	312,000	0	0	0	0	0	0	0	0	0	1,560,000
2 MMSD Contribution	0	0	0	50,000	50,000	50,000	50,000	50,000	50,000	50,000	170,000	0	0	0	520,000
Annual Revenue	413,886	636,983	924,592	1,188,093	1,209,355	718,342	762,828	749,808	959,046	975,348	883,578	1,142,942	1,346,588	1,697,805	13,609,194
TOTAL FUNDS AVAILABLE	413,886	920,323	1,520,514	1,883,217	2,161,409	2,708,622	2,102,477	2,165,737	2,491,335	2,918,847	3,171,593	3,273,483	3,682,966	4,446,793	16,358,182
Additional Encumbrance	100,000	22,075	534,849	272,943	-900,864	112,067	308,902	367,776	361,580	386,754	586,545	737,559	577,619	375,752	3,843,557
Less Prior Year Additional Encumbrance	-100,000	-22,075	-22,075	-534,849	-272,943	900,864	-112,067	-308,902	-367,776	-361,580	-386,754	-586,545	-737,559	-577,619	-3,467,804
Legal Fees	0	350	600	0	0	0	0	0	0	0	0	0	0	0	950
Systems Consulting (UGC)	0	128,638	0	0	0	0	0	0	0	0	0	0	0	0	128,638
USPLS Remonumentation	0	41,260	0	0	0	0	0	0	0	0	0	0	0	0	41,260
Horizontal/Vertical Control Surveys	0	144,443	0	0	0	0	0	0	0	0	0	0	0	0	144,443
Aerial Photos/Mapping	21,555	17,925	292,060	1,178,794	1,340,370	356,953	490,821	576,268	556,108	608,450	842,594	787,620	1,095,708	866,757	9,031,982
Project Facilitator	8,991	73,567	21,650	14,995	0	0	0	0	0	0	0	0	0	0	119,203
Conference	0	59	1,046	319	0	0	528	0	0	0	0	0	0	0	1,953
RoD Computer Hardware/Software	0	0	0	0	6,291	797	0	0	0	0	0	0	0	0	7,088
Computer Maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Computer/Office Supplies	0	0	0	0	0	0	26	0	0	0	0	0	0	0	26
DPW Needs Analysis	0	554	13	0	0	0	3	5	0	0	343	0	442	0	1,399
IMSD Strategic Initiative	0	-4,470	-2,752	-1,040	-1,724	-1,708	-1,664	-1,700	-2,116	-2,792	-1,676	-1,529	-2,232	-1,970	-27,373
Contractual Crosscharges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charges Paid By Other Departments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Expenditures	30,586	402,326	312,616	1,193,069	1,344,936	356,042	489,713	574,573	554,032	605,658	841,261	786,091	1,093,918	864,787	9,449,609
TOTAL EXPS / ENCUMBRANCES	130,586	324,401	825,391	931,162	171,130	1,368,973	686,548	633,448	547,836	630,832	1,041,052	937,105	933,978	662,920	13,293,166
NET AVAIL FUNDS (END RESERVE)	283,300	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,746,988	3,783,873	3,065,016

1. 1994 was the final year for this revenue source.
2. \$50,000 will be paid each year through 2000, and \$20,000 in 2003.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	6/30/2004	TOTAL
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
Beginning Period Reserve-January 1	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	3,783,878	3,783,878
Mid-Year Reserve Changes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Period Reserve	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	3,783,878	3,783,878
Recording Fees (\$4.00 Portion)	101,886	324,983	612,592	676,093	647,355	503,342	574,328	644,508	769,820	773,078	609,683	743,977	918,012	1,178,762	297,962	9,376,381
Recording Fees (\$1.00 Portion)	0	0	0	0	0	0	0	0	0	0	0	72,968	230,597	295,988	74,918	674,471
Slate Grants	0	0	0	150,000	200,000	165,000	138,500	55,300	139,226	152,270	103,895	325,997	197,979	223,055	300	1,851,522
1 Private Utility Contributions	312,000	312,000	312,000	312,000	312,000	0	0	0	0	0	0	0	0	0	0	1,560,000
2 MMISD Contribution	0	0	0	50,000	50,000	50,000	50,000	50,000	50,000	50,000	170,000	0	0	0	0	520,000
Annual Revenue	413,886	636,983	924,592	1,188,093	1,209,355	718,342	762,828	749,808	959,045	975,348	883,578	1,142,942	1,346,588	1,697,805	373,180	13,982,374
TOTAL FUNDS AVAILABLE	413,886	920,323	1,520,514	1,883,217	2,161,409	2,708,622	2,102,477	2,165,737	2,491,335	2,918,847	3,171,593	3,273,483	3,682,966	4,446,793	4,157,058	17,766,252
Additional Encumbrance	100,000	22,075	594,849	272,943	-900,864	112,067	308,902	367,776	361,580	386,754	586,545	737,559	577,619	375,752	574,826	4,418,383
Less Prior Year Additional Encumbrance	0	-100,000	-22,075	-584,849	-272,943	900,864	-112,067	-308,902	-361,580	-386,754	-586,545	-737,559	-577,619	-375,752	-375,752	-3,843,556
Legal Fees	0	360	600	0	0	0	0	0	0	0	0	0	0	0	0	950
Systems Consulting (UIC)	0	128,638	0	0	0	0	0	0	0	0	0	0	0	0	0	128,638
USPLS Reimbursement	0	41,260	0	0	0	0	0	0	0	0	0	0	0	0	0	41,260
Horizontal/Vertical Control Surveys	0	144,443	0	0	0	0	0	0	0	0	0	0	0	0	0	144,443
Aerial Photos/Mapping	21,565	17,925	292,060	1,178,794	1,340,370	356,953	490,821	576,268	556,108	608,450	842,594	787,620	1,095,708	866,757	179,826	9,211,808
Project Facilitator	8,991	73,567	21,650	14,995	0	0	0	0	0	0	0	0	0	0	0	119,203
Conference	0	59	1,046	319	0	0	528	0	0	0	0	0	0	0	0	1,953
RoD Computer Hardware/Software	0	0	0	0	6,291	797	0	0	0	0	0	0	0	0	0	7,088
RoD Materials Copied	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Computer Maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Computer/Office Supplies	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	26
DPW Needs Analysis	40	554	13	0	0	0	3	5	0	0	343	0	442	0	1,399	
Contractual Crosscharges	0	-4,470	-2,752	-1,040	-1,724	-1,708	-1,664	-1,700	-2,116	-2,792	-1,676	-1,529	-2,232	-1,975	-675	-28,053
Charges Paid By Other Departments	0	0	0	0	0	0	0	0	40	0	0	0	0	0	0	40
Miscellaneous	30,586	402,326	312,616	1,193,069	1,344,936	356,042	489,713	574,573	554,032	605,658	841,261	786,091	1,093,918	864,782	179,151	9,628,755
Annual Expenditures	130,586	324,401	825,391	931,162	171,130	1,366,973	686,548	633,448	547,836	630,832	1,041,052	937,105	935,978	662,915	375,225	14,047,138
TOTAL EXPS / ENCUMBRANCES	283,300	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	3,783,878	3,778,833	3,719,114
NET AVAIL FUNDS (END RESERVE)	130,586	331,401	825,391	931,162	171,130	1,366,973	686,548	633,448	547,836	630,832	1,041,052	937,105	935,978	662,915	375,225	14,047,138

1. 1994 was the final year for this revenue source.
2. \$50,000 will be paid each year through 2000, and \$20,000 in 2003.

COUNTY OF MILWAUKEE
Inter-Office Communication

Date: February 24, 2004

To: John La Fave, Milwaukee County Register of Deeds

From: Jerome J. Heer, Director of Audits

Subject: Register of Deeds, Tax Listing Services Division

At your request, we have performed a limited review of the Tax Listing Services Division within your office.

Background

As specified in ss. 59.43, Wisconsin State Statutes, the Register of Deeds (RoD) is responsible for the recording, indexing and maintenance of public records related to real estate, individuals, and a number of miscellaneous items within Milwaukee County. The public records fall into one of the three main categories of real estate, vital statistics, and other. Fees for these activities are also enumerated within the Wisconsin Statutes. In most cases, the county and state share in the fees collected.

The Tax Listing Services Division (Tax Listing) reviews real estate property descriptions, assigns new tax key numbers due to real estate boundary changes, maintains plat books and property records, assists in the preparation of petitions for foreclosure action and provides copies of real estate document recordings to local assessors at \$1.20 per document. Additionally, because of its broad understanding of real estate document processing, Tax Listing staff may be called upon to assist with backlogs that develop in other areas within the RoD Office.

The 2004 Adopted Budget for the division is \$503,972 with a property tax levy requirement estimated at \$356,721. The division is staffed with five positions, one of which is currently vacant, and another position, which is funded by, and dedicated to, the Milwaukee County Automated Mapping Land and Information System (MCAMLIS).

Observations and Analysis

During our review we noted a number of opportunities for increased efficiency and savings in Tax Listing, as well as other areas within the Register of Deeds Office. These include the incorporation of updated technology, elimination of redundant tasks and pursuing other steps to streamline operations. However, we also noted instances in which the RoD faces significant, deeply entrenched obstacles to achievement of greater overall efficiency. These concepts are addressed throughout the remainder of this memo.

Dependency on Multiple Information Systems

The primary factor contributing to a general lack of efficiency in Tax Listing operations is the RoD Office's dependence on three separate, but in many respects redundant, information systems. Each of the three systems, identified as the A-Card, TL01 and DocuTrak systems, are used for the same general purpose: to obtain certain parcel characteristics, either through

referencing the location of an electronic or manual record, or by directly accessing the electronic record needed.

Although the three systems are used for the same general purpose, each system either covers a particular timeframe or contains an informational element not found in the other systems. For instance, the A-Card system, which consists entirely of manually prepared records, has been in place since the origin of Milwaukee County real estate recording and is used for documents recorded up to 1993. On the other hand, the TL01 system, implemented in 1993, contains information about documents recorded from 1993 through approximately 1999 and has property street addresses, but not digital copies of recorded documents. The DocuTrak system, implemented in 2000, contains information from 1988 to the present and has digital copies of recorded documents, but no street addresses.

(JLF – Docutrak does have *some* street addresses which are obtained from transfer return forms which accompany documents that convey a property.)

This patchwork of three separate information systems is an obvious source of inefficiency for the Tax Listing function, as well as for other users of RoD data, such as the general public and title companies that perform property research. However, fully integrating the large volume of information into a single database may be cost prohibitive.

According to RoD staff, the strategy used when implementing the TL01 system in 1993 was to continue use of the A-Card system for prior recordings to avoid manual input of the massive volume of historical data contained on the A-Cards. The A-Card system continues to be used regularly by title companies, the Tax Listing Services Division and by other RoD staff.

The obvious drawback of the antiquated A-Card system is the inefficiency of workers having to leave their workstations to physically locate and review A-Cards. Beyond these inefficiencies, maintaining the approximately 115,000 A-Cards in hardcopy format makes them susceptible to loss or destruction.

Based on discussion with the Register of Deeds, the office is at a crossroads due to the pending retirement of a key staff member and the potential obsolescence of the current version of its real estate indexing and document image software system (DocuTrak). RoD has plans to upgrade DocuTrak in coming months. Given the poor linkage between the three information systems currently maintained by the RoD, and the offer of a free upgrade to the DocuTrak system that will provide opportunities for enhanced capabilities and efficiencies with little or no capital investment, we believe the Register of Deeds should proceed with its planned upgrade of that system, but focus on better integration of the data contained in its three separate information systems as the upgrade proceeds.

(JLF – RoD will be upgrading from Fidlar Software's Docutrak to Fidlar Software's iDocumentXF within the next few months. This is not a free upgrade. A final commitment and payment schedule by the Register of Deeds to Fidlar will be made in December, 2004.)

One alternative the RoD could consider is the manual input of A-Card data into a computerized format. This would require a significant manual data entry effort with the estimated number of A-Card entries approaching 500,000 (assuming four entries per card). One rough estimate from a

local data entry vendor places the cost of this effort at about \$300,000. Because title companies are heavy users of the A-Card system, they may represent a potential source of funding for any conversion that would increase the efficiency of data access. Management would also have to determine the best method of accessibility. For instance, would the data be merged into the DocuTrak system and accessed using standard system features?

(JLF – It is very wishful thinking to think that title companies would help fund conversion of A-cards.)

(JLF - If the data was entered into the system it would become part of the new iDocument database.)

Another alternative for addressing the A-Card system problem is to scan these records into either microfilm or digital images. This would allow for viewing of these records at multiple workstations and provide sufficient backup against loss or destruction. However, since the information would be stored as document images, the benefits that result from computerization of the data would not be realized.

(JLF – RoD will explore the idea of scanning the A-cards.)

To provide a more efficient means to research historical documents and avoid the risk of loss of hardcopy documents, we recommend that RoD management:

1. *Consider alternatives described above for converting A-Card data into an electronic digital image or microfilm format, including the possibility of obtaining partial funding for the conversion from title companies that use the A-Cards.*

The RoD Office's underlying strategy for implementation of the DocuTrak system in 2000 differed from the 'add-on' philosophy used in the TL01 system implementation seven years earlier. It was intended that the DocuTrak installation, with complete data conversion, would result in the elimination of the TL01 system. However, due to formatting and other data conversion problems, property addresses were not brought into DocuTrak and a portion of certain data elements were corrupted in the transfer. As a result, in many instances, users of recorded real estate documents must access both computer systems, and in some instances the A-Cards as well. Consequently, the TL01 system, while not updated with information since the conversion, continues to be utilized primarily for its address cross-referencing capabilities and as a source of information used to correct corrupted data when it is encountered in DocuTrak.

There is universal recognition of the inefficiencies and redundancy associated with the information systems maintained by the RoD. Following are alternatives to begin addressing this structural problem:

- Import or link the property addresses from the TL01 system, or from other sources, into DocuTrak. The DocuTrak software upgrade may facilitate this effort.
- Employ utility data comparison software to identify and correct instances of data corruption in DocuTrak. Again, improvements brought about by the DocuTrak software upgrade may facilitate this undertaking.

(JLF – the County’s tech department recommends that the best solution is to manually enter the data from the outdated TLO1 into our Docutrak system. They believe pursuing a software conversion solution would be impractical, difficult and costly.)

To achieve greater operating efficiency, provide better service to the public, and enable the RoD Office to utilize enhanced technology related to recorded property information through the elimination of the TL01 system, we recommend that RoD management:

1. *Explore the options provided above as a means to transfer property address information into DocuTrak and proactively correct the corrupted data contained in that system.*

Computer System Upgrade

Boxes of original real estate documents are passed amongst work units within RoD for processing, involving various reviews, proofreading and recording functions. At the completion of processing, most documents are returned to the appropriate parties. In addition to the inefficiency of this process, the risk of document loss or damage is increased with multiple handling of the original papers. It currently takes about two months to complete document processing.

One responsibility of Tax Listing staff is to verify the accuracy of certain information contained on real estate documents. This includes the property’s legal description, the grantor name, and parcel number. The information is reviewed to ensure consistency with existing information maintained by the RoD Office. This procedure is a time consuming, tedious task that requires the pulling of documents from a daily batch and their subsequent reinsertion into the batch in proper order. Similarly, other RoD staff verify the accuracy of document data by comparing a data entry report to the original document.

Similarly, other RoD staff verify the accuracy of document data by comparing a data entry report to the original document.

A primary benefit of the planned DocuTrak system upgrade is the ability to display a split-screen on a computer terminal to view a digitized copy of a scanned document, as well as a system screen, simultaneously. This new capability should enable the streamlining of Tax Listing document reviews, document data entry verification, and document processing performed in other areas within the Register of Deeds Office.

Other opportunities for efficiency may become apparent as the DocuTrak upgrade is fully implemented. For example, office productivity could be enhanced if individuals performing data entry verification were allowed to input corrections directly into DocuTrak. This would eliminate delays associated with sending corrections back to the original data entry clerk for re-entry.

To achieve greater operating efficiency, reduce the risk of document loss, and provide better service to the public through faster document turnaround, we recommend that RoD management:

2. *Follow-through on its plans to upgrade the DocuTrak system and evaluate additional opportunities for efficiencies that may result from the resulting system enhancements.*

3. *Identify other tasks that can be performed more efficiently with electronic images.*
4. *Modify procedures that will support the elimination of the physical movement of documents in the RoD Office, including allowing individuals that perform data entry verification to input corrections directly into DocuTrak.*

Redundant Mapping Activities

Presently, two separate mapping functions are performed within the Tax Listing Services Division. The first is a manual function by which hardcopy maps are hand-drawn and maintained. The second involves electronic mapping with use of the County's Geographical Information System

(GIS), maintained by the Department of Parks and Public Infrastructure. The two mapping operations are independent of one another and each is staffed with one position. Milwaukee County has recently hired a consultant to advance Countywide utilization of the GIS. The RoD mapping functions are identified as a primary objective of this consulting engagement.

The manual mapping function includes all real estate parcels within the County except for those in the City of Milwaukee. As the official County maps of record, the County would incur a significant loss if these manual maps were destroyed or severely damaged. Furthermore, the drafting technician who has performed this function over the past several years has recently announced his plans to retire in mid-2004. However, because manual mapping has been widely replaced with the use of computer software, there are relatively few individuals with the skills necessary to do manual mapping. In addition to mapping, the drafting technician does limited technical review of preliminary maps for real estate combinations, subdivisions, certified survey maps and condominium plats.

Electronic mapping is a widely accepted technology for maintaining land records. The electronic mapping function performed within the RoD Office utilizes a multipurpose database system operated in conjunction with the Milwaukee County Automated Mapping and Land Information System (MCAMLIS). The system contains considerably more information and has far more utility than the manual mapping function. Although the County's electronic mapping function maintains digital maps of substantially all parcels within Milwaukee County, and uses RoD data to update the maps, the system is used solely for purposes outside of the Register of Deeds functions.

While the manual and electronic mapping functions operate independently, there is significant redundancy between them. Both functions utilize the same RoD source information to update its maps and the electronically maintained maps contain the same informational elements as the manual maps. Consequently, this redundancy, and possibly one funded position, could be eliminated if manual mapping was discontinued in favor of electronic mapping. In addition, discontinuance of manual mapping would eliminate the need to find an individual with the outdated manual skills needed as a replacement for the impending retirement of the drafting technician. In addition to these benefits, electronic mapping offers maps with greater capabilities and flexibility in many areas. For instance, changes to scale, reproduction, and internet accessibility are all made easier. Furthermore, electronic maps possess a higher degree of accuracy due to controls built into the software. Electronic mapping would also require

significantly less storage space and provide effective protection from loss. In moving to electronic mapping, however, several issues must first be addressed. These include:

- The County's right to charge a fee for the digital information must be established. The digital information appears to have been copyrighted by utilities that provided initial funding for the MCAMLIS project. Currently, fees for hard copies of digitized maps are paid to MCAMLIS. However, the electronic mapping information has in many cases been updated with the support of public funds. A determination should be made as to whether the data comes under open records laws, whether the County could charge a fee for provision of, or access to, the mapping information, the appropriate fees to charge, etc.

(JLF – The auditors may not have a full understanding of the situation with MCAMLIS.)

- Standards/specifications of electronic maps used for Register of Deeds purposes would need to be determined. The consultant engaged by DPPI may be of great assistance in this area.
- Reviews of preliminary plat changes currently performed by the RoD drafting technician may duplicate work performed by others, such as municipal zoning officials and certified architects. The Register of Deeds should explore the possibility of eliminating these reviews. A final review for delinquent taxes might need to be assigned to another individual in the RoD Office.

(JLF – Tax Listing states that municipal officials and others rely on David Howard for the plat reviews. Tax Listing does not review delinquent taxes. Tax Listing answers ownership and boundary questions from the County Treasurer.)

To achieve savings through the elimination of redundant activities and realize the benefits associated with existing County mapping technology, we recommend that RoD Management:

5. *Work with Corporation Counsel and the Department of Parks and Public Infrastructure to address the issues noted above and advance towards a transition to the sole use of electronic parcel mapping.*

(JLF – Tax Listing's draftsman David Howard will be retiring in a few months. RoD would welcome MCAMLIS's assistance to have Tax Listing's mapping move from paper to digital mapping. One idea would be for RoD to fill David Howard's position with a digital mapping technician who would serve as an assistant to Kathleen Bach. Kathleen along with help from the assistant would then accomplish the assigned MCAMLIS projects plus perform duties that David Howard currently performs. Food for thought...)

If the RoD Office successfully transitions to an electronic mapping environment, additional procedural changes will be desirable. For instance, further efficiencies could be gained by requiring that requests for recording large-scale transactions involving the altering of parcel boundaries be submitted to the RoD Office in electronic format.

(JLF – RoD cannot require documents be submitted in electronic format. State law would have to be changed for this to happen.)

One of the other tasks performed within the Tax Listing function is the provision of reduced size photocopies of certain documents to the non-city of Milwaukee municipalities within Milwaukee County. Because the municipalities have different photocopying needs, RoD staff must sort the various documents according to those specific needs. Some documents are multi-paged with the municipality requesting only certain pages. A fee of \$1.20 per document (set in 1988) is charged for each document photocopied. This activity generates about \$15,000 of revenue for the RoD annually. If it is assumed that it takes just five minutes per document to sort, obtain, copy and re-file the documents in question, we estimate the RoD's cost of providing this service totals about \$33,000, or more than twice the amount of revenue at the current fee of \$1.20 per document. To improve the process related to the provision of reduced size copies of documents to municipalities, we recommend that RoD management:

6. *Determine if the required documents can be extracted from the digital data sold to commercial entities and inform the municipalities that digital copies will be provided at a fee to cover the cost of preparing the copies. If this information cannot be extracted from digital data, the copying fee to municipalities should be adjusted to more accurately reflect the cost of providing the service.*

Transfer of City of Milwaukee Functions

As described earlier, the Milwaukee County RoD Office performs Tax Listing functions, as well as other services, for all municipalities within the County, with the sole exception of the City of Milwaukee. The City performs similar functions for all real estate parcels within its boundaries.

A City of Milwaukee official has indicated possible interest in transferring these similar functions to the Milwaukee County Register of Deeds. In theory, a consolidation of like services would result in savings that could be shared between the City and County.

However, as noted throughout this memo, the County Register of Deeds Office needs to make significant strides, particularly in its Tax Listing area, to increase operational efficiency, upgrade and rectify issues associated with its information systems, and ultimately improve its service to the public. Further, assumption of like duties from the City of Milwaukee would require integration of data from yet another separate information system. With the limited resources available at this time, and until the issues identified in this memo are addressed, we believe it would be premature for the County Register of Deeds Office to consider the transfer of any City of Milwaukee functions.

We wish to thank you and your staff for the cooperation provided during this review.

Jerome J. Heer
Director of Audits

JJH/cah

cc: Milwaukee County Board of Supervisors
Scott Walker, County Executive
Terrance Cooley, Chief of Staff, County Board Staff
Steven Cady, Fiscal and Budget Analyst, County Board Staff
Lauri Henning, Chief Committee Clerk, County Board Staff



MILWAUKEE
COUNTY
PARK
SYSTEM

SCOTT WALKER
County Executive

SUE BLACK
Parks Director

Memorandum

To: MCAMLIS Steering Committee
From: Milwaukee County Department of Parks and Public Infrastructure
Date: July 19, 2004
Subject: Status Report on the GIS Needs Assessment and Database Specification for Cadastral and Streets/Street Address Databases Project

This memorandum is a project status report for the Milwaukee County Database Needs Assessment project since the November, 2003 MCAMLIS meeting. Since that meeting, the project has made progress in the following areas:

Phase 1: Situation Assessment and Conceptual System Design

A detailed situational assessment of county departments was completed to determine the internal county requirements for the database design. A conceptual database design was then created and revised based on feed back from county staff.

Status: 99% completion

Phase 2: Logical Database Design

A series of meetings were held with SEWRPC technical staff and municipalities to review the database design. Feedback received from those meetings was used to enhance the conceptual design model. A workflow analysis of the cadastral maintenance process was undertaken to determine cadastral map update requirements. Map output standards were reviewed for Register of Deeds Tax Listing Section to ensure final map products would be compatible for incorporation within there operations.

Status: 90% completion

Phase 3: Physical Database Design and Implementation Plan

A prototype database structure was created and modified to reflect the changes in the database design from Phase I to Phase 2. MCAMLIS data was loaded into the prototype to determine requirements for conversion to new geodatabase design.

Status: 70% completion

Project Completion

The project is schedule for completion by July 30th. At that time final copies of all work products will be provided to the MCAMLIS Steering Committee.

GGH/krw

Cc: Greg High, DPPI
Sue Black, DPPI



MILWAUKEE
COUNTY
PARK
SYSTEM

SCOTT WALKER
County Executive

SUE BLACK
Parks Director

Memorandum

To: MCAMLIS Steering Committee

From: Milwaukee County Department of Parks and Public Infrastructure (DPPI)

Date: July 19, 2004

Subject: MCAMLIS Program Management and Governance Structure

Background

The initial implementation plan of the MCAMLIS program was for the program to be implemented in two phases, conversion phase and maintenance phase. The recommendations from the original report prepared by UGS Consulting called for SEWRPC to act as the lead agency during the conversion phase and that Milwaukee County take the lead during the maintenance phase. Upon the completion of the Cadastral map conversion project, currently being undertaken by City of Milwaukee staff, the data conversion phase will be substantially over. Currently, the County maintains the cadastral and street address data for the MCAMLIS program.

On several occasions in the past and as recently as January 2004, the Commission staff has asked the Milwaukee County whether or not it was prepared to undertake MCAMLIS project management. The County in September of 2002, asked that the MCAMLIS Steering Committee to take up this issue. Additionally, recommendations included in the needs assessment currently being prepared for Milwaukee County call for the County to take custodianship of Land Information Program and further recommends that the County formalize a County directed Land Information Program Structure.

Recommendation

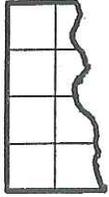
Milwaukee County DPPI respectfully recommends that the MCAMLIS Steering Committee appoint a sub-committee to review and make recommendations on:

1. The transfer of project management of MCAMLIS program to the County beginning January 1, 2005
2. The proposed Land Information structure changes proposed under the County's needs assessment.

GGH/krw

Cc: Greg High, DPPI
Sue Black, DPPI

COPY



MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Southeastern Wisconsin
Regional Planning Commission
W239 N1812 Rockwood Drive
PO Box 1607
Waukesha, Wisconsin 53187-1607

July 27, 2004

Mr. Ted W. Koch, Chair
Wisconsin Land Information Board
c/o University of Wisconsin-Madison
Science Hall, Room 160
550 N. Park Street
Madison, WI 53706

Mr. J. Michael Blaska, Executive Director
Division of Intergovernmental Relations
Department of Administration
101 E. Wilson Street, 10th Floor
Madison, WI 53702-0001

Dear Sirs:

On behalf of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee and on behalf of the Milwaukee County Land Information Officer, Mr. John LaFave, please find enclosed herewith a copy of Amendment No. 2 to the "Milwaukee County Update to Land Records Modernization Plan: 1999." This amendment was approved by the MCAMLIS Steering Committee at its meeting held on July 20, 2004.

We trust that, as may be necessary, the Wisconsin Land Information Board will be able to take positive action on the enclosed Amendment. Should you have any questions or comments in this regard, please do not hesitate to contact us.

Sincerely,

Thomas D. Patterson
MCAMLIS Project Manager

TDP/lgh
#97765 v1 - Kohn & Blaska ltr

cc: Mr. Kurt W. Bauer, Chairman, MCAMLIS Steering Committee
Mr. John LaFave, Milwaukee County Land Information Officer (with Amendment)

AMENDMENT NO. 2

MILWAUKEE COUNTY

UPDATE TO LAND RECORDS MODERNIZATION PLAN: 1999

**Adopted by the Milwaukee County Automated Mapping and
Land Information System (MCAMLIS) Steering Committee
July 20, 2004**

I. UPDATED LAND INFORMATION MODERNIZATION AND INTEGRATION PLAN

A. Goals and Objectives

Goal No. 13 is currently set forth in the July 15, 2003, Amendment to the Milwaukee County 1999 Update to its Land Records Modernization Plan, as follows:

- “13. Identify, initiate, and complete projects that will utilize the \$1.00 of each \$5.00 of the fees retained locally to develop and maintain a computerized indexing of the County land information records related to housing in a manner that would allow for greater public access.”

Goal No. 13 is hereby expanded to read as follows:

13. Identify, initiate, and complete projects that will utilize the \$1.00 of each \$5.00 of the fees retained locally to develop and maintain a computerized indexing of the County land information records related to housing in a manner that would allow for greater public access.

More specifically the \$1 fee will be segregated and designated as a “technology fund” for ongoing modernization efforts and technology improvements to the Milwaukee County Register of Deeds Office. The chosen projects will be expected to provide faster access to, and improved delivery of, data, images, and services both within the Office and to the public over electronic communication media such as the Internet.

II. UPDATED LAND INFORMATION MODERNIZATION AND INTEGRATION PLAN

C. New Initiatives

New initiative No. 13 is currently set forth in the July 15, 2003, Amendment to the Milwaukee County 1999 Update to its Land Records Modernization Plan, as follows:

- “13. Identify, initiate, and complete projects that will utilize the \$1.00 of each \$5.00 of the fees retained locally to develop and maintain a computerized indexing of the County land information records related to housing in a manner that would allow for greater public access.

The Milwaukee County Land Information Officer, who is also the Milwaukee County Register of Deeds, will be asked to develop a list of projects in keeping with the spirit and requirements of s.66.1001(2)(b) of the *Wisconsin Statutes* for the development and maintenance of a computerized indexing of the County's land information records relating to housing in a manner that would allow for greater public access. Such projects may include the acquisition of specialized computer hardware to accomplish the digital conversion of oversized maps and records and the modernization of both the hardware and software currently utilized by the Register of Deeds Office to carry out the optical imaging of land records related documents. Additional projects, such as the automation of tax lien records and the recording of mortgage satisfactions and similar types of documents that would serve to automate existing hardcopy County records related to housing identified under the “Guidelines

for the Use of the Additional \$1.00 Retained by the County” as promulgated by the Office of Land Information Services, Wisconsin Department of Administration, may also be undertaken as determined to be appropriate and useful.”

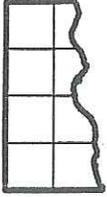
New Initiatives No. 13 is hereby modified and expanded to read as follows:

13. Identify, initiate, and complete projects that will utilize the \$1.00 of each \$5.00 of the fees retained locally to develop and maintain a computerized indexing of the County land information records related to housing in a manner that would allow for greater public access.

The Milwaukee County Land Information Officer, who is also the Milwaukee County Register of Deeds, has developed, and will continue to update and expand a list of projects in keeping with the spirit and requirements of s.66.1001(2)(b) of the *Wisconsin Statutes* for the development and maintenance of a computerized indexing of the County’s land information records relating to housing in a manner that would allow for greater public access. Such projects may include the acquisition of specialized computer hardware to accomplish the digital conversion of oversized maps and records and the modernization of both the hardware and software currently utilized by the Register of Deeds Office to carry out the optical imaging of land records related documents. Additional projects, such as the automation of tax lien records and the recording of mortgage satisfactions and similar types of documents that would serve to automate existing hardcopy County records related to housing identified under the “Guidelines for the Use of the Additional \$1.00 Retained by the County” as promulgated by the Office of Land Information Services, Wisconsin Department of Administration, may also be undertaken as determined to be appropriate and useful.

Additional efforts will be undertaken to streamline the flow of materials through the Register of Deeds Office including both efforts to achieve faster throughput of material and through “redesign” of processes to provide for better integration of material handling and information handling tasks. Efforts will also be directed toward investigating intergovernmental cooperation initiatives as a factor in providing better overall service to the taxpayers and citizens and to the private companies that depend upon access to the records under the responsible jurisdiction of the Register of Deeds.

* * * * *



MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Southeastern Wisconsin
Regional Planning Commission
W239 N1812 Rockwood Drive
PO Box 1607
Waukesha, Wisconsin 53187-1607

MEMORANDUM

TO: MCAMLIS Steering Committee Members, Alternates, and Interested Parties
FROM: Thomas D. Patterson, MCAMLIS Project Manager
DATE: August 17, 2004
SUBJECT: **CANCELLATION OF MCAMLIS STEERING COMMITTEE MEETING**

The MCAMLIS Steering Committee meeting scheduled for August 24, 2004, has been cancelled. Scheduling conflicts among the members of the MCAMLIS Subcommittee on Topographic Mapping have resulted in the Subcommittee's report and recommendations to the MCAMLIS Steering Committee being delayed. The next meeting of the Committee must await completion of the Subcommittee work and report.

The next meeting of the Committee has been tentatively scheduled for September 14, 2004. Approximately ten days prior to the rescheduled meeting date, you will receive an agenda and materials for the meeting.

Should you have any questions on this matter, please do not hesitate to contact me at 262-547-6721.

* * *

TDP/lgh
#98492 V1 - MCAMLIS Mtg. Cancellation

Greg High has rescheduled this meeting

Begins: 09/14/2004 09:00 AM Local Time
Ends: 09/14/2004 12:00 PM Local Time
Title: MCAMLIS Steering Committee meeting
Location: Courthouse - Room 203 P
Chair: Greg High/DPW/Milwaukee County

To (required): Gary Drent/DPW/Milwaukee County@milwco, Kevin White/DPW/Milwaukee County@milwco
cc (optional):

Description

Kevin:

Please schedule the room for this meeting.

EXECUTED LICENSE AGREEMENTS

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 2003		
		2003	
90.	1.	North Shore Fire Department	1/13/03
91.	2.	Planning & Design Institute, Inc.	2/6/03
92.	3.	Nancy M. Aten	2/12/03
93.	4.	Graef, Anhalt, Schloemer and Associates, Inc.	4/2/03
94.	5.	Sandridge Commercial Real Estate, LLC	4/25/03
95.	6.	Bloom Consultants LLC	7/11/03
96.	7.	Landscape Architects, Inc.	7/22/03
97.	8.	Jenkins Survey and Design, Inc.	7/23/03
98.	9.	Access Engineering LLC	7/30/03
99.	10.	Fifth Ward Association	12/08/03
100.	11.	West Allis-West Milwaukee School District	12/10/03
		2004	
101.	1.	The Sigma Group	01/21/02
102.	2.	T N & Associates	02/20/04
103.	3.	Hayes Engineering Company	02/23/04
104.	4.	Geocomm	03/30/04
105.	5.	J. Spear Associates, Inc.	06/16/04
106.	6.	Key Engineering Group, Ltd.	07/21/04
107.	7.	LandCraft Survey and Engineering, Inc.	08/26/04

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: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: July 12, 2004

SUBJECT: STATUS REPORT NO. 9 ON PHASE I OF THE MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT

This memorandum sets forth the progress made on Phase I of the Milwaukee County Floodland Mapping project from November 1, 2003, through June 30, 2004. That project phase includes all streams that are to be studied in the County, with the exception of those in the Root River watershed. This status report addresses project progress in the following three major areas and also identifies major issues that have arisen:

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

Overall, the Phase I portion of the project is about 75 percent completed. Progress is summarized in the attached Exhibit 1 and is graphically summarized on the map attached hereto as Exhibit 2.

DATA ACQUISITION

During the period of November 1, 2003, through June 30, 2004, the following data acquisition activities were carried out:

- Work continued on coordination with the Milwaukee Metropolitan Sewerage District (MMSD), the Wisconsin Department of Natural Resources (WDNR), the Wisconsin Department of Transportation (WisDOT), and the City of Milwaukee. In general, where Phase I data have not been acquired, cooperative efforts are underway to obtain the data.
- Obtained an updated hydraulic model for the first phase of the U.S. Environmental Protection Agency (USEPA) Superfund project along the Little Menomonee River from the Union Pacific Railroad located just downstream of W. Brown Deer Road to W. Bradley Road. That model generally represents as-built conditions. In addition, the hydraulic model for reaches 2 and 3 located downstream of W. Bradley Road were obtained along with construction drawings for those phases.

- The Commission staff collected field survey data for five bridges along the main stem of the Kinnickinnic River in order to verify the elevations and dimensions of key features of those structures.
- Obtained from MMSD hydraulic model cross section plots for the Kinnickinnic River, Lyons Park Creek, S. 43rd Street Ditch, Villa Mann Creek, the Villa Mann Creek Tributary, and Wilson Park Creek. Also received from MMSD digital cross section alignment data for the Kinnickinnic River.
- The Commission staff collected detailed field survey data for nine bridges or culverts along the Dretzka Park Tributary.
- Obtained from the Village of Brown Deer grading plans for development in the vicinity of Beaver Creek at N. Green Bay Road (STH 57).
- The Commission staff made a field reconnaissance to collect updated information on hydraulic conditions along Southbranch Creek and to check specifics of the MMSD flood control project.

HYDROLOGIC AND HYDRAULIC MODELING

During the reporting period, progress on hydrologic and hydraulic modeling for Phase I of the project included the following:

Kinnickinnic River Watershed

- Began a detailed review of the hydraulic models for the main stem of the Kinnickinnic River and Lyons Park Creek and continued work on the model for Edgerton Channel/Wilson Park Creek.
- Completed a detailed review of the USEPA HSPF model developed for the Kinnickinnic River watershed under Phase 1 of the MMSD watercourse system management plan.

Milwaukee River Watershed

- Completed the hydraulic model of Lincoln Creek for the 10-, 50-, 100-, and 500- year floods, incorporating the components of the Lincoln Creek environmental restoration and flood control project. Prepared the supporting documentation necessary for the City of Milwaukee to submit the floodplain study for review and approval by the WDNR and the Federal Emergency Management Agency.
- Substantially completed work on the USEPA SWMM hydrologic model of the Southbranch Creek subwatershed, applying consistent methodology throughout the subwatershed. Work continued on the hydraulic model.
- Work continued on review and revision of the U. S. Army Corps of Engineers HEC-RAS hydraulic model and on the USEPA SWMM hydrologic model for Beaver Creek.

Menomonee River Watershed

- Completed a detailed review of the planned year 2020 land use, existing channel condition hydrologic model for the Menomonee River watershed. The base model used was developed under previous Regional Planning Commission studies and revised and updated under the MMSD Phase 1 and 2 watercourse system planning efforts.
- Began work on the hydraulic model for the Dretzka Park Tributary.

FLOODLAND MAP PREPARATION

- Completed digitizing of the 10-, 50-, and 500-year floodplain boundaries and the 100-year floodway boundaries along Underwood Creek and the South Branch of Underwood Creek in the Cities of Wauwatosa and West Allis.
- Prepared final automated delineations of the Lincoln Creek 100-year floodplain boundary using the HEC-GeoRAS model and the digital terrain model recently developed along the stream under the MCAMLIS large-scale topographic mapping program. Completed digitization of the 100-year floodway boundary. Completed first drafts of the digital 10-, 50-, and 500-year floodplain boundaries.

MAJOR PROJECT ISSUES AND CONSIDERATIONS

Hydrologic Modeling Procedure Approvals—It was reported in the sixth and seventh status reports, dated January 10, 2003, and May 29, 2003, that, as part of their review of the hydrologic study for the Pike River watershed in Kenosha and Racine Counties, Post, Buckley, Schuh & Jernigan (PBS&J), the Federal Emergency Management Agency's (FEMA) map coordination contractor, was developing a set of standards for acceptable continuous simulation modeling studies. The final FEMA report entitled "Pike River Watershed Hydrology and Continuous Simulation Modeling Review and Summary," was issued on August 14, 2003. As we had speculated in past status reports, the PBS&J review and the resulting FEMA report support the continuous simulation modeling procedures as practiced by the Commission and the MMSD. The Commission wrote to FEMA and WDNR indicating Commission acceptance of the findings of the report; the Commission staff intention to proceed with continuous simulation modeling under the MCAMLIS floodplain mapping project; and asking that WDNR provide review comments on the hydrology memoranda that were submitted in 2002 and 2003 as described below.

SEWRPC Staff Memoranda summarizing the proposed hydrologic modeling approach for the Milwaukee River main stem, the entire Underwood Creek subwatershed, and the Menomonee River watershed were submitted to WDNR and FEMA on July 24, 2002, September 16, 2002, and April 24, 2003, respectively. Favorable reviews of the modeling approaches for the Milwaukee River main stem and the Underwood Creek subwatershed have been obtained from FEMA. Issues raised by FEMA regarding the Menomonee River watershed will be addressed under the process described below. To date, there still has been no response from the WDNR on any of the three memoranda; however, the Commission staff is continuing with the hydraulic modeling and floodplain mapping for the streams.

In December 2003, FEMA initiated a study to develop additional criteria for continuous simulation hydrologic analyses and to address the issues raised in the initial FEMA review of the proposed Menomonee River hydrologic analysis. The additional study is an extension of the August 14, 2003, FEMA study mentioned above. The Commission staff provided detailed comments on the draft scope of work for the additional study proposed in December 2003 and received assurances that FEMA would consider those comments. A draft of a key appendix from the additional study report was received in April 2004 and Commission staff comments were provided to FEMA. As of the date of this status report, additional work products were expected from FEMA around mid-July 2004.

* * *

Exhibit 1

STATUS OF MCAMLIS PHASE I MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: JUNE 30, 2004

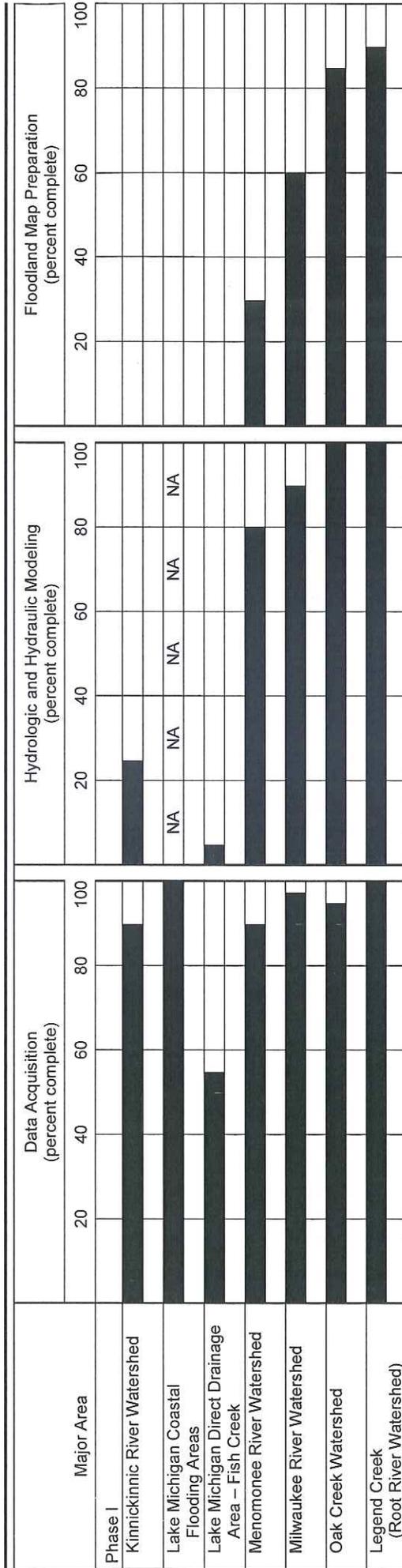
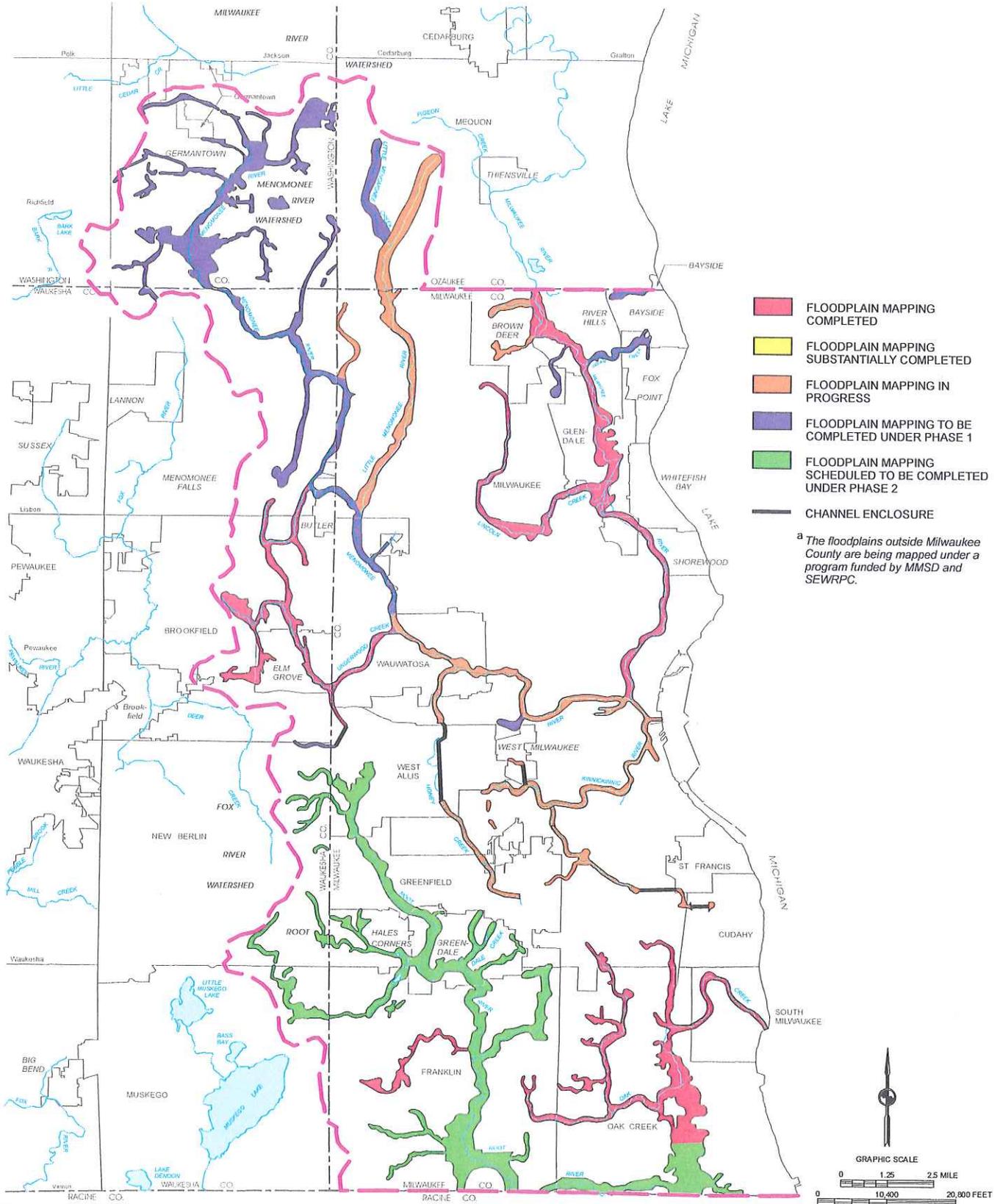


Exhibit 2

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN
 MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY^a JUNE 30, 2004



^a The floodplains outside Milwaukee County are being mapped under a program funded by MMSD and SEWRPC.

Source: SEWRPC.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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

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

Serving the Counties of:

KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: July 12, 2004

SUBJECT: STATUS REPORT NO. 1 ON PHASE II OF THE MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT

This memorandum sets forth the progress made on Phase II of the Milwaukee County Floodland Mapping project from January 22, 2004, through June 30, 2004. As shown on Exhibit 1, that project phase includes the streams that are to be studied in the County in the Root River watershed except for Legend Creek, which was studied under Phase I. In general status reports will address project progress in the following three major areas and they will also identify major issues that have arisen:

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

This status report only lists data acquisition activities, since the modeling and map preparation stages of the project have not yet begun. Overall, the Phase II portion of the project is about 3 percent completed. Progress is summarized in the attached Exhibit 2.

DATA ACQUISITION

During the period of January 22, 2004, through June 30, 2004, the following data acquisition activities were carried out:

- Obtained from MMSD the U.S. Environmental Protection Agency HSPF continuous simulation hydrologic model of the North Branch of the Root River subwatershed as developed by MMSD consultants under phases 1 and 2 of the MMSD watercourse system planning program. Also obtained the U.S. Army Corps of Engineers HEC-RAS river analysis systems hydraulic models developed by consultants to MMSD for the North and East Branches of the Root River and the 104th Street Branch.
- Contracted with National Survey & Engineering and coordinated the collection of hydraulic structure survey data for 29 structures located on the North Branch of the Root River, an Unnamed Tributary to the

North Branch of the Root River, Ryan Creek, an Unnamed Tributary to Ryan Creek, the Northwest Branch of Whitnall Park Creek, Tess Corners Creek, and Wildcat Creek. The survey data collection was funded with a Strategic initiative Grant from the Wisconsin Land Information Board.

- Obtained from the Milwaukee Metropolitan Sewerage District (MMSD) project record drawings for a recently constructed flood control project along the North Branch of Whitnall Park Creek and for the Grant Street pump station.
- Work continued on coordination of other data acquisition efforts with the MMSD.

MAJOR PROJECT ISSUES AND CONSIDERATIONS

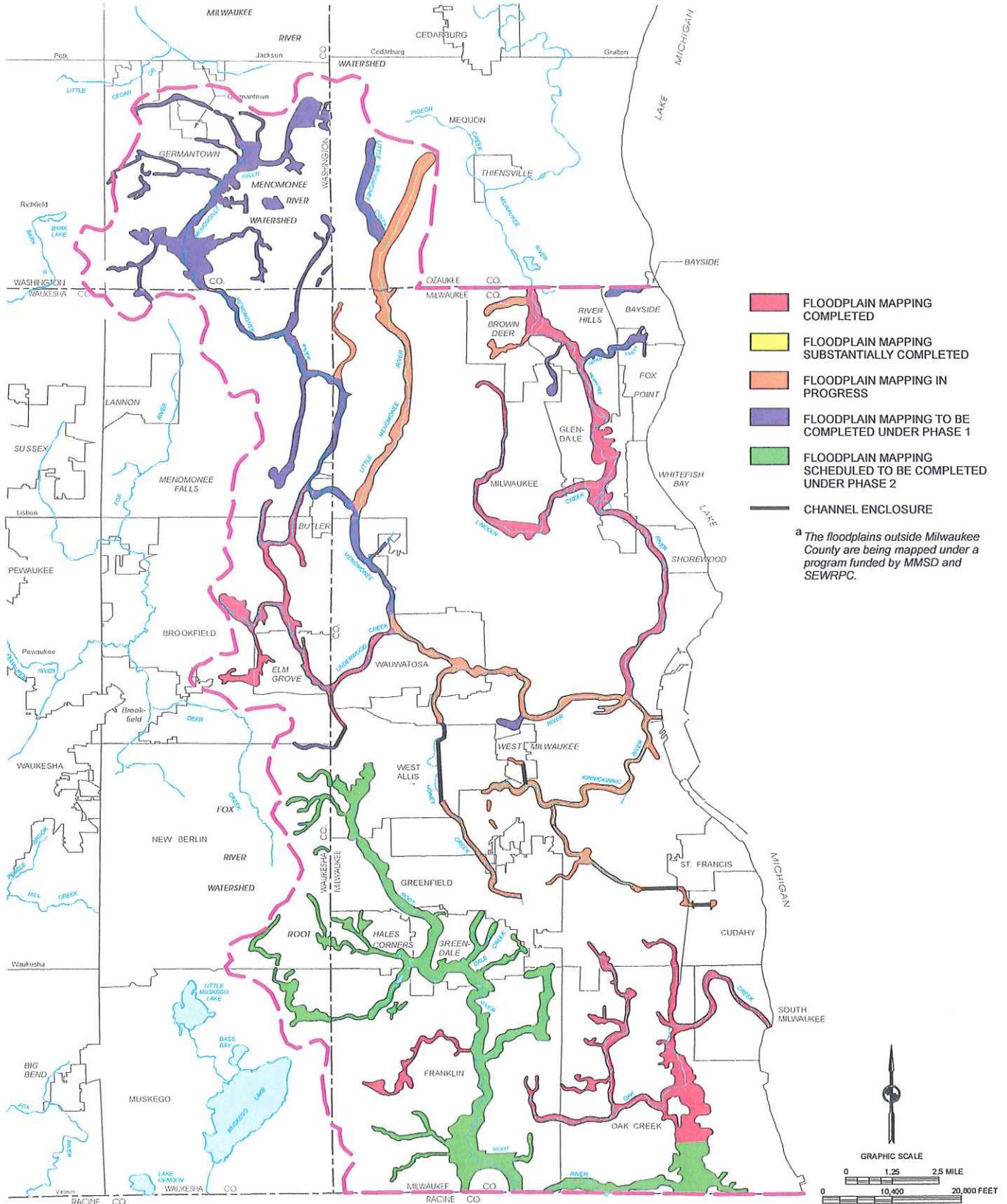
Hydrologic Modeling Procedure Approvals—Because the hydrologic analyses intended to be applied in the Root River watershed are based on continuous simulation methodology, as are most of the analyses made under Phase I, Phase II of the project requires resolution of issues raised by the Wisconsin Department of Natural Resources and the Federal Emergency Management Agency. It was reported in the sixth and seventh status reports for Phase I, dated January 10, 2003, and May 29, 2003, that, as part of their review of the hydrologic study for the Pike River watershed in Kenosha and Racine Counties, Post, Buckley, Schuh & Jernigan (PBS&J), the Federal Emergency Management Agency's (FEMA) map coordination contractor, was developing a set of standards for acceptable continuous simulation modeling studies. The final FEMA report entitled "Pike River Watershed Hydrology and Continuous Simulation Modeling Review and Summary," was issued on August 14, 2003. As we had speculated in past status reports, the PBS&J review and the resulting FEMA report support the continuous simulation modeling procedures as practiced by the Commission and the MMSD. The Commission wrote to FEMA and WDNR indicating Commission acceptance of the findings of the report; the Commission staff intention to proceed with continuous simulation modeling under the MCAMLIS floodplain mapping project; and asking that WDNR provide review comments on the hydrology memoranda that were submitted in 2002 and 2003. To date, there still has been no response from the WDNR on any of the memoranda; however, the Commission staff is continuing with the hydraulic modeling and floodplain mapping for the streams.

In December 2003, FEMA initiated a study to develop additional criteria for continuous simulation hydrologic analyses and to address the issues raised in the initial FEMA review of the proposed Menomonee River hydrologic analysis. The additional study is an extension of the August 14, 2003, FEMA study mentioned above. The Commission staff provided detailed comments on the draft scope of work for the additional study proposed in December 2003 and received assurances that FEMA would consider those comments. A draft of a key appendix from the additional study report was received in April 2004 and Commission staff comments were provided to FEMA. As of the date of this status report, additional work products were expected from FEMA around mid-July 2004.

* * *

Exhibit 1

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY^a JUNE 30, 2004



^a The floodplains outside Milwaukee County are being mapped under a program funded by MMSD and SEWRPC.

Source: SEWRPC.

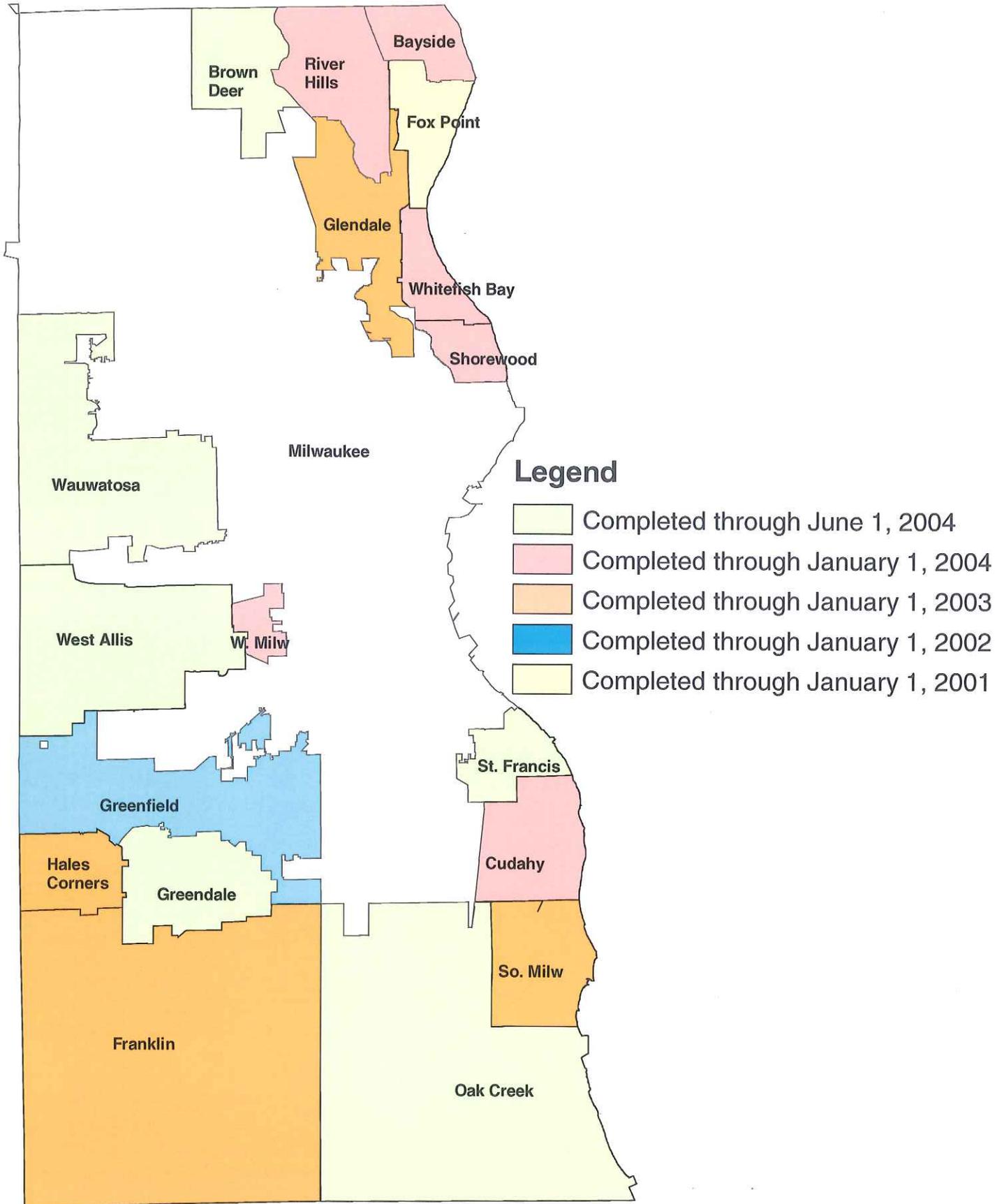
Exhibit 2

STATUS OF MCAMLIS PHASE II MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: JUNE 30, 2004

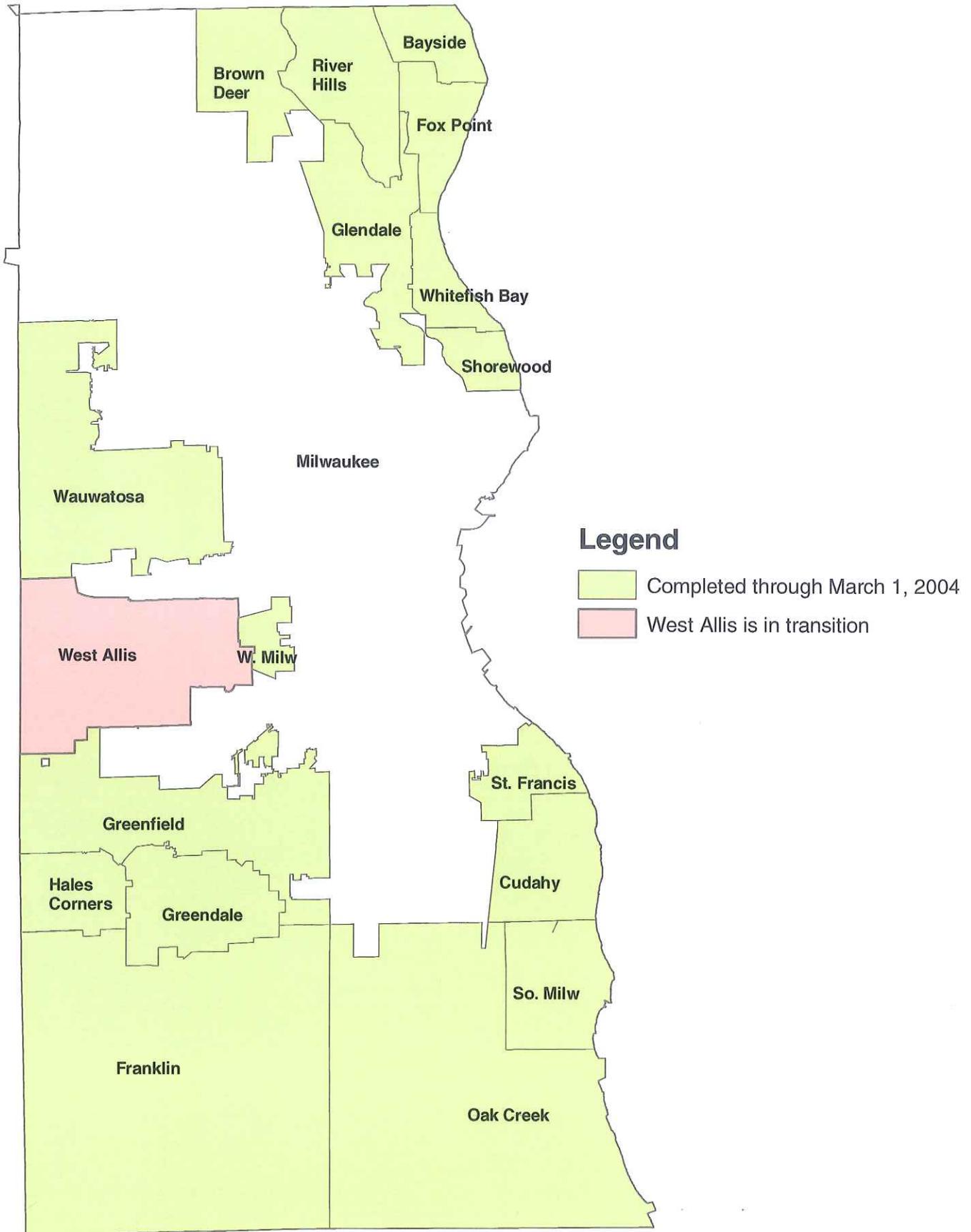
Major Area	Data Acquisition (percent complete)					Hydrologic and Hydraulic Modeling (percent complete)					Floodland Map Preparation (percent complete)				
	20	40	60	80	100	20	40	60	80	100	20	40	60	80	100
Phase II															
Root River Watershed															

#96950 V1 - MCAMLIS PH II MILW CTY FLPL STATUS RPT 1
 MGH/pk
 07/12/04

Milwaukee County Address Status as of June 28, 2004



Milwaukee County Cadastral Status as of June 28, 2004



III E.

**STATUS OF MCAMLIS MAPPING PROJECTS
BEING CARRIED OUT BY CITY OF MILWAUKEE STAFF**

The City of Milwaukee recompilation project was comprised of 40 U.S. Public Land Survey one-quarter section-based maps as delineated on the status map attached hereto. These cadastral maps were compiled to fit the MCAMLIS survey control system utilizing original land records and associated descriptions and documents. This work was carried out by the staff of the City of Milwaukee, Infrastructure Service Division, Central Drafting and Records Office. This project was completed November 30, 2001.

The City of Milwaukee cadastral map transformation project (Phase 1) consisted of 93 U.S. Public Land Survey one-quarter-section-based existing City of Milwaukee maps that were refit to the MCAMLIS survey control system utilizing computer algorithms. These 93 one-quarter section maps are also delineated on the attached status map. This work was carried out by the staff of the City of Milwaukee, Department of Administration, Information and Technology Management Division. All 93 of the map sheets have been accepted by SEWRPC staff as substantially meeting the relevant specifications. The agreement governing this project called for work to be completed by October, 2002. This project was completed February 25, 2003. On April 28, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by December 31, 2003. This project was completed September 16, 2003.

The City of Milwaukee cadastral map transformation project (Phase 2) consisted of 24 U.S. Public Land Survey one-quarter-section-based maps as delineated on the attached status map. All 24 of the map sheets have been accepted as being in substantial compliance with the specifications for this project area. The agreement governing this project called for work to be completed by June 2002. This project was completed February 14, 2002.

The City of Milwaukee cadastral map transformation project (Phase 3) also consisted of 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. All 24 map sheets have been accepted as being in substantial compliance with the specifications. The agreement governing this project called for work to be completed by June 2002. This project was completed February 14, 2002.

The City of Milwaukee cadastral map transformation project (Phase 4) also consisted of 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. All 24 map sheets have been accepted as being in substantial compliance with the specifications. The agreement governing this project called for work to be completed by December 2002. This project was completed February 15, 2003. On April 23, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by June 30, 2003. This project was completed June 18, 2003.

The City of Milwaukee cadastral map transformation project (Phase 5) also consisted of a further 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on an accompanying status map. The agreement governing this project called for work to be completed by December 2002. This project was completed January 3, 2003. On April 25, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by June 30, 2003. This project was completed June 27, 2003.

The City of Milwaukee cadastral map transformation project (Phase 6) consisted of 26 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. The agreement governing this project called for work to be completed by December 2003. On April 30, 2003 an addendum revised the project to include an additional 6 map sheets. This addendum called for the work to be completed by December 31, 2003. This project was completed September 16, 2003.

The City of Milwaukee cadastral map transformation project (Phase 7) consisted of 24 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. The agreement governing this project called for work to be completed by April 2004. This project was completed January 30, 2004.

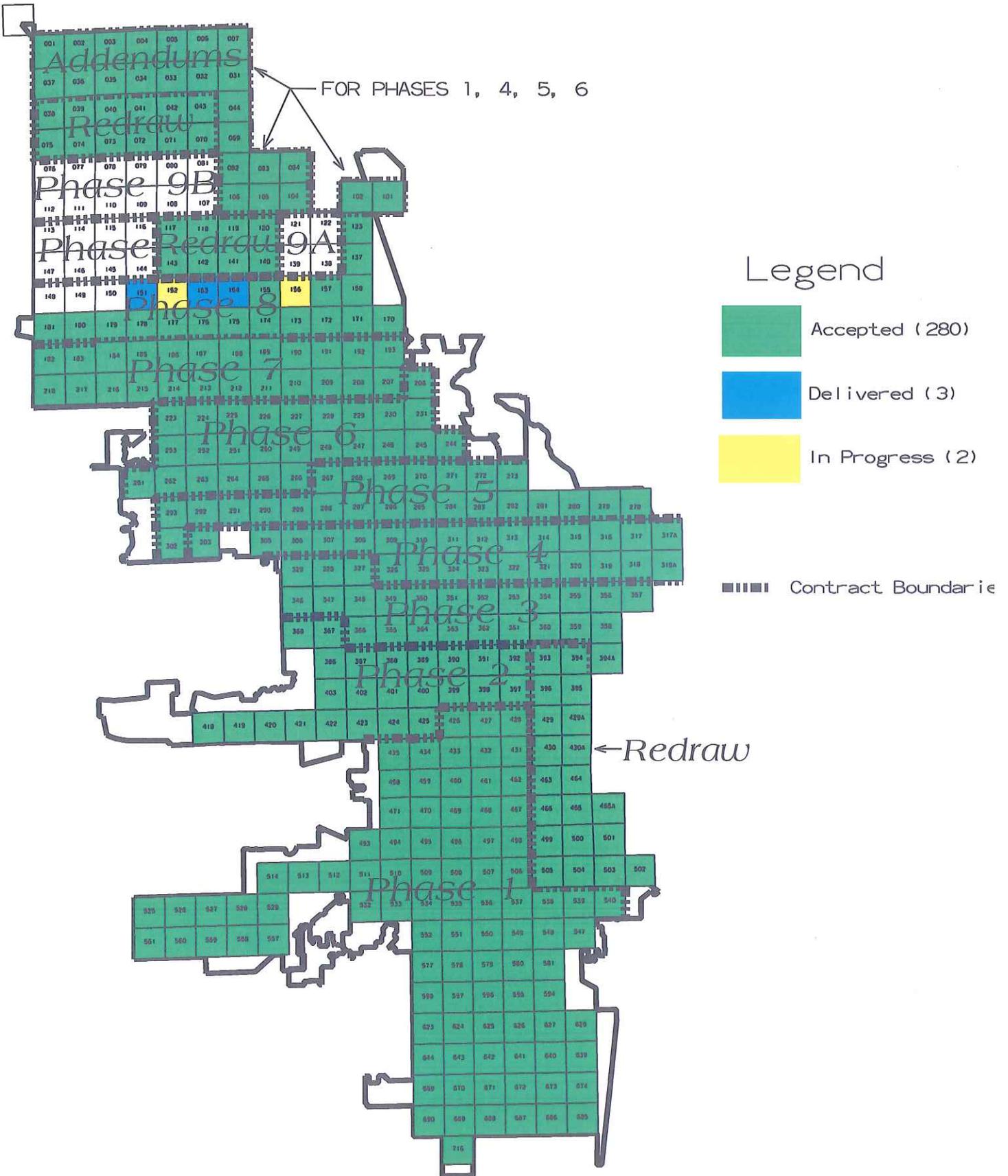
The City of Milwaukee cadastral map transformation project (Phase 8) consists of 25 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. As of June 30, 2004, 20 maps from this project area have been submitted to SEWRPC staff for review and 17 map sheets have been accepted as being in compliance with the specifications. The agreement governing this project calls for work to be completed by October 2004. There is currently no reason to expect that the project completion schedule will not be met.

The City of Milwaukee cadastral map transformation project (Phase 9A) consists of 12 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. As of June 30, 2004, no maps from this project area have been submitted to SEWRPC staff for review and, accordingly, no map sheets have been accepted as being in compliance with the specifications. The agreement governing this project calls for work to be completed by October 2004. There is currently no reason to expect that the project completion schedule will not be met.

The City of Milwaukee cadastral map transformation project (Phase 9B) consists of 12 U.S. Public Land Survey one-quarter-section-based maps again as delineated on the attached status map. As of June 30, 2004, no maps from this project area have been submitted to SEWRPC staff for review and, accordingly, no map sheets have been accepted as being in compliance with the specifications. The agreement governing this project calls for work to be completed by October 2004. There is currently no reason to expect that the project completion schedule will not be met.

* * *

MCAMLIS Transformation Project Progress Map



July 9, 2004

From: John La Fave, Register of Deeds
To: MCAMLIS Steering Committee members
Re: Status of Register of Deeds (ROD) projects funded from the \$1.00 retained fee.

Improvements to computerized system (MCAMLIS authorized \$240,000)

During June 2004 ROD's software system was upgraded to Fidlar's iDocumentXF. iDocumentXF allows for split-screen viewing of documents which means staff can work with document images on the computer screen rather than handling the actual paper documents. The software upgrade will also result in improvements and efficiencies in cashiering, imaging, tax listing and public searching both in our office and on the Internet. Also, the turn around time for the mailing back of original documents will be reduced to a couple of weeks rather three months.

ROD will be signing off on a five-year agreement to use iDocumentXF in December 2004. The payment option that ROD is leaning towards includes an initial payment of \$142,000 from the \$1.00 retained fee account to Fidlar Software in January 2005. Annual maintenance fees would then come from the County's ROD budget.

Register of Deeds purchased 16 computers, 13 monitors and 16 network cards at a cost of \$24,371.

With the installation of the new software system, the Register of Deeds will pay a pro-rated charge of \$6000 for a courthouse comprehensive tape back-up system.

Electronic Recording (MCAMLIS authorized \$45,000)

ROD has spent \$30,550.81 towards hardware and software items to enable E-Recording via Ingeo Company. Within a few months additional E-Recording will be available through our own software vendor, Fidlar. The plan is to then have Ingeo Company send their E-Documents to our Fidlar system. 6500 documents have been electronically recorded thus far. We are currently averaging about 40 E-documents per day.

External hard drive (SNAP server) (MCAMLIS authorized \$40,000)

ROD spent \$24,997.56 for the purchase of two SNAP servers. The second one will serve as a mirrored backup. They will replace the old jukebox technology for housing images.

Conversion of microfiche images to digital format (MCAMLIS authorized \$200,000)

ROD expects to purchase two million digital images of our own records (years 1995-1999) from ChicagoTitle/Property Insight for about \$80,000 within the next few months. ROD would then pursue putting out to bid the conversion of microfiche images for the years 1988-1994.

~~Making available on-line access to Federal Tax Lien (FTL) database (MCAMLIS authorized \$20,000)~~

This project is now unnecessary. As per a change in state law, Federal Tax Liens are now recorded in the Register of Deeds rather than filed. Because they are recorded, these documents can now be accessed in our current real estate records system.

Loredo software will transfer data to municipal assessors within the next 2 weeks.

III G

EXECUTED LICENSE AGREEMENTS

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 2003	2003	
90.	1.	North Shore Fire Department	1/13/03
91.	2	Planning & Design Institute, Inc.	2/6/03
92.	3.	Nancy M. Aten	2/12/03
93.	4.	Graef, Anhalt, Schloemer and Associates, Inc.	4/2/03
94.	5.	Sandridge Commercial Real Estate, LLC	4/25/03
95.	6.	Bloom Consultants LLC	7/11/03
96.	7.	Landscape Architects, Inc.	7/22/03
97.	8.	Jenkins Survey and Design, Inc.	7/23/03
98.	9.	Access Engineering LLC	7/30/03
99.	10.	Fifth Ward Association	12/08/03
100.	11.	West Allis-West Milwaukee School District	12/10/03
Since 1995	For 2004	2004	
101.	1.	The Sigma Group	01/21/02
102.	2.	T N & Associates	02/20/04
103.	3.	Hayes Engineering Company	02/23/04
104.	4.	Geocomm	03/30/04
105.	5.	J. Spear Associates, Inc.	06/16/04

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	6/30/2004	TOTAL
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	*
Beginning Period Reserve-January 1	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,746,988	3,768,878	3,768,878
Mid-Year Reserve Changes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Period Reserve	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,746,988	3,768,878	3,768,878
Recording Fees (\$4.00 Portion)	101,886	324,983	612,592	676,093	647,355	503,342	574,328	644,508	789,820	773,078	609,863	743,977	918,012	1,178,762	297,962	9,376,381
Recording Fees (\$1.00 Portion)	0	0	0	0	0	0	0	0	0	0	0	72,968	230,597	295,988	74,918	674,471
Slate Grants	0	0	0	150,000	200,000	165,000	138,500	55,300	139,226	152,270	103,895	325,997	197,979	223,055	300	1,851,522
1 Private Utility Contributions	312,000	312,000	312,000	312,000	312,000	50,000	50,000	50,000	50,000	50,000	170,000	0	0	0	0	1,560,000
2 MIMSD Contribution	0	0	0	50,000	50,000	50,000	50,000	50,000	50,000	50,000	0	0	0	0	0	520,000
Annual Revenue	413,886	636,983	924,592	1,188,093	1,209,355	718,342	762,828	749,808	959,046	975,348	883,578	1,142,942	1,346,588	1,697,805	373,180	13,982,374
TOTAL FUNDS AVAILABLE	413,886	920,323	1,520,514	1,883,217	2,161,409	2,708,622	2,102,477	2,165,737	2,491,335	2,918,847	3,171,593	3,273,483	3,682,966	4,446,793	4,157,058	17,766,252
Additional Encumbrance	100,000	22,075	534,849	272,943	-900,864	112,067	308,902	367,776	361,580	386,754	566,545	737,559	577,619	375,752	574,826	4,418,383
Less Prior Year Additional Encumbrance	0	-100,000	-22,075	-594,849	-272,943	900,864	-112,067	-308,902	-367,776	-361,580	-386,754	-566,545	-737,559	-577,619	-375,752	-3,843,556
Legal Fees	0	350	600	0	0	0	0	0	0	0	0	0	0	0	0	950
Systems Consulting (UGC)	0	128,638	0	0	0	0	0	0	0	0	0	0	0	0	128,638	128,638
USPLS Remonumentation	0	41,260	0	0	0	0	0	0	0	0	0	0	0	0	41,260	41,260
Horizontal/Vertical Control Surveys	0	144,443	0	0	0	0	0	0	0	0	0	0	0	0	144,443	144,443
Aerial Photos/Mapping	21,555	17,925	292,060	1,178,794	1,340,370	356,953	490,821	576,268	556,103	608,450	842,594	787,620	1,095,708	866,757	179,826	9,211,808
Project Facilitator	8,991	73,567	21,650	14,995	0	0	0	0	0	0	0	0	0	0	0	119,203
Conference	0	59	1,046	319	0	0	528	0	0	0	0	0	0	0	1,953	1,953
RoD Computer Hardware/Software	0	0	0	0	6,291	797	0	0	0	0	0	0	0	0	0	7,088
RoD Materials Copied	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Computer Maintenance	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	26
Computer/Office Supplies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DPW Needs Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IMSD Strategic Initiative	40	564	13	0	0	0	3	5	0	0	343	0	442	0	0	1,399
Contractual Crosscharges	0	-4,470	-2,752	-1,040	-1,724	-1,708	-1,664	-1,700	-2,116	-2,792	-1,676	-1,529	-2,232	-1,975	-675	-28,053
Charges Paid By Other Departments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Expenditures	30,586	402,326	312,616	1,193,069	1,344,936	356,042	489,713	574,573	554,032	605,658	841,261	766,091	1,093,918	864,782	179,151	9,628,755
TOTAL EXPS / ENCUMBRANCES	130,586	324,401	825,391	931,162	171,130	1,368,973	666,548	633,446	547,836	630,832	1,041,052	937,105	933,978	662,915	378,225	14,047,138
NET AVAIL FUNDS (END RESERVE)	283,300	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,746,988	3,778,878	3,778,878	3,719,114

1. 1994 was the final year for this revenue source.
 2. \$50,000 will be paid each year through 2000, and \$20,000 in 2003.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003-Per 13	TOTAL
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Beginning Period Reserve-January 1	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	2,748,988
Mid-Year Reserve Changes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Period Reserve	0	283,340	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	2,748,988
Recording Fees (\$4.00 Portion)	101,886	324,983	612,592	676,093	647,355	503,342	574,328	644,508	769,820	773,078	609,683	743,977	918,012	1,178,762	9,078,419
Recording Fees (\$1.00 Portion)	0	0	0	0	0	0	0	0	0	0	0	72,968	230,597	295,988	599,553
State Grants	0	0	0	150,000	200,000	165,000	138,500	55,300	139,226	152,270	103,895	325,997	197,979	223,055	1,560,000
1 Private Utility Contributions	312,000	312,000	312,000	312,000	312,000	0	0	0	0	0	0	0	0	0	520,000
2 MMSD Contribution	0	0	0	50,000	50,000	50,000	50,000	50,000	50,000	50,000	170,000	0	0	0	520,000
Annual Revenue	413,886	636,983	924,592	1,188,093	1,209,355	718,342	762,828	749,808	959,046	975,348	883,578	1,142,942	1,346,588	1,697,805	13,609,194
TOTAL FUNDS AVAILABLE	413,886	920,323	1,520,514	1,883,217	2,161,409	2,708,622	2,102,477	2,165,737	2,491,335	2,918,847	3,171,593	3,273,483	3,682,966	4,446,793	16,358,182

Additional Encumbrance	100,000	22,075	534,849	272,943	-900,864	112,067	308,902	367,776	361,580	386,754	586,545	737,559	577,619	375,752	3,843,557
Less Prior Year Additional Encumbrance		-100,000	-22,075	-534,849	-272,943	900,864	-112,067	-308,902	-367,776	-361,580	-386,754	-586,545	-737,559	-577,619	-3,467,804
Legal Fees	0	350	600	0	0	0	0	0	0	0	0	0	0	0	950
Systems Consulting (UGC)	0	128,638	0	0	0	0	0	0	0	0	0	0	0	0	128,638
USPLS Remonumentation	0	41,260	0	0	0	0	0	0	0	0	0	0	0	0	41,260
Horizontal/Vertical Control Surveys	0	144,443	0	0	0	0	0	0	0	0	0	0	0	0	144,443
Aerial Photos/Mapping	21,555	17,925	292,060	1,178,794	1,340,370	356,953	490,821	576,268	556,108	608,450	842,594	787,620	1,095,708	866,757	9,031,982
Project Facilitator	8,991	73,567	21,650	14,995	0	0	0	0	0	0	0	0	0	0	119,203
Conference	0	59	1,046	319	0	0	528	0	0	0	0	0	0	0	1,953
RoD Computer Hardware/Software	0	0	0	0	6,291	797	0	0	0	0	0	0	0	0	7,088
RoD Materials Copied	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Computer Maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Computer/Office Supplies	0	0	0	0	0	0	26	0	0	0	0	0	0	0	26
DPW Needs Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IMSD Strategic Initiative	40	554	13	0	0	0	3	5	0	0	343	0	442	0	1,399
Contractual Crosscharges	0	-4,470	-2,752	-1,040	-1,724	-1,708	-1,664	-1,700	-2,116	-2,792	-1,676	-1,529	-2,232	-1,970	-27,373
Charges Paid By Other Departments	0	0	0	0	0	0	0	0	40	0	0	0	0	0	40
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Expenditures	30,586	402,326	312,616	1,193,069	1,344,936	356,042	489,713	574,573	554,032	605,658	841,261	786,091	1,093,918	864,787	9,449,609
TOTAL EXPS / ENCUMBRANCES	130,586	324,401	825,391	931,162	1,711,130	1,368,973	686,548	633,448	547,836	630,832	1,041,052	937,105	933,978	662,920	13,293,166

NET AVAIL FUNDS (END RESERVE)	283,300	595,922	695,124	952,054	1,990,280	1,339,649	1,415,929	1,532,289	1,943,499	2,288,015	2,130,541	2,336,378	2,748,988	3,783,873	3,065,016
--------------------------------------	---------	---------	---------	---------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

1. 1994 was the final year for this revenue source.
 2. \$50,000 will be paid each year through 2000, and \$20,000 in 2003.

MILWAUKEE COUNTY AUTOMATED MAPPING AND LAND INFORMATION SYSTEM

SUBCOMMITTEE ON TOPOGRAPHIC MAPPING

September 3, 2004 (Revised October 28, 2004)

REPORT TO THE MCAMLIS STEERING COMMITTEE

BACKGROUND

At the MCAMLIS Steering Committee meeting held on July 20, 2004, the Committee considered a proposal from project staff to undertake a four-year Digital Topographic Replacement Mapping Program. Among the reasons cited by the staff in making this proposal was the fact that more than 80 percent of the existing digital topographic mapping for Milwaukee County was now more than ten years old. Also noted was the fact that only the two most recent digital topographic mapping projects—the St. Francis-Cudahy-South Milwaukee-General Mitchell International Airport project and the Lincoln Creek-Southbranch Creek project—together representing less than 15 percent of the County's available topographic mapping were completed using current state-of-the-art photogrammetric map compilation techniques including the creation of a digital terrain model. Not unimportantly in making this proposal, the project staff had identified the necessary funds to carry out this proposed program estimated at that time to have a cost of about \$2.7 million.

Following discussion of this proposal by the Committee at the July 20th meeting, the Committee Chairman was asked to create a Subcommittee to provide counsel to the Committee on the need for this program: more specifically, on the utility of the mapping; the conformance of the proposed substantive and digital format specifications to state-of-the-art practices; and the need for the program. Accordingly, the Chairman acted to create the requested Subcommittee on Topographic Mapping.

The original recommendations of the Subcommittee on Topographic Mapping were presented to the MCAMLIS Steering Committee at its meeting held on September 14, 2004. After reviewing and discussing those recommendations, the Steering Committee requested that the Chairman augment the membership of the Subcommittee to include several additional members capable of providing "hands-on" experience in the use of the MCAMLIS digital topographic mapping or capable of commenting on the general utility of digital point, vector, and area map feature information in conjunction with the use of digital orthophotography. The Steering Committee further requested that the augmented Subcommittee be reconvened to address several issues left unresolved by the first two Subcommittee meetings. More specifically, these issues were:

1. A review of the digital map feature content currently contained in the MCAMLIS digital topographic mapping specification to determine if all such features previously mapped as digital point, line, and area features continue to be needed, particularly if the Steering Committee should decide to incorporate digital orthophotography as a component of the standard MCAMLIS digital topographic mapping specifications;
2. A review of that portion of the current specifications requiring delivery of the map products in Integraph/MicroStation DGN format, particularly in view of emerging computer software operating environments that incorporate geodatabases; and

- 3. An evaluation of the useful life of the topographic mapping and the recommendation of a suitable digital topographic map replacement cycle for consideration in the development of future MCAMLIS annual work programs.

This report sets forth the comments, observations, and recommendations of the Subcommittee to the full Committee.

MEMBERSHIP OF THE SUBCOMMITTEE

The original membership of the Subcommittee was as follows:

- Mr. Timothy R. Bate, P.E. Engineering Planning Manager
Chairman Milwaukee Metropolitan Sewerage District; and
President, Wisconsin Section,
American Society of Civil Engineers
- Mr. Gregory G. High Director, Architectural and Engineering Services
Department of Parks and Public Infrastructure
Milwaukee County
- Mr. Rick Norris, P.E. President, Norris and Associates, Inc.
Consulting Engineers
- Mr. William C. Shaw GIS Manager, WE Energies
- Mr. Timothy J. Thur, P.E. Chief Sewer Design Manager
Environmental Engineering Division
City of Milwaukee

Following the September 14, 2004 meeting of the MCAMLIS Steering Committee, the Chairman appointed the following three individuals to augment the original membership of the Subcommittee:

- Ms. Alyssa A. Bails, AICPGIS Division Manager, R.A. Smith & Associates, Inc.
- Mr. Thomas J. Tym..... Head, Technology Services Department, Ruekert & Mielke, Inc.
- Mr. Richard S. Vraga Liaison for Wisconsin and Illinois, U.S. Geological Survey

MEETINGS

The first meeting of the Subcommittee on Topographic Mapping was held on Friday, August 13, 2004, in Room 203P of the Milwaukee County Courthouse. Subcommittee members present were: Mr. Bate, Mr. High, Mr. Norris, Mr. Shaw, and Mr. Thur.

Others present were: Ms. Marcia Lindholm, Manager, Central Drafting and Records, City of Milwaukee; and Mr. Thomas D. Patterson, MCAMLIS Project Manager.

In order to provide a common background for the Subcommittee members in their discussions and deliberations, Mr. Patterson presented a short history of the MCAMLIS Program and of that Program's four major initial work efforts. These work efforts were: the completion of a previously existing effort to relocate and monument the United States Public Land Survey (USPLS) corners within Milwaukee County; the completion of a previously existing effort to provide a survey control network for Milwaukee County, utilizing the monumented USPLS

corners as stations within this network; a digital topographic mapping program utilizing the completed survey control network for locating these maps accurately to both the surface of the earth and to an appropriate map projection; and a digital real property boundary line map compilation program, these maps constructed as overlays to the digital topographic maps, and, therefore, linked both to the surface of the earth and to the chosen map projection.

In discussing these four initial work efforts, Mr. Patterson stressed the interrelated nature of these individual tasks and the importance of each to the development of a scientifically sound collection of maps and their contribution to the creation of county, municipal, and private utility digital land information systems and public works infrastructure management systems.

The Subcommittee then began, but did not complete, a review and discussion of the proposed MCAMLIS Digital Topographic Replacement Mapping Program as that program had been previously presented to the MCAMLIS Steering Committee at its meeting held on July 20, 2004.

The second meeting of the Subcommittee on Topographic Mapping was held on September 2, 2004, also in Room 203P of the Milwaukee County Courthouse. Subcommittee member present were: Mr. Bate, Mr. High, Mr. Norris, Mr. Shaw, and Mr. Thur.

Others present were: Mr. Thomas D. Patterson, MCAMLIS Project Manager; and Mr. Kevin R. White, GIS Supervisor, Architectural and Engineering Services, Department of Parks and Public Infrastructure, Milwaukee County.

The Subcommittee completed its review and discussion of the proposed MCAMLIS Digital Topographic Replacement Mapping Program memorandum. The Subcommittee also reviewed and discussed the proposed specifications for digital topographic mapping that have provided the basis for the two most recently completed MCAMLIS digital topographic mapping projects. These specifications were intended by project staff for use in the previously identified MCAMLIS Digital Topographic Replacement Mapping Program.

The third meeting of the Subcommittee on Topographic Mapping was held on October 19, 2004, in Room 219 of the Milwaukee County – City Campus Building. Subcommittee members present were Mr. Bate, Mr. High, Mr. Shaw, Mr. Thur, Mr. Tym, and Mr. Vraga. Subcommittee members absent were: Ms. Bails and Mr. Norris.

Others present were: Mr. Robert P. Biebel, Chief Environmental Planner, SEWRPC; Mr. Thomas D. Patterson, MCAMLIS Project Manager; and Mr. Kevin R. White, GIS Supervisor, Architectural and Engineering Services Department of Parks and Public Infrastructure – Milwaukee County.

The Subcommittee evaluated the three specific items referred to it by the MCAMLIS Steering Committee as noted above, specifically in light of the manner in which the digital topographic maps were typically used in municipal engineering and planning and in environmental engineering and planning applications.

COMMENTS AND RECOMMENDATIONS

On the basis of the review and discussion of the above identified material and after deliberating on the intent and perceived utility of the proposed digital topographic replacement mapping program, this Subcommittee offers the following comments, observations, and recommendations to the MCAMLIS Steering Committee.

The Utility of the Presently Available MCAMLIS Digital Topographic Mapping Products for their Intended Audience

- The Subcommittee believes that the presently available MCAMLIS digital topographic mapping products do have value for their intended audience, although they did express concern that, with the audience being rather broad, this utility was difficult for the Subcommittee to completely assess.
- The Subcommittee believes that the more current the information contained on the digital topographic maps, the more value the maps have for their intended audience.
- The Subcommittee recommends that the Steering Committee consider the inclusion of six-inch pixel, color, digital orthophotography as one of the products to be obtained from the MCAMLIS digital topographic mapping projects, noting in particular that the digital terrain model needed to orthorectify the photographic images is already included in the MCAMLIS digital topographic mapping specifications. The Subcommittee believes that the inclusion of a digital orthophotography product as a part of the total digital topographic mapping preparation would increase the utility of any remapping efforts.
- The Subcommittee recommends that the digital map feature content currently contained in the specifications be reviewed to determine if all features currently mapped as digital vectors are needed, particularly if the Steering Committee should decide to incorporate digital orthophotography as a component of the product specifications. The Subcommittee further recommends that the Steering Committee consider appointing an additional Subcommittee or working group to provide guidance to the Steering Committee with respect to those map features which should be represented as digital line work and those features for which the digital orthophotography can be substituted.
 - At the third meeting of the Subcommittee, members reviewed the currently specified digital map feature content. Upon completion of this review and following extensive discussion concerning the importance of the various mapped features for specific uses and applications, the Subcommittee identified the following features for possible removal from the specifications:
 1. Recreational trail lines and associated text;
 2. Power, telephone and light pole locations;
 3. Railway signals;
 4. Signs – formerly billboards – and associated text;
 5. “Miscellaneous” special planimetric features and associated text. These features occur rarely, are often ephemeral, and include such features as spoil piles, and salt and coal storage piles.

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

- The Subcommittee 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 map accuracy specifications be continued.

- The Subcommittee recommends that the current U.S. Public Land Survey one-quarter section “map sheet” focused delivery of the digital topographic mapping contained in the current specifications be revised to provide for delivery of the digital topographic mapping as a “seamless map” product. The Subcommittee further recommends that all current requirements relating to the preparation of “map sheets” and the delivery of “hard copy” maps be deleted from the current specifications.
- The Subcommittee recommends that that portion of the current specifications requiring delivery of the map products in Intergraph/MicroStation DGN format be reviewed, particularly in view of emerging computer software operating environments incorporating geodatabases. The Subcommittee further recommends that this review also carefully consider the translatability to other digital environments of whatever digital operating environment specifications are eventually settled upon by the Steering Committee. The Subcommittee recommends that the Steering Committee consider appointing an additional Subcommittee or working group to provide guidance to the Steering Committee with respect to adopting an alternative operating environment for inclusion in the specifications.
 - At the third meeting of the Subcommittee, members agreed that the use of the Intergraph/MicroStation DGN format for the delivery of the MCAMLIS digital topographic maps continued to be warranted. This recommendation was made after consideration of the fact that the MCAMLIS digital topographic maps are used in both GIS and CAD (Computer Aided Drafting) applications. Intergraph/MicroStation DGN format can be translated into common alternative software formats used in each of these two environments in relatively straight-forward and simple manners.

The Need for a Replacement Digital Topographic Mapping Program

- The Subcommittee recommends that the MCAMLIS Steering Committee undertake a Digital Topographic Mapping Replacement Program.
- The Subcommittee further recommends that the Steering Committee evaluate the useful life of the topographic mapping and adopt a suitable map replacement cycle for future annual work programs.
 - 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 in the range between 4 to 10 years. This means that most, if not all, Milwaukee County topographic maps now warrant replacement.
- Finally, the Subcommittee recommends that a digital topographic map replacement program be undertaken now utilizing the existing MCAMLIS specifications with the minor aforementioned recommended amendments.

-DRAFT-

AGREEMENT

THIS AGREEMENT, entered into this _____ day of _____, 2004, by and between the Milwaukee County Department of Administrative Services (hereinafter referred to as the "County"); and the Milwaukee County Automated Mapping and Land Information System Steering Committee (hereinafter referred to as the "Steering Committee").

WITNESSETH:

WHEREAS, by Resolution No. 88-379, the Milwaukee County Board of Supervisors requested the Southeastern Wisconsin Regional Planning Commission (SEWRPC) to conduct a feasibility study pertaining to an automated mapping and land information system; and

WHEREAS, the requested feasibility study was completed and documented in SEWRPC Community Assistance Planning Report No. 177, Feasibility Study for a Milwaukee County Automated Mapping and Land Information System, published in October 1989; and

WHEREAS, by Resolution No. 90-707 (a) (a) adopted on November 8, 1990, the Milwaukee County Board of Supervisors, working in cooperation with the utilities concerned, created a public-private partnership to implement the proposed Milwaukee County Automated Mapping and Land Information System, including creation of a Steering Committee to provide oversight in the implementation of the system recommended in SEWRPC Community Assistance Planning Report No. 127; and

WHEREAS, the aforereferenced Milwaukee County resolution adopted on November 8, 1990, further authorized the execution of a Cooperative Agreement between Milwaukee County and the public and private utilities serving Milwaukee County, whereby the County and such utilities agreed to jointly fund the development of the Milwaukee County Automated Mapping and Land Information System, such Agreement delegating to the aforereferenced Steering Committee full responsibility for all policy matters relating to the conduct of the work program, including proposed contracts and specifications and the selection of contractors; and

WHEREAS, the Steering Committee on _____, 2004, formally authorized the County to charge-administrative costs associated with the implementation of the recommended automated mapping and land information system;

NOW, THEREFORE, in consideration of the mutual promises each agency has made to the other and in the fulfillment of the terms and conditions, agreements, and understandings hereinafter set forth,

I. Scope of Work

In general, the County agrees to perform the following administrative duties related to the Steering Committee operations. Other tasks to be completed by the County not covered herein will be carried out under separate agreements.

- Contract Review - Each contract (and all contract addenda) the Steering Committee enters into must be fully reviewed and approved by the offices of Corporation Counsel, Risk Management, and Office of Community Business Development Partners (formerly Disadvantaged Business Development).
- Contract Encumbering & Payment Processing - Each contract must be encumbered and invoices against those contracts must be processed involving staff within the Department of Administrative Services, including the Director, a Fiscal and Management Analyst and staff within the Accounts Payable unit. In addition, Department of Administrative Services staff is responsible for processing fund transfers and/or journal vouchers, as necessary.
- Contract Monitoring - Staff within the Department of Administrative Services must also ensure that invoices are applied to the appropriate encumbered contract.

-DRAFT-

- Monthly Cash Flow Statements – Department of Administrative Services staff also prepares and presents monthly cash flow statements on the MCAMLIS reserve at Steering Committee meetings.
- Oversight of any of the aforementioned responsibilities may, at times, involve the County's Controller.

II. Timing

All services to be performed under this Agreement shall be carried out over the period beginning January 1, 2005 and ending on December 31, 2005.

III. Compensation to County

The Steering Committee shall pay \$25,000 to the County the following amounts for those services described above.

IV. Method of Compensation

If, during the course of carrying out the work elements identified herein, additional unanticipated work efforts not identified in the scope of work contained herein become necessary for successful project completion in the judgment of the County or in the judgment of the Steering Committee, then it is agreed that the County can request an amendment to the scope of work, with an attendant increase in the maximum amount payable to the County under this Agreement. Such an amendment would require the approval of both the County and the Steering Committee before becoming effective.

V. Support and Materials to be Provided by Others

It is assumed that the members of the Steering Committee, on behalf of their respective public agencies and private utilities, agree to make available without charge to the County all existing digital and hardcopy maps, documents, reports, legal records, and related materials deemed by the County to be needed to carry out its responsibilities under this Agreement. If this assumed level of cooperation does not materialize, then it is agreed that the County may, at its discretion, request payment from the Steering Committee for these costs above and beyond the total amount set forth in Section III of this Agreement.

VI. Ownership of Data

The County agrees not to release such data to others without the prior consent of the Steering Committee. At the end of the Agreement, the County agrees to turn over to a designated MCAMLIS Project Manager all materials and computer hardware and software acquired and/or developed as a part of this Agreement.

VII. Subcontracts

The County and Steering Committee agree that it may be desirable to perform certain of the tasks associated with work projects conducted during the life of this Agreement through subcontracts with qualified firms. In addition, it is envisioned that subcontracts may be required for the acquisition of computer hardware and software and communication devices. The County agrees to bring any such subcontracts to the Steering Committee for its approval prior to execution.

VIII. Indemnity

Except for acts done or taken at the direction of or pursuant to the Steering Committee policy or procedures, the County agrees to the fullest extent permitted by law, to indemnify, defend and hold harmless, the Steering Committee, and its agents, officers and employees, from and against all loss or expense including costs and attorney's fees by reason of statutory benefits under Worker Compensation Laws, and/or liability for damages including suits at law or in equity, caused by any wrongful, intentional, or negligent act or omission of the County, or its (their) agents which, may arise out of or are connected with the activities covered by this agreement.

IX. Authorization

The Steering Committee approved the execution of this Agreement by action taken on _____, 200__.

Thomas D. Patterson

To: Thomas D. Patterson
Subject: FW: MCAMLIS Steering Committee Meeting

From: Shaw.William [mailto:William.Shaw@we-energies.com]
Sent: Friday, October 08, 2004 9:32 AM
To: Thomas D. Patterson
Cc: Place.John; Lange.Richard
Subject: RE: MCAMLIS Steering Committee Meeting

Dear Tom,

I regret to inform you that I will no longer be able to represent Wisconsin Electric (We Energies) on the MCAMLIS Steering Committee. The opportunity to see the MCAMLIS efforts unfold over the length of time that I have served has been a rewarding experience for me and I truly appreciate the opportunity and friends that I have gained. I trust that at times the Committee has likewise appreciated my perspective and that the value of what I brought to the discussion can be considered on the whole a positive message.

I realize that this comes somewhat abruptly and in the midst of some very important issues that the Committee is now addressing. I wish that I could be there to see these through but unfortunately this now appears to be impossible. If circumstances were to change and the opportunity would arise in the future, I would not hesitate to rejoin this very important work.

Thank You and please pass this announcement on to the Committee.



United States Department of the Interior

U. S. GEOLOGICAL SURVEY
 Geography Liaison for Wisconsin and Illinois
 505 Science Drive
 Madison, WI 53711



August 6, 2004

Mr. Thomas D. Patterson
 MCAMLIS Project Manager
 Southeastern Wisconsin Regional Planning Commission
 W239 N1812 Rockwood Drive, PO Box 1607
 Waukesha, Wisconsin 53187-1607

Dear Mr. Patterson:

As requested, members of the U.S. Geological Survey (USGS), Eastern Region Geography have reviewed the specifications for the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) digital topographic mapping project for the Lincoln Creek-Southbranch Creek project area. As a result we would like to begin speaking with you about the inclusion of these data in *The National Map (TNM)*. While it is difficult to make exact statements about the data without having worked with it, we believe the data produced to these specifications may be well suited for *TNM*. Below you will find the specific question you have asked and our responses.

1. Would digital topographic maps produced to these specifications be suitable for inclusion in The National Map? More specifically, would digital maps prepared to these specifications not meet, meet, or exceed the requirements for inclusion in The National Map?

USGS Response: In general, data collected to these specifications would meet the goals of *TNM*. The accuracy, resolution and completeness characteristics of the data are aligned with our goals and we would be interested in establishing a partnership to make these data available. There are some technical details that would need to be addressed. For example, we require centerline data for the definition of roads features. We can not determine from your specification if centerlines exist as a result of this specification. That would need to be remedied before the roads data could be part of *TNM*.

2. As you also know from our discussion, we are currently considering two substantive modifications to these specifications for use in future MCAMLIS topographic mapping projects. The first of these modifications would involve changing the format of the maps from a "map sheet" oriented format to a "seamless map" format. The second modification would involve the creation of six-inch pixel color digital orthophotography as a component part of the preparation of the digital topographic mapping. Would these modifications enhance or not enhance the suitability of digital

material produced under these modified specifications for inclusion in The National Map?

USGS Response: Moving to a seamless environment and inclusion of 6-inch orthoimagery is coincident with the direction of *TNM*. Our goal is to provide seamless coverage of geospatial information for the Nation and your movement in that direction would be a very positive contribution. High resolution orthoimagery is an important component of *TNM* and we would welcome its availability in your area.

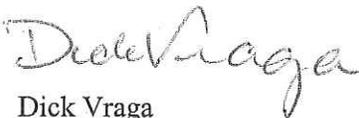
3. The detailed specifications call for delivery of the digital mapping in an Intergraph/Micro Station DGN digital file structure and convention environment. Would the production of these products in such a digital environment have any affect, positive or negative, on the potential for inclusion of these digital map products in The National Map?

USGS Response: The solution we encourage for our partners is the establishment of Open GIS Consortium (OGC) compliant web-mapping services by the partners. Using this solution allows you to collect, process and maintain your data in the manner that works best for your business yet allows universal access to the data. We would be happy to work with you as a partner on establishing such a service. Under these circumstances, the production of data in an "Intergraph/Micro Station DGN file structure and convention" would have no affect on its potential for inclusion in *TNM*.

USGS Response: Thank you for providing a copy of the metadata for this project. As you know, *TNM* requires FGDC-compliant metadata and we would recommend including that as part of the specification.

Thank you for the opportunity to meet with you and review these specifications. I believe we have an opportunity to begin a partnership for providing access to these data that will be beneficial to our agencies and the people we serve. Please feel free to contact me with any questions or concerns about this review. I look forward to speaking with you soon.

Sincerely,



Dick Vraga
USGS Geography Liaison for Wisconsin and Illinois

MILWAUKEE COUNTY AUTOMATED MAPPING AND LAND INFORMATION
SYSTEM

SUBCOMMITTEE ON TOPOGRAPHIC MAPPING

September 3, 2004

REPORT TO THE MCAMLIS STEERING COMMITTEE

BACKGROUND

At the MCAMLIS Steering Committee meeting held on July 20, 2004, the Committee considered a proposal from project staff to undertake a four-year Digital Topographic Replacement Mapping Program. Among the reasons cited by the staff in making this proposal was the fact that more than 80 percent of the existing digital topographic mapping for Milwaukee County was now more than ten years old. Also noted was the fact that only the two most recent digital topographic mapping projects—the St. Francis-Cudahy-South Milwaukee-General Mitchell International Airport project and the Lincoln Creek-Southbranch Creek project—together representing less than 15 percent of the County’s available topographic mapping were completed using current state-of-the art photogrammetric map compilation techniques including the creation of a digital terrain model. Not unimportantly in making this proposal, the project staff had identified the necessary funds to carry out this proposed \$2.7 million program.

Following discussion of this proposal by the Committee at the July 20th meeting, the Committee Chairman was asked to create a Subcommittee to provide counsel to the Committee on the need for this program: more specifically, on the utility of the mapping; the conformance of the proposed substantive and digital format specifications to state-of-the-art practices; and the need for the program. Accordingly, the Chairman acted to create the requested Subcommittee on Topographic Mapping.

This report sets forth the comments, observations, and recommendations of the Subcommittee to the full Committee.

MEMBERSHIP OF THE SUBCOMMITTEE

- Mr. Timothy R. Bate, P.E. Engineering Planning Manager
Chairman Milwaukee Metropolitan Sewerage District; and
President, Wisconsin Section,
American Society of Civil Engineers
- Mr. Gregory G. High Director, Architectural and Engineering Services
Department of Parks and Public Infrastructure
Milwaukee County
- Mr. Rick Norris, P.E. President, Norris and Associates, Inc.
Consulting Engineers
- Mr. William C. Shaw GIS Manager, WE Energies
- Mr. Timothy J. Thur, P.E. Chief Sewer Design Manager
Environmental Engineering Division
City of Milwaukee

MEETINGS

The first meeting of the Subcommittee on Topographic Mapping was held on Friday, August 13, 2004, in Room 203P of the Milwaukee County Courthouse. Subcommittee members present were: Mr. Bate, Mr. High, Mr. Norris, Mr. Shaw, and Mr. Thur.

Others present were: Ms. Marcia Lindholm, Manager, Central Drafting and Records, City of Milwaukee; and Mr. Thomas D. Patterson, MCAMLIS Project Manager.

In order to provide a common background for the Subcommittee members in their discussions and deliberations, Mr. Patterson presented a short history of the MCAMLIS Program and of that Program's four major initial work efforts. These work efforts were: the completion of a previously existing effort to relocate and monument the United States Public Land Survey (USPLS) corners within Milwaukee County; the completion of a previously existing effort to provide a survey control network for Milwaukee County, utilizing the monumented USPLS corners as stations within this network; a digital topographic mapping program utilizing the completed survey control network for locating these maps accurately to both the surface of the earth and to an appropriate map projection; and a digital real property boundary line map compilation program, these maps constructed as overlays to the digital topographic maps, and, therefore, linked both to the surface of the earth and to the chosen map projection.

In discussing these four initial work efforts, Mr. Patterson stressed the interrelated nature of these individual tasks and the importance of each to the development of a scientifically sound collection of maps and their contribution to the creation of county, municipal, and private utility digital land information systems and public works infrastructure management systems.

The Subcommittee then began, but did not complete, a review and discussion of the proposed MCAMLIS Digital Topographic Replacement Mapping Program as that program had been previously presented to the MCAMLIS Steering Committee at its meeting held on July 20, 2004.

The second meeting of the Subcommittee on Topographic Mapping was held on September 2, 2004, also in Room 203P of the Milwaukee County Courthouse. Subcommittee member present were: Mr. Bate, Mr. High, Mr. Norris, Mr. Shaw, and Mr. Thur.

Others present were: Mr. Thomas D. Patterson, MCAMLIS Project Manager; and Mr. Kevin R. White, GIS Supervisor, Architectural and Engineering Services, Department of Parks and Public Infrastructure, Milwaukee County.

The Subcommittee completed its review and discussion of the proposed MCAMLIS Digital Topographic Replacement Mapping Program memorandum. The Subcommittee also reviewed and discussed the proposed specifications for digital topographic mapping that have provided the basis for the two most recently completed MCAMLIS digital topographic mapping projects. These specifications were intended by project staff for use in the previously identified MCAMLIS Digital Topographic Replacement Mapping Program.

COMMENTS AND RECOMMENDATIONS

On the basis of the review and discussion of the above identified material and after deliberating on the intent and perceived utility of the proposed digital topographic replacement mapping program, this Subcommittee offers the following comments, observations, and recommendations to the MCAMLIS Steering Committee.

The Utility of the Presently Available MCAMLIS Digital Topographic Mapping Products for their Intended Audience

- The Subcommittee believes that the presently available MCAMLIS digital topographic mapping products do have value for their intended audience, although they did express concern that, with the audience being rather broad, this utility was difficult for the Subcommittee to completely assess.
- The Subcommittee believes that the more current the information contained on the digital topographic maps, the more value the maps have for their intended audience.
- The Subcommittee recommends that the Steering Committee consider the inclusion of six-inch pixel, color, digital orthophotography as one of the products to be obtained from the MCAMLIS digital topographic mapping projects, noting in particular that the digital terrain model needed to orthorectify the photographic images is already included in the MCAMLIS digital topographic mapping specifications. The Subcommittee believes that the inclusion of a digital orthophotography product as a part of the total digital topographic mapping preparation would increase the utility of any remapping efforts.
- The Subcommittee recommends that the digital map feature content currently contained in the specifications be reviewed to determine if all features currently mapped as digital vectors are needed, particularly if the Steering Committee should decide to incorporate digital orthophotography as a component of the product specifications. The Subcommittee further recommends that the Steering Committee consider appointing an additional Subcommittee or working group to provide guidance to the Steering Committee with respect to those map features which should be represented as digital line work and those features for which the digital orthophotography can be substituted.

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

- The Subcommittee 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 map accuracy specifications be continued.
- The Subcommittee recommends that the current U.S. Public Land Survey one-quarter section "map sheet" focused delivery of the digital topographic mapping contained in the current specifications be revised to provide for delivery of the digital topographic mapping as a "seamless map" product. The Subcommittee further recommends that all current requirements relating to the preparation of "map sheets" and the delivery of "hard copy" maps be deleted from the current specifications.
- The Subcommittee recommends that that portion of the current specifications requiring delivery of the map products in Integraph/MicroStation DGN format be reviewed, particularly in view of emerging computer software operating environments incorporating geodatabases. The Subcommittee further recommends that this review also carefully consider the translatability to other digital environments of whatever digital operating environment specifications are eventually settled upon by the Steering

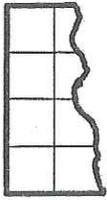
Committee. The Subcommittee recommends that the Steering Committee consider appointing an additional Subcommittee or working group to provide guidance to the Steering Committee with respect to adopting an alternative operating environment for inclusion in the specifications.

The Need for a Replacement Digital Topographic Mapping Program

- The Subcommittee recommends that the MCAMLIS Steering Committee undertake a Digital Topographic Mapping Replacement Program.
- The Subcommittee further recommends that the Steering Committee evaluate the useful life of the topographic mapping and adopt a suitable map replacement cycle for future annual work programs.
- Finally, the Subcommittee recommends that a replacement digital topographic map program not be initiated until all map content, and operating environment specifications have been evaluated and new digital topographic mapping specifications adopted by the Steering Committee.

TDP/Igh

#98105 V1 - MCAMLIS Report To Committee



MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Southeastern Wisconsin
Regional Planning Commission
W239 N1812 Rockwood Drive
PO Box 1607
Waukesha, Wisconsin 53187-1607

MEMORANDUM

TO: MCAMLIS Steering Committee
FROM: Thomas D. Patterson, MCAMLIS Project Manager
DATE: July 7, 2004
SUBJECT: **Proposed MCAMLIS Replacement Digital Topographic Mapping Program**

Introduction

Replacement of the older existing digital topographic mapping in Milwaukee County has been discussed by the MCAMLIS Steering Committee on numerous occasions over the past several years. Indeed, such a replacement mapping program was recommended in the MCAMLIS Program Strategic Assessment document adopted by the Steering Committee at its meeting held on October 8, 2002, and again in the update to that Strategic Assessment document adopted by the Steering Committee at its meeting held on June 10, 2003. The major impediment to undertaking such a replacement program has been the inability to secure a sustained stream of funding sufficient to carry out the program over a relatively short period of time. The discovery at the end of 2003 of an amount in excess of \$3 million in previously unreported MCAMLIS Program reserve funds now makes the initiation of a replacement digital topographic mapping program feasible. Accordingly, a proposal for a four year program for the replacement of the existing MCAMLIS digital topographic mapping is set forth herein for Steering Committee consideration.

The Need for Replacement of Existing Topographic Mapping

The ages of existing digital topographic mapping are shown on the map attached hereto as Map 1. Approximately 82 percent of the existing digital, topographic mapping is now between ten years and 20 years old. All digital topographic mapping carried out since 1992 has been acquired under the auspices of the MCAMLIS Program and was digitally compiled directly from three-dimensional stereoscopic models constructed from aerial photography acquired specifically for that purpose. All digital topographic mapping prepared prior to 1992 was prepared using older technology and was converted to digital format either by board digitizing or by scanning of hard copy maps, rendering these digital maps moderately more cumbersome to use, but in no way compromising the accuracy of the features portrayed on the maps. Increasingly, comments from users of these maps indicate that the continually advancing age of the mapping adversely affects the map's utility for the users; not only from the standpoint that newer development is absent from these maps, but also from the standpoint that more recent demolitions, public works reconstructions, and private redevelopment projects are not shown.

Proposed Digital Topographic Mapping Replacement Program

A proposed program for the replacement of the older MCAMLIS digital topographic mapping within Milwaukee County is illustrated on the map attached hereto as Map 2. The proposal does not include replacement of the two most recently completed digital topographic mapping projects carried out by the MCAMLIS Steering Committee. These two projects: the 1999 Cudahy – St. Francis – South Milwaukee – General Mitchell International Airport Project and the 2002 Lincoln Creek project are relatively recent and were both carried out using still current “state-of-the-art” map compilation techniques including the preparation of a digital terrain model.

The proposed program would replace all other existing digital topographic mapping over a four year period as identified on Map 2. The estimated cost to carry out this program is approximately \$2,700,000, which amount would be spread over a four year period as set forth in the table below.

PROPOSED MCAMLIS REPLACEMENT DIGITAL TOPOGRAPHIC MAPPING PROGRAM

Cost Estimates

First Year	(approximately 47.25 square miles)	\$ 607,870
Second Year	(approximately 54.50 square miles)	701,140
Third Year	(approximately 45.50 square miles)	585,360
Fourth Year	(approximately 61.75 square miles)	794,410
	Total	\$ 2,688,780

Assumptions: Average cost will be about \$12,865/square mile:
\$440/square mile for paneling and aerial photography;
\$12,000/square mile for mapping;
\$425/square mile for quality control and digital file structure review.

The cost of this program is proposed to be funded through the use of the available surplus funds estimated to total about \$3,784,000 as of December 31, 2003, along with any additional amounts taken from yearly operating budgets, if needed, as may be necessary to complete the work in a timely fashion.

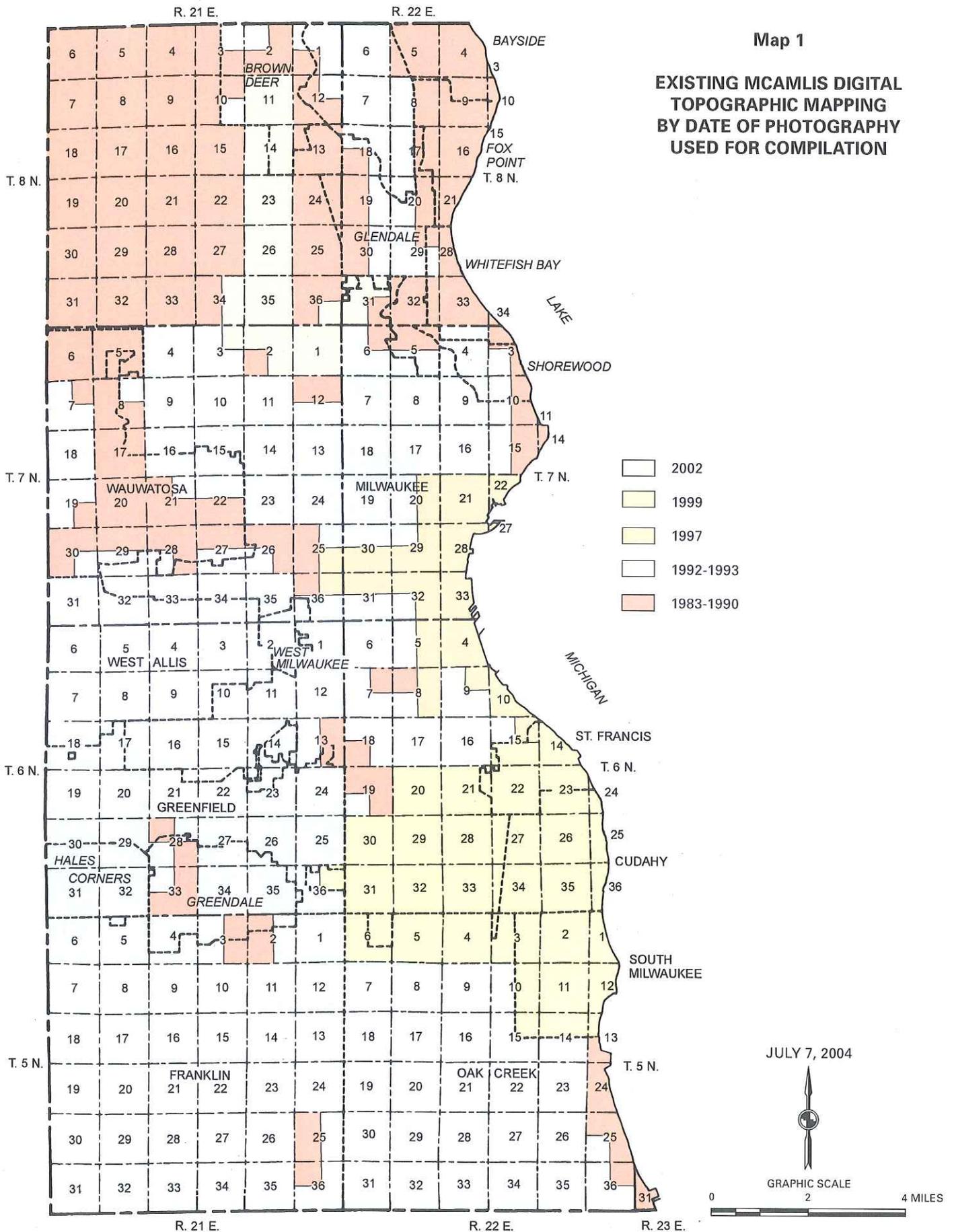
Recommendations

Project staff recommends that the Steering Committee commit to a four year program leading to the preparation of replacement of digital topographic mapping as set forth in the above table and as delineated on Map 2. It is also recommended that the MCAMLIS Steering Committee enter into an agreement, with the Southeastern Wisconsin Regional Planning Commission to acquire the necessary digital topographic mapping over a four year period. The Regional Planning Commission will in turn subcontract with a qualified photogrammetric engineer judged to be capable of completing the desired mapping to previously adopted MCAMLIS digital topographic mapping specifications and standards. Finally, it is recommended that this program begin immediately using aerial photography acquired by AeroMetric, Inc. for the two northern most townships in Milwaukee County during the Spring of 2004. This photography, acquired by AeroMetric, Inc. was designed for producing digital two foot contour interval topographic base maps to MCAMLIS specifications and standards.

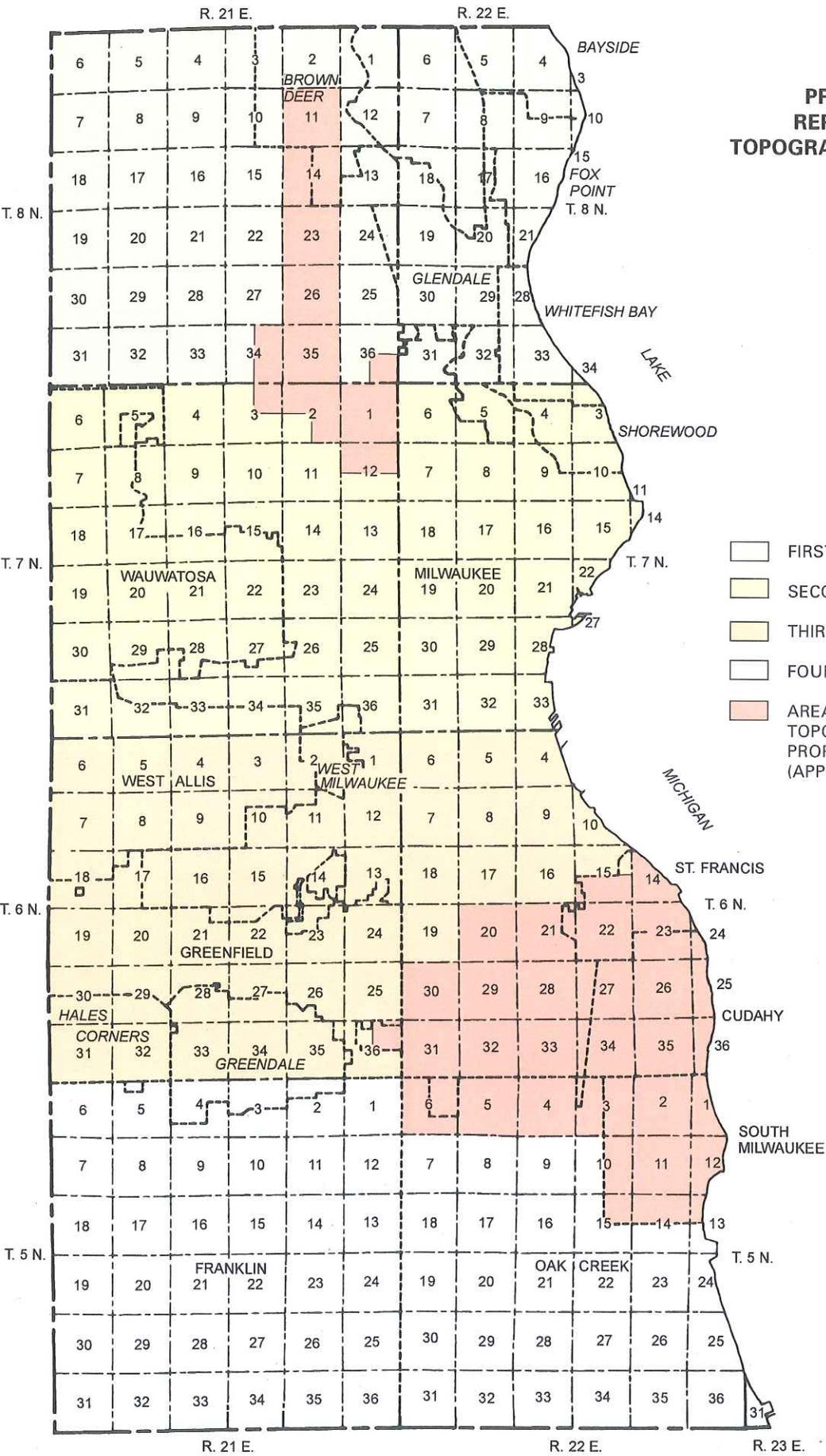
* * *

Map 1

**EXISTING MCAMLIS DIGITAL
TOPOGRAPHIC MAPPING
BY DATE OF PHOTOGRAPHY
USED FOR COMPILATION**



Source: MCAMLIS Project Manager.



Map 2

**PROPOSED MCAMLIS
REPLACEMENT DIGITAL
TOPOGRAPHIC MAPPING PROGRAM**

- FIRST YEAR (APPROX. 47.25 SQ. MILES)
- SECOND YEAR (APPROX. 54.50 SQ. MILES)
- THIRD YEAR (APPROX. 45.50 SQ. MILES)
- FOURTH YEAR (APPROX. 61.75 SQ. MILES)
- AREAS FOR WHICH EXISTING DIGITAL TOPOGRAPHIC MAPPING IS NOT PROPOSED TO BE REPLACED (APPROX. 33.50 SQ. MILES)

FEBRUARY 17, 2004



Source: MCAMLIS Project Manager.

MINUTES OF THE FIRST MEETING

Milwaukee County Automated Mapping and Land Information System Subcommittee on Topographic Mapping

DATE: August 13, 2004
TIME: 1:30 P.M.
PLACE: Milwaukee County Courthouse
Room 203P
901 North Ninth Street
Milwaukee, Wisconsin

Members Present

Timothy R. Bate, P.E., Chairman	Engineering Planning Manager, Milwaukee Metropolitan Sewerage District, and President, Wisconsin Section, American Society of Civil Engineers
Gregory G. High	Director, Architectural and Engineering Services, Milwaukee County Department of Parks and Public Infrastructure
Mr. Rick Norris, P.E.	President, Norris and Associates, Inc.
William C. Shaw	Manager, Geographic Information Systems, WE Energies
Timothy J. Thur, P.E.	Chief Sewer Design Manager, Environmental Engineering Division, City of Milwaukee

Guests and Staff Present

Marcia G. Lindholm	Central Drafting and Records Manager, Infrastructure Services Division, City of Milwaukee
Thomas D. Patterson	MCAMLIS Project Manager, SEWRPC

ROLL CALL AND INTRODUCTIONS

The First meeting of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Subcommittee on Topographic Mapping was called to order by Chairman Bate at 1:30 p.m. Roll call was taken by circulating an attendance signature sheet, and a quorum was declared present. This being the first meeting of the Subcommittee, Chairman Bate asked all present to introduce themselves to the others present

CHARGE TO THE SUBCOMMITTEE

Mr. Patterson noted that copies of the Charge to the Subcommittee had been distributed to all members of the Subcommittee for review prior to the meeting. After briefly reviewing the points contained in the charge, Mr. Patterson asked if there were any questions or comments.

Mr. Shaw called the Subcommittee's attention to the statement in the Charge to the Subcommittee, "Evaluate and comment upon the utility of the MCAMLIS digital topographic maps for their intended audience," stating that he found the term "audience" rather vague and asked if a specific description of the intended audience could be provided. Mr. Patterson responded that the Southeastern Wisconsin Regional Planning Commission (SEWRPC) staff believed that the topographic maps and their integral survey

control system had a very broad audience including attorneys, abstractors, appraisers, land surveyors, civil engineers, and planners in private practice; private utility corporations; government agencies, such as county, town, city, and village assessment, planning, engineering and land information departments; county and state transportation departments; sewerage, airport, harbor, and park and planning commissions; and soil and water conservation districts.

Mr. Norris asked about the amount that users of the topographic maps might be willing to pay and whether or not some of the costs of preparing the maps and keeping them in a current state could be borne by the users. Mr. Patterson stated that because the topographic maps covering Milwaukee County were covered by a copyright and by a set of adopted guidelines for distribution of these maps, that current map users pay for the cost of reproduction and media for digital maps and for the cost of reproduction of paper maps. Mr. Patterson further stated that if the maps were in the public domain, Wisconsin Statutes, particularly the "open records" requirements, could be expected to make any capital cost recovery quite difficult, if not impossible.

There being no additional questions or comments on the charge, it was the consensus of the Subcommittee that the charge be placed on file via the minutes of the meeting (copy of Charge to the Subcommittee attached to these minutes).

BRIEF HISTORY OF THE FORMATION OF THE MCAMLIS PROGRAM

Mr. Patterson noted that during 1988 the Milwaukee County Board of Supervisors had requested SEWRPC to convene an Advisory Committee to explore the feasibility and cost effectiveness of modernizing land records within the county by developing an Automated Mapping and Land Information System. The Advisory Committee's report was set forth in SEWRPC Community Assistance Planning Report No. 177, *Feasibility Study for a Milwaukee County Automated Mapping and Land Information System*, 1989, now out of print; was presented to the Milwaukee Board during 1989; and was adopted by that Board, subject to the condition that county tax levy monies not be used to fund the implementation of the recommended program.

Mr. Patterson further noted that at about this same time, efforts were underway at the State level to secure a dedicated stream of funding that could be used for County land records modernization initiatives. This interest eventually resulted in legislation that created the Wisconsin Land Information Program (WLIP) and established an oversight board, the Wisconsin Land Information Board (WLIB). Among the first of the priorities for this Board was to propose to the State Legislature a mechanism for funding modernization initiatives. The eventually agreed upon mechanism for securing these funds was a \$6 fee imposed upon specific documents filed in the County Register of Deeds Office. Four dollars of this fee were retained by the County and used to fund implementation of the adopted County Land Records Modernization Plan. Two dollars of this fee was forwarded to the State to be used by the WLIB, partially for the administration of a grants and aids program for the distribution of grants back to the counties.

Mr. Patterson stated to the Subcommittee that the MCAMLIS program was the product of a contractual arrangement initiated in 1990 between Milwaukee County, the Milwaukee Metropolitan Sewerage District (MMSD), The Wisconsin Electric Power Company (now We Energies), the Wisconsin Gas Company (also now We Energies), and the Wisconsin Telephone Company (now SBC). The contract between and among these organizations called for the joint development of an interrelated system of survey control and digital base maps for Milwaukee County that could be used by all government and private organizations concerned as set forth in the adopted County plan. The MCAMLIS program was intended to provide the digital base maps with each respective municipality and investor owed utility

mapping its own facilities on these maps. The intent in doing this was to help ensure that as digital mapping capabilities were developed by the various government and private organizations, that facilities developed upon the "joint" maps would "overlay" each other in their correct relative positions.

Mr. Patterson further stated that governance of the MCAMLIS Program was vested by the contract in a Steering Committee comprised of ten members: four representing Milwaukee County; one each representing the MMSD and the three investor owned utilities involved; and 1 representative each from the City of Milwaukee and the Milwaukee County Intergovernmental Cooperation Council, the latter Council representing those Milwaukee County cities and villages less the City of Milwaukee.

Mr. Patterson went on to state that funding for the MCAMLIS Program comes principally from the \$4 fee which Milwaukee County is authorized to collect by State Statute on the first page of specified documents recorded in the Register of Deeds Office. The Sewerage District and the three investor owned utilities each contributed \$520,000 towards the initiation of the program, all of which amounts have been paid. Additionally, funds are received in the form of grants from the Wisconsin Land Information Program.

BRIEF OVERVIEW OF THE INITIAL MCAMLIS WORK EFFORTS

Mr. Patterson noted that one of the first efforts undertaken by the MCAMLIS Steering Committee was securing the approval of the WLIP for the previously County Board adopted SEWRPC Report No. 177 as the County's authorized Land Records Modernization Plan. Once the approval of this plan by the WLIP was secured, the plan recommendations contained in that report became the focus of the initial MCAMLIS work efforts.

Mr. Patterson stated that since its formation, the MCAMLIS Steering Committee has been responsible through delegation from the Milwaukee County Board of Supervisors for the completion of the county-wide digital maps and associated materials. The Steering Committee oversees all expenditures made by the MCAMLIS program and has responsibility for the overall program direction.

Mr. Patterson further stated that the MCAMLIS program has no permanent staff. With the exception of the first year of the program, the Steering Committee has contracted with the SEWRPC for project management. The SEWRPC provides a Project Manager and sufficient additional support staff as needed to carry out the various MCAMLIS work efforts.

The MCAMLIS work program is also subject to guidelines contained in those Wisconsin Statutes pertaining to the WLIP and by policy decisions rendered by the WLIP, the agency charged with overseeing the WLIP. WLIP also has responsibility for administering the grant program which provides one of the sources of funding for the MCAMLIS work efforts.

Mr. Thur stated that it was his understanding that the WLIP and the WLIP were subject to "sunset provisions" in the State Statutes. In response to a further question from Mr. Thur, Mr. Patterson stated that under current Statutes, the WLIP and the WLIP were due to "sunset" in August, 2005. Mr. Patterson further noted that grant support from the Wisconsin Land Information Program had been declining in recent years and that the State was redirecting funds that were formerly used to fund grants for the WLIP to funding of comprehensive planning grants awarded under the provisions of the State "Smart Growth" Legislation. In any case, Mr. Patterson added, the Statutes provide for the indefinite continuation of the collection of the four dollar document recording fee by the counties for use in county and local land records modernization; and of the two dollar document recording fee for use by the State in land records modernization and comprehensive planning grants in support of the State's "Smart Growth" legislation.

Using a number of mounted maps and figures as examples, Mr. Patterson then reviewed in turn each of the major initial MCAMLIS work efforts.

The MCAMLIS Sponsored Completion of the Milwaukee County United States Public Land Survey Relocation and Monumentation

Mr. Patterson stated that prior to the initiation of the MCAMLIS program, an effort had already been initiated, coordinated by the SEWRPC, to relocate and permanently monument the corners of the U.S. Public Land Survey System. Approximately 90 percent of this effort had already been completed in Milwaukee County prior to the initiation of the MCAMLIS program. The completion of this effort was undertaken by the MCAMLIS program as one of its first major work initiatives.

The MCAMLIS Sponsored Completion of the Milwaukee County Control Survey Network

Mr. Patterson stated that prior to the initiation of the MCAMLIS program, an effort had already been initiated, again under the coordination of SEWRPC, to complete a control survey network in Milwaukee County. This network consisted of the monumented U.S. Public Land Survey System (USPLSS) corners which were tied together by both high order horizontal and vertical control surveys, thus providing an "x", "y", and "z" coordinate for each monumented USPLSS corner in the network. The horizontal control surveys were referenced to the North American Datum of 1927 and vertical surveys were referenced to the National Geodetic Vertical Datum of 1929. Positions for all stations located on the ground were then computed for a map projection, in this case, the Wisconsin State Plane Coordinate System, South Zone.

Mr. Patterson further stated that approximately 90 percent of this effort had already been completed by the beginning of the MCAMLIS program with the completion of this effort being undertaken by the MCAMLIS program as one of its first major work initiatives.

Mr. Patterson also stated that the implemented survey control system has been used as the control system for all subsequent MCAMLIS mapping efforts and later as control for digital aerial orthophotography projects.

The MCAMLIS Topographic Mapping Program

Mr. Patterson stated that prior to the initiation of the MCAMLIS program, two foot contour interval topographic base maps in analog, or hard copy, form, had been prepared for approximately 60 percent of Milwaukee County utilizing the previously completed survey control system and specifications for such mapping developed by the SEWRPC. These maps were prepared to meet National Map Accuracy Standards at a scale of 1:1,200 (1 inch = 100 feet), and were paid for largely by the local units of government -- an indication of the usefulness of these maps for planning and engineering.

Mr. Patterson further stated that topographic base maps for the 40 percent of the area of Milwaukee County for which two foot contour interval topographic base maps had not been previously prepared were acquired by the MCAMLIS Program as digital maps. Of the previously prepared topographic base mapping covering approximately 60 percent of the County, a portion of those maps were replaced by newly compiled digital two foot contour interval topographic base maps as part of the initial MCAMLIS mapping efforts due to its age and due to the extent of change that had occurred in the mapped area since the initial date of mapping. The remaining analog topographic maps were converted to digital form

through a combination of digitizing and scanning techniques. Any maps carrying compilation dates earlier than 1991 had been prepared using these conversion techniques.

Mr. Norris stated that he saw the need for the replacement of older maps and aerial photography on a timely schedule and the need to make the maps and aerial photography readily available to users. Mr. Norris noted that he also believed that there were questions that needed to be addressed concerning the cost of keeping the topographic maps and aerial photography in a relatively current condition and how that cost should be supported. He further stated his belief that there needed to be a management program in place to insure timely updating and replacement.

The MCAMLIS Digital Real Property Boundary Line Mapping Program

Mr. Patterson stated that a set of digital real property boundary line maps had also been prepared by the MCAMLIS program. Once the underlying topographic mapping had been sufficiently completed to provide the "ground truth" necessary to properly compile the digital real property boundary line maps, such maps for the portions of Milwaukee County outside of the City of Milwaukee were completed by 1999. Beginning in 1999 the MCAMLIS Program undertook an effort, in cooperation with the City of Milwaukee, to "reproject" digital real property boundary line maps for the area within the City of Milwaukee using digital base maps previously prepared by the City of Milwaukee and the MCAMLIS digital topographic base maps, which supplied the "ground truth" for the reprojection effort.

Component Interrelationships

Mr. Patterson stated that while the completion of each of the four above identified work efforts would have resulted in the preparation of maps and records useful in their own right, there was an additional value involved in the manner in which these four elements were designed to relate to one another. The completion of these four work efforts resulted in a geometrically integrated system, the value of which exceeds the sum of the value of the individual components. The system provides a scientifically sound and mathematically rigorous methodology for moving between ground measurements and map projection measurements in both directions. It further creates a system that is self-improving over time as better measurements are acquired in the present and in the future, and as updated information is continually incorporated into the system. Allowing any one component to deteriorate or become outdated diminishes the overall value of the system.

REVIEW OF THE PROPOSED MCAMLIS DIGITAL TOPOGRAPHIC REPLACEMENT MAPPING PROGRAM

Mr. Patterson stated that the information presented to the Subcommittee up to this point in the meeting had been intended to provide a background for the Subcommittee members in evaluating the proposed MCAMLIS Digital Topographic Replacement Mapping Program.

Review of the Previously Completed MCAMLIS Digital Topographic Replacement Mapping Projects

Mr. Patterson then distributed a map to the Subcommittee members delineating the location of three previously completed MCAMLIS sponsored "replacement" digital mapping projects (copy of map attached to these minutes).

The three replacement mapping projects conducted to date -- the Menomonee Valley -- Inner Harbor project, the St. Francis -- Cudahy -- South Milwaukee -- General Mitchell International Airport project, and the Lincoln Creek -- Southbranch Creek project -- were completed using digital topographic map compilation techniques that were considered to be fully "state-of-the-art" at the time of their initiation,

including the completion of a digital terrain model as part of the two most recent mapping projects. It should be noted that these projects were requested, in order, by the Milwaukee Metropolitan Sewerage District supported by the City of Milwaukee; Milwaukee County and the three suburban municipalities concerned; and the MCAMLIS project staff again indicating the value of these maps for planning and engineering purposes, including such uses as flood plain delineation; airport approach zone obstruction mapping and local municipal planning and engineering.

Mr. Patterson stated that the specifications developed for use in the two most recent projects formed the basis for the specifications proposed by the staff to be used for the MCAMLIS Digital Topographic Replacement Mapping Program.

Review of the Proposed MCAMLIS Digital Topographic Replacement Mapping Program

Mr. Patterson noted that copies of a memorandum addressed to the MCAMLIS Steering Committee had been distributed to all members of the Subcommittee for review prior to the meeting.

Mr. Norris again stated his position that there needed to be a longer range plan for continuous update of the digital topographic maps and digital orthophotography. Mr. Shaw noted that there may be certain areas that are more important to update than others and suggested the need for a mechanism for "change recognition" as part of the determination of when updates are warranted.

Chairman Bate, Mr. Shaw and Mr. Thur asked if the Replacement Mapping Program could have been undertaken absent the discovery late in 2003 of the previously unreported surplus in the MCAMLIS Program reserve fund. Mr. Patterson responded that the Steering Committee had indeed considered the need to update the Milwaukee County digital topographic mapping on several occasions over preceding years, and had included replacement topographic mapping in the MCAMLIS strategic assessment and multi-year work plan. Mr. Patterson stated that on the basis of priorities established by the Steering Committee there had not previously been sufficient funding remaining in individual budget years to undertake any significant replacement topographic mapping prior to the discovery of the previously unreported surplus.

Mr. Thur stated that he had spoken with several colleagues at the City of Milwaukee and could not determine that the City staff used the MCAMLIS topographic maps very often and, therefore, questioned the value of a Topographic Replacement Mapping Program to the City of Milwaukee. Mr. Patterson responded that he found it difficult to believe that the topographic maps had little use or value to City staff noting the past City support for the replacement mapping of the Menomonee Valley and environs. He noted further that SEWRPC staff were currently assisting the City in preparing a Wisconsin Department of Natural Resources/Federal Emergency Management Administration Floodplain Study Submittal for Lincoln Creek, and that the MCAMLIS digital topographic maps provided needed horizontal and vertical profile and benchmark information to develop and operate the computer simulation models that determine floodplain and floodway elevations, and further provided an accurate horizontal and vertical base for delineating the limits of floodplain and floodway boundaries. Such mapping, capable of accurately delineating the location of two feet internal contour lines, is now generally a requirement for obtaining agency approval of updated floodplain studies for use in Floodplain Insurance Study (FIS) mapping. This particular study submittal had been undertaken at the City's specific request and the SEWRPC staff were assuming that the City would request assistance on preparing similar study submittals for additional stream reaches in the City as joint MCAMLIS/MMSD floodplain analyses were completed. The MCAMLIS topographic base maps would be used in a similar fashion for any subsequent Floodplain Study Submittals requested by the City.

Mr. Patterson also stated that the digital topographic maps had been used by the Wisconsin Department of Transportation and private consultants working for the City to conduct traffic studies and for preliminary engineering studies for roadway reconstruction within the City. Mr. Patterson finally stated that he believed the maps did have value for the City and that this value would increase if the maps were updated more frequently.

DATE, TIME AND PLACE OF NEXT MEETING

Mr. Norris noted that he would need to leave at this point in order to honor a previous commitment. Mr. Patterson asked, since it was apparently necessary to adjourn the meeting at this point, that the Subcommittee establish a date, time and place for its next meeting prior to adjournment. After several minutes of discussion, the Subcommittee was unable to agree upon a date and time for the next Subcommittee meeting. Chairman Bate requested that Mr. Patterson compile a list of possible dates and times for a second meeting; share that list via electronic mail with the Subcommittee members; and establish a date, time and place for the next Subcommittee meeting in that manner.

ADJOURNMENT

On a motion by Mr. High, seconded by Mr. Norris, and carried unanimously, the meeting was adjourned at 3:15 p.m.

Respectfully submitted,

Thomas D. Patterson
MCAMLIS Project Manager

MILWAUKEE COUNTY AUTOMATED MAPPING AND LAND INFORMATION
SYSTEM

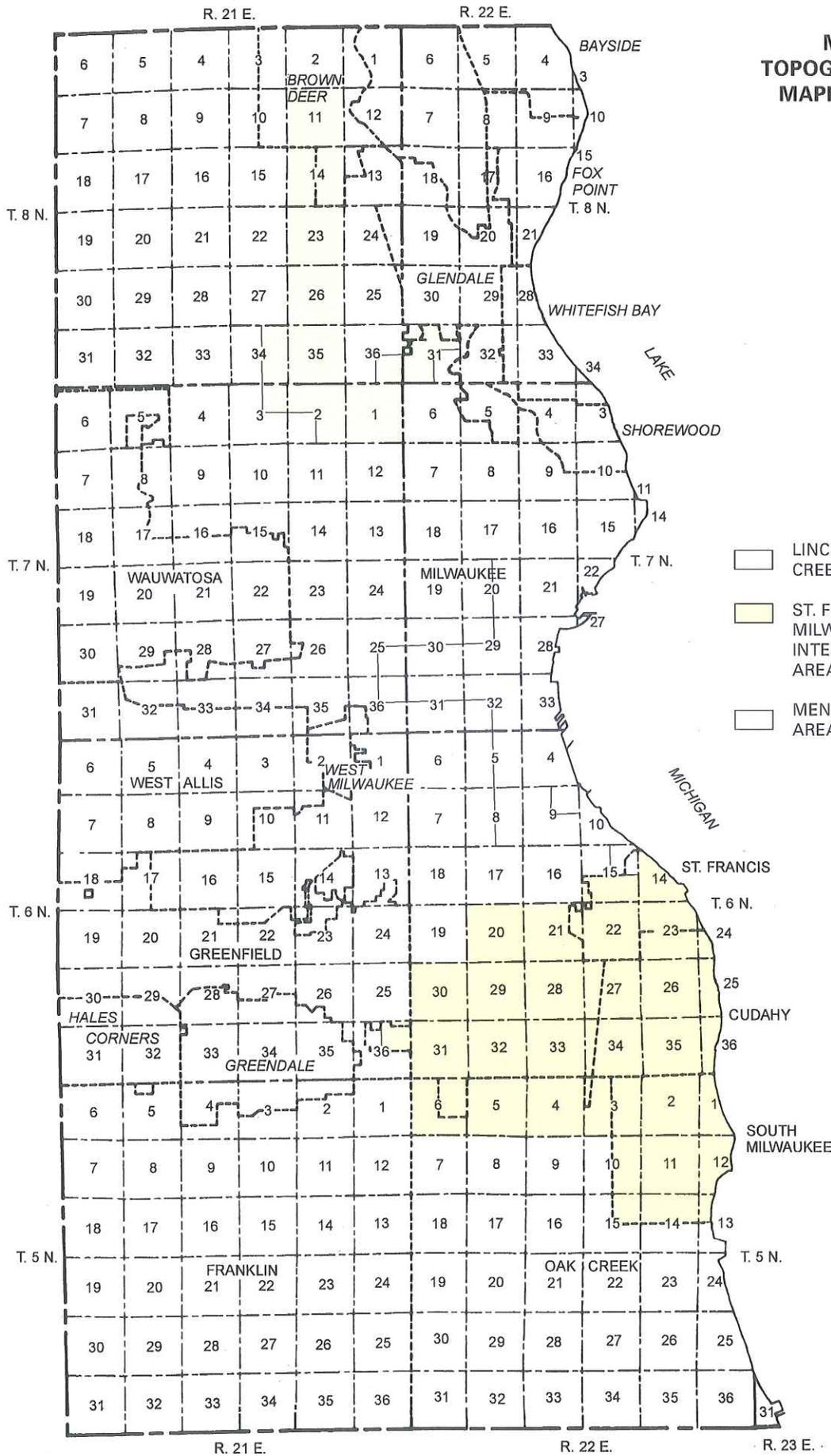
SUBCOMMITTEE ON TOPOGRAPHIC MAPPING

Charge To The Subcommittee

- Make Recommendations to the MCAMLIS Steering Committee on the Proposed MCAMLIS Digital Topographic Replacement Mapping Program
 - Evaluate and Comment Upon the Utility of the MCAMLIS Digital Topographic Maps for their Intended Audience
 - Review and Comment Upon the Substantive Specifications and the Digital File Organization and Operating Environment Specifications for the Proposed Replacement Mapping Program; specifically, the Relationship between these Specifications and State-of-the Art Practices
 - Recommend Whether or Not the MCAMLIS Steering Committee should Undertake a Replacement Mapping Program

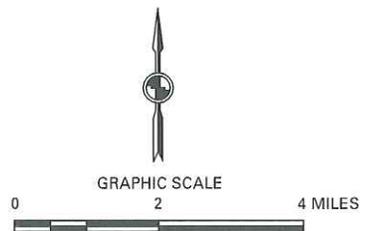
* * * * *

MCAMLIS DIGITAL TOPOGRAPHIC REPLACEMENT MAPPING PROJECT AREAS



- LINCOLN CREEK - SOUTHBRANCH CREEK PROJECT AREA -- 2002
- ST. FRANCIS - CUDAHY - SOUTH MILWAUKEE - GENERAL MITCHELL INTERNATIONAL AIRPORT PROJECT AREA -- 1999
- MEMONONEE VALLEY PROJECT AREA -- 1997

AUGUST 3, 2004



Source: MCAMLIS Project Manager.

DRAFT FOR REVIEW

MINUTES OF THE SECOND MEETING

**Milwaukee County Automated Mapping and Land Information System
Subcommittee on Topographic Mapping**

DATE: Thursday, September 2, 2004

TIME: 3:00 P.M.

PLACE: Milwaukee County Courthouse
Room 203P
901 North Ninth Street
Milwaukee, Wisconsin

Members Present

Timothy R. Bate, P.E., Chairman	Engineering Planning Manager, Milwaukee Metropolitan Sewerage District, and President, Wisconsin Section, American Society of Civil Engineers
Gregory G. High	Director, Architectural and Engineering Services, Milwaukee County Department of Parks and Public Infrastructure
Mr. Rick Norris, P.E.	President, Norris and Associates, Inc.
William C. Shaw	Manager, Geographic Information Systems, WE Energies
Timothy J. Thur, P.E.	Chief Sewer Design Manager, Environmental Engineering Division, City of Milwaukee

Guests and Staff Present

Thomas D. Patterson	MCAMLIS Project Manager
Kevin R. White	GIS Supervisor, Architectural and Engineering Services, Milwaukee County Department of Parks and Public Infrastructure

ROLL CALL

The second meeting of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Subcommittee on Topographic Mapping was called to order by Chairman Bate at 3:10 p.m. Roll call was taken by circulating an attendance signature sheet and a quorum was declared present.

CONSIDERATION OF THE MINUTES OF THE FIRST SUBCOMMITTEE MEETING HELD ON AUGUST 13, 2004

Mr. Patterson noted that copies of the Minutes of the first meeting of the Subcommittee held on August 13, 2004, had been distributed to all members of the Subcommittee for review prior to the meeting and asked that the Committee consider those minutes.

Mr. Shaw called the Committee's attention to that portion of the minutes where Mr. Patterson had reported on the interrelationships of the various components comprising the four major MCAMLIS work efforts discussed at the first meeting. Mr. Shaw noted that in reporting the discussion of these interrelationships, Mr. Patterson had used the term "integrated system". Mr. Shaw further noted that in his experience "integrated system" was a more expansive term than he believed warranted since the work products discussed were essentially digital map elements and did not incorporate any associated data bases. When Mr. Patterson asked if the term "geometrically integrated system" would be more acceptable, Mr. Shaw responded that it would.

[Secretary's Note: The minutes of the first meeting were revised as appropriate to reflect Mr. Shaw's comment.]

In response to a question from Mr. Shaw, Mr. Norris stated that his comments as recorded and made available in the minutes at several points during the first meeting concerning the need for map data to be updated and made available in a timely fashion were intended to include not only topographic mapping, but also image data such as aerial photography and orthophotography.

[Secretary's Note: Mr. Norris's comments throughout the minutes of the first meeting were edited as necessary to reflect this clarification.]

There being no further questions, comments, or corrections, on a motion by Mr. High seconded by Mr. Shaw and carried unanimously, the minutes of the meeting of August 13, 2004, were approved as amended.

REVIEW OF THE PROPOSED MCAMLIS DIGITAL TOPOGRAPHIC REPLACEMENT MAPPING PROGRAM

Mr. Patterson noted that at the time the first Subcommittee meeting had adjourned, the Subcommittee members were discussing the memorandum prepared by MCAMLIS project staff for Steering Committee consideration of a digital topographic replacement mapping program.

Review of the Proposed MCAMLIS Digital Topographic Replacement Mapping Program

Mr. Patterson further noted that copies of this memorandum addressed to the MCAMLIS Steering Committee had been distributed to all members of the Subcommittee for review prior to the first Subcommittee meeting. Mr. Patterson then asked if the Subcommittee desired further discussion of the memorandum.

Mr. Shaw asked if there was any intent on the part of the project staff to propose the acquisition of digital orthophotography as a component of the proposed Digital Topographic Replacement Mapping Project. When Mr. Patterson responded that there was not, Mr. High asked about a reference contained in a letter from the U.S. Geological Survey (USGS) responding to Mr. Patterson's previous questions to the USGS

concerning the suitability of digital topographic mapping obtained to MCAMLIS project specifications for inclusion in The National Map. Mr. High noted that this letter included a question to the USGS as to whether or not the inclusion of digital orthophotography as part of a revised set of specifications would improve the suitability of the MCAMLIS digital mapping products for inclusion in The National Map. Mr. Patterson responded that this question had been posed to USGS in a hypothetical manner in order to obtain clarification concerning The National Map and should not be interpreted as a project staff recommended modification of the specifications to include digital orthophotography.

[Secretary's Note: The letter referenced by Mr. High was provided to Subcommittee members as an informational item at the first Subcommittee meeting. A copy of the letter is attached to these minutes.]

In the short discussion that followed, Mr. High, Mr. Norris and Mr. Shaw each observed that the acquisition of digital orthophotography in conjunction with the acquisition of the digital topographic mapping could well increase the utility of and expand the audience for such a combined product. These gentlemen further observed that the preparation of digital orthophotography could potentially eliminate the need for the collection of such a large number of map features as currently specified for coding as digital point and line segment features.

There being no further questions or comments on the memorandum, it was the consensus of the Subcommittee that the memorandum be placed on file via the minutes of the meeting (copy of memorandum attached to these minutes).

Review and Discussion of the Proposed Specifications for MCAMLIS Digital Topographic Mapping

Mr. Patterson noted that copies of the Proposed Detailed Specifications for MCAMLIS Digital Topographic Mapping had been distributed to all members of the Subcommittee for review prior to the first Subcommittee meeting. Mr. Patterson then proceeded to review the specifications with the Subcommittee.

Mr. Shaw called attention to the section of the specifications concerning several data sets prepared as "by products" of the preparation of the digital terrain model and inquired about their intended use. Mr. Patterson responded that these additional data sets were acquired so that geometrically continuous line segment maps could be completed for hydrographic networks and street and highway networks. These products, Mr. Patterson noted, were not used to produce the digital topographic maps, but were useful for certain GIS applications; emergency vehicle routing being one example.

Mr. Norris asked Mr. Patterson for clarification on the manner in which the specifications called for the digital topographic mapping to be delivered. Mr. Patterson responded that the specifications called for delivery of the digital topographic mapping as individual map sheets, each map sheet consisting of a single U.S. Public Land Survey one-quarter section. Mr. Norris then suggested that these map sheet products should be tested in a seamless map environment to determine their transferability to such an environment. Mr. Patterson responded that such testing had already occurred and that it had been demonstrated that the digital maps as called for in the specifications could be moved into a seamless map environment.

Both Mr. Norris and Mr. Shaw noted that both digital map user environments and computer software operating environments were currently evolving toward seamless map environments.

Mr. High noted that Walworth County was currently migrating to a seamless map environment and also to a computer software operating system environment utilizing geodatabase design features and suggested that such an environment might be more appropriate for all MCAMLIS digital mapping. Mr. Shaw noted that user environments and computer software operating system environments that now exist are very different from those that were prevalent at the time the MCAMLIS digital topographic mapping specifications were first developed. Mr. Shaw suggested that it may be desirable to issue a request for proposals from current software system vendors to determine the feasibility and desirability of migrating the MCAMLIS digital maps to an alternative software and production environment. Mr. Patterson noted in this regard that this evaluation was being undertaken already as part of Milwaukee County's GIS needs assessment and that the reports from that project would shortly be available and could be reviewed to determine the feasibility, and perhaps the cost considerations involved, for moving to such an environment.

There being no further questions or comments on the specifications, it was the consensus of the Subcommittee that the specifications be placed on file via the minutes of the meeting (copy of reviewed specifications attached to these minutes).

FORMULATION OF THE REPORT TO THE MCAMLIS STEERING COMMITTEE

Mr. Patterson noted that copies of a suggested report outline for the Subcommittee Report to the MCAMLIS Steering Committee had been distributed to all members of the Subcommittee for review prior to the first Subcommittee meeting.

Mr. Patterson then asked if the Subcommittee wished to follow the suggested report outline provided or if it would prefer to develop an alternative report outline of its own design. When the Subcommittee expressed no desire to create an alternative report outline, Mr. Patterson proceeded to review the suggested report outline with the Subcommittee and to record the Subcommittee's observations and recommendations as follows.

The Utility of the Presently Available MCAMLIS Digital Topographic Mapping Products for their Intended Audience

- The Subcommittee believes that the presently available MCAMLIS digital topographic mapping products do have value for their intended audience, although they did express concern that, with the audience being rather broad, this utility was difficult for the Subcommittee to completely assess.
- The Subcommittee believes that the more current the information contained on the digital topographic maps, the more value the maps have for their intended audience.
- The Subcommittee recommends that the Steering Committee consider the inclusion of six-inch pixel, color, digital orthophotography as one of the products to be obtained from the MCAMLIS digital topographic mapping projects, noting in particular that the digital terrain model needed to orthorectify the photographic images is already included in the MCAMLIS digital topographic mapping specifications. The Subcommittee believes that the inclusion of a digital orthophotography product as a part of the total digital topographic mapping preparation would increase the utility of any remapping efforts.

- The Subcommittee recommends that the digital map feature content currently contained in the specifications be reviewed to determine if all features currently mapped as digital vectors are needed, particularly if the Steering Committee should decide to incorporate digital orthophotography as a component of the product specifications. The Subcommittee further recommends that the Steering Committee consider appointing an additional Subcommittee or working group to provide guidance to the Steering Committee with respect to those map features which should be represented as digital line work and those features for which the digital orthophotography can be substituted.

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

- The Subcommittee 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 map accuracy specifications be continued.
- The Subcommittee recommends that the current U.S. Public Land Survey one-quarter section "map sheet" focused delivery of the digital topographic mapping contained in the current specifications be revised to provide for delivery of the digital topographic mapping as a "seamless map" product. The Subcommittee further recommends that all current requirements relating to the preparation of "map sheets" and the delivery of "hard copy" maps be deleted from the current specifications.
- The Subcommittee recommends that that portion of the current specifications requiring delivery of the map products in Integraph/MicroStation DGN format be reviewed, particularly in view of emerging computer software operating environments incorporating geodatabases. The Subcommittee further recommends that this review also carefully consider the translatability to other digital environments of whatever digital operating environment specifications are eventually settled upon by the Steering Committee. The Subcommittee recommends that the Steering Committee consider appointing an additional Subcommittee or working group to provide guidance to the Steering Committee with respect to adopting an alternative operating environment for inclusion in the specifications.

The Need for a Replacement Digital Topographic Mapping Program

- The Subcommittee recommends that the MCAMLIS Steering Committee undertake a Digital Topographic Mapping Replacement Program.
- The Subcommittee further recommends that the Steering Committee evaluate the useful life of the topographic mapping and adopt a suitable map replacement cycle for future annual work programs.
- Finally, the Subcommittee recommends that a replacement digital topographic map program not be initiated until all map content, and operating environment specifications have been evaluated and new digital topographic mapping specifications adopted by the Steering Committee.

At the conclusion of the Subcommittee's discussion concerning the observations and recommendations that the Subcommittee wished to present to the Steering Committee, Mr. Patterson stated that he would

complete a report to the Steering Committee and distribute that report in time for the report's consideration at the next Steering Committee meeting scheduled for September 14, 2004.

ADJOURNMENT

There being no further business to come before the Subcommittee, on a motion by Mr. Shaw seconded by Mr. Thur and carried unanimously, the meeting was adjourned at 5:20 p.m.

Respectfully submitted,

Thomas D. Patterson
MCAMLIS Project Manager



United States Department of the Interior

U. S. GEOLOGICAL SURVEY
Geography Liaison for Wisconsin and Illinois
505 Science Drive
Madison, WI 53711



August 6, 2004

Mr. Thomas D. Patterson
MCAMLIS Project Manager
Southeastern Wisconsin Regional Planning Commission
W239 N1812 Rockwood Drive, PO Box 1607
Waukesha, Wisconsin 53187-1607

Dear Mr. Patterson:

As requested, members of the U.S. Geological Survey (USGS), Eastern Region Geography have reviewed the specifications for the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) digital topographic mapping project for the Lincoln Creek-Southbranch Creek project area. As a result we would like to begin speaking with you about the inclusion of these data in *The National Map (TNM)*. While it is difficult to make exact statements about the data without having worked with it, we believe the data produced to these specifications may be well suited for *TNM*. Below you will find the specific question you have asked and our responses.

1. Would digital topographic maps produced to these specifications be suitable for inclusion in The National Map? More specifically, would digital maps prepared to these specifications not meet, meet, or exceed the requirements for inclusion in The National Map?

USGS Response: In general, data collected to these specifications would meet the goals of *TNM*. The accuracy, resolution and completeness characteristics of the data are aligned with our goals and we would be interested in establishing a partnership to make these data available. There are some technical details that would need to be addressed. For example, we require centerline data for the definition of roads features. We can not determine from your specification if centerlines exist as a result of this specification. That would need to be remedied before the roads data could be part of *TNM*.

2. As you also know from our discussion, we are currently considering two substantive modifications to these specifications for use in future MCAMLIS topographic mapping projects. The first of these modifications would involve changing the format of the maps from a "map sheet" oriented format to a "seamless map" format. The second modification would involve the creation of six-inch pixel color digital orthophotography as a component part of the preparation of the digital topographic mapping. Would these modifications enhance or not enhance the suitability of digital

material produced under these modified specifications for inclusion in The National Map?

USGS Response: Moving to a seamless environment and inclusion of 6-inch orthoimagery is coincident with the direction of *TNM*. Our goal is to provide seamless coverage of geospatial information for the Nation and your movement in that direction would be a very positive contribution. High resolution orthoimagery is an important component of *TNM* and we would welcome its availability in your area.

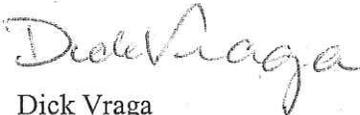
3. The detailed specifications call for delivery of the digital mapping in an Intergraph/Micro Station DGN digital file structure and convention environment. Would the production of these products in such a digital environment have any affect, positive or negative, on the potential for inclusion of these digital map products in The National Map?

USGS Response: The solution we encourage for our partners is the establishment of Open GIS Consortium (OGC) compliant web-mapping services by the partners. Using this solution allows you to collect, process and maintain your data in the manner that works best for your business yet allows universal access to the data. We would be happy to work with you as a partner on establishing such a service. Under these circumstances, the production of data in an "Intergraph/Micro Station DGN file structure and convention" would have no affect on its potential for inclusion in *TNM*.

USGS Response: Thank you for providing a copy of the metadata for this project. As you know, *TNM* requires FGDC-compliant metadata and we would recommend including that as part of the specification.

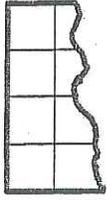
Thank you for the opportunity to meet with you and review these specifications. I believe we have an opportunity to begin a partnership for providing access to these data that will be beneficial to our agencies and the people we serve. Please feel free to contact me with any questions or concerns about this review. I look forward to speaking with you soon.

Sincerely,



Dick Vraga
USGS Geography Liaison for Wisconsin and Illinois





MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Southeastern Wisconsin
Regional Planning Commission
W239 N1812 Rockwood Drive
PO Box 1607
Waukesha, Wisconsin 53187-1607

MEMORANDUM

TO: MCAMLIS Steering Committee
FROM: Thomas D. Patterson, MCAMLIS Project Manager
DATE: July 7, 2004
SUBJECT: Proposed MCAMLIS Replacement Digital Topographic Mapping Program

Introduction

Replacement of the older existing digital topographic mapping in Milwaukee County has been discussed by the MCAMLIS Steering Committee on numerous occasions over the past several years. Indeed, such a replacement mapping program was recommended in the MCAMLIS Program Strategic Assessment document adopted by the Steering Committee at its meeting held on October 8, 2002, and again in the update to that Strategic Assessment document adopted by the Steering Committee at its meeting held on June 10, 2003. The major impediment to undertaking such a replacement program has been the inability to secure a sustained stream of funding sufficient to carry out the program over a relatively short period of time. The discovery at the end of 2003 of an amount in excess of \$3 million in previously unreported MCAMLIS Program reserve funds now makes the initiation of a replacement digital topographic mapping program feasible. Accordingly, a proposal for a four year program for the replacement of the existing MCAMLIS digital topographic mapping is set forth herein for Steering Committee consideration.

The Need for Replacement of Existing Topographic Mapping

The ages of existing digital topographic mapping are shown on the map attached hereto as Map 1. Approximately 82 percent of the existing digital, topographic mapping is now between ten years and 20 years old. All digital topographic mapping carried out since 1992 has been acquired under the auspices of the MCAMLIS Program and was digitally compiled directly from three-dimensional stereoscopic models constructed from aerial photography acquired specifically for that purpose. All digital topographic mapping prepared prior to 1992 was prepared using older technology and was converted to digital format either by board digitizing or by scanning of hard copy maps, rendering these digital maps moderately more cumbersome to use, but in no way compromising the accuracy of the features portrayed on the maps. Increasingly, comments from users of these maps indicate that the continually advancing age of the mapping adversely affects the map's utility for the users; not only from the standpoint that newer development is absent from these maps, but also from the standpoint that more recent demolitions, public works reconstructions, and private redevelopment projects are not shown.

Proposed Digital Topographic Mapping Replacement Program

A proposed program for the replacement of the older MCAMLIS digital topographic mapping within Milwaukee County is illustrated on the map attached hereto as Map 2. The proposal does not include replacement of the two most recently completed digital topographic mapping projects carried out by the MCAMLIS Steering Committee. These two projects: the 1999 Cudahy – St. Francis – South Milwaukee – General Mitchell International Airport Project and the 2002 Lincoln Creek project are relatively recent and were both carried out using still current “state-of-the-art” map compilation techniques including the preparation of a digital terrain model.

The proposed program would replace all other existing digital topographic mapping over a four year period as identified on Map 2. The estimated cost to carry out this program is approximately \$2,700,000, which amount would be spread over a four year period as set forth in the table below.

**PROPOSED MCAMLIS REPLACEMENT DIGITAL
TOPOGRAPHIC MAPPING PROGRAM**

Cost Estimates

First Year	(approximately 47.25 square miles)	\$ 607,870
Second Year	(approximately 54.50 square miles)	701,140
Third Year	(approximately 45.50 square miles)	585,360
Fourth Year	(approximately 61.75 square miles)	794,410
	Total	\$ 2,688,780

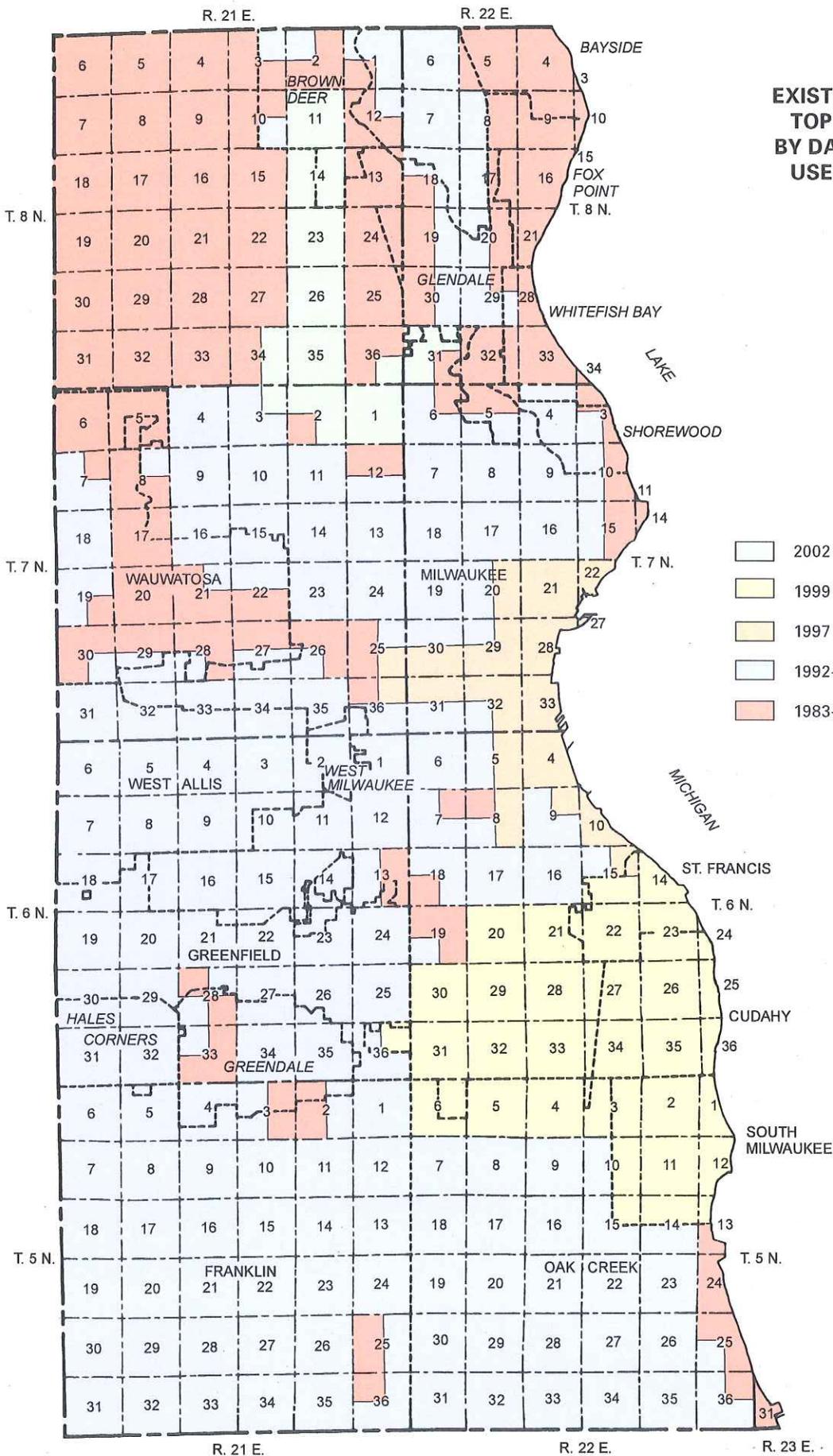
Assumptions: Average cost will be about \$12,865/square mile:
\$440/square mile for paneling and aerial photography;
\$12,000/square mile for mapping;
\$425/square mile for quality control and digital file structure review.

The cost of this program is proposed to be funded through the use of the available surplus funds estimated to total about \$3,784,000 as of December 31, 2003, along with any additional amounts taken from yearly operating budgets, if needed, as may be necessary to complete the work in a timely fashion.

Recommendations

Project staff recommends that the Steering Committee commit to a four year program leading to the preparation of replacement of digital topographic mapping as set forth in the above table and as delineated on Map 2. It is also recommended that the MCAMLIS Steering Committee enter into an agreement, with the Southeastern Wisconsin Regional Planning Commission to acquire the necessary digital topographic mapping over a four year period. The Regional Planning Commission will in turn subcontract with a qualified photogrammetric engineer judged to be capable of completing the desired mapping to previously adopted MCAMLIS digital topographic mapping specifications and standards. Finally, it is recommended that this program begin immediately using aerial photography acquired by AeroMetric, Inc. for the two northern most townships in Milwaukee County during the Spring of 2004. This photography, acquired by AeroMetric, Inc. was designed for producing digital two foot contour interval topographic base maps to MCAMLIS specifications and standards.

* * *



Map 1

**EXISTING MCAMLIS DIGITAL
TOPOGRAPHIC MAPPING
BY DATE OF PHOTOGRAPHY
USED FOR COMPILATION**

- 2002
- 1999
- 1997
- 1992-1993
- 1983-1990

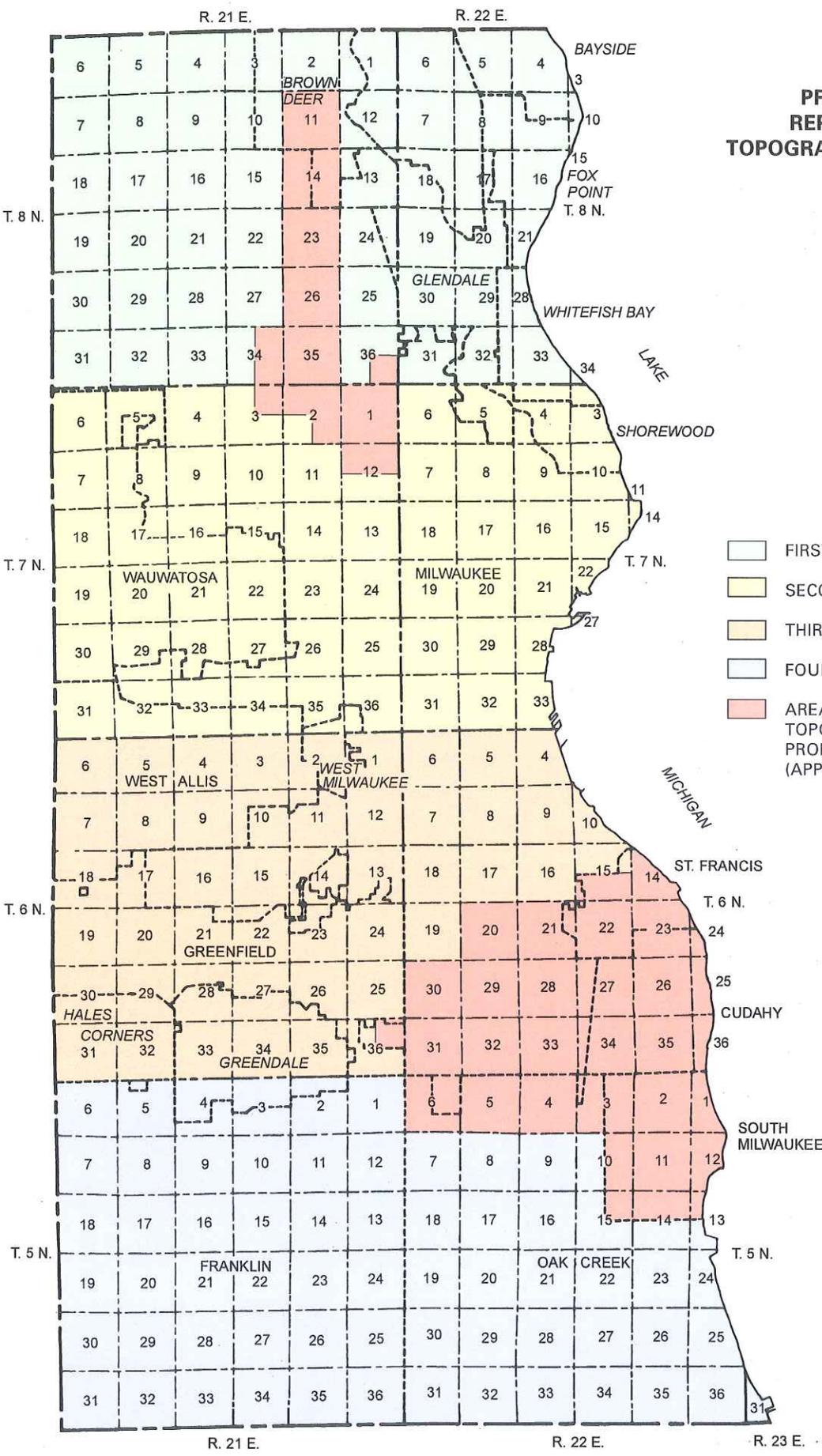
JULY 7, 2004



GRAPHIC SCALE



Source: MCAMLIS Project Manager.

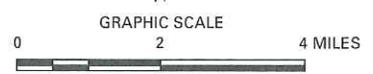


Map 2

**PROPOSED MCAMLIS
REPLACEMENT DIGITAL
TOPOGRAPHIC MAPPING PROGRAM**

- FIRST YEAR (APPROX. 47.25 SQ. MILES)
- SECOND YEAR (APPROX. 54.50 SQ. MILES)
- THIRD YEAR (APPROX. 45.50 SQ. MILES)
- FOURTH YEAR (APPROX. 61.75 SQ. MILES)
- AREAS FOR WHICH EXISTING DIGITAL TOPOGRAPHIC MAPPING IS NOT PROPOSED TO BE REPLACED (APPROX. 33.50 SQ. MILES)

FEBRUARY 17, 2004



Source: MCAMLIS Project Manager.

**PROPOSED SPECIFICATIONS FOR AERIAL PHOTOGRAPHY, DIGITAL TERRAIN MODELS,
AND ONE INCH EQUALS 100 FEET SCALE DIGITAL TOPOGRAPHIC MAPPING—
MILWAUKEE COUNTY**

I. GENERAL

These specifications set forth the requirements of the Southeastern Wisconsin Regional Planning Commission for photogrammetric mapping services, including aerial photography, digital terrain model files, and digital topographic map preparation. The Engineer shall furnish all labor, materials, and equipment necessary to properly complete the work specified herein.

II. PHOTOGRAPHY

A. General

The Engineer shall perform the necessary flying and photography to provide aerial photographic coverage of an area approximately _____ square miles in extent as shown on the sketch map attached hereto as Exhibit A.

B. Scale

The flight height above the average elevation of the ground shall be such that the negatives will have an average scale of one inch equals 500 feet (1" = 500'). Negatives having a departure from the specified scale by more than 5 percent because of tilt or abrupt changes in flying altitude may be rejected. The photography shall be suitable for the compilation of topographic maps, and the mapping flight height shall not vary from 3,000 feet above mean terrain by more than 5 percent.

C. Overlap

The overlap shall be sufficient to provide full stereoscopic coverage of the specified area. The endlap shall average 63 percent plus or minus 5 percent. endlap of less than 56 percent or more than 68 percent in one or more negatives shall be cause for rejection of the negatives in which such deficiency or excess occurs unless, within a stereoscopic pair, endlap exceeding 68 percent is necessary in areas of low ground elevation to attain the minimum 58 percent endlap in adjacent areas of high ground elevation. Wherever there is a change in direction of the flight lines, vertical photography on the beginning of a forward section shall endlap the photography of a back section by 100 percent. Any negatives having sidelap of less than 20 percent or more than 55 percent may be rejected.

D. Tilt

Negatives made with the optical axis of the aerial camera in a vertical position are desired. Tilt of any negative by more than three degrees, an average tilt of more than one degree for the entire project, or tilt between any two successive negatives exceeding four degrees may be cause for rejection.

E. Crab

Crab in excess of three degrees may be cause for rejection of the flight line of negatives or portions thereof in which such crab occurs.

F. Quality

The photographs shall be clear and sharp in detail and of average uniform density. They shall be free from clouds, cloud shadows, light streaks, static marks, or other blemishes which would interfere with their intended use. Except upon prior written authorization to the contrary by the Commission, all photography shall be taken in the spring of 2000 when the area to be photographed is free of snow, before foliation, and at such time as to ensure a minimum solar angle of 30 degrees.

G. Camera

The photography shall be exposed with a distortion-free, six-inch focal length, precision aerial mapping camera equipped with a between-the-lens element shutter to produce negatives nine inches by nine inches in size. The Engineer shall furnish the Commission with a precision camera calibration report prepared by the National Bureau of Standards for the camera to be used.

H. Contact Prints

The contact prints from the vertical negatives shall be printed on double-weight, semi-matte paper of suitable contrast.

I. Photo Index

Photo indices shall be prepared by directly photographing on safety base film at a convenient scale the assembly of contact prints from all indexed and evaluated prints used. One photo index reproduced on chronopaque or other approved dimensionally stable base material shall be delivered to the Commission. The photo index shall carry a suitable title, scale, and north point.

J. Delivery of Photography

One set of contact print photographs on double-weight, semi-matte paper at a scale of one inch equals 500 feet (1" = 500') shall be furnished to the Commission upon completion of this contract.

K. Ownership of Negatives

All negatives shall become the property of the Commission and shall be delivered to the Commission upon completion of this contract.

III. DIGITAL TERRAIN MODEL FILES

A. General

The Engineer shall prepare digital three-dimensional topographic map files in the form of Digital Terrain Models of the area to be mapped. These digital files shall be prepared in such a manner as to allow for the preparation of digital topographic mapping meeting National Map Accuracy Standards for two-foot contour interval, one inch equals one hundred feet (1" = 100') scale mapping. The area to be mapped, totaling approximately ___ square miles, is shown on the sketch map attached hereto as Exhibit "A."

If requested, the Engineer shall furnish a letter of certification from a Professional Engineer or Registered Land Surveyor verifying that the digital terrain model files are suitable for the preparation of two-foot interval contour lines meeting National Map Accuracy Standards.

B. Digital Terrain Model File Organization and Specifications

The Engineer shall organize the digital terrain model files such that all break line and random point data included in the files are capable of generating a triangulated irregular network model through the use of appropriate computer software. The digital terrain model files shall be prepared as MicroStation three-dimensional design (3-D DGN) files, and shall be delivered on CD-ROM media. The Engineer shall collaborate with the Commission to establish correct symbolization of the break line and random point data contained in the digital terrain model files.

1. The digital terrain model files shall be organized in such a manner that certain data elements can be selectively retrieved, manipulated, and displayed, either singly or in a combination with other data elements. The categories of data elements within the file structure shall be as listed in

Table 1 attached hereto. Table 1 is similar in format to Table 2, described under Section IV.C.2.a.

2. The digital terrain model files shall depict terrain features as break lines placed at road centerlines, along water courses and shorelines, at the tops of ridges and bottoms of valleys, and at major changes in the slope of terrain. Random points or mass points shall be used to supplement the break lines, roads, and water detail.
3. A continuous, connected roadway network shall be created within the digital terrain model files. These features shall be extracted from appropriate break lines and placed on a separate layer within the digital files in order to form a topologically continuous network of road centerlines. All roads shall be shown with a single centerline representing the center of the road pavement edges at ground elevation. Roads with multiple lanes such as an interstate highway shall also be represented by a single centerline. Entrance and exit ramps to the highway need not be shown as a centerline.
4. A continuous, connected hydrography network shall be created within the digital terrain model files. These features shall be extracted from appropriate break lines and placed on a separate layer within the digital files in order to form a topologically continuous network of drainage or hydrographic features.

Break 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. Break lines depicting single line water features consistently less than ten feet in width such as streams, watercourses, and drainage ditches shall be continuous, connected segments capable of forming a continuous hydrography network.

Drainage centerlines shall be created where necessary to form a continuous hydrography network. For example, drainage centerlines shall be created through areas of marsh, swamp, and wetland, and these centerlines shall connect with single line water features in such a way as to form a continuous hydrography network. Similarly, drainage centerlines shall be created as a center line of any double line open water features and connected with single line water features in such a way as to form a continuous hydrography network. Drainage centerlines shall also be created for hidden water features, such as water within a culvert under a road, or water under a

bridge, and connected with single line water features in such a way as to form a continuous hydrography network. All drainage centerline segments that are created for the express purpose of developing the continuous, connected hydrography network shall be uniquely identified by level and color assignment as described in Table 1.

All lines within the continuous roadway network and all lines within the continuous hydrography network shall have common end points between digital terrain model files in order to assure continuity of networks for geographic information system applications.

IV. TOPOGRAPHIC MAPS

A. General

The Engineer shall prepare topographic maps to National Map Accuracy Standards in the form of digital map files and finished hardcopy topographic maps. For the purpose of interpreting these standards within the context of the digital map files, the "publication scale" of these digital maps shall be one inch equals one hundred feet (1" = 100').

The finished hardcopy topographic maps shall be plotted to a scale of one inch equals one hundred feet (1" = 100'). These finished maps shall be prepared in the form of ink tracings or digitally plotted images of the digital map files on dimensionally stable polyester base material having a minimum thickness of 0.004 inch.

The Engineer shall also provide check plots of the topographic maps drawn to a scale of one inch equals one hundred feet (1"= 100'). These check plots, which will be used by the Commission to check the work completed by the Engineer for compliance with the specifications, shall be prepared in the form of ink tracings or digitally plotted images of the digital cartographic map files on vellum, with the image "reverse reading."

The area to be mapped, totaling approximately ___ square miles, is shown on the sketch map attached hereto as Exhibit A.

If requested, the Engineer shall furnish a letter of certification from a Professional Engineer or Registered Land Surveyor verifying that the digital cartographic map files and finished hardcopy maps meet National Map Accuracy Standards at their "publication scale."

B. Data to be Shown

Both the digital map files and the finished maps shall show correctly on each map face the following information:

1. Hypsography by contour lines having a vertical interval of two feet. All contours shall be drawn clear and sharp as continuous solid lines except through structures. Every fifth contour shall be 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 shall be shown as determined photogrammetrically, except where field elevations are available, to the nearest one-quarter contour interval. All contour lines and elevations shall be referenced to 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, shall be 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 shall be shown by double lines.
4. All section and quarter-section lines and U. S. Public Land Survey corners as established by field surveys shall be shown in their correct positions and orientation, together with their exact grid lengths and bearings. The material of which the monuments marking said corners are made shall be indicated by symbol and legend, together with the state plane coordinates and bench mark elevations of the corners.
5. A north point based upon grid bearing. The angle between geodetic and grid bearing (theta angle) shall be shown on each map and shall represent the value for the area covered by the

Commission-prepared six-section control survey summary diagram within which the map sheet is located.

6. A combination factor, sea level and scale, shall be given on each sheet for the reduction of measured ground lengths to corresponding grid lengths on the Wisconsin State Plane Coordinate System. The factor shall represent the value for the area covered by the Commission-prepared six-section control survey summary diagram within which the map sheet is located.
7. Grid lines shall be indicated at five-inch intervals and shall conform to the Wisconsin State Plane Coordinate System. Only the intersections of grid lines shall be shown on the completed maps, together with corresponding state plane coordinate values.
8. Such lettering as may be secured from available maps of the area or as may be furnished by the Southeastern Wisconsin Regional Planning Commission relative to the names of salient geographic features. The names of all state and county trunk highways, public streets, and major streams and lakes shall be shown on the maps.

C. Digital Map File Organization and Specifications

The Engineer shall organize the digital map files in such a manner as to provide plotted digital topographic maps similar in appearance to the topographic maps historically prepared for the Southeastern Wisconsin Regional Planning Commission. Among other things, this will require the preparation in digital form of a standard "map sheet" format, including appropriate title and legend information.

The digital map files shall be provided to the Commission in two separate, distinct formats. The first file format, called the "graphic primitive" format, shall represent the digital map data as fundamental, unsymbolized feature information. This format shall be delivered as MicroStation three-dimensional design (3-D DGN) files. All point features shall be encoded with symbols rather than cells. All line features shall be encoded as solid, unsymbolized lines rather than as patterned lines. This file format will provide a portion of the map feature information needed to create a data base.

The second file format, called the "symbolized" format, shall be derived from the first format and shall be used by the Engineer to prepare the plotted topographic maps. All point and line features shall be encoded in the file using the required symbols, cells, patterns, weights, styles, and colors needed to correctly plot the topographic maps. This format shall also be delivered as MicroStation three-dimensional design (3-D DGN) files.

1. The digital map sheets shall be 36 inches by 36 inches in size when plotted at a scale of one inch equals one hundred feet (1" = 100'), and each sheet shall cover an entire U. S. Public Land Survey quarter section. The title block shall contain a graphic scale and the following information: scale, date, type of map, location by county and state, name of the Southeastern Wisconsin Regional Planning Commission, name of the Engineer, and appropriate project and sheet numbers. A north point based upon grid bearing shall be shown. The angle between geodetic and grid bearing (theta angle) shall be shown on each map and shall represent the value for the area covered by the Commission-prepared six-section control survey summary diagram within which the map sheet is located. A combination factor, sea level and scale, shall be given on each sheet for the reduction of measured ground lengths to corresponding grid lengths on the Wisconsin State Plane Coordinate System. The factor shall represent the value for the area covered by the Commission-prepared six-section control survey summary diagram within which the map sheet is located. A certificate shall be included in the title block stating that the map meets National Map Accuracy standards. The title block shall also contain a MCAMLIS copyright statement, including the appropriate copyright symbol (©). The topographic maps shall overlap the adjacent one-quarter sections by 50 feet beyond the section or one-quarter-section lines.
2. The MicroStation three-dimensional design (3-D DGN) digital files shall be organized in such a manner that data elements can be selectively retrieved, manipulated, and displayed, either singly or in combination with other data elements.
 - a. The categories of data elements within the file structure shall be as listed in the table attached hereto as Table 2. The table is made up of columns as described below.

The first column, "Data Element Group/Elements," identifies all data elements that shall be individually retrievable within the digital map file structure, as well as the major data element group to which each element belongs.

The second column, "Type," indicates whether the element will be categorized as a point, line, or text element. Point elements are symbols existing at a single location in the digital file. Line elements may be simple line strings, polylines, arcs, or a combination of these features. Text elements are strings of graphic attribute information existing at a location.

The third column, "Level," indicates the level in the digital file on which elements will be stored. Levels have been assigned from 1 through 34. Within each level are grouped element types that will need to be displayed simultaneously. Each level/color assignment creates a unique identifier for each element type in the digital file.

The fourth column, "Color," indicates the display color for element types stored in the digital file. Colors have been assigned uniquely for all element types existing on a single level. The first element type, in each level, has been assigned a value of 1, with each additional element type on that level being assigned the next sequential color number until all element types on a single level have been assigned.

Any Planimetric Element types not described in this table will be captured using the Other Planimetric Features category provided in this table. Each new element type identified by the Engineer will be assigned a unique sequential level/color combination for all point, line, and text features of the element. Color assignments are valid through color 255 for each level. The Engineer will identify any need for additional levels or colors and notify the Commission. The Engineer will maintain a complete log of assignments detailing the element description, type, level, and color for delivery with the digital files.

For example, when a feature such as a concrete pad is identified by the Engineer and no element type has been previously assigned by the table, the Other Planimetric Features category will be used with assignments of level 27, color 33. The accompanying text string will be assigned level 27, color 34. When the next new element type, such as a large propane tank, is identified, it will be captured using the Other Planimetric Features category with assignments of level 27, color 35, and its accompanying text block will be assigned level 27, color 36. This process will continue until all 255 colors have been exhausted.

The fifth column of the table, "Notes," gives pertinent information regarding an individual element type.

- b. Point, line, and area data 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 approach in appearance, insofar as is possible, maps historically prepared for the Southeastern Wisconsin Regional Planning Commission.

MicroStation text justification for a single text string is typically stored as an x,y coordinate for the lower left hand point of the text string. Intergraph text nodes, used as a header for blocks of text strings, are not currently supported by the Commission's binary translator for MicroStation format files. For the purpose of providing a consistent neutral file format, the Engineer will store all text as individual text strings, lower left justified, with no more than 64 characters per string.

Point symbols, lines, and text placed in the digital file should be used to access MicroStation cell and font libraries created by the Engineer for the purpose of generating plotted maps. Sample plots, as well as digital copies of the cell and font libraries, will be provided to the Commission for review and approval prior to the production of any maps. Following approval, any changes to these libraries shall be identified to the Commission with a new digital copy and sample. Any changes to these libraries will be subject to review and approval by the Commission.

Decimal points or periods in text strings shall not be used as substitutes for point symbols on the maps.

- c. The Engineer shall provide one complete set of digital topographic map files containing basic unsymbolized map elements. This set of map files will be in the aforementioned "graphic primitive" format. All point features for this set of map files shall be encoded as points rather than as MicroStation cells. All line features shall be shown as solid, unsymbolized lines rather than as patterned lines or line codes. The digital map files in this format shall be provided to the Commission as unsymbolized MicroStation design files (DGN files) with features uniquely identified in accordance with the specifications set forth in Section IV.C.2.a. The map files in this format shall follow the naming convention of

“ttrssq.grp,” where “ttrssq” identifies that U. S. Public Land Survey township, range, section, and quarter section covered by the digital file, and “.grp” is the extension identifying the file as being in the graphic primitive format.

In the files prepared under this Section, only the following DGN element types will be allowed: lines, line strings, circles, circular arcs, curves, connected strings, shapes, complex shapes, symbols (text elements), and text strings.

- d. The Engineer shall also provide to the Commission a complete set of MicroStation design files used to produce the plotted topographic maps. This set of map files will be formatted in the aforementioned “symbolized” format. All point and line features are to be encoded in the files using the required symbols, cells, patterns, weights, styles, and colors needed to correctly plot the topographic maps. All point features shall be symbolized with appropriate Intergraph cells with “dropped status” to represent the point feature as a set of symbolized, graphic elements. All line features shall be shown as solid, unsymbolized lines or symbolized as patterned lines as may be appropriate to correctly plot the topographic maps. Intergraph “line codes” shall not be used as a substitute for patterned lines to create line symbology. The Engineer shall submit the proposed symbolization to be used for all features to the Commission for review and approval as stated in Section IV.C.2.b. The map files in this format shall follow the naming convention of “ttrssq.sym,” where “ttrssq” identifies the U. S. Public Land Survey township, range, section, and quarter section covered by the digital file, and “.sym” is the extension identifying the files as being in the symbolized format.

In the files prepared under this Section, only the following DGN element types will be allowed: lines, line strings, circles, circular arcs, curves, connected strings, shapes, complex shapes, symbols (text elements), and text strings.

3. Contour lines, land/water contact lines, and similar types of mapped lines shall be digitally encoded in such a manner that their plotted appearance approaches that of traditional drafted maps when plotted at the scale of one inch equals one hundred feet (1" = 100').

Contour lines shall be digitally encoded in the data structure of the digital topographic map files in a manner that parallels their method of compilation and use in traditional analog map

production. That is, contour lines will not be topologically structured or topologically continuous in the digital topographic map files, but rather will exist as discontinuous, independent line segments appropriately identified as set forth in Section IV.B.1, that, when plotted as appropriately symbolized lines, will be subject to interpretation by the map reader in the same manner that this interpretation occurs in the use of analog topographic maps.

4. The digital topographic map files in MicroStation DGN 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 topographic map files. 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 be capable of forming a closed polygon feature.

- c. Hypsometric Features

The digital topographic map files shall be prepared as MicroStation three dimensional (3-D) DGN files, such that all contour and depression line features contain an elevational attribute or "z" value.

The contour and depression lines shall be prepared as continuous line segments, interrupted at buildings and other structures where necessary. Portions of the contour and depression line segments that may need to be "clipped" for buildings and the placement of text shall be

separately identified by level and color in the MicroStation DGN file, so that these “clipped” line segments may be displayed with the regular contour and depression line segments to form continuous line features.

d. Clipped Features

Certain features in the digital topographic map files 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, and contour lines may be clipped for the placement of text or where contours intersect with building features. As previously mentioned, all clipped features shall be saved and uniquely identified in the digital map files, 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, contour and depression lines, and section and quarter-section lines.

e. Closeable Features

Selected features in the digital topographic map files 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. Similarly, water lines and shorelines shall be connected such that they are capable of forming polygons for open water features. Finally, features such as paved and unimproved roads and U.S. Public Land Survey System quarter sections—with the addition of appropriate “clipped” line segments—shall be capable of forming closed polygon features.

5. All continuous lines crossing map file boundaries shall have connective points on the appropriate U. S. Public Land Survey section and quarter-section lines in the adjoining files. These points shall have identical x and y values. In addition, all continuous lines crossing map file boundaries shall be “broken” at the section or quarter-section lines. This means that all continuous lines that cross U. S. Public land Survey section or quarter-section lines shall be composed of two or more line segments so that one segment will terminate on the section or quarter-section line and another continuing segment will begin at the identical x,y location on the section or quarter-section line.

6. The Engineer shall deliver both sets of digital topographic and planimetric map files on CD-ROM disk written to ISO Level II specifications. The files shall be placed on the CD-ROM disk in sequential file format using common computer operating system commands. The Engineer shall collaborate with the Commission to establish correct format and procedures for the transfer and delivery of the digital map files on CD-ROM disk. The Engineer shall also provide a hard copy listing of the files on the delivered media.
7. All computer software used by the Engineer in the preparation and transfer of the digital map files shall be capable of maintaining the full mathematical precision of the horizontal and vertical control survey information described under Sections IV.B.4., IV.E.2, and IV.E.3., of this contract. This may require the use of computer software written in double precision.
8. The Wisconsin State Plane Coordinate System, South Zone, shall be utilized as the coordinate system for the encoding of all digital map data elements.

D. Preparation of Finished Topographic Maps

The Engineer shall utilize digital plotting equipment having a minimum resolution of 400 DPI and capable of preparing finished topographic maps that approach in their overall appearance finished topographic maps prepared for the Southeastern Wisconsin Regional Planning Commission by traditional hand drafting techniques. All plotting of the finished topographic maps shall be to a high standard of workmanship. The plotted map sheets shall be 36 inches by 36 inches in size, and each sheet shall cover an entire U. S. Public Land Survey quarter section. The title shall contain a graphic scale and the following information: scale, date, type of map, location by county and state, name of the Southeastern Wisconsin Regional Planning Commission, name of the Engineer, and appropriate project and sheet numbers. The finished topographic maps shall overlap the adjacent one-quarter sections by 50 feet beyond the section or one-quarter-section lines.

The following procedures shall be employed in the development of the finished digital topographic map files and finished hardcopy topographic maps:

1. The Engineer shall provide the vellum check plots of the topographic maps as specified by the Commission.
2. The Commission shall conduct office editing and field checking of the topographic maps.

3. The Commission shall provide to the Engineer annotated paper prints of the topographic maps.
4. The Engineer shall revise the digital map files to reflect the annotations shown on the topographic map prints.
5. The corrected digital map files, together with the annotated prints, shall be provided by the Engineer to the Commission.
6. The digital topographic map files shall be checked by the Commission to determine compliance with the specifications.
7. Should the digital topographic map files be found by the Commission to meet the specifications, the commission shall notify the Engineer to produce and deliver to the Commission the finished topographic maps on polyester film.
8. Should the digital topographic map files be found by the Commission to require further revisions to comply with the specifications, the Commission shall so notify the Engineer.
9. The Engineer shall then follow the procedures noted in paragraph number 4 and subsequent paragraphs to produce and deliver to the Commission the finished digital topographic map files and the finished topographic maps on polyester film.

E. Precision and Accuracy Standards

1. Both the digital map files and the finished hardcopy topographic maps shall be prepared to meet National Map Accuracy Standards at the scale of one inch equals one hundred feet (1"-100'), and a certificate to this effect shall appear on the face of each map sheet.
2. The map projection grid for the digital cartographic map files shall be constructed inside the computer memory through key entry procedures. This means that all Wisconsin State Plane Coordinate System grid interval lines and grid intersection points shall be encoded into the digital map files by means of precision keyboard entry techniques rather than by line digitization methods.

3. The Commission shall provide to the Engineer annotated paper prints of the topographic maps.
4. The Engineer shall revise the digital map files to reflect the annotations shown on the topographic map prints.
5. The corrected digital map files, together with the annotated prints, shall be provided by the Engineer to the Commission.
6. The digital topographic map files shall be checked by the Commission to determine compliance with the specifications.
7. Should the digital topographic map files be found by the Commission to meet the specifications, the commission shall notify the Engineer to produce and deliver to the Commission the finished topographic maps on polyester film.
8. Should the digital topographic map files be found by the Commission to require further revisions to comply with the specifications, the Commission shall so notify the Engineer.
9. The Engineer shall then follow the procedures noted in paragraph number 4 and subsequent paragraphs to produce and deliver to the Commission the finished digital topographic map files and the finished topographic maps on polyester film.

E. Precision and Accuracy Standards

1. Both the digital map files and the finished hardcopy topographic maps shall be prepared to meet National Map Accuracy Standards at the scale of one inch equals one hundred feet (1"-100'), and a certificate to this effect shall appear on the face of each map sheet.
2. The map projection grid for the digital cartographic map files shall be constructed inside the computer memory through key entry procedures. This means that all Wisconsin State Plane Coordinate System grid interval lines and grid intersection points shall be encoded into the digital map files by means of precision keyboard entry techniques rather than by line digitization methods.

3. Each horizontal control station, section corner, and quarter-section corner contained in the digital map files shall be placed on the map projection grid through key entry of the adjusted coordinates computed for the point. The Commission shall furnish to the Engineer appropriate materials describing the exact x,y location of those features.
4. Ninety percent of all well-defined planimetric features shall be plotted so that their position in the digital map files and on the finished hardcopy topographic maps 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.
5. The contours shall faithfully express the relief detail and topographic forms. Ninety percent of the evaluations determined from the solid-line contours of the map shall have an accuracy with respect to true elevation of one-half contour interval, based on a two-foot contour interval and no such elevations shall be in error by more than one contour interval.
6. All spot elevations shown in the digital cartographic map files and hardcopy topographic maps, other than elevations of vertical control stations, shall be shown to the nearest 0.5 foot. Ninety percent of all spot elevations shown shall have an accuracy with respect to true elevation of one-fourth contour interval, based on a two-foot contour interval, and no such elevations shall be in error by more than one-half contour interval.
7. The finished hardcopy topographic maps shall be field checked by the Commission. The Engineer shall furnish instruments and assistance to the Commission for such field checking. The field measurements shall be compared against the map data, and any map sheets 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.

V. ITEMS TO BE DELIVERED

Upon completion, the Engineer shall deliver to the Southeastern Wisconsin Regional Planning Commission the following items:

- A. Two sets of digital map files specified under Section IV.C. herein containing topographic maps of the project area as designated herein. The first set of files shall be in the previously described "graphic primitive" format, and the second set of files shall be in the previously described "symbolized" format. Both sets of files shall be in MicroStation three-dimensional design file (3-D DGN file) format. The MicroStation design files shall be accompanied by a digital file of all point, line, and area symbology used in their preparation ("cell library file"), as well as a paper copy of the MicroStation design file layout ("level list").
- B. One set of "reverse reading" digital plots on vellum of the topographic maps of the project area as designated herein suitable for conducting the office editing and field checking.
- C. One set of reproducible original plots on dimensionally stable polyester base material of the completed topographic maps of the project area as designated herein.
- D. One set of digital terrain model files of the project area as specified herein. These files shall be in MicroStation three-dimensional design file (3-D DGN) format.
- E. One photo index as specified under Section II.I. herein.
- F. One set of contact print aerial photographs as specified under Section II.J herein.
- G. The original aerial photograph negatives specified under Section II.K herein.

VI. DELIVERY DATES

A. Photography

Photography for the entirety of the project area shall be completed in the Spring of 200__. The contact prints and photo indices shall be delivered within 30 days after the photography is completed.

B. Topographic Maps and Digital Map Files

All digital terrain models, finished topographic maps, digital map files, and ancillary materials specified herein shall be delivered on or before _____, 200__.

VII. BASIS OF PAYMENT

The contract price of the work, the lump sum of \$ _____, shall include all photogrammetric engineering services and all computer programming and computer operation services necessary for the delivery of the complete, finished maps and all other materials and items specified herein. This total contract price shall consist of the lump sum prices listed below for integral portions of the work.

- A. Acquisition of aerial photography for an approximately _____ square-mile area as specified herein, including associated field work and photo lab work needed to properly reference the acquired aerial photography to the ground\$

- B. New digital terrain models suitable for the generation of two-foot interval contour lines meeting National Map Accuracy Standards for an approximately _____ square-mile area, including the preparation of the MicroStation DGN format files and supporting engineering services as specified herein\$

- C. New digital topographic mapping for an approximately __-square-mile area at a scale of 1" = 100' from the 1" = 500" aerial photography, including the preparation of the MicroStation DGN format files, finished topographic maps, and supporting engineering services as specified herein\$ _____

Total \$ _____

The foregoing component prices are provided as a basis for computing any adjustment in the total cost of the contract that may have to be made due to any changes in the scope of work ordered in writing by the Commission during the conduct of the project, and as a basis for computing work progress payments to the Engineer under the project.

It is expressly understood and agreed that in no event will the total compensation and reimbursement to be paid exceed the amount stipulated above for all the service required as specified herein. The Engineer must submit invoices to the Southeastern Wisconsin Regional Planning Commission during

the progress of the work for partial payment on account for work completed and accepted to date. Such invoices shall not be submitted more often than every 30 days. The amount shown on such invoices shall be estimated on the basis of contract prices and the quantity of work completed and accepted by the Southeastern Wisconsin Regional Planning Commission. Such invoices will be checked by the Southeastern Wisconsin Regional Planning Commission and payment made in an amount not to exceed 90 percent of such amount thereof as has been found by the Southeastern Wisconsin Regional Planning Commission to reasonably represent the value of partially completed work, less any amounts previously paid on account. Payment of the 10 percent withheld during progress of the work shall be made upon final approval of the work by the Southeastern Wisconsin Regional Planning Commission.

* * * * *

Table 1

DIGITAL TERRAIN MODEL MAPPING ELEMENTS
1" = 100' SCALE

MICROSTATION DGN FORMAT FILES

<u>Data Element Group/Elements</u>	<u>Type</u>	<u>Level</u>	<u>Color</u>	<u>Notes</u>
<u>Terrain Model Elements</u>				
Mass Points and Breaklines	Line	40	1	All linear data and point data necessary for terrain model
<u>Extracted Elements</u>				
Mass Point Location	Point	31	7	Mass points extracted from Level 40
Roadway Centerlines	Line	11	5	Continuous roadway network extracted from Level 40
Drainage Lines	Line	9	3	Single width water lines extracted from Level 40
Created Drainage Lines	Line	9	5	Drainage centerline segments extracted from Level 40 that are created (e.g., through marshes, lakes, and under bridges) in order to form continuous drainage network

Table 2

MILWAUKEE COUNTY TOPOGRAPHIC MAPPING ELEMENTS
1" = 100' SCALE

MICROSTATION DGN FORMAT FILES

<u>Data Element Group/Elements</u>	<u>Type</u>	<u>Level</u>	<u>Color</u>	<u>Notes</u>
<u>Map Sheet Elements</u>				
Map Border	Line	1	1	Border, Trim Lines
Map Title	Text	1	2	
Map Legend Box	Line	1	3	Map Logo
Map Legend Box Text	Text	1	4	
Graphic Scale	Line	1	5	
Graphic Scale Text	Text	1	6	
North Point	Point	1	7	
North Point Text	Text	1	8	
Map Legend Symbols	Point	1	9	
Map Legend Text	Text	1	10	
Map Index Section Lines	Line	1	11	
Map Index County and Town Lines	Line	1	13	
Map Index City Boundary Lines	Line	1	15	
Map Index Location Box	Line	1	17	
<u>Geodetic and Geographic Reference Elements</u>				
NGS Triangulation Station Location	Point	2	1	See Note (1)
NGS Triangulation Station Text	Text	2	2	See Note (1)
Traverse Station Location	Point	2	3	See Note (1)
Traverse Station Text	Text	2	4	See Note (1)
Photo Center Location	Point	2	5	See Note (1)
Photo Center Text	Text	2	6	See Note (1)
Bench Mark Location	Point	2	7	See Note (1)
Bench Mark Text	Text	2	8	See Note (1)
Wisconsin State Plane Coordinate Grid Intervals	Point	3	1	See Note (2)
Wisconsin State Plane Coordinate Text	Text	3	2	See Note (2)
Wisconsin State Plane Coordinate Grid Intersections	Point	3	3	See Note (1)
U. S. Public Land Survey Corner	Point	4	1	
U. S. Public Land Survey Corner Coordinates	Text	4	2	

<u>Data Element Group/Elements</u>	<u>Type</u>	<u>Level</u>	<u>Color</u>	<u>Notes</u>
<u>Geodetic and Geographic Reference Elements (continued)</u>				
U. S. Public Land Survey Monuments	Point	4	3	
U. S. Public Land Survey Monument Coordinates	Text	4	4	
U. S. Public Land Survey Section Line	Line	5	1	
Clipped Section Line Segment	Line	5	5	
U. S. Public Land Survey Section Bearing/Length	Text	5	2	
U. S. Public Land Survey Quarter-Section Line	Line	5	3	
Clipped Quarter-Section Line Segment	Line	5	7	
U. S. Public Land Survey Quarter-Section Bearing/Length	Text	5	4	
<u>Hydrographic Elements</u>				
Open Water Line	Line	8	1	See Note (3)
Open Water Name Text	Text	8	2	See Note (3)
Open Water Direction Of Flow	Point	8	3	
Single Width Water Line	Line	9	1	See Note (4)
Single Width Water Name Text	Text	9	2	See Note (4)
Marsh Boundary Line	Line	10	1	
Marsh Name Text	Text	10	2	
Marsh Symbol	Point	10	3	
<u>Planimetric Elements</u>				
Road Pavement/Curb Line	Line	11	1	
Road Name Text	Text	11	2	
Road Median/Boulevard Line	Line	11	3	
Clipped Paved Road Line Segment	Line	11	5	
Private Road Pavement/Curb Line	Line	12	1	
Unimproved Road Line	Line	13	1	
Unimproved Road Name Text	Text	13	2	
Clipped Unimproved Road Line Segment	Line	13	3	
Driveway Line (paved)	Line	14	1	
Driveway & Parking Text	Text	14	2	
Driveway (unpaved)	Line	14	3	
Parking (paved)	Line	14	5	
Parking (unpaved)	Line	14	7	
Trail Line	Line	15	1	
Trail Line Text	Text	15	2	

<u>Data Element Group/Elements</u>	<u>Type</u>	<u>Level</u>	<u>Color</u>	<u>Notes</u>
<u>Planimetric Elements (continued)</u>				
Walk Line	Line	16	1	
Walk Line Text	Text	16	2	
Fence Line	Line	17	1	
Pole and Tower Footing	Point	18	1	
Transmission Tower	Line	18	3	Multi-legged Tower
Communications Tower	Line	18	5	Other Large Towers
Power/Telephone Pole Location	Point	19	1	Standard Wood/
Light Pole Location	Point	19	3	Metal/Concrete
Railway Track Centerline	Line	20	1	
Railway Name Text	Text	20	4	
Railway Signal	Point	20	5	
Railway (abandoned)	Line	20	7	
Building Roof/Foundation Outline	Line	21	1	
Building Name Text	Text	21	2	
Ruins Foundation Outline	Line	22	1	
Ruins Name Text	Text	22	2	
Dam Line	Line	23	1	
Dam Name Text	Text	23	2	
Pier Line	Line	23	3	
Pier Name Text	Text	23	4	
Dock Wall Line	Line	23	5	
Dock Wall Name Text	Text	23	6	
Culvert (small)	Point	24	1	
Culvert Line (large)	Line	24	3	
Bridge Deck Line	Line	25	1	
Bridge Wing/Retaining Wall Line	Line	25	3	
Aviation Runway/Taxiway Line (paved)	Line	26	1	
Aviation Runway/Taxiway Name Text	Text	26	2	
Aviation Runway/Taxiway Line (unpaved)	Line	26	3	
Cemetery	Line	27	5	
Cemetery Text	Text	27	6	
Paved Slab	Line	27	7	
Paved Slab Text	Text	27	8	
Open Storage, Pile, U/C	Line	27	9	
Open Storage, Pile, U/C Text	Text	27	10	

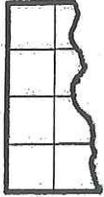
<u>Data Element Group/Elements</u>	<u>Type</u>	<u>Level</u>	<u>Color</u>	<u>Notes</u>
<u>Planimetric Elements (continued)</u>				
Pipeline	Line	27	11	
Pipeline Text	Text	27	12	
Overhead Structure	Line	27	15	
Overhead Structure Text	Text	27	16	
Patio, Deck	Line	27	17	
Pool	Line	27	19	
Pool Text	Text	27	20	Letter "P"
Tank, Silo	Line	27	21	
Tank, Silo Text	Text	27	22	
Sign (point)	Point	27	23	
Sign Text	Text	27	24	Letter "S"
Sign Line	Line	27	25	
Substation Structure	Line	27	27	
Substation Text	Text	27	28	
Wall	Line	27	29	
Wall Text	Text	27	30	Letter "W"
Other Planimetric Features		27	33	
Other Planimetric Feature Text	Text	27	34	
Park/Recreation Area Line	Line	32	1	
Park/Recreation Area Text	Text	32	2	
Tree Location	Point	33	1	
Wooded Area Boundary Line	Line	33	3	
<u>Hypsometric Elements</u>				
Accentuated Contour Elevation Line	Line	29	1	
Accentuated Contour Elevation Number	Text	29	2	
Accentuated Contour Depression Line	Line	29	3	
Accentuated Contour Depression Number	Text	29	4	
Text-Clipped Accentuated Contour and Depression Line Segments	Line	29	9	
Building-Clipped Accentuated Contour and Depression Line Segments	Line	29	11	
Accentuated Approx. Contour Elevation Line	Line	29	5	
Accentuated Approx. Contour Elevation Number	Text	29	6	
Accentuated Approx. Contour Depression Line	Line	29	7	
Accentuated Approx. Contour Depression Number	Text	29	8	

<u>Data Element Group/Elements</u>	<u>Type</u>	<u>Level</u>	<u>Color</u>	<u>Notes</u>
<u>Hypsometric Elements (continued)</u>				
Unaccentuated Contour Elevation Line	Line	30	1	
Unaccentuated Contour Depression Line	Line	30	3	
Text-Clipped Unaccentuated Contour and Depression Line Segments	Line	30	9	
Building-Clipped Unaccentuated Contour and Depression Line Segments	Line	30	11	
Accentuated Approx. Contour Unaccentuated Approx. Contour Elevation Line	Line	30	5	
Unaccentuated Approx. Contour Depression Line	Line	30	7	
Spot Elevation Location	Point	31	1	
Spot Elevation Value Text	Text	31	2	
Water Surface Elevation Location	Point	31	3	
Water Surface Spot Elevation Value Text	Text	31	4	
U. S. Public Land Survey Corner Elevation	Text	31	6	

NOTES

- Note (1): Where elements occur interior to the U. S. Public Land Survey section lines of the area being mapped.
- Note (2): Where elements occur exterior to the U. S. Public Land Survey section lines of the area being mapped, and interior to the map sheet border.
- Note (3): Depicting open water boundaries (greater than 5' in width) for lakes, ponds, streams, watercourses, and drainage ditches.
- Note (4): Depicting water boundaries too narrow to show both edges (less than 5' width) for streams, watercourses, and drainage ditches.
-

Exhibit A



MILWAUKEE COUNTY
AUTOMATED MAPPING AND
LAND INFORMATION SYSTEM

c/o Southeastern Wisconsin
Regional Planning Commission
W239 N1812 Rockwood Drive
PO Box 1607
Waukesha, Wisconsin 53187-1607

MEMORANDUM

TO: MCAMLIS Steering Committee
FROM: Thomas D. Patterson
MCAMLIS Project Manager
DATE: July 12, 2004
SUBJECT: PROPOSAL FOR THE MCAMLIS PROGRAM TO SUPPLY PARTIAL
FUNDING SUPPORT TO INITIATE THE REGIONAL WATER SUPPLY
SYSTEM PLAN

*- Racine City uses recording fees
for this*

*Passed 4-2
3 ABSTAIN*

Introduction

In September of 2002, the Southeastern Wisconsin Regional Planning Commission at the request of several of its constituent counties and municipalities issued a document, *Regional Water Supply Planning Program Prospectus*, identifying eight factors contributing to the urgent need for the preparation of a Regional Water Supply Plan for the Southeastern Wisconsin Region, including Milwaukee County. These factors are:

1. Constraints on the use of Lake Michigan Water
2. Increasing demand for water west of the subcontinental divide
3. Underutilization of existing Lake Michigan water treatment plant capacity
4. The need to address groundwater quality concerns
5. The need to coordinate public and private water supply planning efforts
6. The need to coordinate water supply system planning with land use, transportation, sanitary sewerage, park and open space, and natural resource protection planning
7. The need to address growing concerns over the security of the water supply facilities of the region
8. Statutory planning requirement

The preparation of the regional water supply system plan recommended by the Prospectus was envisioned as being carried out by the Regional Planning Commission staff on behalf of the seven Southeastern Wisconsin counties, including Milwaukee County.

Statutory Planning Requirement

The State Legislature in 1999 enacted legislation, which revised and expanded municipal, county, and regional planning requirements. Specifically, Section 66.1001 of the *Wisconsin Statutes* requires that the comprehensive plan for the development of a region, county, or local unit of government, as adopted or

amended under Section 66.0309 of the *Wisconsin Statutes*, must consist of at least nine elements. Two of those nine elements, in effect, require the preparation of a regional water supply plan. One of the nine elements referenced in the new State legislation is an agricultural, natural, and cultural resources element. This element must address, among other considerations, the effective management of ground and surface waters within the planning area.

Another one of those nine elements is a utilities and community facilities element, an element that must address among other considerations, water supply. The element must describe the location, use, and capacity of existing water supply facilities; provide forecasts of the need for the rehabilitation and expansion of existing water supply facilities; and for the creation of new facilities.

Meeting the letter of the new planning legislation will require the Regional Planning Commission to prepare a water supply plan for the Southeastern Wisconsin Region. The Statutes implicitly envision such a regional water supply plan as a framework plan within which county and municipal water supply planning can proceed in a sound and efficient manner.

Relationship of the Section 66.1001 Planning Requirement to the Wisconsin Land Information Program

The emphasis of the Section 66.1001 legislation is on the preparation and adoption of regional, County and local comprehensive plans; the emphasis of the Wisconsin Land Information Program is on the modernization of land records. However, there is substantial subject matter overlap between the two programs. More specifically overlap occurs in at least the content areas of housing; transportation; utilities and community facilities; agricultural, natural, and cultural resources; land use; and intergovernmental cooperation. Given the degree of interrelationship between subject matter in these two programs, there are opportunities for Milwaukee County to pursue the development of information and maps that contribute to the implementation of both programs. The regional water supply system plan is such a program and participation by the County and the MCAMLIS Steering Committee would be responsive, in part, to the changing gubernatorial and legislative priorities manifested in recent biannual budgets as fee collections are transferred from local land records modernization support to local comprehensive planning support.

The completion of the regional water supply system plan would fulfill a portion of Milwaukee County's requirements under Section 66.1001, *Wisconsin Statutes*, and would further provide important information and maps useful to Milwaukee County municipalities in meeting their requirements under this same legislation. Importantly, it would serve to also create information useful in the implementation of Milwaukee County's Land Records Modernization Plan, specifically in the areas of utilities infrastructure, natural resources, and intergovernmental cooperation. In this respect, the regional water supply plan would be in conformance with and would contribute toward the implementation of the adopted Milwaukee County Land Records Modernization Plan.

Funding Plan

At the meeting of the Regional Planning Commission held on March 20, 2003, the Prospectus was approved and a funding formula allocating the study costs to the seven counties comprising the Southeastern Wisconsin Region on the basis of equalized real property values was adopted. This funding formula is set forth in the table below.

**FUNDING ALLOCATIONS FOR SOUTHEASTERN WISCONSIN
REGIONAL WATER SUPPLY PLANNING PROGRAM**

County	Local Cost Prorated to Counties Based Upon Equalized Property Value		
	Percent	Amount	Cost per Year for Three Years
Kenosha	7.54	\$ 55,136	\$ 18,380
Milwaukee	35.80	261,787	87,262
Ozaukee	6.38	46,654	15,550
Racine	8.22	60,109	20,035
Walworth	6.94	50,749	16,916
Washington	7.21	52,723	17,574
Waukesha	27.91	204,091	68,030
Total	100.00	\$731,248	\$243,747

Under the provisions of this adopted funding formula, Milwaukee County would be asked to supply \$261,787 over a three year period as its contribution towards completion of the Regional Water Supply Planning Program, or \$87,262 annually. The seven counties, in caucusing with respect to the manner in which to fund the Regional Water Supply Planning Program, determined that they did not want this planning effort funded in the traditional manner, that is through the tax levy funding collected annually by the SEWRPC; there already being numerous other demands upon this source of funding. Rather, through their SEWRPC representatives the counties jointly determined that each county should examine its own resources and secure its share of the required funding from a source of its own choosing. With respect to Milwaukee County, County Executive Walker has indicated, through his staff, that the Milwaukee County portion of the required funding should be provided through the MCAMLIS annual operating budget rather than through tax levy funds.

Recommendations

It is recommended that the MCAMLIS Steering Committee, on behalf of Milwaukee County, participate in the Regional Water Supply System Plan preparation effort as set forth in the SEWRPC document *Regional Water Supply Planning Program Prospectus*. It is further recommended that the MCAMLIS Steering Committee act to commit \$87,262 annually over a three year period as Milwaukee County's requested funding portion for completion of the plan. A proposed Agreement to carry out these recommendations is attached hereto for review.

Finally, it is recommended that the MCAMLIS Steering Committee direct project staff to secure the execution of the attached Agreement on behalf of SEWRPC and the MCAMLIS Steering Committee; secure the required review of this Agreement by the Milwaukee Corporation Counsel, the Milwaukee County Risk Manager, and the Milwaukee County DBD Director and return the fully executed Agreement to the SEWRPC for initiation of the work called for under the Agreement.

AGREEMENT

THIS AGREEMENT, entered into this ____ day of _____, 2004, by and between the Southeastern Wisconsin Regional Planning Commission (hereinafter referred to as the "Commission"); and the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee (hereinafter referred to as the "Steering Committee").

WITNESSETH:

WHEREAS, the Commission is authorized by Section 66.0309 of the Wisconsin Statutes to make studies and prepare plans for, and to provide advisory services to local governments, and to act as a coordinating agency for planning activities within its jurisdictional area; and

WHEREAS, by Resolution No. 88-379, the Milwaukee County Board of Supervisors requested the Southeastern Wisconsin Regional Planning Commission to conduct a feasibility study pertaining to an automated mapping and land information system; and

WHEREAS, the requested feasibility study was completed and is documented in SEWRPC Community Assistance Planning Report No. 177, Feasibility Study for a Milwaukee County Automated Mapping and Land Information System, published in October 1989; and

WHEREAS, by resolution adopted on November 8, 1990, the Milwaukee County Board of Supervisors authorized the execution of a Cooperative Agreement between Milwaukee County and the public and private utilities serving Milwaukee County, which Cooperative Agreement created a public-private partnership to implement the proposed Milwaukee County automated mapping and land information system, whereby the County and the utilities involved agreed to jointly fund the development of the Milwaukee County automated mapping and land information system; and

WHEREAS, the aforementioned Cooperative Agreement further created a Steering Committee to provide oversight in the implementation of the Milwaukee County automated mapping and land information system and delegated to the Steering Committee full responsibility for all policy matters relating to the conduct of the work program, including proposed contracts and specifications, the selection of contractors, and interaction with the State of Wisconsin Land Information Program; and

WHEREAS, the Commission adopted the *Regional Water Supply Planning Program Prospectus* in September of 2002; and

WHEREAS, the adopted *Regional Water Supply Planning Program Prospectus* calls for the fiscal participation of Milwaukee County in conjunction with the other six counties constituting the Southeastern Wisconsin Regional Planning area; and

WHEREAS, the completion of a Regional Water System Plan would be in conformance with and would serve to implement Milwaukee County's adopted Land Records Modernization Plan; and

WHEREAS, Sections 66.0309(12)(b) and 66.0301 of the Wisconsin Statutes authorize the Commission to enter into contracts with local units of government and their agents to make and implement studies and plans, and to otherwise provide advice and services.

NOW, THEREFORE, in consideration of these premises and of their mutual and dependent promises and agreements, the parties hereto contract and agree as follows:

I. Scope of Services

The Commission, working in conjunction with Milwaukee County and the other six counties within the Southeastern Wisconsin Regional Planning area, will complete the Regional Water System Supply Plan as set forth in the *Regional Water Supply Planning Program Prospectus*, dated September, 2002.

II. Compensation

The Steering Committee will provide the amount of \$261,787 as Milwaukee County's portion of the cost of preparing this plan.

III. Method of Compensation

The total amount of compensation of \$261,787 shall be paid to the Commission in the form of three annual installments as follows:

2004	\$87,262
2005	\$87,262
2006	\$87,263

IV. Timing

The work to be performed under this Agreement shall be completed within 36 months of initiation of the project by the SEWRPC.

V. Indemnity

Except for acts done or taken at the direction of or pursuant to the Steering Committee policy or procedures, the Commission agrees to the fullest extent permitted by law, to indemnify, defend, and hold harmless, the Steering Committee, and its agents, officers, and employees from and against all loss or expense including costs and attorney's fees by reason of statutory benefits under Worker Compensation Laws, and/or liability for damages including suits at law or in equity, caused by any wrongful, intentional, or negligent act or omission of the Commission, or its agents which may arise out of, or are connected with, the activities covered by this Agreement.

VI. Insurance

The Commission, as an agency of the State, is self-funded for liability under Section 893.82 and Section 895.46(1) of the Wisconsin Statutes. As a result, such protection as is afforded under respective Wisconsin Statutes, is applicable to officers, employees, and agents while acting within the scope of their employment or agency. Since this is statutory indemnification, there is no liability policy as such that can extend protection to any other.

VII. Records and Audits

The Commission shall allow Milwaukee County, the Milwaukee County Department of Audit, or any other party the Milwaukee County may name, when and as they demand, to audit, examine and make copies of, excerpts or transcripts from any records or other information directly relating to matters under this Agreement. Any subcontracting by the

Commission in performing the duties described under this contract shall subject the subcontractor and/or associates to the same audit terms and conditions as the Commission. The Commission (or any subcontractor) shall maintain and make available to the Milwaukee County aforementioned audit information for no less than three years after the conclusion of each contract term.

VIII. Independent Contractor

Nothing contained in this Agreement shall constitute or be construed to create a partnership or joint venture between Milwaukee County or its successors or assigns; the Steering Committee or its successors or assigns; and the Commission or its successors or assigns. In entering into this Agreement, and in acting in compliance herewith, the Commission is at all times acting and performing as an independent contractor, duly authorized to perform the acts required of it hereunder.

IX. Authorization

~~The Steering Committee approved the project that is the subject of this Agreement by action taken at a regular meeting held on July 20, 2004.~~

IN WITNESS WHEREOF, the Commission and the Steering Committee have executed this Agreement, as of the date first above written.

ATTESTING WITNESS

**SOUTHEASTERN WISCONSIN
REGIONAL PLANNING COMMISSION**

By _____
Philip C. Evenson
Deputy Secretary

By _____
Thomas H. Buestrin
Chairman

ATTESTING WITNESS

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

By _____
Thomas D. Patterson
MCAMLIS Project Manager

By _____
Kurt W. Bauer
Chairman

APPROVED AS TO FORM

William J. Domina (Date)
Milwaukee County Corporation Counsel

**REVIEWED AS TO
INDEMNIFICATION AND INSURANCE**

John R. Rath (Date)
Milwaukee County Department of Risk Management

**APPROVED AS TO CHAPTER 42
DBE PROVISIONS**

Freida F. Webb (Date)
Milwaukee County DBD Director

IVCO



MILWAUKEE
COUNTY
PARK
SYSTEM

SCOTT WALKER
County Executive

SUE BLACK
Parks Director

Memorandum

To: MCAMLIS Steering Committee
From: Milwaukee County Department of Parks and Public Infrastructure (DPPI)
Date: July 19, 2004
Subject: MCAMLIS Program Management and Governance Structure

Background

The initial implementation plan of the MCAMLIS program was for the program to be implemented in two phases, conversion phase and maintenance phase. The recommendations from the original report prepared by UGS Consulting called for SEWRPC to act as the lead agency during the conversion phase and that Milwaukee County take the lead during the maintenance phase. Upon the completion of the Cadastral map conversion project, currently being undertaken by City of Milwaukee staff, the data conversion phase will be substantially over. Currently, the County maintains the cadastral and street address data for the MCAMLIS program.

On several occasions in the past and as recently as January 2004, the Commission staff has asked the Milwaukee County whether or not it was prepared to undertake MCAMLIS project management. The County in September of 2002, asked that the MCAMLIS Steering Committee to take up this issue. Additionally, recommendations included in the needs assessment currently being prepared for Milwaukee County call for the County to take custodianship of Land Information Program and further recommends that the County formalize a County directed Land Information Program Structure.

Recommendation

Milwaukee County DPPI respectfully recommends that the MCAMLIS Steering Committee appoint a sub-committee to review and make recommendations on:

1. The transfer of project management of MCAMLIS program to the County beginning January 1, 2005
2. The proposed Land Information structure changes proposed under the County's needs assessment. *(Sub-committee)*

GGH/krw

Cc: Greg High, DPPI
Sue Black, DPPI

Milwaukee County Land Information Program Governance Structure

Draft 2 - June 28, 2004

Milwaukee County Executive's Office

Milwaukee County Land Information Program Committee

Membership:

- Various County Department Heads or their designees (DAS, DPPI)
- Elected County Officers or their designees (County Board Supervisor, Register of Deed's, Sheriff)
- Appointed Members (Faculty Member - UWM/Marquette, 2 Private Citizens)

Roles/Responsibilities:

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

Fiscal/Budgetary Responsibilities:

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

Municipal/Utility Sub-Committee

Membership:

Municipal and Utility Representatives

Roles/Responsibilities:

- Meets limited number of times each year to help direct future Land Information projects

Centralized Land Information (GIS) Section (Office)

Roles/Responsibilities:

- Overall County Land Information Program Management
- Management of County's GIS IT infrastructure (ArcSDE Database, ArcIMS Web Server)
- Develop and Maintain County enterprise GIS IT applications and services.
- Contract management for Land Information projects (digital cadastral, topographic, orthophotography and other mapping layers)
- Contract management for creation and Maintenance of core County land information Datasets
- Contract management County Surveyor services
- Distribute County Data in accordance with License Agreements
- Technical standards research, formulation, and recommendations
- Policy research, formulation, and recommendations
- Program budget recommendations

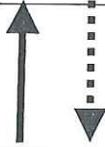
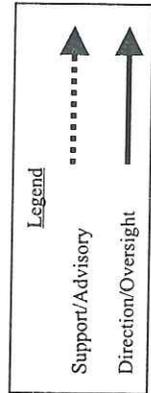
GIS Technical Group

Membership:

Department GIS Technicians, IMSD

Roles/Responsibilities:

- Discuss Technical Issues
- Make recommendations for future GIS infrastructure improvements and enterprise applications



**Proposed
MCAMLIS Program Management and Governance Structure**

1. MCAMLIS Steering Committee Coordination

- ✓ Organization of meetings
- ✓ Preparation of agendas
- ✓ Organization of material prior to meeting
- ✓ Completion of minutes following meeting
- ✓ Follow-up on any assignments made

2. WLIP Coordination

- ✓ Monitoring of program activities
- ✓ Preparation of grant applications
- ✓ Dealing with State staff to resolve issues and questions
- ✓ Negotiation of grant agreements following awards
- ✓ Writing and filing of project completion reports for grant-funded MCAMLIS projects
- ✓ Fiscal monitoring of grant awards

3. Distribution of MCAMLIS Digital Mapping Materials

- ✓ Answering general inquiries
- ✓ Providing consultation on specific products
- ✓ Securing and Filing executed MCAMLIS license agreements
- ✓ Managing copyright requirements and distributing data

4. Coordination of MCAMLIS Budget Preparation and Accounting Activities with Milwaukee County Staff

- ✓ Preparation of an annual budget
- ✓ Monitoring of project revenues and expenditures and other associated tasks
- ✓ Interaction with County staff to carry out the annual Milwaukee County single audit

5. General Project Management

- ✓ Conceptual development of individual projects
- ✓ Development of project specifications, where needed
- ✓ Writing of contracts
- ✓ Preparing invoices to draw down funds as expended
- ✓ Payment of subcontractors
- ✓ Associated recordkeeping

6. General Maintenance of MCAMLIS Data Holding and Introduction of New Material to Archive Files

- ✓ Occasional reorganization for more efficient storage and other associated tasks
- ✓ Data file translations
- ✓ General maintenance – county wide GIS Infrastructure mgmt (ARCDE, ARCIMS)

7. Clerical and Technical Staff Support for the Above-Listed Activities

- ✓ General support in the form of clerical and technical staff is also required.

8. Current county-wide GIS services:

- ✓ Maintain ArcSDE database server
- ✓ Maintain ArcIMS Webserver
- ✓ Maintain County and MCAMLIS data on GIS file servers
- ✓ Plan county-wide GIS infrastructure improvements
- ✓ Work with IMSD on county-wide GIS infrastructure problems
- ✓ Work with GIS user departments on county-wide GIS infrastructure needs
- ✓ Support and Training on GIS desktop Software (install, troubleshoot problems, work with software vendor to correct problems, manage GIS licenses)
- ✓ Specify and Create GIS applications for user departments
- ✓ Research and write grants for improvements to county-wide GIS infrastructure
- ✓ Represent county for regional GIS projects (2005 Regional Orthophotography Flight)
- ✓ Research and Create GIS standards for county (data sharing agreements, data standards, data documentation standards)
- ✓ Provide assistance to municipalities on county data available or data issues
- ✓ Provide county data and answer questions about county data to general public
- ✓ Provide GIS services to county departments with no GIS staff (data creation, manipulation, conversion)
- ✓ Provide technical advise to county MCAMLIS members on proposed projects or Land Information issues
- ✓ Work as a liaison between county departments to standardize data and reduce data duplication

**Proposed
MCAMLIS Program Management and Governance Structure**

1. MCAMLIS Steering Committee Coordination

- ✓ Organization of meetings
- ✓ Preparation of agendas
- ✓ Organization of material prior to meeting
- ✓ Completion of minutes following meeting
- ✓ Follow-up on any assignments made

2. WLIP Coordination

- ✓ Monitoring of program activities
- ✓ Preparation of grant applications
- ✓ Dealing with State staff to resolve issues and questions
- ✓ Negotiation of grant agreements following awards
- ✓ Writing and filing of project completion reports for grant-funded MCAMLIS projects
- ✓ Fiscal monitoring of grant awards

3. Distribution of MCAMLIS Digital Mapping Materials

- ✓ Answering general inquiries
- ✓ Providing consultation on specific products
- ✓ Securing and Filing executed MCAMLIS license agreements
- ✓ Managing copyright requirements and distributing data

4. Coordination of MCAMLIS Budget Preparation and Accounting Activities with Milwaukee County Staff

- ✓ Preparation of an annual budget
- ✓ Monitoring of project revenues and expenditures and other associated tasks
- ✓ Interaction with County staff to carry out the annual Milwaukee County single audit

5. General Project Management

- ✓ Conceptual development of individual projects
- ✓ Development of project specifications, where needed
- ✓ Writing of contracts
- ✓ Preparing invoices to draw down funds as expended
- ✓ Payment of subcontractors
- ✓ Associated recordkeeping

6. General Maintenance of MCAMLIS Data Holding and Introduction of New Material to Archive Files

- ✓ Occasional reorganization for more efficient storage and other associated tasks
- ✓ Data file translations
- ✓ General maintenance – county wide GIS Infrastructure mgmt (ARCDE, ARCIMS)

7. Clerical and Technical Staff Support for the Above-Listed Activities

- ✓ General support in the form of clerical and technical staff is also required.

8. Current county-wide GIS services:

- ✓ Maintain ArcSDE database server
- ✓ Maintain ArcIMS Webserver
- ✓ Maintain County and MCAMLIS data on GIS file servers
- ✓ Plan county-wide GIS infrastructure improvements
- ✓ Work with IMSD on county-wide GIS infrastructure problems
- ✓ Work with GIS user departments on county-wide GIS infrastructure needs
- ✓ Support and Training on GIS desktop Software (install, troubleshoot problems, work with software vendor to correct problems, manage GIS licenses)
- ✓ Specify and Create GIS applications for user departments
- ✓ Research and write grants for improvements to county-wide GIS infrastructure
- ✓ Represent county for regional GIS projects (2005 Regional Orthophotography Flight)
- ✓ Research and Create GIS standards for county (data sharing agreements, data standards, data documentation standards)
- ✓ Provide assistance to municipalities on county data available or data issues
- ✓ Provide county data and answer questions about county data to general public
- ✓ Provide GIS services to county departments with no GIS staff (data creation, manipulation, conversion)
- ✓ Provide technical advise to county MCAMLIS members on proposed projects or Land Information issues
- ✓ Work as a liaison between county departments to standardize data and reduce data duplication

Project Management cost analysis: Staff: (1) Geographic Information Systems Supervisor
(\$102,184) includes; salary & benefits
(1)Infrastructure Coordinator
(\$77,905) includes; salary & benefits

County GIS Software Costs: (\$26,500) includes ESRI
platform ARCSDE, ARCIMS, ARCINFO,
ARCVIEW

McAmis - Copyright meeting 9/23/03

Base mapping
Togo's
Cadastral) what is copyrighted at this time.

- private companies that request data, pay only the reproduction cost to Surore, used primarily for small quarter sections, parks, roadways etc.

- if data went on the web, a license agreement would be necessary

de (- utilities would need to allow public access due to this copyright restrictions.
- need to change language in agreement to relieve utilities of copyright restrictions (# 2, #8)

Tentative Agenda
MCAMLIS Subcommittee Meeting

Date: Tuesday, September 23, 2003

Time: 10:00 A.M.

Place: Milwaukee County Courthouse
901 North Ninth Street
Department of Administrative Services
Conference Room 308

- I. Call to Order
- II. Introductions
- III. History of MCAMLIS Copyright
- IV. Issues Concerning Copyright
- V. Discussion and Future Direction
- VI. Adjournment

Calendar Entry:

Meeting

Subject: MCAMLIS Copyright Meeting Location: DAS, Room 308, Courthouse
Begins: Tue 09/23/2003 10:00 AM Entry type: Meeting
Ends: Tue 09/23/2003 12:00 PM
Chair: Greg High/DPW/Milwaukee County

Invitations already sent

To: Gary Drent/DPW/Milwaukee County@milwco, Kevin White/DPW/Milwaukee County@milwco
cc:

- Pencil In Time will appear free to others.
 Mark Private Others cannot see any details about this event.
 Notify me Have Notes notify you before the event.

Categorize:

Description:

Greetings,

This is to confirm that there will be a meeting on Tuesday, September 23, 2003 to discuss the copyright issue for the MCAMLIS data. The meeting will be held in the the Department of Administration Services, Room 308 in the Milwaukee County Courthouse. The meeting will begin at 10:00 am. and should be completed before noon.

I will also send a letter to you with the meeting notice but wanted to confirm this with you as soon as possible so that you can arrange for any counsel to attend as well.

Should you need to contact me please call me at (262) 238-1685

Thank you.

Hardy Meihnsner

LICENSE AGREEMENT

WHEREAS, Milwaukee County, AMERITECH (Wisconsin Bell), the Wisconsin Electric Power Company, the Wisconsin Gas Company, and the Milwaukee Metropolitan Sewerage District, have entered into a cooperative agreement establishing the Milwaukee County Automated Mapping and Land Information System, said system being governed by a Steering Committee comprised of representatives from Milwaukee County, AMERITECH (Wisconsin Bell), the Wisconsin Electric Power Company, the Wisconsin Gas Company, the Milwaukee Metropolitan Sewerage District, the City of Milwaukee, and the Intergovernmental Cooperation Council of Milwaukee County, to develop an automated mapping and land information system covering Milwaukee County, including, among other things, information and materials relating to U.S. Public Land Survey corner monumentation, control surveys, digital planimetric and topographic maps, digital cadastral map overlays, parcel identifiers, and other related documents and materials (all collectively the "Materials");

AND WHEREAS, in order to obtain certain financial support of AMERITECH (Wisconsin Bell), the Wisconsin Electric Power Company, and the Wisconsin Gas Company (the "Utilities") in connection with these activities, the Steering Committee has come to the following agreement relating to ownership, access, and use of the Materials:

1. Copyright Ownership. The Steering Committee shall own copyright title to all of said Materials with the exception of the "Digital Materials". The Digital Materials shall consist of all digital format (regardless of means of storage) Materials, including without limitation computer data bases. Copyright title to the Digital Materials shall be owned by a sub-committee of the Steering Committee (the "Sub-committee") comprised of AMERITECH (Wisconsin Bell), the Wisconsin Electric Power Company, and the Wisconsin Gas Company (the "Utilities").

2. License. All parties to the cooperative agreement creating the Milwaukee County Automated Mapping and Land Information System are hereby irrevocably and perpetually licensed (and granted the right to license others) to use, reproduce, modify, distribute, perform, and display the Materials (other than the Digital Materials) without restriction. With respect to the Digital Materials, all of the parties to the agreement creating the Milwaukee County Automated Mapping and Land Information System are hereby irrevocably and perpetually (albeit just for their own, including corporate affiliates, internal purposes), licensed to use, reproduce, modify, perform, and display the Digital Materials. This shall include the right to prepare and distribute non-digital form reports on one or more land parcels using the Digital Materials, and to distribute the reports to the public. However, except as provided below, absent the consent of a majority of both the Sub-committee and the Steering Committee, none of the members of the Steering Committee may permit distribution of copies of the Digital Materials (or digital form materials substantially based thereon) to others besides the Steering Committee. Distribution in violation of this paragraph shall be deemed to be a copyright violation. Each member of the Steering Committee shall prevent access by third parties to such digital items (except as provided below).

3. Notwithstanding the above, nothing herein shall preclude Milwaukee County from complying with its obligations under grant agreements with the State of Wisconsin, or restrict rights granted to the State of Wisconsin thereunder.

4. Nothing herein shall preclude the Milwaukee Metropolitan Sewerage District from complying with its obligations under any grant and aid agreement with the State of Wisconsin or the Federal Government or in complying with the requirements of Sections 19.32 to 19.39, Wisconsin Statutes.

5. Nothing herein shall preclude a member of the Steering Committee from complying with a court order that it has not stipulated to.

6. The Sub-committee members may not assign their rights to the Digital Materials to any third party.

7. If a majority of the Steering Committee voting members believe that an infringement of the copyright in the Digital Materials is taking place (and the Sub-committee does not wish to pursue the matter), the Steering Committee shall have the right to enforce the copyright as against such third parties (at its cost and for its benefit). The Steering Committee shall, at its cost, register the copyright to the Digital Materials in the Sub-committee's name.

8. All members of the Steering Committee hereby agree that in deciding whether to assert their power to restrict use of the Digital Materials by third parties they will not unreasonably refuse to provide access to the Digital Materials via their vote where the intended use is solely for a non-profit purpose. If some third party should be interested in having access to the Digital Materials for a commercial purpose, the Steering Committee members also hereby agree not to unreasonably refuse such access where the requester agrees to be bound by the type of restrictions on access to others provided herein and pays to the Steering Committee an amount of money equal to the average amount of money that each of the Utilities have paid into the project as of the date of the request. Funds received from this source will be used for the purposes of the Steering Committee.

\$ 520,000
contributed
by each
utility

IN WITNESS THEREOF, the County and the Utilities have executed this Agreement.

AMERITECH (WISCONSIN BELL)

Date 12-7-93

By Mary Ann Seitz

Attest Allen R. Rupp

WISCONSIN ELECTRIC POWER COMPANY

Date 12-9-93

By D. G. Sipes

Attest NW Carter

WISCONSIN GAS COMPANY

Date 11/16/93

By Gerald R. Giroux

APPROVED
 ADDENDUM
ATTACHED
11/12/93
JAW
LAW DEPT.

Attest _____

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

Date 11/17/93

By Robert H. Schomer

Attest Robert H. Schomer

MILWAUKEE COUNTY REGISTER OF DEEDS

Date Nov 8. 1993

By Walter R. Barczak

Attest Henry A. [Signature]

DIRECTOR, MILWAUKEE COUNTY
DEPARTMENT OF ADMINISTRATION

Date 11-9-93

By [Signature]

Attest Barbara Pariseau

KWB/TDP/DHH
5MCAMLIS.AD5
11/03/93

EXECUTED LICENSE AGREEMENTS

FOR THE USE OF MCAMLIS COPYRIGHTED
DIGITAL BASE MAPPING MATERIALS
BEGINNING OCTOBER 24, 1995

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 1995	1995	
1.	1.	City of Milwaukee	10/24/95
2.	2.	City of West Allis	11/27/95
3.	3.	City of Oak Creek	11/29/95
4.	4.	Village of Brown Deer	12/21/95
Since 1995	For 1996	1996	
5.	1.	City of Cudahy	1/2/96
6.	2.	Wisconsin Department of Natural Resources	2/12/96
7.	3.	City of Glendale	7/29/96
8.	4.	Village of Bayside	10/25/96
9.	5.	City of Wauwatosa	10/30/96
10.	6.	Riveredge Nature Center, Inc.	12/19/96
Since 1995	For 1997	1997	
11.	1.	City of Greenfield	1/22/97
12.	2.	Village of Whitefish Bay	3/31/97
13.	3.	Village of West Milwaukee	4/1/97
14.	4.	Wisconsin Department of Transportation	4/17/97
15.	5.	American Design, Inc.	4/23/97
16.	6.	Land Information Services, Inc.	5/6/97
17.	7.	Village of Hales Corners	5/28/97
18.	8.	City of Franklin	6/20/97
19.	9.	K. Singh and Associates, Inc.	7/8/97
20.	10.	City of South Milwaukee	10/23/97

EXECUTED LICENSE AGREEMENTS

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 1998	1998	
21.	1.	Whitnall School District	1/21/98
22.	2.	Mr. Norbert S. Theine	2/25/98
23.	3.	Durrant Architects	6/17/98
24.	4.	Miller Engineers and Scientists	7/2/98
25.	5.	Village of Fox Point	7/14/98
26.	6.	Forest Home Cemetery	9/3/98
27.	7.	University of Wisconsin-Madison	11/17/98
28.	8.	Wisconsin Lutheran College	12/8/98
Since 1995	For 1999	1999	
29.	1.	Village of River Hills	2/9/99
30.	2.	Buettner and Associates, Inc.	2/25/99
31.	3.	Ruekert & Mielke, Inc.	3/3/99
32.	4.	Kapur & Associates, Inc.	3/8/99
33.	5.	Jesse Voss, Architect, Arquitectura	3/19/99
34.	6.	Michael J. Losik & Associates, Inc.	4/1/99
35.	7.	CH2M Hill	5/13/99
36.	8.	TSP, Inc. (DBA the Shephard Partnership)	5/21/99
37.	9.	JJR Incorporated	6/21/99
38.	10.	Eppstein Uhen Architects	7/2/99
39.	11.	Northwind Technical Services, Inc.	8/2/99
40.	12.	Sixteen Street Community Health Center	9/10/99
41.	13.	Metropolitan Survey Service	10/1/99
42.	14.	Engberg Anderson Design Partnership, Inc.	11/10/99
43.	15.	The Cathedral of St. John the Evangelist	11/22/99
44.	16.	City of St. Francis	12/8/99

EXECUTED LICENSE AGREEMENTS

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 2000	2000	
45.	1.	The Kubala Washatko Architects, Inc.	3/6/00
46.	2.	The Archdiocese of Milwaukee Catholic Cemeteries	3/21/00
47.	3.	Kahler Slater Architects, Inc.	4/14/00
48.	4.	Bradley Technology and Trade School Foundation, Inc.	6/23/00
49.	5.	TDI Associates, Inc.	6/23/00
50.	6.	Triad Engineering Incorporated	6/26/00
51.	7.	LaDallman Architects, Inc.	6/30/00
52.	8.	The Zimmerman Design Group	7/17/00
53.	9.	Mr. James Dicker	7/21/00
54.	10.	Thompson Dyke & Associates, Ltd.	8/31/00
55.	11.	Mr. James Piwoni	9/13/00
56.	12.	Mr. Brian Wishne	10/20/00
57.	13.	Ms. Pamela Zipperer	10/25/00
58.	14.	Village of Greendale	11/13/00
59.	15.	University of Wisconsin-Milwaukee	12/5/00
60.	16.	Wisconsin Center District Mr. Charles C. Pesano, CFO	12/20/00
Since 1995	For 2001	2001	
61.	1.	Landcraft Survey and Engineering, Inc.	1/18/01
62.	2.	Owen Ayres & Associates, Inc.	1/23/01
63.	3.	Wisconsin State Fair Park	2/26/01
64.	4.	Natural Resource Technology, Inc.	3/16/01
65.	5.	Village of Shorewood	3/28/01
66.	6.	Hammel, Green and Abrahamson, Inc.	4/24/01
67.	7.	Reynolds, Smith and Hills, Inc.	7/12/01
68.	8.	Rettler Corporation	9/12/01
69.	9.	Milwaukee Institute of Art and Design	9/21/01

EXECUTED LICENSE AGREEMENTS

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 2002	2002	
70.	1.	Urban Ecology Center, Inc.	01/28/02
71.	2.	PBS & J	02/19/02
72.	3.	Schlitz Audubon Nature Center	03/18/02
73.	4.	URS Corporation	05/10/02
74.	5.	Architects/Planners	05/22/02
75.	6.	STS Consultants, Ltd.	07/19/02
76.	7.	HNTB Corporation	07/26/02
77.	8.	Farr Associates, Inc.	08/06/02
78.	9.	Welch Hanson Associates	08/23/02
79.	10.	Walker Parking Consultants, Inc.	08/27/02
80.	11.	Central City Construction, Inc.	10/03/02
81.	12.	R. A. Smith & Associates	10/08/02
82.	13.	University of Wisconsin-Madison Department of Landscape Architecture	10/15/02
83.	14.	HDR, Inc.	10/17/02
84.	15.	Hey and Associates, Inc.	10/22/02
85.	16.	McClintock Architects, Inc.	12/11/02
86.	17.	Rowan Williams Davies & Irwin, Inc.	12/11/02
87.	18.	Harley-Davidson Motor Company Facilities Planning Department	12/12/02
88.	19.	Fantasia Design Services	12/12/02
89.	20.	Short Elliott Hendrikson, Inc.	12/18/02

EXECUTED LICENSE AGREEMENTS

Number of Executed Agreements		Licensee	Effective Date
Since 1995	For 2003	2003	
90.	1.	North Shore Fire Department	1/13/03
91.	2	Planning & Design Institute, Inc.	2/6/03
92.	3.	Nancy M. Aten	2/12/03
93.	4.	Graef, Anhalt, Schloemer and Associates, Inc.	4/2/03
94.	5.	Sandridge Commercial Real Estate, LLC	4/25/03
95.	6.	Bloom Consultants LLC	7/11/03
96.	7.	Landscape Architects, Inc.	7/22/03
97.	8.	Jenkins Survey and Design, Inc.	7/23/03
98.	9.	Access Engineering LLC	7/30/03

#58437 v1 - MCAMLIS-EXECUTED LIC. AGREEMNTS