WLIA Standard

Digital Parcel Mapping
Data Content Standards

Version: Adopted - March, 1999

WLIA Standard 1999 - 6

Foreword

This standard was developed by the Wisconsin Land Information Association Parcel Mapping Task Force, a task force operating under the direction of the WLIA's standing Technical Committee. Additional input was provided by the Wisconsin Society of Land Surveyors Standing Committee on GIS.

Task Force members:

Damon Anderson, Ozaukee County
Mitch Blank, UW-Milwaukee
Diann Danielsen, WI Dept. of Transportation
Todd Halvorson, MSA Professional Services
Scott Hameister, Calumet County
Steven Jarocki, Polk County
Ted Koch, Chair, State Cartographer
Janet Krucky, Price County
David Levine, Winnebago County
Rick Pauls, Outagamie County
Marty Pingel, Brown County
Louis Rada, MSA Professional Services
Karen Sylvester, Marinette County
Thomas Tym, Ruekert & Mielke, Inc.
Gus VanderWegen, Strand Associates, Inc
Paul Vastag, UW-Madison
Peggy Wilson, JE & Associates, Inc.
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Task Force Mission Statement:

The WLIA Parcel Mapping Task Force is charged with the following:

I. Evaluate the importance of issues related to local government parcel mapping, and to the content of parcel map database elements and coding schemes.

1. Provide recommendations to the WLIA Technical Committee on establishing guidelines and/or standards related to parcel mapping content, structure, appearance, and attributes and to the content of related databases.

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1.0 Purpose

Establishing a set of data content standards for digital parcel maps provides a basic level of consistency for automated parcel data in Wisconsin. These standards apply to all parcel representations. They provide for internal consistency within a parcel representation and consistency across systems. Consistency facilitates data sharing and data integration.

This standard is intended to support the requirements of the Wisconsin Land Information Program (WLIP). The WLIP enabling legislation and supporting administrative rules specify two levels of parcel mapping.

The first level is highly accurate parcel property maps that refer boundaries to the public land survey system and are suitable for use by local government units for accurate land title boundary line or land survey line information [Sec. 16.967(7)(2)]. This type of parcel mapping is cadastral level mapping. Cadastral parcel mapping represents landownership. This level can also be used for tax roll and planning purposes, but the basic purpose of this highly accurate map is its depiction of landownership boundaries. Cadastral parcel mapping is derived from survey information, and is done under the direct and responsible charge of a licensed land surveyor.

The second level is parcel maps that include a statement documenting accuracy if the maps do not refer boundaries to the Public Land Survey System that are suitable for use by local governmental units for planning purposes [Sec. 16.967(7)(3)]. This level of mapping provides a graphic representation which can be used for tax roll, addressing, and general planning applications. This mapping is also known as index or reference level parcel mapping.

The two terms used throughout the remainder of this standard are **cadastral parcel mapping** and **index parcel mapping**. Neither of these parcel map levels is intended to be a replacement for a landowner property survey, nor is either intended to register or certify a landownership boundary.

2.0 Background

This standard was developed from the collective experience of Wisconsin Land Information Program parcel mapping activities. It represents the experience and knowledge gained from practice related to parcel mapping in Wisconsin. Additional parcel mapping background information compiled by the WLIA Parcel Mapping Task Force may be found in *Wisconsin Parcel Mapping*, Guide 7, 1999, published by the Wisconsin State Cartographer's Office.

3.0 Glossary

A glossary of terms related to parcel mapping and this standard is presented below.

3.1 Accuracy, positional - The degree of correctness with which the measurement of coordinates for a point determined from a map agree with the coordinates for the same point

determined by ground survey or other independent means or source(s) accepted as accurate or true.

3.2 Base map - A base map shows natural and cultural (man-made) features on the earth's surface. Base maps may include traditional line maps using point, line, area and text symbols, or orthophoto images which are aerial images that have been scale corrected to remove various geometric distortions.

3.3 Cadastral data - The geographic extent of the past, current, and future rights and interests in real property including the spatial information necessary to describe that geographic extent.

3.4 Coordinate Geometry (COGO) - A computational method and set of procedures using directions (azimuths or bearings) and lengths or distances to compute and represent coordinate values of points.

3.5 Computer-Aided Design (CAD) - A computer software system designed mainly for drawing, drafting, and related graphic processing. CAD has limited capabilities for handling tabular data linked to map features or for complex geographic analysis, and it cannot support topologic analysis.

3.6 Digitize - The process of converting a hard copy or analog map into a digital map by tracing the lines on the map with a cursor or puck. This sometimes is referred to as board digitizing. See also heads-up digitizing.

3.7 GIS (Geographic Information System) - Encompasses the concepts of automated mapping, graphic display and output, data analysis, and data base management. A GIS is a system of hardware, software, data, people, organizations, and institutional arrangements for collecting, storing, analyzing, and disseminating information about areas of the earth.

3.8 Heads-up digitizing - The process of tracing a line from a scanned image on a computer screen to produce a vector representation of the line. The tracing may be assisted by line following algorithms.

3.9 LIS (Land Information System) - A geographic information system having as its main focus data concerning land records.

3.10 Parcel - At the county level there are many different types of parcels. For this standard the parcel is narrowly defined as a single cadastral unit. A single cadastral unit is the spatial extent of the past, present, and future rights and interests in real property (from Federal Geographic Data Committee, *Cadastral Data Content Standard*). A parcel is an area of land, which can be described by location and boundaries, and for which there is a history of defined, legally recognized interests. Parcel boundaries usually are described in narrative form on a deed as metes and bounds or bearings and distances.

3.11 Parcel Mapping - A graphical representation of parcels.

3.11.1 Index Parcel Mapping - An index parcel map is a collection of generalized representations of boundaries, shapes, and locations. Index parcel maps do not support conveyance, may be of varying accuracy, and do not resolve or represent parcel boundary discrepancies. Index parcel maps provide a spatial index to tabular information. Some examples include tax maps produced to spatially represent the tax roll, zoning maps produced to represent zoning ordinances, and land use maps that illustrate past, current or future land use categories.

3.11.2 Cadastral Parcel Mapping - A cadastral parcel map is based on a surveyed PLSS where discrepancies in PLSS monumentation are determined, evaluated, and mapped. Coordinates established on PLSS monuments have an accuracy equivalent to the NGS Third Order, Class II standards as prescribed by the Wisconsin Land Information Program Administrative Code. Parcel boundaries are collected from legal records and geographic base data. Each boundary is referenced to its source document. The positional accuracy of every parcel corner is reported.

3.12 PLSS (Public Land Survey System) - PLSS descriptions are descriptions for areas of land that follow the pattern of Townships and Ranges established by the federal government in1785 and its successors. PLSS descriptions were originally begun in 1785 on public domain lands, and their rules for use were defined by the authority of the U.S. government. PLSS descriptions have since been extended, following similar rules, into nonpublic domain areas. Both the original government-defined rectangular division of land and the subsequent extensions into nonpublic domain areas are included in PLSS legal area descriptions (from FGDC *Cadastral Data Content Standard*).

3.13 Precision - The degree of closeness or repeatability of measurement for a set of values. Precision is sharply distinguished from accuracy (see above), in that a set of values can be very precise (repeated measurements yielding similar values), but highly inaccurate if the set of values is not close to the true value.

3.14 Regulatory Boundary (Parcel) - Any boundary that determines the spatial extent of an area. This is established by a governmental regulation or mandate. The regulatory boundaries form a regulatory parcel. These include boundaries of taxing districts, such as school districts and sanitary districts, and boundaries of environmental regulation, such as shoreland zoning or recreation use limitations (from FGDC *Cadastral Data Content Standard*).

3.15 Scanning - Electronic capture of hard copy documents through a device similar to a copy machine. Scanned images are typically stored in raster formats such as TIFF, PCX, BMP, or WMF.

3.16 Vectorizing - The process of converting raster formats to lines (vector). Rastorized text needs to be processed through optical character recognition software to become recognized text.

4.0 Wisconsin Parcel Mapping Standards

The following describe the elements and content standards for parcel mapping in Wisconsin.

4.1 Geodetic Framework

All geographic coordinates are determined relative to a datum that provides the basis for their definition. All parcel representations must be referenced to a mathematical, and where appropriate, legislatively enabled, datum.

4.1.1 Horizontal Datum

The horizontal datum is used to reference horizontal positions. There are two legislatively enabled horizontal datums in Wisconsin (Wisconsin Statutes Chapter 236.18)

North American Datum of 1927 (NAD27)
North American Datum of 1983 (NAD83) and its successive adjustments

4.1.2 Vertical Datum

The vertical datum is used to determine elevations. There are no legislatively enabled vertical datums in Wisconsin. All parcel representations that include elevation must be based upon a vertical datum. The North American Vertical Datum of 1988 (NAVD 88) is recommended for use in new elevation work. Some examples are:

National Geodetic Vertical Datum of 1929 (NGVD 29)
North American Vertical Datum of 1988 (NAVD 88)
Mississippi Vertical Datum of 1912
Great Lakes Vertical datums

4.1.3 Map Projection

All parcel representations must be constructed to the specifications of a mathematically repeatable projection system based upon a mathematically defined datum (4.1). Examples of projection systems for parcel mapping:

Lambert Conic Conformal
Transverse Mercator

4.1.4 Coordinate System

All parcel maps must be constructed on a mathematically defined coordinate system. *Wisconsin Coordinate Systems*, 1995, Wisconsin State Cartographer's Office, contains definitions of all coordinate systems described below. The permissible coordinate systems under this standard are:

Wisconsin State Plane Coordinate System
Universal Transverse Mercator Coordinate System
Wisconsin Transverse Mercator Coordinate System
Wisconsin County Coordinate System
Geographic Coordinates (latitude and longitude)

4.2 Legal Framework

The legal framework for parcel mapping in Wisconsin is the Public Land Survey System (PLSS) and in selected areas of the State claim and grant systems that existed prior to the establishment of the PLSS. Other references are used to establish the spatial extent of rights in land, such as an elevation line or a water height.

For the PLSS, the legal framework includes the eight corners of the sections. For claims and grants it is the angle points that define the exterior. Divisions below this level for the PLSS and claims and grants may be included in parcel descriptions and parcel maps, but these corners are the extent of the original government surveys. The rules of evidence for establishing corners beyond the eight section corners and exterior angle points of claims and grants may be governed by local practice.

All parcel mapping in Wisconsin must be referenced to the appropriate legal framework.

The mapping methods and professional judgment used to determine the monumentation, position, and coordinate values for PLSS and claim and grant corners are the distinction between index parcel maps and cadastral parcel maps. Index parcel maps may derive the representation of the PLSS from a wide range of methods and sources. For cadastral parcel maps PLSS monument locations and coordinate positions must be derived from ground survey with associated documentation relating evidence of physical location.

All parcel maps conforming to this standard must indicate in metadata files (see Section 4.4 of this standard) the methods and sources for both physical monumentation and coordinate position of the legal framework for the parcel map. This information is necessary for data users to determine fitness for use for any application.

4.3 Data Quality

Parcel corner locations are derived from the legal framework. There are varieties of methods to establish parcel corner locations. These range in accuracy from digitizing existing maps to locating and ground surveying the corners. There are many factors in this range of accuracy including the accuracy of the parcel description, the age of the parcel description, and the presence or absence of ambiguities. This standard does not include methods and procedures necessary for resolving problems and discrepancies within or between parcel descriptions. This standard recognizes that within one parcel map, parcel corners may have varying accuracy and that the accuracy of a parcel corner may be unknown.

There are five universally recognized indicators of data quality for automated parcel data.

1. Positional accuracy
2. Attribute accuracy
3. Logical consistency
4. Completeness
5. Currency

These five indicators are reported in the parcel map metadata. Some of these indicators are captured on a point-by-point or feature-by-feature level. Others are more appropriately reported for an entire data set. The appropriate level is indicated in the quality title.

4.3.1 Positional Accuracy (Feature Level) (See Section 3.1)

The positional accuracy expresses the absolute positional tolerance of any point. For parcel maps this value is captured for each corner.

Index Parcel Map Positional Accuracy

Index Parcel Map Legal Framework

For index parcel maps there are two potential sources for the position of the legal framework (see Section 4.2). (1) For index parcel maps that derive the position of the legal framework from a map based source, the positional accuracy may be expressed as conforming to the National Map Accuracy Standard at a specified scale (see Appendix A). (2) The legal framework for index parcel maps may rely on a cadastral legal framework. See description under Cadastral Parcel Mapping (Section 3.11.2) for the specifications.

Index Parcel Map Parcel Corners

For index parcel maps that derive the position of individual parcel corners from an existing map using digitizing or scanning processes, the accuracy of individual corners is expressed in terms of the accuracy of the source map. For other methods, index parcel maps will report the automation or conversion methods in the metadata.

Cadastral Parcel Map Positional Accuracy

Cadastral parcel maps will reference the monument record that establishes the physical monument location and associated evidence.

Cadastral Parcel Map Legal Framework

For cadastral parcel maps the position of the legal framework is derived from direct ground observation and the positional accuracy is expressed as a "circle of uncertainty." The reported value for the circle of uncertainty is derived from least squares adjustment, coordinate geometry, or other computational process. The Federal Geographic Data Committee's (FGDC) *Geospatial Positioning Accuracy Standards, Part 1: Reporting Methodology* (see the WLIA Internet Web-site for linkage to this federal standard) should be used as a guide for reporting this information. All cadastral parcel maps will reference the monument record that establishes the physical monument's location, and position, and associated evidence for the legal framework.

Cadastral Parcel Map Parcel Corners

For cadastral parcel maps the position of the parcel corners will be determined from coordinate geometry based on parcel descriptions, or from field survey procedures. For all cadastral parcel maps the positional accuracy is expressed as a

"circle of uncertainty" (see reference above). All cadastral parcel maps will report the document source for the parcel descriptions.

4.3.2 Attribute Accuracy (Parcel Map Level)

All parcel maps must be able to derive the state specified tax number upon the transfer of the parcel data set(s) to other users. This number applies to tax parcels. Not all polygons in a tax map will have a tax number.

4.3.3 Logical Consistency (Parcel Map Level)

Logical consistency is an expression of the continuity of the spatial features. There are three components of logical consistency:

Topological Data Structure

Parcel maps should be automated in a manner that allows for topological structuring.

Clean Spatial Construction

All parcel maps must be clean. That is, all parcels must be processed and edited such that all parcel features are structured into polygons. There may be a set of parcel construction files that continue to show non-closed parcels. These files may be important for maintenance and for tracking parcel lineage.

Edge Matching

All parcel maps must be continuous and seamless for a county.

4.3.4 Completeness (Parcel Map Level)

All parcel maps will completely represent all of the parcels in a defined geographic extent. Any noted problems with completeness will be noted in the data quality documentation (see section 4.4.1).

4.3.5 Currency (Parcel Map Level)

All parcels will be kept current. Both index and cadastral parcel maps must have a plan and system for maintenance.

4.4 Documentation (Metadata)

This documentation (metadata) is not part of the parcel map itself but is contained in supporting files related to the map and will be readily available to any map users.

4.4.1 Data Quality Documentation

The data quality documentation will include the elements described in Section 4.3

4.4.2 Lineage Documentation

Lineage documentation will describe the source materials used, the methods of derivation, and all spatial transformations that have been performed on the parcel data. To support parcel maintenance, lineage documentation should include notes

related to the construction, judgments, and adjustments that have been made over time to parcel map representations.

4.4.3 Metadata Report

Metadata reports must be developed for all parcel maps. These reports must be consistent with the Federal Geographic Data Committee's (FGDC) *Content Standards for Digital Geospatial Metadata*. This is a requirement of the Wisconsin Land Information Program. Appendix B contains a sample parcel metadata report from Winnebago County tax parcel data.

4.5 Parcel Map Content

The following is a list of parcel features. Other features may be depicted on the maps or as text associated with the parcel map in an attached attribute database.

4.5.1 Mandatory Features for Index and Cadastral Parcel Maps

All parcel lines
All public street and highway centerlines
All Public Land Survey System township, section and quarter section lines and all claim and grant boundaries as appropriate.
The attachment of a parcel identifier number to appropriate polygon areas
Public street and highway road names.

4.5.2 Mandatory Features for Cadastral Parcel Maps

Symbols for PLSS corners.
Subdivision name, and block and lot numbers
Certified Survey Map number, volume/page, and lot number.
Condominium names and unit numbers.
Cemetery names.
Assessor plat names or numbers, blocks, and lots.
Riparian and other ambulatory legal boundaries.
Linkages to source information for all corners and lines.
Rights-of-way for public streets and highways.

4.5.3 Optional Features to Consider on the Parcel Map or in Related Databases

Centerline of the traveled way.
Addresses of buildings or structures.
Easements.
Edge of pavement of traveled ways.
Address ranges.
Railroad rights of way.
Hydrographic features.
Parcel area with a specified source. Parcel area determination procedures should be noted and consistently presented.

5.0 References

Donahue, James A. (1994), *Cadastral Mapping for GIS/LIS*, American Society of Photogrammetry and Remote Sensing/American Congress on Surveying and Mapping.

Federal Geodetic Control Subcommittee (1997), *Multipurpose Land Information Systems, The Guidebook.*

Federal Geographic Data Committee (1996), *Cadastral Data Content Standard for the National Spatial data Infrastructure*, Subcommittee on Cadastral Data, Reston Virginia.

Federal Geographic Data Committee (1998), *Content Standards for Digital Geospatial Metadata (version 2.0).*

Federal Information Processing Standard (FIPS) Publication 173 (1992), *Spatial Data Transfer Standard.*

Prescott, George W. (1996), *A Practitioner's Guide to GIS Terminology: A Glossary of Geographic Information System Terms*, Data West Research Agency, University Place, WA.

Southeastern Wisconsin Regional Planning Commission (1997), *Cadastral Mapping Guide*.

Wisconsin Land Information Association (1996), *Standard 2, Parcel Geo-Locator Standard*.

Wisconsin Land Information Board (1992), *Modernizing Wisconsin's Land Records Through Decentralized and Integrated Land Information Systems.*

Wisconsin State Cartographer's Office (1995), *Wisconsin Coordinate Systems*.

Wisconsin State Cartographer's Office (1999), *Wisconsin Parcel Mapping*, Guide 7.

APPENDIX A

United States National Map Accuracy Standards

1. Horizontal accuracy. For maps on publication scales larger than 1:20,000, not more than 10 percent of the points tested shall be in error by more than 1/30 inch, measured on the publication scale; for maps on publication scales of 1:20,000 or smaller, 1/50 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well-defined points are those that are easily visible or recoverable on the ground, such as the following: monuments or markers, such as bench marks, property boundary monuments; intersections of roads, railroads, etc.; corners of large buildings or structures (or center points of small buildings); etc. In general what is well defined will be determined by what is plottable on the scale of the map within 1/100 inch. Thus while the intersection of two road or property lines meeting at right angles would come within a sensible interpretation, identification of the intersection of such lines meeting at an acute angle would obviously not be practicable within 1/100 inch. Similarly, features not identifiable upon the ground within close limits are not to be considered as test points within the limits quoted, even though their positions may be scaled closely upon the map. In this class would come timber lines, soil boundaries, etc.

2. **Vertical accuracy**, as applied to contour maps on all publication scales, shall be such that not more than 10 percent of the elevations tested shall be in error more than one-half the contour interval. In checking elevations taken from the map, the apparent vertical error may be decreased by assuming a horizontal displacement within the permissible horizontal error for a map of that scale.

3. The accuracy of any map may be tested by comparing the positions of points whose locations or elevations are shown upon it with corresponding positions as determined by surveys of a higher accuracy. Tests shall be made by the producing agency, which shall also determine which of its maps are to be tested, and the extent of the testing.

4. Published maps meeting these accuracy requirements shall note this fact on their legends, as follows: "This map complies with National Map accuracy Standards."

5. Published maps whose errors exceed those aforestated shall omit from their legends all mention of standard accuracy.

6. When a published map is a considerable enlargement of a map drawing (manuscript) or of a published map, that fact shall be stated in the legend. For example, "This map is an enlargement of a 1:20,000-scale map drawing," or "This map is an enlargement of a 1:24,000-scale published map."

7. To facilitate ready interchange and use of basic information for map construction among all Federal mapmaking agencies, manuscript maps and published maps, wherever economically feasible and consistent with the uses to which the map is to be put, shall conform to latitude and longitude boundaries, being 15 minutes of latitude and longitude, or 7.5 minutes, or 3-3/4 minutes in size.

U.S. BUREAU OF THE BUDGET

Issued June 10, 194l
Revised April 26, 1943
Revised June 17, 1947

Appendix B

Sample Metadata Report

Tax Parcels for Winnebago County (WI), Winnebago Co. (1995)

Metadata:

Identification_Information
Data_Quality_Information
Spatial_Data_Organization_Information
Spatial_Reference_Information
Entity_and_Attribute_Information
Distribution_Information
Metadata_Reference_Information

Identification_Information:

Citation:
Citation_Information:
Originator: Winnebago County Geographic Information Systems Dept.
Publication_Date: 1995
Title: Tax Parcels for Winnebago County (WI), Winnebago Co. (1995)
Publication_Information:
Publication_Place: Oshkosh, WI
Publisher: Winnebago County Geographic Information Systems Dept.
Description:
Abstract:
Tax parcel map of Winnebago County, Wisconsin. This was derived from a variety of source maps including U.S. General Land Office survey plats, deed descriptions, subdivision maps, certified survey maps, easements, and right-of-way plats. These source materials were of several different scales and were from dates ranging from the early 1900's to the present. This map provides a useful representation of the geometry and topology of tax parcels and is suitable for its intended purpose. It is not, however, meant to be used for the determination of land ownership or to be in any way a substitute for the land ownership and interest descriptions contained in individual deeds.

Purpose:
This information is intended to be used primarily for the base layer for overlaying all of the digital layers (ex. zoning, hy3(hydro), contours, buildings, etc.) that were digitized in the WINGS project. Eventually the digital parcel layer will also be used to replace the manual tax parcel map with the Winnebago County Tax Lister's reference and official tax parcel map source.

Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 1995
Currentness_Reference: publication date

Status:
Progress: Complete
Maintenance_and_Update_Frequency: Daily

Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -88.9144
East_Bounding_Coordinate: -88.3641
North_Bounding_Coordinate: 44.2665
South_Bounding_Coordinate: 43.8762

Keywords:
Theme:
Theme_Keyword_Thesaurus: Wisconsin Land Information Program Thesaurus
Theme_Keyword: Foundational Elements
Theme_Keyword: Parcels

Theme_Keyword_Thesaurus: none
Theme_Keyword: tax parcels

Place:
Place_Keyword_Thesaurus:
Counties and County Equivalents of the States of the United States and the District of Columbia (FIPS Pub 6-3)
Place_Keyword: Winnebago County

Place_Keyword_Thesaurus: none
Place_Keyword: Wisconsin
Place_Keyword: Town of Algoma
Place_Keyword: Town of Black Wolf
Place_Keyword: Town of Clayton
Place_Keyword: Town of Menasha
Place_Keyword: Town of Neenah
Place_Keyword: Town of Nekimi
Place_Keyword: Town of Nepeuskun
Place_Keyword: Town of Omro
Place_Keyword: Town of Oshkosh
Place_Keyword: Town of Poygan
Place_Keyword: Town of Rushford
Place_Keyword: Town of Utica
Place_Keyword: Town of Vinland
Place_Keyword: Town of Winchester
Place_Keyword: Town of Winneconne
Place_Keyword: Town of Wolf River

Place_Keyword: Village of Winneconne
Place_Keyword: City of Menasha
Place_Keyword: City of Neenah
Place_Keyword: City of Omro
Place_Keyword: City of Oshkosh

Access_Constraints:
None for off-line access. Our new website address is: <http://clients.camber.com/wings.> On-line access to these data is restricted to departments of Winnebago County government.

Use_Constraints:
This information is NOT to be used for describing actual or true property ownership or title.

Point_of_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: GIS Dept.
Contact_Person: Dave Levine
Contact_Position: GIS Database Administrator
Contact_Address:
Address_Type: mailing address
Address: P.O. Box 2808
City: Oshkosh
State_or_Province: WI
Postal_Code: 54903-2808
Contact_Address:
Address_Type: physical address
Address: Orrin King Administration Building, Room 216, 448 Algoma Blvd.
City: Oshkosh
State_or_Province: WI
Postal_Code: 54903-2808
Contact_Voice_Telephone: (920) 236-4838
Contact_Facsimile_Telephone: (920) 303-3035
Hours_of_Service: 8 a.m. - 4:30 p.m. CST
Contact_Instructions:
Additional contact persons: Larry Ellenbecher (GIS Systems Administrator) (920) 236-1066; Diane Culver (GIS Specialist) (920)
236-4801.

Native_Data_Set_Environment:
Genamap GIS, HP-UX OS, running on HP755, and AIX running on RS6000

Cross_Reference:
Citation_Information:
Originator: Winnebago County Property Lister
Publication_Date: 1995

Title: TPMS data of tax parcel layer
Publication_Information:
Publication_Place: Oshkosh, WI
Publisher: Winnebago County Property Lister
Other_Citation_Details:
TPMS is an on-line taxation database which contains the attributes used with the parcels coverage, such as the owner, owner address, property address, an abbreviated legal description, area, assessment year, zoning, assessment value, and school district. It is available on-line to agencies of Winnebago County only. The contents of this database are available off-line to other parties. This data is also available from the Winnebago County GIS Department.

Data_Quality_Information:

Attribute_Accuracy:
Attribute_Accuracy_Report:
100% of the data was checked for attribute accuracy by the Winnebago County GIS Department.

Logical_Consistency_Report:
Data set is topologically structured polygon data with nodes at all intersections.

Completeness_Report:
To the best knowledge of the Winnebago County GIS Department, this coverage includes all parcels in Winnebago county.

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Relative horizontal positional accuracy for the planimetric information used to develop the original parcel data is estimated at +/- 2.5 feet for every 1000 feet. For full details see: Winnebago County Conversion Project Manual" Revised February, 1993. Current parcel maintenance strives to stay within this positional accuracy tolerance, and is checked by comparing hard copy output against measurement information contained in the original source documents (deeds, subdivision plats, and CSMs).

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: Winnebago County Property Lister
Publication_Date: 1948-1992
Title: Winnebago County Tax Parcel Maps
Geospatial_Data_Presentation_Form: map
Publication_Information:
Publication_Place: Oshkosh
Publisher: Winnebago County Property Lister

Source_Scale_Denominator: 3960
Type_of_Source_Media: linen, mylar
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1948
Ending_Date: 1992
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: none
Source_Contribution: dimensions, shorelines

Source_Information:
Source_Citation:
Citation_Information:
Originator: Wisconsin Registered Land Surveyors
Publication_Date: 1950-1995
Title: Subdivisions
Geospatial_Data_Presentation_Form: map
Publication_Information:
Publication_Place: Madison
Publisher: Register of Deeds, Winnebago County
Source_Scale_Denominator: various
Type_of_Source_Media: paper
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1950
Ending_Date: 1995
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: none
Source_Contribution:
subdivision boundaries, subdivision lots, subdivision title, lot numbers, lot dimensions, road right-of-way, street names, street centerlines,
shorelines

Source_Information:
Source_Citation:
Citation_Information:
Originator: Wisconsin Registered Land Surveyors
Publication_Date: 1950-1995
Title: Certified Survey Maps
Geospatial_Data_Presentation_Form: map
Publication_Information:
Publication_Place:
Final documents are recorded with County Register of Deeds, Winnebago Co.
Publisher: Private land surveying companies

Source_Scale_Denominator: various
Type_of_Source_Media: paper
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1950
Ending_Date: 1995
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: CSMs
Source_Contribution:
CSM boundaries, CSM lots, CSM tag, road right-of-way, street names, street centerlines, shorelines

Source_Information:
Source_Citation:
Citation_Information:
Originator: Aerometric Engineering
Publication_Date: 1991
Title: Orthophotos
Geospatial_Data_Presentation_Form: remote-sensing image
Publication_Information:
Publication_Place: Sheboygan, WI
Publisher: Aerometric Engineering
Other_Citation_Details:
East half of county in color orthophotos, entire county in B/W
Source_Scale_Denominator: 10080
Type_of_Source_Media: paper and TIFF files
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1991
Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: none
Source_Contribution: planimetric base for parcel data, shorelines,

Source_Information:
Source_Citation:
Citation_Information:
Originator: Intelligraphics Inc.
Publication_Date: 1993
Title: County converted digital parcel boundaries
Geospatial_Data_Presentation_Form: map
Publication_Information:
Publication_Place: Waukesha, WI
Publisher: Intelligraphics Inc.
Other_Citation_Details: Entire county
Source_Scale_Denominator: 2400

Type_of_Source_Media: paper and TIFF files
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1993
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: none
Source_Contribution: land base for parcel data
Process_Step:
Process_Description:
The Winnebago County Conversion Project Manual, revised February, 1993 describes the original data conversion process.
Process_Date: 1991

Process_Step:
Process_Description:
The current maintenance process for the tax parcel layer is as follows: 1) Winnebago County's base horizontal reference system is comprised of a local GPS control network established in 1991 (2nd Order (FGCS) stations tied to the National Spatial Reference System). 2) Public Land Survey System section and quarter section corner locations are developed from remonumentation tie sheet information prepared by local Registered Land Surveyors using using coordinate geometry and referenced to the GPS network. 3) Officially recorded Subdivisions and Certified Survey Maps (CSMs) are added using coordinate geometry. 4) Unplatted areas are developed using a combination of on-screen digitizing and coordinate geometry.
Process_Date: 1993-present

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 71492

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: State Plane Coordinate System 1983
State_Plane_Coordinate_System:

SPCS_Zone_Identifier: 4803
Lambert_Conformal_Conic:
Standard_Parallel: 42.733333 (defined as 42d 44m)
Standard_Parallel: 44.066666 (defined as 44d 04m)
Longitude_of_Central_Meridian: -90.00
Latitude_of_Projection_Origin: 42.00
False_Easting: 1968499.99999
False_Northing: 0.
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: coordinate pair
Coordinate_Representation:
Abscissa_Resolution: 0.0001
Ordinate_Resolution: 0.0001
Planar_Distance_Units: survey feet

Entity_and_Attribute_Information:

Detailed_Description:
Entity_Type:
Entity_Type_Label: Attributes of parcel layer
Entity_Type_Definition: Attributes of parcel layer
Entity_Type_Definition_Source:
Winnebago County Geographic Information System; Land Records Office.

Attribute:
Attribute_Label: Parcel Number
Attribute_Definition:
The parcel number is not a pure number but a code for tagging a parcel polygon and for land ownership identification within the Tax Parcel Mapping System (TPMS) database and the WINGS relational database, Informix. The code is comprised of a 3 digit civil township number, a 4 digit parent parcel number, and up to 4 digits representing parcel splits.
Attribute_Definition_Source: Nichols.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 00100010000
Range_Domain_Maximum: 99999999999

Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: GIS Dept.
Contact_Person: Dave Levine
Contact_Position: GIS Database Administrator
Contact_Address:
Address_Type: mailing address

Address: P.O. Box 2808
City: Oshkosh
State_or_Province: WI
Postal_Code: 54903-2808
Contact_Address:
Address_Type: physical address
Address: Orrin Administration Building, Room 216, 448 Algoma Blvd.
City: Oshkosh
State_or_Province: WI
Postal_Code: 54903-2808
Contact_Voice_Telephone: (920) 236-4838
Contact_Facsimile_Telephone: (920) 303-3035
Hours_of_Service: 8 a.m. - 4:30 p.m. CST
Contact_Instructions:
Additional contact persons: Larry Ellenbecher (GIS Systems Administrator) (920) 236-1066; Diane Culver (GIS Specialist) (920) 236-4801.

Resource_Description: landuse pcyx

Distribution_Liability:
This data was created for use by the Winnebago County Geographic Information System project. Any other use/application of this information is the responsibility of the user and such use/application is at their own risk. Winnebago County disclaims all liability regarding fitness of the information for any use other than Winnebago County business.

Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: Genamap
Format_Information_Content: arcs of parcel polygons
Transfer_Size: 4.5
Digital_Transfer_Option:
Offline_Option:
Offline_Media: 4mm cartridge tape
Recording_Capacity:
Recording_Density: 1.3
Recording_Density_Units: gigabytes
Recording_Format: tar
Offline_Option:
Offline_Media: 3-1/2 inch floppy disk
Recording_Capacity:
Recording_Density: 1.44
Recording_Density_Units: megabytes
Recording_Format: DOS copy
Recording_Format: cpio
Offline_Option:

Offline_Media: CD-ROM
Recording_Capacity:
Recording_Density: 640
Recording_Density_Units: megabytes
Recording_Format: DOS copy

Digital_Form:
Digital_Transfer_Information:
Format_Name: ESRI Shape (ARC-SHAPE)
Format_Information_Content: arcs of parcel polygons
Digital_Transfer_Option:
Offline_Option:
Offline_Media: 4mm cartridge tape
Recording_Capacity:
Recording_Density: 1.3
Recording_Density_Units: gigabytes
Recording_Format: tar
Offline_Option:
Offline_Media: 3-1/2 inch floppy disk
Recording_Capacity:
Recording_Density: 1.44
Recording_Density_Units: megabytes
Recording_Format: DOS copy
Recording_Format: cpio
Offline_Option:
Offline_Media: CD-ROM
Recording_Capacity:
Recording_Density: 640
Recording_Density_Units: megabytes
Recording_Format: DOS copy

Digital_Form:
Digital_Transfer_Information:
Format_Name: DXF
Format_Information_Content: arcs of parcel polygons
Digital_Transfer_Option:
Offline_Option:
Offline_Media: 4mm cartridge tape
Recording_Capacity:
Recording_Density: 1.3
Recording_Density_Units: gigabytes
Recording_Format: tar
Offline_Option:
Offline_Media: 3-1/2 inch floppy disk
Recording_Capacity:
Recording_Density: 1.44
Recording_Density_Units: megabytes

Recording_Format: DOS copy
Recording_Format: cpio
Offline_Option:
Offline_Media: CD-ROM
Recording_Capacity:
Recording_Density: 640
Recording_Density_Units: megabytes
Recording_Format: DOS copy

Digital_Form:
Digital_Transfer_Information:
Format_Name: ASCII
Format_Information_Content: Tax Parcel Management System data
Digital_Transfer_Option:
Offline_Option:
Offline_Media: 3-1/2 inch floppy disk
Recording_Capacity:
Recording_Density: 1.44
Recording_Density_Units: megabytes
Recording_Format: DOS copy
Offline_Option:
Offline_Media: CD-ROM
Recording_Capacity:
Recording_Density: 640
Recording_Density_Units: megabytes
Recording_Format: DOS copy

Fees:
$27 per hour labor time plus $1.25 per diskette, $20 per DAT tape, or $5.00 per CD. Delivery Fee included in the above.

Ordering_Instructions: Order by telephone or in person.

Turnaround: 2-5 days

Custom_Order_Process:
Any fractional portion of the tax parcel layer or the associated tax parcel attribute data is available as a special order, $.05 per parcel.

Hardcopy products are also availabile. These include PaintJet color prints, Lazer B/W prints, Electrostatic B/W prints, DesignJet 650c A to E color prints. For these products the fees are $6.73 per layer plus a media fee and $27 per hour labor.

Metadata_Reference_Information:

Metadata_Date: 19981001

Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: GIS Dept.
Contact_Person: Dave Levine
Contact_Position: GIS Database Administrator
Contact_Address:
Address_Type: mailing address
Address: P.O. Box 2808
City: Oshkosh
State_or_Province: WI
Postal_Code: 54903-2808
Contact_Address:
Address_Type: physical address
Address: Orrin King Administration Building, Room 216, 448 Algoma Blvd.
City: Oshkosh
State_or_Province: WI
Postal_Code: 54903-2808
Contact_Voice_Telephone: (920) 236-4838
Contact_Facsimile_Telephone: (920) 303-3035
Hours_of_Service: 8 a.m. - 4:30 p.m. CST

Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: 19940608