SUBDIVISION REGULATION
RELATING TO THE ADOPTION OF GIS MAPPING STANDARDS FOR THE CITY OF VERSAILLES, THE CITY OF MIDWAY, AND WOODFORD COUNTY, KENTUCKY

Contents

Introduction

The Versailles-Midway-Woodford County Planning Commission (V-M-WCPC) will be requiring minor plats, major plats, subdivision plans and improvement plans to be submitted in digital format. This requirement is in addition to the existing hardcopy submission requirements. The intent of this document is to enable the required hardcopy and digital submission to be produced from the same digital data without significant modification. Some rudiments of structure are required such as layer designation and line type. **However, there are not database linkage requirements**

The purpose of this prerequisite is to allow the Office of Land Information's geographic information system (GIS) to be as current as possible. A GIS allows multiple users the ability to share computerized or digitized base maps, and link a variety of information to geographic features within the maps. For example, property value information can be linked to parcels, construction information can be linked to utilities, and floodplain information can be layered over districts or census tract information. A GIS also reduces the redundancy in map maintenance.

In order for the GIS to be fully utilized by the Office of Land Information and other agencies, it must be as current as possible. An excellent example of this is the Enhanced 911 system that indicates the address of callers requesting emergency assistance. Many GIS users have requested that preliminary layouts of subdivisions be available in digital format, fully realizing that the plans are subject to change prior to final recording of the plat. The submitted digital data may be used for computational purposes in reviewing the map, maintaining digital landbases, or used in a document retrieval system. A disclaimer of liability will be placed on all digital files and file copies. **The hardcopy will continue to be the official document.**

SECTION 1: ADOPTION OF THE GIS MAPPING STANDARDS/DIGITAL FORMAT

Minor plats, major plats, subdivision plats and improvement plans will be submitted to the V-M-WCPC in digital format by surveyor/registered civil engineer in accordance with the following details:

Requirements for Subdivision Plan Submission
In Digital Format

I.   <u>Purpose</u>   The purpose of this document is to outline the minimum content and format required of **all** subdivision plans, submitted in digital format, before being considered "officially filed."

II.   <u>Format Requirements</u>   The format for digital submission of subdivision plans and plats is the (*.DXF, *.DWG, *.DGN) format.

III.   Data Layering and Submission Requirements
        A. The following table outlines what will be considered valid layer names and data
           elements for the specific layers:

X-Required in digital format   **O**-Desired, but not required in digital format

LAYER	DATA OR FEATURE	PRELIMINARY	IMPROVEMENT	FINAL	DATA ELEMENT
BNDY	Boundary Lines	X	X	X	Continuous Line
BNDY-TXT	Boundary text, survey calls, etc.	X	X	X	Annotation
CL	Street centerlines	X	X	X	Continuous Line
EX-ESMT	Existing easements	X	X	X	Continuous Line
EX-CONT	Existing contours	X	X	X	Continuous Line
EXCONT-TXT	Existing contours text	X	X	X	Annotation
FLOODPLN	Floodplain	X	X	X	Continuous Line
FLOODPLN-TXT	Floodplain text	X	X	X	Annotation
LOTLINE	Lot lines	X	X	X	Continuous Line
LOT-TXT	Lot numbers	X	X	X	Annotation
MONUMENT	Monument icon	O	X	X	Point
MON-TXT	Monument description	O	X	X	Annotation
NEW-ESMT	New easements	X	X	X	Continuous Line
NEW-ESMT-TXT	New easement descriptions	O	O	X	Annotation
PROP-CONT	Proposed contours	X	X	X	Continuous Line
ROW	Street right-of-way	X	X	X	Continuous Line
SETBACK	Building setback line	X	X	X	Continuous Line
STARTPNT	Starting point	X	X	X	Point
STRNAME	Street name text	X	X	X	Annotation
TITLE	Appropriate title	X	X	X	Annotation
MISC	Miscellaneous data, disclaimers, etc	O	O	X	Any
STREAM	Proposed stream relocation	O	X	X	Continuous Line
STREAM-TXT	Stream text	O	X	X	Annotation
RETBASIN	Proposed retention basin	X	X	X	Continuous Line
DETBASIN	Proposed detention basin	X	X	X	Continuous Line
ST-PIPE	Storm pipes and culverts	X	X	X	Continuous Line
ST-PIPE-TXT	Culvert and pipe text	X	X	X	Annotation
ST-MH	Manholes and junction boxes	X	X	X	Point
ST-MH-TXT	Manhole and junction box text	X	X	X	Annotation
ST-HDWL	Headwalls	X	X	X	Point
ST-HDWL-TXT	Headwall text	X	X	X	Annotation
SAN-PIPE	Sanitary sewer pipe	X	X	X	Continuous Line
SAN-PIPE-TXT	Sanitary sewer pipe text	X	X	X	Annotation
SAN-MH	Sanitary sewer manhole	X	X	X	Point
SAN-MH-TXT	Sanitary sewer manhole text	X	X	X	Annotation
SETBACK					
SITENUM	Address numbers	O	X	X	Annotation
SAN-LIFT	Sanitary sewer lift station	X	X	X	Point
SAN-LIFT-TXT	Sanitary sewer lift station text	X	X	X	Annotation
WA-LINE	Water line	X	X	X	Continuous Line
WA-LINE-TXT	Water line text	X	X	X	Annotation
WA-VAL	Water valve	X	X	X	Point
WA-VAL-TXT	Water valve text	X	X	X	Annotation

HYDRANT	Fire hydrants	**X**	**X**	**X**	Point
BL-OFF	Blow-offs	**X**	**X**	**X**	Point
BL-OFF-TXT	Blow-offs text	**X**	**X**	**X**	Annotation

B. In lieu of the appropriately named layers, an ASCII text file will be accepted which specifically designates each layer within the file to a specific name listed in the preceding column. The name of text file must be **LAYER.TXT**. The format of the text file will be comma delimited. (Example: V-M-WCPC layer name, AutoCad layer name) The data elements that are required for each layer must be separated according to the above list regardless of the naming convention used.

C. All other data not required or desired by the V-M-WCPC and therefore, not indicated in the preceding table, should be transmitted as a separate data element or on other layers.

D. In cases where a linear element between two points applies to more than one feature (i.e. a boundary line and lot line may be coincidental), this data may, at the submitter's discretion, be submitted as one graphical element. If such is the case, the following hierarchy must be utilized to determine the appropriate layer for the graphics data.

> 1. Boundary
> 2. Right-of-way
> 3. Lot line

By utilizing this approach, there is no duplication of data.

E. Text layers will be used to provide attribute data on each structure where text is requested. The following lists information that each layer will require:

STPIPTXT	Pipe or culvert size, material, in elevation, out elevation, slope and length
STMHTXT	Type, rim elevation, diameter, dimensions (x,y,z) for junction boxes, and grate type
HWTXT	Headwall type
SAPIPETXT	Pipe or culvert size, material, in elevation, out elevation, slope, and length
SAMHTXT	Type, rim elevation, diameter, dimensions (x,y,z) for junction boxes, and grate type
SALIFTTXT	Type, rim elevation, diameter, and dimensions (x,y,z) for junction boxes
WALINETXT	Pipe size and material

WAVALTXT	Size
BLOFFTXT	Size

F. Shapes and blocks will not be permitted as a valid data element for point feature symbology.

G. The digital file for the preliminary, improvement, and final documents must be submitted along with fifteen (15) hardcopy prints to:

Versailles-Midway-Woodford Co. Planning Commission
Attn: Planning Director
103 S. Main Street, Rm 204
Versailles, KY 40383
Email: woodford.planning@woodfordcountyplanningandzoning.com

IV.   File Naming Convention – Filenames shall be appropriately assigned based on the alphanumeric plan number assigned by the Planning Commission office. Filename extension should include: **.DXF, .DWG**.

IV.   Media Requirements

A. The following methods of data transfer are considered acceptable for digital submission of subdivision plans:

1. DSHD diskettes (1.44MB)
2. CD Rom
3. Email

NOTE: Files requiring more than one diskette may be compressed using methods employed by the V-M-WCPC. No other files will exist on the media. No additional information will exist in the file aside from data being specifically transmitted to the V-M-WCPC.

B. All diskettes and CD-ROM's being submitted to the V-M-WCPC will require a label indicating the following information and will be signed by the licensed Surveyor/Registered Civil Engineer submitting the map. The purpose of the signature is to verify the transmittal of the data, not professional responsibility for the data. It is understood, by the receiving organization, that the digital data does not constitute a professional delivery. It is the responsibility of the receiving organizations to refer to the recorded map for the correct information. Label requirements:

Subdivision:
File Name:
Date:
LS/PE:
Registration Number:

Format:
Signature:

EXAMPLE:

       Subdivision: Windy Acres Unit 1B
       File Name: 95999P01.DXF
       Date: May 1, 2002
       LS/PE: Smith and Jones Engineering
       Registration Number: L.S. 2005
       Format: *.DXF
       Signature:

NOTE: Data received via Email will require an accompanying ASCII text file (.TXT extension) using the same naming convention as the .DXF or .DWG file as substitute for the label.

C. **Submitted diskettes and CD-ROMs will not be returned by the V-M-WCPC.**

V.   <u>Conventional Hardcopy Submittal Requirements</u>

The following requirements pertain to the hardcopy maps, which are submitted in conjunction with a digital submittal. In order to facilitate the map inspection process and to enable direct correlation between the hardcopy map and the digital submission, the following points should be noted:

A.   Any distance on or internal to the boundary of the map must meet National Map Accuracy Standards or scale to within 1/40th inch at map scale plus one part per one thousand.

     Examples:

Map Scale	Distance	Allowable Scaling Error
1" = 40'	10'	1.01'
1" = 40'	800'	1.80'
1" = 100'	200'	2.70'
1" = 100'	1000'	3.50'
1mm = 1000m	61 m	.823 m
1mm = 1000m	100 m	2.51 m

B.   The following convention for monumentation symbology is the preferred and recommended convention. Three control monument symbols will be used. Control points represented by a solid triangle, found control monuments represented by a solid circle, and set control monuments represented by a solid square. Monuments will be numbered and the monument description will be called out separately as required.

VI.   Data Integrity Requirements

The following requirements pertain to the mathematical integrity of the geometric data.

A.   The maximum error allowable between theoretically coincident points will be .03 feet (9mm).

B.   The maximum error allowable between points on a line and the line will be .02 feet (6mm).

C.   The difference between distances calculated by the inverse between the coordinates of points in the digital submission and the annotated distance shall not exceed .01 feet (3mm).

D.   The difference in seconds between bearings calculated by the inverse between the coordinates of points in the digital submission and the annotated bearings shall not exceed the maximum of (1031/dist (ft), 1").

Distance (feet)	Allowable Error in Bearing (seconds)
50	21
100	11
200	6
1200	1
5000	1

E.   Boundaries will be transmitted as a closed figure. One continuous line rather than a series of lines, arcs, and curves.

F.   Curvilinear boundaries (i.e. not lines nor arcs) will be represented by sufficient points to clearly define the boundary. Examples of curvilinear boundaries might include the centerline of a stream, high water mark, contour lines, and transition curves on railroads.

G.   Annotation submitted digitally will be identical to annotation submitted on the hardcopy maps. The section *Data Layering and Submission Requirements* defines the prerequisites for submission of annotation.

H.   When displaying coordinates, the whole number for the coordinate will be shown (i.e. no constants will be applied).

VII.   Ties to Horizontal Control

A.   The surveyor or engineer will be required to show those ties made to such control monuments in accordance with the Subdivision Regulations. Coordinates published by the V-M-WCPC for these control monuments shall

be shown on the hardcopy and the digital file when required by the *Data Layering and Submission Requirements* of this document.

B. The **boundary** of the development plan shall be tied into the Kentucky State Plane Coordinate System, North Zone, NAD 83 in US survey feet, or latest revision or adjustment used by the V-M-WCPC in at least two locations. The locations will preferably be on opposite sides of the subdivision boundary or as mutually agreed upon by the V-M-WCPC.

C. The basis of bearings for the plat shall be the Kentucky State Plane Coordinate System, North Zone, NAD 83, in US survey feet, the latest revision or adjustment used by V-M-WCPC. These are to be established by the use of existing monuments, global positioning system surveys, or by astronomic observations.

D. If the boundary of the development is a parcel or lot of a plat presently ties to the Kentucky State Plane Coordinate System, North Zone, NAD 83, in US survey feet, the requirements of section VIII, paragraph B, shall be waived, with the stipulation that the surveyor or engineer be required to show existing monumentation and coordinates of the plat.

VIII. Review of Digital Data

A. All digital data will be reviewed for the following criteria:

1. Correct layering
2. Closure of the geometry of the boundary
3. Verification that digital and hardcopy maps are consistent
4. Correct geographical position (i.e. correct coordinate values for final submissions)

B. The licensed Surveyor/Registered Civil Engineer will be responsible for correcting any errors and resubmit the correct digital file prior to approval by the V-M-WCPC.

C. There will be a 6-month grace period from the first digital submittal given to each surveyor/engineering firm in which the V-M-WCPC will review the submission and give feedback on whether it meets the new standards. If it does not, the surveyor/engineer will be allowed to re-submit with corrections. After the grace period, any submission which does not meet these standards will be rejected

SECTION 2: EXCEPTIONS

Areas of the Cities or County, where due to lack of proper signal or which are further than 1 mile from an established monument or for other site specific hindrances that render it impossible to obtain the full data as required herein, shall provide the data at a scale of plus or minus two (2) feet with at least two control points of reference. Control points of reference **must be visible on the V-M-WCPC's ortho-photography**, must be contained in the layer named MONUMENT, and must be clearly labeled as to what object they are referencing.

SECTION 3: EFFECTIVE DATE

Effective Date: October 1, 2002

Horizontal Control Requirements

Monuments.mxd | September 2002