

Oregon Department of Revenue

Standard for Digital Cadastral Maps

Version 1.1, February 25, 2009

Introduction

This standard is a supplement to the *Oregon Cadastral Map System* manual (the manual) published by the Oregon Department of Revenue. It is to be used with the manual to assist in preparing maps on a computer system. It applies to maps maintained for the use of the County Assessor in appraising property and providing taxlot information to the public. Users should refer to both the manual and this standard for complete information on the creation and maintenance of their maps.

The manual was prepared to set a standard for cadastral mapping in the State of Oregon. It is based on manual mapping techniques with some reference to computer-aided mapping. This supplemental standard was created in response to the number of public bodies creating Geographic Information Systems (GIS) and having trouble conforming the output to the standards in the manual. This standard is flexible enough to allow the Assessor to work with other agencies in creating a dynamic GIS while providing the users with a standard map that will be recognizable across the state.

It is important to realize that these digital maps will see extensive use by people outside the assessor's office. It is recommended that assessors undertaking remapping or establishing a GIS work with other users of their maps to incorporate features they will need. Such features may include complete hydrography coverage, zone boundaries, etc.

Any exceptions to this standard must be approved in writing by the Cadastral Information Systems Unit of the Department of Revenue. It is noted that this standard will be applied only to remapping projects that are undertaken after this standard goes into effect. Counties who are mapping manually or have projects under way as of the effective date of this standard may use this standard or continue to follow the manual. A project that involves scanning existing maps into the computer is not considered remapping.

Control

All maps will use the best geodetic control available. Control points will be identified with a Bureau of Land Management reliability code. (See Appendix A.) The codes may be included as attributes, tags, database links, or unique symbols. The more data that can be associated with a point, the better that point will serve in the future. The reliability codes are:

Code	Control Reliability
1	1 foot or less
2	3 feet or less
3	10 feet or less
4	40 feet or less
5	100 feet or less
9	Unknown

When a county is being remapped, the maps should be built on NAD-83/91 State Plane Coordinates using international feet. This will facilitate information exchange.

Minimum Map Requirements

The following features are the minimum requirements for maps maintained for the Assessor's Office. Other data may be included as required for the work of the office in any particular county. The graphic examples show how the feature should be plotted on the map.

It should be noted that a GIS will require that each parcel form a closed polygon. Cartographers must keep this in mind when drawing the maps and assure that all line intersections are broken and that there are no gaps or overlaps. It is standard practice in digital mapping to separate all cartographic features into consistent and clearly defined layers or levels.

In an effort to accommodate other users, an attempt should be made to leave about fifty feet of the lot adjacent to the street vacant, except for bearings and distances.

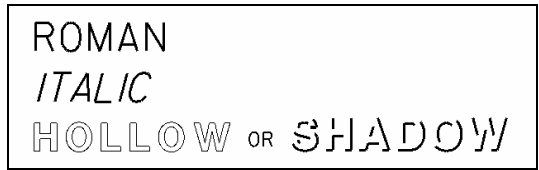
Lines are specified by two weights:

weight 0 = .005"

weight 1 = .01"

The relationship between the weights is the important factor if the user's hardware makes plotting these exact weights impractical. Property boundaries are shown as solid lines. All other lines are patterned.

Text will be placed in one of three fonts. All will be standard sans-serif text. The three fonts are:



Either Hollow or Shadow font is used; they are not mixed. Text may be specified as Light, Normal, or Bold. Text sizes,

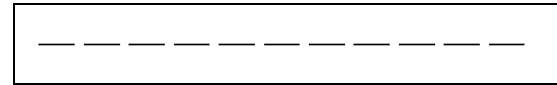
where specified, are in inches on the printed map.

Map Features

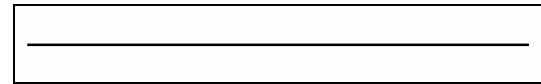
Control Points which are used in creating the map are identified as to accuracy and, where possible, with the source. They are not required to be printed on the map.

Section Lines from the Public Land Survey System are used only when needed.

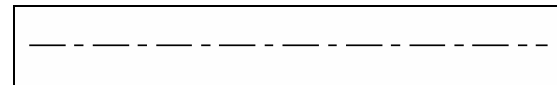
Weight 1, dashed



Public Road Right-of-Way Lines show the legal right-of-way independent of physical features; they always form a property boundary. Weight 1, solid



Public Road Centerlines are kept in the file if they are used for constructing the map. It is not required that they be printed on the map. Weight 0, Centerline Symbol

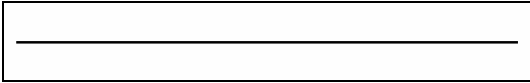


Public Road Name Text includes the legal name, the common name, previous names, and county road numbers. It is placed within the right-of-way, scaled to the street width with a maximum size of .2".

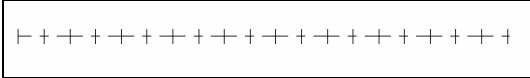
Roman, regular font



The **Railroad Right-of-Way** forms a property boundary. Weight 1, Solid



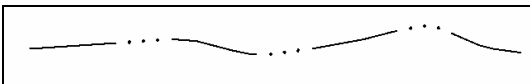
Railroad Centerline or track is usually shown as a single symbol in the center of the right-of-way unless more detail is required, in which case individual tracks and spurs may be shown. Weight 0



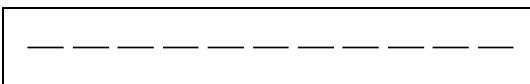
Railroad Name Text is shown within the right-of-way. Roman, regular font



Hydrography. All waterlines, both single and double line, will be shown with a symbol similar to the USGS seasonal stream pattern. Waterlines are never used to show property boundaries. If the property boundary is the same as the waterline it must be added as a separate parcel boundary line. Weight 1, Waterline linestyle



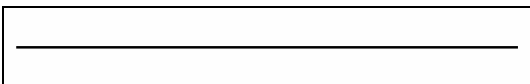
Meander Lines are shown if deeds or surveys reference them. Weight 1, dashed



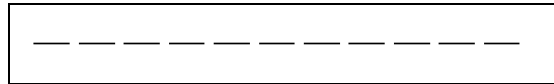
Hydrography Text, Italic, Regular font



Parcel (Taxlot) Boundary Lines, Weight 1, Solid

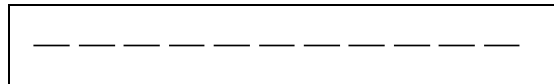


Original Lot Lines are used in subdivisions where the original lot line is not the current taxlot line. Weight 1, Dashed

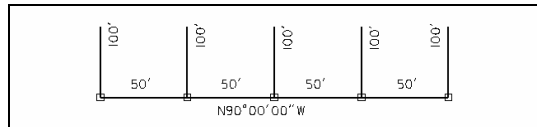


Supplemental Boundary Lines are former boundary lines other than the original lot lines that are shown because they may be referenced on deeds or surveys.

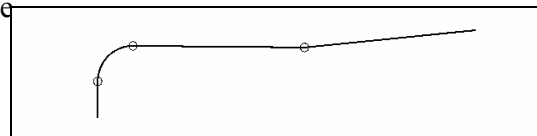
Weight 1, Dashed



Lot Corners are .04" squares placed at each of the original lot corners in a subdivision or partition plat, parallel with the bottom of the map. Weight 0



Tangent Points or Direction Changes are shown with a .05" circle. Weight 0

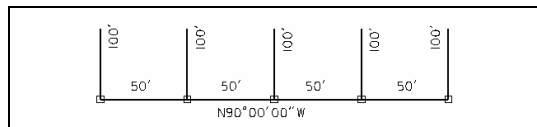


Bearing Text shows the bearing of a line and is placed parallel to the line.

Roman, Regular, .05"

Distance Text shows the length of a line and is placed parallel to the line.

Roman, Regular, .05"



Survey Numbers are placed in cooperation with the County Surveyor. If the Assessor's office is maintaining survey

numbers they may refer to the manual mapping standards.

Taxlot Information consists of up to five items which are placed as a block of data parallel to the bottom of the map, and away from the street, in the following order:

Street Address is not required to be placed by the assessor's office. *Italic, Regular, .075"*

Taxlot Number, Roman, Bold, .1"

Acreage is placed when required by the manual. Acreages should never be calculated from the map when it is possible to calculate them from a deed description or survey.

Roman, Regular, .075"

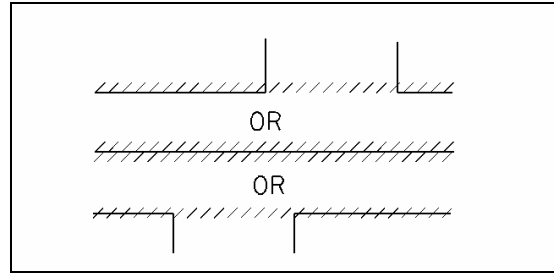
Partition Plat Parcel Number may be placed under the acreage or in the parcel corner as with lot numbers.

Roman, Regular, .08"

A **Centroid** may be placed as a part of this block before or after the other elements.

3453 3800 2.34 AC PAR 2

The **Subdivision Line** may be placed on one or both sides of the line where subdivisions meet. The ticks may be on one side of the line or across the line. This results in three acceptable placements. Subdivisions, Partition Plats, and Condominiums are treated the same way. The linestyle consists of short diagonal lines. The recommended size is .05" at a 45° angle spaced .075" apart. Weight 0

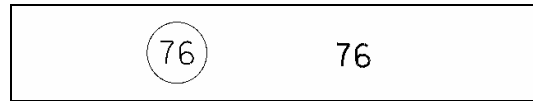


Subdivision Name is either Hollow or Shadow text, and it should be consistent throughout the county. It is sized to fit with a maximum size of .24".

HEAD ACRES SHADOW'S ADD.

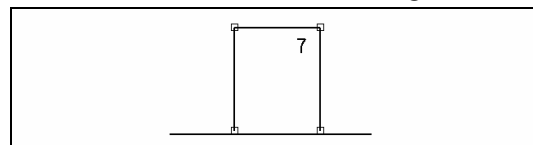
Partition Plat Names are treated the same as subdivisions. Only the number is needed to identify the partition plat. Parcels are treated the same as lots.

The **Block Number** is placed as Roman, Regular, .125", in a circle near the center of the block and parallel with the bottom of the map, or it is placed Bold without a circle.

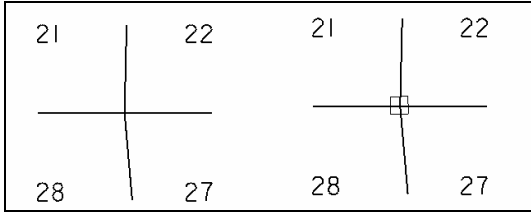


The **Lot Number** is placed once in a corner of the lot away from the street and parallel with the bottom of the map. In the case of Partition Plats the parcel number may be placed under the taxlot number and acreage.

Roman, Regular, .08"



Section Corners are identified with .5” long weight 1 lines following the section lines. They may be solid or dashed. If a distinction is shown, found corners have a .1”, weight 0, open box centered on the corner. Text is roman, regular, .1”, placed parallel with the bottom of the map.

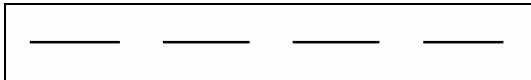


Approximate Found

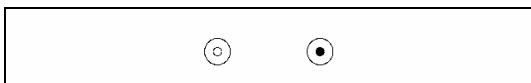
Government Lot Numbers. On 2000 scale maps only the lot number and acreage is shown. On larger scale maps the word ‘LOT’ precedes the number. Acreage is shown on all maps from 2000 to 200 scale. Roman, Regular, .08”

4	LOT 4	LOT 4
35.04	35.04	
1”=2000’	1”=800’ - 1”=200’	1”=100 or less

D.L.C. Lines are plotted as a long (.5”) dash. They are not printed where other lines follow the D.L.C.



D.L.C. Corners will be shown with a .05” circle inside a .15” circle. The inner circle will be solid if it shows a found corner. Weight 0



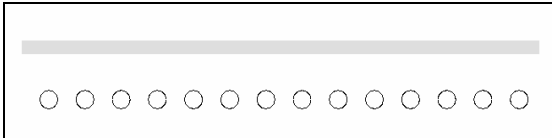
D.L.C. Text. All D.L.C. lines will be labeled so that the line or corner will be identified in each printed map.

Roman, Regular, .08”

S/L JOHN DOE D.L.C. NO. 56

Map Index Boundaries. Some means must be provided for showing adjacent maps and creating map indexes.

Code Boundary Lines will be shown with either a .1” wide light gray line or as a series of circles .1” in diameter and .1” apart.



Code Text will be shown for every code area on each map. Roman, .5”.

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Map Size. Maps prepared for counter use will be on paper from 18”x20” to 18”x24”. Standard scales as specified in the manual will be used.

Title Sheet design is left up to the county. The abbreviated map title must appear in the upper and lower right corners of the map. The following items will appear on each map:

- County Name
- Full Map Name
- Abbreviated Map Name
- Disclaimer
- Map Scale

Appendix A

Reliability Codes

This standard uses BLM codes. The following information will help in converting from other code systems.

Bureau of Land Management control reliability codes:

Code	Control Reliability	
1	1 foot or less	First order triangulation or GPS* stations (Order AA, A, B, C1)
2	3 feet or less	Second & third order triangulation stations, doppler positions, and some GPS* values (Order C2-1, C2-2, C3)
3	10 feet or less	Photo-generated coordinates, survey ties to triangulation or GPS* stations and inertial positions
4	40 feet or less	Digitized control from 7 1/2 minute quadrangles, and resource grade GPS* receivers
5	100 feet or less	Digitized control from 15 minute quadrangles and resource collection grade GPS* receivers
9	Unknown	

* Coordinate values obtained from GPS receivers will vary in accuracy and reliability depending on the methods of data collection and post processing utilized.

National Geodetic Survey Quality Ratios for Global Positioning System (GPS) techniques:

Order AA	1 pp billion
Order A	1 pp 10 million
Order B	1 pp 1 million
Order C1	1 pp 100,000
Order C2-1	1 pp 50,000
Order C2-2	1 pp 20,000
Order C3	1 pp 10,000

Federal Geodetic Control Subcommittee distance accuracy standards for conventional surveys:

First Order	1:100,000
Second Order, Class I	1:50,000
Second Order, Class II	1:20,000
Third Order, Class I	1:10,000
Third Order, Class II	1:5,000