TITLE 70

TRANSPORTATION

PART XXVIII

GEOSPATIAL DATABASE RULES AND STANDARDS

CHAPTER 1. Geospatial Database

§ 101. Purpose:

A. The purpose of the Geospatial Database is to provide standards to facilitate and integrate the collection of geospatial data by state, local, and federal agencies, to be maintained by the department in the statewide geospatial database of Louisiana. To establish the geographic features that create a common base map for geospatial data analysis that support official state business and to be used by state government when representing or analyzing its business data using geographic information systems.

§103. Definitions:

*base map*--a collection of one or more geospatial data layers that form the background of a cartographic presentation or form the basis for a geospatial data analysis.

*business data*--Data (geospatial or otherwise) collected, purchased, developed, or maintained by an organization for the purposes of performing its work or accomplishing its mission(s).

*cartographic presentation*--the process of depicting or rendering geospatial data. This may include the production of paper maps, digital maps, websites, or other means of visualizing geospatial data.

*data layer*--A spatially integrated, areally distributed set of spatial data, usually representing one theme (water, transportation, etc.) or having a common set of attributes among spatial objects.

*department—*The Louisiana Department of Transportation and Development.

*geographic information system (GIS)*--an integrated collection of computer software and data used to view and manage information about geographic places, analyze spatial relationships, and model spatial processes. A GIS provides a framework for collecting and organizing spatial data and related information so that it can be analyzed and displayed.

*geospatial*--refers to the identification of the geographic location and characteristics of a feature on the earth. This information may be derived from, among other things, remote sensing, mapping, and surveying technologies. This also refers to approaches such as GIS for manipulating geographic data.

*geospatial Databas* --Digital database containing information that identifies and incorporates the geographic location and characteristics of features on the earth and the metadata that describes them. This information may be derived from various sources, including GIS, GPS, remote sensing, mapping, and surveying technologies.

*mapping*--the process, methods, and techniques of creating digital geospatial data from source material. The source may be derived from surveying, aerial photography, remote sensing data, or global positioning systems (GPS).

*metadata*--Data describing the content, quality, condition, and other characteristics of a dataset. Various metadata standards exist for different types of data. The geospatial metadata standard shall be as specified by the Federal Geographic Data Committee (FGDC) and posted on their website (http://www.fgdc.gov/metadata).

*raster data*--the representation of geospatial objects as collections of elements represented as rows and columns of data spaced apart from each other, usually on an equal linear interval in the x and y directions. Raster data can only represent data as accurately as the x and y dimensions of each cell will support.

*Statewide Geodatabase of Louisiana*--a digital database that contains the official geospatial data of Louisiana. These data represent statewide coverage of the topographic map features of Louisiana and are intended to provide consistent geographic data for use in geospatial analysis, cartographic presentation, and mapping for the state.

*vector data*--the representation of geospatial objects as sets of points, lines, or polygons. Lines can accurately represent linear features or edges of polygon features to the level of accuracy that is supported by the scale of the source data and the data collection technology.

§105. Department Responsibilities

A. The department shall create, maintain, and manage a geospatial database which will include data layers consisting of, but not limited to:

1. Elevation and Bathymetry

2. Transportation

3. Hydrography (water features)

4. Boundaries

5. Land Cover (vegetation)

6. Land Use

7. Structures (buildings and other infrastructure)

8. Public Land Survey System (PLSS)

9. Geographic Names

B. The department shall manage the Geospatial Database of Louisiana.

C. The department shall establish standard formats, metadata, and other requirements for the database

§107. Data Layer Descriptions and Features:

A. Elevation and Bathymetry

1. General Description

a. Elevation is the altitude, with reference to Mean Sea Level (MSL) of the land surface. Bathymetry is the depth to bottom of a waterbody, with respect to MSL.

2. Feature Standards:

a. The North American Vertical Datum of 1988 (NAVD1988), shall be the official datum for representing elevation and bathymetry. This will remain the standard until replaced by the by the National Oceanic and Atmospheric Administration-National Geodetic Survey (NOAA-NGS).

b. Standards for elevation data will be as specified by The National Map National Elevation Dataset Program of the US Geological Survey, as published on their website (<http://ned.usgs.gov>).

c. Digital Elevation Models (DEM) represent elevation as a raster (rows and columns) of elevations at a specified interval. The standards for creating these raster datasets are published by the USGS National Elevation Program (<http://nationalmap.gov/standards/demstds.html>).

d. Hypsography (elevation represented as contours) shall be derived from elevation data meeting the standards specified above and produced using the standards for topographic mapping established by the US Geological Survey (<http://nationalmap.gov/standards/qmapstds.html>).

e. Bathymetry, whether represented as a raster, point locations, or contours, must conform to the standards developed by the NOAA-NGS and published in their Hydrographic Surveys Specifications and Deliverables document (http://www.nauticalcharts.noaa.gov/hsd/specs/specs.htm).

B. Transportation:

1. General Description:

a. Transportation refers to the features that represent roads, railroads, pipelines, and other means of conveyance of persons or commodities, whether by vehicle or other means.

2. Feature Standards:

a. The transportation layer shall follow the standards of the Louisiana Department of Transportation and Development, as modified from the US Bureau of the census, TIGER data specification (http://www.fgdc.gov/standards/projects/FGDC-standards-projects/framework-data-standard/GI\_FrameworkDataStandard\_Part7\_Transportation\_Base.pdf).

C. Hydrography

1. General Description:

a. Linear and aerial surface water features; including streams, rivers, bayous, lakes, ponds, and all areal waterbodies.

2. Feature Standards:

a. The standard for water features shall be the National Hydrography Dataset (NHD). This is the surface water component of The National Map designed to be used for mapping and in the analysis of surface-water systems by the federal government. The standards are maintained by the USGS NHD Program (http://nhd.usgs.gov).

D. Boundaries

1. General Description:

a. Boundaries consist of features such as legal and administrative bun dries (Parishes, cities, etc.). These represent the delineation of official boundaries, but do not necessarily constitute the legal, surveyed boundary of an entity.

2. Feature Standards:

a. Feature standards will follow those established by the USGS The National Map Program (http://nationalmap.gov/standards/qmapstds.html). All boundary changes and updates will be coordinates with the US Census Boundary and Annexation Survey.

E. Land Cover and Land Use

1. General Description:

a. Land cover constitutes the natural vegetative cover on the earth’s surface (forest, water, open space, grassland, etc.). Land use is the manmade designations for an area. These include such features as urban or urbanized areas.

2. Feature Standards:

a. Shall follow those established by the USGS The National Map Program (http://nationalmap.gov/standards/qmapstds.html)

F. Structures

2. General Description:

a. Structures consist of features such as significant buildings, critical infrastructure, and other manmade structures.

2. Feature Standards:

a. Shall follow those established by the USGS The National Map Program (http://nationalmap.gov/standards/qmapstds.html).

G. Public Land Survey System (PLSS)

1. General Description:

a. PLSS is comprised of the surveyed Townships, Sections, and Section Corners established by the federal Land Ordinance of 1785, which provided for the systematic survey and monumentation of public domain lands, and the Northwest Ordinance of 1787. Features in this layer represent the survey results that conform to the standards set forth in The Manual of Instructions for the Survey of the Public Lands of The United States (1973), available from the US Department of the Interior, Bureau of Land Management (http://www.blm.gov/cadastral/Manual/73man/id1.htm).

2. Feature Standards:

a. Shall follow those established by the US Department of the Interior, Bureau of Land Management http://www.geocommunicator.gov/GeoComm/lsis\_home/home/index.htm)

H. Geographic Names

1. General Description:

a. The names of features on official maps and in geospatial databases with the purpose to maintain uniform feature name usage throughout state and local government and to provide standard names to the public.

2. Feature Standards:

a. Shall be established using the Geographic Names Information System (GNIS), the federal standard for geographic nomenclature. The USGS developed the GNIS for the US Board on Geographic Names (http://geonames.usgs.gov).

§109. The database shall serve as:

A. a repository for the data layers contained in §105 and as described in §107;

B. a standard source for authoritative geospatial information for carrying out official business by all state agencies, and

C. the standard source for base map geospatial information of the Common Operational Picture (COP) for all state agencies.

§111. Liability Disclaimer:

A. The department shall not be liable to any person, entity or third party as the result of the use of information by any person, entity or third party of the information and data contained in the Geospatial Data Base of Louisiana; nor does the department warrant or guarantee the accuracy of any of the information and data contained in the Geospatial Database of Louisiana.

§113. Geographic Names:

A. The department shall act as the authority for all geographic names.

B. Geographic names shall be consistent with the standards established by the Geographic Names Information System (GNIS), established by the US Board of Geographic Names (http://geonames.usgs.gov); and

C. The department, through its IT GIS Manager, will work with state agencies, political subdivisions, other governmental entities, and local authoritative entities within the state to establish a uniform use of geographic names.

§115. Availability:

A. The department will make available its geospatial information system (GIS) services and data to all state agencies, the federal government, political subdivisions of the state, and private persons. As each data layer is developed it will be available on the Department of Transportation and Development website, http://gis.dotd.la.gov, at no cost.