SALT LAKE COUNTY
COUNTYWIDE POLICY ON
STANDARDS FOR GEOGRAPHIC INFORMATION SYSTEM

Purpose

This document provides standards for the creation and maintenance of geospatial data for the use of Salt Lake County offices and departments. The overall goal is to ensure that a high quality, well-documented Geographic Information System (GIS) is built for Salt Lake County. This standards document is intended to be a framework for building a robust and accurate GIS that will integrate with other Salt Lake County data sources. The intent is to describe common standards to be used by all County offices and departments in the acquisition, creation and maintenance of Geographic data. It is recognized that when coordinating with other governmental agencies the county may not be able to insist on absolute adherence to these standards. These standards are created under the auspices of the GIS Steering Committee established by Chapter 2.46 of the Salt Lake County Code of Ordinances, 2001, and amended by Ordinance 1619A.

Policy

1.0 Dataset Types -- A GIS database consists of a number of geographic datasets that are made up of points, lines and polygons. These datasets are sometimes called layers, coverages, themes, or shapefiles. Salt Lake County uses data that is created by various entities within the County, data that is created by vendors under the direction of Salt Lake County and data that is created by entities outside of Salt Lake County. The quality of a GIS database is dependent on the datasets that make up the GIS. When mixing data of differing accuracy any GIS product generated is only as accurate as its least accurate set of data.

1.1 Base Dataset -- Salt Lake County uses as a base reference layer the survey control that is maintained by the Office of the Salt Lake County Surveyor. This base layer includes but is not limited to the sections laid out by the original PLSS (Public Land Survey System) survey.

1.2 Primary Source Datasets -- Primary source datasets are the datasets that are created by Salt Lake County that have a direct or indirect tie to the base dataset. Some current examples of this type of dataset are aerial photography that has been orthorectified, parcels, the street network (centerline), and municipal boundaries.

1.3 Derived Datasets -- Derived datasets are created from other primary or external datasets. An example of a derived dataset is the voter precincts maintained by the Salt Lake County Clerk's Office. In order to meet the requirements the creation of voter precincts includes internal data such as municipal boundaries, parcels, street network and external datasets such as state and federal legislative boundaries.

1.4 External Datasets -- Salt Lake County may be required by law to use datasets created by outside agencies that may not be completely coincident with Salt Lake County data. Examples of this type of dataset are census data, US congressional districts, and state legislative districts. Salt Lake County will always work with outside data creators in an effort to make certain that the various data sets match up. Salt Lake County will not meet the specific requirements of an external data creator except where required by law.

2.0 Data Responsibility -- Salt Lake County does not have a centralized GIS office. It is therefore necessary to clearly define responsibility for data.

2.1 Data Creation -- Ultimate responsibility for any dataset lies with the office or department that creates or acquires that data. This includes ensuring that the data meets applicable Salt Lake County standards. The responsibilities of the data creator are more fully detailed in the sections below.

2.2 Data Security

2.2.1 Some of the GIS data that is created contains information that is sensitive or confidential in nature. This data must be identified by the data creator as being sensitive or confidential and access must be limited to those who have valid reason to see or use the data. Procedures for ensuring limiting access to sensitive and secure data are necessary.

2.2.2 Access to the data that is created by an office or department by default will only be available to the creating entity. The ability to create and modify will be controlled as well. The data creator may request that others be given access to the data but this will not happen by default.

2.3 Data Sharing Internal

2.3.1 GIS data's value increases synergistically, becoming more useful as more GIS data is added. To this end it is the goal of Salt Lake County to share all information in a manner that minimizes the risk of exposing sensitive or confidential information. A repository of GIS data for use by all Salt Lake County users will be maintained by Information Services using appropriate technology. Data will be moved into the shared repository only at the request of the data creating agency. Data moved into this area should be sanitized; meaning sensitive information such as social security numbers should be removed or rendered unusable for specific identification.

2.3.2 The data in the shared repository will be read only. It will not be possible for anyone to modify the data in the public repository. Any changes will come from the creating entity.

2.3.3 It is important that when creating maps or map products that to be used for more than an internal work product the publisher and date of publication be identified. The data creators must also be acknowledged on any map that is produced. This can be a simple statement on the map such as:

> *Map created by [your Org] in conjunction with the offices of the Salt Lake County Assessor, Clerk, Surveyor, Recorder and Salt Lake County Public Works.*

2.3.4 It will be a rare occurrence that a map will not use data from multiple sources.

2.4 Data Sharing External

2.4.1 Salt Lake County will comply with all requirements of the Government Records Access Management Act (GRAMA) regarding the distribution of data outside of Salt Lake County.

2.4.2 The office or department that creates or acquires GIS data is responsible for setting the conditions under which the data may be distributed. This includes any fees or charges for the distribution of such data, and the data format that is used for distribution. Each office or department shall present proposed fees for this purpose to the GIS Steering Committed for consideration and recommendation. No office or department of Salt Lake County may distribute data that is created by another department. This is not intended to prohibit the production of maps that use data created by other departments. It is intended to allow the creating agency to have control over the distribution of geographic and attribute data that they have created.

2.4.3 Salt Lake County offices and departments may chose to designate any dataset they have created as restriction free for distribution purposes.

2.4.4 When a Salt Lake County office or department contracts with an outside party to perform Geographic work and that contractor needs access to County data that is subject to distribution restrictions the contract must include provisions that restrict the contractor from using that data for any purpose other than the scope and duration of the contract.

2.4.5 It is in the interest of Salt Lake County to share data with municipalities and other public entities within Salt Lake County. This interest in data sharing does not remove the requirement that the entity that has created or acquired data have the final authority over data distribution.

2.4.6 In the case of data acquired from some outside vendor or agency there may be restrictions such as copyright that may limit the use or

redistribution of the data. Procedures must be created that will allow any user to know about those restrictions.

2.4.7 When a Salt Lake County office or department contracts with a vendor, consultant, or establishes an interlocal agreement with another entity the resultant agreement or contract shall require adherence to the standards as set forth in this policy.

2.5 Data Archiving Requirements

2.5.1 Salt Lake County recognizes the long term value of geospatial data and the need to establish retention and disposition standards, guidelines and procedures for storage, management and access. GIS resources and capabilities must be addressed in identifying what data must be preserved, how readily available it is, and how it will be managed over time.

2.5.2 The GIS Steering Committee must establish criteria to determine which datasets, maps, projects, imagery and/or outputs must be archived; how frequently they must be archived; identify industry standards that must be followed regarding metadata; establish retention and disposition procedures; ensure ongoing training in archival requirements; and promote use of the County's geospatial resources.

2.5.3 The GIS archiving procedures should identify data accessioning information including data authenticity; establish file naming conventions; address security issues, hardware and software considerations. The procedures should include a retention schedule that identifies the datasets to be preserved, including retention periods and any restrictions of access. Data custody issues should address metadata documentation, media migration and data conversion, preservation copies, disaster planning, vital records identification and off-site storage issues.

3.0 Data Standards -- The technology used for acquisition of geographic data is rapidly evolving. As a result it is very important to understand what methodology is used at the time data is created. Constant evaluation of the effects of differing methodologies on the consistency of data is required.

3.1 Projection and Coordinate System -- All data created by Salt Lake County will use the following:

Datum: NAD83
Projection: State Plane
Zone: Utah Central
Unit: Feet

Care needs to be taken in converting between projection and coordinate systems as some shifting may occur.

3.2 Geographic Feature Requirements -- All geographic features that have more than a transitory existence require attributes that identify what the feature is. All geographic features must be created from and referenced to the most accurate source data.

3.2.1 Points -- Points need to be accurate for the use intended. An explanation of the intended use of the point data will be included in the metadata.

3.2.2 Lines -- Lines must not overlap except where there is a very specific need for the purposes of accurate data representation. Where lines represent a network and there is an intersection the lines must be snapped to a node. Lines must be created with the minimum number of vertices. Vertices should not be stacked.

3.2.3 Polygons -- Polygons must close. Polygons must not have unintended gaps, overlaps, or overshoots.

3.2.4 Attributes

3.2.4.1 Each geographic feature must have a unique ID and a name as a minimum. Other attributes will be added to meet the requirements of the feature set. All attribute data must be character or strings unless it is a date, Boolean, or a numeric field that is used for a calculation.

3.2.4.2 Attribute field names must mirror established standards. Attribute field names must have descriptive names that helps interpret the purpose of the field. When possible, domains shall be used for attributes that have a definable set of values.

3.2.5 Metadata -- Metadata must be maintained for every dataset created by Salt Lake County. The minimum requirements are:

Data creator: office or department
Date of creation:
Dates of modification:
Description of dataset:
Method of creation, including source and reference materials:
Current projection and coordinate system
Original projection and coordinate system if different from current

Additional metadata requirements may be added as needed. Offices and departments may choose and are encouraged to maintain more than the minimum metadata.

4.0 Coordination and Cooperation

4.1 Salt Lake County has chosen as its operational model a decentralized GIS. It is therefore incumbent upon all users and contributors to Salt Lake County's GIS to commit to a high level of cooperation and coordination.

4.2 Exceptions and proposed changes to this policy must be presented to the GIS Steering Committee for consideration. The GIS Steering Committee will review all requests for exceptions and changes to this policy. If the GIS Steering Committee finds good cause for an exception or change to this policy, the GIS Steering Committee shall make a recommendation to the County Council to approve the exception or make a change to this policy.

APPROVED and ADOPTED this 27 day of April, 2010.

SALT LAKE COUNTY COUNCIL

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Joe Hatch, Chair

ATTEST:

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Sherrie Swensen, County Clerk

APPROVED AS TO FORM:

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District Attorney's Office Date