Nebraska Statewide Elevation Program

1.0 Program Goals and Objectives

1.1 Strategic Foundation for Business Plan

The Nebraska Geospatial Strategic Plan identified one of four goals to facilitate the creation, maintenance, analysis, and publishing of quality geospatial data. Elevation is classified as part of the Nebraska Spatial Data Infrastructure (NESDI). Elevation involves _____. It was further defined to develop a business plan for the creation, maintenance, and distribution of these data layers. Elevation was identified as one of four priority NESDI layers through the Strategic Plan.

Standards and guidelines will be developed for the Elevation dataset. This involves data content standards, data schema descriptions, data compilation and accuracy standards, and metadata standards. A formal communication process will also be defined for the exchange of data and information between data stewards and the geospatial community of users.

1.2 Goals and Objectives

The goal of this business plan is to facilitate the creation, maintenance, and distribution of a high quality statewide Elevation dataset to replace the relatively coarse existing data and capitalize on increasing volumes of data being collected with newer LiDAR technologies. Specific objectives are to:

- Document stakeholder expectations and develop core requirements for LiDAR.
- Identify a set of standards and a standard elevation product that will meet the majority of stakeholder requirements and expectations in a cost-effective manner
- Identify buy-up alternatives for contributing partners (Point cloud, NPS, accuracy, classified or unclassified, contours, breaklines, DEMs, etc.)
- Define an elevation program management team
- Identify elevation data steward and responsibilities including storage and management strategies.
- ***Identify*** and ***pursue*** program funding source(s) and encumber funds.
- Market Business Plan.
- Develop alternative scenarios for completing “standard product” LiDAR coverage for the state (see “LiDAR Statewide Acquisition Project” map).
- Identify and evaluate providers.
- Request program cost estimates from solution/data providers.
- Implement acquisition projects
- Advertise and publish data
- Conduct post-project reviews

2.0 Benefits and Justification

High quality elevation data supports a wide variety of applications. The National Enhanced Elevation Assessment lists 27 Business Uses for LiDAR

1. Natural Resources Conservation
2. Water Supply and Quality
3. River and Stream Resource Management
6. Rangeland Management
7. Wildlife and Habitat Management
8. Agriculture and Precision Farming
11. Renewable Energy Resources
13. Cultural Resources Preservation and Management
14. Flood Risk Management
16. Wildfire Management, Planning and Response
17. Homeland Security, Law Enforcement, and Disaster Response
18. Land Navigation and Safety
20. Aviation Navigation and Safety
21. Infrastructure and Construction Management
22. Urban and Regional Planning
23. Health and Human Services
24. Real Estate, Banking, Mortgage, Insurance
25. Education K-12 and Beyond
26. Recreation
27. Telecommunications

2.1 Anticipated Benefits

Elevation data is foundational to the development of the Nebraska Spatial Data Infrastructure (NESDI). It is required for the rectification of imagery which is the base map for most of the other geospatial data layers in the NESDI and is a valuable base map in its own right. LiDAR has been collected for approximately 56% of the state. Projects and programs used to justify these acquisitions in Nebraska include applications that fall in these categories:

Hydrology and hydraulics

- Base Flood Elevation (BFE) determinations
- Floodplain and inundation mapping
- Dam breach analysis

Engineering design and design reviews

- Bridge and roadway design
- Siting of transmission lines, power lines, cell towers, pipelines
- Flood control structures
- Conservation structures

Natural resources applications

- Channel topography
- Vegetation and landcover studies
- Precision farming
- Soil survey

Miscellaneous

- Cartographic applications
- Imagery rectification
- Modeling of landforms, habitat, vegetation, etc.
- Fire modeling

These important applications require current, high-quality elevation information. This information has historically been gathered on a project by project basis that is costly in terms of time and money. A statewide elevation dataset would provide instantaneous access to accurate elevation data reducing costs and time required for field visits