

## **Historical Context for Linear Resources in Salt Lake County**

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Linear resources – roads, trails, railroad, canals, ditches, pipelines, penstocks, transmission lines, and aerial tramways – are a resource type that causes more difficulties for archaeologists and historians in recordation and evaluation than any other. These difficulties range from recognition of linear resources as something requiring recording in the field, to adequately researching their histories, to understanding the complexities of evaluating their significance in terms of their historic context and physical integrity.

The Kern River 2003 Expansion Project provided an opportunity to solve some of these problems by preparing a historic context and associated GIS database for linear sites in Salt Lake County, Utah

The Kern River 2003 Expansion Project required mitigation of a number of historic and prehistoric sites as well as data recovery by a variety of other means to lessen the impacts of the project on cultural resources. One of the additional measures specified in the project treatment plan, was the preparation of a linear features database and historic context for linear sites in Salt Lake County.

Salt Lake County was chosen because it was expected that a wide variety of linear resources would be represented there and because, with continued growth and development, cultural resource projects were likely to encounter them more often in Salt Lake County than anywhere else in the state.

Two major deliverables were proposed for the project: a historic context and a GIS database.

The purpose of the historic context was to provide a tool for consistent assessment and management for linear sites because they are difficult for cultural resource managers and consultants to deal with on a variety of levels. Problems arise in the recordation and evaluation of such sites, not only because of their physical nature, but because they are difficult to research adequately so that they can be understood correctly in terms of their historical context. The understanding of a resource's historical context is critical, because it is that context that forms the basis for proper significance evaluations in terms of integrity and associations.

The historic context identifies and provides background information for the prominent linear features that are present in the county. Six stand-alone sections were prepared – one for each of the principle linear feature types: Roads and Trails; Railroads; Canals and Ditches; Water Pipelines and Penstocks; Electrical Transmission Lines; and Aerial Tramways.

For each resource type, historical background is provided that establishes the growth and development of each type of resource in the county. More specific information about known linear resources in the county is then provided.

The targeted linear sites were identified through historical documents and maps, and additional research was conducted to flesh out the individual histories. The histories were not intended to be exhaustive for any one of the sites, and it is expected that additional important

historical information might be obtained through further research. In several cases, sources of additional information are identified for researchers.

For each linear resource type, a statement is made about the importance of that type of resource. This is intended as the starting point for the Significance Evaluations section that follows. Significance evaluations of linear sites and their associated features are based principally on the criteria for eligibility to the National Register of Historic Places.

Integral to evaluating significance under the National Register criteria is assessing pertinent data categories for areas of significance (or themes) appropriate to an individual site. To this end, applicable themes identified in the National Register guidelines were extracted and presented for each linear type with examples of how they might pertain.

Critical to assigning and considering themes for significance evaluations is defining the period of significance for a resource. Again, examples for how to determine the period of significance are presented for each linear resource type. For both the identification of pertinent themes and assigning a period of significance, it is crucial that sufficient historical research be conducted so that these tasks are soundly based.

The last layer in assessing significance is evaluating the physical characteristics of a linear resource. The qualities of integrity are spelled out under the National Register guidelines and are delineated specifically for each linear resource type with examples given. The interrelationship of historical integrity in regard to the period of significance and themes is also explained for each resource type.

The mechanics of recording linear resources are an aspect of cultural resource management that needs to be better codified so that there is consistency and regularity in the practice. Of primary concern is determining which resources actually require recording and which do not.

The general principles of cultural resource management, under Section 106 and the National Register criteria, dictate that all significant resources older than 50 years of age need to be identified and taken into consideration. The primary operative concept in this mandate is that of the *significant* resource.

In practice, archaeologists record, in some manner, all resources older than 50 years of age, whether it is on site forms or as Isolated Finds. Isolated Finds, by nature and definition, are not significant cultural resources and do not satisfy the requirements for classification as sites.

Many linear resources, such as roads, ditches, domestic water pipelines, and electrical lines, are dendritic in nature. That is, they often split into a multitude of lesser distribution routes to the point of serving a single individual or location in redundant fashion. At some point, the redundancy of the linear resource is reduced to infrastructure background, where the individual linear branch can no longer be considered significant, even in the remotest sense.

For each linear resource type where this considerable splitting and redundancy is an issue, suggestions are made as to what level resources cease to have a likelihood of significance and, therefore, no need for recordation.

In general, it was recommended that resources for which historical information has been found (or is suspected to exist) or for which historical maps have made it possible to delineate a potential physical location should be considered candidates for recordation.

Once it has been resolved that a linear resource is suitable for recordation, specific guidelines are provided for each linear resource type on how to actually go about doing physical documentation.

Overall, these guidelines were redundant from section to section. They establish protocols for what sorts of data need to be recorded to adequately describe and evaluate linear resources, how to designate segments based on integrity for significance evaluations, and how to designate segments for pragmatic reasons such as inventory project constraints. In addition, guidelines on doing historical research and potential sources of additional information are provided when applicable.

The second deliverable for the linear context project is an electronic Geographic Information Systems database. Because it is expected that the historical context and the database will be used as management tools for future cultural resource work, each step of their development has been conducted to conform to the needs and desires of the Utah Division of State History and the Bureau of Land Management.

Because this database is intended to dovetail with the GIS database currently being used at the Utah State Historic Preservation Office – where we expect it to be housed, used, and made available to cultural resource professionals – its preparation was carefully coordinated with the staff of the State Archaeologist’s office. The GIS database was set up so that it can be utilized as part of the site file search process and will be updated as linear sites are recorded by State Historic Preservation Office.

In the course of gathering data for the context, linear resources for which mapped locations could be ascertained have been digitized and placed in the GIS database. This database has been divided into two categories. In the first category are linear sites for which the source information is considered to be reliable.

For the most part, these are also linear resources for which additional historical information could be found and are included in the context with specific name designations. Thirty-four of the linear sites in this category have already been encountered in the field, have portions recorded, and have been assigned Utah state site numbers. Approximately 200 additional linear sites, not already encountered, have been assigned site numbers as part of this project, and basic site forms prepared. In the second category are linear sites for which the source information is considered to be unreliable.

In general, the source of information for linear sites in this category is the General Land Office township maps. Many of the GLO maps for Salt Lake County were prepared as early as 1856 and were never updated. Several of the townships in the county were surveyed piecemeal over a period of 20 to 30 years with little consistency between surveys.

When data on these early maps are compared to modern topographic maps, linear locations do not conform well to topographic situations and are considered to be more representational than accurate. Because the surveyors were surveying and marking township or section lines, linear resources that were mapped at the intersections of township or section lines may be relatively accurate, but elsewhere routes are clearly representational and cannot be considered to be accurate plots.

The vast majority of linear resources depicted on the GLO maps are roads. Because the depiction of linear resources on GLO maps are considered to have a low level of accuracy, these data are kept in a separate GIS database layer that can be referred to, but no site numbers or basic site forms have been prepared for the linear resources portrayed. This layer of GIS data is also expected to be referred to in the course of the site file search process, so that field researchers are aware that early linear resources may be found in particular vicinities and what their general nature might be.

Overall, we are hoping that the context serves the needs of researchers that encounter historic linear sites in Salt Lake County. Beyond that, we think that the principles delineating how to go about recording and evaluating linear resources transcends the county and can be applied statewide and beyond.