APPENDIX F: SENSITIVITY STUDY OF THE STOREY COUNTY PORTION OF THE COMSTOCK HISTORIC DISTRICT

SENSITIVITY STUDY OF THE STOREY COUNTY PORTION OF THE COMSTOCK HISTORIC DISTRICT WITH A SUMMARY OF PREVIOUS PLANNING RECOMMENDATIONS, AN OUTLINE OF AN ARCHAEOLOGICAL MITIGATION PLAN, AND AN ARCHAEOLOGICAL INVENTORY OF COTTONWOOD SPRING AND VICINITY

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Storey County

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SUMMARY

In response to a request by the Board of County Commissioners for Storey County, Archaeological Research Services, Inc. (ARS) conducted archival and field studies of the Storey County portion of the Comstock Historic District to achieve several related goals. The primary product of this work is a set of five sensitivity maps designed to summarize location and potential significance of landscape, historic archaeological, prehistoric archaeological, architectural and mineral resources.

Included in this document is an explanation of the sensitivity maps, a summary and evaluation of management recommendations made by previous planning efforts on the Comstock, an annotated outline of a management plan for archaeological resources, and the report of an archaeological survey within the study area.

Proposal at ARS
4/25/91
RS

ACKNOWLEDGMENTS

The Storey County Commissioners and administrative assistants JoAnne McLachlan and Mary Lou Walling were completely supportive during the development and execution of this project. Staff at the Nevada Division of Historic Preservation and Archaeology provided review and guidance. Donald L. Hardesty (University of Nevada, Reno) generously shared information he had collected concerning Comstock archaeology. Rebecca Bernstein (Comstock Historic District Commission) provided help and guidance for all aspects of the project in addition to her contribution on architectural sensitivity. Steve Russell loaned his copy of the geologic map which was duplicated as the mineral resource map. Judy Sutherland drafted the final sensitivity map set. The staff at ARS provided administrative and clerical support.

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INTRODUCTION

The Board of County Commissioners for Storey County, Nevada (Commissioners) recognized a need to summarize previous planning documents for the portion of Storey County which lies within the Comstock Historic District, to update these planning documents and to prepare the information in a way that is accessible for making management decisions. A request for proposals to undertake this task was distributed on November 13, 1989, and modified on November 22, 1989. Archaeological Research Services, Inc. (ARS) was selected to carry out the contract. This planning summary takes two forms. Most important is a series of sensitivity maps on clear overlays suitable for use in public planning meetings. This set contains five maps: Landscape Sensitivity, Historic Archaeological Sensitivity, Prehistoric Archaeological Sensitivity, Architectural Concentration and Integrity, and Mineral Resources Sensitivity. This map set is supplemented with a written report containing background data, documentation of methods, a review of recommendations made in previous planning documents, and updated recommendations for the management of landscape, archaeological, architectural, and mineral resources. Included in the recommendations for the management of archaeological resources is an annotated outline of *A Plan to Mitigate Adverse Impacts on Cultural Resources in the Storey County Portion of the Comstock Historic District*. Finally, the report of an archaeological inventory which was conducted to test one of the archaeological sensitivity zones is included.

This report is not an attempt to duplicate all of the exhaustive documentation available in earlier studies, but to summarize previous data in a more accessible manner, and to update previous material where appropriate.

SENSITIVITY MAPS

Section 1 of the scope of work requires production of a set of sensitivity maps reflecting areas of significant history, archaeology, mining and landscape features. It was determined in subsequent communications among ARS, the Commissioners, the Nevada Division of Historic Preservation and Archaeology (NDHPA) and the Comstock Historic District Commission (CHDC) that these topics would be shown on a series of five maps, all of which were to be prepared as overlays on a transparent medium. The base map for all of these overlays is a composite of the U.S.G.S. Steamboat, Chalk Hills, Virginia City, and Flowery Peak 7.5′ topographic maps.

The sensitivity map set provides a means to quickly gain a general idea of what resources are in an area and of their importance. From these, potential developers can anticipate problems they might encounter, to a certain degree. Within each map, higher sensitivity ratings imply greater potential costs, both in time in gaining permission to conduct a development, and in monetary costs involved in mitigating adverse impacts to significant resources. It should be emphasized that the maps are general--there are significant sites in low sensitivity areas and there are small areas of low sensitivity in zones mapped as being highly sensitive.

LANDSCAPE SENSITIVITY

The importance of landforms was recognized by the 1980 Comstock Project:

> The environmental setting of the Comstock historic sites and structures contributes an important part of what we perceive about the area's character. The land features of the Comstock influenced patterns of prehistoric and historic settlement, create the visual setting for the historic towns we see today, serve as landmarks to its people and symbols of the Comstock to visitors. Any change or destruction of these features could irreversibly change the character of the district and diminish its historic integrity.
>
> Landforms need to be recognized in preservation planning in the same way as historic sites, by being inventoried and recorded so that planners can set priorities for preservation and measure the future impact of change against some benchmark (HCRS 1980c:64)

Landforms which were considered significant by the 1980 Comstock Project fall into five categories: Unique, Imageable, Typical, Linked with the District's History, and A Significant Part of the District's Natural Environment. Landforms which were determined by the Comstock Project to be significant in one or more of the above categories are Sixmile Canyon, Sevenmile Canyon, mine pits, dumps (dredge tailings, mill tailings, waste rock dumps), Flowery Ridge (including Kate Peak, Mt. Grosh, Rose Peak, Emma Peak, Flowery Peak), Sugarloaf Mountain, the Virginia Range (including Mt. Bullion, Butler Peak, Wakefield Peak, Mt. Davidson, Cedar Hill), The Divide/Greiner's Bend, Gold Canyon, American Ravine, American Flat, Basalt Mesa, Devil's Gate, and Hartford Hill. These landforms were documented on NAER inventory cards (HCRS 1980c:66-67. Some of the more prominent cultural landscape features have been recorded in various inventories but recording was not uniformly done throughout the district. There are no specific guidelines for managing these resources.

The emphasis of the current project is to divide the overall landscape into three distinct elements, and then to prepare a sensitivity map regarding landscape features for the entire project area. These elements are a) location and characterization of visual corridors or "viewsheds," b) identification and characterization of natural landscape features, and c) identification and characterization of cultural landscape features.

Visual Corridors

Visual corridors or viewsheds are of importance primarily for the consideration of the integrity of location, setting, feeling, and association of significant properties in the Comstock Historic District. This integrity is an essential part of all such properties. Identification and sensitivity ratings of visual corridors are oriented toward the maintenance of this integrity as viewed by visitors to the district. Visual corridors were identified using topographic maps and field checked with an automobile reconnaissance of the study area. Areas on the maps were ranked in descending

order of significance as follows: A) visible from Virginia City and Gold Hill, B) visible from main approaches to the Comstock on SR 341 or SR 342, C) visible from major secondary routes in the district to historic areas such as Sixmile Canyon and American Flat, and D) not visible from these areas. Viewsheds outside the boundaries of the Storey County segment of the Comstock Historic District were not be considered, though areas within the study area visible from approaches to the Comstock that are outside the study area but that have to be traversed by travelers approaching the Comstock were included in zones B or C where appropriate. The capital letter A-D denoting the viewshed forms the first half of the key for each landscape zone shown on Map 1.

Recommendations

Developments that would be visually obtrusive should be carefully regulated in Corridor A, with decreasing levels of regulation in Corridors B and C. Highly obtrusive developments should be encouraged to locate in Corridor D, preferably in areas of that corridor which have already been developed sufficiently to alter the natural visual environment. If visually obtrusive developments are undertaken in highly visible areas, the impacts of these developments should be lessened by minimizing grading and trying to match existing contours, use of low-visiblilty colors for structures which cannot be made to look like part of the historic built environment, and use of designs that comply with CHDC guidelines.

Cultural Landscape Features

Human alterations on the landscape resulting from mining and related activities dominate most views of the district. These alterations, i.e., the mine dumps, open pits, roads, terraces, septic ponds, sanitary landfills, and so on, comprise the cultural landscape of the district. Due to the massive number of individual features that have been created over time, data for the sensitivity maps have been somewhat generalized. The emphasis is on identifying zones of related landscape features rather than identifying single features.

Preliminary identification of cultural landscape features was done during an automobile tour of the project area. Once identified, the features were categorized according to function and major time period from dated historic photographs, Historic American Engineering Record data, limited documentary review, and further field inspection. Sensitivity ranking is highest for early landscape features and lowest for features less than 50 years old which do not contribute to the significance of the historic district. Another term for these recent cultural landscapes is "disturbance". Cultural landscapes were assigned a two character code for mapping purposes. The first character is a "c" followed by a 3 for relatively pure nineteenth century landscapes, a 2 for landscapes from the period 1900-1940 or areas with infilled nineteenth century landscape features, or a 1 for landscapes which are generally less than 50 years old.

Recommendations

Cultural landscapes are a critical part of the setting of the historic district. Remnants of nineteenth-century cultural landscapes are a scarce resource and should be carefully protected. Since the great underground mines of the Comstock are hidden, the old mine dumps are critical to convey the feeling that this is a major mining area, not just a picturesque residential town.

Most cultural landscape areas are a combination of features from many different time periods. These areas, which are primarily in Sensitivity Zone C2, require case-by-case evaluations of impacts on cultural landscapes including mine and mill dumps, tailings, terraces, streets, earthworks, introduced woodlands, and so on.

Natural Landscape Features

Natural landscape features were also identified from an automobile reconnaissance of the district. Only areas with minimal disturbance were considered natural landscape features. It should be noted that there are many significant archaeological sites and small features within natural landscape areas--but these sites do not dominate the landscape. Ranking of the significance of natural landscape features was dependent on the prominence of the features as part of the setting of the district. It was felt that the profusion of landscape features identified by the Comstock Project made too little distinction between a highly significant natural landscape feature versus the rest of the natural landscape. Thus, only Sugarloaf and Mount Davidson were assigned the higher natural landmark rating of 2. The rest of the natural landscape was assigned a rating of 1. On the Landscape Sensitivity Map, natural landscapes are identified by an "n" followed by a 1 (lower) or 2 (higher) rating as appropriate.

Recommendations

As mentioned above, the degree of concern for the integrity of landscape features depends largely on which visual corridor is affected. Natural landmark features (Zone N2) should be protected from development. Though the rest of the natural landscape is rated N1, it should always be remembered that the natural setting of the Comstock is limited, and once developed it is not likely to ever return to a pristine condition.

ARCHAEOLOGY

Data Acquisition

Previously recorded archaeological data was acquired at the Nevada State Museum, Bureau of Land Management Carson City District Office, and the Department of Anthropology, University of Nevada, Reno. Archaeological projects are summarized in Appendix A. Archaeological sites are summarized in

Appendix B. Many of the architectural features recorded in building inventories of the Comstock also have archaeological components, but documentation of these features is not duplicated here.

Development of Archaeological Sensitivity Zones

Archaeological sensitivity zones have been rated on a scale of 1 to 5, with 1 having low sensitivity and 5 having high sensitivity. These ratings are based on three related characteristics of the archaeological resources. These characteristics are density, quality, and rarity. In general, the higher the density, quality and rarity of archaeological resources, the greater the sensitivity. A general model of the attributes of different sensitivity zones is presented in Table 1. A more detailed discussion of sensitivity and how it relates to site significance is in Hardesty et al. (1982:57-59). In the discussions that follow, a prefix of "H" before the numeric rating refers to a historic sensitivity zone. A prefix of "P" refers to a prehistoric sensitivity zone.

Table 1. Characteristics of Archaeological Sensitivity Zones.

ZONE	SENSITIVITY	RECORDED OR MODELED SITE DISTRIBUTION		
		DENSITY	QUALITY	RARITY
1	Low (L)	L	L	L
2	Moderately Low (ML)	ML	ML	ML
3	Moderate (M)	M	M	M
4	Moderately High (MH)	MH	MH	MH
5	High (H)	H	H	H

Historic Archaeological Sensitivity

Historic archaeological sensitivity zones are based primarily on those developed by Hardesty et al. (1982, Map 2). The most significant modifications that have been made to the previous sensitivity scheme are the ratings of urban centers and cemeteries, both of which have been assigned the highest significance rating of H5 compared to the moderate rating of S3 previously assigned. The change in rating recognizes the wealth and complexity of historic archaeological resources within these areas. Two Master of Arts Theses projects utilizing historic archaeological data from the Comstock demonstrate the research potential of the urban zone. One of these projects concerns a Paiute encampment (Hattori 1975) and the other, which is in preparation, concerns the Chinese community in Virginia City (Donald L.

Hardesty, personal communication).

A study of historic sites recorded in the project area was used to expand the sensitivity map beyond the limits of the 1982 map and to serve as a basis for confirming or modifying the 1982 sensitivity mapping effort as appropriate. The distribution of formally recorded historic archaeological sites by sensitivity zone is summarized in Table 2. These sites are summarized in Appendix B.

Table 2. Summary of Previously Recorded Historic Site Types by Sensitivity Zone.

Site Type	Sensitivity Zone						
	H1	H2	H3	H4	H5	N/A*	Total
Cemetery	--	--	--	1	1	--	2
Mill	--	--	2	4	1	--	7
Mine	1	4	12	5	9	--	31
Monument	--	--	1	--	--	--	1
Pipeline	--	--	--	--	--	1	1
Placer	--	--	--	1	--	--	1
R.R. Station	--	--	--	1	--	--	1
Racetrack	--	--	--	1	--	--	1
Railroad	--	--	--	--	--	1	1
Ranch	--	--	--	1	--	--	1
Residence	--	1	--	3	1	--	5
Road	--	--	--	1	--	--	1
Station	--	--	1	1	--	--	2
Toll House	--	--	1	--	--	--	1
Town	--	--	1	1	2	--	4
Trestle	--	--	--	--	2	--	2
Total	1	5	18	20	16	2	62

* Site extends through multiple zones

As noted by Hardesty et al. (1982), there is a large gap between the quantities of archaeological sites found in the hinterland zones (H1 and H2) versus the intensively used zones. Relatively few archaeological sites are recorded in the most significant zone (H5) because small sites were recorded individually in zones H3 and H4, while extensive complexes of features and artifacts have been recorded as single sites in the H5 zone. Virginia City, for example, is recorded as a single site. The emphasis on mining sites versus habitation or other kinds of sites in the table of recorded archaeological sites is a result of the methods used in the BLM overview (Pendleton et al. 1982), which recorded features identified on topographic maps as part of a literature search. Only a very small percentage of the historic archaeological sites in the project area have been formally recorded.

Recommendations

In the hinterland (Sensitivity Zones H1 and H2), it should normally be possible for developers to avoid the scattered significant historic sites after their locations are identified by an archaeological survey. Most hinterland historic sites are sufficiently redundant and non-complex that potential adverse impacts due to development can be adequately mitigated by the level of recording done during archaeological survey although additional steps of archival documentation, testing, and excavation may be appropriate under some circumstances.

There is greater potential for finding increasingly complex and significant historic archaeological sites in progressively more sensitive zones (Zones H3 - H5). This represents a potential for increased costs in time and money to developers. A phased approach to the archaeological resources is recommended in these areas. The set of sensitivity maps plus detail maps in HCRS (1980b; 1980c) should first be consulted to gain a general idea of probable site densities and types, and hence archaeological survey costs. The proposed development area should then be surveyed for archaeological sites. If there are areas that have a high probability of significant buried archaeological materials, these areas should be avoided. If avoidance is not possible, these areas should be tested or monitored during construction as appropriate. In rare cases, additional excavation may be required to reduce adverse impacts to archaeological sites resulting from proposed development.

Prehistoric Archaeological Sensitivity

Archival review indicates that little additional archaeological data is available for the portion of the study area covered by the 1980 Comstock project and the follow-up archaeological survey (HCRS 1980b; Hardesty et al. 1982). The archaeological sensitivity map produced by Hardesty et al. (1982 Map 2) is a composite of both the historic and prehistoric periods. Unfortunately, prehistoric sensitivity is masked in this map by the dominant historic materials. Thus, with some modifications, the map of Native American Land Use produced by HCRS (1980b, Map 1) was used as the basis for the sensitivity map for the portion of the project area covered by HCRS. The archaeological and ethnographic model that serves as the basis for the Native American Land Use map is discussed in HCRS (1980b: 2-10). This model of Native American Land Use was extended to the northern end of the project area, and checked against the few recorded archaeological sites there.

From least to most sensitive, the prehistoric archaeological zones plotted on Map 3 are P1 to P5. Zone P1 is comprised of Native American Land Use Zone (NALUZ) A2, which is modeled as containing task sites for deer/mountain sheep hunting and pine nut gathering, and NALUZ A6, which the model suggests contains remains of seasonal mountain sheep hunting camps and task sites. Zone P2 was not used in this portion of the Comstock Historic District. Zone P3 corresponds to NALUZ A1, which the Comstock Model suggests contains evidence of seasonal camps for deer/mountain sheep hunting and pine nut gathering. Zone P4 is comprised of springs and NALUZ A3, which are areas of intensive multi-

purpose prehistoric utilization. Zone P5 consists of NALUZ zones A4, characterized by the presence of rock art sites, and A5, characterized by the presence of toolstone quarrying sites, both of which are rare in the project area.

Recorded prehistoric archaeological site types within these sensitivity zones are summarized in Table 3 and Appendix B. Table 3 shows that only 14 prehistoric sites have been recorded in the Storey County portion of the Comstock Historic District. The Comstock Model predicts the maximum number of camps will be found in Zone P3. This is confirmed, with 71.4 percent of all camps occurring in this zone. All task loci are also within Zone P3. Quarry and rock art sites are included in Zone P5 by definition. Zone P1, despite its large size, contains only four sites, one of which is an urban scavenging site not related to aboriginal resource procurement strategies. Although, with the exception of American Flat, there are not previously recorded prehistoric sites at the springs (Zone P4), it is highly probable that relatively complex sites occur at or near these locations. The archaeological survey documented in Appendix E was conducted to test this supposition. [Results of this to be included in final report]

Table 3. Summary of Prehistoric Site Types by Sensitivity Zone.

Site Type	Sensitivity Zone (Native American Land Use Zone) P1 (A2,A6)	P2 (N/A)	P3 (A1)	P4 (Spring,A3)	P5 (A4,A5)	Total
Camp Site	2	-	5	-	-	7
Lithic Scatter	1	-	-	-	-	1
Quarry	-	-	-	-	1	1
Rock Art	-	-	-	-	1	1
Rock Shelter	1	-	-	-	-	1
Task Site	-	-	3	-	-	3
Total	4	0	8	0	2	14

Recommendations

If possible, developments in the few highly sensitive prehistoric areas (Sensitivity Zones P4 and P5) should be avoided. In the other areas, prehistoric sites are generally small enough that the degree of recording done during an archaeological survey is adequate mitigation of adverse impacts that may occur to the archaeological site as a result of development. Occasionally more significant sites will be found; they should be dealt with on a case-by-case basis in consultation with the NDHPA.

ARCHITECTURAL SENSITIVITY by Rebecca Bernstein

The distribution of architectural resources in the project area has been adequately recorded in previous surveys. Rebecca Bernstein (CHDC) prepared the Architectural Concentration and Integrity map from this data.

Architectural sensitivity zones are indicated on Map 4 with the prefix "A." The following number ranges from 1 to 6. A rating of A1 corresponds to the lowest concentration and integrity of historic architecture; A6 corresponds to the highest.

Recommendations

The ratings also reflect the type of consideration the CHDC will give a project area. Zone A1 will be considered marginal and will see liberal interpretation of CHDC regulations; strict application of the criteria for compatibility will be done in Zone A6.

Detailed maps showing blocks and lots of some areas are located in the CHDC office. These maps should be consulted for more precise definition of zones in Virginia City and Gold Hill.

MINERAL RESOURCES SENSITIVITY

The mineral resources sensitivity map is a reproduction of the *Preliminary Geologic Map of the Comstock Lode District, Nevada* (Calkins and Thayer 1945) which covers the main mineralized portions of the study area.

Recommendations

Surface mineralization may occur along the fault lines represented on the map. Subsurface mineral concentrations also tend to occur along faults. Placer deposits are found in canyons downslope of the lode deposits. These mineralized areas can be considered highly sensitive to future mining development. It is highly probable that there will be ongoing attempts to extract minerals from these areas.

SUMMARY OF PREVIOUS PLANNING DOCUMENTS

The purpose and recommendations of other planning documents relevant to the current project are summarized here. Recommendations regarding other topics such as economic development and tourism are not summarized. Recommendations excerpted from these documents are included in Appendix C.

THE COMSTOCK PROJECT, 1980

Purpose

Reporting on this project is divided into three volumes. *An Inventory of Historic and Natural Sites* (HCRS 1980a) contains inventory cards for every site, structure, or major landform over 40 years old within the National Historic Landmark boundary. This compilation was designed to serve as a guide to the historic resources on the Comstock, provide the foundation for defining sensitivity zones, provide a basic tool for preservation planning, and provide benchmark documentation to gauge change in the district.

Managing Archaeological Resources on the Comstock (HCRS 1980b) attempts to identify what kinds of archaeological sites are to be expected on the Comstock, where they are likely to be found, and how the significance of these sites should be assessed.

A Search for Balance; Conservation and Development on the Historic Comstock (HCRS 1980c) is the summary volume for the project. Its stated purpose is to attempt to explore methods of balancing preservation and development in a historically sensitive area. Recommendations summarized below and included in Appendix C are from this volume.

Recommendations

Planning for Development

The inventory cards and archaeological land use maps allow anyone involved in physical activities on the Comstock to be aware of protected sites. These sites are not rated by importance in the document. It suggests that importance must be determined by local and state authorities using the provided information (HCRS 1980c:48-49).

Archaeology

The archaeological zones developed in HCRS (1980b) should be developed into sensitivity zones for use as planning tools (HCRS 1980c:62-63).

Landforms

"Any change or destruction of these features could irreversibly change the character of the district and diminish its historic integrity.... Landforms need to be recognized in preservation planning in the same way as historic sites, by being inventoried and recorded so that planners can set priorities for preservation and measure future impact of change against some benchmark" (HCRS 1980c:64). A listing of significant landforms recognized by the 1980 project is in Appendix C.

ARCHAEOLOGICAL SURVEY OF THE VIRGINIA CITY NATIONAL HISTORIC LANDMARK, 1982

Purpose

The survey was conducted to test the documents-based "Comstock Model" with field studies.

Recommendations

Recommendations from this report are sufficiently succinct to reproduce in full:

> 1. The county commissioners should issue a special permit for development, mining, or other high impact projects proposed in archaeological zones with high sensitivity ratings. Before the permit is issued, a clearance report must be prepared by professionally qualified archaeologists. The report must demonstrate either that the impact area contains no significant archaeological resources or that appropriate mitigation procedures have been taken.
>
> 2. The boundaries of the Comstock Historic District should be changed to make the state and federal districts coincide, to eliminate most of the low significance hinterland zone, and to include lower Gold Canyon, the Carson River Valley, Long Valley-Lagomarsino Canyon, and possibly Washoe Valley (Hardesty et al. 1982).

COMSTOCK PROJECT 85

Purpose

This project produced three volumes. Volume 1 is an inventory of all structures in Virginia City. Volume 2 consists of case studies of selected city blocks. Volume 3 contains a history of Virginia City from 1900 to 1940 written as an amendment to the National Historic Landmark nomination. It also contains a revised Overall Economic Development Plan, a marketing plan, and a management plan for the historic district which promotes historic preservation, economic development and community values.

Recommendations

The report recommends establishing the same level and quality of documentation for the complete Comstock. Additional detailed case studies are recommended. More detailed historic documentation of selected buildings is also recommended (Koval et al. 1985 vol 1:9).

Recommendations, suggestions and observations which the authors intend to be understood as recommendations are scattered throughout volume 3. Portions of volume 3 primarily concerning historic preservation are included in Appendix C.

COMSTOCK PROJECT 87

Purpose

This project expands the geographic scope of detailed building recordation to the Divide, Gold Hill, Silver City and Dayton. It expands the cutoff date of significant contributing properties from 1900 to 1942 (Comstock Project 87 1987).

Recommendations

The 1900 to 1942 period on the Comstock is significant, and numerous structures exist that need to be considered as contributing to that significance.

WORKS CITED

Calkins, F. C. and T. P. Thayer

1945 Preliminary Geologic Map of the Comstock Lode District, Nevada. Department of the Interior, Geological Survey.

Comstock Project 87

1987 Comstock Project 87. (Divide, Gold Hill, Silver City and Dayton National Register Nomination Amendment).

Hardesty, D. H., V. Firby and G. Siegler

1982 An Archaeological Survey of the Virginia City National Historic Landmark. University of Nevada, Reno.

Hattori, E. M.

1975 Northern Paiutes on the Comstock. Nevada State Museum Occasional Papers No. 2.

HCRS (Heritage Conservation and Recreation Service)

1980a The Comstock, an Inventory of Historic and Natural Sites. The Comstock Project 1980. U.S. Dept. of the Interior.

1980b Managing Archaeological Resources on the Comstock. The Comstock Project 1980. U.S. Dept. of the Interior.

1980c A Search for Balance, Conservation and Development on the Historic Comstock. The Comstock Project 1980. U.S. Dept. of the Interior.

Koval, A. et al.

1985 Project 85, Virginia City, Nevada. Rainshadow Associates.

Pendleton, L. S. A., A. R. McLane, and D. H. Thomas

1982 Cultural Resource Overview, Carson City District, West Central Nevada. Cultural Resource Series No. 5. Bureau of Land Management, Carson City.

APPENDIX A
ARCHAEOLOGICAL PROJECTS IN THE STOREY COUNTY PORTION OF THE COMSTOCK HISTORIC DISTRICT

Appendix A. Archaeological Projects in the Storey County Portion of the Comstock Historic District

AUTHOR	DATE	REPORT NUMBER*	AGENCY	FIRM	PROJECT NAME	LEGAL LOCATION	COVERAGE**
Armentrout, L.	1985	3-1013(P)	BLM	BLM	Wesley Minerals Road and Drill Pad	T.17N. R.21E. Sec. 20	III
Boykin, P.	1982	3-0733(N)	BLM	BLM	Harrison Feeder Lead, Overhead Telephone Line, N-34822, Bell Telephone Company of Nevada	T.17N. R.21E. Sec. 20	III
Boykin, P.	1982	3-0750(N)	BLM	BLM	Harrison Feeder Lead, Overhead Telephone and Transmission Lines, N-34822, Bell Telephone Co. of Nevada and Sierra Pacific Power Co	T.17N. R.21E. Sec. 20,21	III
Brown, M.	1980	3-0509(N)	BLM	NSM	Archaeological Reconnaissance of 7 Proposed Drill Locations and Access Routes for Anaconda Copper Co.	T.17N. R.21E. Sec. 23	III
Burke, T.	1989	N/A	STOR	Archaeological Research Services, Inc.	An Archaeological Survey of the Lucerne Pit, Storey County, Nevada.	T.16N. R.21E. Sec. 8	III
Burke, T.	1990	N/A	STOR	Archaeological Research Services, Inc.	An Archaeological Inventory of a Portion of the Hartford Pit, Storey County, Nevada.	T.16N. R.21E. Sec.8	III
Elston, R.	1977	3-0429(P)	BLM	Nevada Archaeological Survey	Geophysical Instruments Site	T.17N. R.21E. Sec. 33	III
Elston, R.G., M. Rusco	1975	3-0434(P)	STOR	UNR/NSM	Review of Tentative Subdivision	T.18N. R.21E. Sec. 20,21, 28-33 T.17N R.21E. Sec. 8,9	I

Appendix A (continued). Archaeological Projects in the Storey County Portion of the Comstock Historic District

AUTHOR	DATE	REPORT NUMBER*	AGENCY	FIRM	PROJECT NAME	LEGAL LOCATION	COVERAGE**
Firby, V.	1981	3-0692(N)	BLM	BLM	Virginia City Mining Operation	T.16N. R.21E. Sec. 7,8	III
Hardesty, D.	1989	3-1340(P)	BLM	UNR	Cultural Resource Evaluation of the Proposed Storey County Municipal Parcel	T.17N. R.21E. Sec. 28	III
Hardesty, D., V. Firby and G. Siegler	1982	3-0956(P)	DHPA	UNR	An Archaeological Survey of the Virginia City National Historic Landmark	T.17N. R.21E. Sec. 19-36,1-6,1,7-10,12,16	II
Hatoff, B.	1986	3-1096(P)	BLM	BLM	Alhambra, Inc., Plan of Operations, NV37-86-06(P)	T.17N. R.18E. Sec. 23 and 26	II
Hattori, E.M.	1975	15-18 (NSM)	NSM	N/A	Northern Paiutes on the Comstock. Nevada State Museum Occasional Papers No. 2.	T.17N. R.21E. Sec. 29	Exc
James, S.	1984	3-0935(P)	NDOT	NDOT	Archaeological Investigation Along Geiger Grade (SR341) from Virginia City to U.S. 395, Storey and Washoe Counties, Nevada	T.17N. R.21E. Sec. 6-8,16,17,20 T.18N. R.21E. Sec. 31	III
Kautz, R.	1989	3-1301(P)	BLM	R. Kautz and Associates, Inc.	The Archaeology of the Gorham (Lipscomb) House Property, Gold Hill, Nevada	T.17N. R.21E. Sec. 32	Eva
McCollister, M.J.	1976	3-0080(N)	BLM	BLM	Communications Site Right-of-Way Application (N-12872), State of Nevada Communication Board	T.17N. R.21E. Sec. 30	III

Appendix A (continued). Archaeological Projects in the Storey County Portion of the Comstock Historic District

AUTHOR	DATE	REPORT NUMBER*	AGENCY	FIRM	PROJECT NAME	LEGAL LOCATION	COVERAGE**
Pendleton, L.S.A., A.R. McLane and D.H. Thomas	1982	N/A	BLM	American Museum of Natural History	Cultural Resource Overview, Carson City District, West Central Nevada. Cultural Resource Series No. 5.	Entire Project Area	I
Peterson, F.	1986	3-1084(N)	NDOT	NDOT	SR342 Betterment, Lyon and Storey Counties	T.16N. R.21E. Sec. 5,8,9,16 T.17N. R.21E. Sec. 29,32	III
Seelinger, T.	1977	15-5 (NSM)	STOR	NSM	Archaeological Resources Investigation for Virginia City Sewage Treatment Facilities Expansion	T.17N. R.21E. Sec. 28	III

* BLM report numbers unless otherwise noted.
** I - Literature Overview
II - Sample Survey
III - Complete Inventory
Exc - Excavation
Eva - Evaluation
(P) - Positive
(N) - Negative
(NSM) - Nevada State Museum

Appendix B. Formally recorded archaeological sites in the Storey County portion of the Comstock Historic District

BLM NO.	NSM NO.	OTHER NO.	PERIOD **	HISTORIC TYPE	PREHISTORIC TYPE	HCRS ZONE	SENSITIVITY ZONE	REPORT	DESCRIPTION
3-0491	26St8	26St15	HP	Cemetery	Camp	NA	H4/P3	Pendleton et al. 1982	Chinese Cemetery
									Aboriginal Camp
3-0506	26St101		P		Camp	NA	P3	3-434(P)	Stoddard Flat task or base camp
3-0510	26St105		P		Task Locus	NA	P3	BLM #3-434(P)	Sheep Trough Site
									hunting and butchering locus
3-1462			H	Town		S4	H4	Pendleton et al. 1982	American City, 1864
3-1463			H	Mine		S4	H4	Pendleton et al. 1982	Baltimore Shaft, 1862
3-1466			H	Mine		S3	H5	Pendleton et al. 1982	Bullion Shaft, 1859
3-1467	26St79		H	Mill		S4	H4	Pendleton et al. 1982	Butters Mill, 1902
3-1469			H	Mine		S3	H3	Pendleton et al. 1982	Caledonia Mine, 1861
3-1470			H	Mine		NA	H1	Pendleton et al. 1982	Castle Peak Mine
3-1474			H	Mine		S3	H5	Pendleton et al. 1982	Chollar-Potosi Mine
3-1477			H	Mine		S3	H3	Pendleton et al. 1982	Combination Shaft, 1875
3-1478			H	Mine		S3	H5	Pendleton et al. 1982	Crown Point Mine, 1864
3-1479			H	Trestle		S3	H5	Pendleton et al. 1982	Crown Point Trestle on the V&TRR, 1869 (No longer exists)
3-1480	26Wa2416		H	Station		NA	H3	Pendleton et al. 1982	Five Mile House
3-1482			H	Town		S3	H3	Pendleton et al. 1982	Fonmanville, 1880s
3-1484			H	Mine		S3	H2	Pendleton et al. 1982	Globe Consolidated Mine, 1871
3-1485			H	Town		S3	H5	Pendleton et al. 1982	Gold Hill, 1859
3-1486			H	Mine		S3	H5	Pendleton et al. 1982	Gould & Curry Mine, 1859
3-1487			H	Mine		S3	H5	Pendleton et al. 1982	Julia Mine, 1860
3-1488			H	Mine		S2	H2	Pendleton et al. 1982	Imperial Pit, 1864
3-1489			H	Mine		S1	H2	Pendleton et al. 1982	Justice Shaft, 1859
3-1490			H	Mine		S2	H2	Pendleton et al. 1982	Kentuck Mine, 1859
3-1491			H	Mine		S3	H3	Pendleton et al. 1982	Knickerbocker Mine, 1860-1877
3-1492	26St75	3-3477	H	Mine		S4	H4	Pendleton et al. 1982	Lady Bryan Mine, 1868
									Flowery Shaft, Berry Pit, Hoist Foundations
3-1494	26St10		H	Station		NA	H4	Pendleton et al. 1982	Lousetown
3-1495			H	Mine		S4	H4	Pendleton et al. 1982	Mint Shaft, 1864-1870s
3-1496			H	Mine		S4	H4	Pendleton et al. 1982	Monte Cristo Mine, 1872
3-1497			H	Cemetery		S3	H5	Pendleton et al. 1982	Mount Saint Mary Cemetery
3-1499	26St74	3-3476	H	Mine		S3	H3	Pendleton et al. 1982	North Bonanza Mine, 1875
3-1500			H	Mine		S3	H3	Pendleton et al. 1982	Occidental Shaft, 1868

APPENDIX B
FORMALLY RECORDED ARCHAEOLOGICAL SITES IN THE STOREY COUNTY PORTION OF THE COMSTOCK HISTORIC DISTRICT

Appendix B (continued). Formally recorded archaeological sites
in the Storey County portion of the
Comstock Historic District

BLM NO.	NSM NO.	OTHER NO.	PERIOD **	HISTORIC TYPE	PREHISTORIC TYPE	HCRS ZONE	SENSITIVITY ZONE	REPORT	DESCRIPTION
3-1501			H	Mine		S3	H5	Pendleton et al. 1982	Ophir Mine, 1859
3-1502			H	Mine		S3	H5	Pendleton et al. 1982	Overman Pit, 1859
3-1508			H	Mine		S3	H5	Pendleton et al. 1982	Savage Mine, 1863
3-1509			H	RR Station		S4	H4	Pendleton et al. 1982	Scales (Baltic) on the V&TRR
3-1510			H	Mine		S3	H3	Pendleton et al. 1982	Scorpion Shaft, 1859
3-1511			H	Mine		S3	H3	Pendleton et al. 1982	Segregated Belcher Mine, 1859
3-1512			H	Mine		S3	H3	Pendleton et al. 1982	Sierra Nevada Mine, 1859
3-1513			H	Mine		S3	H3	Pendleton et al. 1982	Succor Mine, 1871
3-1515			H	Town		S3	H5	Pendleton et al. 1982	The Divide
3-1517			H	Mine		S4	H4	Pendleton et al. 1982	Utah Shaft, 1859
3-1518			H	Mine		S3	H3	Pendleton et al. 1982	Union Shaft, 1863
3-1518	26St81	Hs-27-0305	H	Railroad		NA	NA	Pendleton et al. 1982	Virginia and Truckee Railroad, 1869
3-1519		HS-27-0312	H	Town		S3	H5	Pendleton et al. 1982	Virginia City, 1859
3-1521			H	Mine		S3	H3	Pendleton et al. 1982	Ward Shaft, 1860
3-1524			H	Mine		S3	H3	Pendleton et al. 1982	West Belcher Mine, 1859
3-1525			H	Monument		S3	H3	Pendleton et al. 1982	Wheeler Monument, 1873
3-1526			H	Mine		S3	H5	Pendleton et al. 1982	Yellow Jacket Shaft, 1859
3-1527	26St103		H	Racetrack		NA	H4	Pendleton et al. 1982	Lousetown Racetrack, 1860s-1870s
3-1618	26St38	26WA3641	H	Pipeline		NA	NA	Pendleton et al. 1982	Virginia City Pipeline and Flume, 1873
3-3083	26St16		P	Camp		NA	P3	BLM #3-434(P)	Task or base camp
3-3084	26St17		P	Rocksheltr		NA	P1	BLM #3-434(P)	
3-3392	26St61		HP	Toll House	Camp	NA	H3/P3	BLM #3-935(P)	Historic debris scatter. Prehistoric artifacts of sinter, chert, and obsidian along with a metate.
3-3396	26St62		P		LS	NA	P1	BLM #3-935(P)	Small lithic scatter (about 14 artifacts)
3-3465	26St63		H	Placer		S4	H4	BLM #3-956(P)	Placer tailings and scatter of household arifacts
3-3466	26St64		P		Petroglyph	S4	P5	BLM #3-956(P)	Possible isolated dot petroglyph
3-3467	26St65		H	Residence/Mill		S4	H4	BLM #3-956(P)	Residence foundation and mill tailings
3-3468	26St66		H	Residence		S4	H4	BLM #3-956(P)	Foundations and artifacts
3-3469	26St67		H	Residence		S2	H2	BLM #3-956(P)	Foundation and artifacts
3-3470	26St68		P		Camp	S1	P1	BLM #3-956(P)	Debitage, ground stone, projectile point
3-3471	26St69		P		Camp	S4	P3	BLM #3-956(P)	Projectile points, hearth, debitage, ground stone
3-3472	26St70		P		Task Site	S4	P3	BLM #3-956(P)	Ground and flaked stone tools

Appendix B (continued). Formally recorded archaeological sites
in the Storey County portion of the
Comstock Historic District

BLM NO.	NSM NO.	OTHER NO.	PERIOD **	HISTORIC TYPE	PREHISTORIC TYPE	HCRS ZONE	SENSITIVITY ZONE	REPORT	DESCRIPTION
3-3473	26St71		H	Residence/placer		S4	H4	BLM #3-956(P)	Domestic and industrial artifacts placer tailings
3-3474	26St72		H	Ranch/Placer		S4	H4	BLM #3-956(P)	Foundations, artifact scatter, tailings
3-3475	26St73		E		Task	S4	P3	BLM #3-956(P)	Ethnohistoric--glass flakes, glass projectile point, stone debitage, ground stone
3-3478	26St76		H	Mill		S4	H4	BLM #3-956(P)	Omega Mill built on foundations of Gould & Curry Mill
3-3479	26St77		H	Mill		S4	H4	BLM #3-956(P)	Parkes Mill/Railroad Mill
3-3480	26St78		H	Mill		S4	H4	BLM #3-956(P)	Empire State Mill
3-3481	26St80		H	Mill		S3	H3	BLM #3-956(P)	Occidental Mill
3-4187	26St86		H	Mill		S3	H5	BLM #3-1340(P)	Foundation, 1890s-1920s
3-4188	26St87		H	House/Dump		S3	H5	BLM #3-1340(P)	Small house and dump, 1920s-1940s
3-4189	26St88		H	Rock Wall		S4	H4	BLM #3-1340(P)	Rock retaining wall for road
			P		Quarry	S5	P5	BLM #3-956(P)	Basalt Hill Quarry
	26St2009		E		Camp	S3	P1	Hattori 1975	N. Paiute Urban Scavengers Camp
		629-1	H	Mill		S3	H3	Burke 1990	Foundation and artifacts

*Does not include archaeological features recorded by HCRS/HABS/HAER
**H-historic; P-prehistoric; E-ethnographic
***Based on Hardesty et al. 1982 Map 2

APPENDIX C
RECOMMENDATIONS FROM PREVIOUS PLANNING DOCUMENTS

APPENDIX C1. THE COMSTOCK PROJECT, 1980

RECOMMENDATIONS

Based on a study of tourism in the region, Virginia City is in a position to expand its tourist market if it can offer something of higher quality than is now presented. Planners for tourist development must confront problems identified by this study. The Comstock Project offers the following recommendations to guide future efforts to upgrade the tourist experience in Virginia City.

1. Concentrate parking away from C Street, possibly off E Street on existing vacant land.
2. Direct tourist traffic to peripheral parking so that tourist vehicles can proceed directly to parking areas without cruising along C Street.
3. During the peak tourist times, limit parking on C Street to loading, unloading, and short stops for service vehicles.
4. Reduce off-street parking on C Street and use the space for more pedestrian-oriented uses, commercial development, or public open space.
5. Develop a pedestrian link between parking areas and C Street that makes climbing the grade less strenuous - gradual steps, terraces, and seating areas.
6. Improve links between C Street and parallel streets by developing commercial uses in the backs of buildings, improved back stairways

and better signage for back stairways.

7. Develop a central orientation area where pamphlets, maps, and films are available to give visitors an idea of the area's history and what there is to see before they get onto C Street.
8. Develop a guide to the historic resources of the Comstock as a whole.

Recreation

The team studied recreation opportunities to determine if the needs of residents were being met. The Comstock project inventoried existing and proposed recreation facilities within the Comstock study area and in the region.

Recreation facilities on the Comstock include picnic areas, basketball courts, softball fields, and playgrounds. The Storey County swimming pool in Virginia City is a major facility although its use is not as great as might be expected. The other major recreation center is adjacent Miner's Park which added tennis courts, picnic areas, and softball field in 1980. In Lyon County, the Silver City Town Park provides softball facilities and a playground. Other recreational activity is dispersed on public and private land in the area.

Funding for local parks and recreation is very low. The one source of private grants, the Fleischmann Foundation, was liquidated in June 1980. Small-scale parks and recreation development in the area must utilize volunteer labor from the community and donations of equipment from local contractors or mining companies.

More specialized recreational facilities are available on the regional level, provided by Washoe County or Carson City. These include equestrian fields, shooting ranges, pools, campsites, group picnic areas, fishing and boating sites. Regional facilities include Centennial Park outside Carson City, the Washoe Lake county boating facilities, and Washoe County's undeveloped Geiger Grade Regional Park. In addition, Storey County plans to study the development of eighty acres of county park land in Lagomarsino Canyon north of the Comstock, a petroglyph site listed on the National Register of Historic Places.

Nevada State Parks has three developments in the region, Lake Tahoe-Nevada State Park in the Sierras, Washoe Lake State Park between Reno and Carson City, and Dayton State Park on U.S. 50, just north of Dayton. The Dayton State Park is under development at present and will emphasize historic interpretation. Recreational vehicle campgrounds are located in both Carson City and Reno. There are no formal RV overnight facilities on the Comstock.

Recommendations

Recreation demand from the small Comstock population is adequately covered by local, regional, state, and dispersed recreation facilities. Given the high attraction of the Comstock to outsiders, recreation development should try to address tourist and regional needs such as campgrounds and historic interpretive trails and sites. As a result of this inventory and analysis, it is recommended that recreation planning concentrate on:

1. Development of historic interpretive trail links between Virginia City and Dayton, down Gold Canyon.
2. Development of camping facilities to allow visitors to stay over-

night in the Comstock.

3. Development of Lagomarsino Canyon for preservation and interpretation of the Native American petroglyphs.

Development on the Comstock

A variety of types of development are likely to occur on the Comstock if the community as a whole understands how to encourage or discourage developments in the future. The Comstock project analyzed the housing market and the potential for office development and retail development. Both economic feasibility and desirability were examined. This information is a preliminary analysis and is not intended to serve as a final market study of any of these uses. It can, however, serve as a guide to county governments, local business people, and developers in exploring further the potential for development on the Comstock.

Housing Supply

Housing, both privately owned and rental, is in short supply on the Comstock. The limited number of existing units, combined with a low rate of new construction has resulted in a small available stock and a very low vacancy rate.

The majority of housing units on the Comstock are older, privately owned, single family structures. A small number of rental units are found in private homes or above commercial establishments on C Street. A limited number are also available in newly constructed apartment units. Following is a breakdown of the Comstock housing supply by community:

Housing Supply

	Occupied	Vacant*	Abandoned
Virginia City			
single family	212	22	6
mobile home	11	1	0
apartments	55	1	0
Gold Hill			
single family	43	0	5
mobile home	0	0	0
apartments	14	0	0
Silver City			
single family	61	3	6
mobile homes	1	0	0
apartments	1	0	0
Dayton			
single family	61	3	7
mobile homes	13	1	0
apartments	0	0	0

(Source: Comstock project windshield survey and interviews)

*Vacant: An available, unoccupied unit.

Abandoned: A structure requiring major renovation to be habitable.

Vacancy Rate and Demand

Housing vacancy rates on the Comstock are relatively low. In addition, a considerable number of those units determined vacant are actually occupied seasonally, and are otherwise not available.

The demand for housing on the Comstock appears to result from immigration rather than natural increase of the existing population or the demand for replacement housing. A general analysis of the existing and projected population indicates a demand for both ownership and rental units. Virtually all rental units are absorbed by the population as soon as they come onto the market. Single family structures for sale do not move as rapidly, but this is a reflection of inflated sale prices and the inavailability of loan money.

A detailed market analysis was beyond the scope of the Comstock project, but certain information does allow generalizations about the housing market to be made with a relatively high degree of accuracy.

Virginia City. A single family residence in Virginia City ranges in price from $75,000 to over $250,000. This wide range represents the tremendous variety of style, age, and condition of units with older, restored homes being of the highest value. Rents range from $175 per month for a studio or one bedroom apartment to $275 per month for a two or three bedroom multiple unit. Detached residential rental units range from $200 to $350 per month.

Gold Hill. The only recent sales of residential units in Gold Hill have been negotiated between HOMCO and homeowners faced with imminent encroachment by the company's mining activities. Consequently, these sales and selling prices are not representative of open market conditions. Rents on Gold Hill range from $250 to $300 per month for a one or two bedroom unit.

Silver City. Single family homes in Silver City range in price from $50,000 to $70,000. Rental units, either houses or apartments, range from $200 to $300 per month.

Dayton. The part of Dayton within the National Historic Landmark represents a very limited portion of the town's area. Residences within the

district are older homes, few of which have been maintained or restored. A significant number of units, almost 25 percent, are mobile homes, either on individual lots or within a small mobile home park. Only one home was for sale ($57,500) and no rental data was obtainable.

Outlying Areas. Outside the Landmark boundaries in the Dayton area, residential units range from $50,000 to over $100,000, with price determined by location, size, and style. Similar conditions prevail in Storey County.

Recommendations

Within the historic core areas of the Comstock, the housing demand seems to be very high for both ownership and rental. The high cost of real estate, coupled with the Storey County ordinance limiting building starts in Gold Hill and Virginia City places a virtual moratorium on residential construction. Housing in Silver City is also severely limited by the control of water hook-ups to Storey County's water system. The Dayton core is not contrained in the same manner. However, the new and rapidly expanding outlying areas of Dayton appear to be more marketable and therefore are attracting the growth. Lending institutions are also reluctant to provide construction or mortgage funding in Silver City, Gold Hill, or Virginia City. This attitude has seen some change recently, but typical construction and/or mortgage franchising is rarely available.

Within the Comstock Historic District, then, the rehabilitation of existing structures, whether originally constructed for residential purposes or not, is a sensitive, viable method of expanding the housing stock. In order to encourage rehabilitation of existing structures on the Comstock it is recommended that:

1. A committee of local business leaders be formed to contact banks and lending institutions, educating them about the Comstock and encouraging their investment.
2. Private foundations and other funding sources should be encouraged to provide funds for a revolving fund for rehabilitation.

Pressures for new construction will undoubtedly become stronger in the future. To ensure sensitive new construction, it is recommended that:

1. The county planning commissions and the Comstock Historic District Commission utilize the Comstock Design Guidelines in determining the appropriateness of new construction.
2. The county commissioners implement a plan for the Comstock in order to deal with new construction in a comprehensive manner.

Local Retail Market

To analyze the Virginia City retail market potential, hypothetical market areas, both primary and secondary, were defined for the area. The secondary market area (the distance people are willing to travel for shopper's goods) was determined by a twenty minute driving time and by clusters of population including Virginia City, Gold Hill, Silver City, and Virginia Highlands. This area contains a population of approximately 2,000 people. The primary market area (the distance people are willing to travel for convenience goods) was defined by a ten to fifteen minute driving time. This area encompasses a population of approximately 1,700.

Supply

There are few retail establishments not directly related to tourism in Virginia City. With over seventy retail establishments, only two restaurants, three bars, and one grocery market cater to the local residents. The Virginia Market, approximately 1,250 square feet, sells groceries and liquor. Although the majority of its business comes locally from Virginia City and Gold Hill, it is estimated that in the summer months tourist-related business contributes up to 25 percent of its total revenues. Figures show that the market captures only a small percentage of the local expenditures on food, but it is doubtful that this rate could be increased dramatically.

Virginia City Retail Supply

convenience store	1
restaurant/bar	24
tourist-related retail	34
museum	7
hotel/motel	4
other	2

Because of the dependence on tourist traffic, some businesses in Virginia City limit their operations or close entirely during the winter months. It is estimated that 20 to 25 percent of the retail businesses close during this time, considerably fewer than was the case five to ten years ago. The two restaurants in Virginia City which cater almost exclusively to local residents stay open year-round, although with some reduction in hours.

Competition

Competition from commercial establishments in Reno and Carson City is strong. Several major shopping areas are within easy access to Comstock residents.

Driving times to the nearest major shopping areas in minutes:

	Reno	Carson City
Virginia City/Gold Hill	35	20
Silver City	40	15
Virginia Highlands	25	40
Mark Twain Estates	70	30
Dayton	60	20

A survey of Comstock residents conducted by the Comstock Project indicates that most people shop in Carson City and Reno for both convenience and shoppers' goods. Sixty-three percent of those surveyed indicated that they shopped in Carson City for groceries and drugstore items and 8 percent stated they shop in Reno for these items. For clothing and appliance shopping, 30 percent travel to Carson City, 38 percent go to Reno, and 26 percent go to both locations.

The Meadowood Mall south of Reno on U.S. 395 offers the greatest range of shoppers' goods in the area. It features 3 major retail anchors and 70 smaller stores (219,000 square feet of commercial space), and serves a regional trade area extending approximately 60 miles west, 200 miles north, 150 miles south, and 200 miles east.

Carson City, which is somewhat closer to the Comstock communities, also features a range of services and goods. Six major shopping centers with a

combined total of over 500,000 square feet of retail space are easily accessible to Comstock residents.

Frontier Shopping Center	80,000 sq. ft.
Warehouse Market Shopping Center	115,000
Carson Square	93,264
Silver City Mall	197,000

Residents of the Comstock are oriented toward Reno and Carson City for shopping and appear to be satisfied with the present offering of commercial services. When asked what commercial services they felt were needed on the Comstock, 25 percent replied none. A drug store was mentioned most often as a possibility (16 percent), while other services such as a food store, variety store, hardware store, bank, and automotive services each collected less than 10 percent of the responses. Confirming this attitude, 61 percent responded that they were satisfied with the commercial services available on their Comstock.

It is clear from this investigation that Virginia City is not in a competitive position at this time. Factors such as small population, strong competition from Reno and Carson City, and shoppers' attitudes discourage localized retail development. Rather than analyzing the community's potential for such development, it is more appropriate to describe Virginia City as in the middle of two overlapping market areas - Reno and Carson City.

Tourist-Oriented Retail Market

The greatest opportunities for retail development on the Comstock are offered by tourism. Analysis of the regional tourism characteristics as well

as those of the Comstock point to a strong existing market and the potential for expansion.

Reno/Sparks. Tourism is a major economic activity in the Reno/Sparks area and is growing. A 1979 study by the Reno/Sparks Chamber of Commerce showed that nearly 11 million visitors passed through the area that year. With over 14,000 hotel/motel rooms available, 6.5 million of those visitors remained in the area for an extended period of time. The majority of the visitors, 75.3 percent, arrived by automobile, 9.8 percent arrived by plane, 4.3 percent by bus, and less than 1 percent by train. The study also indicated that 25 to 48 percent of the visitors interviewed were also visiting neighboring areas such as Lake Tahoe, Carson City, or the Comstock.

Lake Tahoe. Tourism is the principle economic activity of the Lake Tahoe Basin. Promoted as a year-round playground, the basin attracted over 150,000 visitors per day on a peak day in 1978, an increase from 100,000 per day in 1970. The majority of visitors arrived by private automobile: 70 percent via U.S. Highway 50 and Interstate 80 from the west, and 30 percent via U.S. Highway 50 from the east.

Outdoor recreation and entertainment constitute the bulk of the visitor activity. A survey conducted by the California Lake Tahoe Regional Planning Agency concluded that the average visitor participated in three different activities. Twenty-seven percent participated in some form of outdoor recreation, 61 percent took advantage of casino show rooms for entertainment, and 74 percent visited the casinos to gamble at some time during their stay. Total visitor spending from 1970 to 1978 amounted to $3,312 million (based on 1975 dollars).

Virginia City/The Comstock. The Comstock is located roughly in between the Lake Tahoe Basin and Reno. It depends greatly on these areas for its

tourist market. For most visitors, Virginia City is not a major destination, but rather a day trip from Reno or Lake Tahoe, or a stop enroute to another location.

The Comstock draws both organization groups and individual tourists, including a nationwide and international clientele. Most are destined primarily for Virginia City, although a small number stop in Gold Hill, Silver City, and Dayton. The average visitor spends fewer than three hours there and because of lack of night-time entertainment and accommodations, few spend the night. Of those interviewed in the Comstock project survey, all indicated that they planned to stay on the Comstock only a few hours. They mentioned Reno and Lake Tahoe most often as final destinations.

Market Potential

Virginia City's tourist-related retail market is markedly different from that dependent upon the local population. Although the region attracts most of its visitors from the western states, its potential market area is virtually unlimited. Because of its location and wide reputation, the Comstock can almost certainly count on its continued strength as a tourist attraction.

A major problem, however, is the quality of the visitors' experience and the resultant amount of time and money visitors are willing to spend in Virginia City. In order to attract a longer-staying and more affluent visitor, the tourist-related retail establishments should attempt to improve the quality of their goods and services. The market for a high quality hotel/motel and restaurant should be examined in greater detail and the county commissioners should encourage and promote such a development.

Office Development

An analysis of the office space requirements on the Comstock indicates that there is not a demand for large-scale development at this time. County-imposed constraints to development and the outlook for limited growth of office-using employers will limit the need for this type of development.

Informal investigation of office needs, however, discovered a demand for some small scale office space. Such space would serve the needs of individual professionals such as doctors, lawyers, or consultants. Such office space would necessarily be at low or moderate rent levels. The Comstock Project suggests that development of less than 5,000 square feet of office space in Virginia City would be feasible at this time.

Planning for Preservation

The inventory of significant historic, archeological, and natural features of the Comstock was an essential element of the Comstock project. The archeological land use maps and the inventory cards prepared for the historic and natural sites form the basis for planning on the Comstock. Together, these products provide an overview of the important and sensitive areas within the National Historic Landmark boundaries. With a complete inventory of these areas, the county commissioners, building departments, developers, or anyone involved in physical activities on the Comstock can be made aware of protected sites they might impact in any proposed action.

These sites are not rated by importance; this must be determined by the

local and state authorities, as well as by private concerns. Information is provided for each site identified so that a decision of relative importance can be made.

The key to achieving a balance between preservation and development lies in an awareness of the sensitive historic areas and their relative significance, and an understanding of alternatives to proposed actions which can mitigate or lessen the impact to such sites.

Archeology

Another facit of the Comstock preservation planning project was the inventory of archeologically sensitive areas and a scheme for managing archeological resources. Ruins of buildings, refuse, and other archeological sites were considered for their symbolic importance and for their potential to yield information about the past. As symbols, such sites can be used to illustrate the Comstock's history. Archeological sites are also historical repositories of valuable information about people who once lived on the Comstock. They are most valuable when they reveal information about those groups who were lost to history. Miners, the Chinese, and Mexican community, and other ethnic groups on the Comstock were never well documented. As a result, ethnicity and ethnic relations remain some of the most important questions to be answered about mining settlements on the western frontier.

To utilize the data gathered by the Comstock project, the team archeologists projected where sites are most likely to be found. Each model was developed from a review of historical records that identify human populations that

occupied the region. On the Comstock there were four: Native American foragers before 1850, placer miners of the 1850s, boom town miners during the 1860 and 1870s, and post-boom town miners after 1880. Each of these groups has a distinctive pattern of behavior that allows modeling of where archeological sites are left behind and what kinds of activity they represent. An archeological model of Native American foragers, is based upon ethnographic observations of the Washo and Northern Paiutes who occupied the Comstock at the time of white contact. Fall and winter season deer hunting, and the hunting of mountainsheep, and gathering of pinyon pine nuts during the fall are the principal activities observed, along with the occupation of permanent winter villages in the foothills. Table 1 lists the archeological sites expected from these activities. Map 1 shows where they are expected to be found in the Comstock vicinity.

Table 1

A1 Seasonal deer/mountain sheep hunting and pine nut gathering camps.

A2 Task sites associated with deer/mountain sheep hunting and pine nut gathering.

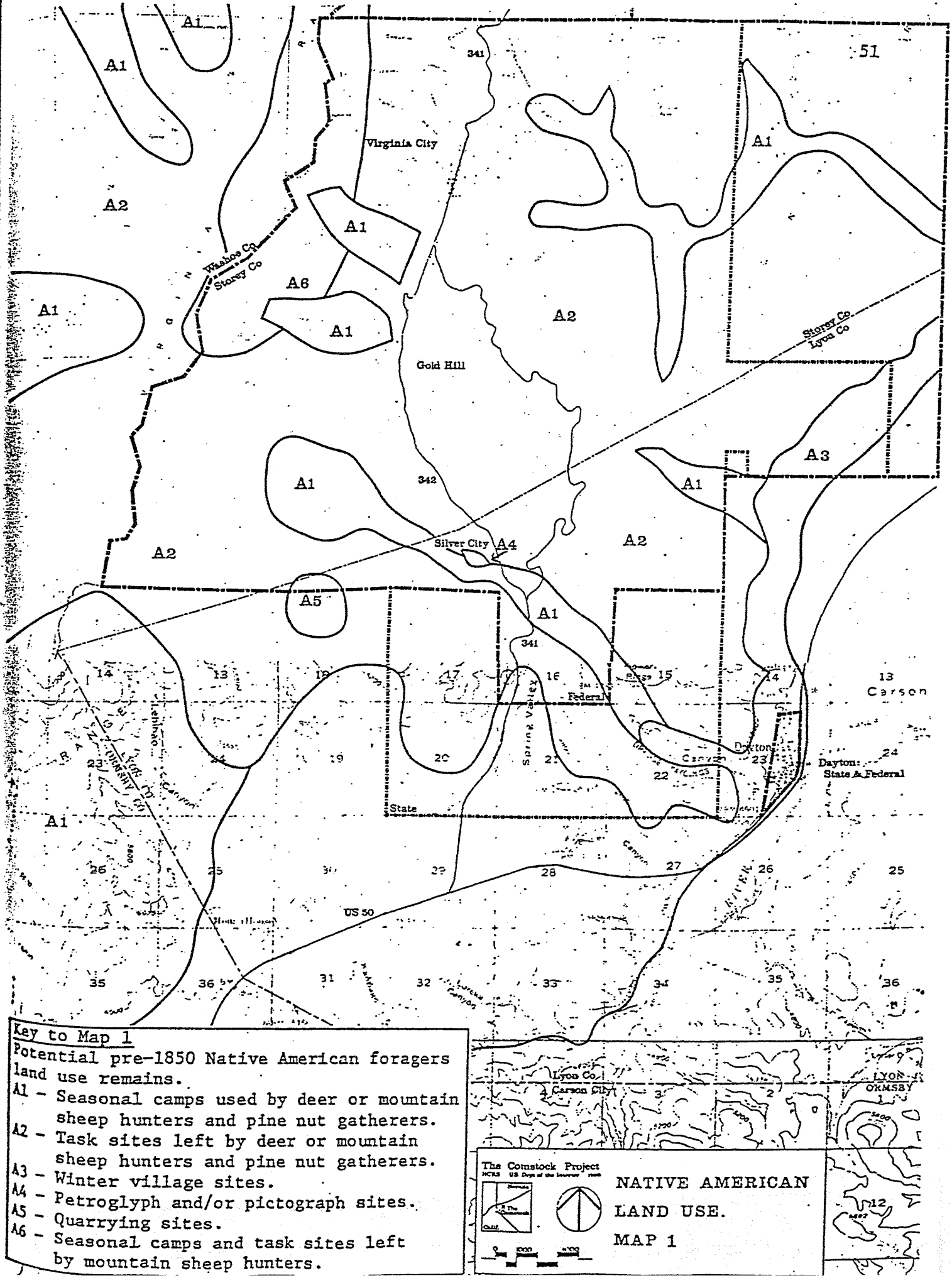
A3 Permanent winter villages.

A4 Quarrying sites.

A5 Petroglyph/pictograph sites.

A6 Mountain sheep hunting camps and task sites.

Similar models were developed for the populations (Maps 2 - 10). Superimposing the map "models" allows the identification of geographical areas with distinct archeological expectations. Together, those archeological zones present an archeological model of the area. The Comstock model is shown in Map 11. Each zone is expected to have archeological sites stipulated



Key to Map 1

Potential pre-1850 Native American foragers land use remains.

A1 - Seasonal camps used by deer or mountain sheep hunters and pine nut gatherers.

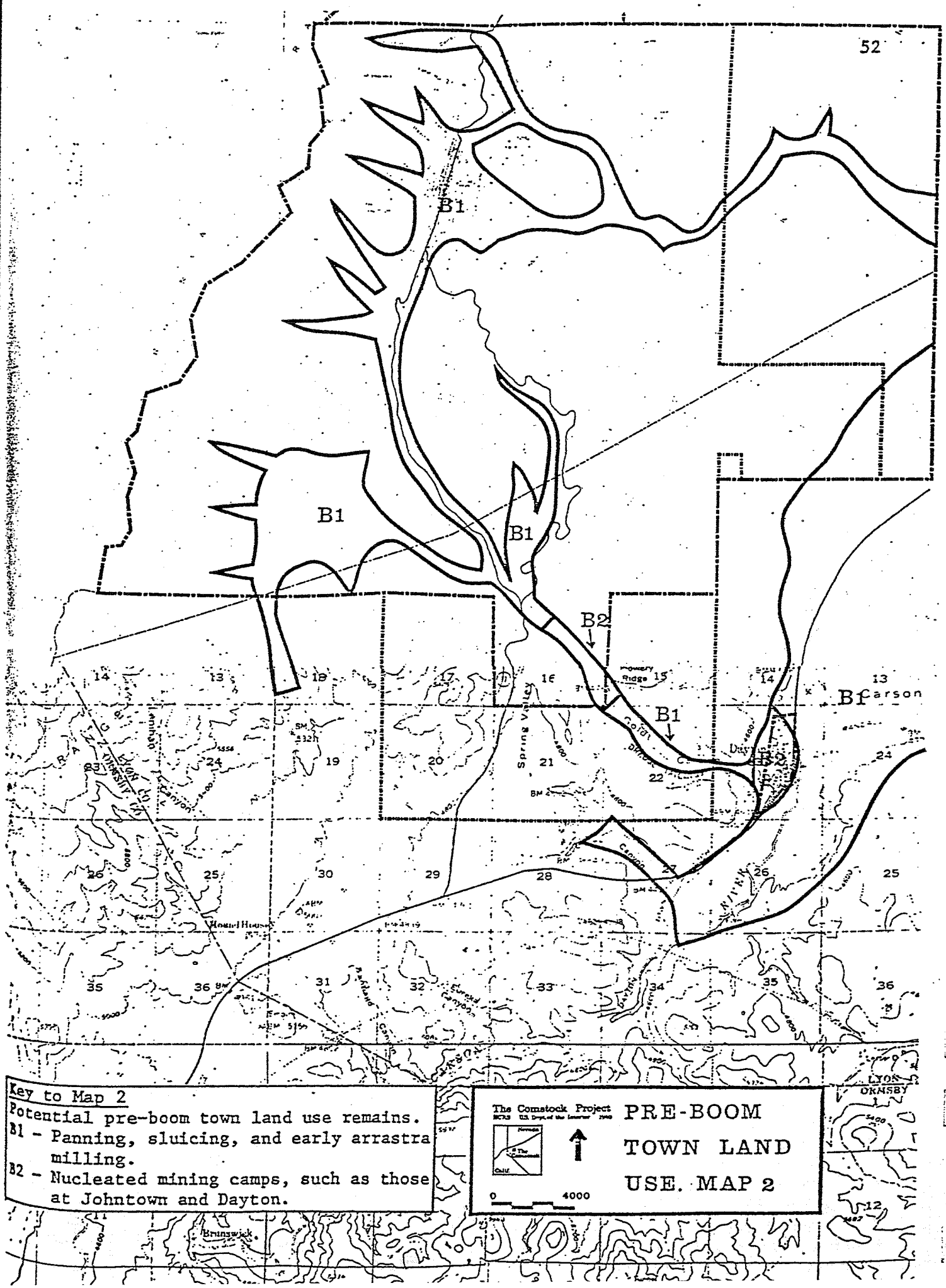
A2 - Task sites left by deer or mountain sheep hunters and pine nut gatherers.

A3 - Winter village sites.

A4 - Petroglyph and/or pictograph sites.

A5 - Quarrying sites.

A6 - Seasonal camps and task sites left by mountain sheep hunters.

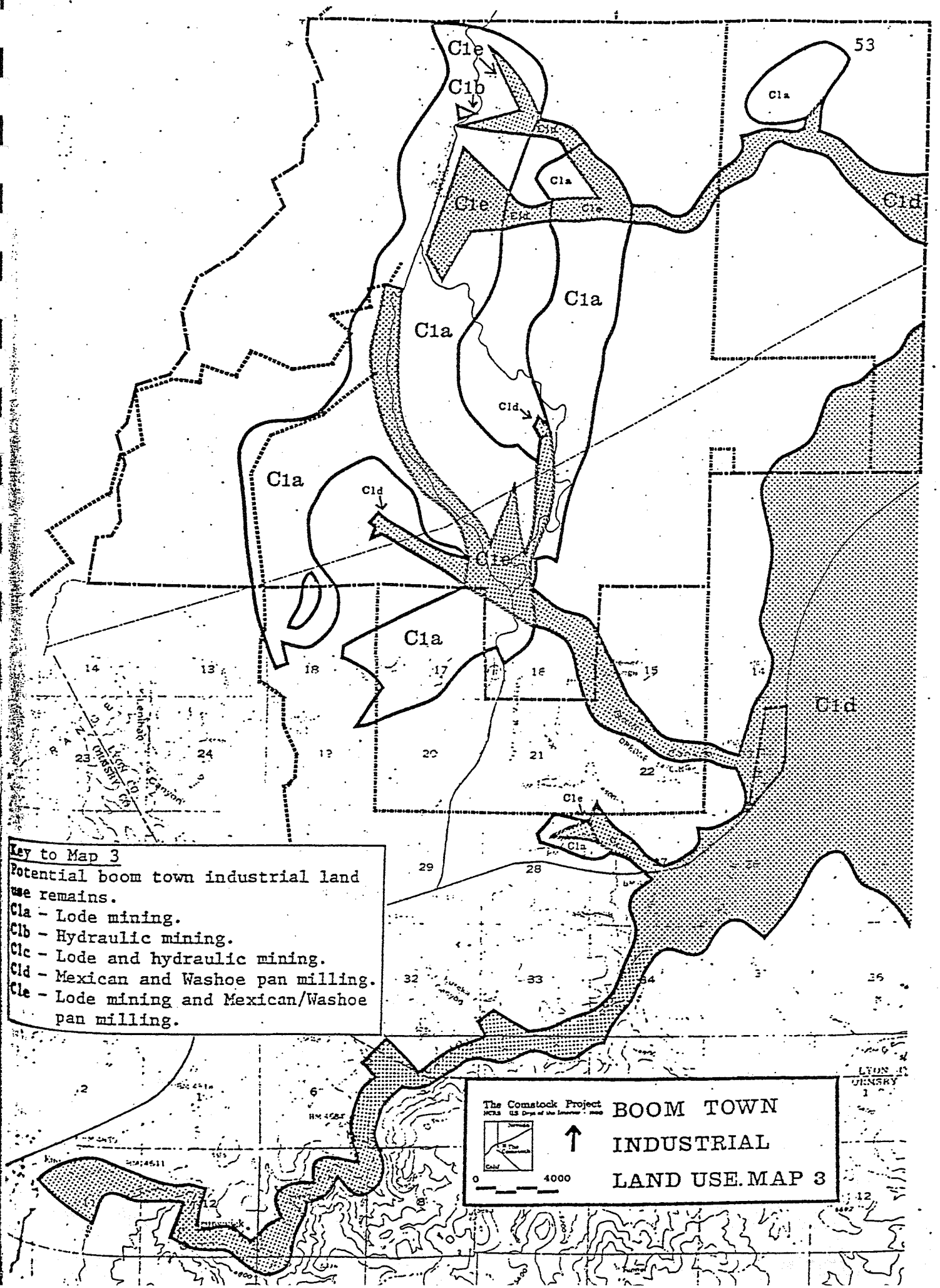


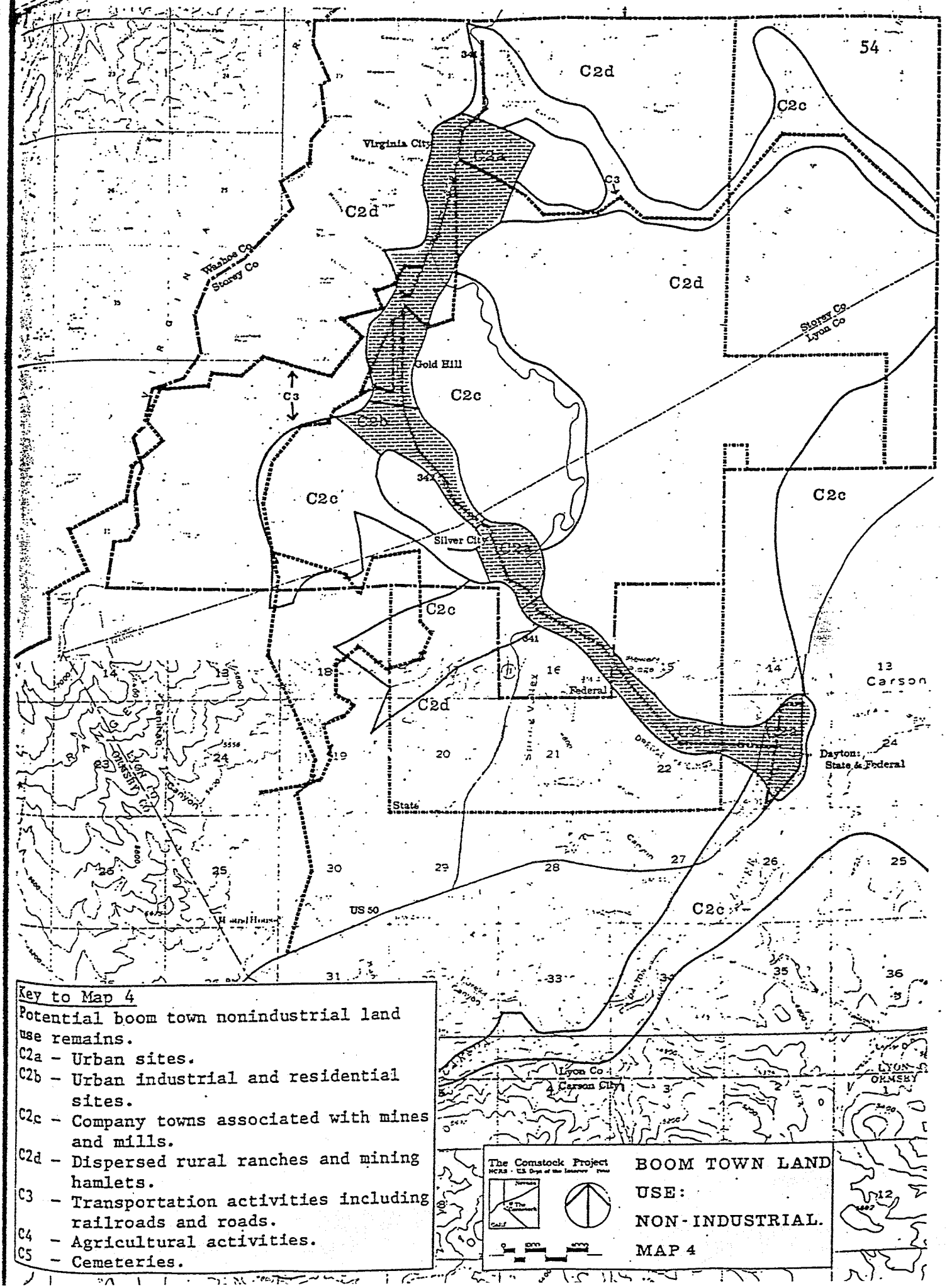
Key to Map 2

Potential pre-boom town land use remains.

B1 - Panning, sluicing, and early arrastra milling.

B2 - Nucleated mining camps, such as those at Johntown and Dayton.


C1e
C1b
C1a
C1d
Key to Map 3
Potential boom town industrial land use remains.
C1a - Lode mining.
C1b - Hydraulic mining.
C1c - Lode and hydraulic mining.
C1d - Mexican and Washoe pan milling.
C1e - Lode mining and Mexican/Washoe pan milling.
The Comstock Project
0
4000
BOOM TOWN
INDUSTRIAL
LAND USE. MAP 3



Key to Map 4

Potential boom town nonindustrial land use remains.

C2a - Urban sites.

C2b - Urban industrial and residential sites.

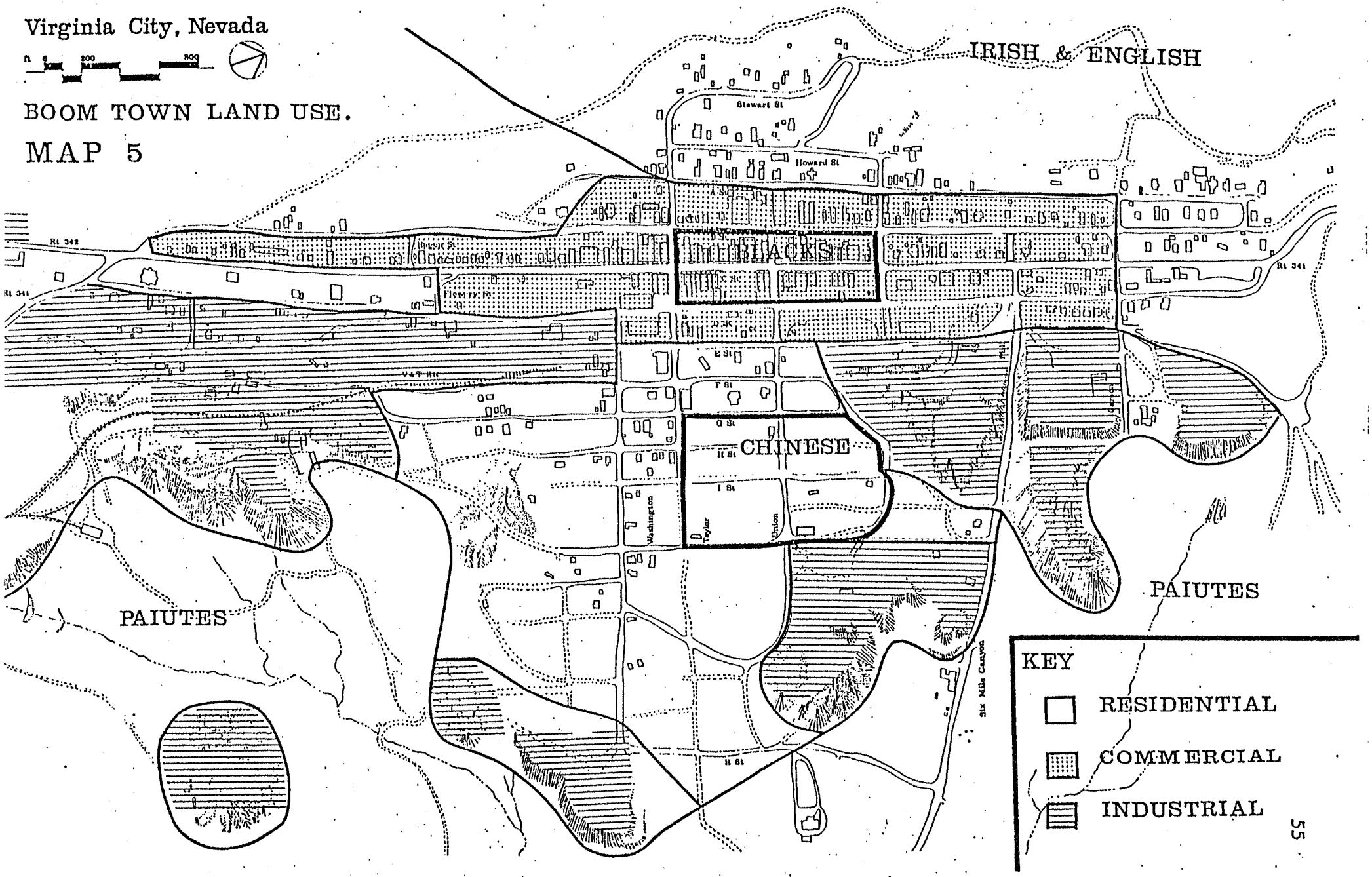
C2c - Company towns associated with mines and mills.

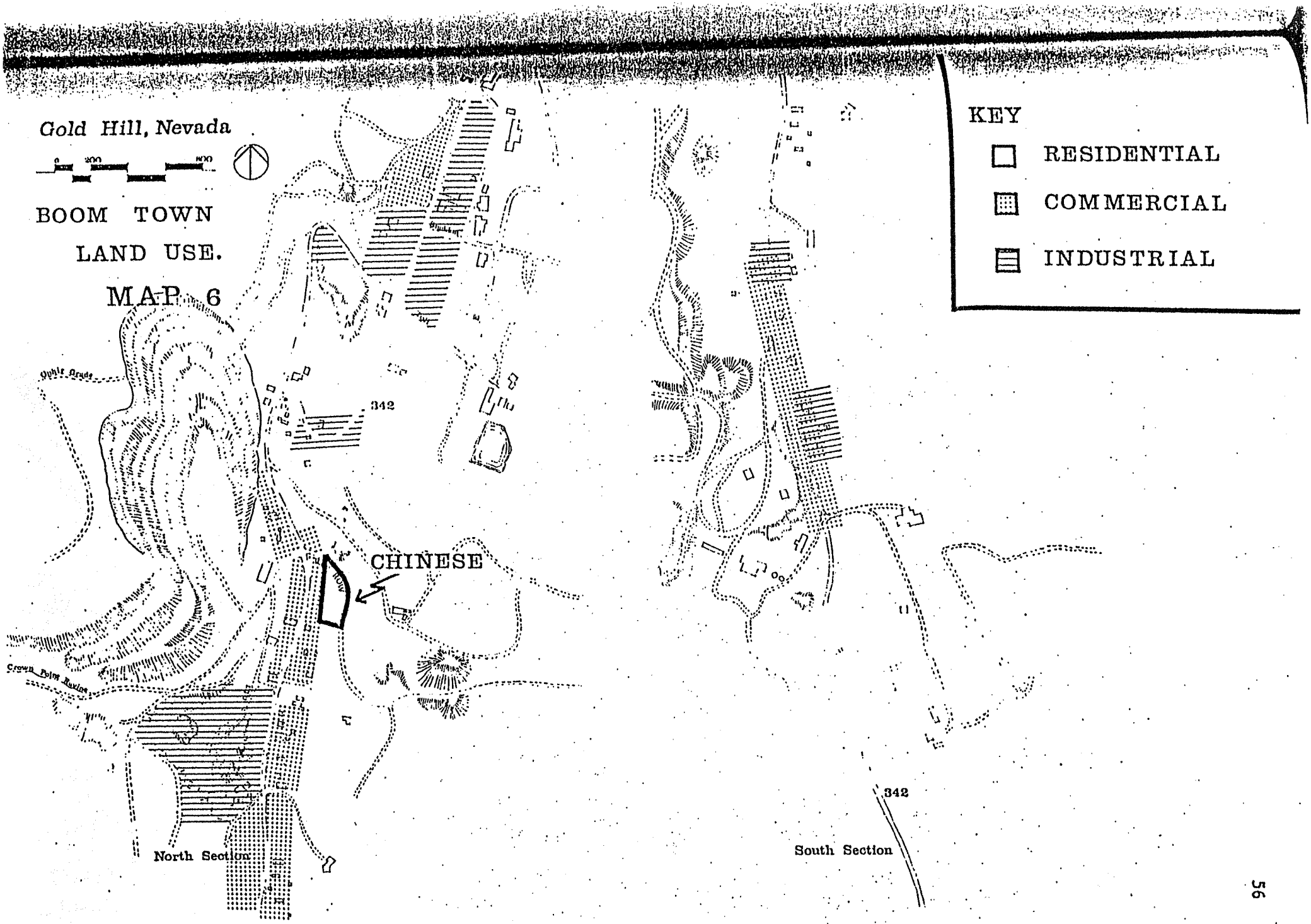
C2d - Dispersed rural ranches and mining hamlets.

C3 - Transportation activities including railroads and roads.

C4 - Agricultural activities.

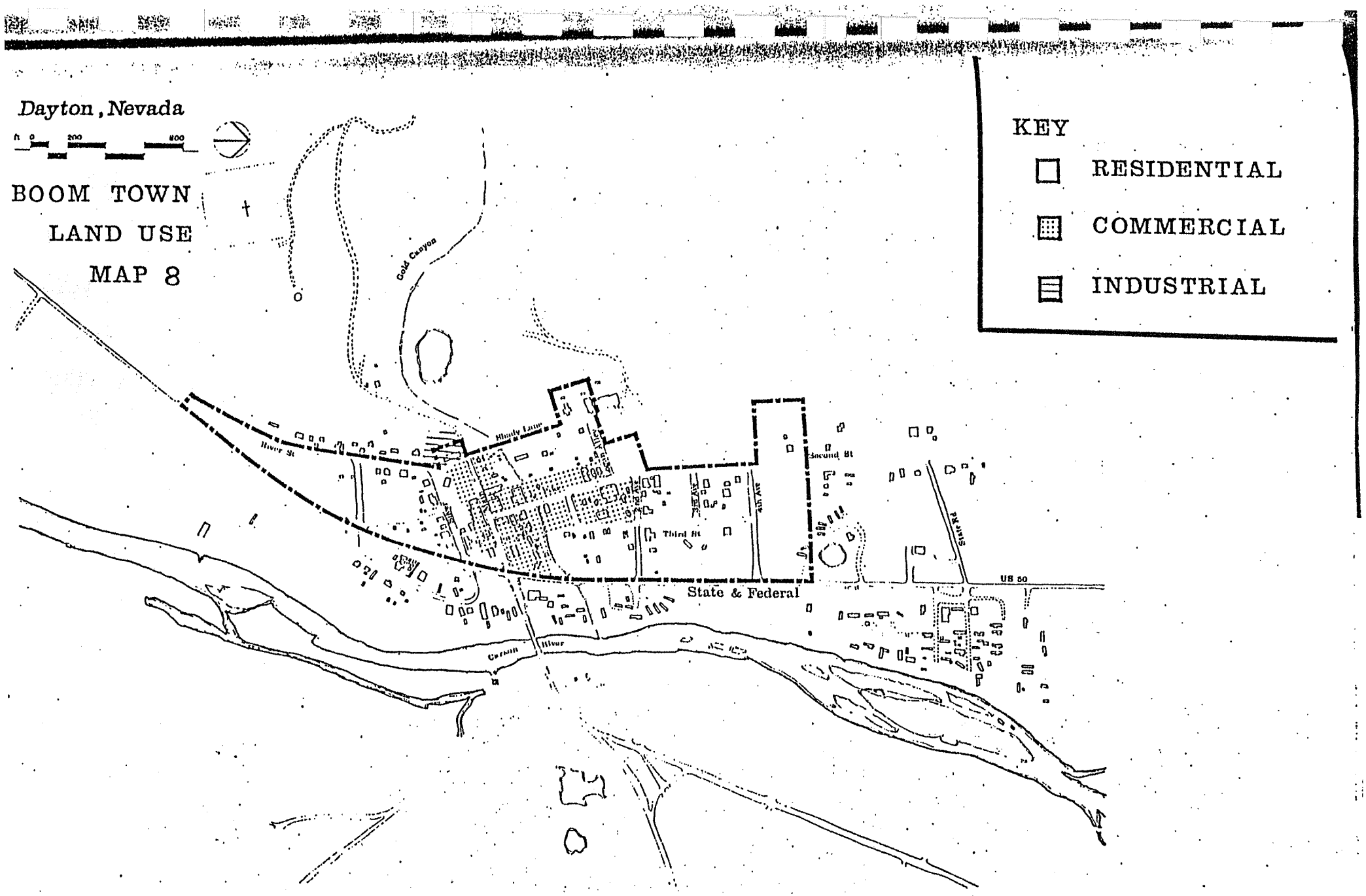
C5 - Cemeteries.

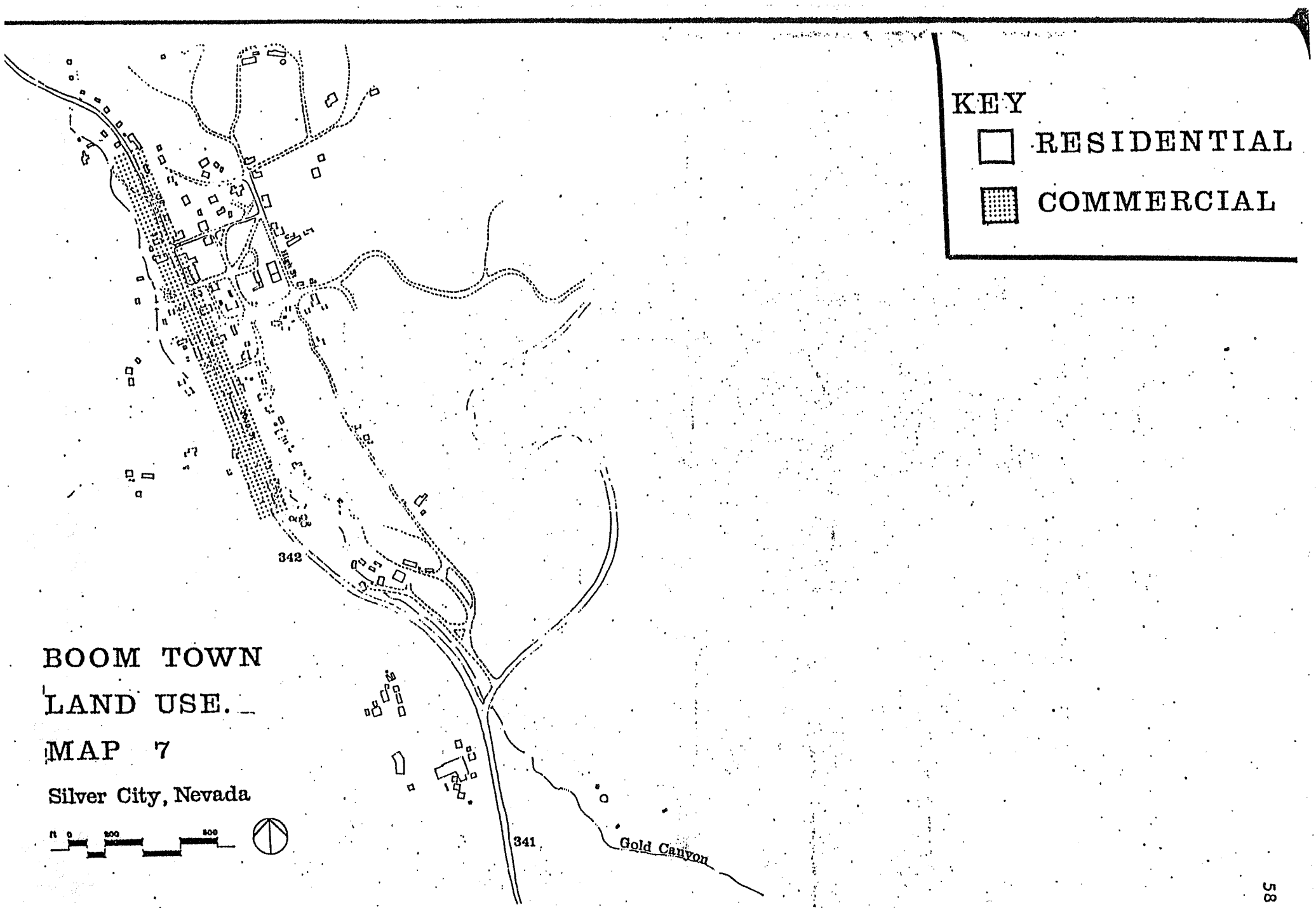

Virginia City, Nevada
BOOM TOWN LAND USE.
MAP 5
IRISH & ENGLISH
BLACKS
CHINESE
PAIUTES
PAIUTES
Stewart St
Howard St
Rt 342
Rt 341
Rt 341
B St
F St
G St
H St
I St
R St
Washington
Taylor
Union
Six Mile Canyon
KEY
RESIDENTIAL
COMMERCIAL
INDUSTRIAL


Gold Hill, Nevada
BOOM TOWN
LAND USE.
MAP 6
KEY
RESIDENTIAL
COMMERCIAL
INDUSTRIAL
342
CHINESE
North Section
South Section
342

Dayton, Nevada

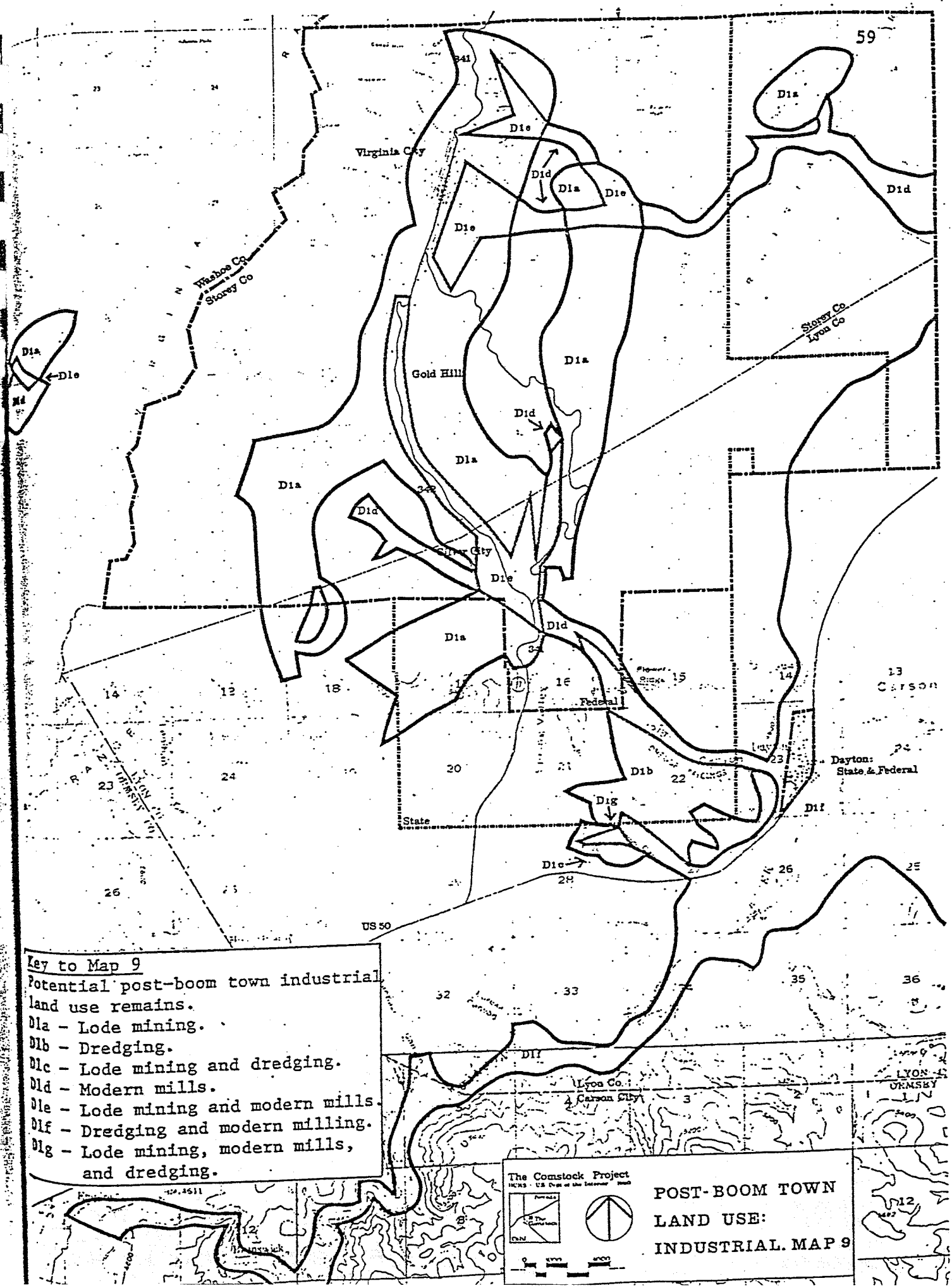
BOOM TOWN LAND USE MAP 8





BOOM TOWN
LAND USE.
MAP 7

Silver City, Nevada



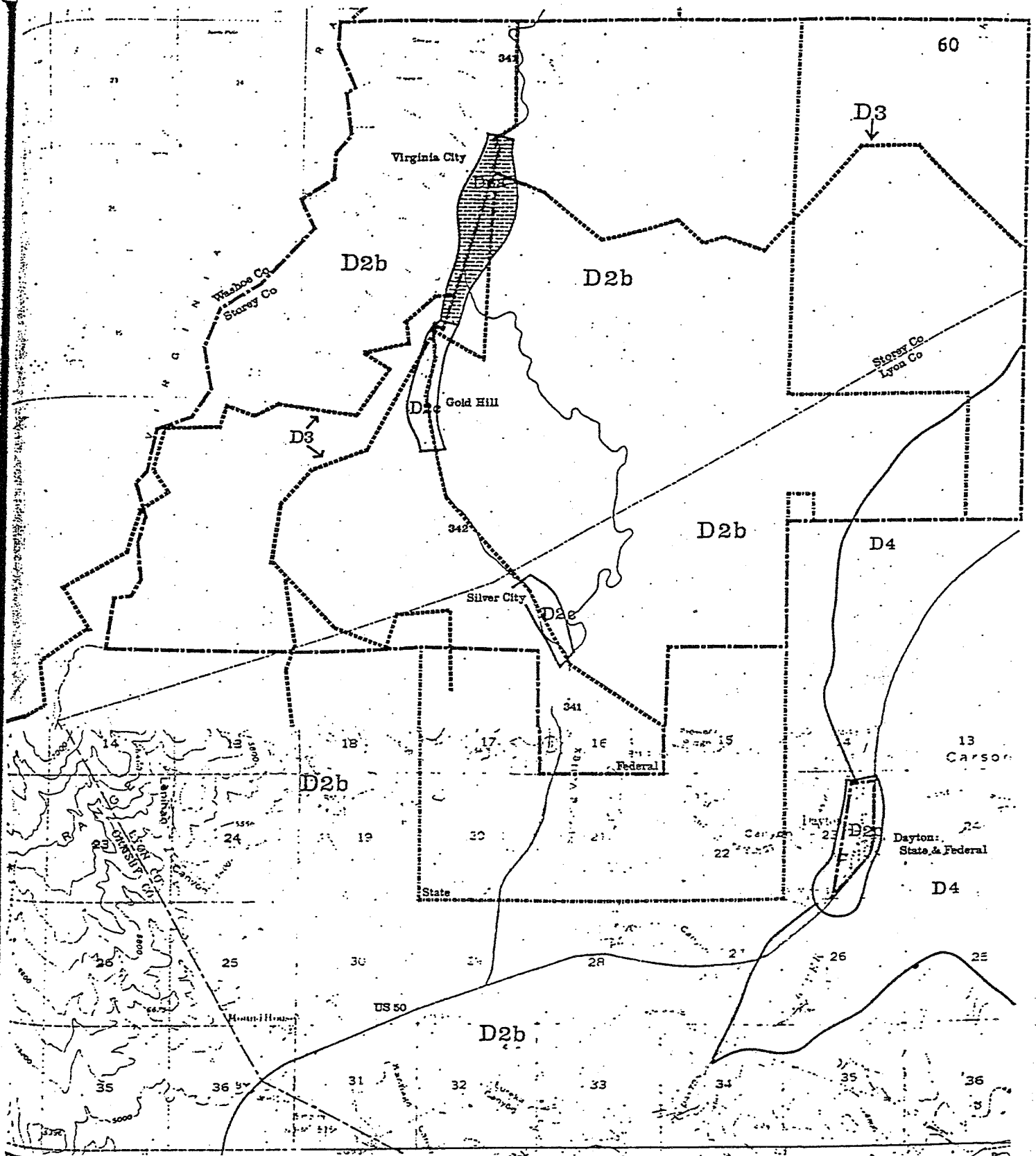
Key to Map 9

Potential post-boom town industrial land use remains.

D1a – Lode mining.
D1b – Dredging.
D1c – Lode mining and dredging.
D1d – Modern mills.
D1e – Lode mining and modern mills.
D1f – Dredging and modern milling.
D1g – Lode mining, modern mills, and dredging.

The Comstock Project

POST-BOOM TOWN LAND USE: INDUSTRIAL. MAP 9



Key to Map 10

Potential post-boom town nonindustrial land use remains.

D2a – Urban settlements.
D2b – Dispersed rural ranches and mining hamlets.
D2c – Nonurban but nucleated settlements.
D3 – Transportation sites including railroad and road networks.
D4 – Agricultural sites.
D5 – Cemeteries.

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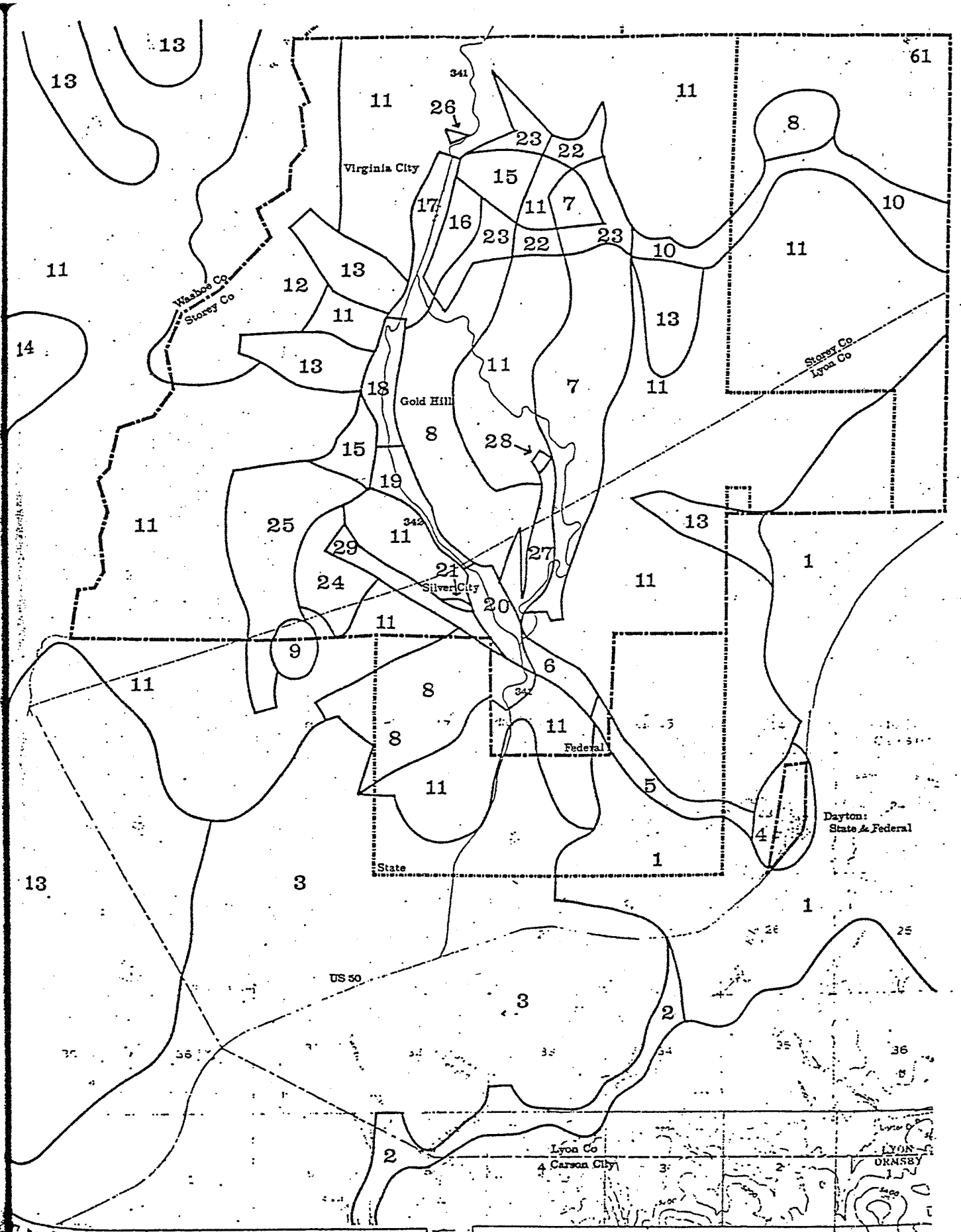
POST-BOOM TOWN LAND USE. NON-INDUSTRIAL. MAP 10



7 to Map 11
el of land use history.
erimposition of the ten land use pat-
s modeled in Maps 1-10 gives 29 zones
h distinctive land use histories. Each
e has somewhat different archeological
ectations.

The Comstock Project

MODEL OF LAND USE HISTORY.
MAP 11

by the population models. Zone 9, for example, is expected to have only quarrying sites of Native American foragers.

The second step in archeological planning for the Comstock is to assess the significance of archeological sites in each of the zones. Site significance is evaluated by eligibility for listing on the National Register of Historic Places. Four criteria are recognized: 1. the site is associated with an important historic event; 2. the site is associated with an important person; 3. the site is representative of a style or type; and 4. the site provides important information about the past. The inventory cards provided a portion of the data base used to evaluate the eligibility of particular sites. In addition, key research questions about the populations that occupied the Comstock are identified and sites are evaluated by the pertinent information they contain.

The archeological zones identified through the study of land use patterns are best used as planning tools. Archeological sites expected to be within each zone are sensitive to mining and other kinds of activities that disturb the land. The degree of sensitivity can be determined in part by assessing the significance of sites within the zone according to the preceding guidelines. Other measures of sensitivity are site density (which tells how likely it is that a planned activity will encounter a site) and site uniqueness (a rare petroglyph site, for example, renders the zone more sensitive to disturbance than a more common seasonal hunting camp). On the other hand, archeological sensitivity is lessened by prior disturbance that may affect the integrity of the site. The availability of written documents that duplicate information in the archeological record also reduces the sensitivity of the zone. By rating the sensitivity of each zone, the planner

acquires a tool that can be used to minimize the impact of mining and development upon the archeological record. If there are alternative routes for a haul road, for example, the planner can recommend that the road go through the least sensitive zone.

NAER Structures Inventory

The National Architectural and Engineering Record (NAER) has developed a standardized inventory card for the recording of historic sites and structures. Each card provides specific information on ownership and location of the site, as well as architectural descriptions and histories, a black and white photograph, and a location map.

The Comstock project completed over 400 inventory cards for historic sites on the Comstock. This includes all those industrial, commercial, institutional, and residential sites over forty years old within the Virginia City National Historic Landmark boundaries. Sites ranging from the Dayton Mill in Silver City to the Savage Mansion in Virginia City were recorded. This inventory can serve as a quick and accessible guide to the historic resources of the Comstock.

In addition to the inventory, the Comstock project also completed a more extensive recording of the Donovan Mill in Silver City. A history of the site and archival photographs were produced. Both the recording project and the NAER inventory cards have been transmitted to the Library of Congress. Other copies are available from local sources.

Landforms Inventory

The environmental setting of the Comstock historic sites and structures contributes an important part of what we perceive about the area's character. the land features of the Comstock influenced patterns of prehistoric and historic settlement, create the visual setting for the historic towns we see today, serve as landmarks to its people and symbols of the Comstock to visitors. Any change or destruction of these features could irreversibly change the character of the district and diminish its historic integrity. For example, removal of Crown Point both altered the natural drainage in the area, and destroyed the local landmark for which Crown Point Mill and Crown Point Ravine were named.

Landforms need to be recognized in preservation planning in the same way as historic sites, by being inventoried and recorded so that planners can set priorities for preservation and measure the future impact of change against some benchmark. The Comstock Project developed criteria to judge the significance of landforms on the Comstock. Those which were determined important enough to record fall within the following categories:

Unique - a land feature found only on the Comstock.

Imageable - a memorable visual landmark in the district.

Typical - a type of land feature so widely distributed in the district that it becomes a recognizable characteristic of the Comstock.

Linked with the District's History - a land feature which figured prominently in some historical development or event.

A Significant Part of the District's Natural Environment -

a good example of the natural environment which is typical of the Comstock.

The following landforms were determined by the Comstock project to meet one or more of these standards:

Six-Mile Canyon

Seven-Mile Canyon

Mine Pits

Dumps:

- Dredge tailings
- Mill tailings
- Waste Rock Dumps

Flowery Ridge

- Kate Peak
- Mt. Grosh
- Rose Peak
- Emma Peak
- Flowery Peak

Sugarloaf Mountain

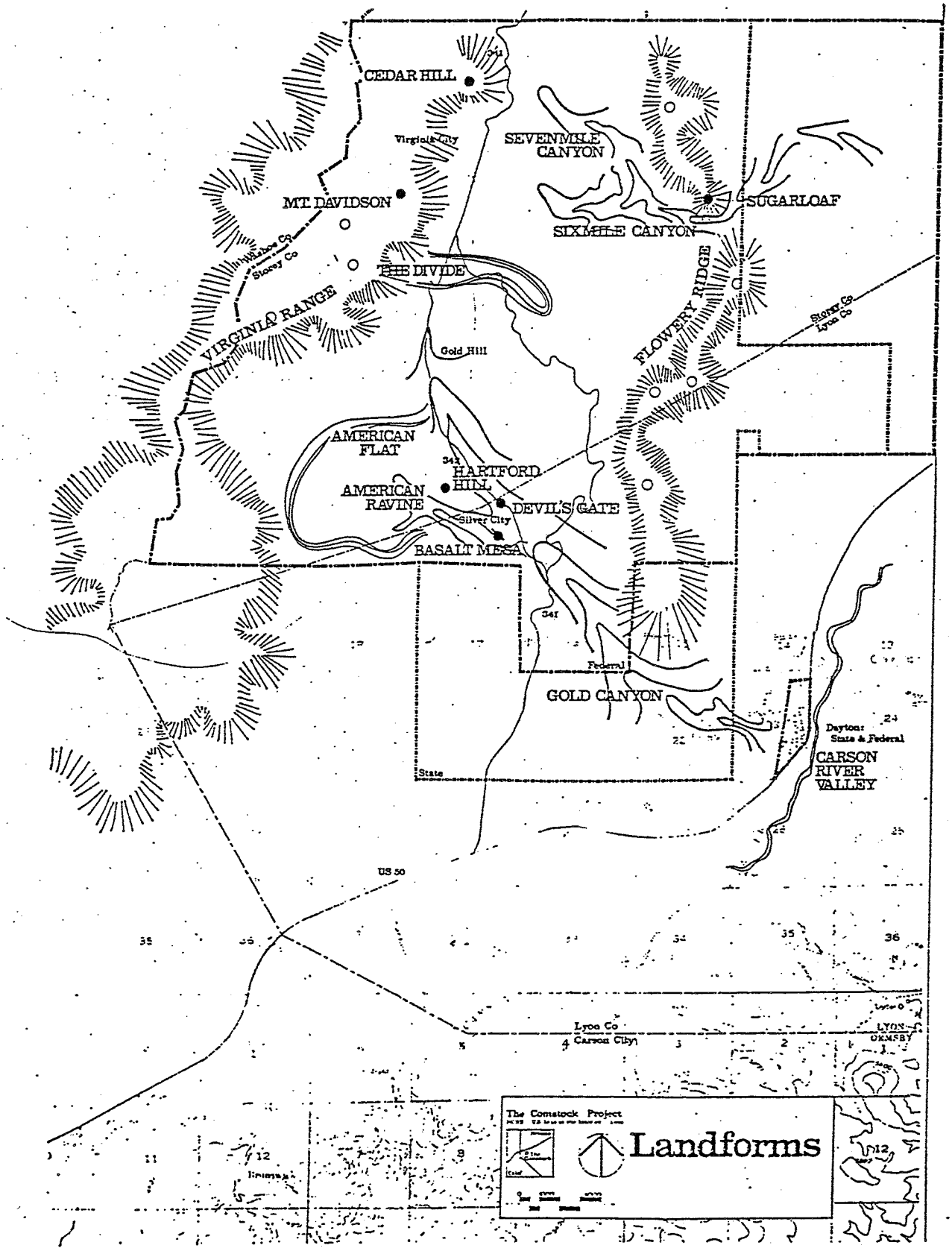
Virginia Range

- Mt. Bullion
- Butler Peak
- Wakefield Peak
- Mt. Davidson
- Cedar Hill

The Divide/Greiner's Bend

Gold Canyon

American Ravine


CEDAR HILL
Virginia City
SEVENMILE CANYON
MT DAVIDSON
SUGARLOAF
SIXMILE CANYON
Washoe Co
Storey Co
THE DIVIDE
VIRGINIA RANGE
FLOWERY RIDGE
Storey Co
Lyon Co
Gold Hill
AMERICAN FLAT
HARTFORD HILL
AMERICAN RAVINE
DEVIL'S GATE
Silver City
BASALT MESA
341
Federal
GOLD CANYON
Dayton
State & Federal
CARSON RIVER VALLEY
State
US 50
Lyon Co
Carson City
LYON
OKMSBY
The Comstock Project
Landforms

American Flat

Basalt Mesa

Devil's Gate

Hartford Hill

These landforms have been documented on NAER inventory cards with a description, archival black and white photograph, and location map. NAER cards recording significant landforms in the Comstock Historic District have been sent to the Library of Congress along with the NAER inventory of historic sites and structures as a permanent record of the Comstock as it exists today.

Preservation Case Studies

One goal of the Comstock project was to provide practical examples of good preservation in the community. To this end, the team undertook three related studies. The Dayton Maintenance study is a basic how-to guide for owners of older, historic buildings. The V & T Freight Depot study shows how to utilize an underused resource to meet a variety of community needs. The tax act study illustrates both sensitive rehabilitation treatments and the economic benefits of the Tax Reform Act of 1966, and the Revenue Act of 1978.

Dayton Maintenance Study

Many of the historic structures on the Comstock remain remarkably unchanged, with doors, windows, and other architectural features in their original configuration. Still, although these structures have not been purposely modified, they have suffered from years of neglect and poor maintenance. Not only does

APPENDIX C2. ARCHAEOLOGICAL SURVEY OF THE VIRGINIA CITY NATIONAL HISTORIC LANDMARK, 1982

APPENDIX C3. PROJECT 85

RECOMMENDATIONS

The 1980 report "Managing Archaeological Resources on the Comstock"(HCRS/HAER Comstock Project 1980) did not include a specific set of recommendations that could be implemented by the Division of Historic Preservation and Archaeology, the Comstock Historic District Commission, and the commissioners of Storey and Lyon County. After testing and revising the management plan, we are now in a position to do so. Development of the Comstock through tourism and mining has intensified the destruction of archaeological sites in recent years. To counter that trend, the following actions are recommended.

1. The county commissioners should issue a special permit for development, mining, or other high impact projects proposed in archaeological zones with high sensitivity ratings. Before the permit is issued, a clearance report must be prepared by professionally qualified archaeologists(certified by the Society of Professional Archaeologists or a comparable organization). The report must demonstrate either that the impact area ccontains no significant archaeological resources or that appropriate mitigation procedures have been taken.

2. The boundaries of the Comstock Historic District should be changed to make the state and federal districts coincide, to eliminate most of the low significance hinter land zone, and to include lower Gold Canyon, the Carson River Valley, Long Valley-Lagomarsino Canyon, and possibly Washoe Valley.

RECOMMENDATIONS

* Establish the same quality of documentation for the complete Comstock. The Divide, Gold Hill, Silver City, Dayton, and Sutro need their building inventory made current. Understanding of change in these areas would be greatly enhanced by Case Studies as in Volume 2.

* This inventory of 485+ buildings could be enhanced through more intensive historical documentation of some buildings, such as the work which has been done for the Case Studies in Volume II. Other resources, i.e. oral histories, should be developed to support and extend the existing documentation.

* Volume 3 contains many recommendations for the maintenance and marketing of the historic district.

community evidences a sense of pride in itself, a pride that will communicate to visitors that this is a special place. It becomes for all a place to be treated respectfully and enjoyed for its own special qualities and not the artificial qualities of theme towns or the homogenous strip. It is primarily visual appearance that affects the comfort of resident and visitor alike. The rehabilitation of historic structures and the public interpretation of the history that created those structures and others thus become the twin keystones of any successful, integrative, management plan for Virginia City.

Historic preservation, economic development, and community values are the three equal and interdependent themes that must be followed in managing the Virginia City Historic District. These goals could become the lofty aspirations of any management effort and be quickly lost in the press of daily business. The goal of this project is quite different.

Both the marketing plan for tourism development and the economic development plan for the varied interests of the historic district were purposefully constructed on immediate, accomplishable tasks. The two reports contain all that is necessary to begin now to build toward an improved historic district and an improved economy, with one exception. That exception is a clear and consistent public commitment at all levels of government and in all departments. Here again, it is not lofty pronouncements that will work, but the daily actions of government in its dealings with all the citizens of the Comstock that will make suggestions of this report not only possible, but successful.

Historic Preservation

If historic preservation -- the rehabilitation of historic structures to efficient, contemporary use -- is to be one of the three management goals for Virginia City, it will first require an effective public - private partnership. There are too many buildings in need of help to depend on ever-decreasing public funding. There is also limited benefit in public concentration on any one building, even the Fourth Ward School. To encourage both public and private investment in Virginia City, the County must work to establish a predictable environment for investment. Private investors and government funding agencies are accustomed to levels of certainty that do not presently exist in Virginia City. The abolition of the Planning Commission, for whatever reasons, appears to open the investment environment of Virginia City to sudden and unpredictable alteration. The absence of a Master Plan, developed by the community, and appropriate zoning, again developed by the community, discourages governmental funding agencies and private investors alike. Given the alternative opportunities for grant awards or investments that exist throughout Nevada, Virginia City must work toward a more defined and consistent environment for development that will attract public and private funds alike.

On the governmental side, such an environment includes the designation of Virginia City as an Economic Development Center, and the appointment and support of an Overall Economic Development Plan committee. Steps toward a community-developed Master Plan and appropriate zoning need to be continued, brought to fruition, and

onsistently enforced. It should not pass without otice that at present, the only agency charged ith protecting the Historic District from inapropriate development is the Comstock Historic istrict Commission. This is too large a responibility for one small agency only partially elated to County government. The responsibility ust be borne by all aspects of county government, nd it must be consistently enforced.

With such large public policy positions larified, there are a number of smaller actions hat could also assist in attracting public and rivate dollars to the historic structures of irginia City. The promise here is not for large uantities of fast bucks, but for long-term nvestments that will produce solid profits over hat long term while also enhancing the quality of he community. Among other actions that could be aken by the county are:

Work with the Comstock Historic District Commission to prepare developer's packages on significant historic structures that have been empty for more than two years.

Whenever a major building in Virginia City is for sale, contact the realtor and ask to meet with any potential buyer, informing them of the County interest in the rehabilitation of the structure and the County policy of encouragement for such efforts.

Sponsor a bi-annual Comstock history class at the high school, allowing new residents (and old ones, as well) the opportunity to learn community history and share community values.

Develop a HUD-funded housing rehabilitation program for low and moderate income housing, both rental and owner-occupied. While this is already discussed in the economic development section, such a program would also clearly demonstrate County interest and support for all interests in the community, not just the tourism industry.

There are also actions that could be taken by the County to further encourage the investment of private capital in the historic buildings of Virginia City. Because any historic preservation effort must rest primarily on these private dollars, every form of encouragement, no matter how small, is both financially encouraging to the investor and a clear demonstration of public commitment to historic preservation. Among the kinds of actions that could be considered are:

Direct the staff of the Historic District Commission to prepare the Part I, Certified Historic Structure form for submission to the State Historic Preservatin Office and the National Park Service. It is this first step that often deters the small investor, and it is one that takes neither a great deal of time nor a great deal of effort within the Comstock Historic District.

Provide interested investors with a list of the owners of recently rehabilitated structures who are willing to provide advice and maybe even encouragement. This gets the County out of the sticky business of recommending architects, contractors and consultants, and also gives the new investor a positive sense of the shared interests of the whole community.

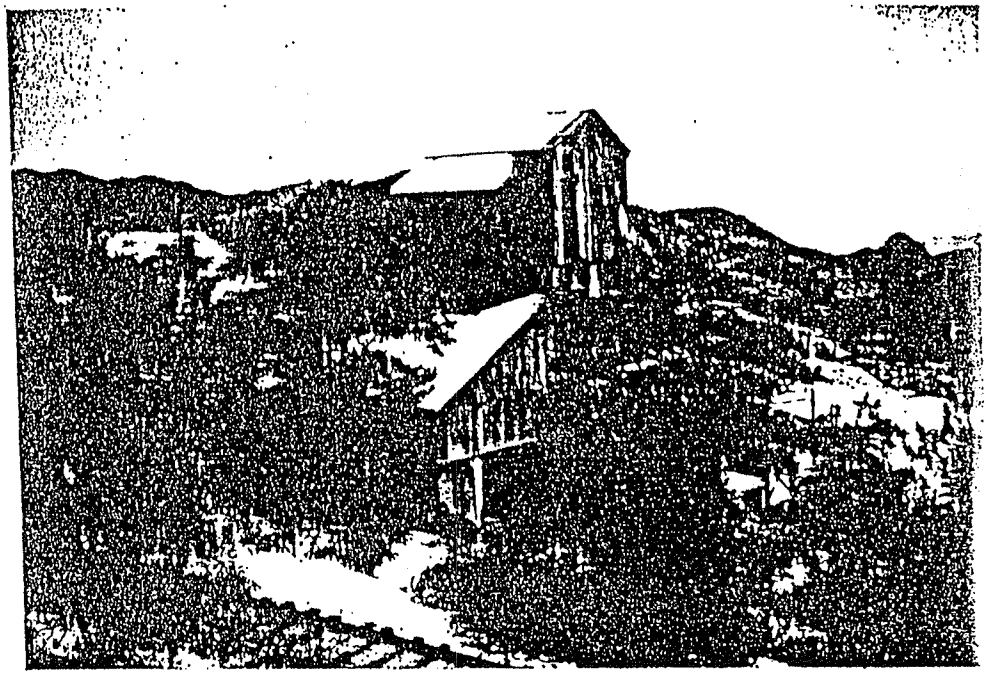
Develop a series of incentives for the owner of any historic structure -- residential or commercial -- willing to undertake an approved rehabilitation effort. These could include a waiver of building permit fees, a waiver of water-sewer connection fees, and similar set-asides.

Work within the guidelines and programs discussed in the economic development section of this report to secure low-interest loans for rehabilitation efforts. Consider the utility of County bond issues to establish an additional loan fund set up as a revolving fund, and make information of other state programs for economic assistance available to interested investors.

Assure that all departments of government provide fair and even treatment for all investors, whether resident or non-resident, commercial, rental, or owner-occupied residential.

Economic Development

Economic development, the stabilization and improvement of the Virginia City economy and job market, cannot be divorced from historic preservation. The Texas study of the impact of rehabilitation expenditures, which demonstrated that nearly three dollars of economic activity are generated for every dollar spent on rehabilitation, has obvious implications for Virginia City (see O.E.D.P.). Housing rehabilitation, facade improvements, appropriate expansion efforts in the commercial district, and even public improvements to historic public buildings, all generate this kind of economic activity, creating jobs not only for those immediately working on the project, but for many others providing supplies and services to the project and/or to the new residents or the more active business in the rehabilitated structure. Thus, while tourism is the acknowledged leader in the Virginia City economy, the potential impact of an active private and public rehabilitation program should not be overlooked.

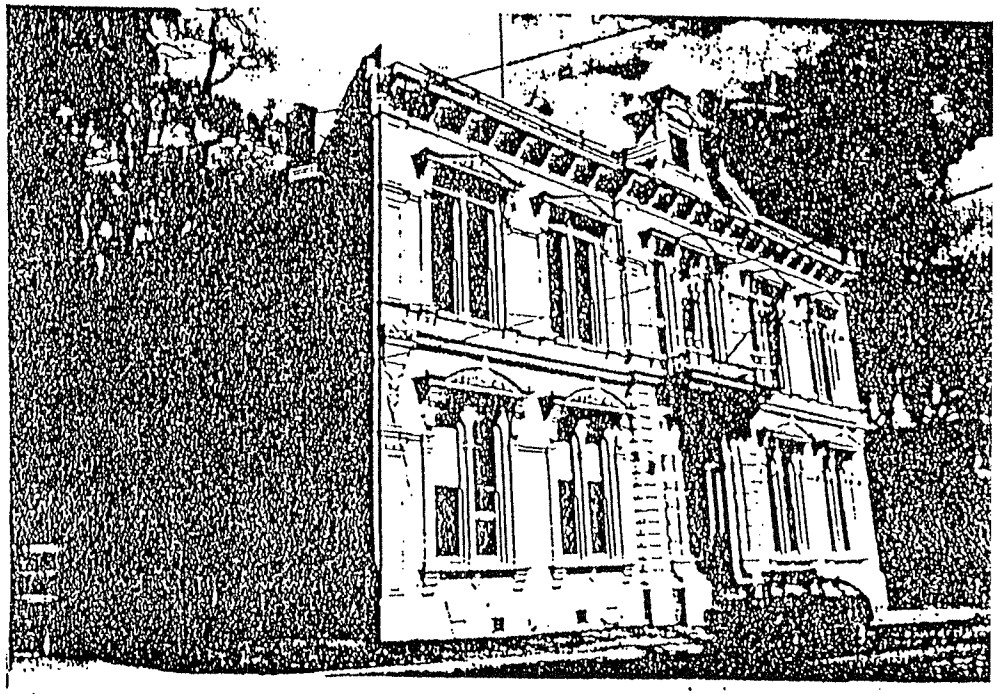


In fact, such a rehabilitation program is also the single most important key to a successful tourism development program. Residents and visitors alike recognize an outdated image for the historic district, an image still clinging to past era of Bonanza television viewers and older perceptions of appropriate historic preservation efforts. Today, Bonanza only plays on the lat

ate show and other historic towns in the nearby alifornia Gold Country present significantly more ophisticated and visually appealing historic istricts. As a recent article "Bringing Tourists o Town" made clear, "The creation and support of positive retail image is important for any successful commercial district. Haphazard, pseudo-rchitecture in downtown is neither authentic nor leasing. Clearly identifiable themes, such as istoric preservation, are easily recognized by ourists and thus lend themselves well to tourist-ased commercial development (Small Town, July-ugust, 1985, p.10). Many visitors to Virginia ity bring with them fresh experiences of ecently-rehabilitated historic districts that lso serve as tourist destinations. Virginia ity's outdated image and equally outdated presen-ation leaves large numbers of visitors uncomfort-ble with the experience, confused as to what they re really seeing, and likely to return to some-here other than Virginia City.

Again like the historic preservation goal, he goal of economic development through tourism equires both large community policy involvement nd a series of smaller individual steps if it is o work successfully. Here again, trying to elect only pieces of that process -- perhaps hose most comfortable and easy -- will not work. s both the economic development and the marketing tudies make clear, it is only a thorough and consistent approach to the whole problem that will roduce the necessary results.

Within this tourism enhancement effort there are at least two central policy or community issues. The first requires that elected leaders take a leadership role in bringing the common interests of residential community and business community together. There are obvious disadvantages to more tourists in Virginia City, but there are equally obvious ways to mitigate those disadvantages. Both development and mitigation must occur simultaneously. As the Small Town article quoted earlier concluded: "Above all, it is important to remember that the most pleasing and successful tourism promotions are those that community residents enjoy as much as the visitors." That open balance of resident and entrepreneur must be maintained and encouraged if any tourism development effort is to succeed.



The second large community or policy issue relates more directly to C Street building owners. If promotion is the goal, cooperation is the

essential means to that end. If a badly-needed facade improvement program along C Street is to be successful, it will be because private-sector building owners made it successful by supporting its organization and taking advantage of its opportunities. If other efforts to secure public funds for economic development in the tourism sector are to be successful, it will again be the cooperation of the C Street owners that makes that effort possible and even successful. It is, today, universally acknowledged that if small town historic districts are going to compete successfully in a consumer market dominated by shopping malls with tight organization, coordinated advertisements and special events. shared hours, and plenty of parking, then those historic districts will at least have to organize in ways similar to those malls while offering alternative shopping experiences. Virtually every successful tourism-dominated historic district can boast such an organization, open to all interests of the community yet keenly focused on improving the quality of the business section of the historic district. The results not only enhance the visitor experience and provide the essential sense that this is a place with meaning and purpose, they also improve the quality of the town. A better C Street can integrate community needs for an improved and healthy sense of self while also providing the kind of visual sophistication and comfort visitors expect to find in 1985.

Beyond these two large community goals of building rehabilitation and business community organization are the specific amenities that are needed to both mitigate the impact of tourism on this small town and make the visitor more comfortable -- and likely to stay longer -- at the same time. The first is the careful consideration and implementation of the tourism report, particularly the appointment of a Tourism Committee broadly representative of all community interests and the establishment of at least a half-time position for a Tourism Coordinator. As the experiences of Plumas Couty make clear, a young journalism major with fresh perspectives and skills in writing, design and dealing with the community, can make a significant difference. Leaving tourism promotion and development to uncoordinated private efforts not only limits the real possibilities of success, it also assures that these efforts will not be mitigated by larger community efforts to make both visitor and resident comfortable. Among these larger efforts to make both resident and visitor alike more comfortable are the following:

Parking. Everyone thinks there are parking problems in Virginia City: visitors, residents, business people, police, everyone. There have been numerous studies of the parking problem in Virginia City. All of them recommend off-site parking for visitors and clear signs to get them there. The time has come for larger interests to prevail than those of individuals who still think all their customers must park in front of their store. Virginia City is about to engage in another parking study, and this time it should be implemented: immediately, effectively, thoroughly and finally. Parking and its attendant frustrations may be the single most divisive issue in Virginia City; yet it also has the clearest and most easily attainable solution. The business people of C Street should also require that neither

owner nor employee park on C Street, thus making their own commitment to easier and more convenient parking for residents and visitors.

Shuttle Bus. With most visitors parking down the hill in designated lots, the next obvious and essential need is for a shuttle bus service. Start at the parking area and then establish several stops throughout Virginia City -- up on B Street, out at the new Visitors Center at the Fourth Ward School, then to the Chollar Mine, the V & T Railroad, up along C Street with several stops, then back down to the parking area. Give people the option of seeing all of Virginia City and staying longer (and spending more) without walking themselves to death in the process. Visitors are curious, anxious to see Virginia City, and they love riding in open shuttle buses -- cater to them! Residents may also find the shuttle a convenient way to come uptown for mail and errands without dragging along their car and fighting for the one place still left in the Post Office parking lot.

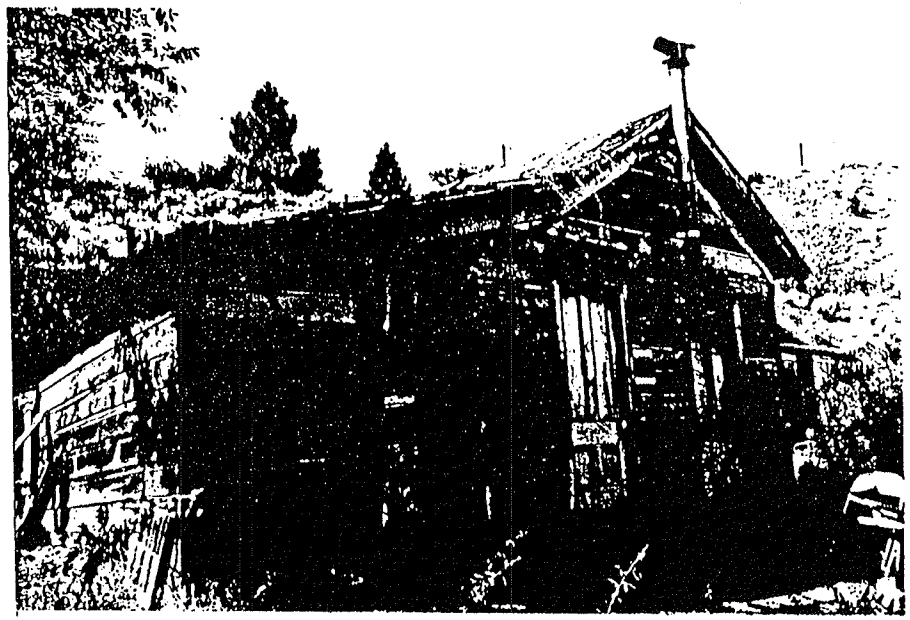
RV Park. In an effort to both clean up the appearance of the lands below Virginia City and provide visitor amenities that will keep visitors here longer and happier, establish a Recreational Vehicle park near the new parking lot. There are already numerous RVs staying in this area; a formal park would not only organize this activity but give the County an opportunity to make some money as well. Such a park need not be obtrusive, would again create a more healthy and organized -- purposeful -- image for Virginia City, and would allow Virginia City to become a real destination for these visitors, giving them a chance to enjoy the cool, peaceful evenings, visit more places, and spend more money. County crews could install and landscape such a park, and the County could use revenues collected from the park to carry out rehabilitation work on public historic structures like the Courthouse.

Overnight Accomodations. Finally, again working at the congruence of economic development and rehabilitation, the clear need for more overnight accomodations can be partially met by rehabilitating the upper floors of several C Street buildings, all once hotels of rather tasteful accomodation. In the upscale market that exists seemingly everywhere else but Virginia City, the Victorian bed-and-breakfast commands the top prices in the tourist accommodation sector. At the same time, there are significant federal tax credits available to those willing to rehabilitate such structures for commercial use. By organizing County efforts to encourage private investment, being flexible on parking requirements (use visitor parking and shuttle), and developing Community Development Block grants and low interest loans, these vacant rooms can be brought back into use and thus improve not only the looks of C Street but its economy as well. Should the City ever consider the distant possibility of a small convention center, these rooms will add appreciably to the stock of rooms essential to the development of small business retreats, conventions, or even day-long meetings looking for the option of an evening/overnight diversion in an historic place.

Community Values

Community values, the qualities of life in Virginia City, create and sustain this historic place. Historic preservation and economic development will only succeed in so far as they are the expressed efforts of a community. Virginia City is today far beyond the world of a single entrepreneur making his or her own way with little need for a larger community. Today there are values other than those of individual entrepreneurship that must shape and inform public leadership and public action. There is also a recognition throughout the nation that the serious problems of small towns are too large for the towns to solve for themselves and too wide-ranging in their implications to be ignored by the federal government. It was that recognition that funded the recent water and sewer improvements in Virginia City and that same concern that will fund continued improvement in the community.

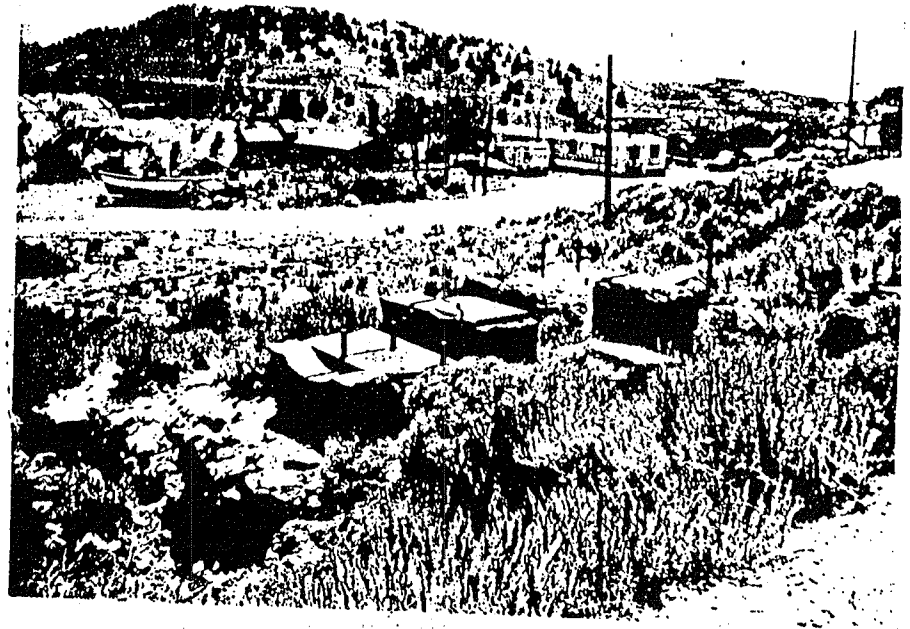
Several of the programs or projects mentioned in the economic development report and in this report already incorporate the overall improvement of the quality of life in Virginia City. Housing rehabilitation will bring renewed pride to the residential areas of the city, just as a C Street facade improvement will bring the consistency and integrity that marks any shopping area in which one can take pride. Paying close attention to the needs of visitors, providing them adequate parking, signage to that parking, and an RV park, will mitigate a source of conflict between residents and those who cater to visitors that has existed far too long. Active rehabilitation efforts can generate the economic activity that will make Virginia City a better place to work as well as a better place to visit.



Perhaps most important in all these public and private projects is the real and recognized participation of the entire community. To really be successful there must be no surprises, no quietly developed plans of action put into place before public comment can be effective. Responsible members of the community are needed to serve on the Overall Economic Development Plan Committee, the Tourism Board, and other advisory institutions. Input from the full community is important and, in many cases, membership categories have been spelled out by the agency involved, simply to assure this representation. Broad and genuine community involvement invariably leads to support for the results of that involvement. It is that support that is essential in Virginia City.

Two other projects merit serious consideration at an early opportunity. Virginia City is a very big part of Nevada history. It is the appeal of this historic city that brings visitors and keeps residents, and it is that same appeal that gives the County great leverage when competing with other rural communities for federal and state funds. Yet, when one tours this same city, as resident or visitor, that history is virtually hidden. Virginia City needs a solid, unobtrusive interpretative program that not only lets the visitor know what they are seeing, where they are standing, but also allows the resident to do a little vicarious boasting as well. When eighty percent of the residents know when their buildings were constructed, why not have a building dating program that allows those same people to let passers-by know that same little bit of history? When Virginia City's elementary school children attend classes across the street from the Gould and Curry ruins (the shaft from which the Big Bonanza was discovered), why not a sign that says so? Interpretive signage programs may be superficially seen as a tourist aid, but their deeper significance is the communication of community history, community pride, and the shared experience of past, present and future generations. That kind of community reinforcement is a clear and necessary public responsibility.

A second public project that would strengthen community values while creating a better visual landscape, focuses on the few long-empty buildings that create the sense of instability and even neglect in Virginia City. There are already ruins enough in Virginia City. Allowing more buildings to become similar ruins is a waste of precious historic resources. Equally important, County actions in regard to some buildings need to be understood as effective and caring actions. Establishing minimum standards of maintenance for vacant buildings that require the owner to keep the place looking cared for would go a long way toward creating a sense of stronger health within the historic district, as well as helping to maintain the building until some means was found to rehabilitate it. Should owners refuse to participate, the resultant hazard could be considered of sufficient public interest that the County might consider using its powers of eminent domain to give the present owner full market value while allowing a new owner to save the structure. There is a clear cost here as well as a clear public action, but the alternative loss of more buldings within Virginia City seems even less acceptable.

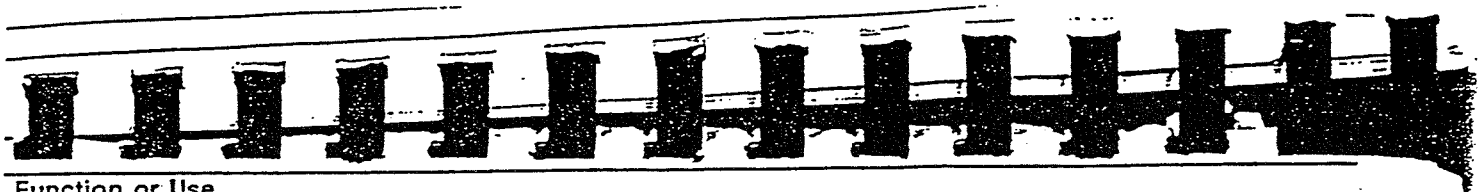


Conclusion

What is really involved in the recommendations of this report is a shift in attitude. For too long, Virginia City has maintained an essentially reactive stance: reacting to new directions of change, reacting to individuals or groups, reacting to whatever issue forced its way to the front. A positive management effort requires a shift to an advocacy position, leading change rather than reacting to it, assuring full public input on policy formation, developing effective ways to shape the direction and spirit of this place. To draw again from the history that is the wellspring of this community, Virginia City is the mother of the Nevada mining camps, and she has a responsibility to continue that maternal leadership in the twentieth century. Far from an old dowager no longer capable of thought or action, Virginia City has within her the capacities and the public interest to work quickly and effectively out of the present situation and into an integrated community of shared interests, creatively shaping its own future. The projects and policy directions suggested in these reports are not another series of stop-gap measures trying to cover structural cracks with yet another bandage. Each is an inter-related and interdependent step toward healthy buildings, a strong economy and a community of shared values and mutual respect.

In late 1985, Virginia City appears to be an historically fortunate community again in search of itself. With a long history of the thrill of Bonanza and the crush of borrasca, Virginia City repeatedly found herself rescued from what seemed certain death by accidental -- perhaps providential -- circumstances or discoveries. Most recently, as mining became clearly unlikely after World War II, the TV Bonanza coupled with a remarkable publicist, Lucius Beebe, brought a whole new economy and direction to what had once again seemed a dying city. Today this last Bonanza is pinching out and there are no quick fixes on the horizon. Equally important, residents are no longer content to wait through another borrasca of undetermined duration. As reflected in resident and visitor surveys alike, the integrative focus of this community is how to care for -- to conserve, in the largest sense of that word -- the buildings and the community that embody the heritage of Virginia City. Some would suggest that such community action will crash on the rocks of the traditionally sacred Nevada freedom of individual action. Others are today willing to acknowledge that Nevada and Virginia City may be growing up. There are freedoms higher than total individual freedom: there is the freedom of the whole community to prosper with pride, a sense of shared responsibility and an equally shared sense of success. It is the decision to honor the historic values of this whole community -- and to effectively pursue the implications of that decision -- that this report has attempted to facilitate.

APPENDIX D
A PLAN TO MITIGATE ADVERSE IMPACTS TO ARCHAEOLOGICAL RESOURCES IN THE STOREY COUNTY PORTION OF THE COMSTOCK HISTORIC DISTRICT
(Annotated Outline)



. Function or Use

istoric Functions (enter categories from instructions)

Commerce: business
Domestic: single dwelling/secondary structure
Industry: extractive and processing
Government: courthouse : public works
Education: school
Transportation: railroad

Current Functions (enter categories from instructions)

Commerce: business
Domestic: single family/secondary structure
Government: courthouse
Vacant/not in use
Work in progress

. Description

chitectural Classification
ıter categories from instructions)

Mixed:
Late Victorian
Other: vernacular
mining & mill buidings
late 19th Century & Early 20th
Century: Bungalow

Materials (enter categories from instructions)

foundation Brick
walls Brick
Wood
roof Wood
other Metal
Stone

Describe present and historic physical appearance.

Part I

reface

The intent of this nomination is to amend the Virginia City National Historic Landmark esignation approved in 1961. Whereas the nomination form prepared more than twenty-five years ago described the historical significance of the Landmark District from 1859 to 1900, his amendment extends the period of significance to 1942, a date that serves as a critical enchmark in the mining history of the Comstock. Although inventories completed in the last ecade have noted the potential significance of archaeological resources in the Landmark istrict, this amended nomination focuses on building resources and their immediate setting. It is not the purpose of this amendment to propose alterations to the existing federal andmark District boundaries (certified in 1978): USGS Quad maps delineating these boundaries and citing UTM references accompany this nomination. This amendment will not repeat, ut only build, and occasionally expand, on statements made in the physical description and history and significance sections of the 1961 nomination: new information about the re-1900 era will be introduced only if it contributes to a better understanding of the 1900-1942 period of significance or when it accomodates recent updated National Register standards and guidelines, including those that accompany the 1986 revised National Register form. "Decline and Survival: Virginia City 1180-1945: by Allan Comp and "Mining History on the Comstock" by Elizabeth Beckham, both chapters in Project 85: Virginia City, Nevada (1985), are narrative histories supporting judgments made regarding the 1900 to 1942 period of historical significance and are appended to this nomination.

Summary

Located on the eastern slopes of the Virginia Range of the Sierra Nevada Mountains, the 14,750-acre Virginia City Historic Landmark District includes the five distinct communities of Virginia City, the Divide, Gold Hill, Silver City, and Dayton along with hundreds of acres of cultural landscape which, between 1859 and 1942, played an integral role in the history of mining on the Comstock. Between 1900 and 1942, a decline in the Comstock mining

[X] See continuation sheet

ARCHAEOLOGICAL RESEARCH SERVICES, INC.
ASSOCIATES FOR CULTURAL RESOURCE STUDIES

AN ANNOTATED OUTLINE

for

AN ARCHAEOLOGICAL PRESERVATION PLAN for the STOREY COUNTY PORTION OF THE COMSTOCK HISTORIC DISTRICT

by

Thomas D. Burke

Post Office Box 701 • Virginia City, Nevada 89440 • Telephone (702) 847-0615

INTRODUCTION

The Storey County Commissioners (SCC) retained Archaeological Research Services, Inc. (ARS) to prepare an annotated outline for an Archaeological Preservation Plan (APP) for the Storey County portion of the Comstock Historic District (CHD). By adopting the APP, the SCC adopts and encourages the goal of preserving archaeological sites and their information on private land within the boundaries of the CHD in Storey County, although the SCC also extends this goal to privately held lands in Storey County outside the CHD. This is made possible by virtue of the County's participation as a Certified Local Government (CLG), by means of a cooperative arrangement with the Nevada State Historic Preservation Office/Division of Historic Preservation and Archaeology (SHPO) under terms of the *National Historic Preservation Act*, as amended (USC §§ 470-470w-6 and Public Law 96-515). Storey County, through its commissioners, is a qualified CLG because, in part, it has established an adequate and qualified historic preservation review commission (HPRC) comprising members of the Comstock Historic District Commission. However, the Storey County CLG (SCCLG) encompasses the Storey County portion of the CHD and beyond to the County's borders. Within this area, the SCCLG meets those minimum requirements for a CLG as defined in appropriate federal regulations (Code of Federal Regulations [CFR] Part 61.5[c], published in the *Federal Register*, Vol. 49, No. 73, pp. 14890-14906, April 13, 1984). As an approved CLG, the County has met the following minimum requirements: (1) enforce appropriate State or local legislation for designation and protection of historic properties; (2) establish an adequate and qualified historic preservation review commission; (3) maintain a system for the survey and inventory of historic properties; (4) provide for adequate public participation in the historic preservation program; and (5) satisfactorily perform responsibilities delegated to the CLG under the federal Act.

GOALS AND PURPOSES

By adopting this APP, the SCC adopts the primary goal of preserving archaeological sites and their information within the bounds of Storey County as they are found on private land. This is a particularly appropriate goal since the SCC recognizes the value of archaeological resources for their contribution to the public's knowledge of and appreciation for the past.

The purpose of the APP is to provide a means for the SCC to protect and preserve archaeological resources on private land within Storey County. This is appropriate for two primary reasons. First, significant archaeological resources have been inadvertently destroyed or seriously disturbed in the past without efforts to document and protect their important information. Second, while there are laws and regulations pertaining to such protection on federal and state (i.e., public) property, or for actions under the state or federal sponsorship, there has been no similar mechanism for recognizing the value of archaeological sites on private property or for ensuring their protection. This is of particular importance in Storey County, which has the highest percentage of private land in Nevada.

PROGRAM NEEDS

By adoption of this APP, and by means of existing authorities vested in the SCC as elected representatives of the public, the SCC recognizes its commitment to expand its existing historic preservation program to more effectively protect significant archaeological resources found on private land within Storey County. One objective is to institutionalize protection of archaeological sites within the existing County practices for prior review of projects and activities which could damage or destroy these sensitive cultural resources. Another objective is to expand and maintain a county-wide program of archaeological inventory and evaluation which will identify those significant resources meriting protection. A third objective is to recognize and, to some degree, codify threshold standards for significant archaeological properties within the SCC jurisdiction area. A fourth objective is to define standards for the personal qualifications and conduct of archaeological investigations occurring on private land and under purview of the SCC. A final objective is to protect significant archaeological sites through avoidance, stabilization, or data recovery.

MEANS AND WAYS

PRIOR REVIEW OF PERMIT APPLICATIONS BY THE SCC

The review of permit applications submitted to Storey County is one means of addressing potentially adverse impacts on important archaeological sites in the planning area. Consideration of permits allows for utilization of an existing administrative system, although the possibilities for working within such an administrative system are variable, as discussed here. At present, three possibilities are envisioned which enhance protection and preservation of archaeological resources on private land within Storey County. These entail various degrees of commitment in terms of organization, information flow, and financing on the part of the Storey County government, as well as variable financial and other commitments on the part of members of the general public who must seek approval of the SCC for certain activities.

Discussion of the three possibilities is prefaced by consideration of some work activities or components that would be essential under any review system. First, those activities need to be defined which could pose a threat to the condition of fragile, nonrenewable resources such as archaeological sites. These include, but are not necessarily limited to, the following ground disturbing activities: excavation, grading, dumping of materials, borrow pits, demolition of existing buildings or renovations involving subsurface disturbance in the vicinity of buildings, and replacement or upgrading of subsurface services such as water lines. Second, those ground disturbing activities which involve prior review and/or approval by the SCC must be entered into an information flow system and reach the attention of the SCC for its consideration.

EXAMPLE 1

This is the simplest alternative for prior review, although it lacks participation by qualified professionals during the review process and is limited to the CHD. Under this system, the Storey County Planning Commission (SCPC) reviews projects to determine if ground disturbance is involved. If there is project-related ground disturbance, the SCPC compares the project location with archaeological sensitivity maps and related documents prepared previously for the CHD (Hardesty et al. 1982; Reno 1990). If the proposed project occurs within the CHD, the SCPC would determine which sensitivity zone is being affected and would recommend action accordingly. For example, if the proposed project is in an area with an archaeological sensitivity ranking of 3 or greater, the SCPC should recommend that an inventory and evaluation be completed prior to or as a component of permit approval. However, and in all cases, the SCPC should evaluate the potential project effects and convey some form of recommendation to the SCC. The SCC would then make its own decision concerning permit approval. Under this system, the responsibility for fulfilling permit conditions related to archaeological resources remains with the permit applicant.

EXAMPLE 2

This example develops participation by a professional archaeologist (here referred to as the County Archaeologist, or CA) in permit review and recommendations, as a member of the Storey County Planning Commission. The proposal entails increased cost to the County for a staff position, clerical assistance, office space and related materials, and other costs for the conduct of archaeological work. All permits would be examined to determine whether ground disturbance was involved and the potential sensitivity of the permit area. If a sensitive zone is involved, the County Archaeologist would make a recommendation through the SCPC to the SCC requesting a period of time (a minimum of 60 days is recommended) to accomplish a field investigation and prepare a report. The SCC would then act on the request. If granted, the CA would complete the work and return a report concerning the significance of any archaeological sites and recommendations (with justifications) for additional investigation, if any. The report and recommendations would be forwarded to the SCC for further action, if any, including a stipulation for additional time to complete necessary archaeological work (e.g., testing, data recovery) prior to allowing permittable work to proceed.

There are advantages to this system. First, permit applicants do not necessarily have to bear any financial responsibility for the archaeological investigations, although they might choose to do so. However, permit applicants are faced with possible time delays. Second, development of the position of County Archaeologist would permit more informed decision making during the review process and otherwise. In particular, the CA would be able to make informed decisions about sensitivity in areas outside the CHD boundary. Third, any time the CA has which is not taken by review or fieldwork related to permit review could be invested in furthering the other objectives of the SCCLG, especially in inventorying and evaluating archaeological sites. This

person could seek additional grants or coordinate volunteer assistance to expand an on-going program of inventory and evaluation.

One potential difficulty under this example concerns the granting of access to a piece of property by the permit applicant or the applicant's representative for the purposes of completing the archaeological investigation. In such cases where access is denied, the SCC could refuse to issue the permit or could issue the permit with restrictions on the locations or types of activities to be allowed, based on knowledge of known resources or the suspected location of resources in sensitive areas.

It is also important to remember that archaeological artifacts recovered from private land remain the property of the landowner. In keeping with generally accepted policies concerning preservation of artifacts from archaeological sites, the SCC should adopt a policy encouraging curation of artifacts at the Nevada State Museum, Carson City, or a similar approved repository such as the Anthropology Museum, Department of Anthropology, University of Nevada, Reno. Private land owners should be encouraged to waive ownership in writing of collected archaeological specimens on a voluntary basis. Alternatively, and as recognized by the permit applicant's written acceptance of permit conditions stipulated by the SCC, a permit condition could serve as a written waiver by the applicant for ownership of the artifacts. Or, if the land owner wishes to retain the artifacts, the permit should be conditioned to include a stipulation that the permit applicant agrees to allow release of the artifacts for a specified period of time in order to complete analysis; artifacts would be returned at the end of that time period.

EXAMPLE 3

This example includes components of the first two, but places greater responsibility (including financial) on the permit applicant while providing more time for the CA to conduct activities other than review, particularly a continued program of inventory and evaluation within Storey County. Under this proposed system, the CA is a member of the SCPC and makes recommendations through that body to the SCC concerning the archaeological sensitivity of an area involved in a permit application. The recommendations include statements as to the need for and type of archaeological investigation. The SCC would then choose whether to make these recommendations from the SCPC a permit requirement. These requirements would be made the obligation of the permit applicant who would secure the services of a third party archaeological consultant meeting standards contained in this APP. The consultant would complete the archaeological investigation and submit a final report to the SCPC which would review the document and consider any recommendations within the report for further work. The CA, through the SCPC, would make recommendations to the SCC concerning acceptance of the report and the need for any further archaeological investigations which might then be encumbered as part of the permit conditions.

As noted previously, this proposal would also entail costs to Storey County, in accordance with the description in Example 2. However, under Example 3 the CA should have more time to organize and accomplish systematic

archaeological investigations of the county, rather than the "hit or miss" effort that would be prompted by permit applications.

SUMMARY

The current administrative system of Storey County government allows for increased protection and preservation of archaeological remains through the permit application review system. The types of activities which endanger archaeological sites need to be recognized and steps need to be taken to try to preserve these cultural resources. Three options are outlined involving variable degrees of financial commitment on the part of the SCC and permit applicants, although other systems probably could be developed. The hiring of a County Archaeologist is encouraged.

STANDARDS FOR THE ARCHAEOLOGICAL PRESERVATION PLAN

PROFESSIONAL QUALIFICATIONS

Professional qualifications standards for persons conducting archaeological activities pursuant to terms of this APP are presented here. In general, qualified, trained individuals must be engaged to identify, evaluate, register and treat historic properties on the within Storey County. Professional qualifications have been adopted from the the federal Secretary of the Interior to help ensure that appropriate kinds of knowledge and experience are brought to achieve timely, cost effective compliance with the APP.

Archaeology. Minimum professional qualifications are:

1. A graduate degree in archaeology, anthropology or a closely related field plus:

   a. At least one year of full-time professional experience or equivalent specialized training in archaeological research, administration or management; and

   b. At least four months of supervised field and analytic experience in general North American archaeology; and

   c. Demonstrated ability to carry research to completion; and one or both of the following:

      (1) In the field of prehistoric archaeology, a professional shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the prehistoric period;

      (2) In the field of historic archaeology, a professional shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

Any archaeologist or third party contractor must have, in addition to qualifications expressed above, a current permit from the Nevada State Museum.

WORK STANDARDS

Inventory Standards

An inventory will identify properties to a degree sufficient to judge significance. This process involves locating and evaluating cultural resources. Efforts to locate and evaluate historic properties must be systematic, and evaluations must be related to appropriate historic contexts. If located properties are considered to be outside the range of extant historic contexts, appropriate contexts and ensuing evaluations must be developed within any report prepared by or submitted to the SCC using the Secretary of the Interior's standards and guidelines for preservation planning, unless superseded here by other standards and guidelines.

Inventories must meet the Secretary's standards for identification and evaluation. In Nevada, the SHPO can be consulted in regard to activities that might affect cultural resources. One federal agency, the Nevada State Office, Bureau of Land Management, has issued written guidelines for the conduct of archaeological inventories (*Cultural Resource Inventory Guidelines*, Fourth Edition, January 1989). Comparable guidelines have been developed for by the SHPO for non-federal projects such as might occur within Storey County under terms of this APP. Appropriate portions of the BLM/SHPO guidelines are incorporated here for application on the Comstock Historic District, as described below. If the SHPO subsequently adopts guidelines with different requirements, the new guidelines should be substituted.

Methods and Report Standards for Archaeological Investigations Within the CHD

For all projects conducted in accordance with this APP, a Class III inventory shall be conducted. A Class III inventory is conducted by professionals and is intended to locate and record all cultural resources having surface or exposed-profile indications within the area of potential effect (APE). The inventory must be conducted on foot within the entire APE by means of parallel transects separated by no more than 30 meters. Wider intervals may be acceptable under some circumstances with prior approval of the SCC. Surface visibility in the APE must be at least 70 percent (that is, snow or other materials obscuring the surface must not exceed 30 percent). The Class III inventory must include a records search, must relocate and evaluate previously recorded properties, must include preparation of accurate site records for all newly recorded properties, must update site records on all previously recorded properties, and must result in an inventory report acceptable to the SCC.

The inventory report shall contain:

General Information: This section identifies, locates and describes the proposed land use motivating the inventory. The APE and the inventory area

relative to the APE must be defined. Summaries should be provided of field techniques, crew size, crew membership and dates of field work. Any problems relating to the reliability of the inventory should be identified.

Environmental Information: This section provides a brief summary of environmental characteristics in the inventory area and should discuss any factors which might have prevented identification of cultural properties. Any environmental factors related to establishing significance of cultural resources should be identified. This section should not be limited to a general regional summary, but should focus on description of local environmental characteristics relevant to the inventory.

Field Methods: This section describes the strategy used to locate and evaluate cultural resources as implemented in the field. Deviations from any established inventory standards must be defined. The field methods section should include discussion of the likelihood that all cultural properties in the inventory area were located and assess the potential for the presence of undiscovered buried cultural properties. Locations of any subsurface tests must be discussed and shown on appropriate site maps.

Results: Cultural resources found during the inventory should be described as to location, environmental setting, extent, depth, condition, cultural or historic affiliation, chronology and function. The significance of each resource must be related to the National Register of Historic Places criteria for integrity and significance, including reference to specific historic contexts relating to the CHD (Hardesty et al. 1982, Reno 1990). All properties considered eligible for the NRHP must be identified and discussed in the report text, including justifications for NRHP inclusion using the historic contexts. For each eligible property, the report must include a finding of effect. Subsurface investigations may be required during the inventory phase; results should be reported thoroughly.

Summary: The results of the inventory should be discussed in terms of expectations with regard to the regional data base, significant research questions, the need for further investigations and the likely effects from the proposed land use. For archaeological sites, the report must document whether the historic property is valuable only for its potential for research and whether this value can be substantially preserved through the conduct of appropriate research.

Conclusions: This section identifies data limitations, significant properties, effects on significant properties and recommendations to mitigate adverse effects.

Maps, Graphics and Records: An original map or maps showing the entire project area, the APE, the area inventoried and locations of all resources located or relocated will be included with the report. An appropriate complete site record will be included for each property located or relocated. Other graphics to illustrate the characteristics of properties and effects relevant to significance determinations and mitigation recommendations will be included as needed. Negatives for all photographs used in the report must be included.

After submission of the inventory report to the SCC, the SCC evaluates the report and requests any necessary changes in the document. If no further work is required by the SCC, the project may proceed. Under some circumstances, and based on the recommendation of the SCC, it may be necessary to conduct limited subsurface investigations to complete evaluation.

All cultural resources will be recorded on Intermountain Antiquities Computer System (IMACS) site record forms, unless the SHPO specifies an alternative form. IMACS short forms should be used for small sites (i.e., 20 artifacts or less) unless the site is considered eligible for the NRHP.

Evaluation Standards

As noted elsewhere in this APP, the inventory process must result in sufficient information to judge significance of each property. Evaluation constitutes those efforts necessary to judge significance. Significance in American history, architecture, archaeology and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of person significant in our past; or

C. that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history.

As noted elsewhere in this APP, there are documents prepared for the CHD which serve to identify historic contexts within which resources may be evaluated (Hardesty et al. 1982, Reno 1990). However, those resources cannot necessarily be considered comprehensive, especially for areas outside the CHD proper. Therefore, available federal guidelines regarding application of the National Register evaluation criteria (*National Register Bulletin 15*, "Guidelines for Applying the National Register Criteria for Evaluation," June 1, 1982) are adopted by reference for guidance in other situations. These are paraphrased in the following brief discussion of historic contexts. The Secretary's standards for preservation planning require development of an appropriate historic context which is "an organizational format that groups information about related historic properties, based on a theme (also referred to as a concept), geographic limits, and chronological period. The scale of historic contexts is highly variable with respect to geography and several contexts may overlap. Portions of comprehensive state plans have been

developed in Nevada and include Lyneis (1982) and Hardesty (1986), which are discussed below. As noted previously, the primary documents specifically regarding archaeological and other cultural resources on the Comstock Historic District include HCRS (1980), Hardesty et al. (1982) and Reno (1990).

Curation Standards

The SCC should coordinate with museums and universities, among others, on historic preservation activities, plans and projects. In general, this means that the Storey County Commissioners will need to initiate some actions such as arrangements for curation.

A primary concern of the SCC is to ensure that adequate space is made available to store historic preservation documents, artifacts and other materials in secure, fire-safe locations sufficient for their perpetual care. At present, it is not proposed that the SCC undertake to develop such a facility, since an appropriate and adequate facility would likely be very expensive to set up and maintain. However, it is proposed that the SCC make available adequate working space for historic preservation staff to conduct work under terms of the APP.

Care of Materials

Non-Artifactual Materials

The historic preservation staff of the SCC should be provided adequate space for all reports, studies, maps, plans and other documentation resulting from historic preservation activities or necessary for the on-going conduct of historic preservation responsibilities. This documentation should not include copies of archaeological site forms or other information about site locations that may be subject to vandalism unless the SCC historic preservation staff includes qualified professionals in the discipline using the documents.

Copies of "formal" reports, studies and plans making a "substantial contribution" to historic preservation knowledge or that are of general public interest should be distributed to various state and local groups. For the SCC, the "must" list for recipients of historic preservation reports includes the CHDC and the SHPO, who ultimately will curate such reports in-house or will forward them to the Nevada State Museum, Carson City. Copies submitted to the SHPO must include all site record forms. However, copies of reports distributed to the general public or to any other agency must not include specific archaeological site location information unless that agency has a need to know and/or has qualified professional staff.

If photographs and/or negatives are to be curated, they should be handled and stored properly, including the use of acid-free photographic paper and storage envelopes when necessary. Photographic records associated with archaeological investigations should be submitted for curation with artifacts and other specimens. The National Park Service or SHPO can provide more information about photographic preservation.

Archaeological site records should be available only on a need-to-know basis. Procedures for decisions regarding dissemination of potentially sensitive information during any solicitation of public concerns should be developed in consultation with the CHDC and the SHPO. The archaeological site records will be curated at the Nevada State Museum, Carson City, Nevada, and will be made accessible to qualified persons under criteria established by the museum. Archaeological or other sensitive site locations may become known to the SCC historic preservation staff, as well as the SCC and SCPC members as a result of reviewing either in house (i.e., the CA) reports or those received from qualified third party archaeologists acting as consultants. Any maps or other specific site location information resulting from such studies and included in reports or other documents filed with the SCC should be treated as confidential; should be kept in secure, locked cabinets; and should be accessible only to persons with a defined need-to-know.

Artifactual Materials.

This section addresses the treatment of remains recovered from archaeological sites during removal, analysis and curation.

Artifacts recovered during work phases identified in the APP or under terms of any other treatment procedures within the jurisdiction of the SCC and occurring under auspices of this APP shall be handled according to standard procedures established for the discipline. However, neither Storey County nor the SCC currently has a certified repository for the permanent curation of artifacts or other physical remains taken from archaeological sites. Artifacts and other physical remains should be curated at the Nevada State Museum, Carson City, Nevada, or a similar acceptable repository. This agency provides permanent curation at a rate of $540.00 per cubic foot (as of May 1989). Either the permit applicant or the SCC must pay for all curation of artifacts and specimens recovered under requirements of the APP. A qualified private contractor must hold a valid permit from the Nevada State Museum to ensure proper handling and cataloging of materials in order to have the materials accepted.

If a curatorial facility is added to the proposed mining museum, it will be possible to collect larger archaeological samples than would be feasible to send to the Nevada State Museum. These items would be available for local interpretive display purposes. Before deciding to include a curatorial facility, the SCC should thoroughly investigate the responsibilities incumbent on constructing and maintaining a curatorial facility (U.S. Department of the Interior 1980).

Archaeological remains shall be appropriately documented as to site location and other provenience, if applicable (e.g., test unit, level). Recovered items will be organized and labeled so as to maintain this provenience during processes of recovery, transportation, analysis and curation. A complete catalog of remains recovered during any type of project shall be submitted with the report of findings; the catalog shall be appropriately descriptive and, as necessary, reflect analytical results. During cataloging and preparation for analysis, standard procedures shall guide

treatment of perishable and non-perishable artifact categories and samples. All results of analysis will be included in the report of findings.

Human Remains

All human remains encountered on private land during any phase of archaeological investigation conducted pursuant to this APP shall be handled in accordance with appropriate Nevada laws and regulations.

WORKS CITED

Advisory Council on Historic Preservation

1980 Treatment of Archaeological Properties: A Handbook (draft). Washington, D.C.

1989 Public Participation in Section 106 Review: A Guide for Agency Officials. Washington, D.C.

Hardesty, D. L.

1986 Issues Regarding the Conduct of Historical Archaeology in Nevada. Publication Series No. 1, Nevada Council of Professional Archaeologists. Silver City, Nevada.

Hardesty, D. L., V. Firby and G. Siegler

1982 An Archaeological Survey of the Virginia City National Historic Landmark. University of Nevada, Reno.

Lyneis, M. M. (coordinator)

1982 An Archaeological Element for the Nevada Historic Preservation Plan. Nevada Division of Historic Preservation and Archaeology, Carson City.

Reno, R. L.

1990 Sensitivity Study of the Storey County Portion of the Comstock Historic District With a Summary of Previous Planning Recommendations and an Outline of an Archaeological Mitigation Plan (with a contribution by Rebecca Bernstein). Report prepared by Archaeological Research Services, Inc., Virginia City, Nevada. Ms. on file, Storey County Commissioners, Virginia City, Nevada.

U.S. Department of the Interior

1980 The Curation and Management of Archeological Collections: A Pilot Study. Heritage Conservation and Recreation Services, Washington, D.C.

1989 Cultural Resource Inventory General Guidelines, Fourth Edition. Bureau of Land Management. Reno.

APPENDIX E
AN ARCHAEOLOGICAL INVENTORY OF COTTONWOOD SPRING AND VICINITY STOREY COUNTY, NEVADA

AN ARCHAEOLOGICAL INVENTORY OF COTTONWOOD SPRING AND VICINITY, STOREY COUNTY, NEVADA

Prepared for
Storey County Commissioners

Prepared by
Ronald L. Reno and Vickie L. Clay

September 4, 1990

State Antiquities Permit No. 258

ARS Report 597

INTRODUCTION

PROJECT DESCRIPTION

This project was conducted by Archaeological Research Services, Inc. (ARS) as part of an archaeological sensitivity study centered on the portion of the Comstock Historic District in Storey County. This archaeological survey, which was done at the request of the Storey County Commissioners, has two related goals.

First, the Virginia City Highlands area has not been subjected to an archaeological survey of any large blocks of land, unlike the region closer to Virginia City. Hence, the archaeological sensitivity maps were produced more on the basis of modeling probable site locations than on an analysis of recorded sites. This survey will enable a refinement of the interpretation of the sensitivity maps for the Virginia City Highlands area.

The second goal was to survey an area of private land which was a probable location for further residential or similar development. Storey County is developing ways to encourage protection and study of archaeological resources on private land--areas which have not been covered by state and federal antiquities legislation. One approach is to at least partially subsidize archaeological work to prevent the costs of such work from either causing development not to take place (to the detriment of the economic welfare of the county), or obstruction by developers of attempts to conduct the archaeological work.

DATES OF INVESTIGATION AND PERSONNEL

The field inventory was conducted on August 13-17, 1990. The field crew consisted of Ronald L. Reno, Vickie L. Clay, Bertrand T. Young, Larry Hause, Shannon O'Leary, and Dave Montana.

MAP REFERENCES AND LEGAL DESCRIPTION

The project area is on the USGS Flowery Peak and Chalk Hills 7.5' quadrangles.

The inventory area consists of 400 acres (ac). Legal description of the property is as follows: the S 1/4 of Sec. 35 and the S 1/2 of the SW 1/4 of Sec. 36, T.18N R.21E; the N 1/2 of the NW 1/4 of Sec. 1, the NE 1/4 of the NE 1/4 of Sec. 2, and the NW 1/4 of the SE 1/4 of Sec. 2, T.17N R.21E, Mount Diablo Baseline and Meridian.

The property is owned by Land Researchers, Inc., 2800 28th Street, 2nd Floor, Santa Monica, CA 90405. John Tyson, Virginia City, Nevada, is the local agent for the firm.

PROJECT AREA DESCRIPTION AND ENVIRONMENTAL SETTING

The project area is 4 miles (mi) northeast of Virginia City, Nevada, in Long Valley, which divides the Virginia Range from the Flowery Range (Fig. 1). This area consists of two parcels.

The southern parcel is 40 ac centered on Long Valley Creek, which is ephemeral in this area and ultimately drains into the Truckee River (Fig. 2). The nearest permanent water is Cottonwood Spring, located 1 kilometer (km) to the northeast. Topography is rugged, consisting of dissected Tertiary volcanic deposits with elevations ranging from 5920 to 6140 feet (ft). Bedrock ridges, benches, and small outcrops dominate the landscape, with colluvial slopes between these features. The only depositional areas in the parcel are small alluvial terraces along portions of Long Valley Creek. Occasional red jasper and chert nodules occur which are of toolstone quality. A dense grove of pure pinyon (*Pinus monophylla*) occupies the northwest-facing slope on the northwest side of the parcel. This grove corresponds to the woodland shaded area on the USGS topographic map. The rest of the parcel supports a sparse pinyon/juniper (*Juniperus osteosperma*) woodland with an associated brush cover of big sagebrush (*Artemisia tridentata*), bitterbrush (*Purshia tridentata*), rabbitbrush (*Chrysothamnus* spp.), and desert peach (*Prunus andersonii*).

The northern parcel is 360 ac centered on Cottonwood Creek in Long Valley. Elevations range from 6200 ft on the ridge near the west end of the project area to 5760 ft where Long Valley Creek flows out of the northern edge of the project area. An open pinyon/juniper woodland covers most of the study area. Cottonwood (*Populus* sp.) and willow (*Salix* spp.) trees are found in the vicinity of springs, seeps, and along Long Valley Creek. Shrub cover is much the same as that noted above. Water is abundant from several spring heads at Cottonwood Spring. From this point downstream, Long Valley Creek flows. A large (5 x 5 meter [m]) bedrock "tank" in the bed of Long Valley Creek in the gorge south of Cottonwood Creek provides an additional source of water, though probably not of much importance due to the proximity of the springs. This tank holds water to a depth of 1 m, and held about 30 cm of brackish water at the time of our field visit.

PREHISTORIC CONTEXT

Upland areas such as that under study generally were not heavily utilized until the mid-Archaic, starting about 4000 years ago, at which time the Martis Complex in the Sierra Nevada and the Lovelock Phase farther to the east began to be recognizable in archaeological sites. Subsequent archaeological utilization of such areas appears to have become more generalized, emphasizing hunting and gathering of a wide range of resources scattered throughout the landscape. A prime resource, which was used into historic times, was pinyon nuts. Detailed overviews of regional prehistory are in Elston (1986) and Pendleton et al. (1982). Ethnographically, the project area is near the border of lands used by the Washoe (d'Azevedo 1986) and the Northern Paiute (Fowler and Liljeblad 1986) (Heizer and Baumhoff 1962:289). A summary of regional phase descriptions is presented in the following table (Table 1) based on Elston et al. 1977 and Elston 1979.

Table 1. Summary of Regional Phase Descriptions.

Time (Years B.P.)	Phase	Time Markers	Environment
8130-7000	Tahoe Reach: Mostly hunting, small populations size, little site specialization	Parman-like points (Great Basin Stemmed)	Anathermal, wet and cool
7000-4000	Spooner: Dry seed gathering, hunting; small population size; manos and metates	Points in the Pinto and Humboldt series	Altithermal, hot and dry
4000-3500	Early Martis: Diversification of subsistence methods and settlement/site types; population explosion; more productive resource base	Contracting stem points of the Elko-Martis series, large basalt bifaces and other basalt tools, steep-sided house pits	Medithermal, wetter, more summer precipitation
3500-2500	Middle Martis: Similar to Early Martis but with stylistic differences	Steamboat points, Elko and Martis series points, large basalt bifaces and other basalt tools, steep-sided house pits	Warmer and dryer
2500-1500	Late Martis: Similar to Early Martis but with stylistic differences	Corner-notched and eared points of the Elko-Martis series; steep walled house pits	Wetter, more summer precipitation
1500-700	Early Kings Beach: Similar to ethnographic Washoe pattern population reduction; less productive resource base	Eastgate and Rose Spring series points; small saucer-shaped house pits	Dryer
700-Historic	Washoe-Late Kings Beach: ethnographic Washoe pattern	Desert Side-notched and Cottonwood series points; shallow, saucer-shaped house pits	Wetter and cooler, but little summer precipitation

Specific Comstock information relative to ethnography and prehistory was gathered in *Managing Archeological Resources on the Comstock* (HCRS 1980:5).

> Ethnographic observations identify deer/mountain sheep hunting and pinyon pine nut gathering as the principal activities taking place in the Virginia Range ...

Temporary base camps and task sites are thus expected on the mountainous parts of the Comstock, while permanent winter villages are expected only in the lower foothills near Dayton.

Accordingly, and closer to the Cottonwood Spring area near Chalk Hills, deer from the Sierra Nevada and Carson Range wintered in quantity during the historic past providing ample game resources for ethnographic and undoubtedly prehistoric populations. Mountain sheep are also historically documented in the Flowery Range on the eastern edge of the survey area (HCRS 1980:6). Pinyon is also common in the project area and was most likely gathered, although evidence of this was sparse.

Elston and Rusco (1975) suggest that the Long Valley Creek, Lousetown Creek region, may be the most important area for cultural resources in the Virginia Range after a small survey in this area.

In the HCRS study (1980:30), Fowler suggests that marl clay (used to produce white paint necessary for curing, and to produce tobacco pipes) was procured until recently from Chalk Mountain and associated deposits, some occurring in the eastern part of the Cottonwood Spring survey area. Fowler suggests that modern Native American use of the area is restricted to pinyon nut, tobacco and other medicinal plants and marl clay procurement.

HISTORIC CONTEXT

The project area was of little importance until the great influx of people into the region resulting from discovery of the Comstock Lode in 1859. Toll roads were soon established on all practical routes into the Comstock from all directions. Long Valley is a natural route from the Comstock to the Truckee River branch of the Overland Trail, which is intercepted at Sturtevant's Station, the site of present-day Lockwood. The earliest proposed toll road through Long Valley was recorded by Alex W. Baldwin and F. A. Tritle on November 1, 1866, in an attempt to divert traffic from routes leading more directly to the Truckee Meadows (Fig. 3). The scale of this map is not at all accurate, but based on the topography along the route and the start of the stream in Long Valley, it appears that there were two cabins in the vicinity of Cottonwood Spring at this time and an additional house in Long Valley southwest of the southern project area.

In 1867, the Long Valley route was being considered as one of the possible choices for a railroad link between the Comstock and the transcontinental line. A plat of this proposed line is shown on Figure 4 and part of it is shown in more detail on Figure 5. The railroad plat indicates that there was a frame cabin and a garden at Cottonwood Spring. Though this route, or an alternate

one proposed through Lousetown, represented the shortest distance to the railroad, it was abandoned due to pressure from settlers in Eagle and Washoe valleys. The reorganized Virginia and Truckee Railroad Co. started construction in 1869 on a route through Carson City, linking with the Central Pacific Railroad in Reno in 1872 (Myrick 1962:136-137,157).

The year 1867 marked the first detailed map coverage of the project area, with the cadastral survey of R. R. W. Norris (Fig. 5). This map shows wood roads through Long Valley, indicating a use of the area which is supported by common axe-cut stumps and road remnants found during our survey. Though structural timbers for the Comstock were taken from the Sierra Nevada and the Carson Range, the pinyon/juniper woodlands surrounding the Comstock were heavily exploited for cordwood. A garden and house are shown at the location of Cottonwood Spring.

The lack of heavy traffic or of a well-maintained toll road through Long Valley is clearly indicated by a renewed proposal for a toll road in 1871 by F. A. Tritle. The plat of this route is copied from the earlier one, and contains the same information as before (Fig. 6).

On the 1893 Carson City USGS map, the Long Valley road was is shown as a minor route and one structure is at Cottonwood Creek.

The scatter of small independent farmsteads shown on the nineteenth century map series was abandoned with the demise of the Comstock Lode in the last two decades of that century. Most simply fell into disuse, but some, such as the Chalk Hills Ranch, became "cow camps" in the much larger and more consolidated cattle and sheep operations of more recent times. Cattle and sheep are still grazed in the project area.

Recreational use of Cottonwood Spring was intensified with approval in 1973 of Sierra Park (Elston and Rusco 1975). Though many of the recreational facilities made at that time, including a dam, gazebos, and numerous barbecues, have not survived, the spot remains a popular local picnic location and campground.

PREVIOUS RESEARCH

No formal archaeological field research has taken place within the study area prior to the present project. The project area falls within the area reviewed by Elston and Rusco (1975) concerning the probable effects of the development of Virginia City Highlands Unit 1 and Sierra Recreation Park Developments. Elston and Rusco note the existence of an extensive historic and prehistoric settlement (26St12) at Cottonwood Spring with probable stratified cultural deposits. Although two additional sites are recorded within the project area, a petroglyph locality (26St2) and a cremation burial (26St13), these sites were not confirmed by Elston and Rusco and they were not found during the present survey. Presence of the Old Virginia City Toll Road was noted by Elston and Rusco, but it was not formally recorded.

METHODS

Selection of the project area was done in consultation with Karl Larson (Storey County Commissioners) and Ronald James (Nevada Division of Historic Preservation and Archaeology). Earlier attempts were made to find a suitable study area within the boundaries of the Comstock Historic District, 2 mi to the east, but these attempts did not result in a suitable project area with a sufficient acreage and range of landforms. Despite not finding a suitable project area within the historic district, we wish to thank Lou Tassone for his assistance in this part of the project. John Tyson, agent for Land Researchers, Inc., kindly gave ARS permission to conduct the inventory provided no collections or ground disturbances were made and that he receive a copy of the report.

A search of previous archaeological research in the project area was conducted at the Nevada State Museum, Carson City. Historic records of the Long Valley area and the Chalk Hills Ranch were examined at the Storey County Assessor's and Recorder's offices in Virginia City, the Bureau of Land Management Nevada State Office, and at the Nevada Historical Society, Reno. Karl Larson kindly provided information regarding historic roads.

Project area boundaries were based on Storey County Assessor's plats. Boundaries were determined in the field primarily from topography, but in some instances white-painted steel stakes at the corners of 40 ac parcels held by adjoining landowners were present. Brass caps placed by G. S. Swanholm in 1941 replacing Norris' stone markers were relocated at the SE corner and the S 1/4 corner of Sec. 35, T.18N R.21E. One of Norris' 1867 stone markers was relocated at the SW corner of the same section.

The entire project area was surveyed by a crew of four walking north-south 30 m interval transects. This intensity of survey corresponds to BLM standards for a complete inventory (USDI 1989:8). Artifacts and archaeological features were plotted on enlarged USGS. topographic maps. Observations were assigned temporary numbers as they were encountered. These observations have the prefix "597-." Most of these observations were converted into formally recorded archaeological sites. Some related observations were grouped into larger sites, in particular site 597-10. All sites were recorded on IMACS forms (Appendix A).

Site 26St12 was subjected to more detailed recording than other sites. Prehistoric loci were plotted on an enlarged USGS. map. Historic loci were mapped using a plane table and alidade. General survey and recording methods for the prehistoric loci on 26St12 were slightly different for each locus. At Locus 1, a two-person team walked generally north-south transects at 10 m intervals across the area, flagging lithic tools and possible features. The artifacts and possible features were described after the initial walkover. Coverage of Locus 2 involved a three-person, north-south examination at 5 m intervals. Tools were recorded during the close interval transecting of this locus. On Locus 3 a two-person team walked east-west transects, 3 m apart in an area approximately 90 x 90 m square and flagged all tools and possible features. After flagging over 100 tools, the team recorded the artifacts and sketched a variety of these. Finally, on Locus 4 a two-person team walked 5 m

interval transects in a west-northwest direction parallel to drainages and access roads. Here artifacts and features were initially flagged and then returned to and recorded. Historic trash scatters were transected at close intervals and artifacts encountered on these transects were tabulated.

RESULTS

The complete inventory of 400 ac on private land just north of the Virginia City National Historic Landmark and surrounding Cottonwood Springs resulted in the recordation of 48 archaeological sites. Only one of these, site 26St12, was previously recorded. Of the sites recorded during the current survey, 33 are small prehistoric, two are large prehistoric, five are small historic, three is a large historic (including those with road features) and five are combined large prehistoric and historic cultural resources. These sites represent a wide array of activities, ranging from ranching and transportation in historic times to plant, animal and tool stone procurement, processing and storage in the prehistoric period. Cottonwood Spring apparently functioned as a nucleus for both historic and prehistoric activities and continues to function as a source for excellent drinking water and recreational activities. A summary table (Table 2) of site descriptions follows and IMACS and specific Nevada state short site forms appear in the appendix. Brief verbal descriptions of each site and inferred site type (Binford 1983, HCRS 1980) are discussed below using the temporary site number.

597-1 is an isolated broken purple glass food bottle. This site is located slightly northwest of the currently used Long Valley Road, and southeast of an abandoned trail (597-2) on the toe of a colluvial slope.

597-2 includes a segment of the historic Long Valley Road and several associated cans. This segment of road crosses a flat bench south of Long Valley Creek in the southernmost parcel of the survey area. One pocket tobacco tin and one fruit or vegetable can were located along this segment of road. The Long Valley Road was a toll road connecting Virginia City to the Truckee River branch of the Overland Trail.

597-3 is an isolated obsidian edge-modified secondary flake that could also be a projectile point preform. The obsidian is black, translucent and mossy, characteristics common to obsidians from both Bodie Hills and Mount Hicks source areas located approximately 80 mi south of the Comstock. This artifact was found on a rhyolite ledge overlooking Long Valley Creek, an intermittent drainage. This artifact probably represents a location of tool loss.

597-4 is a small lithic scatter composed of six secondary and tertiary flakes of jasper and obsidian. The jasper is brown and originates in local older alluvial gravels found on upper terraces along Long Valley Creek, while the obsidian reflects two source areas with visual characteristics of gray to black, frothy, almost opaque varieties and one translucent black mossy variety. Flakes of the gray to black frothy material are secondary and one of the mossy variety is tertiary. As will be discussed later, the gray frothy material may be local to the Virginia Range as well. Situated on relatively flat rhyolite

Table 2. Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
1	1	6000	Colluvial slope	1160	-	Historic	Isolated artifact, food bottle
2	N/A	5960	Flat bench, residual slope creek drainage	1080	-	Historic	Transportation, Long Valley Toll Road; associated cans
3	1	5990	Rhyolite ledge	1050	-	Prehistoric	Isolated artifact, edge-modified flake, possible point preform
4	25	5990	Rhyolite bench	1210	-	Prehistoric	Special task site, lithic reduction
5	1885	6000	Rhyolite bench	1220	+	Prehistoric-Historic 1895-1920	Temporary base camp, opportunistic focus; historic trash scatter
6	314	5960	Alluvial terrace	1110	+	Prehistoric	Temporary base camp; opportunistic focus
7	1	6060	Residual slope	1060	-	Prehistoric	Isolated artifact; obsidian flake
8	1	6100	Residual slope	1030	-	Prehistoric core	Isolated artifact, jasper
9	942	5980	Alluvial terrace and flood plain	1215	-	Prehistoric	Special task site, lithic reduction
10	N/A	5850	Residual slope, residual ridge	655	-	Historic	Transportation, Long Valley Road and associated artifacts

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
12	1414	5920	Residual slope of white tuff	1045	+	Prehistoric (possibly contact)	Temporary base camp; opportunistic focus--hearth, mano, cut rib
13	1	5945	Intermittent drainage	960	-	Prehistoric	Isolated artifact, basalt chopper
14	157	6010	Rhyolite residual slope	990	+	Prehistoric	Special task site, lithic reduction
15	1	5890	Rhyolite residual slope	870	-	Prehistoric (2500 to 1500 B.P. (Late (Martis)	Special task site, hunting; isolated artifact, Elko Eared point
17	1	5970	Residual tuff slope	950	-	Prehistoric	Isolated artifact, jasper edge-modified flake
19	1	5890	Saddle	840	-	Prehistoric	Isolated artifact, basalt biface or point midsection
20	2683	5920	Saddle and ridge	710	+	Prehistoric	Temporary base camp, pine nut gathering focus
22	25	5845	Drainage base	770	-	Prehistoric	Special task site, lithic reduction
23	4	5850	Residual slope	605	-	Prehistoric	Special task site, lithic reduction
24	1	5875	Residual ridge	680	-	Prehistoric	Isolated flake, obsidian tertiary
25	1	5885	Residual ridge	630	-	Historic	Isolated wine bottle, indulgence
26	1	5900	Colluvial slope	670	-	Prehistoric	Isolated shatter, jasper

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
27	1	5875	Colluvial slope	875	-	Prehistoric 1500-700 B.P. (Early Kings Beach)	Special task site, hunting; isolated point, obsidian Rose Spring
28	1	6210	Residual slope	1340	-	Prehistoric	Isolated artifact, chert core
29	1	6165	Residual ridge	1360	-	Prehistoric	Special task site, lithic reduction
30	15	6165	Residual ridge	1280	-	Prehistoric	Special task site, lithic reduction
31	1	6170	Residual ridge	1150	-	Prehistoric	Isolated artifact, biface margin
32	N/A	6230	Residual ridge	1010	-	Historic	Transportation, historic road and associated can
33	1	6020	Colluvial slope	850	-	Prehistoric	Isolated flake, obsidian
34	1	6080	Colluvial slope	830	-	Prehistoric	Isolated flake, jasper
35	1	6180	Colluvial slope	850	-	Historic	Isolated artifact, bucket
36	314	5950	Talus slope	610	-	Prehistoric	Special task site, hunting blinds
37	1	5955	Colluvial slope	570	-	Prehistoric	Isolated flake, jasper
38	N/A	5920	Colluvial slope, alluvial flat	630	-	Prehistoric 1500-700 B.P. (Early Kings Beach)-Historic	Special task site, hunting-lithic reduction; isolated historic bottle

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
39	1	5880	Alluvial flat	430	-	Prehistoric	Isolated flake, obsidian primary
40	1	6120	Residual slope	620	-	Prehistoric	Isolated flake, sinter
41	1473	5960	Residual slope	460	+	Prehistoric 2500-1500 B.P. (Late Martis Phase)	Temporary base camp, opportunistic focus
42	1	5870	Colluvial slope	300	-	Prehistoric	Isolated artifact, chert core
43	1	5930	Low colluvial slope	260	-	Prehistoric	Isolated flake, chert
44	25	5960	Low colluvial slope	310	-	Prehistoric	Special task site, lithic reduction location
45	10	5980	Low colluvial slope	400	-	Prehistoric	Special task site; lithic reduction location
46	412	5900	Bench	180	-	Prehistoric	Special task site, opportunistic
47	1	5880	Low ridge top	815	-	Historic	Isolated artifact, bottle base
48	1	5880	Low ridge	810	-	Prehistoric	Isolated flake, jasper
49	1	5845	Alluvial flat	680	-	Historic	Isolated artifact, wine bottle
50	1	5920	Colluvial slope	430	-	Prehistoric	Isolated artifact; basalt core

Table 2 (continued). Site Data Summary for the Cottonwood Spring Inventory.

Temp Site No 597-	Size (sq m)	Elevation (ft)	Landform	Distance to Perm Water (m)	Ground Stone Presence	Cultural Affiliation/Size	Site Type
51	1	5875	Residual bench	390	-	Prehistoric	Special task site, lithic reduction, water catchment
26St12	502,340	5810*	Alluvial flat	640		Prehistoric Historic	Base camp, possible winter village; Chalk Hills Ranch

*at middle of corral

residuum, 597-4 is south of Long Valley Creek and just east of a larger lithic scatter, 597-5. This site appears to be a reduction location (one type of special task site) of local jasper, local obsidian and obsidian from the Bodie Hills or Mount Hicks areas.

597-5 is a medium-sized (40 x 60 m) lithic scatter with over 500 flakes of obsidian, jasper, basalt, chert and sinter, and several historic artifacts which do not appear related to the prehistoric material. Flake types are primarily tertiary with common shatter and rare primary and secondary flakes in densities up to 68 per sq m. Tool types include an abrading stone, one jasper and one obsidian scraper, one obsidian core and one chert Stage II biface. The variety of tools and density of debitage suggest that a relatively wide range of activities was occurring on this flat bench south of Long Valley Creek in prehistoric times, although no temporal indicators were located. The historic material appears to be a small trash scatter of hole-in-cap cans and milled lumber dating from 1895-1920. This site appears to be a temporary base camp but the focus of activities is not clear, although hunting and gathering are implied by the tool types and abundance of debitage.

597-6 is a small lithic scatter with one ground stone fragment located on a first terrace north of Long Valley Creek. Artifacts include a basalt core and flake, chert flake, obsidian flakes and Stage III biface or point midsection, and one rhyolite slab metate fragment. This site also appears to be a temporary base camp with both hunting and gathering activities suggested by the tool types.

597-7 is an isolated gray frothy obsidian secondary flake located on a south-facing residual slope above Long Valley Creek. This appears to be a location of lithic reduction of probably local obsidian.

597-8 is an isolated red jasper core or tested cobble. This site is situated on a north-facing residual slope and represents an example of opportunistic quarrying of local jasper.

597-9 is a small lithic scatter consisting of jasper, obsidian, sinter, and chert flakes, one jasper Stage III biface and one edge-modified jasper cobble. This site appears to be a special task site related primarily to lithic reduction.

597-10 (includes observations 597-11, -16, -18, -21) is the Long Valley Road and associated roads and artifacts east of Cottonwood Springs. This site represents a fairly well preserved segment of this historic transportation network connecting the Comstock to the Truckee River. The lateral roads which form the eastern portion of this site appear to have functioned as wood gathering roads. Most of the road segments have not been used for many years, and some are deeply eroded. Axe cut pinyon and juniper stumps that could easily date to the nineteenth century are common in all of the woodland areas. Though the woodland appears to have recovered to most of its former extent, mature trees appear to be rare.

597-12 is a medium-sized lithic scatter with a mano and probable hearth feature. The mano is in the hearth and has evidence of burning. One metal axe or saw cut rib of a cow or horse-sized animal was also recorded near this hearth. Lithic artifacts include basalt, obsidian, jasper and sinter primary, secondary and rare tertiary flakes. The mano and one red jasper modified flake comprise the tool assemblage. The presence of a mano and hearth feature suggest that this was a temporary base camp, probably for opportunistic hunting and gathering activities. The lithic items and the apparently historic age bone artifact may be related; i.e., a possible Native American post-contact site may be indicated.

597-13 is an isolated basalt chopper in an intermittent drainage. This site probably represents a location of tool use or loss. Uses for a large chopper could include root gathering, animal processing or lithic tool stone procurement, among others.

597-14 is a small lithic scatter that includes one basalt core and 14 flakes removed from this core. The core had previously been used as a metate and was found on a rhyolite ridge about 15 m upslope from its associated flakes. This site is a special task site concerned only with the reduction of a basalt core into primary and secondary flakes.

597-15 is an isolated basalt projectile point found on a residual slope. The form of the point suggests that it is an Elko Eared type indicative of the Late Martis Phase at 2500-1500 B.P. (HCRS 1980). This artifact suggests hunting activities occurred during the Middle Archaic at this location.

597-17 is an isolated jasper edge-modified primary flake located on a residual tuff slope. This tool probably represents a location of tool loss or use. This may or may not represent a special task site.

597-19 is an isolated basalt Stage III biface or point midsection found on a residual rhyolite saddle. This site probably represents a location of tool loss or use.

597-20 is a relatively large lithic scatter with two rock ring features and occasional ground stone. Several historic artifacts (one iron sled runner of a type commonly observed on wood gathering sleds, one square-nosed shovel) and numerous modern ones associated with a temporary campsite also occur. This site is situated on a ridge, saddle and colluvial slope northeast of Cottonwood Spring. Lithic tools include one obsidian Stage II biface, one chert Stage III biface and one basalt edge-modified flake, while debitage material types include gray frothy obsidian, jasper, sinter, basalt and chert. Two rock rings suggest possible habitation or pine nut storage facilities; both contain obsidian flakes. This site is probably a temporary base camp with a pine nut gathering focus. This use has continued up to comparatively recent times, as indicated by the presence of a 14 ft long wood ladder under a pinyon tree. The ladder is not near any road, and would have been quite useful for repeated visits to the area to collect pine cones.

597-22 is a small obsidian lithic scatter situated on alluvial flats just east of site 26St12. Tertiary flake types of gray frothy obsidian dominate with one secondary flake of the same material. This scatter represents a special task site focused on lithic reduction of a single obsidian artifact.

597-23 is a small lithic scatter with a tan jasper core and associated shatter. This site is located on a residual slope and is a location or special task site associated with jasper cobble reduction.

597-24 is an isolated tertiary flake of black frothy obsidian situated on a residual ridge. This represents a location of very limited lithic reduction.

597-25 is an isolated wine bottle base found on a residual ridge northeast of Cottonwood Spring.

597-26 is an isolated piece of red jasper shatter located on a colluvial slope. This probably represents a location of limited lithic reduction or core testing.

597-27 is an isolated frothy obsidian Rose Spring series projectile point situated on a colluvial slope north of 597-20. The presence of this point is taken as an indication that hunting activities were occurring in the area during the Early Kings Beach Phase (1500-700 B.P.).

597-28 is an isolated white chert core situated on a residual ridge. This artifact may indicate a location of tool loss or discard.

597-29 is a small lithic scatter of chert and jasper located on a residual ridge. Limited lithic reduction of two materials occurred at this site.

597-30 is a small lithic scatter of a tan chert primary flake and a basalt core fragment, 15 m distant. This probably represents one isolated incidence of lithic reduction and one of core loss or discard.

597-31 is an isolated sinter Stage II biface margin located on a rhyolite ridge. This location may represent tool loss or discard.

597-32 consists of a historic road and associated can on the flat ridge about 1 mi west of Cottonwood Spring. This site probably related to the local transportation network during historic times.

597-33 is an isolated gray frothy obsidian primary flake situated on a colluvial slope. Lithic reduction of a small (and probably near-local) obsidian nodule took place at this location.

597-34 is an isolated red jasper primary flake located on a colluvial slope. Lithic reduction of a local jasper cobble is indicated at this site.

597-35 is an isolated historic bucket found on an upper colluvial slope. This bucket could have been associated with any number of historic ranching, mining or transportation activities in the area. A possible prospect exists just above the bucket location.

597-36 consists of two circular depressions situated in a bouldery talus slope. Both features are about 3 m in diameter and one has boulders stacked two to three courses high on the downslope edge. These appear to be prehistoric hunting blinds, special task sites devoted to big game hunting activities.

597-37 is an isolated jasper secondary flake located on a colluvial slope. This isolate represents a location of lithic reduction of a local jasper cobble.

597-38 consists of a historic isolated brown glass bottle, a white chert Rose Spring projectile point and a sinter secondary flake, all situated on colluvial slope and alluvial flat landforms. The historic and prehistoric artifacts are probably not related. The point type suggests hunting activities in the area during the Early Kings Beach Phase (1500-700 B.P.).

597-39 is an isolated frothy obsidian primary flake located on an alluvial flat. A lithic reduction location is indicated by this site.

597-40 is an isolated sinter secondary flake located on a residual slope. Sinter is from the Steamboat Quarry in southern Truckee Meadows. This flake represents a location of lithic reduction of this material.

597-41 is a medium-sized lithic scatter with two manos and several tool types. The site is situated along an intermittent drainage. One basalt eared point suggests Late Martis Phase (2500-1500 B.P.) hunting activity, while manos, gray frothy obsidian, basalt and chert bifaces, and a jasper core suggest a variety of hunting and/or gathering associated activities. This site appears to be a temporary base camp with an opportunistic hunting and gathering focus.

597-42 is an isolated white chert core located at the toe of a colluvial slope. This location indicates tool loss or discard.

597-43 is an isolated white chert secondary flake located at the foot of a colluvial slope. Limited lithic reduction occurred at this location.

597-44 is a small lithic scatter with sinter shatter, a chert flake and jasper shatter situated on the lower reaches of a colluvial slope. This site represents a location of lithic reduction of three material types.

597-45 is a small lithic scatter of basalt, chert and jasper flakes situated on the toe of a colluvial slope. This site also seems to be a location of lithic reduction of three raw material types.

597-46 is a small to medium-sized lithic scatter situated on a bench northwest of Cottonwood Spring. This site contained evidence of lithic reduction in the form of bifaces and cores of sinter, obsidian and jasper, as well as evidence of limited plant or animal processing as perhaps indicated by an obsidian uniface. Flakes included jasper, basalt, obsidian, sinter and chert materials in primary, secondary and tertiary stages as well as shatter.

This site is in proximity to the larger 26St12 and probably represents a special task site related to the larger base camp.

597-47 is an isolated olive green glass bottle base. This artifact could be related to nearby road or ranching activities.

597-48 is an isolated jasper secondary flake situated on a low ridge. This suggests limited lithic reduction activity at this location.

597-49 is an isolated olive green glass wine bottle shattered on a rock on an alluvial flat near the historic roads and ranch found in the vicinity.

597-50 is an isolated basalt core situated on a colluvial slope below a ridge. This isolate may indicate a location of tool loss or discard.

597-51 is a small scatter of two flakes, one yellow chert secondary and one white chert secondary. These flakes are located on a residual bench along the southeast edge of Long Valley Creek near a natural pot hole or tinaja in the bedrock. This feature contained water during this survey and potentially acted as a water catchment feature for both historic and prehistoric peoples. This site is thus classified as a special task site for lithic reduction and potentially water procurement.

26St12 is a very large prehistoric residential base camp with numerous flaked and ground stone tools, features and at least four distinct loci that contain slightly different artifact assemblages, all centered around the Cottonwood Spring. For example, Locus 1 contains limited ground stone and abundant lithic debris and hammerstones as well as naturally occurring jasper cobbles in the old terrace deposits suggesting an emphasis on lithic reduction, while Locus 3 contains an abundance of ground stone, hammer-choppers and other formed tools and suggests an emphasis on plant and animal processing. Locus 2 contains numerous Martis points and lithic debitage and a dearth of ground stone, possibly representing retooling for animal procurement activities, and finally, Locus 4 contains a hearth with burned bone and a possible earth oven or pine nut roasting feature. Temporal indicators suggest site use during the Martis and Early Kings Beach Phases with no clear evidence of earlier or later use.

Additionally, this site contains the remains of the Chalk Hills Ranch. As was mentioned above, house structures and gardens are documented on this site from the 1860s. A map of historic features on the site is included as Figure 7. Ranching remains include three dams, spring improvements, pipelines, field systems, corrals, three stone house foundations, a stone cabin, flagstone barn or stable foundations, and extensive trash deposits. The only early written description of the ranch area is from Norris' 1867 survey notes (Survey Notes for T.18N R.21E Contract 2, Fiche 1 pp. 38-39 on file at the BLM State Office). Notes for survey of the east boundary of the township only indicates that the land is barren, rocky, and unfit for cultivation.

Notes for survey of line between Sec. 35 and 36 starting at the common corner of sections 35/36/1/2 (S boundary of township) include the following information:

Moving N, variation 16 deg. 40 min.

Chains	Description
4.00	House 3 chains West.
7.00	To garden.
12.00	To Long Valley Creek.
18.00	L--- Garden --- -- an eastern slope of hill.
18.00	House about 11 chains east.
30.00	House about 20 chains east.
40.00	Set rock for 1/4 corner (14x8x3 [inches]).

Line between Sec. 25 & 36 proceeding E. from cor. 25/26/35/36:

Chains	Description
24.00	Foot of hill.
27.00	To Long Valley Creek bearing N & S.
30.00	To road bearing N & S.
30.30	To line of Rail Road [rest of sentence unreadable].
40.00	Set stone for temporary 1/4 corner.
75.00	Creek bearing N60W & E.
79.60	Intersect the E boundary of township.

Note: Notes are somewhat abridged.

A dependent resurvey of portions of T.18N R.21E by G. S. Swanholm in 1941 included the perimeter of Sec. 36. Swanholm replaced most of Norris' stone markers with regulation posts, but left the original SW corner marker of the township. Old roads were noted, but no other cultural features. He notes that the area is suitable for grazing, but not for more intensive agriculture.

DISCUSSION

PREHISTORIC SITES

Following from the expected typology for archaeological sites derived from Washoe ethnography and posed as a model for the Comstock (HCRS 1980:3), prehistoric sites found during the Cottonwood Spring survey are placed into their appropriate categories as follows and with some discussion:

1. Permanent winter village: Site 26St12 could be a permanent winter village for both the Early Kings Beach and Martis phases. This contrasts with the Washoe model of permanent winter habitation nearer the valley floors; however, there is no clear evidence for Washoe at this site. The abundance of ground stone and the variety of finished lithic tool forms is similar to observations at suspected winter village sites in Truckee Meadows (Elston and Zeier 1986, Burke 1989) suggests similar usage for this site. Permanent winter structures such as pit houses and seasonally diagnostic faunal remains could contribute further supporting evidence to this, as yet tentative, hypothesis. If in fact, this site is a winter village for Martis and Early Kings Beach occupants, environmental differences as outlined in Table 1 between these times and the Late Kings Beach Phase are indicated.

2. Temporary base camps: Sites 597-5, -6, -12, -20, and -41 are considered to be temporary base camps because these contain a range of tool and debitage types and all have at least one piece of ground stone. Distinct features are also present on certain of these sites. All camps appear to have an opportunistic focus on hunting and gathering, and 597-20 contains features that may be related to pinyon storage (rock rings). Site 597-12 contains a hearth feature, mano and cut rib of a horse or cow, possibly indicating a historic Washoe/Paiute site. Site 597-41 contains an eared Martis series point, possibly indicating use during the Late Martis Phase.

3. Special task sites: Sites can be divided somewhat into specific activity foci within this category. Four hunting focus task sites were identified and include three isolated projectile points (597-15, -27, -38) and one site (597-36) with two hunting blinds in a talus slope. The three points suggest hunting activities during Late Martis and Early Kings phases, but no temporal affiliation was identified in the blinds.

One opportunistic task site, 597-46, was identified. This site contained abundant evidence of lithic reduction activities in addition to several bifaces and one uniface. These tools suggest that some plant or animal procurement or processing may have occurred at this site.

The most common special task site involves lithic reduction of local, near-local and non-local raw materials or cores into flakes, bifaces and other tool forms. Sites falling into this category are 597-3, -4, -8, -9, -13, -14, -17, -19, -22, -23, -28, -29, -30, -31, -37, -42, -44, -45, -50, and -51. This also includes opportunistic quarrying of jasper cobbles which occur commonly in upper terrace and pediment gravels throughout the project area. Near-local materials may include small gray and black frothy, or pitted, non-shiny nodules of obsidian, varieties of black to gray medium to fine-grained basalts, and pink, cream and white sinter from the Steamboat Quarry at the south end of Truckee Meadows. Non-local raw materials are rare in the current study area and only translucent and mossy obsidian varieties, probably originating in the Bodie Hills or Mount Hicks areas, were noted. Cherts are somewhat common in igneous rock terraines and these could also be near-local acquisitions.

In addition to lithic reduction task sites, tool loss or use locations could also represent special task sites. These are 597-3, -8, -13, -17, -19, -28, -31, -42, and -50, consisting of four cores, two bifaces, two edge-modified flakes, and one chopper.

4. Quarrying sites: No bedrock quarry sites were located although opportunistic quarrying of local jasper cobbles occurred commonly throughout the survey area. Additionally, metates were made exclusively from local rhyolites and andesites, available in quantity and in slab blanks throughout the area.

5. Petroglyph sites: These site types were not encountered in the survey area despite the existence of major petroglyph sites nearby, including the Lagomarsino Site (26Stl).

Significance

Following from HCRS (1980:38), it is noted that the most significant sites in the area will be able to contribute answers to the following problems:

I. Establishment of chronology for Comstock prehistory;

II. Environmental history and human ecology;

III. Identification of cultural patterns and ethnic affiliation;

IV. Historic shifts in land use or other cultural patterns.

PREHISTORIC SITES

Data from 26St12 can address problems I, III and IV. Point types, a hearth with burned bone in Locus 4, and a roasting feature in Locus 4 contain intact deposits that could yield further information on these topics. The nature of Locus 1 and Locus 3 is such that there could be buried features or living structures in these locations. Excavations of terraces or subsurface examination with soil cores in spring mounds could yield past environmental data pertinent to problem II. Loci show differences in land use and further research in these locations could clarify problem IV.

In addition to 26St12, the temporary base camps (597-5, -6, -12, -20, -21) could all contain information relative to problems I and IV, while -12 may have information relative to problems II and III. Though the total information of these sites is less than that of 26St12, these small camps are also significant; 597-12 and 20 both have features and the others have the potential to contain hearths or other features.

HISTORIC SITES

Including historic localities within predominately prehistoric sites, there are five isolated artifacts, one trash scatter, and the following major site types:

Ranching

Archaeological evidence of the kind of ranching found at Cottonwood Spring is of particular importance for a variety of reasons. There was a considerable growth of local ranches in the Comstock Period to provide local vegetables, fruit and meat to the mining communities which were otherwise completely dependent on remote sources of foods (Rowley 1989:1-5 to 1-6). What sparse documentation there is concerning agricultural pursuits of this period concentrates on the large ranches in major valleys that were so situated to create immediate success of the sort that enabled ranchers and farmers to subsidize placing their personal histories in Thompson & West's *History of Nevada* (Angel 1881) and to attract further study and family histories by

occupants of these areas which continue the same agricultural tradition. The Chalk Hills Ranch is not of this sort. It is in a relatively marginal upland setting, like many small ranches which were on the fringe of the Comstock in areas such as American Flat. These ranches tended to have gardens watered by small springs and drainages, many of which have since gone dry, as is the case of the ranch near the Amazon Mine, which with its rock walls and cleared garden plots closely resembles the Chalk Hills Ranch (Reno 1989). An examination of the farming and ranching world portrayed in Angel (1881) shows attempts at bringing the order of the Victorian Era to the frontier, with houses aspiring to compare well with contemporary architectural designs, neat rectangular fields surrounded by wood fences, large outbuildings, and hay barns (Kuranda 1988). The chaotic feature system shown in Figure 7 does not fit this model at all. The domestic structures are of rough stone held together with mud mortar, fences are made of rocks resulting from field clearing, and the main agricultural areas are relatively small garden terraces rather than the extensive hay meadows of lowland ranches. Many of these small Comstock ranches were the homes of Italian immigrants, who were faced with greater difficulties than northern European settlers in their attempts to join American society. Two other ranches in Long Valley were run by Lagomarsino and Choppa. A search of records at the Storey County Court House indicates that the Chalk Hills Ranch was owned by Bartholemew Dellipiane [also spelled Dellipian, Dellephiana, Delepiane] and Co. In 1877 Dellipiane sold the property to his partner, Ramiggio Noce. The ranch passed from Noce's estate to D. C. Wheeler in 1911. The property remained with Wheeler into the 1920s, along with much of the surrounding areas along Long Valley and Lousetown Creek. The ranch land was valued at $100 and improvements at $50 during the height of the Comstock from 1875-1880. The depression resulting from the failure of the mines is evident with values of $40 for land and $40 for improvements in 1886. By 1900 the value of the property had barely recovered to $125 for land and $100 for improvements (Assessment Records 1875-1923; Map of Storey County in Assessor's Office dated 1923; Deeds Book 41:153; Book 28:81).

Transportation

Two sites, 597-2 and 597-10; include portions of the main historic road through Long Valley. More of this road and its variations passes through site 26St12. Portions of the extensive nineteenth century network of peripheral roads are present in sites 597-2, 597-10, and 597-32. Artifacts indicate that many of these road segments were still in use until about the 1930s.

Logging

Historic evidence of nineteenth century logging was limited to the labels of the roads on the cadastral survey plats as wood roads (Fig. 5). Archaeological evidence includes axe-cut stumps throughout the wooded areas, a probable iron sled runner blade fragment of a kind commonly found on wood hauling sleds at site 597-19, and the placement of peripheral roads in areas where the most likely purpose was transportation of wood.

Significance

Despite the relatively poor condition of the ranch remains at site 26St12, this ranch, with its diverse features through a long history of use, its probable use by a local immigrant population specializing in such ranches, and the general lack of historic documentation for this kind of ranching/farming activity, is significant from a variety of perspectives (Hardesty 1982:214-215; Bernstein 1989:1-31 to 1-33). The ranch is directly associated with a significant event, the development and support of the Comstock. It embodies of style of construction that appears to be representative of a regionally, culturally, and temporally distinctive ranch type that no longer exists, and the information potential of buried archaeological remains on the site has by no means been exhausted by our study of the surface remains. Though the Long Valley Toll Road is a significant site, this extensive complex of road remnants, retaining walls, way stations, and associated artifacts needs to be recorded as a whole entity before an informed decision can be made regarding the relative significance of any portion of the artifact and feature system that composes the site. There is no reason to suppose that the portions of the site found in the project area are particularly good representatives of this feature and artifact system. Hence, they are not regarded as significant at this time.

Whatever research potential the remaining small historic sites and isolates have has been adequately preserved through the recording done in the course of this survey. These other sites are not regarded as significant.

RECOMMENDATIONS

PREHISTORIC ARCHAEOLOGICAL SENSITIVITY

Although the project area is outside the boundary of the Comstock Archaeological Sensitivity Maps, it is easy to project zones into it. The uplands away from the floor of Long Valley would be rated P1, indicating a low sensitivity to prehistoric archaeological resources. This does not indicate that there are no archaeological sites in such areas, but that such sites are likely to be small, fairly redundant, and in general easy to either avoid or to mitigate adverse impacts. The floor of Long Valley would be assigned a higher rating of P3, and the area around Cottonwood Spring would be assigned a high rating of P4, which indicates a high probability for significant and complex sites. Survey results confirm the validity of the sensitivity zones, except that the P4 zone was too small on the draft maps. Since significant components of the prehistoric site complex surrounding Cottonwood Spring were up to 500 m from the water source, the P4 sensitivity zones around water sources throughout the sensitivity study project area were enlarged to this size.

HISTORIC ARCHAEOLOGICAL SENSITIVITY

The upland portions of the project area would be considered part of the H1 sensitivity zone. This is the lowest rated zone for the same reasons that the upland areas would be rated low sensitivity prehistoric zones. The floor of Long Valley would be rated H3, primarily because of its use as a transportation

corridor. The area around Cottonwood Spring would be rated H4, which is a relatively high sensitivity rating. Results of the survey indicate that the sensitivity mapping model used for historic archaeological resources in the Highlands area is adequate.

FURTHER DEVELOPMENT OF THE PROJECT AREA

We recommend avoidance of sites identified above as being significant (26St12, 197-5, -6, -12, -20, and -21). If avoidance is not possible, at least some test excavations and monitoring of earth disturbing activities associated with further development should be undertaken, particularly at site 26St12. In addition, should further development of Cottonwood Spring be undertaken, key structures should be preserved, in particular the corral and house ruins.

REFERENCES

Angel, M.

1881 *History of Nevada.* Thompson and West, Oakland. Reprinted 1958, Howell-North Books, Berkeley

Bernstein, R.

1989 Ranching and Farming in Nevada, Operating §§Plan. In *Nevada Comprehensive Preservation Plan*, edited by R. A. Bernsten and R. M. James, pp.1-3 to 1-15. Division of Historic Preservation and Archaeology, Carson City and Nevada Historical Society, Reno.

Binford, L. R.

1983 Willow Smoke and Dog's Tails: Hunter-Gatherer Settlement Systems and Archaeological Site formation. In *Working at Archaeology*, by L. R. Binford, pp. 337-356. Academic Press, New York.

Burke, T.

1989 *Intensive Cultural Resources Inventory of the Double Diamond Ranch, Truckee Meadows, Washoe County, Nevada.* Ms. on file, Archaeological Research Services, Inc., Virginia City, Nevada.

d'Azevedo, W. L.

1986 Washoe. In *Handbook of North American Indians, Vol. 11: Great Basin*, edited by W. L. d'Azevedo, pp. 466-498. Smithsonian Institution, Washington, D.C.

Elston, R. G.

1979 *The Archeology of U.S. 395 Right-of-Way Between Stead, Nevada and Hallelujah Junction, California.* University of Nevada, Archeological Survey, Reno.

1986 Prehistory of the Western Area. In *Handbook of North American Indians Volume 11: Great Basin*, edited by W. L. d'Azevedo, pp. 135-160. Smithsonian Institution, Washington, D.C.

Elston, R. G. and M. K. Rusco

1975 *Review of Tentative Subdivision.* Ms. on file, Bureau of Land Management, Carson City. BLM Report No. 3-434(P).

Elston, R. G., J. O. Davis, A. Leventhal and C. Covington

1977 *The Archeology of the Tahoe Reach of the Truckee River.* Nevada Archaeological Survey, University of Nevada, Reno.

Fowler, C. S. and S. Liljeblad

1986 Northern Paiute. In *Handbook of North American Indians, Vol. 11: Great Basin*, edited by W. L. d'Azevedo, pp. 435-465. Smithsonian Institution, Washington, D.C.

Hardesty, D. H.

1982 Farming/Ranching Activities. In *An Archaeological Element for the Nevada Historic Preservation Plan*, coordinated by M. M. Lyneis, pp. 208-223. Nevada Division of Historic Places and Archaeology, Carson City.

HCRS

1980 *Managing Archeological Resources on the Comstock*. The Comstock Project, U.S. Department of the Interior.

Heizer, R. F. and M. A. Baumhoff

1962 *Prehistoric Rock Art of Nevada and Eastern California*. University of California Press, Berkeley and Los Angeles.

Kuranda, K. M.

1988 Images of the Nineteenth-Century Agricultural Landscape: Notes on the Illustrations in the *History of Nevada*. Nevada Historical Society Quarterly Vol.31 No.4:259-275.

Myrick, D.F.

1962 *Railroads of Nevada and Eastern California*, Vol. 1. Howell-North Books, Berkeley.

Pendleton, L., A. McClane and D. Thomas

1982 Cultural Resources Overview, Carson City District, West Central Nevada. *Bureau of Land Management Cultural Resources Series* 5. Reno.

Reno, R. L.

1989 *An Intensive Cultural Resources Inventory of the Amazon-Haywood Expansion, Lyon County, Nevada*. Ms. on file, Archaeological Research Services, Inc., Virginia City, Nevada (ARS No. 580).

Rowley, W. D.

1989 Ranching and Farming in Nevada. In *Nevada Comprehensive Preservation Plan*, edited by R. A. Bernstein and R. M. James, pp. 1-3 to 1-15. Division of Historic Preservation and Archaeology, Carson City and Nevada Historical Society, Reno.

U.S. Department of the Interior

1989 *Cultural Resources Inventory General Guidelines.* United States Department of the Interior, Bureau of Land Management, Nevada State Office, Reno.

Zeier, C. D. and R. G. Elston

1986 *The Archaeology of the Vista Site (26Wa3017).* Prepared for the Nevada Department of Transportation, Carson City. Prepared by Intermountain Research, Silver City, Nevada.

APPENDIX A

Technical details concerning archaeological sites recorded on Intermountain Antiquities Computer System (IMACS) forms and site location maps are on file at the Nevada State Museum, Carson City, where they are available for study by qualified researchers.

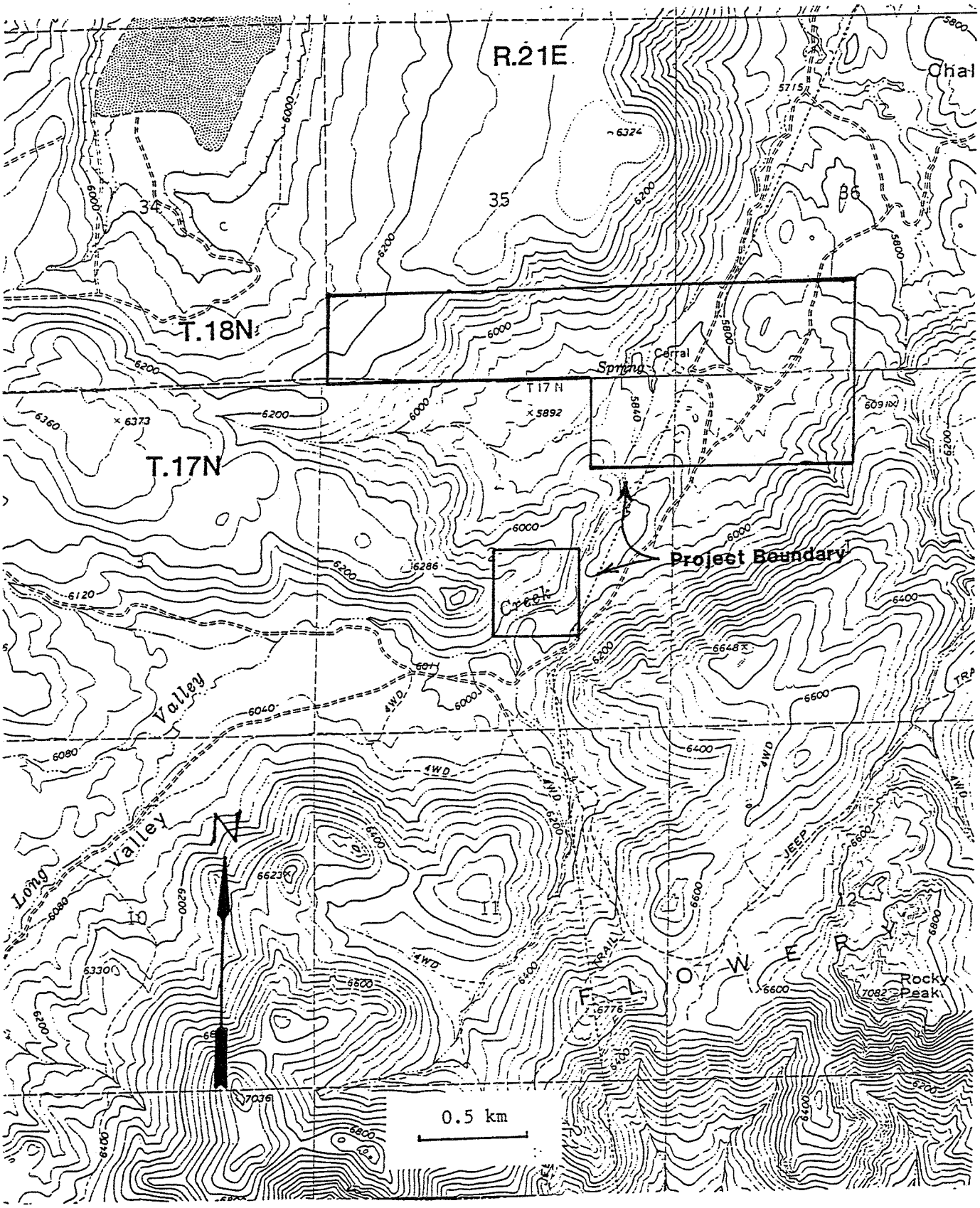


Figure 2. Boundaries of Cottonwood Spring Archaeological Survey. ARS Project 597. Base Map: USGS Flowery Peak and Chalk Hills 7.5'.

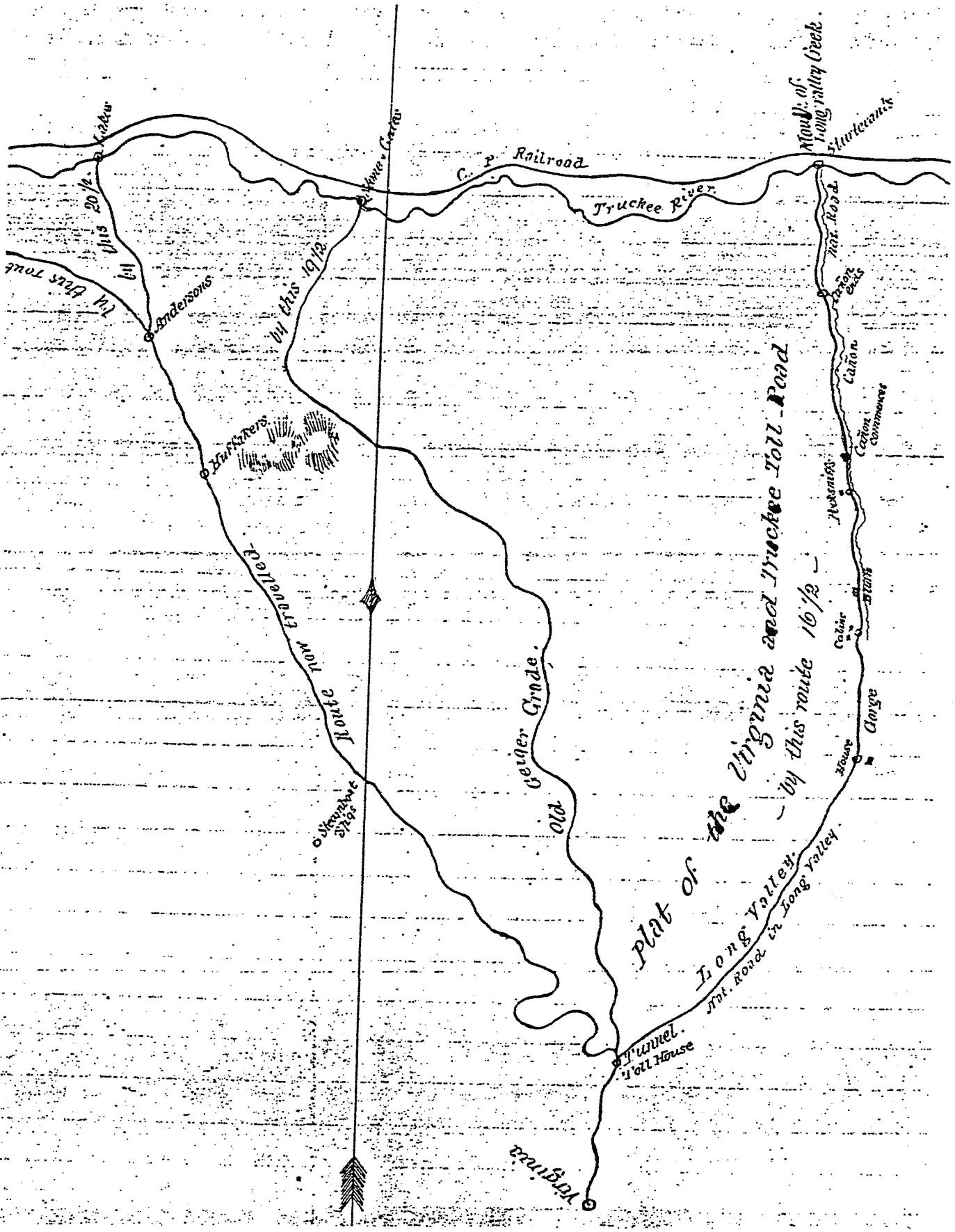
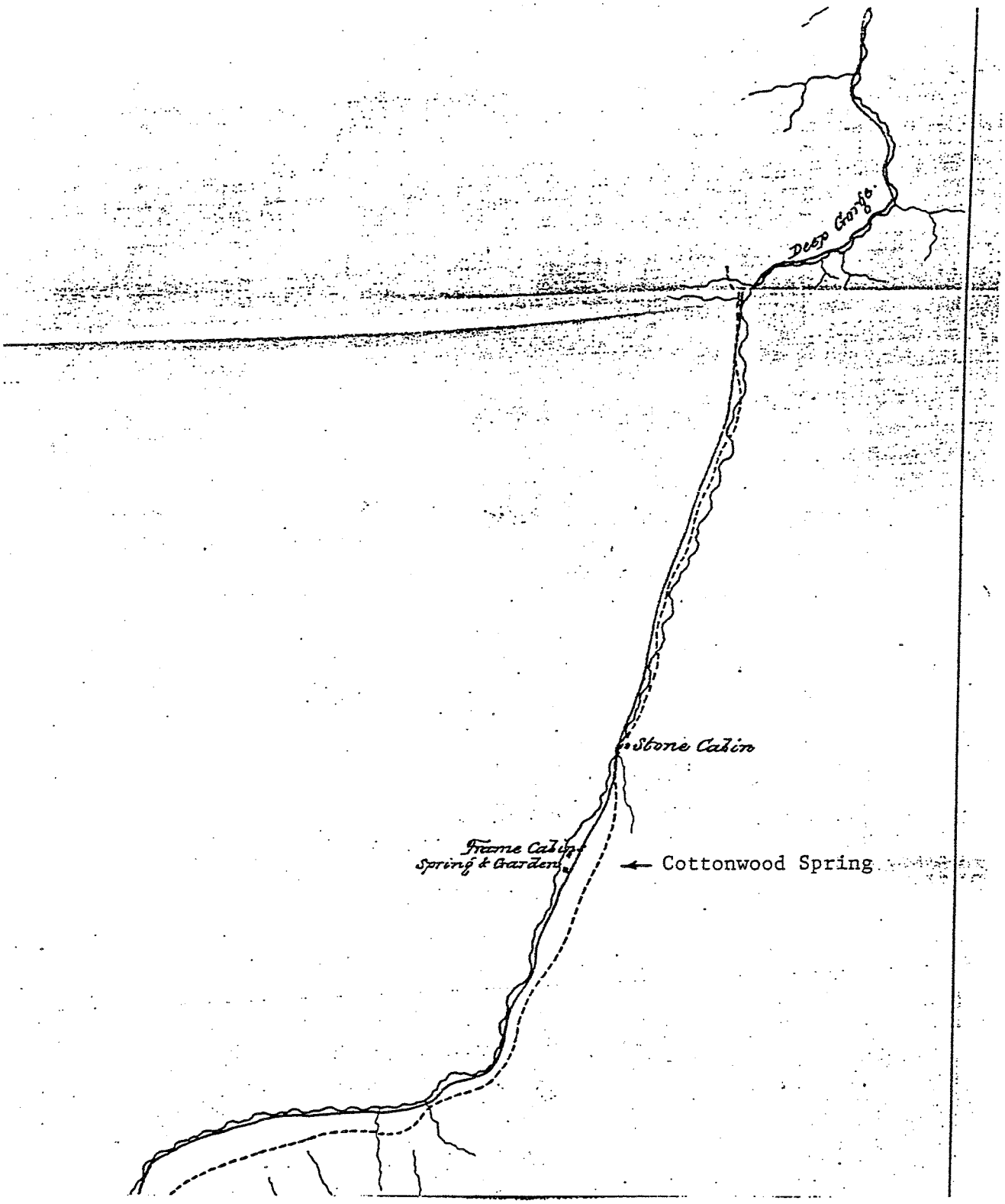


Figure 3. Plat of Proposed Virginia and Truckee Toll Road, 1866. Ms. on file, Storey County Recorder's Office, SCR Mine Locations Book A, p. 404.



re 4. Portion of the Plat of the Proposed Route of the Virginia and Truckee Railroad via Long Valley, 1867. Ms. on file, Storey County Recorder's Office, SCR Mine Locations Book A, p. 413.

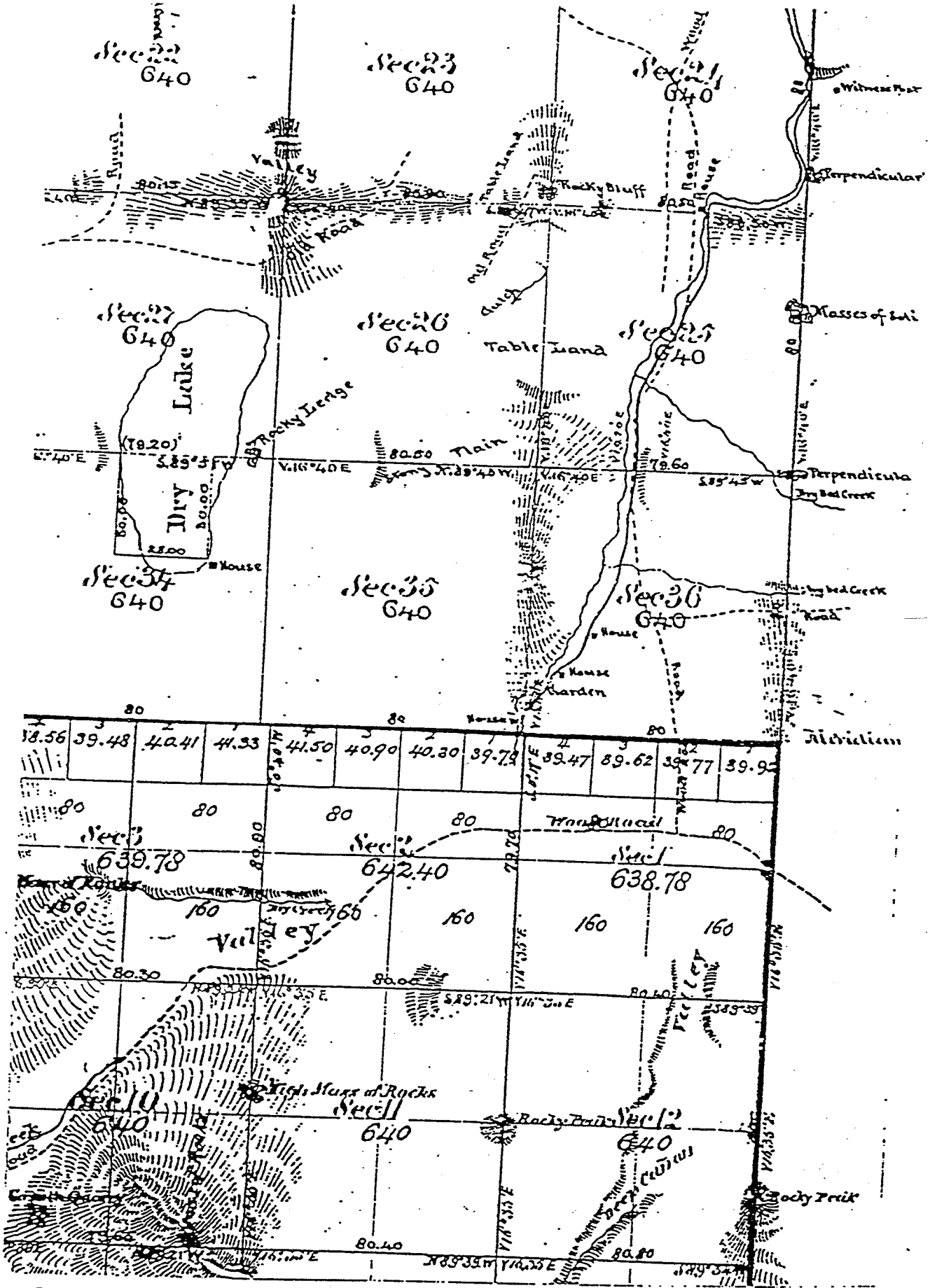


Figure 5. Township Survey by R. R. W. Norris in 1867. From microfilm on file, Bureau of Land Management, Nevada State Office, Reno.

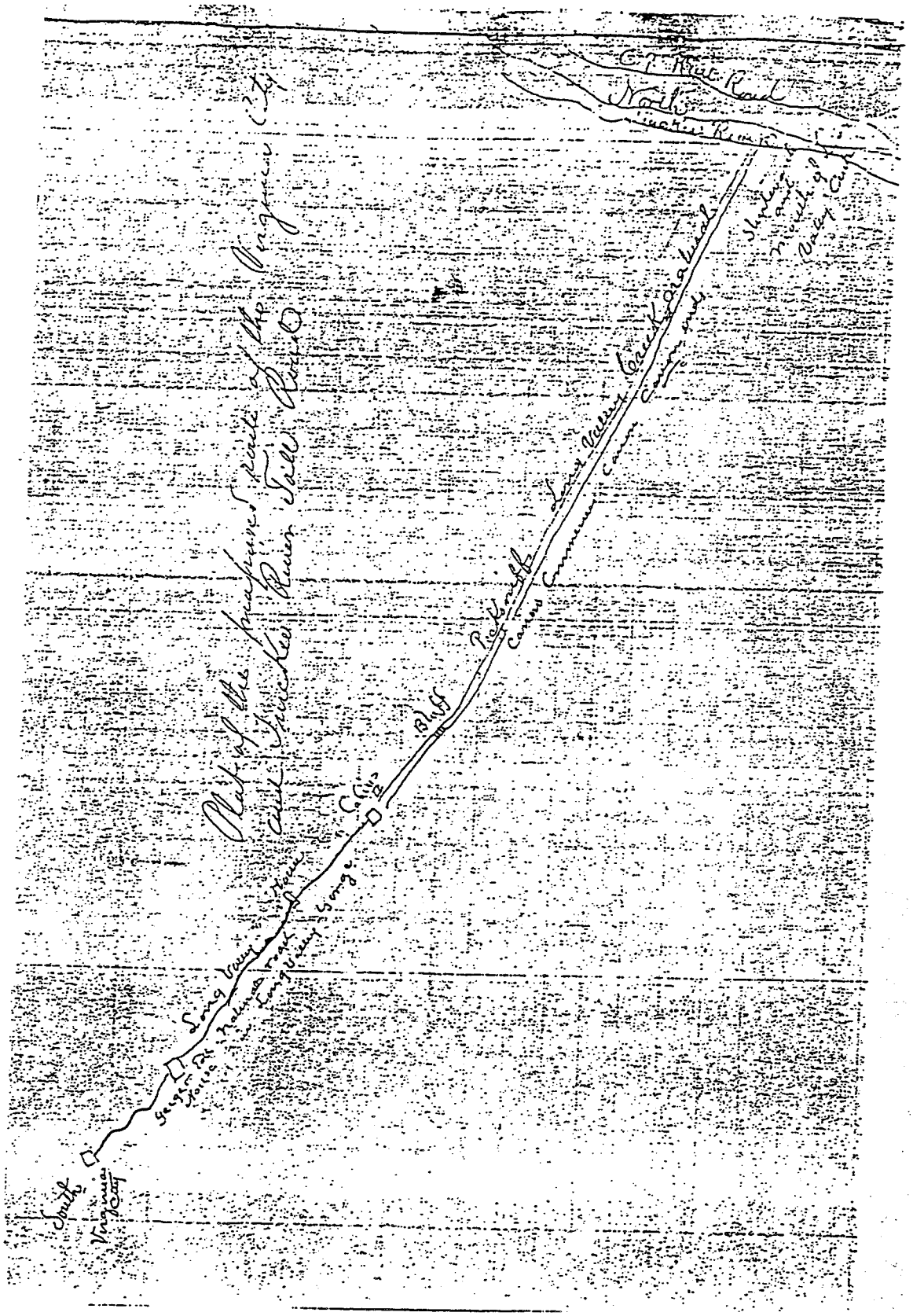


Figure 6. Plat of the Virginia and Truckee River Toll Road, 1871. Ms. on file, Storey County Recorder's Office, SCR Mine Locations Book A, p. 463.

CHALK HILLS RANCH 26St12

Key to map symbols

Rock Wall or Fence

Wood or Wire Fence

Trash Dump

Dam

Terrace Edge

Slope

Road

Spring

Pipeline

Ephemeral Drainage

Flowing Stream

c Selected Cottonwood Tree

x Willow Tree

12 Archaeological Feature (See Text)

Figure 7. Historic Features at the Chalk Hills Ranch, 26St12 (Key, map on following page).

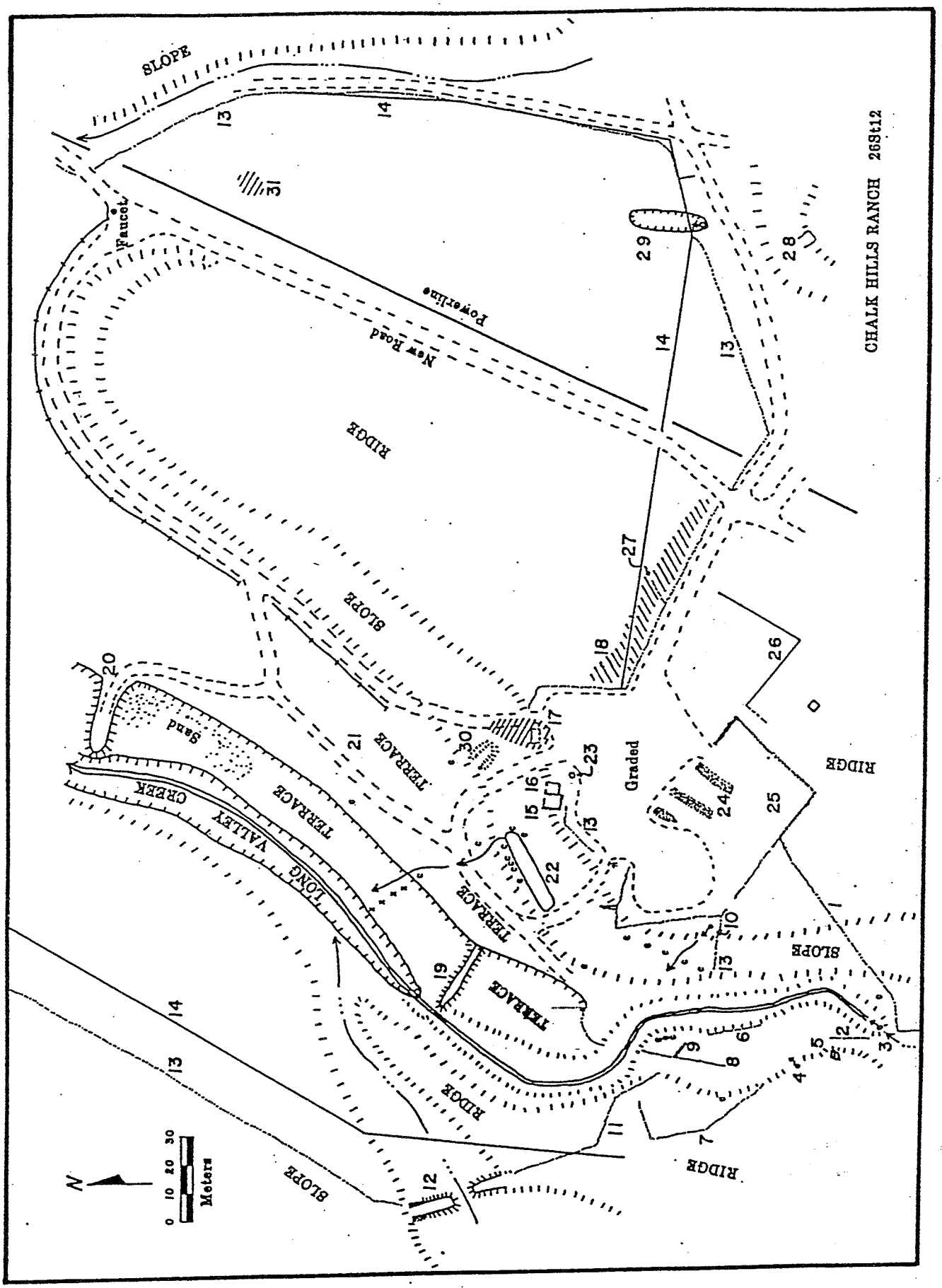


Figure 7. Historic Features at the Chalk Hills Ranch, 26St12.