CULTURAL RESOURCES OVERVIEW AND PRESERVATION RECOMMENDATIONS PROMONTORY ROUTE - CORINNE TO PROMONTORY, UTAH

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INTRODUCTION

In late fall 1997, the Golden Spike Historical Foundation (GSHF) of Ogden, Utah requested that Sagebrush Consultants, L.L.C. (Sagebrush) also of Ogden, carry out a cultural resources overview as a background study preparatory to the preparation of a third party contract Environmental Impact Statement for the Bureau of Land Management (BLM). This study is a proposal to return passenger rail service to that segment of the original Transcontinental Railroad line between Corinne and Promontory Summit, Utah (Figure 1). This segment was last served by rail in 1942 when Southern Pacific operated freight trains over the line. In July 1942 the entire line between Corinne and Lucin, a total of 123 miles, was abandoned and the rails torn up for use in the construction of military facility railroads during World War II.

The GSHF, as part of a larger plan begun when Congress created the Golden Spike National Historic Site (NHS) in 1965, is pursuing a plan to restore the abandoned railroad from the existing Union Pacific Railroad connection at Corinne west to Promontory Summit. This effort is being made in order to provide tourists with some sense of the historical experience that many traveler's had in this country during the latter half of the 19th Century.

The Promontory Route as a whole, from its beginning at Ogden all the way to Lucin, is a unique resource. Despite the fact that 56 years have passed since the abandonment of this line and 94 years since it was last used as the mainline for east-west transcontinental rail service, much of the original grade is still, at least partially, intact and only portions of the landscape have changed significantly. Aside from the grade, trestles, culverts, and the remains of associated maintenance camps, stations and other related features still exist. No where else along the entire original Transcontinental Railroad route does the line remain as close to the original grade as this section does from Ogden to Lucin.

The Route was proposed to be bypassed before the massive railroad upgrades through Utah, Nevada and Wyoming were mandated by E. H. Harriman in the late 1800s, President of both the Union Pacific (UP) and Southern Pacific at the time. This section of the original Transcontinental Railroad was bypassed in 1904 by construction of the Lucin Cutoff Trestle across the Great Salt Lake. Nevertheless, this section was retained as a backup line. This action served to keep this section of line in serviceable condition, and did not allow for significant improvements or changes. After construction of the trestle across the Great Salt Lake, the "Promontory Route" as it came to be called, remained in very much the same physical condition as it was when bypassed in 1904, despite the fact that minor improvements continued as well as scheduled replacement of worn out structures and rail.

Interestingly, after it was abandoned in 1942, the Southern Pacific did not relinquish control of the right-of-way along most of its length until the 1960's when the NHS was created. At that time the Southern Pacific gave the NHS a Quit Claim Deed, but apparently did not relinquish its right to restore railroad service on the grade in the future (Butt 1998). The portions east and

Figure 1. General Project Area.

west of the NHS were not physically abandoned until the 1990's when the BLM took control. Even this change in ownership, however, *may* not exclude the restoration of rail service along the grade. Despite the changes which have occurred in legal ownership, there are still portions of the route which have not yet been relinquished in any form. The segment from Stinking Springs (west of Corinne) to Ogden still remains in the ownership of the Union Pacific Railroad which now owns the Southern Pacific.

The chain of historical events which has maintained this route much as it was when originally built and as it was only 35 years after that date has preserved an incredibly unique resource for research, better understanding of early railroad history and for public interpretation. The current proposal to restore rail service along the route is an opportunity to more fully preserve this resource and to add to its interpretive potential.

This overview is meant to provide the project proponents, agencies and other interested parties with a context within which to pursue further research and to better understand the resource which this project intends to interpret and restore. In other words, to give a sense of what is known historically about the Promontory Route, what is known to still exist along the line and to suggest some broad historic preservation goals for the project as a whole. The text does not provide a detailed history of all that is known about the construction and operation of the line during its 56 year history, but rather highlights the known history, and provides some additional information from many lesser known sources not heretofore presented in published histories or even unpublished reports. This overview focuses on gaps in our knowledge of the history, and physical nature of the line and associated archaeological sites. In addition, a discussion of the National Register nominations of portions of the line and the NHS which incorporates a significant portion of the line is included. Finally, the overview attempts to identify the needs of this project in regard to historic preservation issues. Four appendices provide more specific information related to known archaeological and historic sites in the area, openings along the route, known stops and stations, and a listing of research institutions with pertinent archival and other research resources.

PREHISTORIC CULTURAL OVERVIEW

The prehistory of the current project area parallels that of Utah and the eastern Great Basin in general and begins near the end of the Pleistocene epoch. The series of cultural changes in this portion of the Great Basin are often divided into five general time frames or phases: Paleo-Indian, Desert Archaic, Formative, Post-Formative, and Historic. Within each of these general phases are a number of separate periods which are marked by a distinct lifeway.

Paleo-Indian: ca. 12,000 to 9,000 B.C.

Sometimes known as the Clovis Period, the Paleo-Indian Period is poorly understood in the eastern Great Basin. What is known about this period comes from very few surface sites and isolated finds of Clovis, Folsom, and Lake Mojave projectile points (Zier 1984:21).
Associations of large faunal remains with Paleo-Indian artifacts like those commonly found in the Great Plains are absent in the eastern Great Basin. Sites and isolates attributed to Paleo-Indian occupation of the area are typically found along the edges of extinct Pleistocene or early Holocene beaches suggesting a possible lake edge-marsh adaptation (Madsen 1982:213; Heizer and Baumhoff 1970).

Desert Archaic: ca. 9,000 B.C. to A.D. 500

The Bonneville Period: 9,000 to 7,500 B.C.

The terminal Pleistocene, called the Bonneville Period in the Great Basin by Aikens and Madsen (1986:154), is associated with the hunting of big game such as extinct bison, camel, mammoth, ground sloth and other large fauna. No doubt, humans of this time also made use of many other animal and plant species. Though evidence of this period of human activity has been found in other parts of the western United States, its presence in Utah is largely limited to surface finds of large lanceolate shaped projectile points along lakeshores in the western part of the state (Aikens and Madsen 1986:154). No sites or isolates from this period have been reported in the vicinity of the current project area.

The Wendover Period: 7,500 to 4,000 B.C.

This period encompasses the time when Pleistocene lakes in the Great Basin greatly receded. The change in environment gave way to a more diversified hunting and gathering subsistence strategy for prehistoric inhabitants due to a wider availability of game and plant foods. Technological changes which occurred along with these environmental shifts included the appearance of an increasing number of grinding implements for wild plant processing, and of atlatls or spear-throwers. Other artifacts known from this occupation include thin slab millstones, manos (hand held grinding stones), L-shaped scapula and splinter awls, antler flaking tools, basketry, and flaked stone tools (Jennings 1978:75).

The Black Rock Period: ca. 4,000 B.C. to A.D. 500

The Black Rock Period (Aikens and Madsen 1986:157) is characterized by a dramatic increase in the occupation of sites, a movement into upland areas and a further diversification of resource exploitation (Aikens and Madsen 1986:157). The technology of the period remained about the same as the Wendover Period until near its end when smaller projectile points are introduced, indicating a shift to the use of the bow and arrow.

Formative: ca. A.D. 400 to 1300

Fremont Culture: A.D. 400 to 1300

Near the end of the Black Rock Period many elements of a settled horticultural lifestyle were introduced into the Archaic lifeway of Utah from the Southwest including the manufacture of pottery and horticultural practices. The Fremont Culture is a label applied to groups exhibiting this different lifestyle who occupied the Utah area from ca. A.D. 400 to 1350 (Marwitt 1986:161). Five geographic Fremont variants are generally recognized today, one of which, the Great Salt Lake variant, falls within the current project area.

The Great Salt Lake Fremont, whose occupation of the area dates from ca. A.D. 400 to 1350, are one of the more well-understood and unusual variants of the Fremont Culture. In general, the peoples of the Fremont Culture followed a subsistence strategy composed of a mixture of hunting and gathering and corn horticulture. The Great Salt Lake variant, however, appears somewhat unique in this regard. The subsistence strategy of this Fremont group consisted almost entirely of exploiting marsh resources through hunting and gathering (Marwitt 1986:167-168). Corn horticulture does not appear to have been practiced at any significant level among members of this variant.

The Great Salt Lake variant is different from the four remaining Fremont Culture groups in other ways as well. Unlike the habitation sites of the other groups, those of the Great Salt Lake variant do not usually contain masonry architecture; pit houses and storage structures were typically composed of earth and wood. The Great Salt Lake variant is also somewhat unique in its artifact assemblages. Artifacts such as cylindrical groundstone pestles, slate knives, etched stone tablets, saws manufactured from deer or mountain sheep scapulae, and bone whistles and harpoon heads are found only among the Great Salt Lake variant of the Fremont Culture (Marwitt 1986:168). The ceramic complex was also unique among this variant. Although the dominant type of ceramic was a common sand-tempered grayware manufactured by the coil-and-scrape method (Great Salt Lake Gray), a less common calcite-tempered grayware manufactured by the paddle-and-anvil method (Promontory Gray) also has been found at sites attributed to the Great Salt Lake variant. The use of the paddle-and-anvil technique to manufacture Promontory Grayware appears unique to this variant; no other groups are known to have employed this technique (Marwitt 1986:168).

Archaeological sites attributed to the Great Salt Lake variant of the Fremont Culture are relatively numerous in the general vicinity of the current rail project. Among the more important and well-studied sites in this area are the Bear River sites (Bear River No. 1 and Bear River No. 2), the Promontory Caves sites, and the Levee and Knoll sites.

Post-Formative: A.D. 1200 to 1400

The Numic Expansion: ca. A.D. 1200 to 1400

The final archaeologically identifiable period of occupation in the project area is that of the Numic Period. This occupation apparently began as Numic/Shoshonean speaking groups migrated into the northern Utah area and replaced the Fremont Culture. It is not yet clear whether the Fremont abandoned the area prior to the arrival of the Shoshoneans or whether resource competition or warfare between the two groups forced the Fremont from the region (Marwitt 1986:171-172). The northern Utah area was occupied by the ancestors of the modern-day Northwestern Band of Shoshone Nation.

There is little known archaeologically about the Shoshonean groups, other than the presence of Shoshone pottery and Desert Side-Notched projectile points. Ethnographically, subsistence activities of Shoshonean groups (bands) involved seasonal movements to specific geographic localities as particular food resources became available throughout the year (Steward 1938). The size and structure of a band fluctuated with changes in the types and availability of resources, but generally included small, family-sized bands through the spring and summer, and large, multi-family groups during the fall and winter months.

Historic (Post-Contact)

The Northwestern Shoshone: Contact to Present

Evidence of early contact between the Northwestern Shoshone and European- Americans is in the form of trade goods found in archaeological sites as well as in the journals of the early trappers. The trade goods, which were most likely exchanged by fur trappers, include items such as metal buckles, a rusted jack knife, U.S. Army buttons, and numerous glass beads (Stuart 1983:7).

At contact, the small bands of what are now recognized as the Northwest Band of Shoshone Nation (Northwestern Shoshone) were practicing a diversified subsistence and economic strategy ranging broadly from forager to collector (Thomas, Pendleton, and Cappannari 1986:265). Living in small familial groups, these Shoshone practiced seasonal movement throughout the year. Highly mobile in the spring, summer, and fall, these small groups would band together in the winter months to form larger, more permanent settlements.

For many years after white settlement in the Box Elder County area, the native groups conducted hostile raids against the settlers, often stealing entire herds of horses and cattle. This prompted many of the initial settlers to build their homes close together in a fort-like manner to offer some protection against the Shoshone raids. These raids ended in 1863, with the signing of the Treaty of Ruby Valley on October 1. This treaty also marked the beginning of reservation life for the Shoshone. At that time, the Northwestern Shoshone were scattered throughout the Idaho, Wyoming, and Utah. Some went to live on the Fort Hall Reservation, while others moved on to the Wind River Reservation in Wyoming, or to Brigham City and Promontory, Utah (All Idaho Indian Expo 1990:57). Today, the Northwestern Shoshone are headquartered in Blackfoot, Idaho.

ETHNOGRAPHIC OVERVIEW

One Native American group has been identified as having traditional ties to the territory encompassing the current project area. This group is the Northwest Band of Shoshone Nation (or Northwestern Shoshone). The following section provides a very brief ethnographic discussion of this group.

The bulk of the Northwestern Shoshone population was primarily located in northern Utah and southern Idaho (Madsen 1980:13, 30, and 33). In fact, they were the only Northern Shoshone group whose "homeland" was located within Utah. The Northwestern Shoshone were hunters and gatherers who practiced a subsistence lifeway based on the seasonal round. The mountains of northern Utah had substantial populations of large game animals such as deer, elk, and moose (Thomas, Pendleton, and Cappannari 1986:265-66; See also Steward 1938 for a good review of Shoshone subsistence). Small game animals, such as groundhog, prairie dog, and badger were also important sources of meat. In addition to these resources, the group also caught fish along the area's various rivers and gathered a wide variety of plant resources, especially marsh resources (Stuart 1980:19).

The seasonal round of subsistence activities for the Northwestern Shoshone likely began during the early spring. At that time, the various bands of the tribe that had gathered together in larger tribal units for the winter would split into smaller, extended family groups to exploit the various resources. Some would pursue big game in the mountains east of the Great Salt Lake, while others fished and gathered plant resources along the rivers and in the marshes (Thomas, Pendleton, and Cappannari 1986:265-66). Throughout the year, birds and other small game were hunted, and berries and other flora were collected.

The impact of contact with whites on the Northwestern Shoshone became evident by the 1820s, when the fur trade was in full swing in the west. Hundreds of trappers associated with the Hudson's Bay Company, the Rocky Mountain Fur Company, and the American Fur Company were exploiting the resources of northern Utah (Thomas, Pendleton, and Cappannari 1986:263). Trading between the trappers and the Shoshone became common practice, and the native group began acquiring more and more of the outsiders' technology. In 1850, Mormon settlers, who had arrived in the Salt Lake Valley in 1847, moved north to the Brigham City area and established a small but rapidly expanding community. Tension between the settlers and the Shoshone groups increased as the new arrivals exploited the area's resources with increasing intensity, and confrontations between the native groups and the settlers occurred frequently. In 1868, the federal government successfully brought and end to the conflict. It was at that time that the Treaty of Fort Bridger was signed and the Fort Hall Reservation in Idaho was established (All Idaho Indian Expo [AIIE] 1990:44). The reservation was intended to house all of the Northern Shoshone from southern Idaho and northern Utah but did not include provisions for the Northwest Band (Murphy and Murphy 1986:302-303). While the Fort Hall Reservation was not intended for the Northwestern Shoshone, many of them did move onto the reservation. Others moved onto the Wind River Reservation in Wyoming. Still others, in conjunction with the Mormon Church, established small communities near Brigham City and Promontory (AIIE 1990: 58-59). In 1900, when land allotments became available on the Wind River Reservation, many Northwestern Shoshone left the northern Utah communities and moved to the Wyoming reservation. Others remained until World War II, when many went to work in for various Defense Industry

companies or moved to Idaho or Wyoming (AIIE 1990:59).

HISTORY OF THE PROMONTORY ROUTE AREA

Introduction

Historically, this portion of the state of Utah was largely undeveloped until the Transcontinental Railroad neared completion in 1869. Although the nearby communities of Brigham City and Bear River City had been established by members of the Church of Jesus Christ of Latter Day Saints (L.D.S. Church or Mormons) in 1850 and 1866, respectively, the land around the current project area was not developed nor settled (Van Cott 1990:24, 50).

For purposes of the present project, a brief, but broad historic context will be developed from the earliest history of Utah into the current time period. In Box Elder County, as in much of the rest of Utah, the fur trade, exploration and settlement, and economic development have all been important historical themes. For the purposes of the current project, the history of the area is divided into periods as follows: Exploration, Settlement, Commercial Development, Industrial Development,

Depression and World War II, and Post-war.

Exploration (1824-1850)

This period is marked by the initial exploration of the area by trappers and Mormon pioneers and the first contact with the native Shoshone Indians by European-Americans. Neither fur trapping activity nor initial Mormon exploration resulted in the establishment of a permanent settlement in the project area.

The first European-American exploration of the general project area was a product of the western fur trade. The Lewis and Clark expedition of 1804-1806 revealed that the rivers and streams of the North American West had an abundant supply of beaver. Hats made of beaver fur were popular in England and Europe in the early nineteenth century and were in great demand, so entrepreneurs rapidly formed fur companies to exploit the vast, untapped North American beaver supply (Bartlett and Goetzmann 1982:26-30).

The fur trade in the area that later became Utah originated from three main sources: traders from New Mexico licensed by the Mexican government, British expeditions from Oregon, and American interests based in St. Louis. By the spring of 1824, trappers of the Ashley-Henry Fur Company of St. Louis had arrived in northern Utah to trap in the Rocky Mountains (Bradford 1994:209).

Probably the first white explorer to venture into the project area was Jim Bridger. During the winter of 1824-25, Bridger and other members of John Weber's trapping party were camped in the Cache Valley, northeast of Corinne. A dispute arose over the southern course of the Bear River and Bridger was selected to resolve the question. Bridger traveled down the Bear River to the Great Salt Lake, passing through the project area near Corinne (Vestal 1946:64). Numerous other trappers, including Peter Skene Ogden and Joseph R. Walker, explored in the vicinity of the project area during the 1820s and 1830s (Utah State Historical Society 1988:5). These trappers provided information about the native Shoshone inhabitants and reports of the region's fertile land and abundant water.

The next wave of exploration came after the Mormon migration to Utah in 1847. Just a few weeks after the arrival of Mormon pioneers in the Salt Lake Valley, Brigham Young sent a small exploring party into the Cache Valley. The party traveled north to the Bear River and descended Box Elder Canyon on their return trip to the Salt Lake Valley. Two years later, William Davis explored the area with the intent of establishing a settlement for his family (Chestnutwood 1950:34-36).

Settlement (1851-1863)

William Davis and his family returned to the area in 1851 and built a log house just west of the current townsite of Brigham City, roughly four miles southeast of the future site of Corinne. Within a year, they were joined by several other families who built log houses that were joined together to form a fort, known as Davis Fort or the Old Fort (Forsgren 1937:257). The Mormon settlement on traditional Shoshone homeland resulted in raids by Shoshone bands in the ensuing years. The fort became a haven for the white settlers, who only ventured outside its confines to tend to crops or livestock. In 1852, a slight decrease in hostilities led the residents of the fort to move onto farm plots which had been laid out the previous year. The Shoshone raids resumed in 1853 and Brigham Young ordered the settlers to return to the fort. In addition to the original occupants, about two dozen more families had made their homes at Davis Fort by that time (Tullidge 1889:291).

In order to strengthen and develop the small settlement, Brigham Young ordered Mormon leader Lorenzo Snow to take fifty families from the Salt Lake Valley to Box Elder, as the settlement was known, in 1854. The new settlers were specially selected to include a schoolteacher, a mason,

carpenters, blacksmiths, and other skilled craftsmen who would ensure the economic success of the community (Arrington 1964:200). Lorenzo Snow and Jesse Fox completed a survey for the townsite, dividing it up into half-acre blocks, and renaming it Brigham City in honor of Brigham Young. This townsite, located to the east of Davis Fort at the location of present-day downtown Brigham City, was on higher ground than the original site, providing better drainage for building foundations (Chestnutwood 1950:44-45).

With the influx of additional settlers, residents of Brigham City resumed the establishment of farms, many of which extended to the west of the settlement, toward Corinne. They also resumed grazing their livestock in the open expanse of land east of Corinne, within the current project area. Hostilities between whites and the Shoshone increased once again in the early 1860s throughout northern Utah, due to the increasing number of farmers settling in the area and mining parties passing through on their way to Montana. Under the leadership of Chief Bear Hunter, the Shoshone struck back in 1862, raiding Mormon cattle herds and attacking miners. Conflict culminated the following year in the Bear River Massacre (formerly referred to as the Battle of Bear River), in which soldiers from Camp Douglas in Salt Lake City killed at least 250 Shoshone near the village of Franklin, Idaho. Chief Bear Hunter was killed, but the remainder of his band, along with nine other Shoshone bands, signed the Treaty of Box Elder in July of 1863, bringing peace to the region (Bradford 1994:498).

Commercial Development (1864-1896)

In 1864, a large number of Scandinavian immigrants arrived at Brigham City, increasing the population of the settlement to 1,600 and fostering the development of manufacturing, crafts, and retailing (Arrington 1964:200). In order to promote economic self-sufficiency, Lorenzo Snow oversaw the establishment of the Brigham City Cooperative, a joint-stock mercantile enterprise. The cooperative expanded quickly after shares were offered to residents at $5.00 per share, allowing the venture to establish a tannery, wool factory, and a shoe shop. By 1870, the cooperative was the only store in Brigham City, with seven directors and 126 stockholders (Arrington 1964:201-202). The biggest economic boon to Brigham City and the surrounding area occurred in 1869 with the completion of the Transcontinental Railroad by the Union Pacific Railroad and Central Pacific (CP) Railroad.

As the two rail companies approached the end of their respective lines at Promontory Summit, a frenzy of activity began within the current project area. In March 1869, several former Union Army officers, reportedly including General Patrick Connor, and a handful of non-Mormon merchants from Salt Lake City established the settlement of Corinne, at the eastern end of the current project area (Thompson 1982:149; Madsen 1994:117). The city was established, in part, to take advantage of the economic boon that would soon be created by the joining of the rails and, in part, to create a Gentile (non-Mormon) community that could challenge the Mormon enclave of Salt Lake City for control over the state. Known variously as “the Burg on the Bear [River],” “Connor,”and “Bear River,” the settlement eventually became known as Corinne (Van Cott 1990:91).

The UP took advantage of the existence of the community and established a construction camp within the settlement. Unlike many of the UP’s other construction camps, this one was intended to be permanent (Thompson 1982:149). As such, the rail company constructed permanent features, such as railroad shops and roundhouses.

Within weeks of the “driving of the golden spike” on May 10, 1869, the settlement housed nearly 1,500 residents, roughly 1,000 of whom were permanent citizens of the community (Madsen 1994:117). The small settlement established by a handful of men had grown into Utah’s second largest city with over 500 buildings, including; 28 saloons, 24 gambling halls, a cigar factory, a flour mill, a brickyard, several hotels, two theaters, an opera house, five newspapers, and many houses of prostitution (Thompson 1982:149). A large section of land was also set aside as what town leaders hoped would soon become the site of a state university. The settlement became the central shipping

point for goods being transported to and from the capital at Salt Lake City.

As the community of Corinne grew during the 1870s, it became a haven for Gentiles. Of the roughly 1,000 permanent residents in Corinne, not one was Mormon (Madsen 1994:117). The town was known for its raucous, untamed lifestyle which included near-daily murders (Thompson 1982:150). Given the town's large population and the wealth engendered by the railroad, Corinne soon became a political force in the state. In fact, the American Liberal Party, a non-Mormon political group, was headquartered in Corinne (Carr 1972:8). Political leaders from the community, with the support of several politicians in Washington, D.C., attempted to break the political and economic monopoly held by the Mormon Church. These leaders petitioned Congress to have the state capital moved from Salt Lake City to Corinne. When this effort failed, they requested that the northern one degree of latitude of the state, which included the town of Corinne, be separated from the Utah Territory and added to the state of Idaho (Madsen 1994:118). This effort also failed. A similar fate was met by attempts to install J. A. Williamson, a founder of the town, as territorial governor. This failure was due, in part, to the award of voting rights for women in the territory by the Mormon dominated Territorial Legislature. This ensured that Mormon voters outnumbered non-Mormon voters and that control of the state remained solidly in the hands of the L.D.S. Church (Madsen 1994:118). These political defeats signaled the beginning of the end for Corinne.

Meanwhile, at the western end of the project area, the small settlement of Promontory (at Promontory Summit) was established in 1869. As it turned out, the town served briefly as both the UP and CP's temporary railroad terminus. With its origins as a railroad construction camp, Promontory once encompassed a bustling earthen "main street" that consisted of a few lumber shacks, false-front lunch counters, candy shops, saloons, gambling halls, stores, and hotels (Carr 1972:10). It also housed a depot, water tower, offices, and dormitories associated with the railroad.

The settlement, which would have resembled an upscale tent city, served as the terminus for both the CP and UP companies. As such, many tons of freight passed through the depot during its years of operation. By the end of 1869, approximately 30,500 passengers had also made their way through the station in Promontory (Carr 1972:10). Like Corinne, Promontory was known for its wild lifestyle and lawlessness, with its share of drunken brawls, con men, and prostitutes. Similar to many of the so-called "Hell-on-Wheels Camps" located on the line between there and Corinne, however, Promontory was destined to have a short, but exciting existence.

In between Corinne and Promontory, three small settlements were established in 1869. All three settlements, Kolmar, Blue Creek, and Balfour, were established as temporary construction camps by the UP (Thompson 1982:148-149; Van Cott 1990:21, 222). As such, these settlements were short lived.

The easternmost of these short lived construction camps was Balfour, located east of Corinne. In its brief time of existence the settlement boasted of several gambling halls (tents) and saloons to accompany the tent houses of the workers. When construction of the rail line passed the vicinity of Balfour, the settlement was abandoned and the workers moved to the next camp (Thompson 1982:149).

West of Balfour, the construction camp settlement of Blue Creek was established. Also known as Deadfall, or Hell's Half Acre, Blue Creek rivaled Corinne as the area's rowdiest settlement. Drunkenness, gambling, and murders were commonplace in the small, temporary camp. During a visit to the camp, photographer C.R. Savage, in a letter home to his wife, said that in the 25 days he had been in the camp, 24 men had been killed (Thompson 1982:148). Blue Creek, like so many other temporary camps, was abandoned, as workers moved further down the line to continue construction of the railroad.

Kolmar, a few miles west of Blue Creek, was the westernmost camp established by the UP. It was also the largest and, as one newspaper described it in March 1869, "the most lively" (Thompson 1982:148). Also known as Lampo or Junction City, Kolmar survived for several years as a rail town, complete with a dance hall and several saloons, and then as a water station along the rail line. By 1903,

with the completion of the Lucin Cutoff, Kolmar became yet another ghost town.

The completion of the transcontinental railroad in 1869, at Promontory provided the opportunity for the exportation of local goods to outside markets. Farmers and millers from Brigham City and the surrounding area, took advantage of this opportunity to reach a broader, wealthier market and shipped their products to new markets in both the West and East.

In order to consolidate the northern Utah Mormon settlements and provide a market for their agricultural and manufactured products, Mormon officials proposed a railroad connecting Brigham City with Ogden, Logan, and Franklin, Idaho (Arrington 1958:283). Seventeen leading church and business leaders of northern Utah organized the Utah Northern Railroad (UNRR) in 1871. The company broke ground in a ceremony held in Brigham City and by July of 1872 freight and passenger trains were running twice daily from Brigham City to Hampton's Station, on the edge of the Cache Valley, twenty-three miles away. In 1874, the line from Brigham City to Ogden was completed, linking Brigham City with the UP and Utah Central lines (Arrington 1958:284).

The completion of the Utah Northern line from Ogden to Franklin, Idaho, effectively cut off Corrine as a link for the shipment of goods to the mining towns of western Montana (Bradford 1994:118). Without any political power, the community of Corinne could not prevent the construction of the narrow-gauge railroad (Carr 1972:9; Madsen 1994:118). The UNRR offered faster, more efficient transport of goods from the booming northern mines and eastern industrial centers that composed the bulk of Corinne's clientele. Without the business created by these economic links, the merchant community of Corinne no longer had a means of financial support. Seeing the fiscal disaster that was about to befall them, most merchants immediately left the community for Ogden or other rail centers (Madsen 1994:118).

Within a few short years of the UNRR's completion, the once-bustling and rowdy town of Corinne was all but deserted. By the close of 1877, most of the buildings in the town had been torn down for lumber or had been moved elsewhere (Carr 1972:9). However, Corinne was saved from permanent extinction when several Mormon farmers, many of whom lived in the surrounding area, moved into the community, buying up the ground they had considered unholy and turning it into productive farms (Madsen 1994:118). Today, Corinne is the antithesis of what it once was and what its founders and early residents intended it to be. It exists now as a small, predominantly Mormon farming community.

Promontory, too, was doomed to a slow but inevitable decline; the remoteness of the settlement and the barren environment in which it existed combined with more direct economic factors to push Promontory into extinction by 1879. The slow death of the settlement began in November 1869, when the railroad terminus was relocated to Ogden (Carr 1972:10). With no passengers debarking at the Promontory depot, the town merchants abandoned their businesses and moved elsewhere. Within a decade, railroad operations composed the only establishments remaining in Promontory. Even these rail operations ceased in 1903, when the Southern Pacific completed the Lucin Cutoff across the Great Salt Lake and largely bypassed the original transcontinental line (Box Elder County 1996:399).

Industrial Development (1897-1928)

One of the first large-scale industrial projects in the general area was the Ogden Portland Cement Company plant, which opened northwest of Brigham City in 1909 (Forsgren 1937:31). By 1913, the plant was producing 700 barrels of cement a day, but ceased operation sometime prior to 1937, either because of a fire (Forsgren 1937:53-54) or because the owners put their resources into operations in Ogden (Chestnutwood 1950:119).

Another major industrial development in Brigham City came with the success of the sugar beet

industry in Box Elder County. In 1903 the Utah-Idaho Sugar Company opened a factory in Garland and expanded rapidly during its initial years of operation. By 1915 the plant was harvesting over 125,000 tons of beets per year, shipping beets in and out of stations along the Promontory route. The company expanded its operation in 1916, opening a factory in Brigham City (Forsgren 1937:53-54). The sugar beet industry declined during a post-World War I agricultural depression and the Great Depression of the 1930s. As a result, the Brigham City factory ceased operation in 1931 (Forsgren 1937:54).

At the same time that the area was experiencing industrial growth, it was also developing an urban transportation network. In 1904 a system of street cars began operating in nearby Brigham City. Six years later the Ogden Rapid Transit Company brought rail service through the center of Brigham City (Forsgren 1937:38). In 1914 this company merged with a company in Logan to form the Ogden, Logan & Idaho Railway, and the new company constructed a 44-mile line connecting Brigham City and Logan (Carr and Edwards 1989:23). The company relocated the track running through the center of Brigham City to a corridor on the west side of town (Forsgren 1937:38). Several railroads operated the line until 1947, when the Utah Idaho Central Railroad Corporation abandoned it and scrapped large portions of the track (Robertson 1986:303).

Depression and World War II (1929-1945)

The local economy languished during the Great Depression which gripped the nation in the 1930s. As previously mentioned, the sugar beet industry was adversely affected, contributing to the demise of the Utah-Idaho Sugar Factory in Brigham City in 1931. Because agriculture remained the dominant segment of the economy, residents in the area did not suffer as severely as those in other towns in Utah that relied more on manufacturing. Throughout the 1930s, Brigham City remained a small agricultural town specializing in fruit production (Bradford 1994:52). Comparatively few emergency relief measures were enacted; in 1933 Box Elder County had the lowest relief expenditure in Utah at $2.31 per capita (Bluth and Hinton 1989:487).

The massive mobilization during World War II helped to revive the Brigham City economy. Demand for agricultural products soared and the community enjoyed the benefits of increased employment. The opening of Bushnell General Hospital, built in 1942 to treat wounded soldiers, provided a major boost to the local economy. The sixty-building facility provided jobs for hospital staff and a market for the products of local farmers (Bradford 1994:52).

Post-war (1946-Present)

Having served its wartime purpose, Bushnell General Hospital closed in 1947. Three years later the Bureau of Indian Affairs (BIA) converted the facility into the Intermountain Indian School, initially attended only by Navajo students. In 1973, the BIA reorganized the school as an intertribal institution. In 1982, the Intermountain Inter-tribal School was attended by over 800 Native American students (Roylance 1982:411). The facility was closed in the late 1980s and many of the building were demolished.

The opening of a Thiokol Chemical plant in 1950 significantly fueled post-war growth in Brigham City. The manufacturer of the Minuteman missile and the space shuttle booster rockets represented the largest manufacturing enterprise in the history of Box Elder County (Bradford 1994: 52). By 1988, Thiokol was employing 5,000 people at the Brigham City facility (Utah State Historical Society 1988:5). Other large industrial facilities operating in Brigham City include Colorado Steel, Nucor, and Vulcraft.

THE TRANSCONTINENTAL RAILROAD

Histories and stories of the construction of the Transcontinental Railroad are found in a vast array of literature from children's books to technical reports. It is a subject which has fired the imagination of generations of people, both lay and scholar. In part, perhaps, this stems from amazement that an undertaking of such magnitude was even possible. During a time when the country was torn apart by Civil War, and in an era when technology to complete such a feat was limited, there were still people with a vision and the means to make it happen. Part of the incentive for such an undertaking was the fact that it was vital for the still-young nation to be physically bound together, to permanently solidify its territory. However, the dream to bind the territory together and the eventual decades of effort to carry out construction of the Pacific Railroad (as it was originally called), did not begin during the Civil War. It didn't even begin during the turbulent years leading up to that strife filled period. The roots of the movement began in the 1820's, when the first network of canals was being completed along the Eastern Seaboard of the U.S. The canals provided cheaper and more efficient transportation, thus encouraging the growth of towns and commerce. This growth continued into the 1830's and spread westward, beyond the canal network, through the introduction and spread of railroads. By the 1850's lines had been built into the Midwest to the Mississippi River. The desire to continue the expansion and to eventually span the continent with a Pacific Railroad grew and eventually became one of the great public debates of the mid 19th Century (Utley 1960:1).

However, this was not limited to a desire to bond the two sides of the country nor even North America as a whole. This would not be enough incentive. Promoters of the railroad were foremost interested in its commercial importance, even beyond this continent. As historian, Robert Utley notes (1960:2):

> The settlement of the Oregon question in 1846, the discovery of gold in California in 1848, and the admission of California to statehood in 1850 swelled the population of the Pacific Coast. With commerce almost wholly dependent upon the long, slow journey around Cape Horn or across the Isthmus of Panama, both East and West foresaw a large and lucrative trade speeding by rail across the continent.

The proponents saw the potential for diverting much of the trade between Europe and Asia from ship to rail; in other words, making the U.S. a land bridge for that trade. However, with all of this in mind, the most coveted objective was really the desire to develop trade with China, Japan and other Asian areas (Dillon 1892: 254).

The U. S. Government supported all of these reasons, though for its part, the most important reason to actively promote and financially support this project, was the potential effect that a transcontinental railroad would have upon domestic political and economic matters. From the government's perspective, the railroad had the potential to quickly end hostility with the American Indians and to significantly reduce the expense and speed delivery of mail and government supplies (Utley 1960:3). Moreover, the outbreak of Civil War in 1861 provided a clear indication that the bonds between California and the Union needed strengthening.

Yet another governmental incentive resulted from residual effects of the Trent Affair of 1861. The British packet Trent bound for England, with two Confederate Diplomats aboard, was stopped near the Bahamas and the diplomats arrested (Garraty 1966: 410). This incident was considered a violation of International law by the British, and nearly resulted in war between England and the Union until the men were released. In anticipation of such a war, the British readied their colony, Canada, for military action. In response, the American government was forced to examine its forces. During this examination its was realized that the Pacific Coast of the U.S. was relatively

defenseless.

Thus, many economic and political incentives for both business and government existed at the time to encourage the construction of a Pacific Railroad. For business interests, the completion of the Suez Canal in1869 destroyed the potential economic trade value of a U.S. rail bridge. Nevertheless, completion of the railroad would eventually fulfill all of the other expectations and more.

Earnest efforts to initiate construction began during the 1840's, when a New York merchant involved with the China trade began promoting the idea (Brown 1933: 209-224; Galloway 1989: 32). Asa Whitney became obsessed with this project leading him to write articles, lecture to the public and talk with influential politicians about the idea. By the 1850's, most nationally prominent politicians were in favor of such a plan with a measure of federal aid. But agreement could never be reached on an eastern terminus, a problem which was compounded by the lack of information about the merits of several possible routes that the railroad could follow (Galloway 1989: 36-37). This deficiency resulted in the government commissioning a series of comprehensive Pacific Railroad surveys to be carried out by the Army Engineers between 1853 and 1855. The results of these surveys, including two northern and two southern routes, were politically objectionable to both Northerners and Southerners. As a result, the issue remained stalemated until after the Civil War began in 1861. This event conveniently removed Southern objections to a northern route. This turn-of-events, coupled with strong lobbying efforts by Theodore Judah, a California railroad engineer, and many eastern promoters, convinced a beleaguered Congress to pass a bill in 1862, which threw the support of the U. S. Government behind the effort (Utley 1960: 11). President Lincoln supported the plan and signed the bill into law on July 1, 1862. This act authorized the Central Pacific Railroad and Union Pacific Railroad and Telegraph Company to build the Pacific Railroad from Omaha to Sacramento.

CP began construction in Sacramento on January 8, 1863 and the UP began its portion of the line in Omaha on December 2, 1863. The initial construction efforts at both ends were quite limited. The Civil War caused a variety of problems for the railroads. It sent supply rates soaring, severely limited available labor and material and dried up capital investment potential. By February 1864, only 18 miles of rail had been laid in California and none were laid westward from Omaha until the spring of 1865. The adverse conditions of the time forced the railroads to request further assistance from the government, a request which was granted in the form of the Act of 1864. This act virtually doubled the resources available to the companies and insured the project's completion (Athearn 1976: 31; Utley 1960: 14).

Between the years 1864 and 1869 a total of 1,775 miles of rail were laid, linking the continent with a band of steel. This effort was the largest single engineering and construction project undertaken in the U.S. to that time. The logistical, engineering, and financial tasks laid before these railroad companies were enormous. Following is a very brief chronology and description of the engineering and construction efforts, the obstacles faced and the solutions found to overcome them.

The U.S. Government offered lucrative incentives, in the form of land grants, rights-of-way and first-mortgage government bonds (Galloway 1989: 61). Despite the financial encouragements, however, these covered only about half of the capital necessary to build the Pacific Railroad. Because of this, private investment capital was critical to maintain the solvency of both the UP and CP Railroads. Both companies devised the means to solve this dilemma by creating a number of indirectly held companies, which carried out the construction work, but were not legally controlled by the Federal legislation, which directed the efforts of the two main railroad companies (Riegel 1926: 75-76; Carman and Mueller 1926: 326-341).

Construction of the transcontinental line was fraught with exceptionally difficult obstacles which sorely taxed the technological capabilities of the day. The CP spent four years surmounting

the Sierra Nevada Mountains. The company faced the necessity of constructing deep fills, bridging deep canyons with trestles, and cutting through solid granite for 15 separate tunnels (Galloway 1989: 145-150). The CP did not reach Reno, Nevada until June 19, 1868. Reno lay 154 miles from the beginning of track in Sacramento. The 536 mile distance from there to Promontory Summit in northern Utah, however, was completed in less than 11 months (Galloway 1989: 160).

The UP crews did not experience the same types of obstacles as the CP, but they too encountered great hardships. Track laying in the Platte River Valley of Nebraska was relatively easy, but the surveyors and construction workers soon encountered stiff opposition from Sioux and Cheyenne Indian war parties. Major skirmishes occurred in Nebraska and Wyoming between 1865 and 1867 (Dodge 1965; Sabin 1919: 236-240; Grinnell 1956: 263-268; Davis 1894: 141). The UP crews also encountered some difficult terrain in the Black Hills and, especially, in Echo and Weber canyons in Utah (Utley 1960: 34-35).

As both railroads approached Utah, it was well understood that negotiations needed to be completed with BrighamYoung, President of the Mormon Church, and former Governor of the Utah Territory, in order to complete the route. Young's desire was to see the railroad descend Weber Canyon and veer south to Salt Lake City and around the south end of the Great Salt Lake (Arrington 1966: 260). General Grenville M. Dodge, Chief Engineer for UP, however, preferred the northern route through the Promontory Mountains (Dodge 1965: 27-28). The CP concurred in this assessment. Despite this basic disagreement, Brigham Young still agreed to provide needed labor and supplies to both the UP and CP Railroads. Young was able to carry out these promises through subcontracts to a number of Mormon businessmen who carried out the work with large crews drawn from the local population. Not surprisingly, Young soon organized a new railroad company to build from Ogden to Salt Lake City once the transcontinental line was completed to Ogden. It became known as the Utah Central Railroad (Arrington 1966: 270).

Despite the many negotiations and bills passed by Congress in support of transcontinental railroad construction, neither the U. S. Government nor the UP or CP had ever developed a plan of where the lines should meet. As a result, for several months in 1869, surveyors and construction crews from both railroads continued their work on grading new lines well past any reasonable point of mutual connection. In early 1869, CP crews were grading as far east as Echo Summit near the Wyoming border while Union Pacific crews were working in the vicinity of Humboldt Wells, in western Nevada (Utley 1960: 18). The real purpose of the extra grading work performed by the railroads was to gain both additional government subsidies and to control the potentially profitable Utah market. After much disagreement and negotiation, the two railroads agreed to join the line at Promontory Summit, Utah, on May 10, 1869. This agreement was approved by Congress on April 10, 1869 (Trottman 1923: 64).

PROMONTORY ROUTE HISTORY

Of particular concern to the present project is the engineering, construction and operating history of the rail route between Corinne and Promontory, which, after 1904 became known as the "Old Line" or "Promontory Route". This occurred after the mainline bypassed it through construction of the "Lucin Cutoff", a trestle structure built across the Great Salt Lake.

Initial examinations of possible routes for the proposed railroad line through the northern portion of Utah occurred as early as 1863, when Peter A. Dey, operating under the direction of UP Vice President T. C. Durant, made some preliminary explorations of the Wasatch Mountains. In 1863 and 1964, S. B. Reed, who was General Superintendent and Engineer of Construction for the UP, and also working under the direction of Durant, examined passes in western Wyoming and Utah through which the railroad could be constructed (Rigdan 1951: 1480). Reed's recommendation of the route from Echo Summit and down along the Weber River was the one upon which the UP grade was built.

Following these initial reconnaissance surveys, more detailed surveys were carried out by engineers under the direction of Chief Engineer G. M. Dodge in 1867, and during 1868, final location surveys were made from the mouth of Weber Canyon to Humboldt Wells in Nevada. The map of this final survey was filed in the office of the Secretary of the Interior in November 1868 (Rigdan 1951: 1480). Engineers, who worked under the direction of Dodge were J. Blickensderfer, Thomas H. Bates, the latter was division engineer at Salt Lake, F. S. Hodges, J. F. McCabe, and George W. Hitz (Rigdan 1951: 1481).

During this same period, the CP was making its own surveys of the proposed route through the area. In 1867, CP engineers explored the Wasatch Range and valleys and basins into Wyoming, as far as the Ham's Fork River. During the same year, CP engineers made a preliminary survey to the summit of Echo Canyon and filed a preliminary survey with the Department of the Interior in 1868. These surveys, and those in Nevada, were carried out under the direction of Engineer Butler Ives and his assistants William Epler and S. M. Buck (Rigdan 1951: 1481).

Though the general route of the railroad was established, there was still a question about whether it should go north around the Great Salt Lake or south through Salt Lake City and around the southern end of the lake. This was no small matter considering the potential economic value that the railroad would have for the Mormons if it passed through their largest city. This was a route which Brigham Young, former Territorial Governor and spiritual leader of the state strongly desired and lobbied for. Young had particular leverage, as well, since both railroads knew that they needed to deal with him for labor and supplies in railroad construction through the territory. In May 1868 Samuel Reed visited Salt Lake City and negotiated a contract for grading with Brigham Young. No decision was announced to Young at this time concerning where the route would be taken through the territory, however. Nevertheless, a contract was agreed upon in which Young would provide grading for the railroad for a distance of 50 to 90 miles from the head of Echo Canyon westward, down the Weber River Canyon to the Great Salt Lake Valley (Reeder 1970: 30).

If the route was to go south through Salt Lake, Young's crews would grade to Salt Lake City, if it was to go north, they would grade to the lake. All work was to be completed by November 1968 (*Deseret Evening News*, May 20, 1968). Young's intention when he signed the contract was to assign the work to prominent members of the L.D.S. Church or to ward bishops. His sons, Joseph A. Young, Brigham Young, Jr., and John W. Young acted as his agents in the subcontracting agreements. Men to whom the contracts were let included Bishop John Sharp, Joseph A. Young, Levi Stewart, Thomas E. Ricks and John Taylor (*Deseret News*, July 29, 1868; Reeder 1970: 32).

Detailed surveys confirmed that the best route was around the north end of the lake and Chief Engineer Dodge was forced to make this choice for the route. Dodge describes the strained relations that this caused with Brigham Young at the time (Dodge 1965: 33):

> It was our desire and the demand of the Mormons that we should build through Salt Lake City, and we bent all our energies to find a feasible line passing through that city and around the south end of Great Salt Lake and across the desert to Humboldt Wells, a controlling point on the line. We found the line so superior to the north of the lake that we had to adopt that route with a view of building a branch to Salt Lake City, but Brigham Young would not have this and appealed over my head to the Board of Directors, who referred the question to the Government directors, who fully sustained me. Then Brigham Young gave his allegiance and aid to the Central Pacific, hoping to bring them around the south end of the lake and force me to connect with them there.... When the Central Pacific engineers made their survey President Young returned to his first love, the Union Pacific, and turned all his forces to aid that road.

The CP Railroad engineers came to the same conclusion as Dodge did about which direction was best. The route around the northern end of the lake was the most practical. Despite his bitter disappointment that the railroad was not to be built through Salt Lake City, Young, being practical, contracted with the CP Railroad for grading as well. On August 4, 1868 he wrote Franklin D. Richards and made an agreement to grade 200 miles of roadbed for the CP (Reeder 1970: 45). Young's principal Mormon subcontractors for this work included Ezra T. Benson of Logan, and Mayor Lorin Farr and Chauncey W. West, both of Ogden. They were to prepare the roadbed from Ogden to Monument Point, 60 miles northwest (*Deseret News*, November 25, 1868). Apparently, Church President Lorenzo Snow also held a contract for work on the CP since he reported working in the Promontory area in December 1868 (*Deseret News*, December 16, 1868). Interestingly, all of these crews (even beyond those previously listed), UP and CP subcontractors alike, are mentioned camping on the east side of Promontory in April 1869 (*Salt Lake Daily Telegraph*, April 13, 1869: 3):

> Here, at the south-east base of the Promontory work, lie the headquarters of Messrs. Benson, Farr & West, & those of Messrs. Sharp & Young. One mile west, upon a lovely eminence of full view, is that of Maj. L.S. Bent and L. Carmichael & Co. Immediately above are their working camps covering a broad space of slope. Then to the northward are the camps of M.S. Hall, Hill & Green, Sharp & Young, Benson, Farr & West, and Young & Snow. These represent the working force upon the almost superhuman task of making a railroad grade across the Promontory – all told U. P. and C. P. probably not less than six thousand men.

Track laying work and telegraph line construction for the whole of the UP was undertaken by the Casement Brothers, Jack and Dan. They also carried out some of the grading. This represented the first major job for the two brothers, working under the company name J. S. & D. T. Casement. General Dodge described how the Casement brothers worked (Dodge 1965):

> The entire track and a large part of the grading the UP Railway was done by the Casement brothers, General Jack Casement and Dan Casement. General Casement had been a prominent brigade and division commander in the western army. Their force consisted of 100 teams and 1000 men, living at the end of the track in boarding cars and tents, and moved forward with it every few days. It was the best organized, best equipped and best disciplined track force I have ever seen. I think every chief of the different units of the force had been an officer of the army, and entered on this work the moment they were mustered out. They could lay from one to three miles of track per day, as they had material, and one day laid eight and a half miles. Their rapidity in track laying as far as I know, has never been excelled. I used it several times as a fighting force, and it took no longer to put it into the fighting line than it did to form it for its daily work. They not only had to lay and surface the track, but had to bring forward to the front from each base all the material and supplies for the track and for all workmen in advance of the track.

There is some dispute about costs per mile of track laid, but Samuel Reed ledgers in the Western Heritage Museum indicate prices paid to the Casements per mile for mainline track in each of the years the railroad was under construction (Rigdan 1951: 253):

July	1866:	$750/mile
May	1867:	$750-850/mile
Feb.	1868:	$850/mile
April	1868:	$850/mile
April	1869:	$1100/mile

While grading and track laying moved rapidly along for the UP, the CP, too, employed its crews to move as rapidly as possible. Both railroads undertook grading along the Promontory Route from Corinne to Promontory and, in fact, resulted in surveying and grading hundreds of miles past Promontory in both directions. The area in the mudflats west of Corinne and north of Bear River Bay posed few construction problems (Utley 1960: 43). This was one of the stretches of the route, however, where the CP built grade parallel to that of the UP during the period of intense competition between the two companies. In fact, because a meeting point for the two lines was never planned and there was a clear indication that the UP would be building west of Ogden before the CP could reach it, Leland Stanford of the CP chose to buy land and place surveyors and grading crews in this area in 1868. As a result of this foresight, the CP was eventually able to leverage an agreement which placed their eastern terminus in Ogden (Sabin 1919: 293-295).

The UP did not even begin construction west of Ogden until February, 1869 (Utley 1960: 46). By March 1869 construction activity by both railroads was moving at a frenzied pace. The UP reached Ogden on March 8, 1869, and Bonneville by mid-March (*Salt Lake Daily Telegraph* March 8, 15, 1869). A letter to the *Deseret Evening News* dated March 25, 1869 (*Deseret Evening News*, March 30, 1869), provides a first hand account of this activity in the area between Corinne and Junction City (now known as Lampo Junction):

> Work is being vigorously prosecuted...both lines running near each other and occasionally crossing. Both companies have their pile drivers at work where the lines cross the [Bear] river [near Corinne]. From Corinne west thirty miles, the grading camps present the appearance of a mighty army. As far as the eye can reach are to be seen almost a continuous line of tents, wagons and men.

The irritation that the close construction in this area caused the railroad owners was expressed by Leland Stanford of the CP in a March 14, 1869 letter to CP treasurer Mark Hopkins (Clark 1931: 2):

> The U. P. have changed their line so as to cross us five times with unequal grades between Bear River and Promontory. They have done this purposely as there was no necessity for so doing. ...we shall serve notice for them not to interfere with our line and rest there for the present.

The lack of a predetermined terminus for both railroads, coupled with the incentives each sought in the form of land subsidies for each mile constructed, eventually forced a meeting between them and government offices in April, 1969 in Washington, D. C. At that meeting, the two companies agreed to join their railroads at Promontory Summit and the UP agreed to sell that portion of their line from Promontory to Ogden to the CP. As a result of this agreement, the frenzied competition and redundant construction activities largely ceased. However, there was still much negotiation necessary before a price was agreed upon to transfer ownership of this portion of the transcontinental line. After two offers by UP were turned down by the CP, a sum of $2,853,000 was agreed to on November 17, 1869 for a 48.5 mile section of line from Promontory to a point five miles west of Ogden (Ames 1969: 371). Interestingly, the UP ended up selling the route for more than a million dollar loss based on its original construction cost. This price was agreed to, no doubt, due to the UP's desperate financial condition in 1869 (Ames 1969: 372).

The Casement track laying teams crossed the Bear River into Corinne from the east on April 7, 1869. Grading was completed to Monument Point on April 23 (*Salt Lake Telegraph* April 9, 23, 1869). The CP did not reach Promontory until April 30 (Dodge 1914: 943). Track was not completed to the Summit by the UP until May 9 (Ames 1969 : 336).

After the CP Railroad took over the Promontory Route from five miles west of Ogden to Promontory in late 1869, it continued to use most of the grade originally constructed by the UP between Promontory and Ogden, though the company used their own grade on the east face of the Promontory Mountains (most prominently eliminating UP's "Big Trestle"). Until about December 1, 1869, however, the official date for transfer of the 48.5 miles section, UP still operated on their original line between Ogden and Promontory and transferred with the CP at Promontory Summit.

There was much criticism during the later stages of railroad construction activities about whether the work done by the two railroads was commensurate with requirements set forth in the Congressional Acts of 1862 and 1864. Specifically, there were complaints that the UP, in particular, was building a substandard railroad and receiving unjust compensation for it from the U.S. Government (Athearn 1976: 115). In response to the mounting criticism, President Grant appointed a special commissioner, Isaac N. Morris, to inspect the reportedly unacceptable parts of the UP. His report was quite unfavorable and called the railroad the worst over which he had ever traveled and actually dangerous in places. As part of his inspection tour, he described the condition of the line between Corinne and Lampo Junction (as part of the entire section between Ogden and the eastern base of the Promontory Mountains)(U.S. Congress, House of Representatives 1876: 7):

> The Union Pacific road-bed['s]...width...is only the width of the tie, or 8 feet, sometimes a little over and sometimes a little under, ...the road-bed...is a mixture of dirt and sand...places are found where it is mostly dirt, and then portions are met which are chiefly, if not entirely of gravel.

Another commission of "Eminent Citizens" later inspected the route and found it acceptable as a first class railroad (U.S. Congress, House of Representatives n.d.). Nevertheless, CP apparently found it necessary to essentially rebuild the route after they acquired it in late 1869. This is partially supported by Morris' description of the railroad grade between Lampo Junction

and Ogden (U.S. Congress, House of Representatives 1876). Also, a 1920 Southern Pacific Transportation Company bridge report shows that most trestle structures were reconstructed along the Promontory Route between Corinne and Promontory just after the CP acquired the line. Trestles in that area date, with some exceptions, from the early 1870s to the early 1880s (Southern Pacific 1920: 250-255) . These newer trestles were built to replace the original inadequate trestles built by the UP.

The transcontinental railroad continued to operate through Promontory Summit until the end of the 19th Century. Just before the turn-of-the century, E.H. Harriman gained control of both the UP and CP Railroads and began a massive upgrading of the Transcontinental Route to make it a much more cost effective transportation system (Kennan 1922: 242). As part of a massive reconstruction effort on the CP portion of the road through Nevada and Utah, he ordered a lengthy trestle structure built across the northern end of the Great Salt Lake to shorten the distance, straighten the track and, especially, to lessen the costs associated with operating over the Promontory Mountains (Kennan 1922: 242, 246-247). The new line, called the "Lucin Cutoff", was completed on November 26, 1903, though freight traffic was not diverted from the old line until March 18, 1904 and passenger traffic until September 18, 1904 (Myrick 1962: 37). It shortened the route by 44 miles and reduced monthly costs to the railroad by $60,000 (Mann 1969: 130).

The Promontory Route, or "Old Line" as it was often called, continued to act as a backup route in case of flooding along the lake route, to service wheat farmers along the Promontory Route and to continue to service the still operative telegraph line which paralleled that line (Carr and Edwards 1989:15; CSC 1986:3). When the Great Depression began, traffic decreased on the route, convincing the SP that this line was not cost effective to operate. As a result, on April 3, 1933, the company applied for permission to abandon their operations on a 55 mile portion of the line between Kelton and Lucin (ICC 1935:731). The railroad contended that the line generated very little traffic and cited that only 5,161 tons per year were handled between 1928 and 1932. Wheat accounted for 83 percent of this total. It was pointed out by protestors to the action, that continuing rail service was needed along the line due to the poor access on roads in the winter. The railroad was the only reliable way to bring feed to livestock in the area during many of the winter months (ICC 1935: 732). The Government also protested giving testimony about the need to maintain an alternate east-west rail line across the country for defense purposes (ICC 1935:735). At this time, the ICC denied the application. SP again attempted to abandon the same section in 1936 with the same result (ICC 1936). Yet again, in 1942, the SP approached the ICC, this time to totally abandon the Promontory Route from Corinne to Lucin, a distance of 120.8 miles (ICC 1942:805). The hearings for this case were heard at the Hotel Utah in Salt Lake City for two days. Approval was granted on June 11, 1942. Because of a requirement to reduce services due to the war effort at the time, a report was not issued, only a brief notice of the ICC's decision. Nevertheless, transcription of the entire proceedings of the ICC hearings was made and still exists in the National Archives in Washington, D.C. A copy was made for use in this project in the summer of 1998 by the GSHF.

Undoubtedly, even before the decision was reached by the ICC, the SP had been approached by the Navy, which had a great need for track construction at bases throughout the Western U.S. (Anonymous 1943: 398). SP agreed and, during the first seven days of July 1942, the Hyman-Michaels Company of Chicago, which was awarded the salvage contract, removed approximately 7, 586 gross tons of 62 lb. rail, 2, 563 gross tons of 75 lb. rail, 2, 235 gross tons of 76 lb rail and 297 gross tons of other miscellaneous sized rails. This was in addition to the 2,167 gross tons of angle bars, spikes, bolts, tie plates, anti-creepers, and other metal track material (Anonymous 1943: 399). Interestingly, up until the 1942 abandonment, the railroad, with very little traffic to support the line, continued to regularly maintain the structures and grade on the Promontory Route. The 1941 SP Bridge Inspection Book shows that ties and trestle components were replaced on at least a portion

of the line through the middle 1930's and even into 1941 (Southern Pacific 1941: 418-419).

The Promontory Route existed for 73 years and was a vital component of the entire Union Pacific-Central Pacific Transcontinental Railroad for 35 years. The portion between Promontory and Ogden was a unique section of mainline, in part because of its place in history as a battleground between two companies vying for supremacy and yet, at the same time completing a dream for the entire country. It was also unique in its ownership pattern. It was originally owned and constructed by the UP, but soon after completion, it was acquired and then upgraded by the CP. Its abandonment during the first half of the 20th Century and its location in a very remote and only slowly changing part of the country, the Promontory Route retains, without doubt, the best preserved examples of late 19th Century railroad grades and railroad grade structures along the entire Transcontinental Route.

PREVIOUS RESEARCH AND KNOWN SITES

On March 16, 1998, Michael R. Polk of Sagebrush carried out a file search for previous cultural resource projects and sites at the Utah State Historic Preservation Office (SHPO) in Salt Lake City. The results indicated that ten previous cultural resource projects have been completed within the current project area. BLM archaeologists conducted several surveys within the current project boundaries.

The first BLM project was the 1984 Salt Creek Marsh survey in which two sites were identified. Site 42Bo0500 is a lithic scatter and temporary campsite located on the northeast slope of dune in T.10N., R. 4W., S. 18. The site consisting of obsidian flakes, fire-cracked rock and a metate, was recommended eligible for listing on the National Register of Historic Places (NRHP). The second site, 42Bo0501, features two historic trash scatters that were determined not eligible for listing on the NRHP (Neily 1984). In 1990, BLM archaeologist Shelley Smith identified a historic railroad trestle slated to be replaced by a culvert. Although no site number was given, the trestle was recommended eligible for the NRHP (Smith 1990). The most recent BLM project occurred in 1995. During this project, the CP Railroad grade was identified and record as site 42BO562. The site is divided into two segments, one on either side of the NHS boundaries, and encompasses approximately 100 linear miles of grade. The site includes182 culverts and trestles and 30 stations and sidings. Each segment is individually listed on the NRHP.

Sagebrush Archaeological Consultants (now Sagebrush) carried out archaeological surveys in the project area in 1987 and 1991. In 1987 Sagebrush identified a portion of the UP Railroad grade and a wood culvert, site 49Be01Z999040A, located near Lampo Junction (Polk 1987). No sites were located during the 1991 survey of two proposed borrow pits and a dike structure on the Wildlife Management Area (WMA) Public Shooting Grounds (Polk 1991).

In 1988, Centennial Archaeology, Inc. conducted a cultural resources inventory for fiber optic facilities (Tucker 1988). Within the current project area Centennial evaluated seven locations where the proposed fiber optic line crossed the old Central Pacific and Union Pacific railroad grades. Two crossings, both on the CP Railroad, are in the preset project area. Crossing #5, located in T11N., R6W., S34, consists of a railroad grade and a scatter of associated railroad materials, including metal scraps, railroad spikes, glass fragments, and glass insulator fragments. Crossing #6 consists of a railroad grade alone.

In 1994 ARCON conducted a linear archaeological survey for a proposed transmission line extension. No sites were identified (Norman 1994).

In addition, three sites not related to cultural resources projects, have been recorded near the current project area.

Site 42Bo17. This is a cave site. It includes in its assemblage of artifacts projectile points, chips, potsherds, grinding stones, and animal bones. A NRHP determination is not known for this site.

Site 42Bo151. This site, located on the east side of Blue Spring Hill, is a prehistoric rockshelter. Artifacts found on the site include bark files, stone chips, mano, and scrap bone. No NRHP determination is known for this site.

Site 42Bo822. This site, located between Monument Point and the NHS is a portion of the UP parallel grade. The site was recommended ELIGIBLE for listing on the NRHP.

Other Recordation Projects

Features associated with the Transcontinental Railroad have been recorded on several other projects that are not specifically affiliated with Federally driven survey and evaluation undertakings. Many of these projects have occurred within the NHS boundaries and are treated elsewhere in this

section. However, two projects address railroad sites outside the NHS boundaries. In 1981, the BLM published a monograph detailing the rail stations built on the CP line between Lucin, Utah and the western boundary of the NHS. The study "...primarily concentrates on the surface remains and history of building and operating the railroad in northwestern Utah between 1869 and 1904 (Raymond and Fike 1981: 1)." Although this monograph deals with features outside the current project area, the extensive photographs, drawings, maps, and artifact descriptions may be useful with identifying and recording sites along the entire Utah portion of the Transcontinental Railroad.

In 1991 Sagebrush Archaeological Consultants carried out a Historic American Engineering Record (HAER) project east of the NHS and within the current project area for the Chevron Pipe Line Company. The project included recordation of seven trestles, located 11 miles west of Corrine, built by the CP Railroad Company (Polk 1991). The report consists of 44 large-format photographs, historical data, a measured drawing of one of the trestles, and architectural data on each trestle.

National Register Nominations

As previously mentioned, Site 42Bo562 is identified as two segments of one NRHP property. The Central Pacific Railroad Grade Historic District begins at the western boundary of the NHS and proceeds 87 miles west to the junction of the old CP Railroad Grade and the current Southern Pacific Railroad Grade. The width of the district, with the exception of two town sites, is 400 feet, centered on the railroad grade. The district consists of one structure, the railroad grade, 65 trestles, 100 culverts, and 28 stations; and 29 sites. These sites include 28 individual town sites and sidings. The town of Terrace has two distinct components (Dodge 1986).

The east portion of Site 42Bo562 is a NRHP property known as the Transcontinental Railroad Grade. Again, the property is 400 feet wide, centered on the grade, and encompasses 13.5 miles between the east boundary of NHS and Stinking Springs. The property consists of the original railroad grade, 11 trestles, and 21 culverts.

National Park Service Projects

In 1957 the Secretary of the Interior designated seven acres, encompassing the site where the Golden Spike was driven in May 1869, as a National Historic Site. The property, however, remained in non-federal ownership until July 1965, when Congress approved legislation "...establishing a national historic site commemorating the completion of the first continental railroad across the United States"(79 Stat. 426). Congress assigned responsibility for the newly created Golden Spike National Historic Site (NHS) to the National Park Service (NPS). The NPS staff first assigned to the site focused primarily on the general history of the transcontinental railroad and the actual location where the CP and UP united. In 1969, NHS historian Andrew Ketterson co-authored a visitor handbook on the transcontinental railroad. Ketterson also compiled research on the physical appearance of Promontory Summit immediately before, on, and after the railroads joined on May 10, 1969 (Ketterson 1969). He combined information from contemporary photographs, historic narratives, and a cursory examination of extant physical remains to construct seven maps of the golden spike area.

Ketterson's conclusions preceded any cultural inventory of the NHS. The first systematic inventory of the area did not occur until the 1970's. LeFevre conducted a limited survey and inventory of the park in 1974. In 1976 and 1977, Aryes conducted an archaeological survey of the

NHS visitor center location. In addition to locating 39 sites related to the Promontory town site, Ayres compiled an extensive list of bibliographies and inventories that may potentially be useful to interpreting the NHS (Ayres 1982). These include primary and secondary written documents, historic photographs, and historic maps.

During the same time, NPS archaeologists "...spent a total of four weeks at the Historic Site conducting a 100%, systematic archaeological survey of lands within the park boundaries as they were in 1976" (Anderson and Ketterson 1978: 3). This survey located and recorded over 340 structural features, ranging from culverts to spill piles. The report includes the site inventory, Ayres research bibliographies and research inventories. In addition, each site was plotted on a cultural resource base map published separate from the report (Anderson 1978).

Using data recovered by cultural resources inventories, NHS staff began to assemble various administrative documents. These include historic structure reports, park preservation and interpretation plans, and a history of Promontory Summit. Trestles # 1 and #2 (NPS designation), located near the eastern boundary of the park, were intensively recorded (Battle 1971). The 1985 preservation plan for these trestles drew heavily from Battles' work but does contain useful information regarding NPS alterations to the NHS landscape (CSC and JVA 1985). A Historic Structures Survey, conducted in 1976, identified 25 railroad features, including culverts and trestles, on both the UP and CP grade. This report briefly describes the structural character and condition of each feature. Houtz (1987) identified, briefly described, and provided overall measurements for 16 CP and 7 UP culverts and trestles. From much of this data, the NHS has also placed upon a series of 13 aerial photographs of the Park property the locations of all of the railroad grade, sites and cultural features known in the Park. It is entitled the *Cultural Resource Base Map*.

Numerous historical accounts relating to the construction of the transcontinental railroad and climatic driving of the Golden Spike. However, until recently no document has explored the community that grew up around Promontory. With funding from the NPS, Johnson (1993) compiled a history of Promontory Station and its associated community from its inception in May 1869 to the early 1940's. Johnson incorporated historical documentation with archaeological data recovered from many of the above mentioned projects.

More recently, over the last three years, the NHS has been involved in a more comprehensive cultural resources inventory of their lands in order to establish, not only those sites immediately adjacent to the grades, but also construction camps, maintenance facilities, prehistoric sites and other cultural resources of significance. This information is being processed and made into a formal report.

NATIONAL REGISTER OF HISTORIC PLACES ELIGIBILITY

In order to improve the decision making process for this proposed project, a discussion of the policy and procedures of the NPS regarding the NRHP and the Federal Register regulations regarding the Section 106 process are outlined in this section of the report. The purpose of this abbreviated discussion is to assist the various parties unfamiliar with the process to better understand what is involved in the NRHP process and what are the responsibilities of the Federal agencies involved.

The National Register and Section 106

The National Historic Preservation Act (NHPA) of 1966 authorized the Secretary of the Interior to expand and maintain a National Register of Historic Places for the express purpose of identifying and encouraging preservation of districts, buildings, structures, objects, and sites that are significant in American history, architecture, engineering, culture and archaeology. Properties can only be placed on the National Register; through an act of Congress or Executive Order, by a Federal agency with jurisdiction, a declaration by the Secretary of the Interior as to national significance, or by nomination from an approved State Historic Preservation Office (SHPO). The definitions, procedures, effects and criteria for a National Register nomination are outlined in 36 CFR 60. The Secretary of the Interior delegated the authority and responsibility for the National Register to the NPS, which is a bureau of the Department of the Interior.

In addition to the National Register procedures outlined in 36 CFR 60, policy and procedures for Federal agencies that have responsibilities under Section 106 of the NHPA are defined in 36 CFR 800. Section 800.1(a) states:

> Section 106 of the National Historic Preservation Act requires a Federal agency head with jurisdiction over a Federal, federally assisted, or federally licensed undertaking to take into account the effects of the agency's undertaking on properties included in or eligible for the National Register of Historic Places and, prior to approval of an undertaking, to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. Section 110(f) of the Act requires that Federal agency heads, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking and, prior to approval of such undertaking, afford the Council (Advisory Council on Historic Preservation) a reasonable opportunity to comment. These regulations define the process used by a Federal agency to meet these responsibilities, commonly called the section 106 process.

In the following paragraph, 800.1(b), the regulations explain that the purpose of the Section 106 process is "to accommodate historic preservation concerns with the needs of Federal undertakings. It is designed to identify potential conflicts between the two and help resolve such conflicts in the public interest." The essence of the remaining section is to; define the parties that may be involved, what an undertaking is, the documentation of the levels of effect (no effect, no adverse effect, and adverse effect), and the procedures for protecting National Register properties.

Definitions

The following definitions are taken directly from 36 CFR 60.3 "Definitions", unless otherwise stated.

1. **(a) Building.** A building is a structure created to shelter any form of human activity, such as a house, barn, church, hotel, or similar structure. Building may refer to a historically related complex such as a courthouse and jail or a house and barn.

2. **(d) District.** A district is a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.

3. **(j) Object.** An object is a material thing of functional, aesthetic, cultural, historical or scientific value that may be, by nature or design, movable yet related to a specific setting or environment.

4. **(l) Site.** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself maintains historical or archaeological value regardless of the value of any existing structure.

5. **(p) Structure.** A structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by man, it is often an engineering project large in scale.

6. **(q) Thematic Group Format submission.** A Thematic Group Format submission for nominating properties to the National Register is one which includes a finite group of resources related to one another in a clearly distinguishable way. They may be related to a single historic person, event, or developmental force; of one building type or use, or designed by a single architect; of a single archaeological site form, or related to a particular set of archaeological research problems.

The following definitions are taken directly from 36 CFR 800.2 "Definitions", unless otherwise stated.

7. **(c) Area of potential effects** means the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist.

8. **(e) Historic property** means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. This term includes, for the purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term *eligible for inclusion in the National Register* includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria.

9. **(o) Undertaking** means any project, activity, or program that can result in changes in the character or use of historic properties, if any such historic properties are located in the area of potential effects. The project, activity, or program must be under the direct or indirect jurisdiction of a Federal agency or licensed or assisted by a Federal agency. Undertakings include new and continuing projects, activities, or programs and any of their elements not previously considered under section 106.

Criteria for Evaluation

The criteria for the evaluation of historic properties that may be eligible for or placed on the National Register has been defined by the NPS in 36 CFR 60.4. These standards for evaluating the significance of properties are designed to guide the federal agencies, the states, the Secretary of the Interior and others outside the National Park System and national Historic Landmarks. In part, this section states:

> *National Register criteria for evaluation.* The quality of significance in American history, architecture, archaeology, engineering, 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 persons 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.

In addition to these requirements, the property must have been in existence for at least fifty years prior to the nomination.

Discussion on Project Impact

Based upon the foregoing sections, outlining the National Register and Section 106 Process, it should be clear that in order for any Federal agency, such as the BLM, to participate in this project,

it must comply with the Section 106 Process. This means the agency must not only consider the effects of the proposed project upon the railroad grade, but must also consider the impacts to all prehistoric and historic properties and sites within the "area of potential effects". It should also be kept in mind that BLM's six miles of grade west of Corinne has been placed on the NRHP, as well as the 87 miles west of the NHS. While the criteria for evaluation to the NRHP does not apply to the NPS directly, any project associated with the NHS will need to comply with Section 106.

Although the goal of the proposed project is to rebuild a section of the railroad grade, it should be understood from the regulations that the proposed project will effect more than just the historical transcontinental railroad grade. While it may be assumed that structural features like trestles, fill, and ballast will be directly effected by the project, it is the associated features which lay along and next to the grade that will also be adversely effected by construction or maintenance. These features, consisting of sidings, towns, temporary work camps, water tanks, maintenance stations, and even prehistoric sites to name a few, lay within the "area of potential effects" (APE) and thus, may be directly or indirectly affected by the project. These properties are part of the overall historical context of the Transcontinental Railroad and its development through the years. Thus, the Federal agencies will need, in addition to the Class I Prehistoric and Historic Context, a Class III Intensive Level Survey and Inventory of the Cultural, Historical and Paleontological resources in the project area.

PRESERVATION DISCUSSION AND RECOMMENDATIONS

This project involves the rebuilding of a section of the Transcontinental Railroad. As such, it is necessary to discuss an approach to preservation and make recommendations for the next phases of work. While there is much known about the Transcontinental Railroad, there is little known about what remains of associated features along the grade. Since the Section 106 process requires that the effects of any activity by Federal agencies be minimized, it will be necessary to conduct a ground survey or inventory of what is present within the APE, prepare a preservation, restoration, reconstruction and rehabilitation plan, and determine the appropriate mitigation measures.

Class III Intensive Level Survey and Inventory

While the Class I literature search and contextual overview gives an idea of what was once present along the grade, it does not indicate what remains of these features, what condition they are in, their significance and/or eligibility to the National Register. This information is important to the decision making process, but it is only one part of the process. The remaining material is gathered during the Class III Intensive Level Survey. All features and sites along the railroad must be identified, recorded, plotted, photographed and evaluated for eligibility to the NRHP. The information gathered from this survey will aid in the decision making process, regarding areas of avoidance, access, preservation, mitigation, and interpretation, as well as what sections of the grade are intact and what sections have been heavily disturbed by the elements or human activity.

The survey inventory should consist of a team of archaeologists walking 10 m to 15 m wide transects along each of the alternative grades. Since many of the features will lay some distance from the grades, it is recommended that the corridor be at least 100 m from centerline of each grade. In the marsh areas, the survey will stick to the grade, itself, in order to identify and record features directly associated with the grade. All sites not previously recorded should be documented on *Intermountain Archaeological Computer System* (IMACS) forms. After the survey is complete, a report and site forms should be prepared and submitted to the lead Federal agency and to all Cooperative Agencies for review and comment.

Levels of Preservation/Rehabilitation

Once the inventory has been completed, it will be necessary to distinguish the levels of preservation or rehabilitation for the proposed project and later interpretation. The levels of preservation may include; "no action", stabilization, interpretation, rehabilitation, additional recordation (HABS/HAER), and reconstruction. Much of the preservation or rehabilitation will rest on a site's proximity to the grade. Those features that are part of the grade must be rebuilt, restored, or rehabilitated, but it is the manner in which they will be handled that will matter.

For example, trestles along this section are wooden structures that are quite old and in most cases they can no longer hold the load required of them. Thus, decisions must be made on what level are these trestles to be handled. This becomes a case of which is best; Restoration, Rehabilitation or Reconstruction. Under restoration, these trestle would have like material and methods used to restore the trestles ability to hold the weight of a train. Under rehabilitation, steel stringers could be added on the interior of the existing wooden structure, in order to absorb the weight while the old wood trestle appears to hold the load. Lastly, under reconstruction the entire structure could be removed and a new structure replace it. However, it should be remember that the Section 106 process requires the Federal agency to minimize harm. Therefore, replacement may be a last resort.

In the case of temporary railroad worker camps, stabilization or excavation may be more desirable. These sites could be stabilized for later interpretation of the historic effort to construct the Transcontinental Railroad. Excavation could also play a role in interpreting this history.

Mitigation

After the Class III Cultural, Historic and Paleontological has been completed and approved, the lead Federal agency and the Cooperative agencies need to establish the mitigation measures that will be required. At this stage, a Programmatic Agreement should be prepared in order to spell out how trestles, culverts, grade, ties, fill, track gauge, and ballast will be handled within the grade. The agencies will then need to establish the procedures for stabilization, preservation, excavation, recordation, restoration, and rehabilitation for those sites off of the grade, that may have significance or that are in danger of being lost or damaged. Depending upon the significance of each site, some properties may need to have additional documentation (HABS/HAER) completed. Others may require excavation or testing, in order to address questions of significance, interpretation, and preservation. Additional, mitigation measures may include on site monitoring for prehistoric materials and/or historic features.

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This bibliography includes all of the references cited in the text as well as a variety of other documents related to the Promontory Route railroad history that could be useful to others continuing research about this topic. It is not exhaustive at all. Such a document would take volumes to include all documents published and unpublished about this subject. Nevertheless, this list represents most, if not all, of the well-known and critical references related to the topic as well as many other much more obscure, though important works.

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APPENDICIES

APPENDIX A

National Register of Historic Places Forms for the Promontory Route

APPENDIX B

List of Openings Along The Promontory Route

The Promontory Route skirts the northern edge of the Great Salt Lake in an area of springs, and slow moving streams and ponded areas. As such, there was a need to provide various types of openings to allow movement of water beneath and through the roadbed. Information taken from the right-of-way maps for the route show that there were 31 openings as of the date of those maps, ca. 1920s. Six wood boxes, 10 stone boxes, one wood stave pipe, 11 wooden trestles, one concrete pipe, and two terra cotta pipes. The locations shown on the table show the right-of-way map number and mile marker, i.e. its distance from San Francisco.

TABLE 1. List of Openings Along the Promontory Route

Map	Mile Post Marker	Description
25	(774)773 “B”/285+50	30"x 29' Wood Stove Pipe
25	774 “A”/ 288+59	18" x 24" x 20' Wood Box
25	775 “A”/375+4	24" x 24" x16' Wood Box
25	776 “A”/422+73	18" x 24" x 70' Stone Box
26	777 “A”/463+23	18" x 36" x 80' Stone Box
29	789 “A”/2524+28	2' x 3' RDWD. [Redwood] Box 18' long
29	789 “B”/2491+94	13' O.D.P. [Open Deck Pile] Trestle
29	789 “C”/ 2485+41-9, 2485+31-5	10' O.D.P. Trestle
29	790 “A”/2466+30, 2465+50	80' O.D.P. Trestle
29	790 “B”/2444+49-4, 2444+17-2	32' O.D.P. Trestle
29	790 “C”/2421+49	10' O.D.P. Trestle
29	791 “A”/2411+68	2 x 2-5 x 27' Stone Box
29	791”B”/2381+69*	16' Trestle
29	791"C”/2368+78	2 x 2-5 x 30 Stone Box
29	792"A”/2339+24	10' O.P.D. Trestle
30	(793)792"B”/ 2320+47	2' x 2-5’x 34' Stone Box
30	793"A”/2297+00	24" x 30' x 36' Stone Box
Map	**Mile Post Marker**	**Description**
30	(794) 793 “B”/ 2255+79	2' x 2' x 31' Stone Box
30	794 "A”/2241+70	18' x 24' x 28' Stone Box
30	794 "B”/2237+33	18' x 30' x 23' Stone Box
30	794 "C”/2229+16	18' x 30' x 38' Stone Box
30	(795)794 "D”/ 2213+13	2' x 2' x 44' Stone Box
30	795 "A”/2196+48-5	14' O.D.P. Trestle
30	796 "A”/2145+43	8' Bal.[ballast] Deck Trestle
30	796 "D”/2117+47, 2117+44	20' x 32' Terra Cotta Pipe, 18' x 25' Sheet Iron Pipe

31	797/2076	30" x 30"x 41" Concrete Pipe
31	797"A”/2064+60	17' O.D.P. Trestle
31	798"A”/2041+11	24" x 30" x 20' Wood Box
31	(799)798 "B”/ 2029+50	30" Concrete Pipe
31	798 "C”/1999+89	16' O.D.P. Trestle
31	799 "A”/1954+10, 1953+11-6	2 12" x 21' Terra Cotta Pipes

APPENDIX C

List of Stations And Other Points Along The Route

Since its inception as a railroad line, there have been a number of named "stops" located along the Promontory Route. Some of these stops were established early in its history as "end of track" construction camps or obvious locations for stations because of the location of water sources. A number of documentary sources were used in an attempt to capture all of the possible names and changes that have occurred in train stops along the route since 1869. The primary source of information from which this information was derived is the yearly "Station Lists" of the Central Pacific Railroad (CP). Right-of-Way maps of the Southern Pacific (SP) and track profile sheets of the CP were also used for this listing. Sagebrush obtained copies of the station lists from the California State Railroad Museum Library, right-of-way maps from the Union Pacific Railroad in Omaha and track profile sheets from the Nevada State Historical Society Library. The lists obtained begin in 1881, and continue, almost annually, until 1941. Stops that both opened and closed prior to this time are not included in the compiled list. It should be noted that there have been no stops along the line yet identified that opened and closed prior to1881. The current list appears to be comprehensive.

The location of each stop was identified through a combination of known plots from the existing right-of-way maps and through estimation based on the mileages/distances given for each stop in the CP Station Lists. It should be noted that the Station Lists provided inconsistent mileages/distances for the same station. That is, the distance between stations varies slightly over the years covered by the lists. The right-of-way maps provided known locations for all except four of the stops. These four stops, Dathol*, Eton, Child, and Wyben, were plotted by taking the average distance between it and two known points taken from the right-of-way maps. (The plots of these four stations are only approximations; they cannot be considered exact). For example:

The train stop at Dathol* was included on the Station Lists for a period of four years, from 1903 to 1910. Over that four years, the distance between Dathol* and Promontory, a known point on the right-of-way maps, varied from two miles in 1903 to three miles in 1910. The average for the four years that the stop is listed is 2.25 miles. The distance between Dathol* and Surbon, another known point on the right-of-way maps, also varied over these same four years, from four miles in 1903 to three miles in 1910. The average for the four years was 3.75 miles. In order to plot the location of Dathol*, the average distance was measured from Promontory and from Surbon and, the stop was plotted halfway between these points.

Table 2 is a list of stops on the line for which there is specific information available about structures present during a particular period of time, what the stop may have served as, e.g. freight

station, ticket station, express office, telegraph office, and some information about name changes over time. This information is derived from Station Lists located at the California State Railroad Museum Library (CSRML), Dodge 1870, Gregory 1877, SP Valuation cards, Station Cards and a Station Plan book for Utah Stations, all located at the CSRML.

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*Dathol is the first station to be named Dathol. This station, which apparently existed from 1903 to 1910, was located near Promontory. A second station called Dathol, designated by Sagebrush as Dathol[2], was established near Balfour in 1920. This station existed at least until 1941, according to the Station Lists.

REFERENCES CITED

Dodge, Grenville
1870 Letter from the Secretary of the Interior, *Report Chief Engineer of Union Pacific Railroad*, 41st Congress, 2nd Session, Executive Document 132.

Gregory, James F.
1877 Letter from the Secretary of War, *Union and Central Pacific Railways*, 44th Congress, 2nd Session, Executive Document 38.

APPENDIX D

Research Institutions With Significant Railroad History Collections Concerning The Promontory Route

INTRODUCTION

As part of the research for this project, it was felt necessary to search out virtually all of the significant sources of information about the transcontinental railroad, particularly that portion within

the State of Utah, largely the Promontory Route. Major sources were fairly easy to identify from previous published studies and from recommendations made in several National Park Service reports on the Golden Spike National Historic Site (NHS) (Ayres 1982) and more recent National Park Service (NPS) gathered information. Ann Hubber of HRA Associates in Missoula, Montana, who is working on a landscape study of the NHS, was also very helpful in identifying additional significant sources of information about the subject. Other, less well known sources were identified from previous and ongoing research of the Southern Pacific and Union Pacific Railroads by the author. In all, 24 institutions with known collections were either visited or contacted. All of these institutions have research sources that possess some value for preparation of a report such as this, though the coverage in each varies widely in evenness, content and size.

Following is a discussion of each facility and what is known about its collection and accessibility. There are several for which information is sketchy, but they are included for completeness. They are presented in order of those institutions with the most significant collections first.

CALIFORNIA STATE RAILROAD MUSEUM LIBRARY

California State Railroad Museum Library. 111 "I" Street, Sacramento, California 95814-2265. (916) 445-7387 (voice); (916) 327-5655; *csrmlibrary@csrmf.org* (email); *http://www.csrmf.org* (web site). Ellen Halteman, Librarian; Kevin Bunker, Collections Assistant (916) 323-4484.

The California State Railroad Museum Library (CSRML) has, without question, the best collection of Central Pacific/Southern Pacific railroad archival materials outside of those now held by the Union Pacific. In the last few years, they have been the recipient of hundreds, if not thousands, of boxes of primary documents from the Southern Pacific Company (SP) as that railroad (now part of the Union Pacific system) continues to divest itself of its operating records. Lynn Farrar, former Valuation Engineer for the SP, has been at the forefront of dispersing the

records, and Kevin Bunker, Collections Assistant at CSRM has been sorting all of the materials that have come in over the last several years. However, CSRM has not been the only repository to benefit from materials released by the SP. Apparently, some materials have also been sent to the Nevada State Historical Society, Stanford University, possibly to the Huntington Library in San Marino, California and, possibly to other institutions. The vast majority, however, appear to have been deposited at the CSRM, and those are primarily engineering records of various types. It will be years before Kevin and his staff can even catalog all of the materials received, but there have been many already processed and available for use at the library. Many of these records have been available for years.

Overall, it is obvious that the collection primarily post dates 1906, the year that the earthquake and fires ravaged San Francisco. Mr. Bunker admitted that this is a standard answer that he provides to questions about why there are so few earlier materials available. However, it appears to be true that few engineering materials exist for the Central Pacific (CP) or SP dating prior to that date. He surmises that during and after the earthquake the vaults were left open at the Corporate Offices at 65 Market Street (later changed to 1 Market Street) and that all of the materials burned up. Despite the apparent loss of most documents from this period, the CSRM Library does have some earlier materials, primarily corporation papers and letters which have come to the library from the SP's former corporate offices in New York.

The materials present in the collection (and in the materials being sorted as of February, 1998) do not include detailed information about construction camps, section camps, maintenance activities or facilities along the route from Corinne to Promontory Summit. However, there are a number of records that were identified by the author which help in piecing this information together (and will be discussed shortly). Much of the cataloged and uncataloged material is housed in the West Sacramento Warehouse. Materials that are stored there take a day to retrieve for use.

The library has a vast array of information about the SP and its subsidiary lines, including information related to its operations in California, Oregon, Arizona, Texas, Nevada as well as Utah. There are also finding aids for the cataloged material which are the only way to establish important materials available in the library. Other materials are also there including an impressive collection of hundreds of published railroad books from all over the United States and a large collection of railroad "Valuation Records"for both the SP and UP collected and bound together. According to brochures of the library, there are in excess of one million photographic images in their collection. Not all are from the SP, but most are of that railroad.

The finding aids for manuscript materials in the library are organized by volume: Ms 1-39. These collections are not computerized, so hand scanning is required to search them. However, all drawings and maps ARE on computer and can be searched by the librarian by subject (such as "Utah"). There is also another set of data of significance that is not located in the manuscript finding aids. "Form Files" are separately cataloged and include a wide array of information that SP put onto forms such as maintaining equipment, ordering supplies, stations and other information. The use of forms for information gathering and record keeping was particularly favored by the SP.

Form Files

Form files of value for the Promontory Route Project include the following. Pertinent form information was copied:

Form 1148, 8137. Record of Station Changes, 1910s - 1960s. These are valuable cards with "stations" (including stops along the railroad) listed on 3 x 5" cards recording the name of the point and some, or all of the following information: division, milepost, elevation, facilities, changes,

authorization of change, with effective date, abandonments, with date. These cards are contained in 10 “shoe boxes” with cards in alphabetical order. These were invaluable in identifying all possible stops used along the Promontory Route from Corinne to Promontory.

Form 3593. Ledger value index [structures, equipment], 1910s to 1930s. This information is listed on 4 x 6" cards recording structures on railroad routes along with some or all of the following information: structure, milepost, engineering station, date, ledger value number. They consist of five “shoe boxes” of cards in alphabetical order by subject.

Form 3593. Ledger value index [stations], 1910's to 1930s. This information is listed on 4 x 6" cards recording stations on railroad routes along with some or all of the following information: milepost, additions and betterments (structure/item), with milepost and engineering station, date of addition/betterment, ledger value number. They consist of three “shoe boxes” of cards in alphabetical order by subject. Unfortunately, the only letters present in the cards are A-C, F-K, and T-Z. The remainder of the cards are missing, i.e. D-E and L-S. Whether these are in materials still in the warehouse, not yet transferred by the SP or were lost by the SP is not known at this time.

Miscellaneous Manuscript Collections

Miscellaneous manuscript collections of value to the Promontory Route Project include:

Annual Reports, primarily consisting of fiscal information, exist for the Central Pacific Railway Company and the Southern Pacific.

ICC Interstate Commerce Commission records also exist for the Central Pacific Railway Company (1902-1935) and the Southern Pacific Railroad Company (1902-1972, 1975, 1984)

Utah, Public Service Commission Records exist for Central Pacific Railway Company (1940-1947) and for the Southern Pacific Railroad Company (1956-1962; 1973)

Utah, State Tax Commission Records exist for the Southern Pacific Railroad Company (1950-1962)

Utah, Railroad Commission Records exist for the Southern Pacific Railroad Company (1919)

United States, Department of Interior, Auditor of Railroad. Accounts (half years, ending June 30, Dec. 31) Dec. 31, 1877 - June 30, 1881 [filed: vault]. United States. Department of Interior. **Commissioner of Railroads** (half years, ending June 30, Dec. 31) Dec. 31, 1881-June 30, 1893 [filed: vault]. United States. Department of Interior. Commissioner of Railroads (Fiscal years, ending June 30) June 30, 1894-June 30, 1904 [filed: vault]. Photocopies of originals are on file at the National Archives as well. Topics within this collection include: officers and directors, revenues and expenditures, traffic and mileage statistics (passenger and freight), expenses and transportation companies, land department, characteristics of road, additions and betterments, equipment data, list of accidents, general employee information, construction.

Southern Pacific Collection 70/77, pay roll records. This collection of 1,032 volumes, covers the years 1915-1921, but largely July 1915-1919. It lists each employee, occupation, time worked, rate per hour, day, month or 100 miles, amount earned, deductions and pay roll voucher number. Of particular value to this project is the section entitled: “Division and General Office Pay Rolls”.

The Salt Lake Division in this group consists of 47 volumes.

Central Pacific/Southern Pacific [annual] **"Official List, Officers, Stations, Agents".** These books were issued annually for the Central Pacific and then the Southern Pacific and consist of general information about the railroad, maps of the system and then tables of stations and stops, by railroad division. The CSRML has volumes beginning in 1881 and extending up into the 1940s. There are some breaks in the coverage. These books are very valuable in tracking changes in stops, stations, telegraph operations, freight operations, and the presence or absence of agents at particular stations..

Ms. 24 has **Central Pacific Railroad, Nevada and Utah Station Plan Book**, ca. 1880s. This book is bound, contains 156 pages and is a gift of Arthur Haig, 1983. It has hand-drawn pen and ink station plans for the Central Pacific Railroad's Salt Lake and Humboldt Divisions and a portion of the Truckee Division in Utah and Nevada. Because it is oversized, the book cannot be copied at CSRML. However, another copy exists at the Nevada State Historical Society Library. Paper copies of these stations (not as good quality as the bound volume in Sacramento) were also copied from a collection of materials found at the Bureau of Land Management, Salt Lake District Office in Salt Lake. These were apparently obtained by Anon Raymond during a research visit to the Southern Pacific Company records in San Francisco in 1980.

Ms. 79 is **Central Pacific Railroad: Miscellaneous Records**.

Manuscript Collection Number 10

Ms. 10 appears to hold the bulk of significant information about the Promontory Route. Following are the major categories of information of possible significance to the Promontory Route project in this Southern Pacific collection:

Vouchers, 1861-. This collection comes from the New York Corporate Office collection and is stored in the West Sacramento Warehouse. It consists of 368+ document boxes. These are among the earliest records in the collection and include such information as payrolls for teams surveying the Central Pacific Route across the Sierra Nevada, equipment purchases of survey equipment, purchases of newspaper advertisements for the incorporation of the Central Pacific, acquisition of equipment and supplies for building the transcontinental railroad, and early operations.

Cash books, 1861-1873. This collection, consisting of five volumes, is a daily record of Central Pacific Railroad cash transactions from the New York Corporate Office collection.

Invoices, Record of, 1863-1885. This collection, consisting of four volumes of material, also from the New York Corporate Office, covers purchases made for the company in New York by C. P. Huntington for a period of over 20 years. These purchases include locomotives, rolling stock, equipment components, construction equipment and supplies, and general supplies.

Land Department, Property Map Books, [1910-1949]. This collection, including eight volumes and two document boxes, includes bound maps of lands given as land grants to the Central Pacific and Southern Pacific Railroads in California, Nevada and Utah. Information included on the maps include the date the properties were certified to the railroads by the U.S. General Land Office, grant boundaries, lands in dispute, lands under contract, lands not selected by the railroads for the grant, and lands lost through sale, transfer, or return to the U.S. Government. Volume 4 of the Central Pacific Collection is of particular interest here since it contains the Central Pacific Railroad Grant from Elko County, Nevada to Cache and Weber Counties, Utah.

[Railroad Commissioners' Reports], 1866-1874. This collection consists of two document boxes of material related to inspections made of the Central Pacific and subsidiaries prior to award of subsidies by the Federal Government. Box 1 (dated 1869) contains "Central Pacific, 21st-28th Sections, Deeth-Promontory", the most pertinent part of the collection for this project. There is also a report on the "Central Pacific and Union Pacific, 1869, 1874" in Box 2 which may be of some value.

Photographic Collection

The CSRML has an immense collection of photographic images and a multitude of finding aids. Thousands, if not 10s of thousands of these photographs are of the Central Pacific/Southern Pacific. The User's Guide for the collection is attached to this appendix.

GOLDEN SPIKE NATIONAL HISTORIC SITE

Golden Spike National Historic Site, P.O. Box W, Brigham City, Utah 84302. (435) 471-2209. Bruce Powell, Superintendent.

The NHS, located on the location of where the last spike was driven on May 10, 1869, and the site of Promontory, Utah, has over the years acquired a substantial collection of archival, photographic and cartographic materials related to the transcontinental railroad and the CP, SP and UP Railroads. However, because most of the materials acquired appear to have been donated, the collection is very uneven and quite eclectic. By far the most significant aspect of this collection is that it contains such a large number of books, pamphlets, articles, manuscripts, photographs and maps devoted to the railroad history of the Promontory Route and, more specifically, Promontory, Utah itself. While many of the materials found here can be acquired elsewhere as well, there is no other location where all of these materials can be found in one place.

The library has several hundred volumes devoted to a variety of aspects of the railroads and local history and natural history. Early U.S. government publications are present along with more recent ones carried out by the NPS in its efforts to document the history and archaeology of the historic site and to plan for future interpretation. Many published works on the SP, UP and CP are also in the collection. Perhaps the most significant part of the collection are the oral histories done in the late 1960s about Promontory and surrounding areas. A second set of these histories is also available in the University of Utah, Marriott Library, Rare Books Room of the Western Americana Collection.

In another room, there are many file drawers filled with reprints and manuscript materials devoted to a wide variety of aspects of the history of Promontory, the railroad, the NPS Interpretive Program, and other topics. While these materials are eclectic in nature, only follow a general theme and most are available elsewhere, the fact that they exist here in one place as a collection makes them a quite valuable resource. In this same room there are at least five photographic volumes, the majority of which are prints of historic photographs of railroading at Promontory and along the transcontinental line. These photographs have been acquired from a variety of sources (including the CSRML) and, similar to the manuscript materials, their value lies in the fact that they pull together photographs from a number of collections scattered all over the United States.

The cartographic collection, including some original SP materials from other parts of the Overland route from Sacramento to Ogden, is also very eclectic. The collection is scattered in several locations around the NHS and includes a variety of historic maps.

An additional source of information that the NHS maintains is a "Cultural Resource Base Map" identifying known historic and prehistoric sites on the property. They also have recently hired an archaeologist to inventory the property and prepare a cultural resources report. That report is currently in progress.

WESTERN HERITAGE MUSEUM

Western Heritage Museum, 801 South 10th St., Omaha, Nebraska 68108; (402) 444-5071 (voice); (402) 271-6460 (fax); Don Snoddy, Director. *ddsnoddy@notes.up.com* (email); *http://www.uprr.com/uprr/ffh/history/museum.shtml* (web site).

The Western Heritage Museum, owned by the UP Railroad, was recently moved to its new headquarters. It was formerly located in the Union Pacific Railroad Headquarters building in Omaha. The museum houses the Union Pacific Collection, which was founded in 1921 and includes a variety of historical materials from UP history including railroad cars, survey instruments, railroad memorabilia and a huge manuscript and book collection concerning UP Railroad history. On the main floor, located in two large offices are most of the published materials including mid-nineteenth century tourist travel guides for the Transcontinental Railroad, UP catalog materials detailing the history of the railroad, equipment, annual reports and financial documents.

This is the only facility where a transcribed manuscript of the letters of Samuel B. Reed was found during the author's research. Reed was the Chief Surveyor for the UP's lines in Wyoming and Utah.

Also in the library area are many of the estimated 50,000 photographic images owned by the museum including a number of Russell photographs of the Promontory Summit area during the completion of the line in May, 1969. Apparently, the Hart photographic collection, currently at the SP Office in San Francisco (341 construction views) is being transferred to the Western Heritage Museum in Omaha, and should be available for use by researchers by mid-March 1998. Whether these photographs are different than those several hundred Hart SP photographic negatives of transcontinental construction in the Stanford Library Collection is not known at this time.

Cartographic records are voluminous and include original early velum maps of the original surveys done for the transcontinental railroad. The author toured the basement storage area which contains, perhaps, the largest volume of material about the railroad in existence. The material is stored in archival boxes. There are literally hundreds of boxes stored there, holding original documents from the railroad's beginning in 1862 and extending up into the 1960's or later. Many of the materials have been transferred for permanent storage to the Nebraska State Archives, but much material remains here. It was not possible at the time to establish the scope of the collection, though it is probably the most significant and largest UP Railroad research collection in existence.

From information cited in the Museum's Historical Catalogue (Rigdan 1951: 250), it is likely that the Casement Brothers Company records are housed at the Museum (assuming that they were moved from the headquarters building with other parts of the collection). The remains of the Casement Company records were a gift of Jack Casement's widow in 1926. They include "(partial) construction records, including journals, ledger, receipted bills, freight bills, pay rolls (fragmentary), messages sent and received, letter books, letter copy book, canceled checks, and draft book." (Rigdan 1951: 251). Also included in the collection is the cash book, a journal and ledger and letter impression book, Benton and Granger letters.

Though the UP Collection does not primarily focus on the western portion of the UP transcontinental line, many documents covering that area were found, and many others are probably in the collection, but not found. There has been an inventory of collection done, though to what detail is not clear. Don Snoddy is the most knowledgeable about the collection and knows what is there. However, until the collection is better cataloged, it could be something of an onerous task to carry out intensive research in the collection. Despite this drawback, however, the collection is so significant that anyone contemplating research on the early history of the Promontory Route needs to include this facility, without question.

NEBRASKA STATE HISTORICAL SOCIETY

Nebraska State Historical Society, 1500 R Street, P.O. Box 82554, Lincoln, Nebraska 68501-2554; (402) 471-3270 (voice); (402) 471-3100 (fax); *NSHS@inetnebr.com* (email)

The archival collection of the Nebraska State Historical Society (NSHS) contains a very large collection of UP Railroad materials. This collection, designated MS3761, was donated by the UP to the Historical Society in the 1970s with other materials following later. It consists of 750 linear feet of records, plus oversized material and microfilm, dating from 1862 to the 1980s. It is organized into 197 subgroups and records fall into one of three major categories: 1. Corporate Offices, 2. Branch roads and Subsidiary Companies and 3. Miscellany. A list of the subgroups is attached to the end of this appendix.

There have been very good finding aids developed for the collection, though reorganization of the materials in the 1970s resulted in some confusion. Nevertheless, research in the collection at the NSHS was relatively easy. The volume of material about the UP is enormous. Corporate records including correspondence from and to the President, Vice President, Secretary, Treasurer, Chief Engineer, and assistants to all of these positions alone is large. Nevertheless, these records are quite valuable and, in part, touch on the politics, finances and construction of the Promontory Route in Utah.

The records of the Engineering Department, which appeared to be the most important parts of the collection for the purposes of this project, are also very large. One of the finding aids for this alone was 26 pages long. What became apparent fairly early, however, is that records concerning the grading and track laying of the UP portion of the transcontinental line were scarce to non-existent. There were correspondences of considerable value concerning agreements, questions, timing, finances and other aspects, but the basic engineering information and construction reports seemed to be missing. General Grenville Dodge's (Chief Engineer for UP) final report for the year 1869 could not be found here and was not available in the Western Heritage Museum (though reports from 1862 up to 1868 were available). It was eventually found. Apparently, up through 1868 the UP published its own engineering reports. For the last one, however, a decision was made to have it published as a widely available Congressional document (Dodge 1870).

After some study, it was determined that the reason for the lack of information in these records related to construction on the Promontory line had to do with the method in which construction was carried out in Utah. Along much of the CP line beyond Utah, Charles Crocker was in total control of the construction, and along other portions of the UP, the railroad contracted for grading with a variety of private companies. In Utah, however, the politics of the territory demanded that both companies negotiate terms with Governor Brigham Young. For portions of the line west of Echo Canyon Brigham Young was awarded the contract to carry out grading and he, in turn, subcontracted to the Mormon company of Sharp and Young. The CP contracted (through contacts with Brigham Young) with Ezra T. Benson of Logan; Lorin Farr, Mayor of Ogden and Chauncy Walker West of Ogden (Reeder 1970: 45-46). It is, thus, surmised that, if such records of construction exist for the UP portions of the line, that they would be in the records kept by the companies of Sharp and Young and for the CP portion of the line, they would be in the records of companies operated by Farr, Benson and West. Track laying in Utah, for the UP was carried out by the Casement Brothers, a company contracted through the UP for all of its track laying activities. Some papers of Jack Casement are located at the University of Wyoming, but the location of their actual corporate papers are not known.

There were also cartographic materials that were a part of this collection, though virtually all of them went no further west than Ogden. Several detailed original Ogden yard maps were found, however, dating from the late 1800s. Photographic materials relating to the UP were also present in the NSHS collections under the collection number R152. These include 200 images of the railroad, primarily in Omaha and areas further east than Utah.

Many published tourist guides, and other secondary materials were found relating to the UP at the NSHS which helped add to materials found at the Western Heritage Museum and elsewhere. The manuscript collection of the UP records at the NSHS is excellent and needs to be included in any comprehensive study of the UP history.

UNION PACIFIC RAILROAD COMPANY

Union Pacific Railroad Company, 1416 Dodge Street, Omaha, Nebraska 68179.

During a research trip to the Nebraska State Historical Society and the Western Heritage Museum, the author was introduced to an engineer at the UP Railroad Company by the name of Paul Welsch. Ann Hubber, from HRA, and the author both met with him and with another engineer, Kevin Moran, and asked about possible historical information that the UP may have in their company office. One of the most sought information sources was a series of Bridge Inspection Books which, according to information that received from Lynn Farrar, former Valuation Engineer for the SP, date from 1906 up to 1942 and include all parts of the SP System. Paul Welsch is formerly from the Chicago and Northwestern Railroad and Kevin Moran formerly was with the SP. Mr. Welsch was unsure whether they had any of these materials, but offered to provide access to their five story brick warehouse located a block away where, if they existed in Omaha, such materials would be located. Apparently, many SP warehouse materials were being transferred to Omaha from San Francisco. In fact, Don Snoddy, Director of the Western Heritage Museum, was, at the time, overseeing disposition of the remainder of the historical/engineering materials still in the 1 Market Street building in San Francisco. The building has been sold and materials are being transferred to Omaha and other institutions. (A footnote to this move: apparently a large volume of SP engineering materials which were boxed up for shipment by Don Snoddy during early February were subsequently ruined when the basement of 1 Market Street flooded during the intense rainstorms in the Bay Area during that time. Whether there was any subsequent attempt to salvage the materials is not known.)

The tour of the warehouse building proved very interesting. It contains a massive amount of corporate and engineering records from a variety of railroads recently acquired by the UP including the Missouri Pacific, Chicago and Northwestern, Western Pacific, Kansas City Southern, SP and several other roads. Each floor was devoted to one of the railroads which had been absorbed. Rio Grande and several other railroad records were, apparently, located elsewhere.

The materials that were of particular interest were engineering records of the SP which had been very recently moved from the "Brannon Street basement" in San Francisco to Omaha. These materials included a variety of wooden cabinets, cardboard boxes, and shelving containing rolled maps of structures, trackage, and other railroad related items. There were drawers of historic photographs and negatives of stations, bridges, other buildings, and trains on SP and subsidiary lines of the company. Cotton Belt, Northwestern Pacific, Pacific Electric, Arizona Eastern and other subsidiaries were represented. One whole bookshelf contained bridge inspection reports from a variety of divisions of the SP. These materials are invaluable for research and include a wide variety of historical data, much of which could relate to the present project, though it would probably take several days of searching to establish that theory. It appears that only one bridge inspection book for the Salt Lake Division exists in that material and it was probably only there because it was removed from the main group before it was moved from San Francisco. That bound book dates to 1920. The Promontory Route was photocopied from this book. It was later found out that the remainder of the books (1906-1942) are still located in a warehouse in San Francisco known as "File Safe". Permission from the UP is required to see and copy these materials. An alternative is to contract directly with Lynn Farrar who still has access to the property.

One other significant set of material that was found located in the basement where the SP Records were stored were dozens of wooden crates (measuring about 4 ft by 6 ft by 4 ft high) full of engineering books dating to the earliest years of the UP in the 1860s. These records include construction of the transcontinental railroad as well as many other lines. To my knowledge, there is

not an inventory of these materials.

Back at the UP Headquarters Building, full size original Mylar right-of-way maps of the Promontory Route were found in the map storage area in the basement of the building. A variety of indexes of other materials stored by UP were searched, but none appeared to have value for the historical research being undertaken for this project.

THE BANCROFT LIBRARY, UNIVERSITY OF CALIFORNIA, BERKELEY

The Bancroft Library, University of California, Berkeley, Berkeley, CA 94720-6000; (510) 642-6481 (reference desk); *http://library.berkeley.edu/BANC/* (web site)

The Bancroft Library is probably the most significant repository of historical materials relevant to the present project that has not yet been physically searched. Nevertheless, an Internet search of the collections was undertaken and revealed that the collections there are large and contain valuable CP records relevant to research on the transcontinental railroad including the Promontory Route. There are at least 176 records of which each record often contains multiple folders relating to the CP Railroad alone. Many of these records are original documents not available elsewhere and include such items as Charles Crocker's biographical manuscript relating to his involvement with the CP to be included in H.H. Bancroft's *Chronicles of the Builders of the Commonwealth..., 1865-1890*; accounts of CP construction during the 1860s across California and Nevada; letters

among Collis P. Huntington, Mark Hopkins, Leland Stanford and Charles Crocker from 1867 to 1876; various documents on Theodore Judah; and a variety of other CP related documents, many of which likely relate to engineering and construction of the CP in the 1860s. The author was also informed by the reference librarian that the Bancroft Library contains original materials once held by the SP relating to early operations. Microfilm copies of early California newspapers such as the Alta California are also located in this library. These newspapers are critical to an understanding of the construction and early operation of the CP.

This library is one of the most important in which to carry out primary research relating to the Promontory Route. Exactly how much material is present and what the scope of the material is would require closer inspection.

STANFORD UNIVERSITY LIBRARIES

Stanford University Libraries, Stanford, California 94305-6004. Special Collections: (650) 725-1022. *http://www-tet.ee.tu-berlin.de/solyga/libraries.html* (web site).

Stanford University Libraries, in particular the Special Collections, but also other parts of the Green Library and Coordinate Libraries, contain significant collections about CP Railroad history. One of the most important reasons for this is that one of the Big Four of the CP, Leland Stanford, who was also a governor of the California, founded this university. All of Stanford's papers are housed in Special Collections. They fall into two collections:

SC 512, the Leland Stanford Collection, 1869-1975, contains four linear feet of material. This collection pertains to the life of Stanford and the history of the University's founding. Only two of the nine series into which this collection is divided, is of interest to this project:

Series II, Central Pacific Railroad, consists of pamphlets and memorabilia on the railroad and the "Gov. Stanford" locomotive. Box 3, folders 12-14.

Series IV, Gold Spike, includes programs, clippings, and talks from the Gold Spike Centennial events, 1969; other pamphlets, clippings articles and correspondence on the history of the Gold Spike; and a pamphlet, clippings, and correspondence pertaining to Thomas Hill's painting "Driving the Last Spike". Box 4, folders 5 through 15, and all of Box 5.

SC 033a, Leland Stanford Papers, consists of correspondence between Stanford and various other people, many pieces of which directly relate to the construction of the CP. The collection contains 5 linear feet and contains a finding aid. Several series of the collection are of interest:

Series I, Biographical is of minor value.

Series II, Correspondence, is of particular interest. It contains incoming and outgoing correspondence from 1841 until 1899, the year that Stanford died. Those correspondence during the mid 1860s into the 1870s are of particular interest to this project since they include letters to and from Mark Hopkins, Charles Crocker, and C.P. Huntington concerning construction of the CP, and other matters related to purchases and sales, labor and other matters about the railroad. Box 1, folder 7, 8 9, 10, 11, 12, 13, 14, 15, 16; Box 2, folder 4-5.

Series III, Business and Legal Papers, is also of some interest. It contains CP Railroad Company deeds, clippings, documents, and telegraph books. Box 2, Folders 26-30; Box 3, Folders 1-7.

There are also several other primary collections of value at Stanford University Libraries including two photograph collections:

PC 16, Lawrence and Houseworth Collection. This is a collection of 13 photo prints of CP Construction, 1866-1868. It contains photographs of locomotives and scenes on the west side of the Sierra Nevada.

PC 002, Alfred A. Hart Collection. This is a famous collection of photographs taken by Hart from 1862-1969. It includes 375 photo negatives and 134 photo prints documenting construction of the CP Railroad from1866-1869.

Also present in the Stanford Library are a number of primary documents about construction of the CP Railroad not known to exist elsewhere. These include several reports of the chief engineer of the CP dating 1864-65, CP Railroad pamphlets, and other documents. Also, of particular interest is:

M 097, Timothy Hopkins Transportation Collection, 1816-1942. It is 12 linear ft of material. This collection includes correspondence, records, logs, clippings, timetables, tickets and legal documents about early railroading in England, India and the United States. Presumably, Timothy Hopkins was a close relative of Mark Hopkins, one of the original "Big Four" owners of the CP/SP. Of particular interest to this project is that it contains information about the construction of the CP, SP and subsidiaries. It also has letters from Huntington to Mark Hopkins, Leland Stanford and others.

CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS, HISTORICAL DEPT.

Church of Jesus Christ of Latter Day Saints, Historical Department, Archives Division, 50 East North Temple, Salt Lake City, Utah 84101; Dr. Watt, Senior Archivist (801) 240-2272.

Information that exists in this facility about the history of the Transcontinental Railroad, was sought by Ann Hubber of HRA during a visit in February, 1998. This research identified much primary material of particular value in research about the original construction of the line. Many of these records are not available elsewhere or can only be found and accessed with difficulty. Records of particular interest are the papers of Brigham Young, former Prophet and President of the L.D.S. Church, and Utah Territorial Governor. Because of his stature and the fact that virtually all business transactions of such magnitude as this needed to go through Young, these records are exceptionally important to any historic study of Utah. Other records of value include Church Stake and Ward histories, volumes of the Church's *Millennial Star* newspaper and other miscellaneous reports, letters and documents.

The papers of Brigham Young are not easily accessed. Because of past problems that the Church as had with researchers, and because Brigham Young's personal papers have been sealed, it is very difficult to obtain access to these records and even harder to copy any of them. The records may be read and handwritten notes taken or a laptop computer may be used to take notes on. Ms. Hubber used a laptop to take notes on incoming correspondence of Brigham Young concerning railroad subjects, but was not allowed to copy anything. The incoming correspondence appeared very valuable for better understanding the history of the Promontory Route. There are letters and documents from virtually every major person involved in the effort to complete the transcontinental railroad. It includes, but is not restricted to Reed, Durant, Ames, Crocker, Stanford, Dodge, Casement, and many, many others. Extensive notes were taken on the most interesting of the letters. Unfortunately, outgoing correspondence from Young has not been abstracted or indexed by the Church. To review correspondence in this restricted collection, one must indicate the recipient and an approximate mailing date. There are no search aids, based on key words, because the collection has not been abstracted.

Other documents of value that were searched in the collection include the following:

Incidents Connected with the Building of the Union Pacific Railroad Company, by D. Schill, n.d. 2987, LDS Historical Department, Salt Lake City relating the history of a man's father who had a grading contract with the UP in 1868 near Henefer.

Multiple Stake and Ward records of the L.D.S. Church were also accessed. Ogden Ward records provided virtually no information from the time period of construction. Several Ward

records were searched for the Box Elder County area around Promontory. The Penrose Ward includes the Promontory area and has some historical information as do several other ward histories. The information is fairly limited, however. There is information here which has some value for landscape studies, but railroad related material is very limited.

"The Latter-day Saints Millennial Star". Edited and published by A. Carrington. Multiple excerpts were taken from the Star from letters written in 1868 and 1869 about railroad construction along the Promontory Route.

The Huntington Library, Art Collections, and Botanical Gardens, 1151 Oxford Road, San Marino, CA 91108; (626) 405-2100; Web site address: http://www.huntington.org/

The Huntington (of which the library is a part) is a nonprofit institution founded in 1919 by Henry Edwards Huntington. It was opened to the public in 1928. Following is from Internet information about the facility and its library holdings:

> The Huntington is one of the largest and most complete research libraries in the United States in the field of Anglo-American civilization. About four million books, manuscripts, prints, photographs, maps, and other materials ranging in date from 3500 B.C. to the present are available to scholars. The Library has one of the world's finest collections of rare books.

Of particular interest to the present project is the General American History collection (since 1800) and the Western Americana collection, both of which have considerable potential value to Western U.S. railroad history. Following is more information about the Huntington Library Collection:

> General American History Since 1800: There are many large collections of MSS; ....Topics on which several MS collections are focused include the American Indian, religious movements, papers of the presidents, diplomacy, naval affairs, War of 1812, Mexican War, women's history, American historiography, and many others. There are at least several dozen additional collections of papers of families and notable individuals (such as the Francis Lieber Papers, 6,000 items, 1815-1888, mainly correspondence with prominent persons on political affairs, and the Richard Clough Anderson papers, 1,850 items, 1781-1892). The collection of printed books for the period since 1800 is very large: .... the research materials for the period since 1900 deal with political history and Western Americana.
>
> Western Americana: The Library has the great majority of all the rare books needed for research purposes and approximately 300 MS collections (in size from 40 to more than 200,000 items), ranging form diaries and letters of the earliest explorers to modern business records. The Library has one of the largest collections of material on the westward expansion, including directories, diaries, letters, and early territorial imprints. There are more than 100 gold rush journals in mauscript, and many collections of papers relating to Western mining and transportation. The Mormon collection of manuscript diaries and journals is the finest outside of Utah, and there are worthwhile collections for the Pacific Northwest and New Mexico. For California, the Spanish-Mexican period is represented by a dozen substantial collections (such as the Galvez Papers on the settlement of Upper California, 1763-1794, 734 items); for the early American period, the collections are more numerous (such as the Abel Stearns Papers, 12,500 items); for the recent period the collections are very extensive (with such examples as the papers of the mining engineer James D. Hague, 24,000 items, 1824-1936, and Thomas R. Bard, U.S. Senator and first president of the Union Oil Company, 50,000 items, 1866-1958, or those of women's rights leader Caroline Severance, 8,400 items, 1875-1919, or those of Los Angeles mayor Fletcher Bowron, 20,000 items, 1934-1979). Printed county histories, local newspapers, rare local imprints, printed ephemera, and some 200,000 photographs offer a rewarding field for research.

Though the author has not personally searched the collections, the brief description provided above and the reputation that the library has as a research institution leaves little doubt that this collection would need to be searched during any comprehensive research effort about the Promontory Route’s history.

UNIVERSITY OF UTAH, MARRIOTT LIBRARY, WESTERN AMERICANA COLLECTION

Marriott Library, Western Americana Collection, University of Utah, Salt Lake City.

The Marriott Library, Western Americana, Special Collections contains a number of significant documents related to CP and UP Railroad history in Utah. In particular, this collection contains the original Golden Spike oral history transcripts dating from 1968 to 1974. A number of secondary works were found here that could not be found elsewhere including a 1922 exhaustive list of references to literature about the UP Railroad, the rare book published in 1969 called "the Life and Times of the Central Pacific Railroad", and a Southern Pacific Bureau of News publication on the SP published in 1945. Also located here is Reeder's dissertation on Utah railroads, a critical document for research, and an 1875 bird's eye map of Corinne. Perhaps the most significant research materials that the Marriott Library has concerning Promontory Route history is an extensive newspaper collection on microfilm. This is the largest collection of Intermountain newspapers in existence. It includes virtually all of the newspapers published in Corinne, Brigham

City, Ogden and Salt Lake City and represents some of the only information available about construction of the Promontory Route.

UTAH STATE HISTORICAL SOCIETY, LIBRARY

Utah State Historical Society, Library, 330 Rio Grande, Salt Lake City, Utah 84101. (801) 533-3500. *http://www.ce.ex.state.ut.us/history/welcome.htm* (web site).

The Utah State Historical Society, Library, contains some significant primary and a considerable amount of secondary material relating to the CP and UP Railroads and a good collection of photographs of construction and later operations along the Promontory Route, many of which were not seen elsewhere. Many photographs, however, are copies of those whose originals are located at other institutions. Primary materials include several papers focusing on Brigham Young's part in railroad construction in Utah including some of his financial records relating to construction contracts, and several survey reports by surveys working for the UP in the late 1860s.

BUREAU OF LAND MANAGEMENT, SALT LAKE DISTRICT

Bureau of Land Management, Salt Lake District, 2370 South 2300 West, Salt Lake City, Utah 84119; (801) 977-4357 (voice); (801) 977-4397 (fax)

The Bureau of Land Management, Salt Lake District (BLM), has in its cultural resources office a file drawer full of materials directly related to the history of the Promontory Route. That route is largely their responsibility now. Much of it has been deeded to them and they surround much of the rest of the area with their lands. In 1980, Anon Raymond, then archaeologist at the Salt Lake office, carried out a research project on the Promontory Route east of Promontory. Much of the material in the office today came from that research, including a trip that was taken to obtain materials from the SP offices in San Francisco. Also included in the collection are site forms and reports related to archaeological surveys carried out on and around the Promontory Route, copies of historic photographs, and a variety of secondary books and articles related to the railroad history. Perhaps the most significant materials there are paper copies of the station plans for Utah and copies of valuation work sheets showing numbers, types, sizes and other information about various stations along the Promontory Route in 1917. The originals of these copies have not been located by the author. It is suspected that the originals (and perhaps many others similar to it) still exist in the two warehouses holding SP materials in San Francisco.

NATIONAL PARK SERVICE, DENVER

National Park Service, Denver. Adrienne Anderson, Archaeologist, (303) 969-2846.

Dr. Adrienne Anderson is the archaeologist with responsibility for cultural resources research, interpretation and protection of sites on the NHS. Since the inception of the NHS the National Park Service, Denver has carried out a number of cultural resources investigations as part of its mission to identify and protect cultural resources within the facility. Perhaps the earliest of these was well before the facility was designated. Utley's report on the site was a general history (Utley 1960). F. A. Ketterson (1969) wrote an historical narrative and prepared a base map of the property in 1969 in anticipation of the Centennial celebration and construction of park facilities. In 1978 a more comprehensive inventory report was prepared of the NHS (Anderson and Ketterson 1978). In 1982 James Ayres prepared a document detailing a late 1970s archaeological survey of the property and an evaluation of significant archival collections touching on the history of Promontory and the NHS (Ayres 1982). The most recent report detailing the history of the site as a whole is that of Michael Johnson (1993). Many other technical reports have been written since that time focusing on various aspects of the railroad history of the site, most, if not all of which are listed in the Technical Information Center list of the National Park Service found at the NHS.

SPECIALIZED COLLECTIONS

There are minor collections and specialized information available at a number of other institutions. These institutions have been identified and contacted or their card catalogs searched. Some have been visited by the author. Available information is provided here for more completeness of known sources of information. They are listed in no particular order of significance.

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Southern Pacific Company Records

There are two warehouses of engineering and other records that are still maintained in San Francisco as of this date. They include “File Safe” and one further south in San Francisco or, perhaps on the Peninsula. Only sketchy information is known about the nature of the collections in these locations, but it is known that virtually all of the Bridge Inspection books for the SP are stored here dating back to 1906 as well as valuation records. Kevin Moran, formerly an Engineer at SP and now in Omaha, verified that he has accessed Bridge Inspection books at File Safe. No doubt, many other records of extreme value to the history of the Promontory Route are stored at these locations as well. At the present, the only way to access this information is to request it through the UP Headquarters in Omaha or to subcontract with Lynn Farrar who still lives in the Bay Area. He is also the most familiar with all that exists in these warehouses.

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Nevada State Historical Society, Library, 1650 North Virginia Street, Reno, Nevada 89503-1799; (702) 789-0190

There are two sets of SP railroad documents of significance at this facility. They were both acquired as a result of donations by Lynn Farrar of the Southern Pacific many years ago. One consists of five bound volumes of track profile sheets of the CP mainline from Sacramento to Ogden and the other consists of a volume of stations plans for the route, including stations along the Promontory Route.

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University of Iowa Libraries, Special Collections Department, Iowa City, IA 52242-1420; (319) 335-5921 (voice); (319) 335-5900 (fax); *lib-spec@uiowa.edu* (email)

The University of Iowa Library possesses one collection of papers which has considerable significance to the project area. The Papers of Levi O. Leonard cover much about the original construction of the UP, including Utah. Following is the description taken from the University of Iowa Libraries, Special Collections card catalog:

The papers of Levi O. Leonard document the building of the Union Pacific Railroad from

Omaha, Nebraska to Promontory Point, Utah. It includes the papers of Thomas C. Durant and the Credit Mobilier of America. Included are account books, letterpress books, contracts, legal papers, land profiles, maps, etc., all related to the actual construction of the transcontinental railroad. There are construction-period photographs taken by such noted photographers as A.J. Russell, Charles R. Savage, and J.E. Stimson. The papers also include historical material relating to other railroads, including the Mississippi and Missouri, Chicago and Rock Island, Adirondack, Baltimore and Ohio, etc. Correspondence is found throughout the entire collection. The letters from engineers, construction superintendents, railroad officials, stockholders, etc. reflect a broad range of concerns from rail orders to cotton speculation or excursion invitations to legal wrangles. Some of the correspondents include: D.H. Ainsworth, John B. Alley, Oakes Ames, Oliver Ames, George Ashmun, Benjamin E. Bates, Clark Bell, Cornelius S. Bushnell, Dan T. Casement, John S. Casement, Ebenezer Cook, John P. Cook, Henry C. Crane, and Samuel S. Cox. More correspondents include: George T.M. Davis, James W. Davis, Peter A. Dey, Sidney Dillon, John A. Dix, Grenville M. Dodge, William P. Dole, John R. Duff, Thomas C. Durant, William W. Durant, James A. Evans, Henry Farnum, James Fisk, and George W. Frost. More correspondents include: Samuel Hallett, Benjamin F. Ham, Springer Harbaugh, James Harlan, Alexander Hay, James T. Hodge, Fred S. Hodges, Ben Holladay,Jacob E. House, Herbert M. Hoxie, Charles A. Lambard, William H. Macy, D.C. McCallum, Henry S. McComb, and Henry McFarland. More correspondents include: John D. Perry, Henry V. Poor, A.J. Poppleton, Samuel B. Reed, Edward H. Rollins, Silas Seymour, Charles T. Sherman, William T. Sherman, J.H. Simpson, Webster Snyder, Edmund C. Stedman, William O. Stoddard, and Lorenzo Sweat. More correpondents include: Charles Tracy, John F. Tracy, George Francis Train, John P. Usher, B.F. Wade, John M.S. Williams, James M. Woolworth, and Brigham Young. The Leonard papers also include lectures and radio talks given by L.O. Leonard. Historian, journalist, and railroad employee.

This collection is also held on microfilm at the Nebraska State Historical Society Archives.

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American Heritage Center, University of Wyoming, 2111 Willett Drive, Centennial Complex, Laramie, WY 82071-3924

There are two particular collections at this center which have some value for the Promontory Route Project, the Casement Papers and Eicholtz diaries. John Casement was one of the two brothers who had the contract with the UP to lay track for the transcontinental railroad. While this collection is not the official company papers, it is very informative since, in part, the collection consists of his personal correspondence during that time period. What exists of the Casement Company records are said to be housed at the Western Heritage Museum in Omaha, a gift of Jack Casement's widow in 1926 (Rigdan 1951: 250). Following is the card catalog description of the collection:

Title John Stephen and Frances Jennings Casement Papers, 1837-1928 (bulk 1866-1869) Paging .45 cubic ft. (1 box) Summary Collection consists mainly of letters between John and Frances Casement while John was working on the construction of the Union Pacific railroad. Frances Casement remained in Painesville, Ohio, for much of the time while John was working for the Union Pacific and the letters detail the work involved in building the transcontinental railroad and Frances' life at home. The collection also contains miscellaneous business records, newsclippings, photographs and stereocards. Related Terms Railroad engineering West (U.S.)

The Eicholtz diaries are also quite interesting because Leonard Eicholtz was a superintendent

of bridge building for the UP in 1868 and 1869 and was Chief Engineer for the CP Railroad from 1869 to 1870. Following is the summary of the collection from the card catalog:

Eicholtz, Leonard H. Title Diaries 1852-1910. Paging 1.35 cubic ft. (3 boxes) Summary The collection consists of Eicholtz's diaries for the years 1852, 1855-1860, 1862, 1864-1870, 1872-1874, and 1878-1910, which record his daily activities as a railroad construction engineer. There is also an 1893 diary of Elizabeth C. Eicholtz, presumably a relative of Eicholtz. The collection also includes handwritten transcripts of some of the diaries. Related Terms United States History Civil War, 1861-1865 Transportation. United States History Civil War, 1861-1865. Railroad bridges United States. Railroad engineering United States. Railroads Construction United States. Railroads Surveying United States. Military railroads United States. Banks and banking Colorado Denver.

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State Historical Society of Iowa 600 East Locust, Des Moines, Iowa 50319-0290; (515) 281-5111; and **Council Bluffs Public Library, Council Bluffs**

Major General Grenville M. Dodge was the Chief Engineer of the UP Railroad during the construction of the transcontinental railroad from Omaha to Promontory. Later in his life he wrote over a thousand pages of autobiographical material of his life from 1831 to 1871. He completed it in 1914 in five volumes. The five volumes are located in both the Iowa State Historical Society and the Council Bluffs Public Library (where portions of the papers were copied). This material covers, in depth, his dealings with various railroad matters on construction and includes quotes, many at some length, of letters to and from him concerning the UP and CP construction history. The work is entitled:

Papers - Major General Grenville M. Dodge, From 1831 to 1871, Written and Compiled by Himself at Different Times and Completed in 1914, In 5 - Typewritten Volumes

Many boxes of other Dodge papers are in the collection of the State Historical Society of Iowa as well including correspondence, reports, diaries, and personal recollections.

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Syracuse University Library, 222 Waverly Avenue, Syracuse, NY 13244 ; (315) 443-5531

Syracuse University Library has been the recipient of most, if not all, of C. P. Huntington’s papers. C. P. Huntington was one of the Big Four who owned and built the CP Railroad. Huntington lived in New York and worked out of the New York City Office of CP. He also made many of the major purchases for the CP in New York including locomotives, rolling stock and construction supplies. His descendants have continued to live in New York and one of them donated his papers to the Syracuse University Library. Following is the card catalog entry for this collection:

Author: Huntington, Collis Potter, 1821-1900; Title: Papers, Dates: 1797-1904. Description: 105.0 linear ft.; American railroad magnate and capitalist, whose financial interests included steamship, manufacturing, construction, and land companies. Philanthropist, trustee of the Hampton Normal and Agricultural Institute and supporter of Tuskegee Institute. Notes: Restricted. Summary: Incoming correspondence (1856-1904); letterpress copybooks (1868-1901); legal and financial (including real estate) records (1797-1901); and personal papers (1862-1901). Notable among the real estate records are documents relating to the furnishing and household expenses of Huntington's San Francisco residence, and records

relating to the design, construction, decoration, furnishing, and maintenance of Huntington's palatial home on 57th St. in New York City. Correspondents include Oakes Ames, Susan B. Anthony, S.C. Armstrong, Samuel B. Axtell, James G. Blaine, William B. Bonn, Marcus D. Boruck, John Boyd, Luigi di Cesnola, William E. Chandler, David Colton, John Conness, Charles Crocker, Charles F. Crocker, E.B. Crocker, John Echols, J.H. Flagg, Francis W. Fox, Richard Franchot, Isaac E. Gates, F.N. Gilman, George C. Gorham, Jay Gould, Ulysses S. Grant, Mark Hopkins, Anna Judah, Edwin H. Miller, William H. Mills, L. Bradford Prince, A.A. Sargent, Charles H. Sherrill, Jane and Leland Stanford, William M. Stewart, James Storrs, William B. Strong, Alban N. Towne, Booker T. Washington, W.C. Wickham, George W. Williams, and J.H. Woodward. Some of Huntington's correspondence was conducted through the use of cipher systems and many letters provide word keys to substitution codes. Cipher telegrams are often accompanied by translations. Location: Bird-Spec Coll, Manuscripts

This collection has also been microfilmed by the Microfilming Corporation of America, Sanford, North Carolina 1978? on 115 reels; 35 mm and is available in the Syracuse Library, Bird-Media, Lower Level. MICROFILM 5022.

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National Archives and Records Administration, Suitland, Maryland

There is likely a wide array of information available at the National Archives concerning the construction of the CP and UP Railroads. There are certainly a large number of Congressional documents detailing much of the work and preliminary surveys. Nevertheless, documents of value known to exist here are papers relating to the Interstate Commerce Commission (ICC), the agency responsible for oversight of railroads beginning in 1906. A particularly valuable source of information that was gathered by this agency between about 1915 and 1920 were “valuation records”, records which detailed a variety of information about all railroads including equipment, structures, trackage and other items. These audits sometimes included drawings, photographs and other data. Attached to this appendix are several background reports concerning these very valuable documents and how to access them. A number of pages of these documents were found at the BLM, Salt Lake District Office, with detailed lists of property and some drawings of structures at several stations and stops along the Promontory Route. These were apparently obtained directly from the SP Company in 1980 during a research trip to San Francisco. Others may be found at the National Archives.

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Oakland Museum of California, 1000 Oak Street, Oakland, CA 94607; (510) 238-2200

The one collection that this institution holds are the original A. J. Russell photographs taken of the UP Railroad construction during the late 1860s. Copies of most or all of these are on file at the Western Heritage Museum in Omaha.

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Box Elder County Recorder's Office and Box Elder County Assessor's Office, Brigham City, Utah

These offices contain valuable information concerning land transactions, mortgages, property assessments, and other documents and abstracts related to assessing and taxing both real estate and structural property since the property on the Promontory Route was deeded to the UP and CP Railroads in the 1860s and 1870s.

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Utah State Archives and Records Service, Archives Building, State Capitol, Salt Lake City, Utah 84114; (801) 538-3013 (voice), (801) 538-3354 (fax).

This agency of the state maintains all records from agencies of the State of Utah and from counties within the state which no longer need them for day to day operations. Some of the collections extend back to the early 1850s. Items of particular interest for the Promontory Route project include Utah Railroad Commission records, Public Utility Commission records, Utah State Tax Commission records, and Box Elder County records which have been sent to the State Archives. The scope and significance of this collection for the present project is not yet known.
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Bureau of Land Management, Public Records Office, Salt Lake City.

This facility maintains all of the land survey records that have occurred in the State of Utah since original surveys were carried out during the 1850s. The most significant information for this project available at this facility are the General Land Office (GLO) maps and survey notes which accompany each map. These were the maps prepared for each township in the state as it was laid out for government management purposes. The earliest of these maps provide detailed natural and cultural information on them including homes, other buildings, railroads, roads, springs, creeks, rivers and other features of great historical value. The survey records that accompany them sometimes include details about land ownership, buildings and other cultural features on the land. For the current project area, the coverage is spotty because several of the townships through which the Promontory Route crosses were surveyed prior to 1869 and thus, do not show on them the railroad and the towns that sprung up in response to the railroad's construction. However, several were created during the 1870s and do include the railroad and accompanying facilities including the GLO map of Promontory Summit. These maps are on microfiche and can be copied.

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Attachments to Appendix D