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THE NEVADA STATE RAILROAD MUSEUM
An Agency of the Division of Museums & History
Nevada Department of Tourism & Cultural Affairs

Fall 2013

Rails to the Comstock: Ike James and the Building of the V&T Railroad

By Paul Pace, P.L.S. *Illustrations: author's collection*



For Virginia City, Utah Territory, 1860 was a pivotal year. Although the Comstock Lode's rich ore held promise and thousands of young men joined the "Rush to Washoe," working underground in the soft rock was treacherous. Philipp Deidesheimer, a mining engineer in El Dorado County, California, was asked to develop a solution. After he devised square-set timbering, in November 1860, a huge lumber industry arose to supply the mines. A second challenge underground was hot water, 170°F or more. Drainage adits and steam-driven pumps were expensive and at first ineffective. Adolph Sutro, on a visit to the Comstock in March 1860, had envisioned draining water from the bottoms of mine shafts through a tunnel to the Carson River Valley. The Lode's difficult conditions would drive innovation for years to come. Unlike smaller mining districts in California, the Comstock soon became highly industrialized.

In May of 1860 surveyor and civil engineer I.E. James (*pictured*) arrived on the Comstock. Born in Ohio to Judge Isaac James and his wife Betsy in 1830, Isaac Evan James had studied engineering at Granville College. He hired on with the Bellefontaine & Indiana Railroad in 1851, left for California in 1852, moved to Downieville in 1853 and became a mine surveyor. Sierra County elected him County Surveyor in 1858. His older brother, William, a lawyer and surveyor, would become governor of Nebraska. His younger brothers John, Walter and Alfred already were in western Utah Territory. John was the delegate for Carson County to Utah's territorial legislature in 1860. He represented Storey County in Nevada's second State Assembly session and served as Speaker *Pro Tempore*. Walter later became County Surveyor for Kern County, California. Alfred, a writer and lawyer, represented Churchill and Lyon Counties in the Nevada State Senate.

Congress created the Nevada Territory from Utah on March 2, 1861, six weeks before the nation was torn apart by civil war. Isaac E. James was elected Storey County Surveyor in January 1862 defeating former California Surveyor-General S.H. Marlette by a 3-to-1 margin. Marlette would later become the State of Nevada's first Surveyor-General. Territorial Governor Nye appointed James a Lieutenant Colonel of Engineers in November. By January 1863 "Ike" as he was known, had begun a private surveying practice. Soon the Ophir Silver Mining Co. named him their Chief Surveyor.

In his book *History of the Comstock* attorney Grant Smith described the district as

... a happy hunting ground for lawyers during the early years. They flocked there like buzzards after carrion, and engaged in an orgy of litigation over mining claims, much of it incubated in blackmail and reeking with perjury. The crude and indefinite early notices of location, and the practice of jumping claims, brought many lawsuits. The question whether the Lode was one great vein or a series of parallel and independent ledges aroused the bitterest litigation.

Some of the confusion resulted from a lack of consistent mining laws. Each district evolved its own with Virginia City using rules similar to those in California. "Extralateral rights" allowed miners to locate a claim

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NEVADA STATE RAILROAD MUSEUM

2180 South Carson St.
Carson City, NV 89701
775-687-6953

www.NevadaCulture.org/museums

Open 9:00 to 5:00

Thursdays through Mondays
except Thanksgiving

Admission: \$6. Children under 18, and
members of the Friends of the Nevada
State Railroad Museum, admitted FREE.



NEVADA
DEPARTMENT OF
TOURISM AND
CULTURAL AFFAIRS



The museum is an agency of the
State of Nevada

Brian Sandoval, Governor

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2013 Santa Train

Saturday/Sunday Nov.30 & Dec.1 and Dec.14 & 15:
Santa Train departs Wabuska Depot, 9:00AM till 4:00PM
All seats \$3.

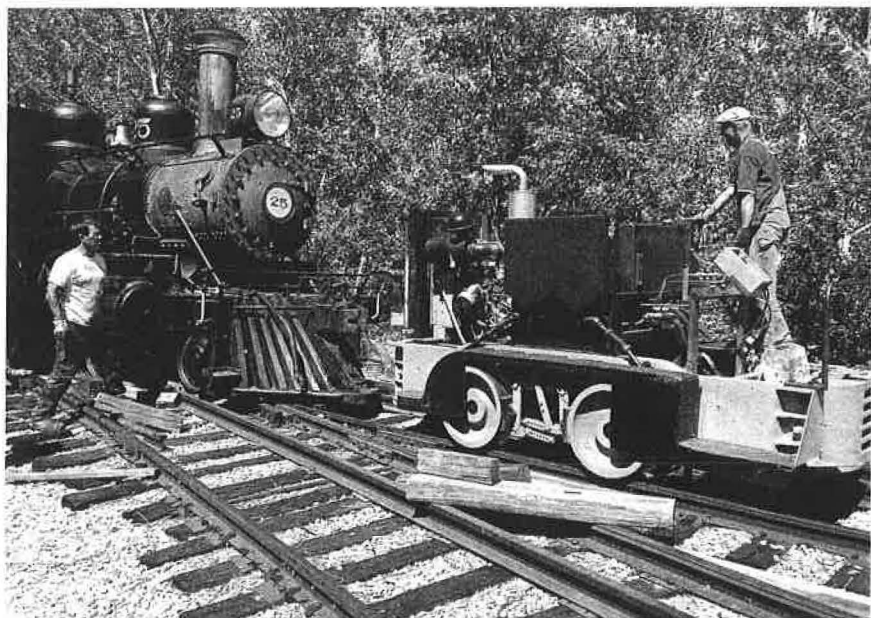
Please submit items for the next *Sagebrush Headlight* by April 1.



On July 11, after a "Your Hand on the Throttle" program had
concluded, all wheels of V&T No. 25 derailed at switch 4. NSRM
volunteers were operating the locomotive at the time.

With the help of a large crew, Restoration Supervisor Chris de
Witt (*below, left*) and Curator of History Wendell Huffman (*right*)
had the locomotive back on the rails about 4:30 PM.

NSRM Photos by Peter Barton



FNSRM President's Message

Hello all! Here's hoping that all is well with everyone. The Friends Board of Directors held our Annual General Membership Meeting and Reception during the V&T History Conference and the attendance was good, but not great. We would like to see more attendance by our members, as that is how the Board considers its activities and takes actions on various projects. We need your input and direction.

While other railroad museum support groups across America are experiencing a decline in membership, we are very fortunate and have been "holding our own". We were pleased to reach a membership of over 1,000 members a couple of years ago, and we are still in the 950-1,000 range. Let's see if we can achieve a goal of over 1,000 again. Remember, our membership is our greatest asset and therefore, we must make certain that we continue to grow and prosper. While some organizations are able to exist with just a few members, FNSRM needs involvement by many more members and volunteers.

Where have all the volunteers gone? At this time I am asking for everyone's input so that we can get the membership and volunteer levels increased. Please feel free to contact myself by e-mail at frontieradjusters@pyramid.net with your input. All correspondence will be kept confidential. We want to make an effort to correct this lack of involvement issue, but we "desperately need your help".

Naturally, all of our volunteers deserve recognition and praise and I hope all of you realize that you are a valuable addition to this organization; the task we have before us is no small thing. Yet, it would be insurmountable without the positive contributions of everyone who considers themselves a friend of this organization. Therefore, let's all work together and remedy our low volunteerism numbers.

It can be argued that the time the museum was only open on a limited basis that most volunteers found other avenues in which to give their time. However, with the additional day of operation, those numbers have not increased by the same percentage as the hours of operation have. How come? The next major event coming up is Santa Train. We will need all volunteers, no matter in what capacity, from train crew to depot attendants, to tour guides, museum store attendants, and general support staff in the Interpretive Center.

You have never volunteered? We can remedy that, just come on in and the museum staff will get you started. Your membership allows for your expert participation and involvement. Remember, everyone is an expert at something. We can use that talent. Besides, the feeling one gets from helping others is beyond words. So please consider getting involved. Together, we can be the best.

Sincerely, Ronald J. Allen, President

Continued from Page 1 about 200 feet long and follow it into the earth "with all its dips, spurs, and angles." Personalities dominated: William Stewart, attorney for the principal mines on the Comstock and future U.S. Senator, was accustomed to getting his way in court.

In August 1864 the lawsuit *Gould & Curry Mine vs. the North Potosi Mine* came before Judge John North. It centered on the one-ledge theory, which explained the V-shape of the deposit by contending that large blocks of barren rock, hundreds of feet wide and up to 1,000 feet long, split off the overhanging eastern wall by a series of vertical faults as the ore body formed, separated the long veins of ore. Professors, geologists, and Ike James were called as expert witnesses by referee John Nugent. There had been no trouble between the adjoining companies until miners in the North Potosi drove an adit eastward that hit rich ore in its hanging wall east of the Gould & Curry. The Potosi claimed it was a separate vein. The court found it a "true fissure vein" lying between rock formations of different origin and character. The decision had wide consequences for the mining industry. As Smith explains

It was largely upon the basis of the regularity of the strike and dip of the Comstock Lode that Senator Stewart was enabled, with the support of other western Senators and Congressmen, to pass the mining laws of 1866 and 1872, which perpetuated the extralateral right and provided for the patenting of mining claims. Until 1866 the miners were without any legal rights on the Public Land and were in effect trespassers.

Continued on Page 4

IN THE DISTRICT COURT,
FIRST JUDICIAL DISTRICT, STOREY COUNTY,
NEVADA TERRITORY.

Gould & Curry Silver Mining Co.,
Plaintiff,

vs.

North Potosi Gold and Silver Mining Co.
Defendant.

OPINION OF REFEREE,
AUGUST 22, 1864.

VIRGINIA, N. T. 1.
GOODMAN & M'GARTHY, PRINTERS, ENTERPRISE OFFICE.
1864.

Comstock production slackened in 1864 as deposits played out, discoveries stopped and investors withdrew their money. James remained busy as Storey County Surveyor and City Surveyor for Virginia City. In October he was elected Alderman of Virginia City's First Ward. On October 31 President Lincoln wired Governor Nye: "Nevada was this day admitted to the Union." A few weeks later, James and a Briton named Richard Harper Stretch surveyed and mapped the underground workings at the Utah Mine in the upper end of Sevenmile Canyon, a mile north of Virginia City. Stretch, a savant with skills in surveying and mapping who prepared the cross-section of Sutro's Tunnel (*below*), civil engineering, mining, prospecting, geography and particularly entomology was like Ike James born in the 1830s. Young and talented like so many on the Comstock, the pair would collaborate on projects for many years.

On February 4, 1865, the State granted Adolph Sutro a tunnel right-of-way 2,004 feet on each side of the tunnel's center line and seven miles in length. The tunnel would begin at a point 1,600 feet below the shaft collar of the Savage Mine in Virginia City and drain water four miles east to the Carson River. Ross E. Browne, Gott Haist, and Ike James, well known in engineering circles on the Comstock, were to provide surveying and tunneling expertise. Senator Stewart presided over the company.

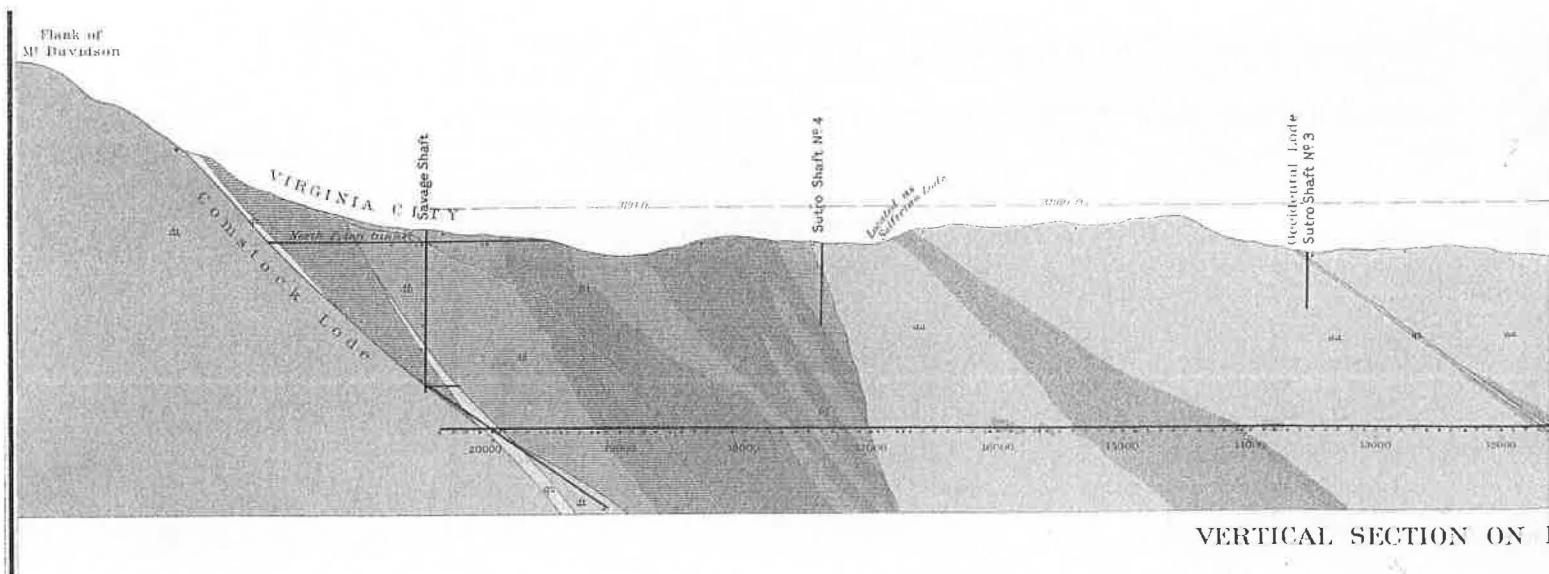
That June a proposed railroad to the Comstock (the third within three years) named James its Chief Engineer. He testified before the Senate Committee on Railroads in the State legislature. Among several key players James was named a grantee for a right-of-way for the new line. With R.H. Stretch, James ran a survey north from Gold Hill to Lousetown Creek, then breaking over the Virginia Range onto the flats near Steamboat Springs and continuing toward the Truckee River. On June 6 the *Gold Hill News* reported "the locating survey is nearly completed and Mr. James is confident of a speedy completion of a work which will in two years do more towards increasing the wealth of the County of Storey than any one thing." The survey was completed, but the needed capital for its construction could not be raised. English capitalists were then invited to invest but declined and – as twice before – no railroad was built.

Meanwhile banks in Virginia City lent money at 36-percent annual interest. William Sharon, Nevada agent for the Bank of California, saw that much of the mining business could be captured with lower rates. The Bank opened a Virginia City office that Sharon managed. By offering 24-percent credit he garnered substantial business. He also endorsed Sutro's tunnel.

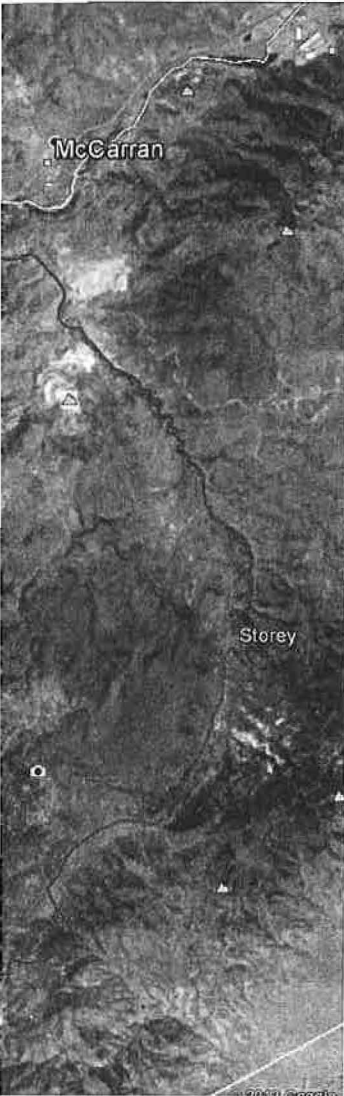
Production suffered from lack of profitable ore and mills entered bankruptcy. As Sharon foreclosed, the Bank took control of milling on the Comstock. Sharon



Where the V&T might have (red line), total length 21.6 gradient. The descent into required sharp curves.



VERTICAL SECTION ON 1



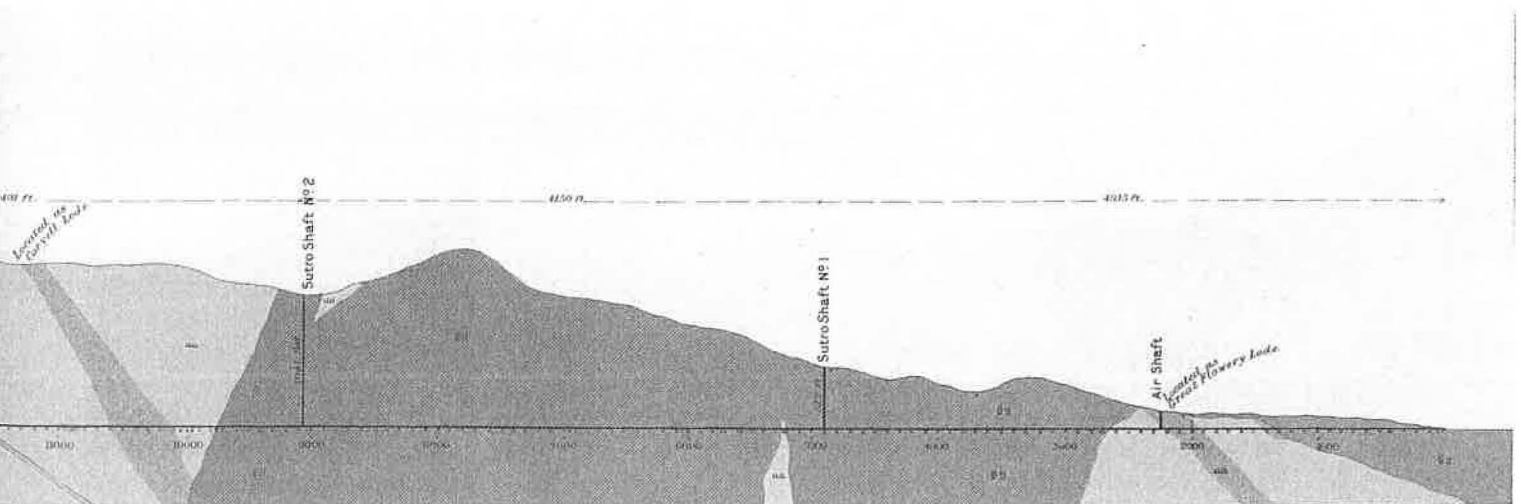
one. The alignment above
miles, adheres to a 2.2%
Long Valley would have
Google Earth base.

incorporated the Union Mill and Mining Co. which within two years had control of 17 mills with more than enough stamps to crush all the ore coming from the mines. He moved to the lumber industry, acquiring flumes and sawmills that supplied the massive amount of timber required to square-set the stopes under Virginia City and Gold Hill. Sharon saw to it that the Bank controlled the California quicksilver market, vital to reduction mills. With assets of \$13,000,000 the Bank's appetite for monopoly had become insatiable.

With Sutro predicting that the movement of ore, waste rock, people and equipment via his tunnel would turn Virginia City into a ghost town, Sharon and other officers of the Bank began to oppose the project. As Dan De Quille said in *The History of the Big Bonanza* "[Sharon] was shrewd enough to see that he had at last reached the place where all of the money on the Pacific Coast was coming from." Virginia City and Gold Hill had great potential despite endless litigation and financial woes. Only the richest ore was profitable, due to the expense of hauling ore to the mills on the river by wagon. With costly infrastructure already in place, William Sharon recognized that reducing overhead would yield greater profits. He took up the idea of a railroad to ship both ore from, and timber to, the Comstock.

Sharon incorporated the Virginia & Truckee Railroad Co. in May 1867. It is likely he hired Ike James to survey the alignment. The route would run the length of Lousetown Creek to Long Valley Creek and on to the present site of Lockwood, on the Truckee River ten miles east of Reno. There the line would connect with the Central Pacific Railroad. Ormsby and Storey Counties quickly offered enough financial support to convince Sharon to reroute the line in the opposite direction, to Carson City. In a now-legendary conversation Sharon asked Ike James "Can you build a railroad from Virginia City to the Carson River?" When James said yes, Sharon responded "Then do it, at once." The Virginia & Truckee Railroad was incorporated March 5, 1868, by principals of the Union Mill and Mining Co. and the Bank of California: Darius Ogden Mills, William Ralston and William Sharon. The bankers reckoned correctly that their expenses would fall and if any mining company refused to ship by rail the Bank could deny it credit.

James was named the railroad's Chief Engineer. In December 1868, six months after the Central Pacific Railroad had reached Reno, his route survey began. The new line was to be standard gauge, originating just below the business district of Virginia City. It would require six tunnels, each one timbered and lined with zinc-coated plates to reduce the fire hazard. Several large trestles were required, with an especially large one at Crown Point, below Gold Hill. James held the grade to 2.2 percent through the



LINE OF SUTRO TUNNEL

vertical drop of 1,600 feet, or about 116 vertical feet per mile. He used 14-degree curves with radii of 410 feet and a few of 18 degrees. At Gold Hill, he was forced to use a 19-degree curve with a radius of a mere 303 feet. James finished the survey to Carson City in June 1868. Grading began at Virginia City in February 1869. By the end of April 1,200 men were at work on the line, scattered among 38 camps. Most were Chinese who had worked on the Central Pacific. Sharon had garnered \$500,000 in county bonds and \$700,000 in loans and gifts from subscribers and mining companies, thus assuring construction of the road.

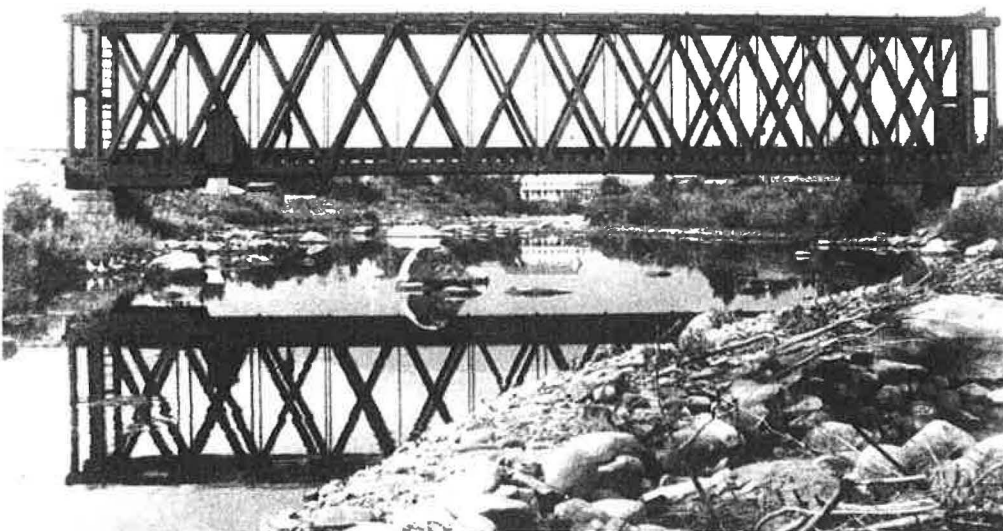
The V&T ordered three 2-6-0 Mogul locomotives from the Union Iron Works in San Francisco and two from Baldwin Locomotive Works in Philadelphia. The Union locomotives were named *Lyon*, *Ormsby* and *Storey* for the counties where the line would operate; the Baldwins *Virginia* and *Carson* for the railroad's terminal cities. All five arrived in Reno by rail. Teams of oxen hauled the Union locomotives to Carson City and the Baldwins up the Geiger Grade. *Virginia* reached the top. *Carson* became mired in mud, sat for several weeks, and was partly dismantled to finish the trip in pieces. Grading along the alignment continued. When Mrs. James gave birth to a daughter in June, the *Gold Hill News* reported that "The railroad goes on, same as ever." Track-laying started in September 1869 and was completed November 12, 1869. The first passenger trains arrived in Gold Hill November 29 and Virginia City two months later. From the Baldwin Locomotive Works in 1870 the V&T purchased a 2-4-0 locomotive with 48-inch driving wheels to serve as a switcher and fire engine. Its name: *I.E. James*.

In 1871 the V&T's owners announced that they were contemplating a connection with the Central Pacific Railroad at Reno. James oversaw the preliminary survey for a 31-mile line that would entail less curve-layout and grading than the line to Virginia City. It nonetheless had challenges particularly, at the south end. To clear Lakeview Summit, James likely ran the survey downhill, staking the grade down into Eagle Valley. James's alignment put the centerline on the west side of the valley. From Carson City, James extended the existing mainline rails west along Washington Street, connecting with the route from Lakeview.

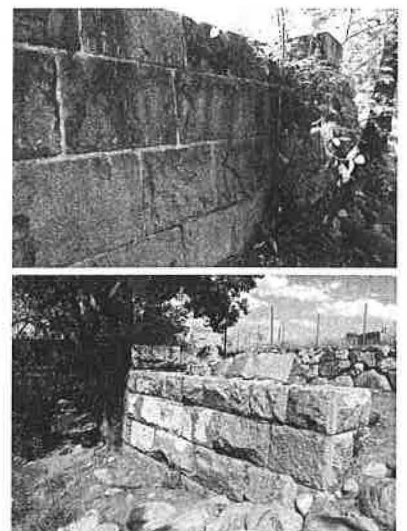
The route on the approaches to Lakeview Summit entailed heavy cuts and fills and a lengthy curved tunnel. Sometime after the completion of James's preliminary survey part of the center-line was relocated, as the *Carson City Daily State Register* noted on July 1, 1871: "Ike James is busy with the survey. The old survey will be somewhat departed from."

Final construction surveying of the new center-line commenced from both ends. By mid-August surveyors working south from Reno had passed Steamboat Springs and were proceeding toward Washoe Valley. Grading crews followed. The *Reno Crescent* reported on July 20 that

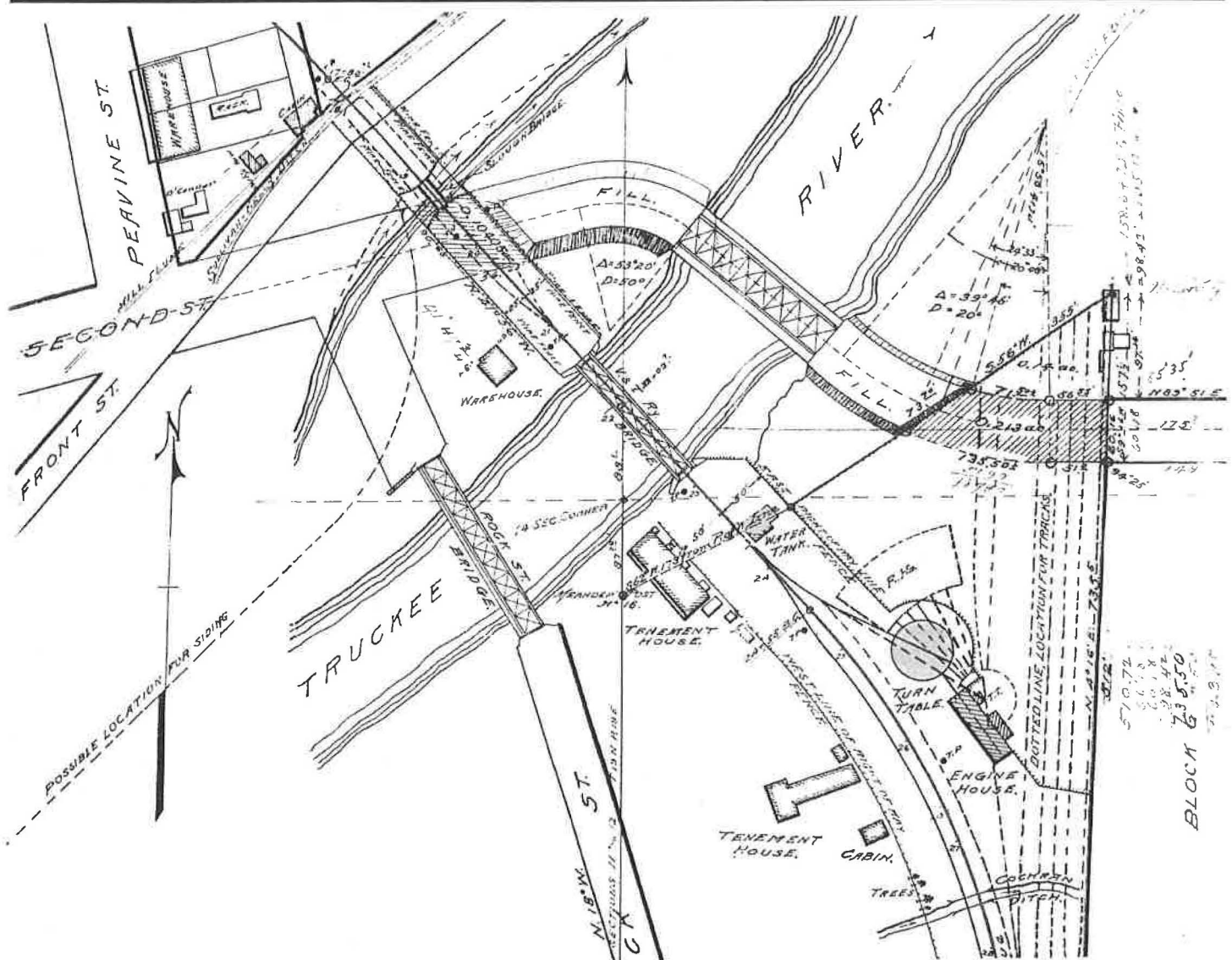
Some four or five hundred Chinese laborers are at work between Reno and Steamboat Springs at grading the track of the extension of the Virginia and Truckee Railroad. Contracts have been made with parties to deliver the ties for that portion of the road reaching across the Truckee Meadows.



Meanwhile the railroad's bridge over the Truckee River (*above*) was under construction just south of the Central Pacific connection downtown. By October the bridge was complete and 11.5 miles of track had been laid to Steamboat where a new depot and turntable were under construction.



South bridge abutment (top) and its west wing wall as they appear today.



Plan of Virginia & Truckee Railroad facilities in Reno.

To aid construction the locomotive *Ormsby* was dismantled and shipped to Reno as later was the *I.E. James*. By November regular passenger service from Reno to the hotels and bathhouse at Steamboat had begun. From Carson City grading and tunneling to the divide between Eagle and Washoe Valleys continued through the winter until bad weather forced a halt to grading. Tunnel crews continued their work underground.

The following spring, grading resumed with an expanded workforce of nearly 1,000 laborers, mostly Chinese. The railroad, in addition to shipping rails, personnel and equipment to the busy terminus, operated passenger and freight service to the resort. Drayage firms hauling merchandise, and a stagecoach linked the end of track with Carson City. The *Territorial Enterprise* reported that receipts at Steamboat for the month of April included 4,564,586 pounds of merchandise, 985,418 pounds of grain, 175,000 pounds of coal, 778,500 feet of lumber, 180,000 shingles and three carloads of livestock.

Despite several accidents, fatalities from blasting mishaps, and soft, wet ground through Washoe Valley, the railroad was completed by August 24, 1872. The last spike ceremony, witnessed by five hundred onlookers, was reported by the *Daily State Register* on August 25:

H.M. Yerington, Superintendent of the road, and I.E. James, Civil Engineer, each with a sledge, performed the work of driving the last spike on the Virginia and Truckee Railroad, which was done with a will and (except for an occasional mis-luck by Yerington,) in a workman like manner, followed by three rousing cheers from the crowd present."

The Comstock was now connected directly with San Francisco and the cities of the East.

In the next issue: Locating Nevada's boundaries.

4216

NEVADA STATE RAILROAD MUSEUM

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Governor Brian Sandoval (*rt.*), accompanied by daughter Marisa, and Lt. Gov. Brian Krolicki arrived by train at Wabuska depot July 3, 2013. Governor Sandoval selected the Nevada State Railroad Museum as the setting for his announcement to news media that Nevada's museums are back with expanded hours and days of service.

The Governor also announced the 2013 "Discover Your Nevada" publicity campaign being conducted by the Nevada Department of Tourism & Cultural Affairs, the sale of the Nevada Sesquicentennial license plate, and the search for Nevada's poet laureate in conjunction with the Sesquicentennial.

Photo by Matt Brown, Nevada Magazine

NEVADA
A WORLD WITHIN.
A STATE APART.

