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Winter & Spring 2021
146th Edition

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**THE NEVADA STATE
RAILROAD MUSEUM**
An Agency of the Nevada
Department of Tourism
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SAGEBRUSH HEADLIGHT

Special
DOUBLE
Issue!

NEWSLETTER OF THE NEVADA STATE RAILROAD MUSEUM

As the Turntable Turns: The Continuing Saga of the NSRM Turntable *by Wendell Huffman*

The railroad at the Nevada State Railroad Museum has a wye, a balloon track, and a turntable. All three are conventional facilities for turning locomotives or cars. While the wye and the balloon can turn an entire train at once, the turntable is undoubtedly the most interesting of the three tools. The turntable may be interesting simply because it is more compact than

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The McKeen Motor Car goes for a spin on the turntable on March 11, 2010. This would be the last time the turntable was used before it was rebuilt in 2010. (NSRM photo)

Glenbrook to join lineup at the Roundup of Victorian Iron Horses *by Adam Michalski*

The Nevada State Railroad Museum is excited to announce that the *Glenbrook* will be joining the lineup of 19th Century steam locomotives at the *Roundup of Victorian Iron Horses*. This event will be hosted by the Cumbres & Toltec Scenic Railroad in Antonito, Colorado, from August 21-29,

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The Glenbrook. (Photo courtesy of Rick Bienek)

VISIT THE MUSEUM

**Open 9:00 a.m. to 4:30 p.m.
Thursday through Monday**

Closed Tuesdays, Wednesdays, Thanksgiving, Christmas and New Year's Day

Museum Admission:

Adults 18 & Over - \$8.00
Children (Under 18) - FREE
Museum Members - FREE

STEAM TRAIN & MOTORCAR RIDES

Rides run select weekends May through December.

The complete 2021 operating schedule is available at:
carsonrailroadmuseum.org

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SAGEBRUSH HEADLIGHT NEWSLETTER

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**NEVADA STATE
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Message from the President of the Friends of the NSRM, Barry Simcoe

Summer is here and what a great summer it will be. We just finished our 3rd annual Ironhorse Rail Camp and it was the best ever so far. All the participants, instructors, and support people had a fabulous time. One participant at the dinner announced it was in the top 5 experiences of his life. Many thanks to Bill Kohler, organizer of the event, and everyone else that helped. Well done everyone.

On May 22, we held a strategic planning meeting chaired by Todd Moore and attended by members of the Friends of NSRM Board and museum staff. It was a great working session that resulted in a draft strategic plan. This document is available at nsrm-friends.org and will be discussed at future board meetings with the goal to adopt it this year. This plan will help guide the actions of our organization for the next five years and beyond. I encourage you to read it and submit your input to us or attend our meetings to discuss it.

I encourage you to consider running for the Board of Trustees, and even if you are not a Board member, to participate in the board meetings. Together we can help build a museum that will be the best it can be. See page 3 for details.

Once again, I thank everyone for their help supporting the Friends of the NSRM and the museum.

Email: barrysimcoe@sbcglobal.net
Phone: (775) 379-1353

*Thanks,
Barry*

FNSRM Board Meetings are scheduled for August 2, 2021 & October 4, 2021. All members of the Friends organization are encouraged to attend.

First Board of Trustees In-Person Meeting in Over a Year!



After the COVID-19 pandemic became a reality in March 2020, the Board of Trustees of the Friends of the Nevada State Railroad Museum had to shift their bi-monthly meetings to Zoom. However, as vaccination rates increased, the Board was allowed to have in-person meetings again. On April 5, 2021, the Friends of the Nevada State Railroad Museum convened their first board meeting in person in over a year. To commemorate the event, the Board of Trustees posed for this photo. Thank you to the Board of Trustees for their hard work and dedication to the museum! 🚂

Friends of the Nevada State Railroad Annual Board of Trustees Election

The Friends of the Nevada State Railroad Museum 2021 Board of Trustees election is upcoming. Help decide the direction of **your** Museum. No railroad experience is necessary. Meetings are bi-monthly commencing in December. **Apply now!** Send a short biography including your name, address, phone number, e-mail address, occupation history, hobbies, and anything else you may deem as useful to the railroad museum to: VTRRLoco18@aol.com.

Biographies must be submitted no later than August 14, 2021.

As the Turntable Turns *(continued from page 1)*



The pivot during the 2010 rebuild of the NSRM turntable. (NSRM photo)

track and, thus, easier to absorb. But it presents the seemingly impossible spectacle of humans subduing an obviously large and heavy locomotive. The steam locomotive seems most tamed by humans when it is corralled onto the turntable and pushed around by muscle power alone.

Not only does NSRM's turntable turn locomotives or pieces of equipment end-for-end, but it connects with the various shop and Annex tracks, and for several tracks provides the only avenue into the building.

The turntable is a visual lesson in physics. In the first place, it is a bridge. Unlike a conventional bridge, which spans a void between its abutments, the turntable bridge extends outward over

empty space in opposite directions from its central support. This is because the turntable must rotate, and its central support rests on a large pivot. But extending those bridge sections outward from the turntable's central support is

an engineering challenge. In the case of the NSRM turntable, the ends are suspended from a central tower. Our turntable is copied specifically from plans developed by the Southern Pacific Railroad about 1900, but its design is fundamentally the same as wooden turntables built half a century earlier. The advantage of a turntable built to this design is that it is composed primarily of wood, which was readily available. Also, because the bridge structure is primarily above the track, it requires only a shallow excavation to clear the portion of the turntable below the track.

As it happened, the first turntable proposed for the Nevada State Railroad Museum was acquired from the

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The side sills are added to the turntable during the 2010 rebuild. (NSRM photo)



Amador Central Railroad in 1979 and was of a wholly different design. Its bridge structure was entirely below the level of the track, like the turntable at the California State Railroad Museum, or like the V&T's Mound House and Steamboat turntables, which can be seen in the abandoned Brunswick Canyon Road bridge across the Carson River. Being below the level of the track, that turntable was deeper, and thus required a deeper excavation and pit. This presented a problem due to the shallow water table at the museum's site.

Turntables like the Amador Central turntable are known as "deck" tables since the track is essentially built on the turntable's deck. The turntable eventually built at NSRM is a "through" turntable, since the track runs through the bridge structure. There are other kinds of through turntables, with the extended bridge ends supported with trusswork. They look more like conventional bridges, yet are still supported at the center, so they can pivot.

Another way in which the turntable is a visual physics lesson is the means developed for turning it. The entire weight of the turntable and any piece of rolling stock that is being turned must somehow be overcome so that it might be swung

around on its pivot. This is done by applying leverage. In a common lever and fulcrum, a relatively small force applied to the long end of a lever can lift or move a heavy weight placed closer to the fulcrum. In the turntable, this lever is placed on its side, so the weight is not being lifted, but simply moved sideways. The weight of the table and its load is concentrated on the pivot, which is the fulcrum, and thus it can be moved by a much lighter force applied at the ends of the table. In the case of NSRM's turntable, the pivot, or fulcrum, is the small ring-rail under the center of the turntable. Its diameter is the width of the turntable to provide stability. It would be far easier to turn the turntable if it was a mere point at the center, but there would be nothing to keep the table from falling over sideways, and the friction on that pivot would be immense. Until recently a second ring



Shop staff remove the top sill of the A-frame after it became damaged in October 2014. (NSRM photo)

rail extended around the perimeter of the turntable pit. There were castors at the corners of the table which contacted this rail when the table was being loaded. The impression was that the wheels at the end of the turntable were supposed to rest on that outer ring rail, but this was only true in a limited case. The outer ends of the turntable were expected to settle down on that rail only while the table was out of balance—while a locomotive or car was moving onto or off the table. Early exam-

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As the Turntable Turns *(continued from page 5)*



NSRM volunteers set to work installing the rebuilt turntable in 2010. (NSRM photo)

ples of gallows tables show only a fixed shelf for the turntable to settle onto during loading. The purpose of the rail and wheels was to support the ends of the table so that the rails on the table re-

mained at roughly the same level as the adjacent track. If those wheels remained in contact with the ring rail under load, it was difficult—if not impossible—to turn the table.

Since the Amador Central's deck-style turntable was rejected because the water table was expected to interfere with its deep pit, Short Line Enterprises built NSRM's wooden gallows turntable in 1982. It is called a "gallows turntable" because the central tower, from which the ends are suspended, is reminiscent of gallows. It is also sometimes called an A-frame turntable. With the passage of time and frequent loading and unloading of locomotives weighing up to 90,000 pounds in operational condition, the wood turntable weakened and collapsed. The ends sagged as all the adjustment was taken up which allowed the table to remain in contact with the outer ring-rail even when the load was properly balanced, making it



Hoisting the A-frame for the turntable in 2010. The original A-frame was reused and not rebuilt. (NSRM photo)

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very difficult to turn the table. Thus, after 28 years of service at the museum, the original NSRM turntable was rebuilt in 2010. New timbers were specially cut by the Hull-Oaks sawmill in Monroe, Oregon. The longitudinal timbers that comprise the horizontal structure run the turntable's full 56-foot length and are 18" x 8".

After placing the McKeen car in service a new problem arose with the turntable. The wheels of a locomotive are generally evenly spaced the length of the locomotive, distributing the load over the length of the turntable. Furthermore, the general design of our locomotives is such that the locomotive's weight is placed closer to the center of the turntable than at the ends. The McKeen, however, is supported on trucks at the



A Carson City Sheriff's Department chase ended in the turntable pit when a Jaguar became trapped and had to be towed out. (NSRM photo)

ends, much like a conventional freight or passenger car. In fact, the wheel base of the McKeen car is just a few feet shorter than the length of the turntable and the ends of the car hang over the ends of table. The McKeen is a heavy

car, and with the trucks much farther apart the weight is concentrated at the extreme ends of the table. When loaded onto the turntable, the McKeen forces the ends of the turntable downward and makes contact with the outer ring-rail unless there is constant attention given to adjustment of the truss rods. If the table is adjusted too tightly, loading is problematical as the loading end rises up into the air as the front truck crosses over the center and tips the table. This situation requires a run at the end to get the rear truck over the high rail and a sudden stop to prevent running off the end. The entire situation is getting out of hand.

Early in November 2020, a high-speed car chase between the Carson City Sheriff's

The outer ring rail was removed due to the damaged caused by the Jaguar. (NSRM photo)



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Glenbrook at the Roundup of Victorian Iron Horses (continued from page 1)



Dan Markoff's 1875-built 4-4-0, the Eureka & Palisade Eureka. (Photo by Brian Caztel, courtesy of the Cumbres & Toltec Scenic)

2021. This will be the first time the *Glenbrook* has left the museum (and Nevada) since the locomotive's restoration was completed in 2015.

In addition to the *Glenbrook*, three more 19th Century locomotives will take part in this exciting event. Dan Markoff's 4-4-0, the *Eureka*, will be visiting from its base in Las Vegas. Built in 1875 for the Eureka & Palisade Railroad, the *Eureka* was purchased and restored by Markoff in the 1980s. The wood burner is no stranger to the Cumbres & Toltec Scenic, having operated on the railroad in the past.

Denver & Rio Grande 2-8-0, No. 425, will be featured at the *Roundup*, as well. Built by Baldwin in 1895 for the famed narrow gauge railroad the Florence & Cripple Creek, the Denver & Rio Grande purchased the coal-burning locomotive in 1917 after the F&CC shut down operations. The D&RG renumbered it 425 and again to 315 in 1921 after the formation of the Denver & Rio Grande Western. The Durango Railroad Historical Society completed a full restoration of the locomotive in 2007.

Finally, the Denver & Rio Grande 4-6-0, No. 168, will join the lineup in August.

Baldwin built the coal-burning ten-wheeler for the D&RG in 1883. No. 168 was built for passenger service and even hauled a special train for President William Howard Taft to the opening of the Gunnison Tunnel in 1909. The D&RG retired No. 168 in 1938 and it was put on display in a park in Colorado Springs, Colorado, for decades. In 2019, the Cumbres & Toltec Special Projects Department, under the direction of Efstathios Pappas, completed the restoration of No. 168 in Antonito, Colorado.

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The event will feature nine days of exciting events. Some of the highlights for the *Glenbrook* will include: double heading with the *Eureka* on the Big Horn turn on August 22; a steam fest in Antonito on August 23 featuring all four locomotives under steam for demonstration, as well as an operating pile drive and steam derrick; a doubleheader with the *Eureka* on a mixed train to Big Horn on August 25; a doubleheader with the *Eureka* on the Osier Turn on August 26; a trip across the railroad from Antonito to Chama, New Mexico, on August 27; and the Cumbres turn from Chama with the *Eureka* and the *Glenbrook* on August 28. In addition, on August 29, a historic consist with 168 and 425 will pull the first overnight passenger train from Chama to Antonito in over 100 years.

The *Roundup of Victorian Iron Horses* will be an amazing event you won't want to miss. The event is currently sold out based on current



Denver & Rio Grande ten-wheeler, No. 168, poses for a photo on the Cumbres & Toltec Scenic Railroad after its restoration was completed in 2019. (Photo courtesy of the Cumbres & Toltec Scenic)

COVID-19 guidelines, but seats may become available closer to the event. For more information go to: <https://cumbrestoltec.com/roundup-of-victorian-iron-horses/>.

We hope to see you there! 🚂



If you would like to volunteer to help NSRM at the event with promoting the museum or helping the *Glenbrook* steam crew, please contact Adam Michalski for more details at:

Email:
amichalski@nevadaculture.org

or phone:
(775) 687-6953 x224.

Denver & Rio Grande 2-8-0, No. 425. (Photo courtesy of the Cumbres & Toltec Scenic)



As the Turntable Turns *(continued from page 7)*

Department and a late model Jaguar ended with the suspect's car trapped in the NSRM turntable pit. After a foot chase and drug sniffing dogs the offending car was dragged unceremoniously out of the pit. The resulting damage to the outer ring rail, by virtue of the car going in and the car coming out, damaged the ring rail. This presented an unexpected opportunity to do something different. The original S.P. design called for landings at each rail lead. The landings could be stacked timber or big rocks. We chose to install landings and chose concrete for the project. The outer ring rail has been replaced with a fixed shelf (placed at a lower level than the former ring-rail) such that the table will set down onto the shelf during loading and unloading.

The landings appear to be a viable solution. Also, as with anything new, some adjustment is warranted. The concept works and the fine tuning ensues. Hopefully this will provide a long-term solution of a nuisance item at NSRM. 🚂



(Above) Workers from 4Concrete build the forms for the landing pad on the north side of the turntable nearest the Annex.

(Below) Later in the day, workers poured and formed the concrete into a landing pad. (NSRM photos)



Obituary: *Verne Horton*



Verne Horton (Daun Bohall photo)

Verne R. Horton of Carson City, Nevada passed away at his residence on October 19, 2020. He was born February 1, 1941, in Los Angeles and is survived by his loving and devoted wife of 23 years,

Brenda; sons Sean and Scott, daughter Debra, five grandchildren and brother, Jim Horton.

Verne had a passion for art and design. He became a graphic artist and also worked in watercolors. He developed much of the original artwork for the 125th anniversary of Nevada statehood. Verne was well known for painting several works based on railroad equipment at the Nevada State Railroad Museum. In addition, he designed the oval NSRM logo, which was used for many years. His works garnered attention and praise throughout the community.

Additionally, Verne was an active member of the Friends of NSRM. Verne was elected president of the Friends and

served on the board during the organization's infancy. In 2019, he was elected to the board again as a trustee.

Verne was active in the operations at NSRM, as well. He participated on the steam crew for a number of years. Verne was involved with the Santa Train operations at the museum, helping in various capacities. In addition, he loved the Carson City Invitational Hand Car Races, a major annual event that used to occur at the museum. He created the artwork for the races and enjoyed timing the hand cars as they sped down the track.

Verne was a beloved Friends member and made many important contributions to the museum over the years. He will be missed. 🚂

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