



The Nickel City Dispatch

News From The Nickel City Line Railroad

DECEMBER 2016

2016 MARKS MAJOR OVERHAUL FOR NCL

After many years of operating on the NCL the time had come for some major renovation work. It was well known to the operators that there was a bottle neck in the operator's aisle at Nickel City (NC). This area was shared with the NC Yard engineer. For years this created conflicts between both operators. In addition, the NC Yard engineer had to work around the NC East local train because the yard and NC East shared some trackage. At times between the NC East local trying to do his work, the NC Yard engineer trying to complete assignments from the Yardmaster, inbound trains, and operators in the aisle waiting to pass, things ground to a halt.

After looking at the situation and drafting many proposed designs, I determined that a big change was needed for the NC Yard in 2016. The changes involved:

- Moving the NC Yard Engineer to the other side of NC Yard alongside the Yardmaster;
- Relocating all the NC Yard classification tracks over to the Yardmaster's side of the layout;
- Relocating the locomotive yard to the east end of NC Yard;
- Redesigning downtown Nickel City;
- Providing a separate spur to Nickel City East off the main line and away from NC Yard.



With the structures, track and plywood removed in the locomotive yard, the East Staging tracks are now visible below.

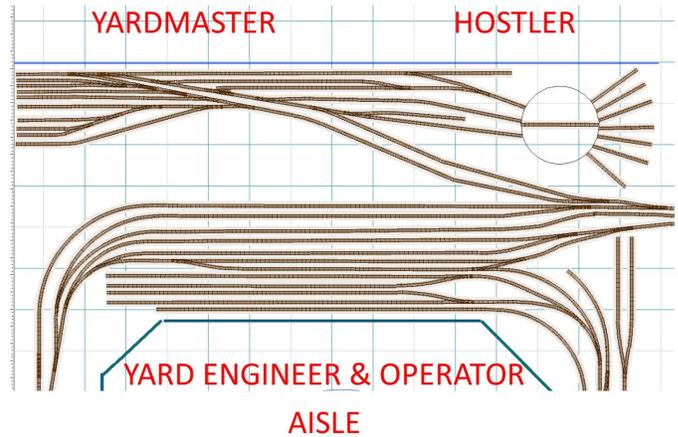
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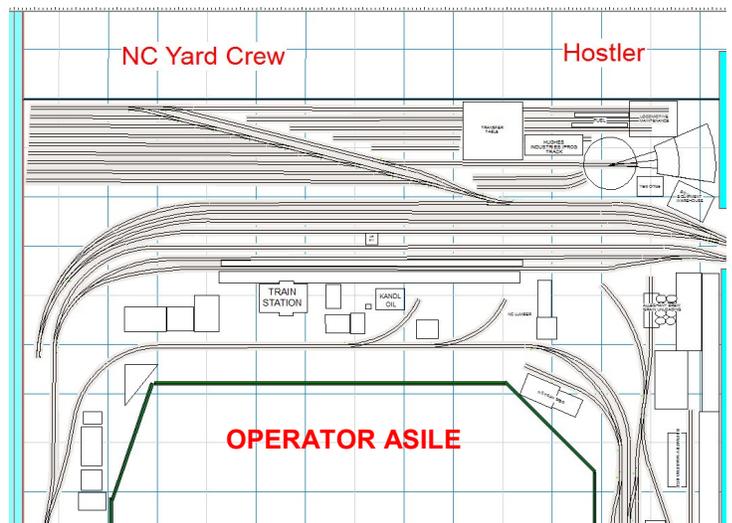
The redesign afforded me the opportunity to add in-street trackage in downtown Nickel City. I had seen this feature on several model railroads and desired it for Nickel City. In-street trackage offered a new operational challenge for the NC East Local.

On December 31, 2015 the demolition work was started. All the locomotive tracks, structures and details were removed from the locomotive yard. The old plywood and wiring were discarded. New plywood was cut to fit into the area and leveled. The three main line tracks in Nickel City were left intact. These tracks would be switched over to the new NC Yard arrival tracks. I reused some of the locomotive storage tracks for the new classification yard. There was a large concrete pad I had made for the locomotive storage area out of plaster. It was installed quite well and was difficult to remove. In the end I took a lesson from the prototype and left the pad in place. The tracks would still become classification tracks but the area would have the remnants of a previous use.

Combining the locomotive yard and the classification yard together was going to be a challenge. In the original version I had a large roundhouse, a maintenance shop, a fueling facility, and 6 locomotive storage tracks. The main yard had 8 classification tracks. The number of switches required to retain at least what I had was going to be problematic due to the space limitations. After looking at various options I settled on a different approach. The classification yard would have normal turnouts. But to achieve the amount of storage and maintenance facilities I needed in the locomotive yard I decided to use a transfer table and turn table. The transfer table would serve the locomotive storage tracks, fueling facility, and large maintenance building. The turntable would serve a smaller roundhouse and warehouse. It also provided me enough room for a programming track next to the maintenance building for DCC locomotives. The new design allowed me to retain all the locomotive storage tracks. The smaller roundhouse, while holding less stalls, actually fit better into my modern operating scheme. The transfer table and turntable eliminated the need for a vast number of turnouts allowing me to fit more into a smaller space than I thought I could with regular turnouts. As an added bonus, the remaining area allocated for the classification tracks due to the space saving design of the locomotive yard allowed me to expand the classification tracks from the original 8 tracks to 16 tracks and a tail track.



1. Above: The original NC Yard Design where the yard engine and operators shared an aisle. Below: the redesigned yard with the Yardmaster and Yard engine in a separate aisle from the operators'

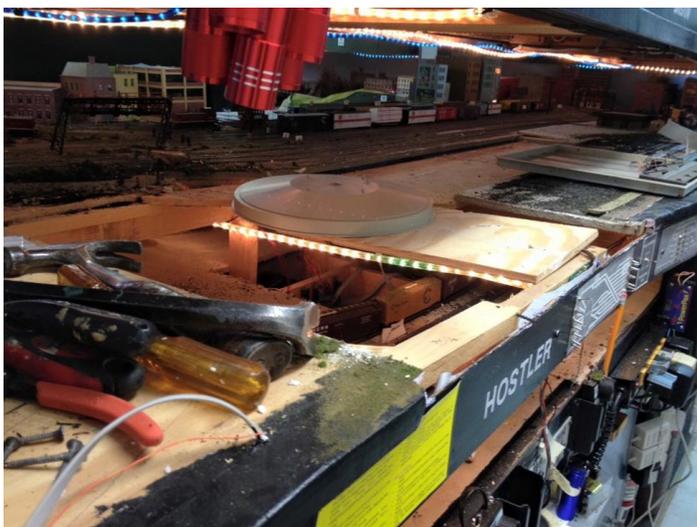


After the new cork roadbed was laid down, I began laying the track work. I managed to salvage many of the turnouts. With a little cleaning and maintenance, most were deemed suitable for reuse. Those that weren't were discarded and new ones purchased. Ground throws were added to all turnouts in the classification yard and the two turnouts in the locomotive yard. On the west end of the yard I decided to install curved turnouts for both the yard and new main line tracks. The curved turnouts are No. 8s which provide a generous curve while still maximizing the use of the space available.

Areas of the plywood in the locomotive yard were cut out for the turntable and transfer table. Once both were test fitted, they were removed and weathered before the final installation. Then the tables were in-

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BUILDING A NEW NICKEL CITY YARD



2. Ripping out the old bench work to start the renovation of NC Yard



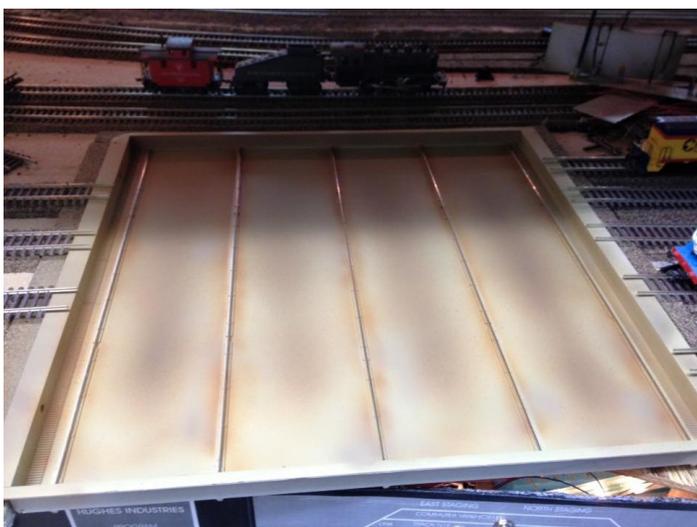
3. Test fitting the new transfer table and turn table in NC Yard.



4. Installing the new locomotive yard tracks.



5. Installing the new classification tracks in NC Yard.



6. Final install of the transfer table.



7. Final install of the turn table.

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8. The new locomotive yard.



9. The new classification tracks in NC Yard.

stalled and wired in. The remaining track in the locomotive yard was laid to each table.

By mid-January all the track for both yards were in place. Now came the difficult work of relocating the feeder track wires for the new yard to the yard circuit breaker as well as pulling the main line feeds from what was now the yard arrival and departure tracks and relocating them to the old arrival / departure tracks which would become the new mainline tracks. After several evenings working under the layout the transition was complete and tested. Besides the physical movement of the wires, the dispatcher's computer display needed to be redrawn and updated to reflect the new block detection and switch locations.

Near the end of January the second phase of the rebuild was started. This involved the demolition of the upper deck between Canova and Monserrat and a relocation of the Bristow area towards the operator's aisle. The upper deck had served as a storage location for 4 modules I used for modular train

shows when I was an active member of the local model railroad club. The modules would lock into trays that were built into the upper deck frame work. When not used in a modular show, the modules comprised a majority of the upper deck of the layout and were incorporated into the operating scheme of the railroad. When needed for modular shows they were quickly disconnected and removed from the layout and packed in my truck for transport to a show. Around 2007 I stopped participating in club modular shows. The modules remained locked into the layout as part of the regular operations scheme. The time had come to let them go and move onto a more permanent solution. For the upper deck's west staging yard, known as Ridgway, I had constructed a removable staging yard. While convenient during ops sessions, it was inconvenient at all other times because it shared space with the laundry room. In other words, the staging yard had to come down in between sessions or no laundry would get done. With the redesign of the upper deck into a permanent installation, I was able to use

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10. The new NC Yard and NC Locomotive Yard.

a narrower width for the outer walls of the deck while keeping the same width (24 inches) on the span between the two outer walls. The 24 inch width would be divided into two 1 foot wide sections separated by a divider. On the section facing the operator's aisle, the town of Bristow would be located. On the opposite side facing the Yardmaster would be the permanent west staging yard, Ridgway. A new curved connector between Monserrat and Ridgway would need to be constructed in the utility area but once complete, the route between Monserrat and Ridgway would be completely located within the utility closet and out of the laundry room.

The modules were removed first and stacked up in an adjacent room. Then the support framing was removed between Canova and Monserrat. While this work was going on I did take the

opportunity to start paving the locomotive maintenance area with plaster for the concrete pavement areas. These areas would permit vehicles and workers access to the locomotive storage areas and maintenance buildings. Painting and weathering of the concrete was also undertaken and completed by the end of January. Ballast and ground cover was added next and completed before the beginning of February. By February 2, the new locomotive yard was in service. Scenery for the remainder of the new NC Yard was also completed during this time period. On February 7th I relocated all of the rolling stock from the old NC Yard over to the new NC Yard. During that time I also relocated the dwarf signals to the new arrival / departure tracks as well as removing the main line signal bridges and relocated them to the new main line tracks (formerly the



11. Three of the four modules removed from the upper deck of the layout and later donated to the local model railroad club.

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BUILDING A NEW NC YARD AND DOWN TOWN TRACKS



12. Once tracks were in place, downtown sidewalks were cast in plaster.



13. With the sidewalks dry, a coat of plaster was added for the streets in downtown Nickel City.



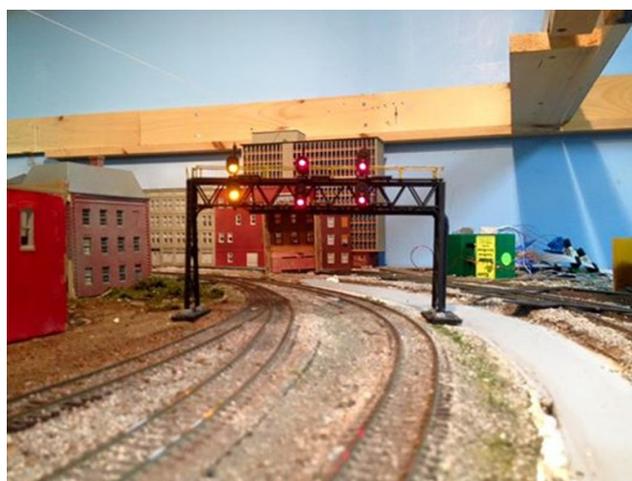
14. The street and sidewalks were painted after everything had dried and was sanded smooth.



15. Curved turnouts maximize the use of space entering the yard.



16. Dwarf signals were relocated to the new yard tracks in NC Yard.



17. The mainline signal bridges were relocated to the new main line tracks in Nickel City..

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old NC Yards arrival / departure tracks).

In mid-February demolition of the old NC Yard was started. A new turnout was added to the west end of the main line outside NC Yard. That turnout connected the new spur to Nickel City East. With the yard tracks removed, the downtown buildings were brought back to the layout and test fitted in several configurations. Once the arrangement of buildings and industries was deemed satisfactory, the in-street trackage for Nickel City East was laid. At the end of February the downtown area of Nickel City East track was tested and approved. The next step was to pour the concrete sidewalks. Balsa strips were used to frame the sidewalks so they met up properly to the buildings. The sidewalk pours were also higher than the top of the rail on the in-street trackage. This allowed for the street pours to be done afterward without impacting the sidewalks. With the plaster dried and scribed for the sidewalks, the street pavement plaster was poured, dried and sanded.

In March the two mainline signal bridges were reinstalled in Nickel City. I returned to Nickel City East to paint the streets and add the pavement markings. Block by block downtown Nickel City was taking shape.

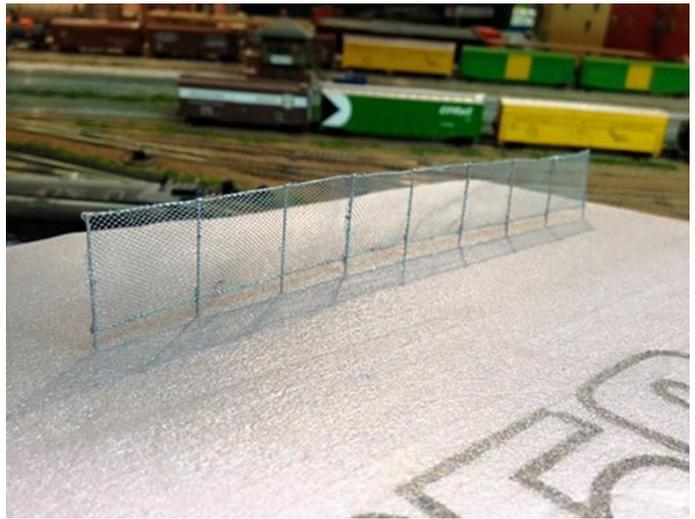
By April the major work in the downtown area of Nickel City was complete. At that point it was time to say good bye to the old modules. I wound up donating all four modules to a club member from my old model railroad club. I hope the modules are back to the road participating in many more modular train shows.

I purchased an equipment defect detector from Bolder Creek Engineering. The defect detector uses infrared detection to activate the device. It counts the number of axles and determines train speed. It will randomly report defects such as hot boxes, dragging equipment, etc., based on how you program the software. I installed the device on single track located between the towns of Laurel Valley and Mills River. During ops sessions it added another wrinkle to the session if the detector activates.

Another item I started to work on in downtown Nickel City was security fencing. I needed chain link fence to protect the oil distributor and the lumber yard. Commercial fencing was an option, but for the cost, I would need quick a bit of fencing which was well out of my budget given the major renovation of the layout underway. I was also concerned with the fencing

being damaged accidentally during ops sessions. My solution was to use wedding veil, push pins and thin wire used for floral arrangements. I used a piece of foam insulation to locate the pins upright about every 10 scale feet. Next I soldered the wire to the push pins at the top and about 6 scale inches from the ground level. Using contact paper I laid out a section of wedding veil flat and then cut it to fit the fencing. I then attached the wedding veil to the fence with CA adhesive. Once the fence had dried, I painted it aluminum in color. Gently removing the fence, I relocated it to the layout, lightly tapping it into the Homasote layer that made up the base of the main level of the railroad. For less than \$20 I was able to construct more than enough chain link fence which was custom fitted for each industry.

As May arrived, the major work for NC Yard and downtown



18. Above: security fencing made from push pins, floral wire and wedding veil is positioned on a piece of foam board for painting. Below: Completed fencing adds some security to the lumber yard in Nickel City.



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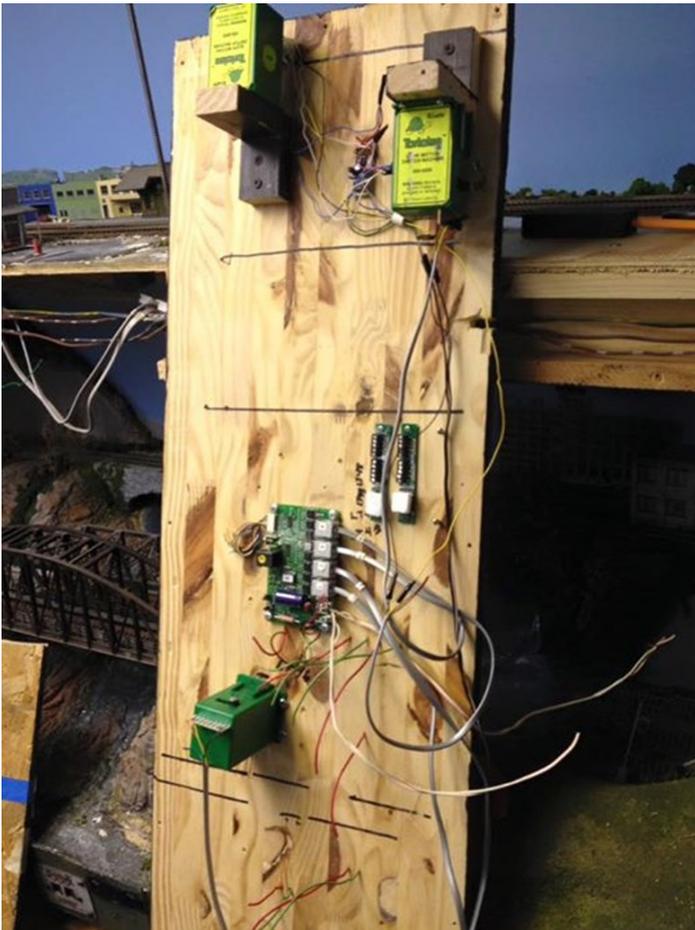
Nickel City was complete and it was time to rebuild the upper deck. The reconstruction included a new plan for pre-drilled holes in the supports for wiring as well as a wiring trough facing the aisle. Wires for track power, signals and other electronics would be run through the wiring trough and then move through predrilled holes at the rear of the trough to the track or devices. The trough opening would be covered with a fascia which could be easily removed for maintenance. This would greatly improve access to critical wiring without having to bend in between the main and upper decks.

By May 10th all the framing was complete for the upper deck. I began running the LED lighting strips through the predrilled holes in the support lumber. Without the upper levels decking installed, running the LED strips was quick and easy. The LED strips would illuminate the main level below.

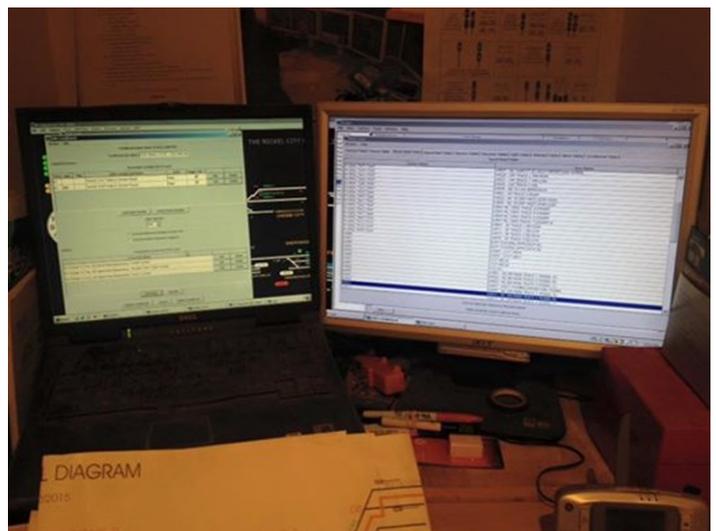
In mid-May I finished installing the plywood decking and began to lay down cork roadbed. Two fast clocks were reinstalled on the upper deck fascia and reconnected to the Loconet of the DCC system. The biggest challenge next was to rewire the

NMRA Civil AP Demonstrator module I discussed in the December 2015 issue of the Nickel City Dispatch. The module was originally designed for DC current and it was not intended to be included in the layout. However, with all the hours invested in the module and how pleased I was with the final result, I decided that it had to be included as part of the town of Bristow.

To convert the module over to DCC, I needed to cut gaps in the rails to isolate the main line and spur tracks as well as the turnout interlock. Each isolated segment would be connected to block detectors used by the DCC system. The module also used manual ground throws which needed to be switched out with turnout motors. This required carefully drilling holes in the board by each turnout throw bar, then installing Circuitron Tortoise motors underneath. Since I had a grade crossing on the module I installed the motorized crossing gates and cross bucks I salvaged from one of the modules I had donated. I also installed two double headed signal masts for the two mainline tracks and the associated electronics underneath. One item I could not salvage was the 90 degree crossing. While an essential element of the Civil AP demonstrator module, the crossing did not fit into my operational track plan. Plus I needed to extend the spur track through the area occupied by the crossing in order to access the scrap yard that was going to be located a little farther down the line. I was able to remove the crossing fully intact and I put it away for safe keeping. I spent many hours constructing it and simply could not part with it. By the end of May the module had been completely rewired. The



19. Adding DCC components to the underside of my NMRA Civil AP demonstration board before installing on the layout.



20. Reprogramming the JMRI software to accept the changes to the layout was a critical last step before resuming operating sessions.

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wires were run into the upper decks wiring trough and the module was set onto the framing and connected to the rest of the layout. The remaining track work was connected to the module and the upper deck track work was complete.

Early June was devoted to reprogramming the dispatcher and yardmaster screens with the new layout and signal configurations. The signaling logix within the JMRI software that operates the railroad also had to be updated with the changes. By mid-June after a bit of testing, the dispatcher and yardmaster screens were complete and in service.

I returned to installing the fascia on the upper deck. I took the opportunity to install a turnout control panel for the yard in the town of Monserrat.

With most of the fascia installed and the yard panel at Monserrat operational, I spent the remainder of June testing the layout in preparation for the first "sea trial" in July with my regular operators.

On July 5th I held a "sea trial" with a small number of operators. We put the layout through the usual paces and everything ran well. I was satisfied with the result and scheduled the first ops session for 2016 on July 17th. The operators arrived on that date having been away from the layout for 7 months during the reconstruction. After an orientation, the crews set out on their work for the day. The yard crew spent a little more time than normal due to the major changes but they also noted that the yard operation was more efficient. The road crews also reported satisfaction in having the operator's aisle to themselves.

The west staging ward was not finished at the time of the July ops session so we continued to use the modular staging yard. At the end of the day, all the efforts over the past 7 months was worth it. Operations were greatly improved and I was able to eliminate a number of long time gremlins in the process.

In September, after a summer hiatus I returned to work on the west staging yard on the upper deck. This involved installing the bottom layer of plywood and adding the cork roadbed. I installed new track and turnouts. Work on the yard did not involve going through the wall to connect to the mainline due to the upcoming ops sessions. However, the completed work will make it easier when the final connections are made.

After an early December ops session, it was time to continue with the renovation project on the railroad. The focus this time was the industrial area of Nickel City East. With downtown Nickel City complete, the next step was to complete the re-

maining track work in Nickel City East. The original design of this area placed a number of switching industries far away from the operator's aisle. This was complicated further because of the upper deck above. In the redesign of Nickel City East I decided to have no switching industry farther than 1 foot from the operator's aisle. This meant installing a view block to conceal a large void in space vacated through the redesign. I also focused on level track throughout the industrial area, something I did not do in my original design. To accomplish this I had to rip out all of the track and plywood down to the bench work. I then had to replace and level several areas of bench work to meet my overall goal. With the track and plywood removed it offered an opportunity to fully inspect track in the North Staging Yard below and correct any deficiencies. I installed two CCTV cameras over the tracks where they could view the status of the staging yard more easily. I installed new plywood and Homasote for the sub-roadbed. Since I would continue the in-street track theme I did not use any cork roadbed. Every turnout in this area would be controlled by a manual ground throw. In order to keep the future streets clear of obstructions I used piano wire and brass tubing to connect each turnout throw bar to the manual ground throw. The ground throws were mounted at the front of the fascia next to the operator's aisle. This allowed an operator to throw any manual turnout without reaching across scenery. By the end of December I had tested all the track work in the industrial area and wired in into the DCC circuit breaker. The next steps would be cutting styrene for the in street turnouts and paving of the streets. But that had to wait until after the Christmas holiday.

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It is with great sadness that we remember our friend and fellow operator, Warren Bain, who passed away this morning from an undisclosed illness. Warren, we will keep a slot open in our ops sessions for you always. Take care, our friend, as you continue onto to the next great adventure.

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A complete reconstruction of Nickel City Yard, downtown Nickel City, Nickel City East, and on the upper deck, Bristow and the west staging yard was a lot of work over the course of a year. But the time was well spent and I am very satisfied with the results. In 2017 I'll finish up the work in Nickel City East and tie in the new west staging yard. Until then, Happy Holidays!



2016 Recap

Here is the annual recap for the Nickel City Line in 2016:

- Rebuilt the NC Locomotive Yard to include a transfer table, smaller turn table, and smaller roundhouse in order to improve efficiency;
- Rebuilt the NC Yard classification tracks which included increasing the number of classification tracks from 8 to 16;
- Demolished the old NC Yard and redeveloped the site into downtown Nickel City;
- Added in street trackage in Downtown Nickel City which accesses Nickel City East;
- Removed and rebuilt the upper deck to provide better working space and electrical improvements;
- Added DCC components to the NMRA Civil AP demonstration board and installed the board onto the upper deck of the layout as a permanent addition;
- Purchased and installed a equipment defect detector from Bolder Engineering for use on the layout between Laurel valley and Mills River;
- Donated 4 modules which once occupied the upper deck to the Prince William Model Railroad Club for inclusion in their modular layout shows;
- Reprogrammed the JMRI software to include all the changes to NC Yard and the upper deck;
- Installed LED and blue lights under the upper deck to support illumination for daytime and night time operations;
- Added a new turnout control fascia panel for the town of Monserrat;
- Resumed operation sessions on July 17, 2016.;
- Began construction of the new permanent West Staging yard on the upper deck.;
- Demolition started on December 14th to the industrial section of Nickel City East.

2016 Annual Operations Report

Number of Operation Sessions Held: 3

Number of Open Houses Held: 0

Number of Trains Operated: 36

Number of Rail Cars Moved: 304

Number of Rail Cars Correctly Setout: 296

Number of Rail Cars Incorrectly Setout: 8

2016 Efficiency Score: 97%

2017 Operations Schedule

January

Saturday, January 21, 2017 - 9:30-1:30
(Session 42A) MD/VA Ops Group

March

Saturday, March 18, 2017 - 9:30 to 1:30
(Session 42B)

June

Wednesday, June 21, 2017 - 9:30-1:30
(Session 42C)

July

Sunday – July 30, 2017 – 12:30PM to 4:30PM
(Session 43A)

September

Sunday – September 17, 2017 - 1:00PM to 5:00PM
(Session 43B)

November

Saturday – November 11, 2017 - 9:30AM to 1:30PM
(Session 43C)