

# Three Crossings at Newburgh

*“Modeling a mile” in (and of) a new location*

by Eric Hansmann

In early 2009, my wife accepted a new position far from our West Virginia home. I embraced the move to a new state as an opportunity to start anew on my hobby “career”. It took a few months to pack, move and then slowly unpack a lifetime of accumulated material in our new metro Cleveland, Ohio home.

The new home is charismatic and historic. But it was lacking a traditional model railroad space – the rough basement functions as the furnace and water utility space. This environment includes very low floor joists, ancient sandstone block walls, and an uneven concrete floor.

Undaunted, I chose one of the bedrooms as a model building room and made compromises to my model railroad thoughts and dreams. I had a clean slate and felt energized even as I knew the 11 X 11 foot space would present challenges in building an HO scale layout.

## Givens and ‘druthers

This John Armstrong-coined term goes back many decades but is a key in model railroad planning. Givens and ‘druthers force the

builder to understand available space parameters and establish priorities for the dream model railroad. My layout room needed to include a workbench, storage for hobby materials and tools, and storage for reference materials. The smaller space made me quickly realize my model railroad room was more than just the layout.

I took measurements and sketched the location of everything in the room; outlets, doors, windows, sill height, trim, door swing areas, lights, and heating elements. I employed Adobe Illustrator to create a digital graphic of the room using the details from the sketch. I printed out a few copies of this digital graphic to sketch layout ideas. The room presents several challenges as only three walls can be used to anchor the layout. Another door and closet consume most of the fourth wall (lower left).

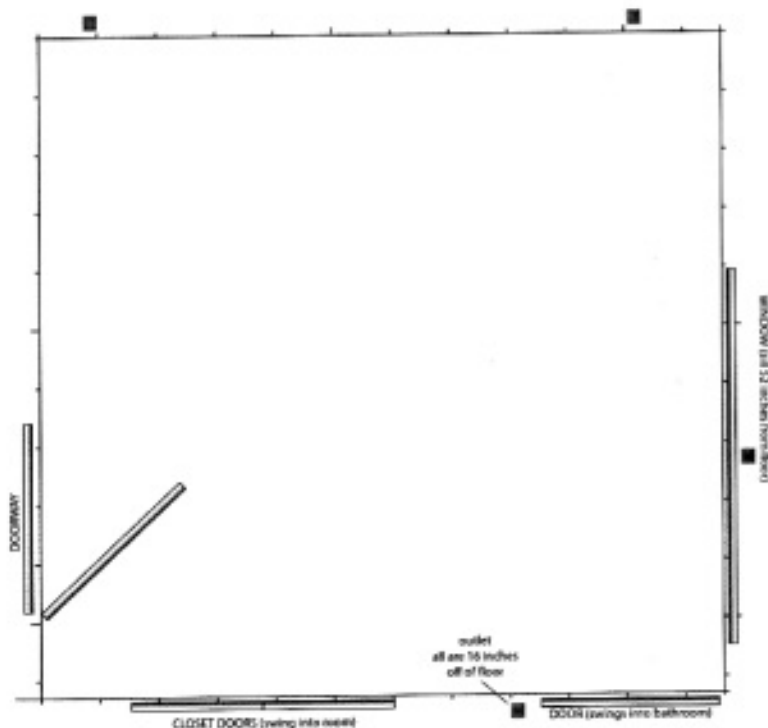
I needed to use the space under the benchwork for material storage and a workbench. This is an important preference and time was spent to establish benchwork clearances. My previous benchwork bottom clearance was set at 55 inches from the floor, with the top of the rails near 60 inches. As I am 68 inches tall, this was a stretch in places. For the new layout I consulted ergonomic data and suggestions LDSIG-member Don Mitchell had published in *Walkaround Model Railroad Track Plans* (Kalmbach, 1991 – out of print).

I set the new floor-to-rail height at the distance from the floor to the bottom of my extended arm, which is 55 inches. Subtracting the benchwork and roadbed sandwich of two inch foam and three inch wood framing dropped the benchwork clearance to 50 inches. I temporarily set up benchwork segments from the old layout at this height to experience reach over the layout as well as below to access storage and wiring. The clincher came when I used a chair to sit under the front of the benchwork to access the workbench. I did not bump my head on the bottom of the mocked up layout pieces!

## What to build?

As the benchwork parameters came together, the question of what to build loomed ever

*“ ... I chose one of the bedrooms ... and made compromises to my model railroad thoughts and dreams. ”*



Eric's detailed to-scale room drawing locates the room entrance and obstructions. Printing paper copies gave him a “scratchpad” to realistically sketch track plan options.

larger. With the room print outs ready, some old tools were employed to start the design process. I enjoy sketching with a pencil. Circular cutouts are used for curve radii and a modified scrap of styrene is handy for adding quick turnouts (top right).

With a few strokes, I can start drawing track lines for a model railroad dream. Early sketches were kept simple. A first sketch can help you understand the space (middle right). I wanted to add more action, so a second railroad and interchange was considered to enhance operating possibilities. After some quick work, version two (lower right) was ready for review.

Both plans utilized a staging track behind a view block along the window. In a limited area, space along the wall behind a view block or inside of buildings will need to be considered.

### A track plan? Or a layout design?

After a few days I reviewed these sketches and found that something was missing. These were decent track plans, but they weren't *layout designs*. My previous layout focused on a certain place and time; South Elkins, W. Va., on the Western Maryland Railway in November of 1926 as described in *LDJ-41* and my blog at: [www.hansmanns.org/south\\_elkins/index.htm](http://www.hansmanns.org/south_elkins/index.htm)

This specific focus on a prototype place and time had been the blueprint and inspiration for my modeling. The research brought a new dimension to the South Elkins project as I gained a greater understand of the railroad's purpose. These two new layout sketches just didn't offer similar interest. I probably made too large a leap too early in this process. I felt there would be more satisfaction if I found a prototype location to model in this new space.

### The four cornerstones

The 'druthers part of the process stumped me for a while. Motivation and inspiration came via *LDJ* Editor Byron Henderson and his clinic handout from a regional NMRA convention. He presented key points in hardly a page and a half. An updated version is found at [www.layoutvision.com/id51.html](http://www.layoutvision.com/id51.html)

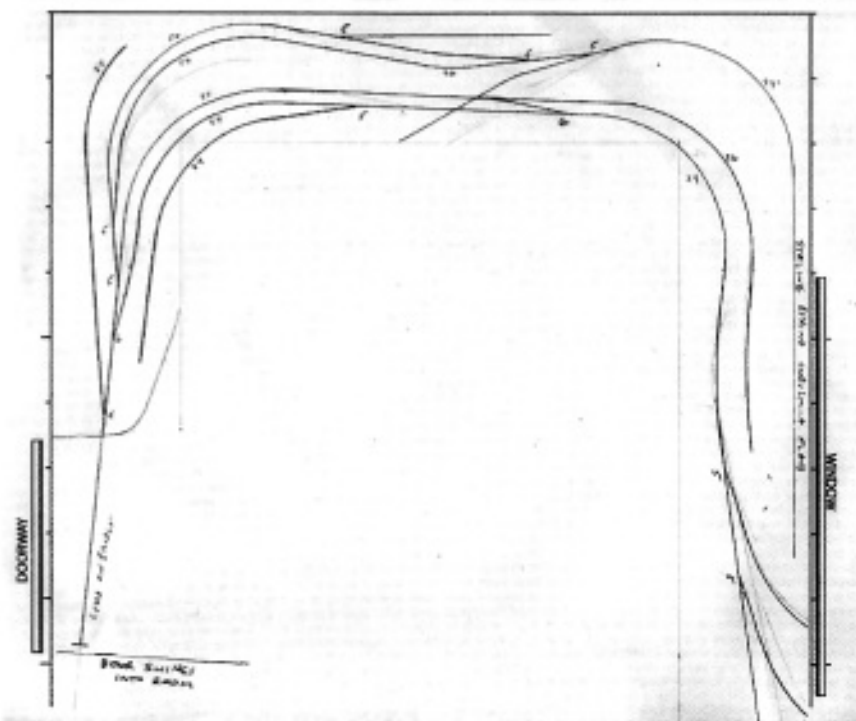
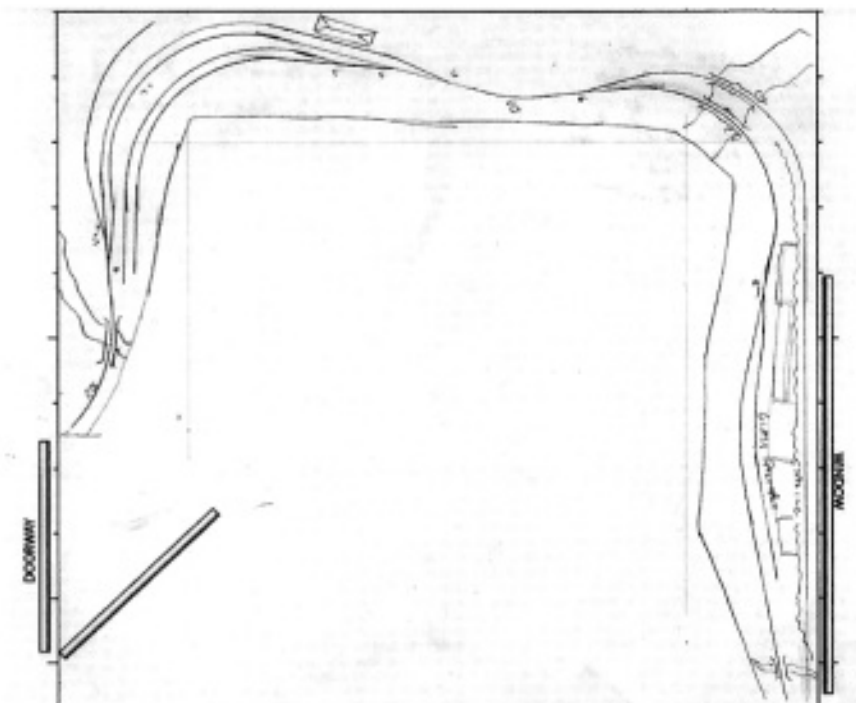
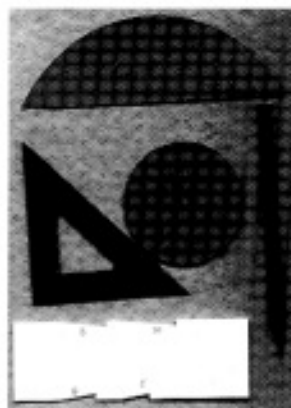
*Eric uses classic drafting tools (top right) and his printed to-scale room drawings to quickly sketch track plan alternatives (middle and lower right). He found that these sketched plans were not as appealing as a layout design inspired by the prototype.*

Frankly, I had followed many of his clinic suggestions on past projects, but needed this reminder for reference and inspiration. Of particular interest on Byron's handout were four cornerstones of operations-oriented layouts.

- Prototype Inspiration
- Staging
- Large Industries
- Interchange

[www.layoutvision.com/id9.html](http://www.layoutvision.com/id9.html)

So I began to rethink this project. There should be a number of possible locations along the



**"... search for a local prototype that combined operating potential, modeling possibilities, and would fit ..."**

many railroads that cross in the metro Cleveland area. I began to search for a local prototype that combined operating potential, modeling possibilities, and would fit into my eleven-foot-square space. While this does sound impossible, some historic maps helped me find my way. I also decided to again focus on modeling a smaller area, as I described in my "Model a Mile" articles in *LDJ-41*.

### **Proto inspiration: Cleveland rocks!**

At one time, Cleveland, Ohio, was an intricate hub of transportation and manufacturing. I stumbled upon a fabulous website featuring Cleveland rail maps and ephemera. Site owner Stephen Titchenal has compiled an amazing amount of regional rail and industrial material at his Rails to Trails site. Most illuminating is a 1934 rail map on line that revealed dozens of yards and interchange points across the city. [www.railsandtrails.com/Maps/Cleveland/default.htm](http://www.railsandtrails.com/Maps/Cleveland/default.htm)

The busy Cuyahoga River valley was a teeming maze of steel rails from the docks at Lake Erie south about a mile. Six well known Class One railroads converged on this industrial epicenter: New York Central, Erie, Pennsylvania, Nickel Plate, Baltimore & Ohio, and

the Wheeling & Lake Erie. Four smaller railroads were also entwined among the industrial avenues and canyons. The map on this page includes the aforementioned railroads and the Newburgh & South Shore, a Class One railroad with only seven miles of mainline.

It seemed like a major task to sift through the rail miles to find an appropriate segment of railroad to model in HO scale and to fit into my 11 X 11 foot room, but I quickly focused on a couple of candidates.

### **Narrowing the candidates**

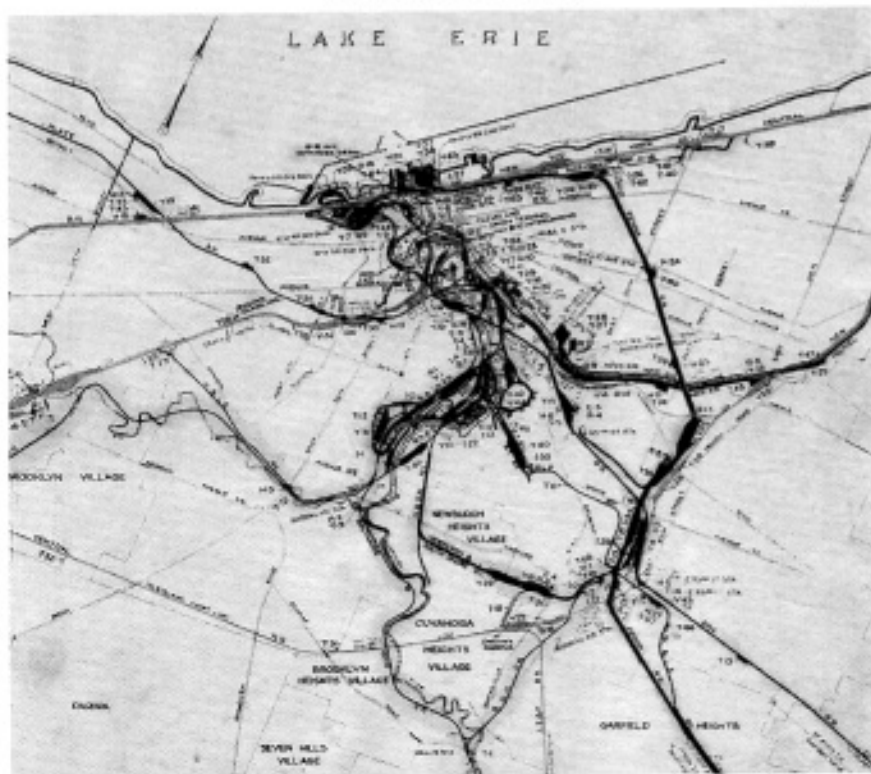
Many of the major rail lines entering Cleveland have/had multiple tracks. But a multiple-track railroad would not fit my space, so this eliminated most of the New York Central, Pennsylvania, and Erie lines into the city. Years ago, I stumbled onto a 1920s-era photo collection documenting the Newburgh & South Shore (N&SS) line. This rare, pre-Depression look at an urban industrial short line has always captivated my interest. 100 images of this photo collection can be viewed through the Cleveland State University on-line presentation <http://web.ulib.csuohio.edu/SpecColl/nssbk/>

Another railroad had caught my attention years ago in a different way, as it was a major Ohio coal hauling line. The Wheeling & Lake Erie's (W&LE) Cleveland Division was a supplier of raw materials to the steel mills of the region and moved finished products to market.

### **Finding the connections**

Reviewing the Cleveland rail map, there were two places where the N&SS and W&LE may have crossed, and/or interchanged. One spot was deep in the Cuyahoga River valley, while the other was on the eastern fringe of Newburgh, near East 93rd Street. The images from the on-line N&SS photo collection reveal an interlocking tower to control an at-grade crossing of the N&SS, W&LE, and PRR near the latter location. I was quickly getting hooked on the Newburgh location. Additional maps timetables, track diagrams, and a valuation map were found and reviewed.

Sealing the deal on modeling the Newburgh location was a discovery made at the Cleveland State University Library archives. I found a vellum N&SS system map from the very early 1920s. I ordered a printed and digital copy of this find. An enlargement that shows the area



The Cleveland metro area was a major rail hub, as seen in this detail from the 1934 Cleveland Unification map (Steve Titchenal collection). Color reproductions may be purchased from the Northern Ohio Association of Railway Societies [www.noars.org](http://www.noars.org)

of interest appears at right. It's only a few city blocks between Harvard Avenue on the N&SS and the East 93rd Street yard on the W&LE.

This compact area presents modeling and operational possibilities between a few different railroads. Interchanges between the N&SS, W&LE, Pennsy, and the nearby Erie can generate traffic movements of great variety. Details in a W&LE timetable imply that the East 93rd Street Yard is mainly for cars moving to and from the N&SS and PRR interchanges. Lurking just north of the Wheeling mainline the US Steel's American Wire & Steel division had their Newburgh Wire Works operations straddling the PRR right-of-way, with possible switching locations along the N&SS and W&LE.



This detailed view shows the multiple crossings and concentrated activity of the Newburgh area. Image edited by the author, original N&SS Valuation Map from the Cleveland State University Library Special Collections, used with permission.

### Raising benchwork

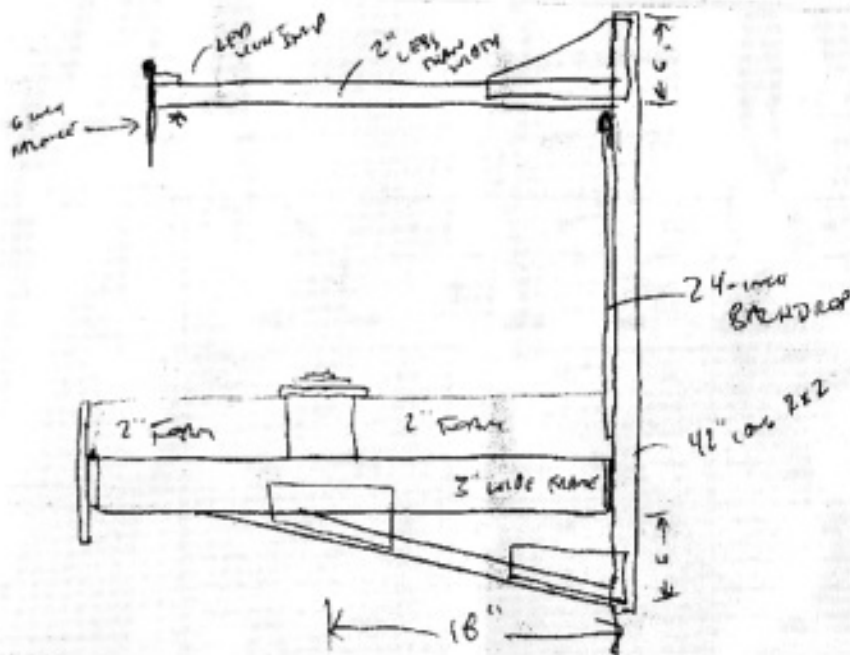
With the research ongoing (see sidebar page 8) I moved forward on construction. Another preference in building this layout was to reuse several older sections of benchwork grids from a previous layout. These had been stripped to the basic frame and ready to support a new endeavor. Two new sections were built from 3/4" thick birch plywood ripped three inches wide. I prefer birch plywood to dimensional lumber and can have rip cuts done for a sheet or two at a local big box home center.

### ... and keeping it up ...

Before any benchwork could be set into place, another detail loomed. I was planning to anchor the benchwork into the walls, but the room walls are plaster and lath. Rather than attaching the benchwork to the walls, I thought it would be best to fit benchwork between the walls and use legs for all support. Felt furniture pads were installed onto the benchwork framing where it makes contact with the walls. There needs to be some wiggle room as this old house expands and contracts with the weather. As the benchwork pieces were installed into position, the felt pads were enough to keep the layout snug between three walls.

### ... and lighting it up

The backdrop and lighting is another issue I mulled over while the benchwork went up. I



Eric's rough sketch shows the layout surface, LED lighting valance, and rolled aluminum backdrop. Note the supporting gussets above and below.

developed an idea to support the backdrop, valance and lighting from tall 2x2s attached at the back of the benchwork frames (see sketch above). I had used aluminum siding sheet as a backdrop on the previous layout and knew the 2x2 supports would work fine. This material can be found in two-foot wide by 50' long coils at big box stores. I was uncertain on how to support a valance and lighting but modified the backdrop support by using longer 2x2s in

