Model Railroader BOOKS
ESSENTIALS SERIES

STARTER TRACK PLANS

for Model Railroaders

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Kalmbach Books
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www.Kalmbach.com/Books

The material in *Starter Track Plans for Model Railroaders* has previously appeared in *Model Railroader* magazine. *Model Railroader* is registered as a trademark.

Published in 2011
E-book published in 2012

12466EBK

ISBN: 978-0-89024-831-7
eISBN: 978-0-89024-882-9

Publisher's Cataloging-In-Publication Data

Starter track plans for model railroaders / [compiled by Kalmbach Books].

p. : ill. (some col.) ; cm. -- (Model railroader books essentials series)

ISBN: 978-0-89024-831-7

1. Railroad tracks--Models--Design and construction--Handbooks, manuals, etc. 2. Railroads--Models--Design and construction--Handbooks, manuals, etc. I. Kalmbach Publishing Company.

TF197 .S737 2011
625.19

Contents

Small layouts allow you to see results quickly, and they also lend themselves to detail. On this 4 x 12-foot HO layout, a Proto 2000 Alco locomotive pushes an InterMountain boxcar toward a Woodland Scenics structure.

Introduction

The eventual goal for most model railroaders is to build a permanent layout. As such, modelers are always searching for the ideal layout plan that will fit into the spaces they have available. This book includes 27 plans for small model railroads, designed for either a tabletop, shelf, or small room. Many of these plans are within the reach of a beginner as a first layout. Some of the room-sized plans are slightly more advanced, and would be ideal for modelers who have already built an entry-level layout.

These plans, which have all previously appeared in *Model Railroader* magazine, fall into two categories. Some were the focus of track-planning articles; these are plans that have been designed but not built. These articles are reprinted in their entirety, and include information on the suggested theme, region, era, and prototype that the author had in mind when designing the plan. Some of these include suggestions on building benchwork or scenery, and many include a list of track components needed to build a layout based on the plan.

The remaining track plans are taken from articles on individual modelers' home layouts. These have been edited down to include the track plan itself, a photo or two of the layout, and basic background information on the model railroad. The publication date is listed for these in case you want to see additional photos and information on the layout. Be aware that the amount of additional background information for these plans varies widely from article to article.

The focus of this book is on the track plans themselves. The individual plans are not meant to be complete guides for building a layout. If you're new to the hobby (or even if you've been around for awhile), you'll no doubt have questions on various aspects of layout construction.

This introduction is meant to be a basic guide to getting into the hobby and building a layout. There's no way to delve into each facet of the hobby in such a short space, so I strongly suggest checking out some of the many fine books available on benchwork, wiring, scenery, and other topics. Many of these are listed throughout this introduction. If you're brand new to the hobby and looking for a general overview, see the book *Introduction to Model Railroading* (Kalmbach).

Keep it simple

If you're building your first layout, it might be tempting to fill a basement or rec room with a huge model railroad, especially if you've seen photos of (or visited in person) some of the large empires often featured in modeling magazines. However, trying to do too much too soon is a recipe for failure.

Instead, start with a small plan. A small table- or shelf-style layout will let you experience all facets of the hobby in short order, from benchwork and wiring through trackwork and scenery. You'll quickly see progress, and any problems or challenges you have will be on a small scale. Once you've completed—or even made significant progress on—a small layout, you'll have improved your modeling skills and have a better idea of what you'd like to have in a large layout. You'll also have a good idea of the time and resources required to build a larger model railroad.

A large layout doesn't have to be your ultimate goal. Many experienced modelers stick to small layouts for a variety of reasons. Small model railroads are more manageable to maintain—keeping track and scenery clean on a large layout consumes a great deal of time. Small layouts are certainly less expensive, both in terms of the layout itself and the number of locomotives and cars required for it. With a small layout, you can invest in nicer equipment, since you might only need a locomotive or two instead of an entire fleet.

Another drawing point is that it's possible to build small layouts to a high level of detail—a major point if your interests include scratchbuilding structures, superdetailing locomotives and rolling stock, or building fine scenery.

Also, small layouts can be conveniently operated by yourself or with one or two other operators. If you build a large layout that requires multiple train crews and a dispatcher, you will need to make sure you have enough operators to run it.

Basic benchwork

There are many approaches to benchwork, any of which can work well if done properly. For a small (4 x 8-foot or less) table-style layout, a simple grid of

A simple table can be built from dimensional lumber or, in this case, plywood ripped to 3"-wide strips. A plywood or foam tabletop is a good starting point.

You can create undulations in the scenery by cutting the plywood table with a saber saw and using risers to elevate the roadbed, roads, or other elements. This is called "cookie-cutter" benchwork.

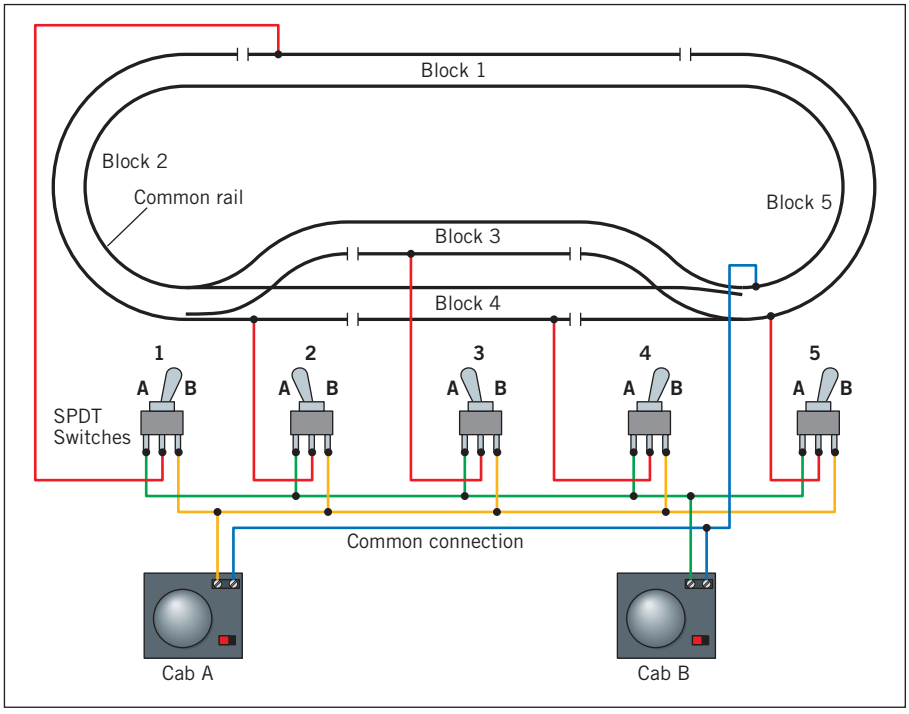
Simple homemade or commercial shelf brackets can support wall-mounted benchwork—in this case a simple 1 x 3 frame.

1 x 4s or 1 x 3s with a plywood top works well. The plywood can be cut along the track and other details, with parts elevated or recessed. This is known as "cookie-cutter" benchwork.

A sheet or two of extruded foam board (sold as insulation in ½" to 2" thicknesses) can be used on top of or in place of the plywood. An advantage of foam is that it's easily carved to make recesses in scenery.

Shelf-style layouts up to 24" wide can be mounted directly on the wall on commercial or homemade shelf brackets. For layouts set in reasonably level territory, 2" foam can be used without wood-frame support with brackets spaced every 16" or so. Narrow shelves can be ¾" plywood.

If you want wider shelves, or if you live in an apartment or don't own the home you're in, it's best to use free-standing benchwork. Again, a framework of 1 x 3s will support a plywood or foam top surface. For additional details and ideas, see the book *Basic Model Railroad Benchwork,* published by Kalmbach.



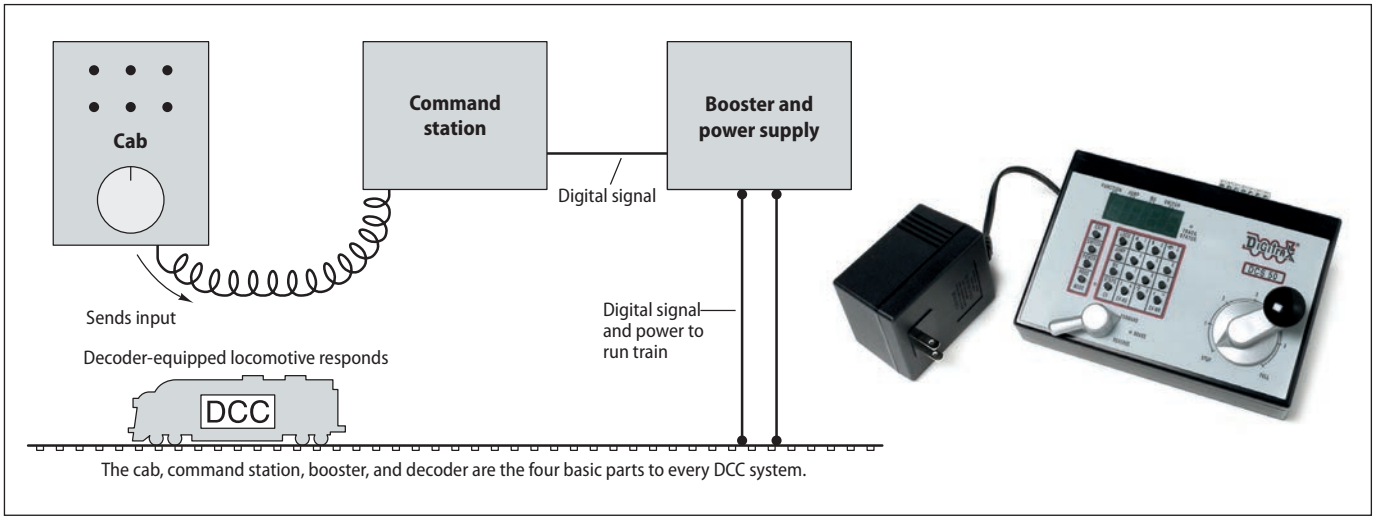
With cab control, the track is divided into electrical blocks. A toggle switch for each block allows swapping control between two power packs.

Wiring

Many small layouts are designed to have just one train operating at a time; others might be able to have two or three operators running trains simultaneously. The simplest way to get one train running is to connect a power pack to the layout, with the entire layout wired as a single electrical block. A simple improvement is to isolate one rail of a siding or spur track and control it with an on/off switch, such as a single-pole, single-throw (SPST) toggle switch. This allows storing a locomotive or train while you run another train. Insulated rail joiners make it easy to isolate sections of track.

Running two or more trains used to require dividing the layout into multiple electrical blocks, then having a toggle switch for each block to allow control by either of two power packs. Called "cab control," this system is still valid but has largely been superseded by command control systems. For more details, see Andy Sperandeo's book *Easy Model Railroad Wiring* (Kalmbach).

The coming of Digital Command Control (DCC) has simplified wiring, especially for small layouts. One or more handheld throttles send signals to a command station. The command station combines these signals and sends them to a booster, which adds the power and sends the combined power/signal to the track. A small decoder in each locomotive—each of which is programmed with a different



Digital Command Control allows multiple throttles to control two or more trains at once without the need for separate electrical blocks. The Digitrax Zephyr at right is an example of a basic DCC system with a built-in throttle.

address—picks out the signals intended for it, and responds appropriately.

Many companies offer basic or beginner's DCC systems, consisting of a combined command station/booster (some include a built-in throttle as well) and power supply. Additional handheld throttles can be added as needed. For most small layouts, two throttles will be all you need. If you build a bigger layout later, you can generally use the same DCC system and add additional throttles and boosters.

I highly recommend DCC not only for controlling the trains, but also for the capability of having onboard sound (available factory-installed in many model locomotives). DCC might seem to be more expensive than cab control for a small layout, but by the time you add the cost of toggle switches, wire, a second power pack, and all the time involved in putting it together, you'll find DCC an economical choice.

Track

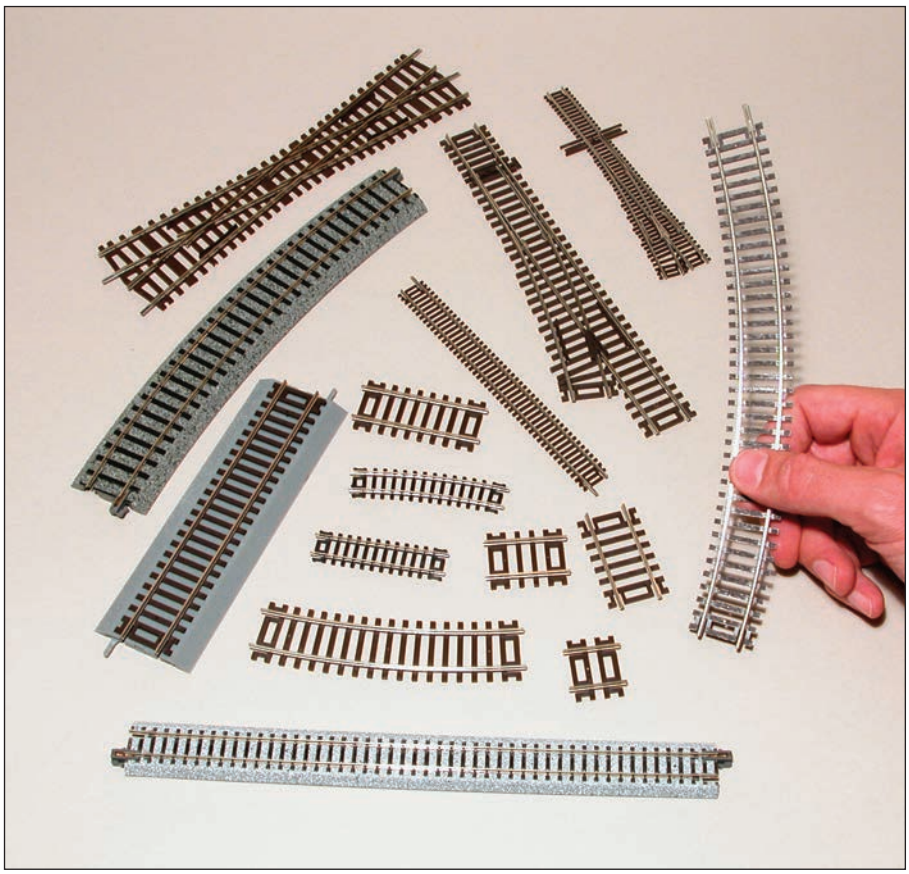
Traditional sectional track is available in all scales in straight and curved pieces, plus turnouts and crossings. Also popular is all-in-one track—track combined with plastic roadbed.

Whichever type of track you choose, installing it properly is the key to smooth operation. Make a mistake here and your trains will derail and won't run well. No amount of spectacular scenery will make up for bad track.

It's a good idea to lay traditional sectional track on roadbed such as cork (available in all scales) or Woodland Scenics Track-Bed (N, HO, and O scales). This elevates the track, making it look like real track, which is on roadbed above the surrounding ground.

It also helps quiet the trains, providing a cushion between the track and wood or foam table surface. Roadbed also provides a smooth, level base for track. Roadbed is best glued in place with white glue or foam glue.

Test-fit all of the track when placing it on the layout. You'll find that sectional track components (especially turnouts) don't always match the dimensions shown in published track plans. You might have to adjust the track plan (eliminate a turnout or two or adjust the length of other track pieces) to get it to fit. Once everything goes together, mark the track locations on the layout surface as a guideline for roadbed.



Sectional track includes straight and curved pieces as well as crossings and turnouts. All-in-one track has roadbed built in.

Track can be secured with small nails or glued in place with a thin coat of latex construction adhesive. Make sure that all joints are square and that rail joiners are connected properly at each joint.

Flextrack takes a bit more work than sectional track, but it allows more options in designing and building a layout. With flextrack, you are no longer bound by the limited number of fixed (and usually tight) radii available in sectional track.

When bending flextrack, one rail will become longer than the other. Use a razor saw or rail nipper (which looks like a wire cutter but uses a shearing motion to provide a clean joint) to cut the rail to the proper length. A small file will clean up any burrs or jagged edges on the cut rail. You'll also need to cut a tie from each end to provide room for rail joiners.

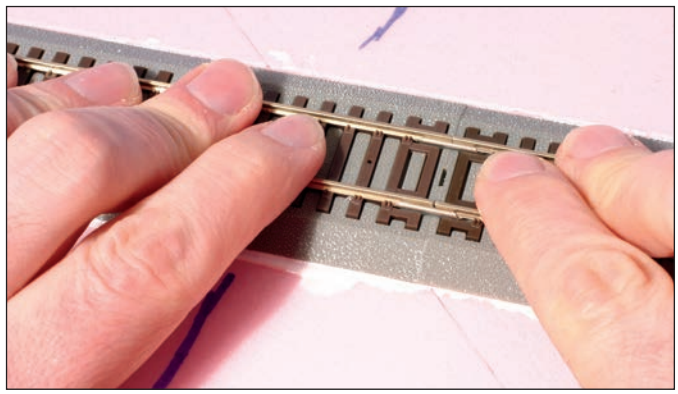
When shopping for track, you'll find it comes in several sizes, or "codes." In track lingo, the code is simply the height of the rail in thousandths of an inch. Thus, HO code 83 track has rail .083" tall; N scale code 55 rail is .055" tall. For the best realism, stick to code 83 or code 70 for HO (the once-common code 100 track is quite oversize compared to the real thing) and code 55 for N.

Ballast

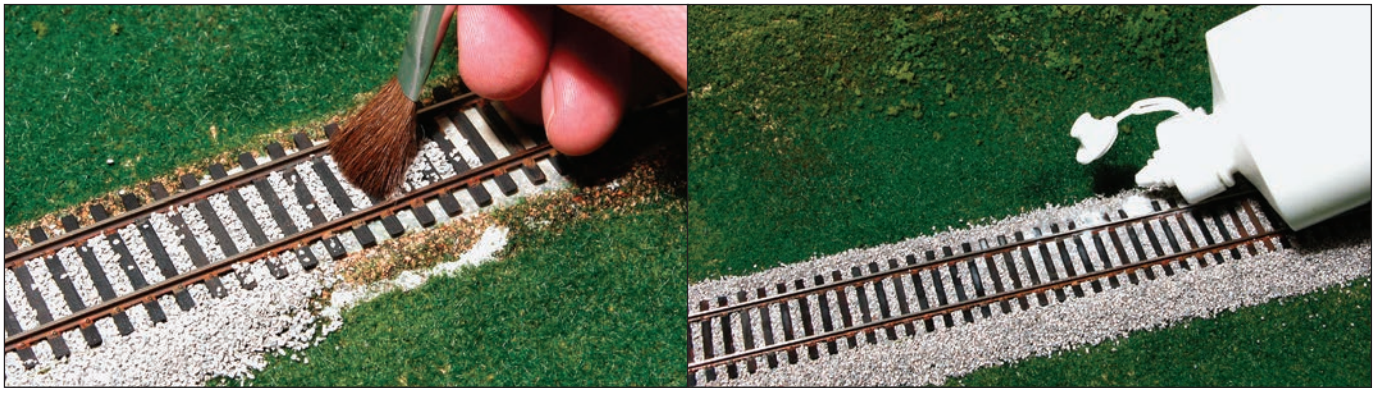
Real track lies on a bed of crushed-rock ballast, which provides drainage and support. Many sizes and colors of scale ballast are available. I suggest fine for N and HO, medium for S, and medium or coarse for O scale. Real ballast varies greatly in color depending on the quarry it comes from, ranging from red and gray to black. Ballast is not uniform in color—there's a lot of variation among the individual rocks.

To ballast model track, use a small cup to spread ballast between the rails and along the shoulders of the roadbed. A soft, wide brush works well for shaping the ballast and getting it off the tops of ties and rails.

It's wise to lay conventional track atop roadbed such as cork. Small track nails will hold sectional track securely if a plywood tabletop or subroadbed is used.



Glue is the best choice for laying track on foam. In this case HO all-in-one track from Atlas is secured with Woodland Scenics Foam Tack Glue.



To ballast track, first spread the ballast between the rails and along the roadbed shoulders. Soak the ballast thoroughly with water (plus a few drops of dish detergent) or rubbing alcohol, then add diluted white glue (right) to bond it in place.

Once the ballast is in place, soak it with either rubbing alcohol or a mix of water with a few drops of dish detergent added. Use an eyedropper or pipette to do this. Next, apply a mix of white glue and water (about 1 part glue and 3 parts water) to the ballast. Work on a foot or so of track at a time. Once the glue dries, remove any glue residue from the rails with a track-cleaning block (such as a Bright Boy), and run a car along the track to make sure there's no ballast on the rail sides to interfere with operations.

Be careful when ballasting around turnouts. Don't soak the areas around the points (the two moving rails) or throw bar with glue. Instead, use a brush to apply glue between ties in this area, and apply the ballast directly to the glue. Make sure all parts can move freely.

Scenic contours

Scenery is the key to making a collection of models become a model railroad. Getting a basic scenic contour on a layout, followed by a coat of green ground foam, is a huge step in realism—and isn't that difficult to do.

A key to realistic scenery is to avoid a dead-flat layout surface. The ground in real life is rarely completely level. Railroads and highways are elevated on roadbed, creeks and ponds are below the main ground level, yards are terraced, and hills add variation.

Two main techniques have become popular for making scenic contours: hardshell and foam. Hardshell involves building a web of cardboard strips or masking tape over crumpled newspaper, then covering it with plaster cloth or plaster-soaked paper towels.

This shell is then covered with a thin layer of plaster or Sculptamold to form the final scenery surface. Plaster is inexpensive and easy to use but is messy and can crack. Sculptamold is a better choice. It looks rather like plaster but with fibrous material mixed in. This makes it very strong, and it's not as messy—it won't drip like plaster.

The other popular choice for building scenic contours is extruded foam insulation board—the pink or blue material in ½"- to 2"-thick sheets. The foam can be cut and carved to form hills and scenic details. The track level of foam can be cut and elevated, just like the cookie-cutter technique with a plywood tabletop.

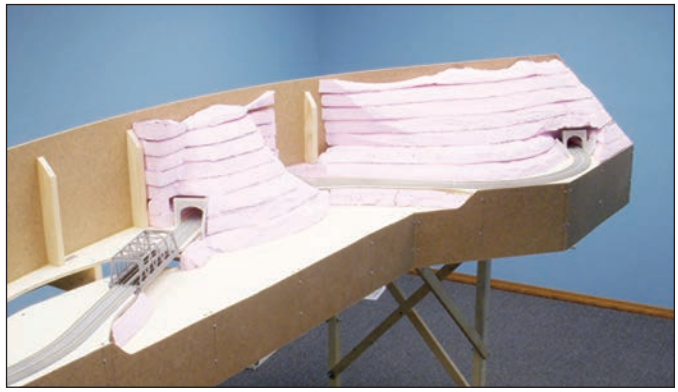
Foam can be cut with a steak knife or other serrated-blade knife or with hot-wire cutting tools (available from Woodland Scenics and Hot-Wire Foam Factory). Rasps (such as a Stanley Surform tool) work well for shaping and smoothing foam. Adding a layer of Sculptamold atop the foam will provide a smooth surface for scenic texture.

Scenery texture

Ground cover is next. Getting even a basic layer of green foam over all of your benchwork and foam does more than anything else to quickly improve your layout's appearance. You can then add detailed scenery as time permits.

The most popular method of adding ground cover is known as the water-soluble technique, popularized by Dave

Hardshell scenery involves placing plaster-soaked towels or plaster cloth atop a web of cardboard.



Sheets of extruded foam insulation board can be cut and contoured to form hills and mountains.

Begin applying scenery with a heavy coat of earth-color latex paint. Sprinkle scenery texture, such as ground foam, atop the wet paint.

Wet the foam and other texture material with "wet water," then dribble on diluted white glue to hold it in place. The glue is white when applied, but will dry clear.

Frary in his book *How to Build Realistic Model Railroad Scenery*. The advantage of this method is that all of the materials and adhesives are compatible, so you can proceed from step to step without waiting for previous work to dry.

Start by painting the surface with a heavy coat of flat (not gloss or satin) earth-color (usually tan) latex paint—the cheapest interior house paint you can find. While the paint is still wet, sprinkle on the texture material. Ground foam is popular, with many colors and textures available—your choice will depend upon whether you're looking to capture lush green grass or yellowed desert grass and earth. You can also use real dirt and earth as well.

Soak ground cover with water with a few drops of dish detergent added (called "wet water") or with rubbing alcohol. You can use a fine-mist spray bottle for large areas; a pipette or eyedropper work well in tight spaces for better control. Follow this by saturating the scenery with a white glue/water mix.

Other important scenery details include trees, water, roads, and rocks. See *How to Build Realistic Model Railroad Scenery* and other books and articles for additional ideas and information.

Structures and details

A huge variety of structure kits is available from N through O scales. Easy-to-assemble plastic kits are within the reach of most beginning modelers. Laser-cut wood kits require painting and a bit more work, but they shouldn't be a problem once you have a few other basic kits under your belt. Several manufacturers also offer assembled versions of many model structures.

Vehicles are important details, as they can help place a layout in a specific era and place. Figures make a layout come alive. They are available already painted; Preiser and others also offer unpainted versions.

Signs are also a great way of setting a time and place for a layout. Many companies offer signs printed on paper, including Bar Mills, Blair Line, City Classics, JL Innovative Design, and Woodland Scenics. You can also make your own, either by photographing existing signs or by scanning or downloading images and printing them.

Signs can be placed on structures, and they can also be freestanding as billboards. Highway, street, grade-crossing, and trackside signs also add to a layout's appearance.

Other common details include telegraph and electric poles, streetlights, stoplights, structure interior detail, scale animals, crossing gates, relay cabinets, phone booths, fences, water towers, and fire hydrants. Use your imagination, and study photos as well as scenes from real life for ideas.

Details are the reason a model railroad is never truly "finished." There are always opportunities to add scenes, structures, and details, or to go back and re-do areas that didn't turn out quite the way you wanted.

Now turn the page and begin studying the plans that can become the basis for your new layout.

Great Northern in Montana

N scale

By Ted Fritzler
Photos by the author

Layout at a glance

Size: 21" x 42"
Prototype: freelance
Locale: western Montana
Era: early 1960s
Style: table/oval
Mainline run: 10 feet
Minimum curve radius: 9¾"
Turnouts: Peco no. 6
Maximum grade: 3 percent
Benchwork: box grid
Roadbed: cork on ½" plywood
Track: Atlas flextrack
Scenery: plaster on Styrofoam or brown paper bag base
Backdrop: printed backdrop mounted on 1 x 8 frame
Control: single cab
Publication date: October 2007

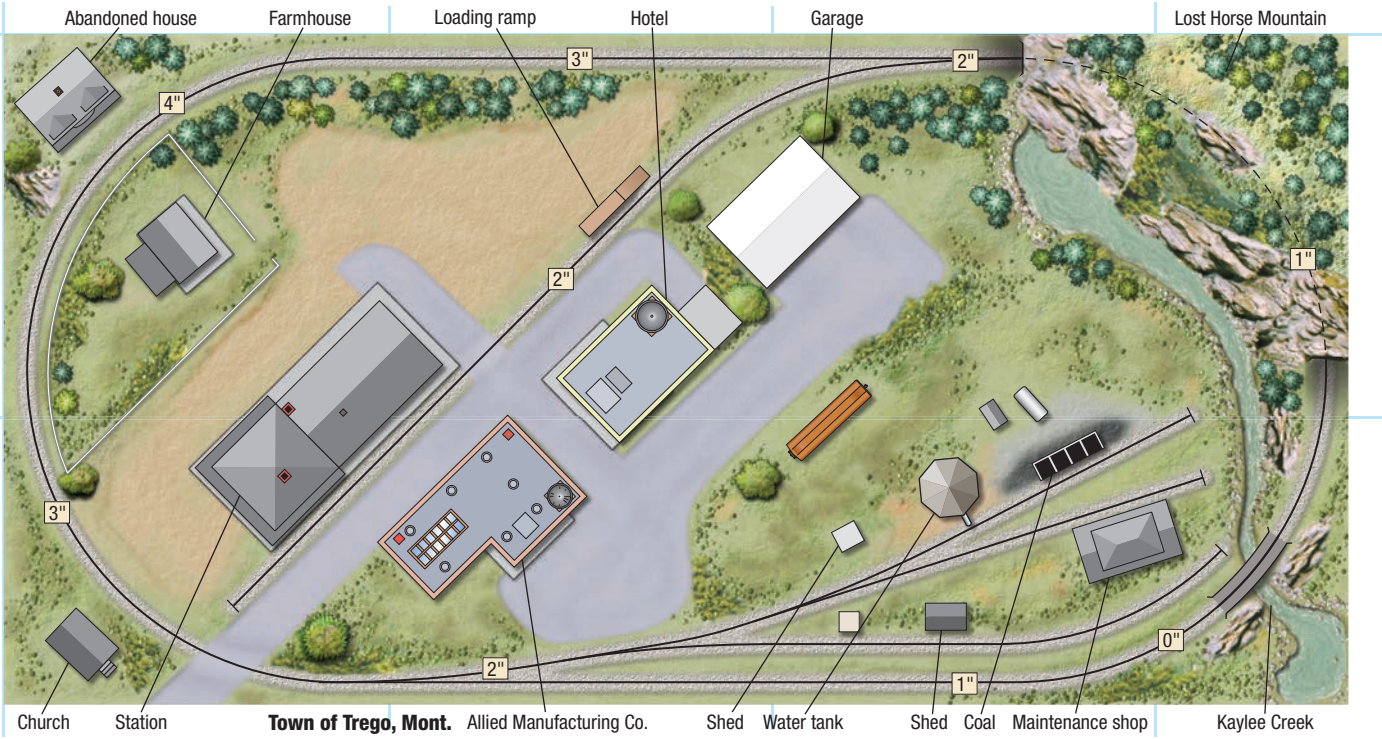
This is a small table-style plan that would make an ideal first layout. It would also be good for anyone living in an apartment or other tight living quarters.

Builder Ted Fritzler added a grade to the loop of track, cutting the plywood tabletop in cookie-cutter fashion to change track and scenic levels as needed. You could also easily build the layout with the track level. The creek and mountain add depth, providing scenic details both above and below track level. The tunnel, together with lots of trees that help hide the track at the rear of the layout, help make the layout appear larger than it really is.

The benchwork is a simple grid table built from 1 x 4s, except for a 1 x 8 across the back that boxes in the elevated scenery and supports the printed backdrop.

A single electrical block is all that's needed to run a train. The track can be divided into blocks, so a second locomotive can be stored on a spur.

Small layouts can have detailed scenes that look like they are part of a much larger model railroad.



Scale of plan: 2" = 1'-0", 12" grid

This view shows the entire layout. Controls for turnouts are on the simple control panel at the front.

Layout in a box

N scale

By Raymond Duton
Photos by the author

If you want a small home railroad or an expanded diorama, or if you're looking for a handy way to travel with a display layout, this shadowbox design might be just what you're looking for. This ultra-compact N scale layout measures just 28" x 30", but the size could be expanded based on your available space and needs.

Raymond Duton came up with this plan and design as a way to have an operating railroad in an apartment, and it also gave him a layout that he could display at model railroad shows. The visible portion of the layout is a simple plywood box with a removable clear acrylic front panel. The hidden (unscenicked) area at back is hinged, allowing it to fold up for transport or storage.

Curves are extremely sharp—7⅝4" minimum radius—necessitating small switching locomotives and short (40-foot maximum) rolling stock. Building the layout in a slightly larger format would allow using conventional 9¾" or larger curves in N scale.

This could also be an ideal layout design for someone interested in scenery, structures, and rolling stock with a high level of detail.

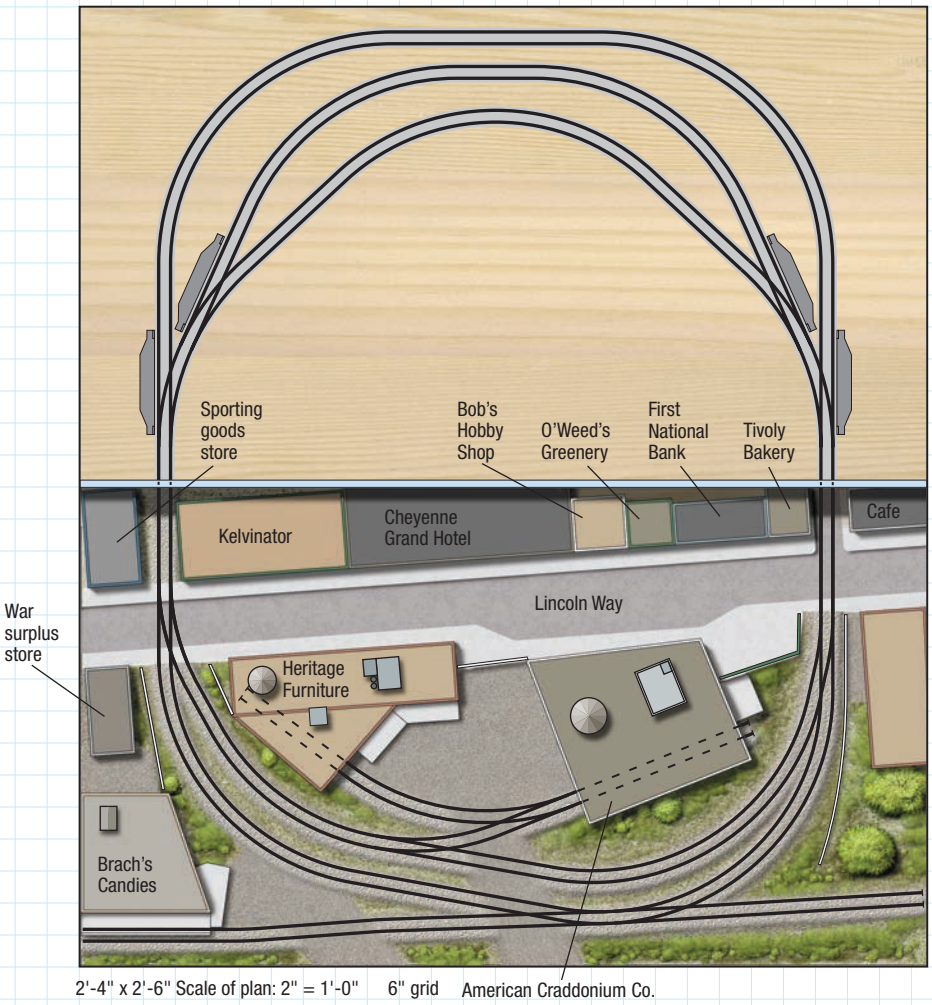
The staging area can be as large as you need it to be. Having multiple tracks allows you to hold several trains or strings of cars, letting you rotate the trains that appear on the scenicked side of the layout. The staging area could also be just a single track if that's all that space allows.

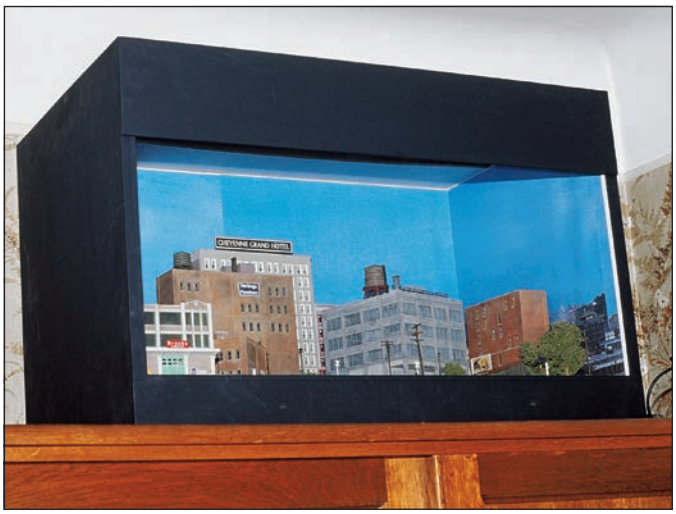
Let imagination be your guide with this plan. Design it to fit your interests (region, prototype, and era) and available space. The result will be a layout that fits nicely in a family room or other furnished area, or one that travels well on the road for display.

Tall structures make the layout seem larger, and help hide the openings where the track passes to the staging area.

Layout at a glance

Box size: 28" wide x 30 5/16" deep x 18 3/32" high (16 1/8" deep with yard folded)
Theme: freelance urban industrial area
Era: 1960s
Locale: somewhere west of Omaha
Style: table/oval
Benchwork: plywood box with removable Plexiglas front
Roadbed: plywood
Track: Micro Engineering code 55 on scenicked portion; Roco code 80 for the fiddle yard
Minimum radius: 7 5/64"
Maximum grade: none
Mainline run: 64"
Backdrop: scenes photocopied from books and mounted on cardboard
Control: separate box with throttle and turnout controls
Publication date: October 2001





The layout is built diorama-style, with a Plexiglas front for viewing from one angle only.

The staging area at rear is unscenicked. The throttle and turnout controls are in a removable box.

Havaphew Central

N scale

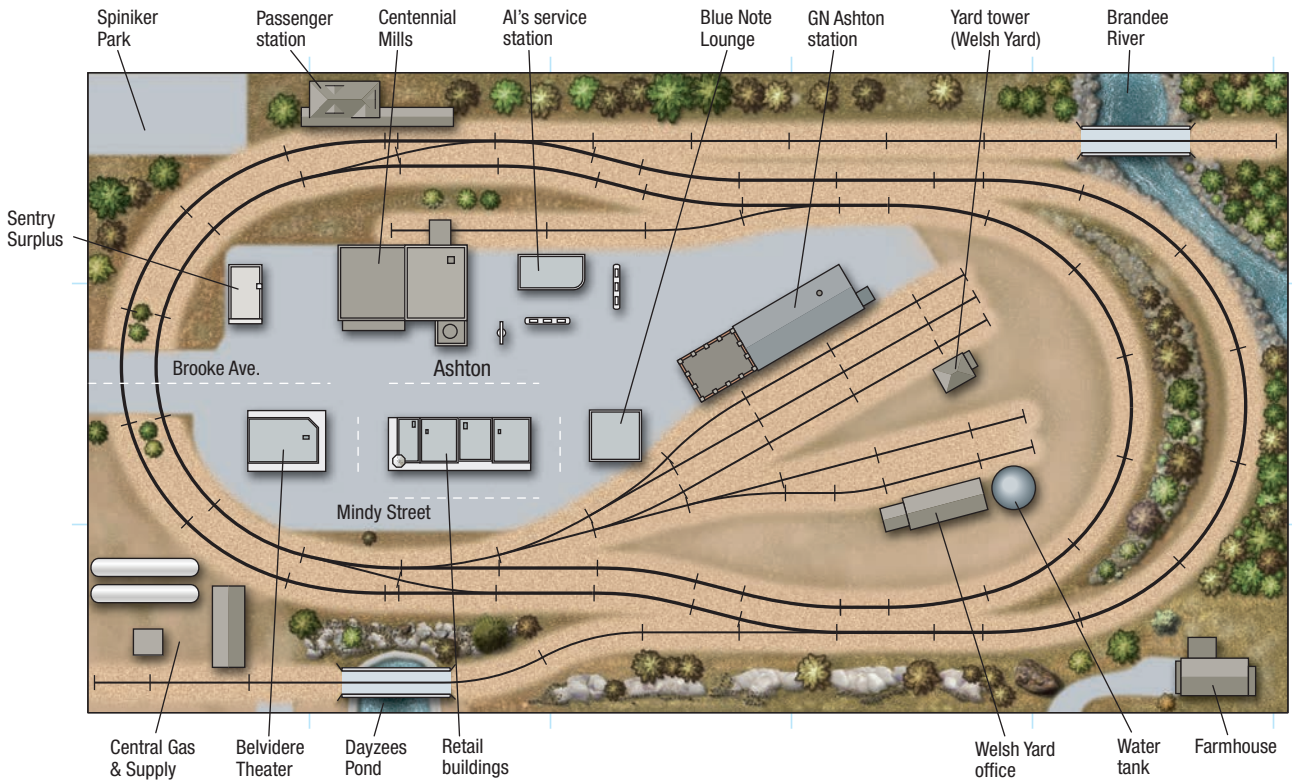
By Don Culp
Photos by the author

This compact N scale track plan features a double-track oval with a couple of industrial spurs, a small yard and engine-servicing area, and a potential branch line/interchange track/place to expand the layout.

A simple 1 x 4 frame with ½" plywood top supports the layout, with all track on the same level. The legs are 2 x 2s, and they have casters to allow the layout to be easily moved. The low height (32") allows operation while seated in a chair. A river and pond are below the table surface.

Layout builder Don Culp designed the layout to loosely represent the Great Northern in the Pacific Northwest in the late 1950s, but changing the backdrop will allow duplicating most any setting.

Don wired the layout for DC dual cab control. Although he generally operates the layout by himself, Don says this allows him to let a train run continually on the outer loop while he switches cars with another locomotive on the inner loop. Digital Command Control would simplify the wiring.



Scale of plan: 1¼" = 1'-0", 12" grid

Layout at a glance

Size: 2'-6" x 5'-0"
Prototype: freelance Great Northern
Locale: Pacific Northwest
Era: 1950s to 1960s
Style: table/oval
Layout height: 32"
Benchwork: open grid
Roadbed: cork
Track: Atlas Snap Track
Length of mainline run: 13 feet
Turnout minimum: Atlas Custom Line
Minimum radius: 9¾"
Maximum grade: none
Scenery: Hydrocal and paper towels over cardboard forms
Backdrop: ⅛" hardboard
Control: cab control
Publication date: March 2005

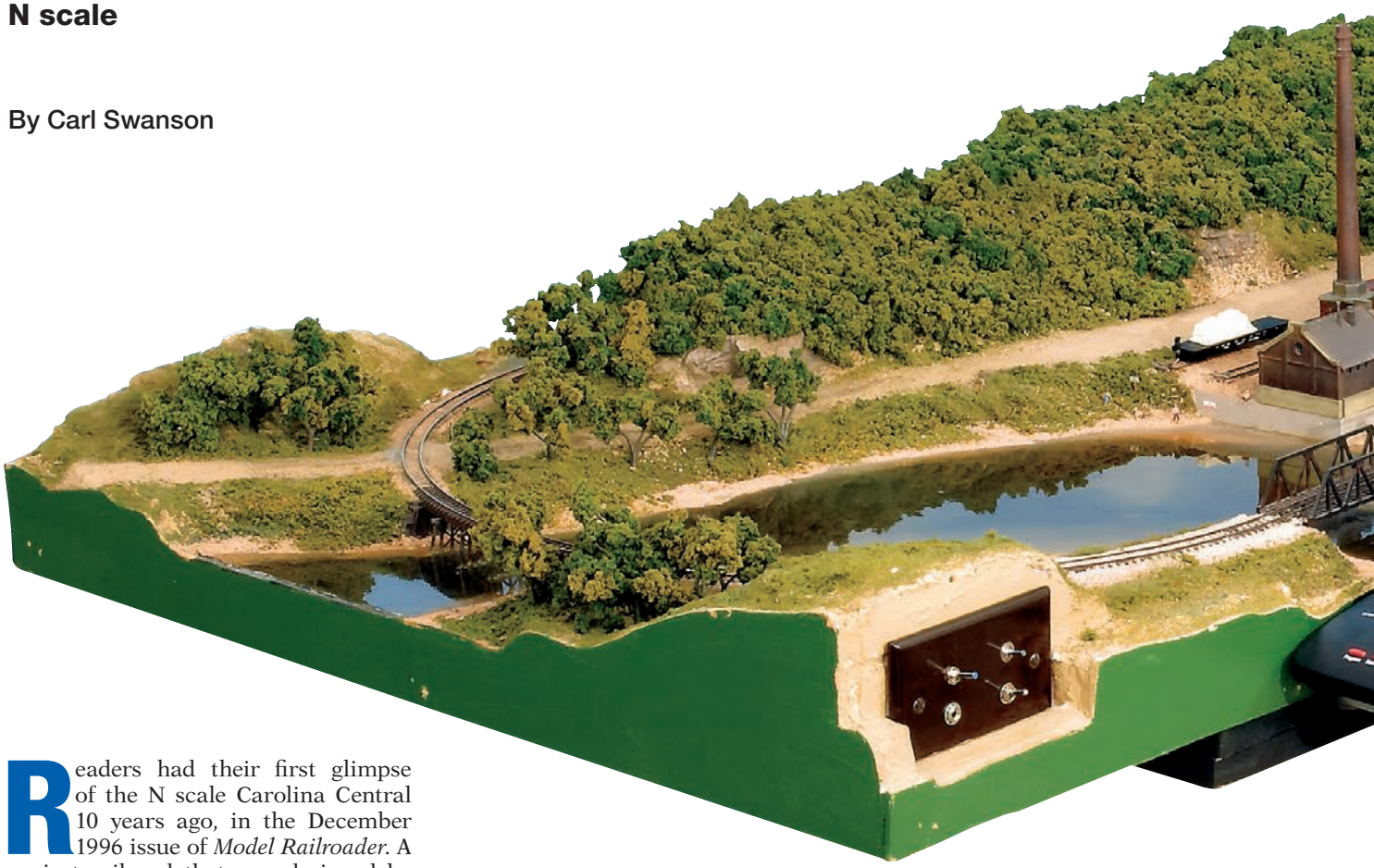
A Great Northern diesel leads a short freight through the small town on Don Culp's N scale layout.

The layout rests on a simple table with a backdrop at the rear. The power pack with control panel is mounted at the front of the benchwork.

Carolina Central

N scale

By Carl Swanson



Readers had their first glimpse of the N scale Carolina Central 10 years ago, in the December 1996 issue of *Model Railroader*. A project railroad that was designed by then-associate editor Marty McGuirk and built on a 28" x 80" interior door, the little railroad was a big hit.

Versatility is the key to the Carolina Central's appeal. A hill extending across the layout conceals a long double-ended siding that serves as a staging yard. The hill also serves as a view block. Trains circling the Carolina Central disappear from view, eventually reappearing at the other side of the layout. That's much more visually interesting than watching a locomotive chase a caboose around and around. The front of the railroad features a second passing siding and some interesting switching possibilities.

That's a lot of action for a 28"-wide railroad, but getting it all to fit required the use of tight 9¾"-radius curves and No. 4 turnouts. Longer cars and locomotives are not happy in that sort of confined working environment.

This updated look at the Carolina Central uses Kato sectional Unitrack and is a slightly reworked version of a track plan posted at www.katousa.com. Using a 32"-wide interior door broadens the Carolina Central's horizons by just 4", yet it provides enough space for 11" curves and No. 6 turnouts.

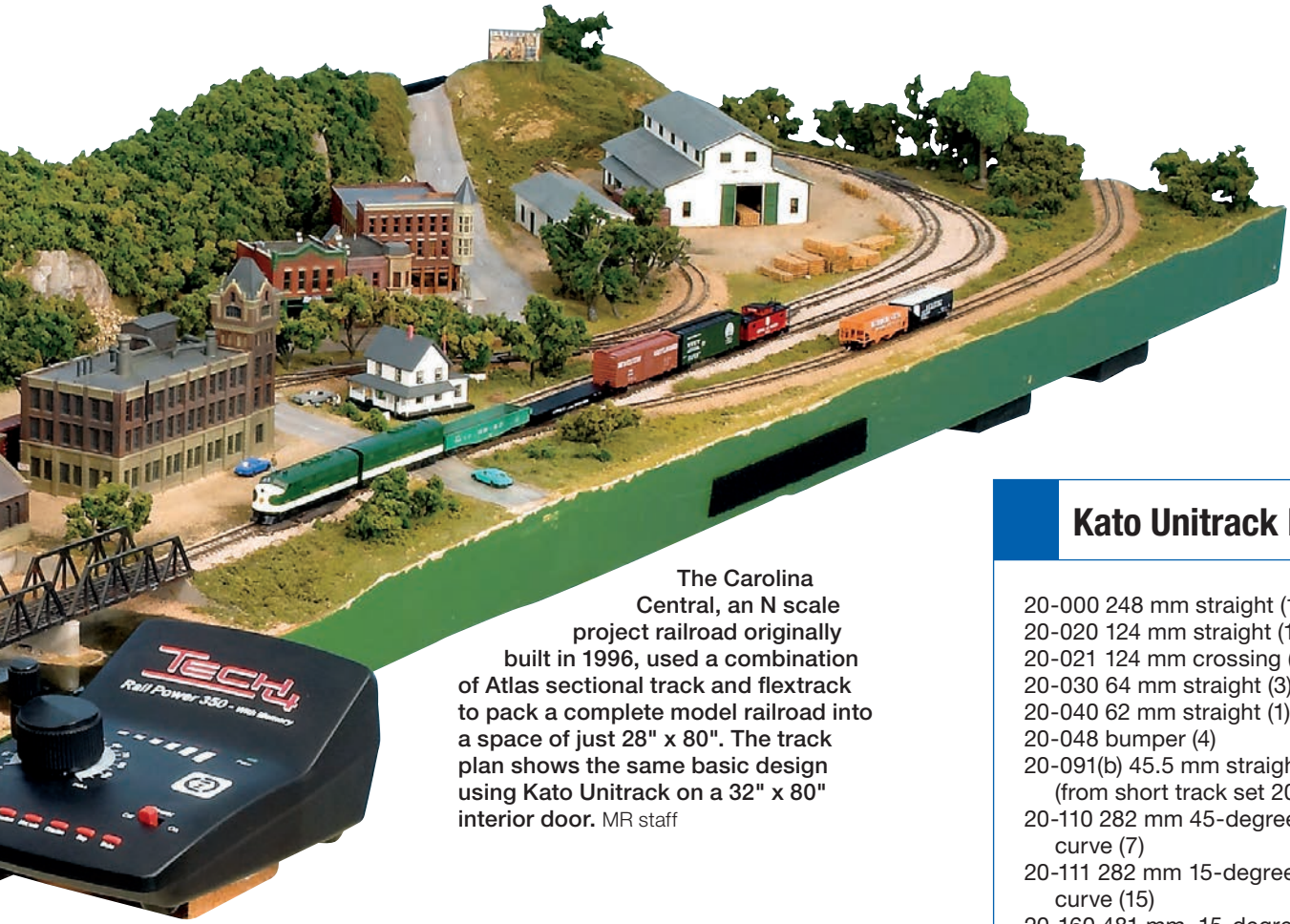
As a result, a broader range of equipment can comfortably operate on this layout. If you have a bit more room to play with, you might consider adding additional staging tracks. Tony Koester's "More action on the Carolina Central" (*Model Railroad Planning 2005*) discusses operating this layout and includes a plan for greatly expanded staging.

Kato is one of several companies that make N scale track with a molded plastic roadbed. To my eyes, this combined track and roadbed design looks a little too perfect for realism. Painting the sides of the rails with Polly Scale Grimy Black and adding a dusting of appropriately colored ballast on the shoulders gives it a more realistic appearance. For Unitrack system users, Kato offers a fine-grain ballast mixture (No. 24-039) that complements the black-flecked gray of its plastic roadbed.

A river doesn't run through it

A river cutting diagonally across the lower-left corner of the layout was a signature element of the original Carolina Central (as shown above). The main line crossed the river twice, using a pair of No. 2546 Atlas Warren-truss bridges for the first crossing and a No. 67 Blair Line curved wooden trestle for the other. But the broader 11"-radius curves used on the revised Carolina Central limit the amount of space available for a river. We've kept part of the idea intact by having a Unitrack No. 20-454 plate-girder bridge cross an inlet, which now curves around the two spur tracks before narrowing.

Although losing some of the river element is unfortunate, we do gain partial compensation by doubling the length of the two interior sidings on the layout's left side. The end result is still the same: Whether you're switching those interior sidings or just watching trains run, the Carolina Central offers hours of fun in a modest space.



The Carolina Central, an N scale project railroad originally built in 1996, used a combination of Atlas sectional track and flextrack to pack a complete model railroad into a space of just 28" x 80". The track plan shows the same basic design using Kato Unitrack on a 32" x 80" interior door. MR staff

Kato Unitrack list

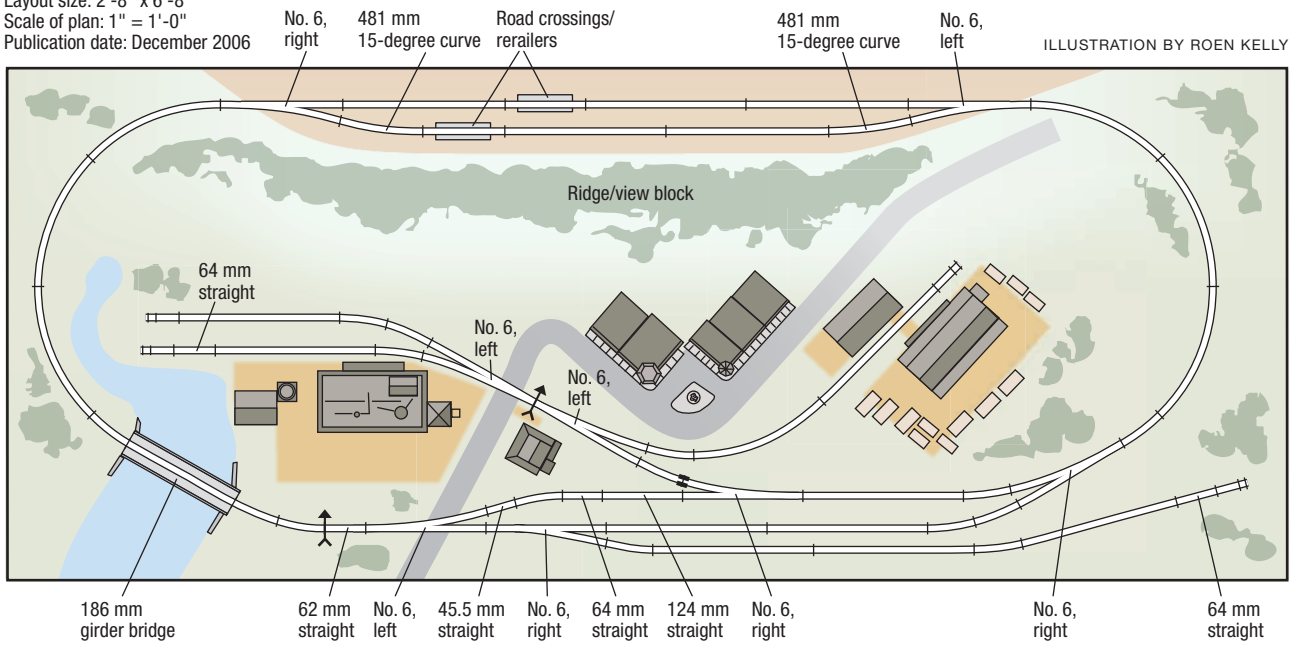
20-000 248 mm straight (14)
20-020 124 mm straight (1)
20-021 124 mm crossing (2)
20-030 64 mm straight (3)
20-040 62 mm straight (1)
20-048 bumper (4)
20-091(b) 45.5 mm straight (1)
(from short track set 20-091)
20-110 282 mm 45-degree curve (7)
20-111 282 mm 15-degree curve (15)
20-160 481 mm, 15-degree curve (2)
20-202 No. 6 turnout, left (4)
20-203 No. 6 turnout, right (4)
20-454 186 mm girder bridge (1)
24-816 insulated track joiner (1)
24-818 terminal joiners (2)

Carolina Central II

Electrical feeders — Insulated rail joiner

Layout size: 2'-8" x 6'-8"
Scale of plan: 1" = 1'-0"
Publication date: December 2006

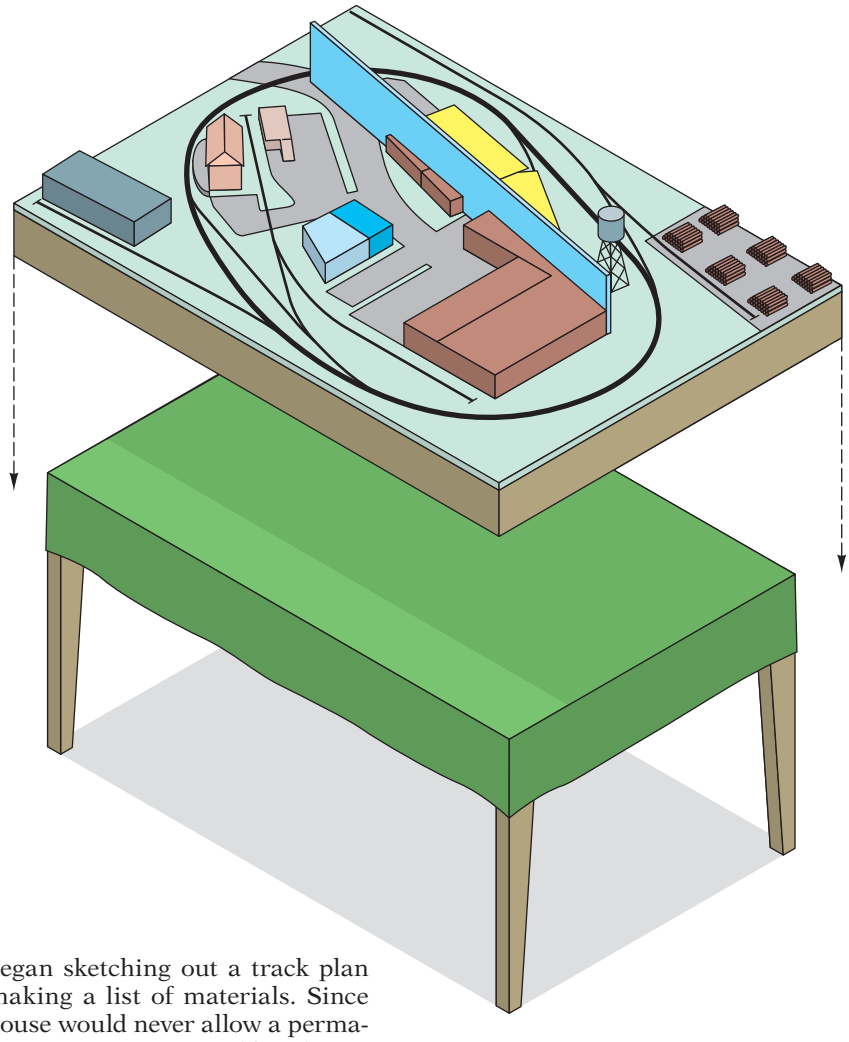
ILLUSTRATION BY ROEN KELLY



Great Lakes Northern

HO scale

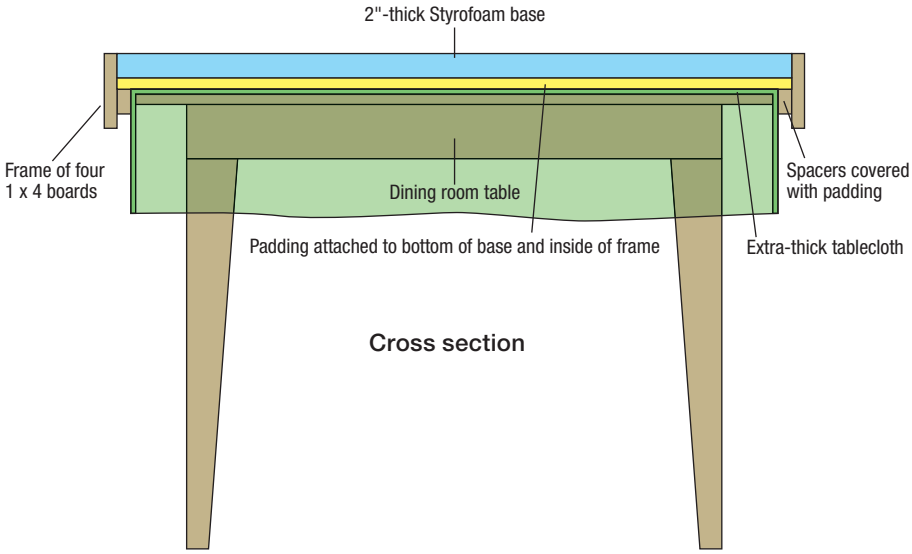
By Richard Nelson



No room for a layout? How about the dining room? Richard Nelson shows how to run trains between meals.

At breakfast one morning, as I lamented my lack of space for a model railroad, I found inspiration when I realized that we used our dining room table for only about an hour a day. What a terrific waste of space! Measuring about 3 x 5 feet, the table seemed too small for HO scale. Then I remembered that John Allen's first Gorre & Daphetid layout (see the August 1996 *Model Railroader*) had 14" curves and measured 3'-7" x 6'-8".

I began sketching out a track plan and making a list of materials. Since my spouse would never allow a permanent layout running around her dining room, I needed a removable, lightweight railroad that would fit over the table without damaging the tabletop surface or table edges. The resulting Great Lakes Northern HO scale track plan is a portable, extremely compact switching layout that you could modify to fit your particular space constraints.



Cross section

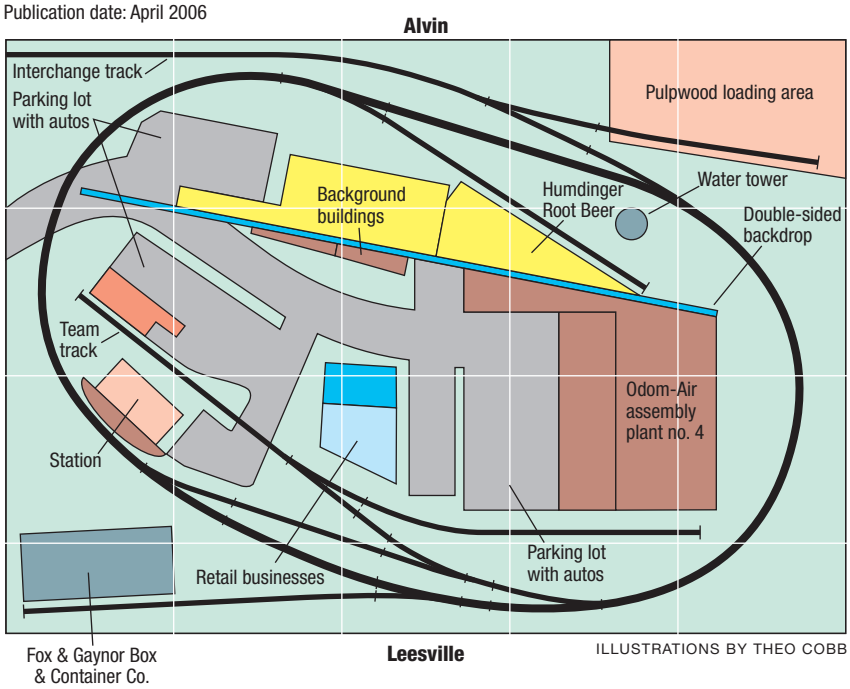
Portable benchwork

Because the layout is designed for portability, lightweight materials are key. Begin building the GLN with a 2"-thick Styrofoam sheet framed with 1 x 4 boards (see the cross section at left). This frame should fit snugly on the tabletop. To protect the tabletop and edges, attach padding (such as carpet squares) to the underside of the foam base and inside surfaces of the frame. An extra-heavy tablecloth further protects the tabletop. If needed, spacers, such as scrap wood wrapped in padding, can be used to ensure a tight fit.

The track plan

Although you can use any size of rail, code 100 track looks acceptable since the GLN portrays a heavily trafficked short line. I use Peco small-radius turnouts because they require less trimming than other brands. Flextrack works well for the tight 16"-radius curves. For modelers who are so inclined, the GLN pro-

Layout size: 3'-6" x 5'
Scale of plan: ⅞" = 1'-0", 12" grid
16" minimum radius
Publication date: April 2006



ILLUSTRATIONS BY THEO COBB

Summary of design and operational features

- Ultra-compact
- Continuous-run capability
- Interchange track
- Two switching areas
- Suggested industries require a wide variety of car types
- Good ratio of track to industries to general scenery
- Designed for portability and storage
- Uses existing home space for modeling purposes
- Total area: 17½ square feet

vides an ideal project for handlaying track and scratchbuilding turnouts.

The GLN shares two benefits of an oval layout in a small space. The first benefit, continuous running capability, allows you to properly break in engines or to simply watch your trains run. The second benefit comes from not treating the layout like an oval at all. Because an oval configuration provides virtually unlimited switching leads, you can operate the GLN as a 10-foot-long shelf layout folded back on itself. Along with switching operations, the track plan allows point-to-point moves, such as a train delivering new cartons to the root beer plant from the box factory.

Towns and industries

A double-sided backdrop divides the GLN into two towns: Alvin and Leesville. Alvin's main industry is the Humdinger Root Beer plant, while Leesville's landscape is dominated by the Odom-Air Assembly Plant No. 4. Other structures include a pulpwood yard, the Fox & Gaynor Box & Container Co., and any other retail businesses of your choice. Diverse industries allow you to haul a variety of rolling stock ranging from corn syrup tank cars to pulpwood flatcars and gondolas.

Although I've outlined a few specific industries, they're simply suggestions. Whatever scenery and structures you choose, durability is crucial, since the layout will be moved around a lot. Any fragile buildings should be removable for separate storage.

Build to suit

As a portable layout, the Great Lakes Northern proves a versatile track plan. Built as suggested, the lightweight GLN makes an ideal train show layout that you can set up almost anywhere, even on a pair of sawhorses. If your table is larger than mine, lengthen the main line and add more scenery. If your table is smaller, consider developing an N scale track plan.

After reviewing the GLN track plan, you might not look at your dining room table the same way again. The ultra-portable Great Lakes Northern tabletop layout proves that with a little ingenuity, you can always find room for a model railroad.

Parts list

Peco code 100 track
1047 small-radius right-hand turnouts (6)
1048 small-radius left-hand turnouts (2)
1162 36" flextrack (7, or number to fit your table)

Wm. K. Walthers
3024 Milwaukee Beer & Ale
3043 steel water tank
3166 team track
3183 Fireproof Storage & Transfer background building
3183 Plant No. 4
3193 Arrowhead Ale
Any other retail businesses of your choice

Alpine Division Scale Models
81 Grand Junction box works

Dyna-Model Products
1 small passenger station

AM Models
109 bunkhouse

Design Preservation Models
365 steel sash industrial building

B.T.S. Better Than Scratch
27480 Anderson Pulpwood Yard

Miscellaneous
2"-thick Styrofoam base cut to fit your tabletop
Four 1 x 4s cut to fit around the Styrofoam base
Carpet squares or other padding trimmed to fit the bottom of the base and inside surfaces of the frame
Spacers, such as scrap wood wrapped in padding, if required for a tight fit
Extra-heavy tablecloth
Double-sided backdrop painted with sky or industrial scenes
Various figures, vehicles, and loads of your choice

New Haven's Naugatuck Valley

N scale

By David Popp

As the last of the benchwork for my 11 x 30-foot HO scale Soo Line layout was unceremoniously shoved to the back of the storage unit, I figured it would be a while before I built another one. A recent move had caused my wife and I to temporarily downsize to a small apartment while we built a new house. Sensing my loss, however, Ingrid donated part of the living room for a small layout, and my plans for an N scale apartment-sized railroad were born.

A prototype with modelers in mind

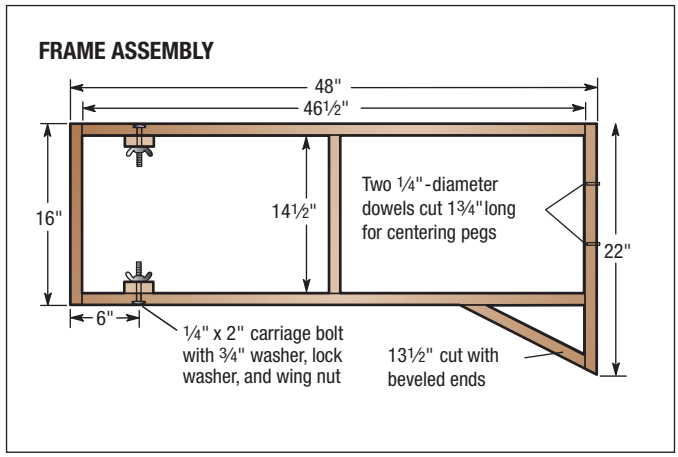
Looking for something different from the Midwest, I sought out the New York, New Haven & Hartford for inspiration. After some research, I focused on the New Haven's Naugatuck Line, following the Naugatuck River Valley in Connecticut. This area was once rich with mills and factories and would provide some nice industries to switch. In addition, a devastating hurricane in 1955 caused the New Haven to rebuild most of the original double-track main line as a single-track one, making it ideal for a modeler with limited space.

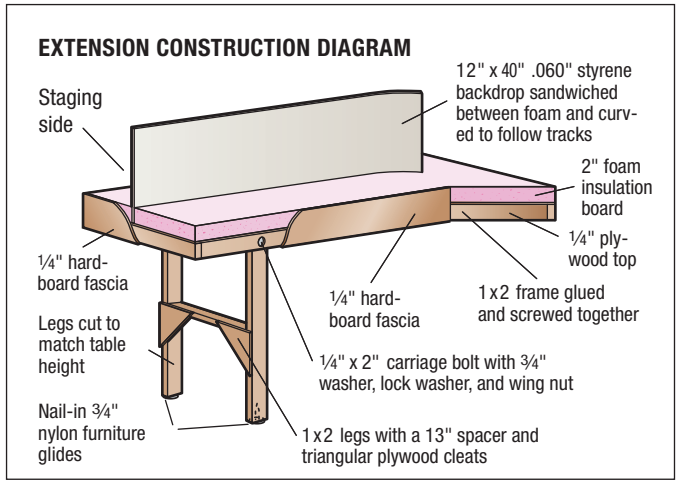
The region also included some picturesque scenery as the New Haven wound its way north to Waterbury. Its dramatic, near-water-level route was surrounded by tree-covered rocky hills between towns and included some nice bridges to model.

And by the late 1950s, daily traffic on the line was ideal for a small layout. It included a north and south through freight, a local serving the towns, and four passenger runs each way with Budd Rail Diesel Cars (RDCs).

The layout plan

Because of my space limitations, I knew my layout could only be a representation of the New Haven. With that in mind, the towns of Seymour and Naugatuck exhibit the fla-

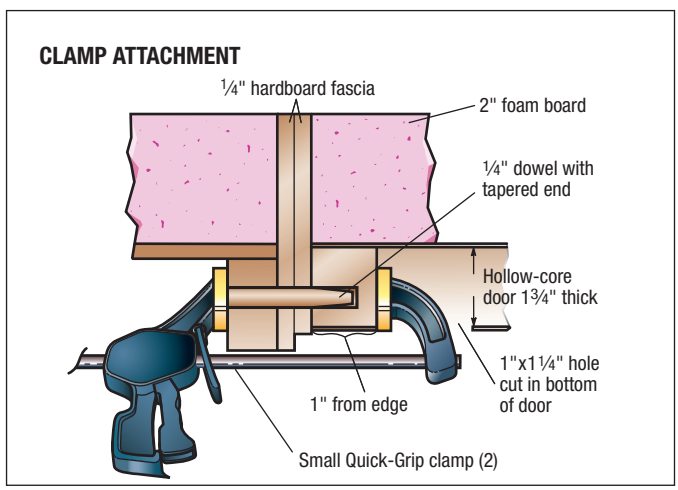




Moving Freight on the Naugatuck Line

Late in the New Haven's history, the railroad would run a single freight north to Waterbury, Conn., each day. The train would have three locomotives, typically RS-3s. In Waterbury, the crew would break up their train into three locals, sending them off in different directions to switch the main back to Naugatuck and the Torrington and Forrestville branches. In the evening, the three locals would return to Waterbury where the crew would reassemble the train and then take the whole thing back south to Cedar Hill.

By using the staging tracks as a fiddle yard, you could easily simulate this operation on this version of the Naugatuck Line or adapt it for your own railroad.



ILLUSTRATIONS BY JAY SMITH

Track and roadbed

Peco code 55 track

387 No. 8 curved right-hand turnout (2)
388 No. 8 curved left-hand turnout (3)
393 20-degree crossing (1)
1791 No. 4 right-hand turnout (2)
1792 No. 4 left-hand turnout (6)
1795 No. 6 right-hand turnout (2)
1796 No. 6 left-hand turnout (2)
1797 No. 7 wye turnout (1)
5801 36" flextrack (25)

Midwest Products

3019 cork roadbed (25)

Structure key

Atlas

A. 2548 plate-girder bridge

Bar Mills

B. 304 low-boy trestle (coal dock)

American Model Builders

C. 617 barn (used as fuel dealer shed)
D. 638 Springfield depot
E. 648 New Haven depot

Design Preservation Models

F. 506 Gripp's Luggage (furniture factory)
G. 660 Woods Furniture (kitbashed to fit backdrop and as a view block to staging)

Micro Engineering Co.

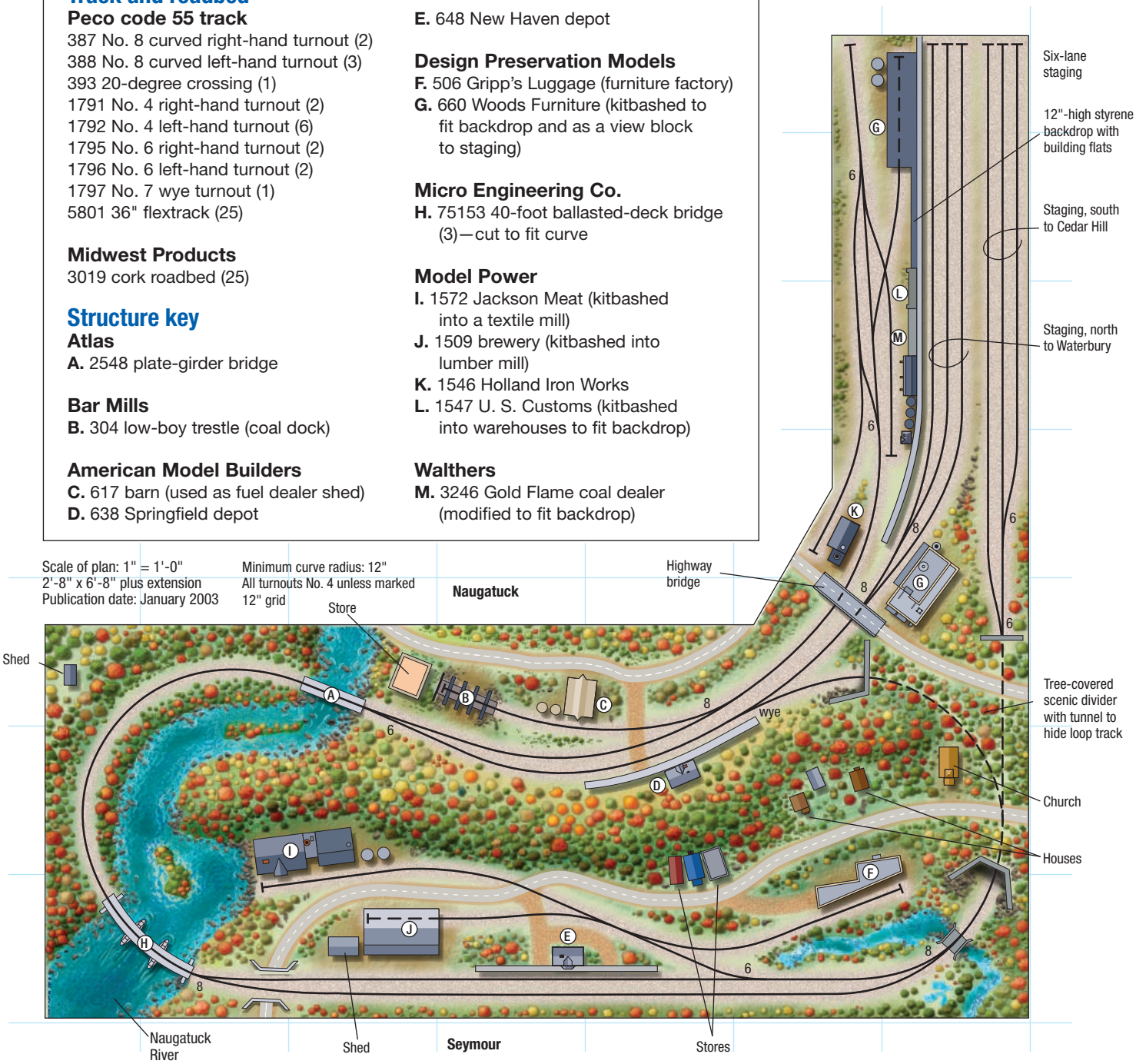
H. 75153 40-foot ballasted-deck bridge (3)—cut to fit curve

Model Power

I. 1572 Jackson Meat (kitbashed into a textile mill)
J. 1509 brewery (kitbashed into lumber mill)
K. 1546 Holland Iron Works
L. 1547 U. S. Customs (kitbashed into warehouses to fit backdrop)

Walthers

M. 3246 Gold Flame coal dealer (modified to fit backdrop)



vor of 1959 New Haven railroading in Connecticut but are not accurate reproductions.

I designed the layout in two pieces. The benchwork for the main part is a 32" hollow-core interior door covered with 2" foam and has an independent loop for display running. For support, I set the layout on an inexpensive folding table.

To gain a little more space and add some operating interest, I built a 16" x 48" removable extension. This piece allowed me to include a six-track staging yard (three tracks for each end of the railroad) and a 6"-wide industrial park for the town of Naugatuck.

When in use, the extension clamps to the layout with two Quick-Grip clamps and is supported by a removable leg. To build the extension, see the construction diagrams.

Fun for two

I designed the layout with two operators in mind, and it would be a good candidate for an entry-level Digital Command Control (DCC) system with walkaround control.

For an operating session, using a simple timetable, one operator would run the local freight and switch the industries at Seymour and Naugatuck. The other engineer would handle the through freights and the typical late-1950s New Haven RDC passenger trains making station stops at both towns.

As you become more experienced with operations, you could add waybills, extra trains, and even a fast clock! Despite my Naugatuck Valley's small, apartment-living size, its possibilities for railroading fun seem endless.

Layout on a budget

HO scale

By George Sebastian-Coleman
Photos by the author

The goal of this layout, which appeared as a project layout series in *Model Railroader*, was to build a complete model railroad for under $500. The result was a simple oval, table-style layout. The railroad could represent just about any era, prototype, and area of the country by changing the buildings, industries, locomotive, and freight cars.

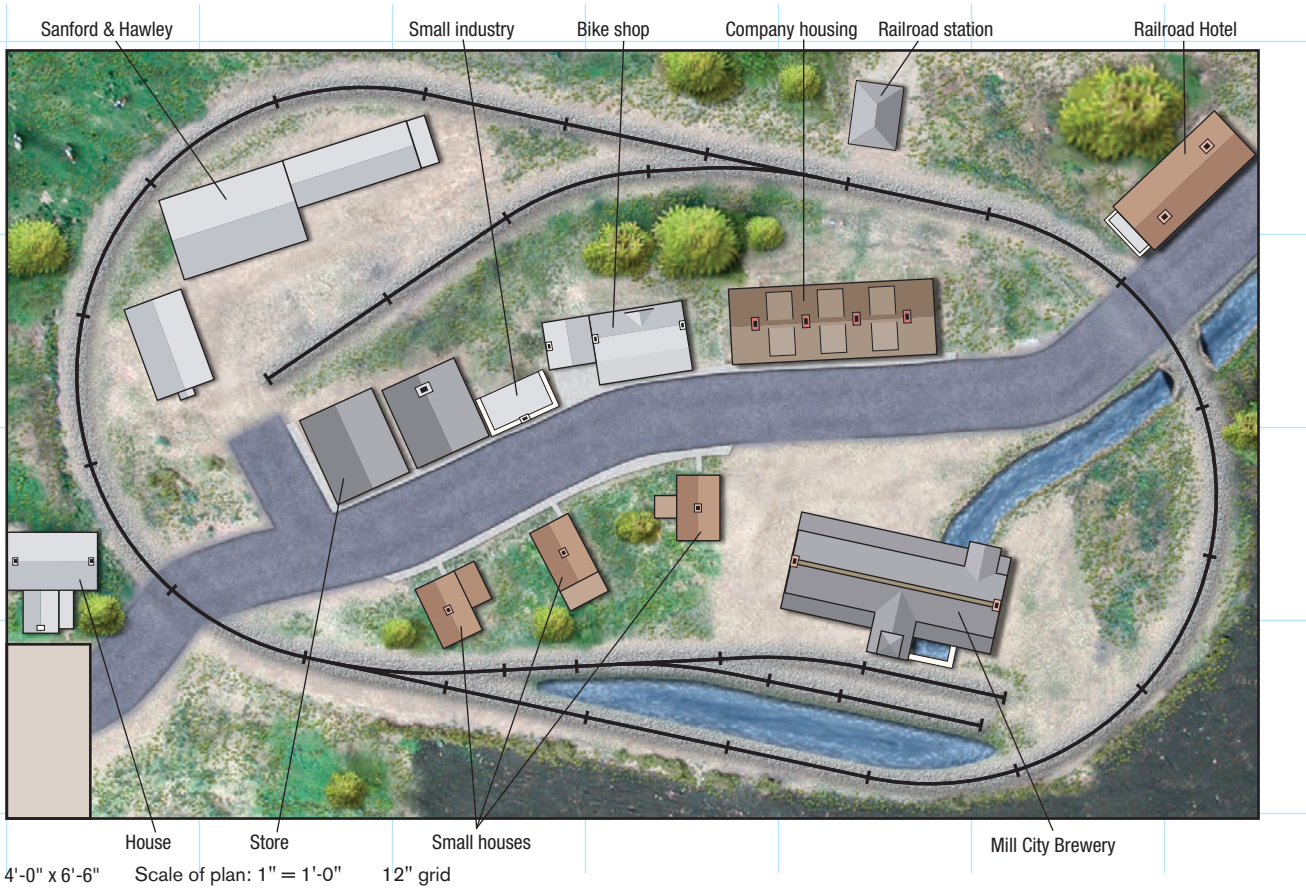
The table is a sheet of 2"-thick extruded foam insulation board atop a pair of sawhorses, with 1" foam serving as subroadbed cut to fit just under the track. Sculptamold blended the table to the subroadbed keeps the table from being perfectly flat. The structures are all paper, cut from books of scale buildings (now out-of-print) published by Dover Publications. These books can sometimes still be found on sites such as www.abebooks.com, ebay, and www.alibris.com. You can substitute any commercial structures (built-up or kit) to suit your preferences.

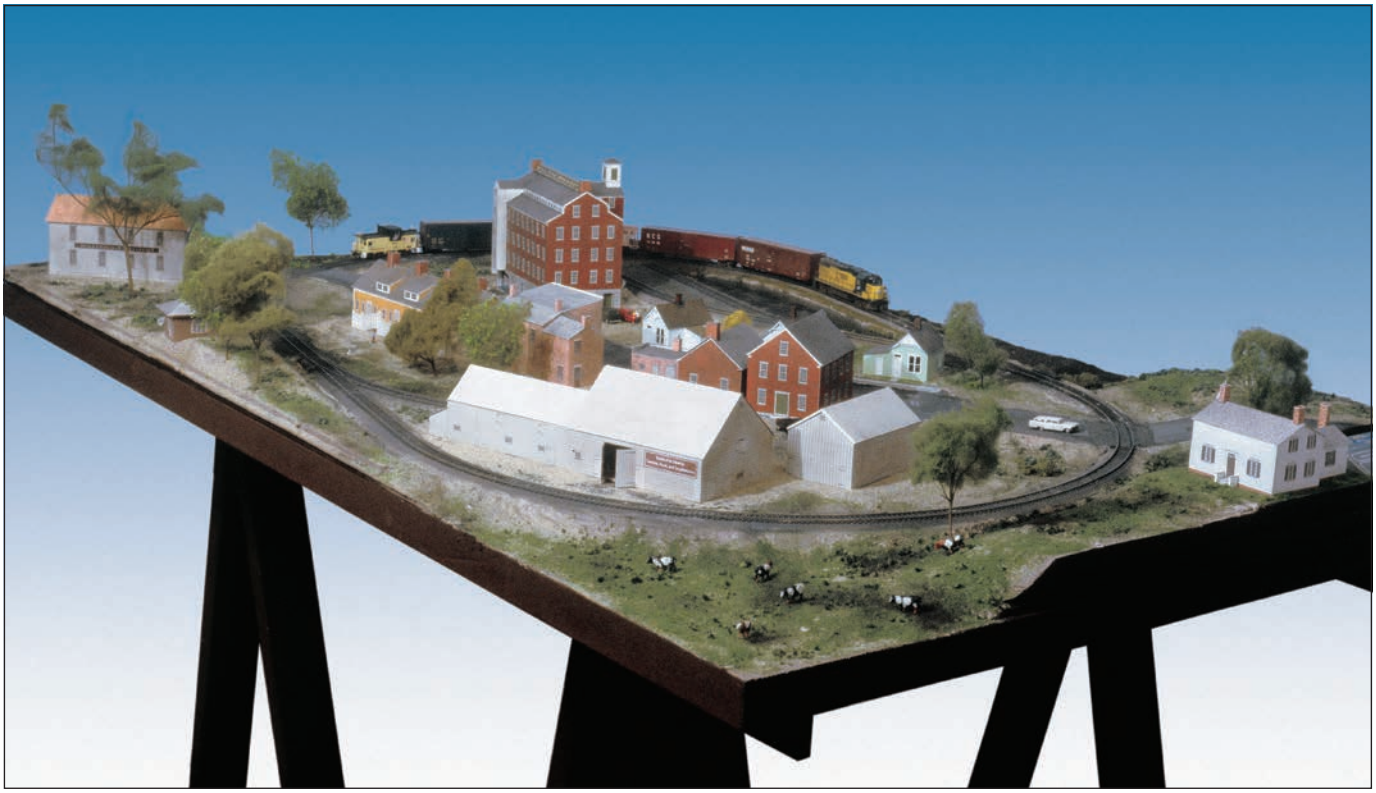
The layout is wired as a single electric block and controlled by a standard DC power pack.

Layout at a glance

Prototype: freelance
Locale: generic
Era: 1970s
Style: table/oval
Length of mainline run: 15 feet
Height: 48"
Benchwork: 2" foam sheet on sawhorses
Track: Atlas True-Track
Subroadbed: 1" extruded foam
Turnout minimum: No. 4
Minimum radius: 18"
Maximum grade: none
Scenery: Ground foam over Sculptamold over foam
Control: DC power pack
Publication dates: January and February 2004

The author chose to model the 1970s, represented by a Chicago & North Western diesel and a variety of freight cars. It would be easy to change this to any era by swapping rolling stock, structures, and details.



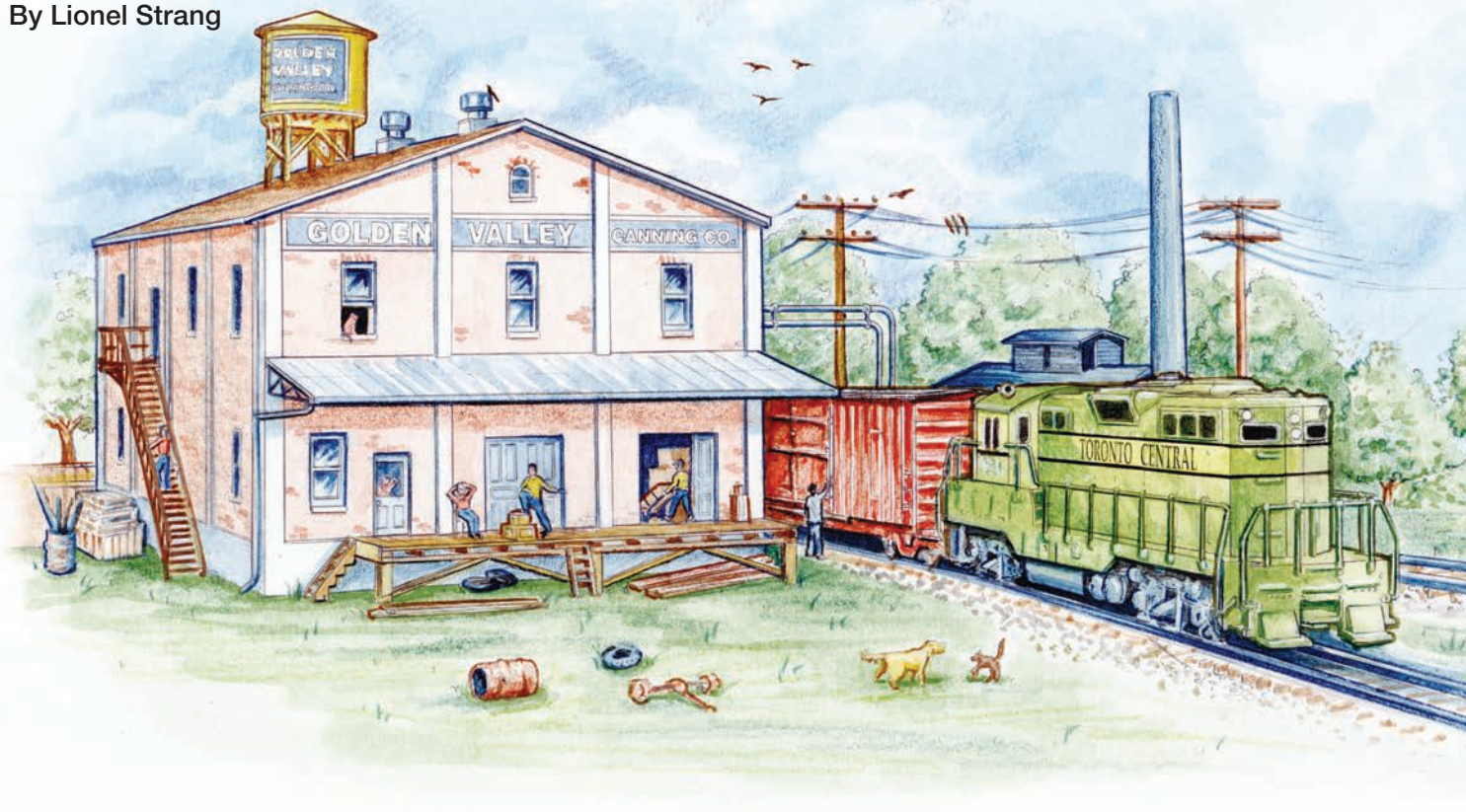


The benchwork is about as simple as it can be, with a 2" foam table atop a pair of sawhorses. The track is level, but placing it on 1" foam and blending it with Sculptamold provides some undulations in the scenery.

Toronto Central

HO scale

By Lionel Strang



The Toronto Central is a 4 x 8-foot HO layout that was originally designed to be built during the National Model Railroad Association's 2003 convention in Toronto, Ontario.

Toronto is located on the shores of Lake Ontario, and its rail history is closely linked to Great Lakes shipping. Sprawling railroad yards sprang up in the center of the city to serve the busy waterfront. Soon there were hundreds of miles of track in the city, lined with industries that depended on rail transportation. In the late 1970s and early '80s, the rail companies began to leave Toronto's waterfront. The huge railroad yards that dominated the downtown core are now memories.

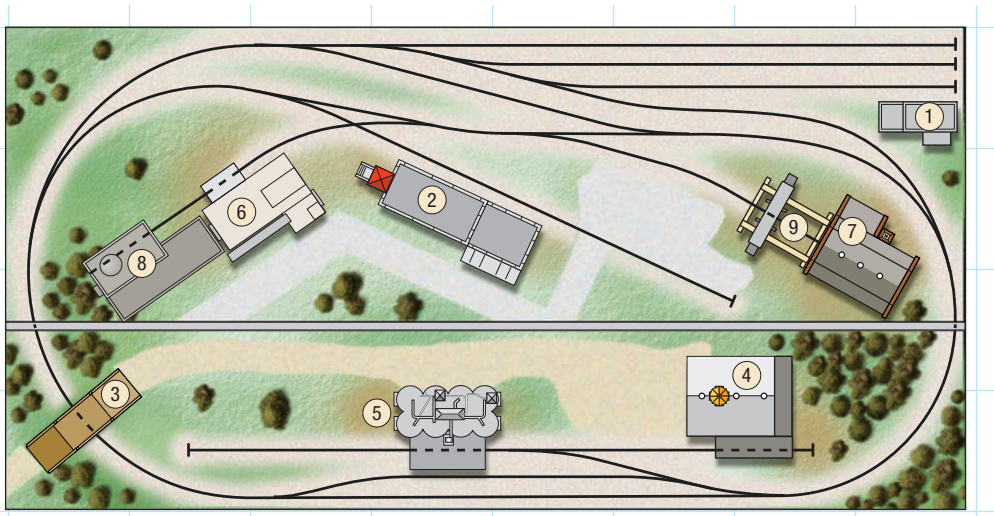
Modeling Toronto's rail scene

Set in the late 1960s and early '70s, the Toronto Central is a fictional short line that runs from a highly industrialized area of Toronto eastward towards Montreal. To add interest, we divided the layout in half. One side represents industrial Toronto and the other depicts the countryside east of the city.

The largest industry on the layout is the Weston Bakery, a name familiar to Toronto residents. To model this operation, we combined the Walthers Red Wing Flour Mill with the George Roberts Printing Inc. Another familiar business, the Inglis appliance factory, is represented by Like-Like's Proto 2000 Moore & Co. warehouse.

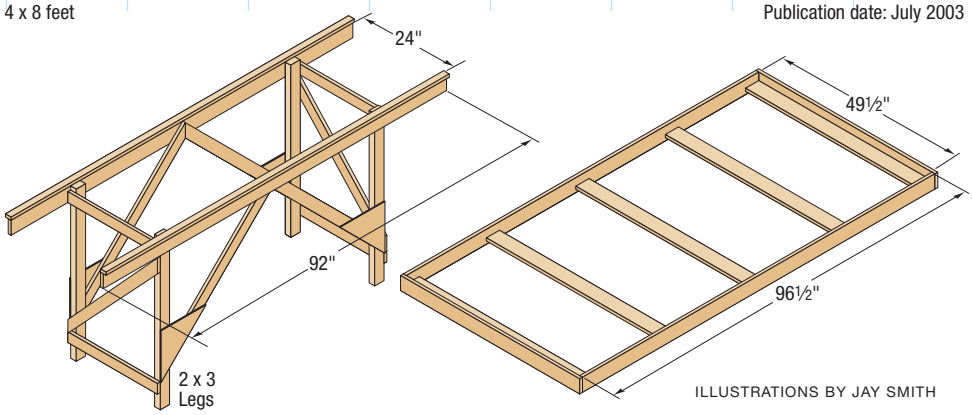
We also decided to feature one of Toronto's many steel fabricating plants. The Walthers Vulcan Manufacturing and overhead traveling crane kits work well for this purpose and give the industrial side of the layout lots of character.

There were many warehouses in Toronto's downtown core, and we used Design Preservation Models' Cutting's Scissor Co. to represent a typical warehouse business.



4 x 8 feet

Publication date: July 2003



ILLUSTRATIONS BY JAY SMITH

The rural side of the layout is dominated by two industries. The Walthers Medusa Cement plant represents the St. Mary's cement plant in Bowmanville. We also model one of the area's numerous apple packers using Walthers' Golden Valley Canning structure.

The rural timber overpass from Rix Products helps hide the tracks passing through one end of the backdrop. The tracks at this point are in a deep cut to further conceal the opening. At the other end of the backdrop, the opening is partially hidden by trees and hills.

Well, there you have it—a railway that captures the flavor of Toronto and offers plenty of operation.

Parts list

LUMBER AND HARDWARE

8-foot lengths of 1 x 2, 3
8-foot lengths of 1 x 3, 6
8-foot lengths of 2 x 3, 2
4 x 8-foot sheet of ⅜" plywood, 1
4 x 8-foot sheet of 1" extruded foam insulation board, 1
4 x 8-foot sheet of 2" extruded foam insulation board, 1
T-nuts, ⅜", 4
carriage bolts, ⅜" x 3", 4
carriage bolts, ⅜" x 4", 4
drywall screws, 1 box

STRUCTURES

Design Preservation Models
1. 103 Cutting's Scissor Co.

Proto 2000
2. 401372 Moore & Co. warehouse

Rix Products
3. 200 rural timber overpass

Wm. K. Walthers
4. 3018 Golden Valley Canning Co.
5. 3019 Medusa Cement
6. 3026 Red Wing Flour Mill
7. 3045 Vulcan Manufacturing Co.
8. 3046 George Roberts Printing Inc.
9. 3102 overhead traveling crane

TRACK

Caboose Industries
218 sprung ground throw, 14

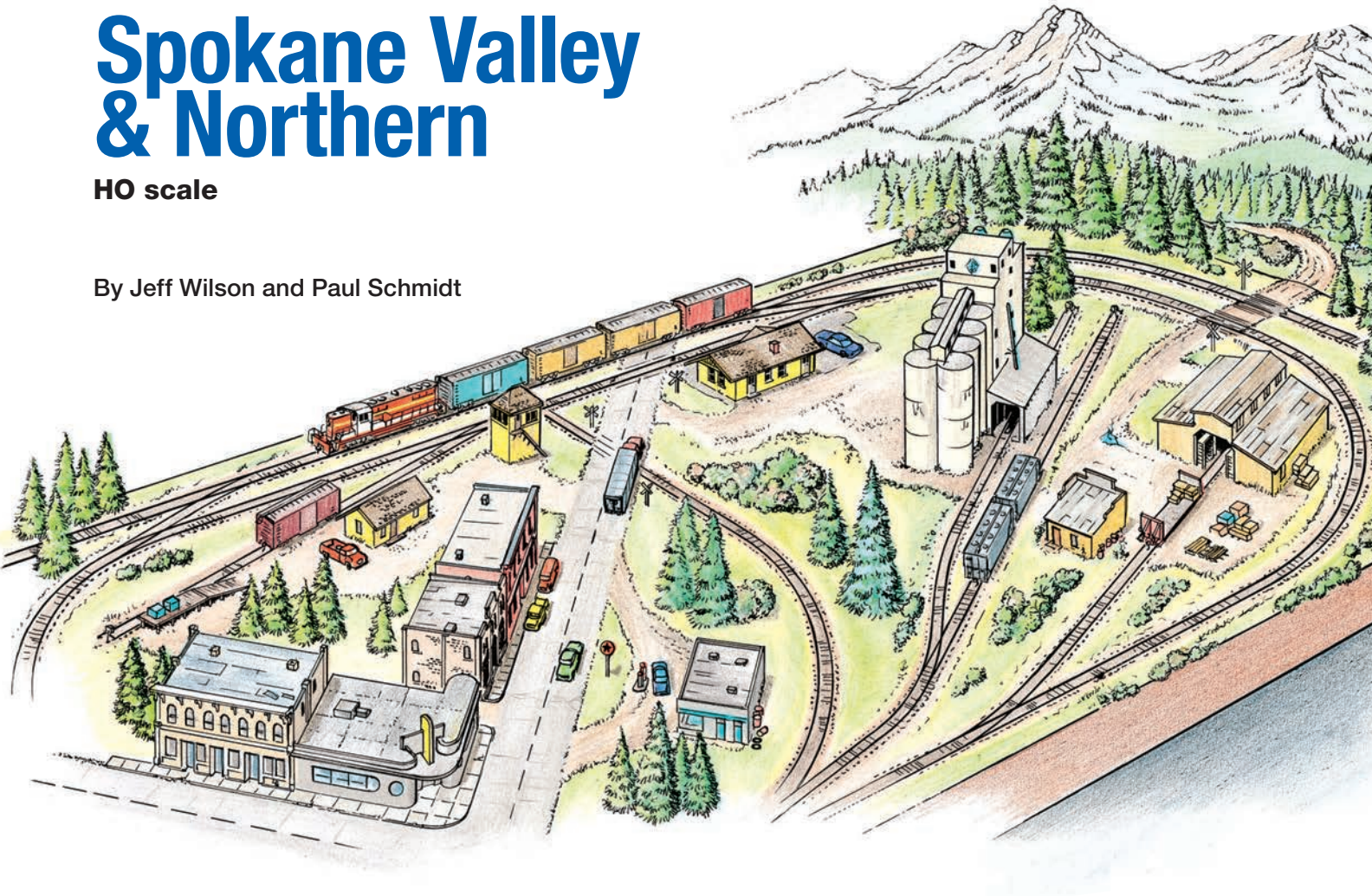
Midwest Products
3019 N scale cork roadbed box of 25, 1
3020 N scale cork sheet box of 10, 1

Wm. K. Walthers code 83
801 No. 4 left-hand turnout, 5
802 No. 4 right-hand turnout, 7
815 39" flextrack, 20
826 No. 6½ left-hand curved turnout, 1
827 No. 6½ right-hand curved turnout, 1
830 30-degree crossing, 1

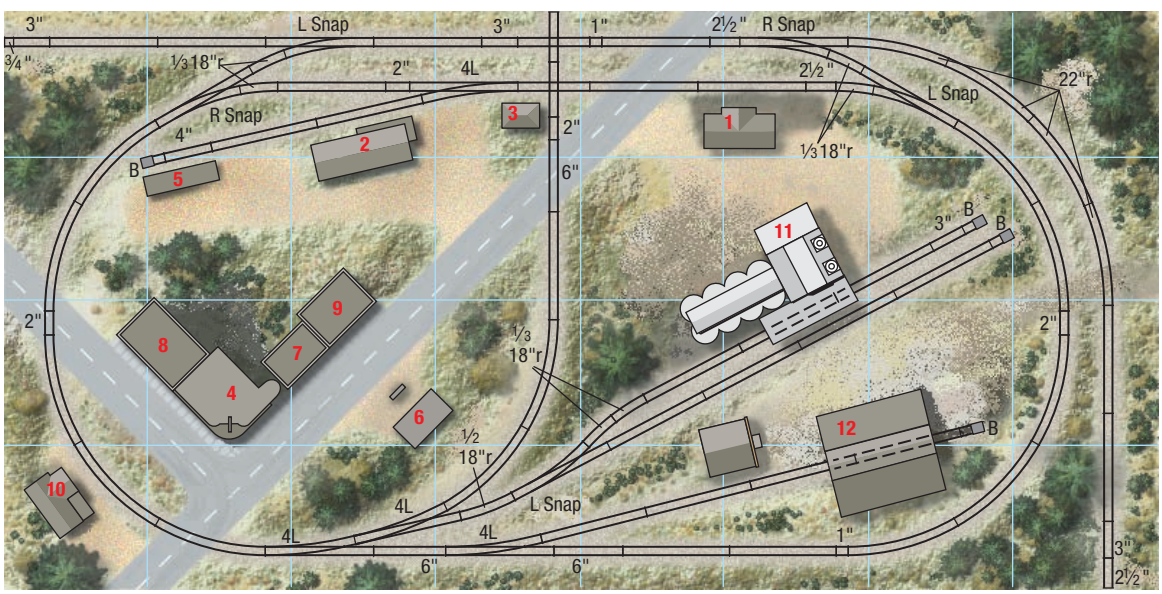
Spokane Valley & Northern

HO scale

By Jeff Wilson and Paul Schmidt



4 x 8 feet Publication date: May 2003



Scale of plan: ¾" = 1'-0" 12" grid

ILLUSTRATIONS BY ROBERT WEGNER AND RICK JOHNSON

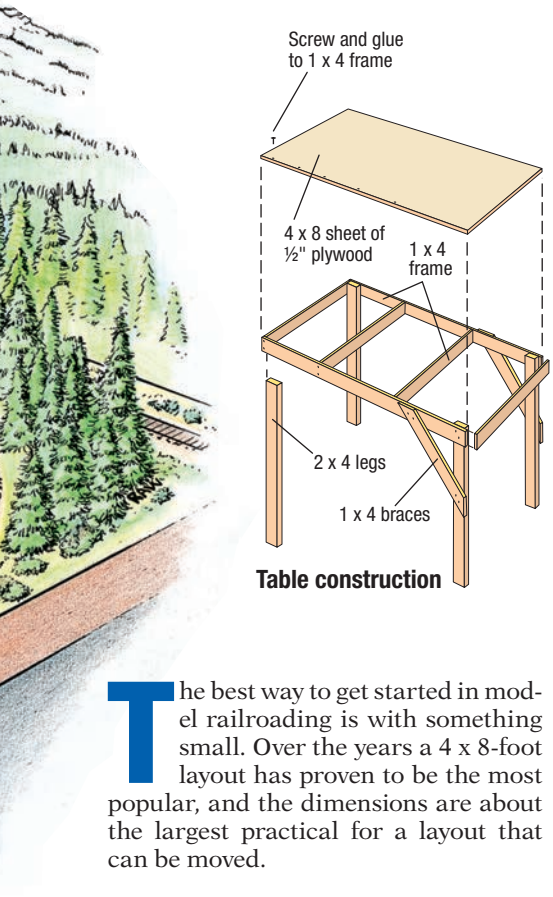


Table construction

The best way to get started in model railroading is with something small. Over the years a 4 x 8-foot layout has proven to be the most popular, and the dimensions are about the largest practical for a layout that can be moved.

Spokane Valley & Northern Ry.

The Spokane Valley & Northern Ry.—or SPNR—is envisioned as a late 1980s shortline spinoff from the Burlington Northern. It serves several customers in the outlying Spokane, Wash., area and interchanges cars with the BN at a small yard. The major customers are a grain elevator and wholesale lumber distributor.

Another track has an old former BN freight house and a loading platform, which can also serve as a team track, where off-line local customers can back a truck directly to a freight car to load or unload.

One line branches off to the inside and continues across two tracks and off the edge of the layout. This simulates a continuation of the SPNR and can be used for future expansion. If you don't want to include the crossings, substitute 6" lengths of straight track on the through routes and add a bumper to the branch line to make another industrial spur or an engine service track for the SPNR.

Operation

A typical operating session has a BN local train arrive at Spokane Junction from the staging track at the right of the plan. The train sets out several cars for interchange on the inner track, then returns to Parkwater Yard in Spokane.

The SPNR's engine (a GP7, GP9, or an SW1500 would be appropriate) picks up the cars and heads clockwise out on the SPNR line to switch the various industries and tracks. To add a feeling of time and distance, the train travels a lap or two between switching each spur.

Along with setting out cars, the SPNR picks up outbound cars, such as covered hoppers from the grain elevator and bulkhead flatcars from the lumber distributor, to drop off at the junction. The BN local, powered by a GP38-2, then returns with new cars for the interchange and picks up those the SPNR set out.

You can expand the layout by extending the BN tracks on either end or by continuing the SPNR line that crosses the junction.

Construction

A simple 1 x 4 frame with 2 x 4 legs and a ½" or ⅝" plywood table would serve well for benchwork. You also could use other styles of benchwork shown throughout the book.

We suggest using cork roadbed underneath the track, as well as for street and structure bases.

Jeff Wilson designed the layout to use Atlas track components, which are listed in the bill of materials. The only track pieces that can't be used as-is are the two 90-degree crossings. Each route of an Atlas Snap-Track crossing is 6" long, and the tracks are 3" apart.

To fit the crossings next to each other you'll have to cut 1½" off one leg of each crossing with flush-cutting rail nippers, a fine-toothed razor saw, or a cutting disk in a motor tool. Smooth the cut ends with a fine file, and trim away a tie on each end so you can slip on a rail joiner.

You'll want to screw small pieces of plastic, acrylic, or wood to the layout's sides to serve as bumpers for tracks that go to the edge.

Different locales

If Washington state's Inland Empire region doesn't inspire you, feel free to change the layout's locale, name, and theme. Grain elevators and lumber dealers are common throughout the West and Midwest. A layout that's set in the East or Southeast might have an older brick-structure manufacturing plant in place of the elevator and perhaps a bulk fuel dealership to substitute for the lumber distributor. Look around where you live for ideas, and check hobby shops or the Walthers HO scale catalog for kits that suit your needs and budget.

Most of all have fun, because that's what model railroading is all about.

Parts list

STRUCTURES

American Model Builders
1. 138 station
2. 701 freight house
3. 702 interlocking tower

Bachmann Spectrum
4. 88005 bus depot

Blair Line
5. 174 loading ramp

City Classics
6. 108 gas station

Design Preservation Models
7. 116 Carr's Parts
8. 117 JC Nichols
9. 120 Front Street building

Grandt Line
10. 5906 No Problem Joe's

Wm. K. Walthers
11. 933-3022 grain elevator
12. 933-3057 lumber company

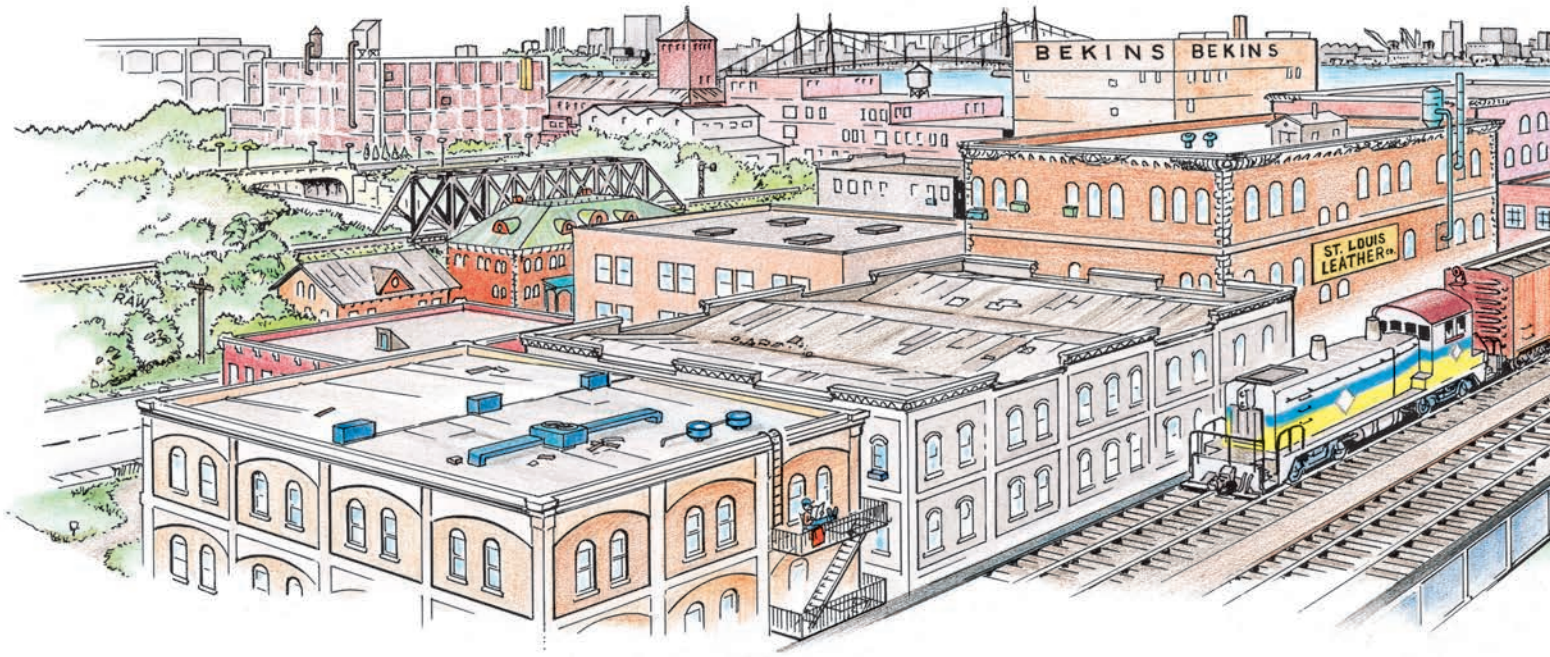
TRACK

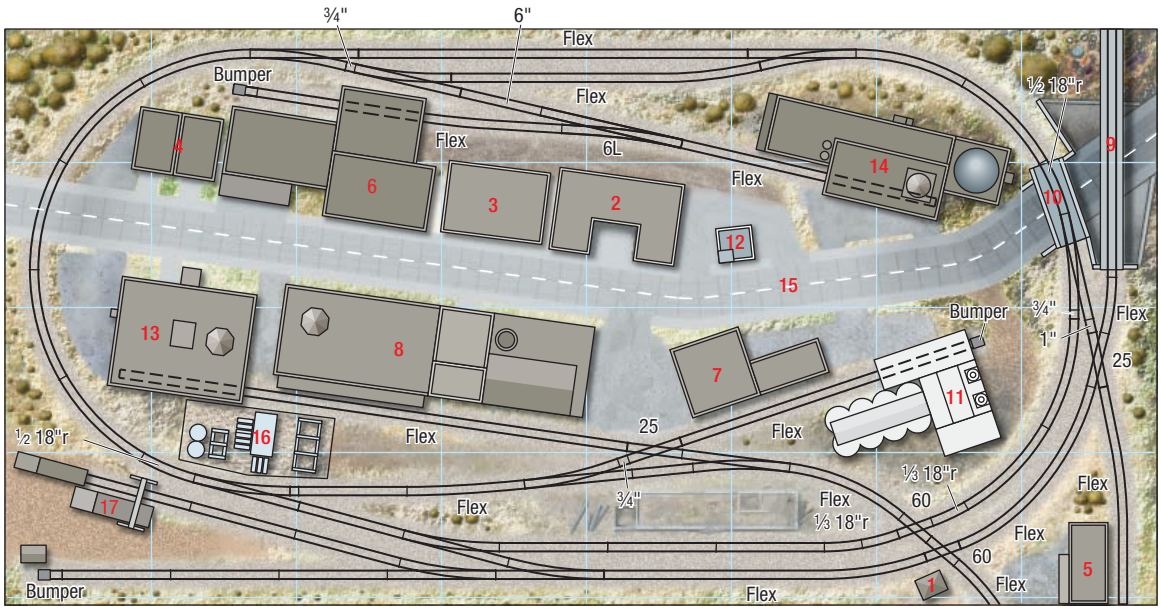
Atlas Model Railroad Co.
176 90-degree crossing, 2
281 LH No. 4 Custom Line turnout, 4
821 9" straight, 25**
822 6" straight, 3*
823 3" straight, 4*
833 18" radius, 12**
834 ½ 18" radius, 1*
835 ⅛ 18" radius, 6*
836 22" radius, 4**
843 bumper, 4
847 Snap-Track Assortment – contains two pieces each of ¾" straight (need 1), 1" straight (2), 2" straight (4), and 2½" straight (3)
860 LH Snap Switch, 3
861 RH Snap Switch, 2
(Sold in packages of four* or six**)

St. Louis Central

HO scale

By Venita Lake and Richard Schumacher





Scale of plan: ¾" = 1'-0" 12" grid

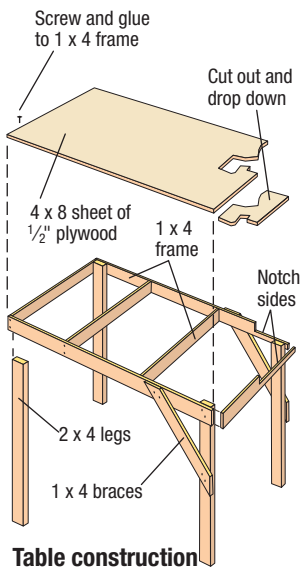


Table construction

ILLUSTRATIONS BY BOB WEGNER AND RICK JOHNSON

Each year during the National Train Show a group of local modelers gives the public a live demonstration showing how a layout is built. The St. Louis Central is the layout that was designed for the 2001 show, which was held in its namesake's city. It was built by Gateway Division National Model Railroad Association members at the show.

The St. Louis Central is a big-city railroad operation in a 4 x 8-foot space with a number of options for later expansion. It has been designed to represent St. Louis, but it can also simulate any large or medium-size city where a number of railroads come together and share trackage.

In St. Louis, the Terminal Railroad Association is a co-operative arrangement allowing many railroads to converge where the railroad bridges cross the Mississippi River. At one time the TRRA managed the exceptionally heavy passenger traffic serving St. Louis Union Station. The St. Louis Central follows that theme, and since St. Louis was served by many Class 1 railroads, most other road power would be right at home on this layout.

The track plan uses several tall structures as a view block down the middle. These buildings will be painted to resemble some of the prominent railroad buildings that now serve or were originally built by the railroads that passed through the city.

St. Louis was well known for its fine brick buildings, so model selections were made with this in mind. The multistory downtown structures along the street effectively divide the layout into multiple scenes and provide plenty of switching locations.

Micro Engineering, a St. Louis-area model manufacturer, based its viaduct on a downtown St. Louis prototype. As a classic example of St. Louis railroad architecture, it was incorporated into this layout, extending the switch lead for the industrial area in the lower left corner of the layout while adding visual texture and another expansion option from the upper right corner.

While the track design allows a single train a continuous run, it also provides many operational opportunities and several options for adding to the basic layout.

Parts list

STRUCTURES

American Model Builders
1. 702 interlocking tower

Bachmann Spectrum
2. 88002 Ambassador Hotel

City Classics
3. 103 Smallman Street warehouse and 104 warehouse add-on kit
4. 106 East Ohio Street building (2)

Design Preservation Models
5. 106 Laube's Linen Mill
6. 354 Fedups Freight Co.
7. 362 Industrial building

Heljan
8. 807 brewery

Micro Engineering
9. 75511 150-foot viaduct
10. 75520 50-foot through girder bridge

Wm. K. Walthers
11. 933-3022 grain elevator
12. 933-3030 White Tower restaurant
13. 933-3044 Hardwood Furniture Co.
14. 933-3078 tire plant
15. 933-3138 concrete streets (3)
16. 933-3506 substation
17. 933-3707 team track set

TRACK

Atlas Model Railroad Co.
9" straight, 11
6" straight, 1
1" straight, 1
¾" straight, 3
18" radius, 9
½ 18" radius, 2
⅓ 18" radius, 3
36" flextrack, 7
LH No. 4 Custom Line turnout, 6
RH No. 4 Custom Line turnout, 3
LH No. 6 Custom Line turnout, 1
25-degree crossing, 2
bumper, 3

Deer Mountain

HO scale

By Dave Methlie

This 4 x 8-foot layout features three distinct scenes, thanks to a large scenic ridge that divides the layout lengthwise. There's a town on a hill, a mine tipple representing Pennsylvania coal mining territory, and a neighboring scene capturing a stretch of Amish farm country. A view block-like this ridge helps make a small layout seem larger, as it makes it difficult to see the entire railroad at one time.

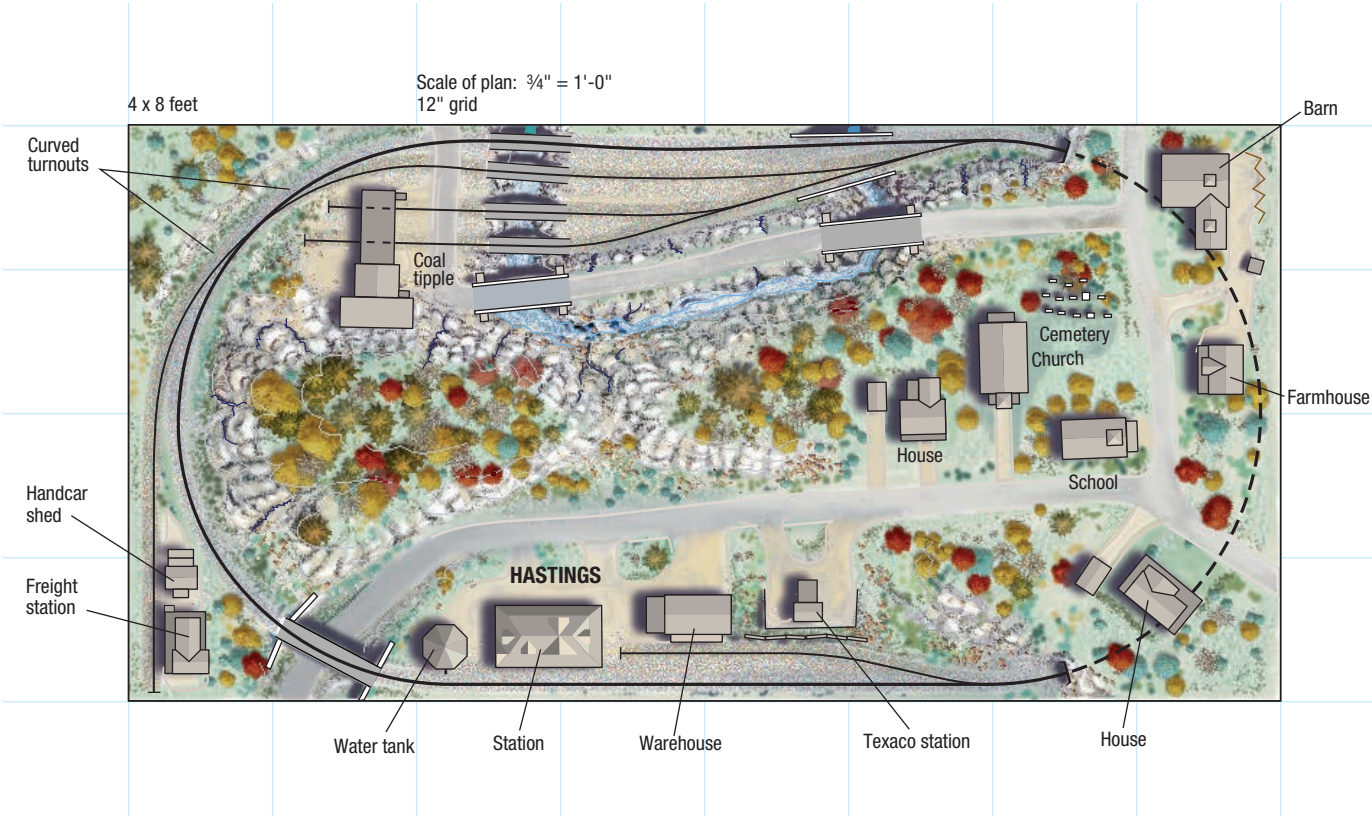
Dave Methlie built the layout using plywood atop L-girder benchwork. The scenery is made using layers of foam insulation board topped with hard-shell plaster. The scenery features many ups and downs with a large ridge, a stream and road that require bridges on the railroad, but the track itself is all level.

The layout is wired as a single electrical block with a conventional DC power pack with a handheld throttle, as operating two trains at once would be quite difficult.

Layout at a glance

Prototype: freelance
Locale: Iowa to eastern Pennsylvania
Era: late-1940s to mid-1950s
Style: table/oval
Length of mainline run: 20 feet
Height: 48"
Benchwork: L girder
Roadbed: Homasote on ½" plywood
Track: Shinohara code 70 flextrack
Turnout minimum: No. 4
Minimum radius: 18"
Maximum grade: none
Scenery: extruded foam insulation board covered with paper towels soaked in wood-fiber plaster and latex paint
Control: single handheld throttle
Publication date: June 2004

The stained and finished wood fascia (1 x 6 lumber cut to match the scenery profile) and curtain around the benchwork supports give this table-style layout a very clean appearance. It would look at home in a rec room or living area.



The tall ridge down the center of the layout serves as a view block, effectively dividing the railroad into scenes. This half of the layout represents Pennsylvania coal country.

Black River Junction

HO scale

By the *Model Railroader* staff

This 4 x 8-foot plan offers a great deal of switching action, thanks to a narrow six-foot-long extension at one end of the table. The layout was the subject of a two-part project layout series from *Model Railroader* magazine.

The 18"-wide, 6'-0"-long extension adds a great deal of operational possibilities. The extension can be built as part of a permanent table, but the builders of this layout designed it as an unscenicked staging area. This way it can be detached with the legs, folded, and stored under the layout table.

The builders used the New York Central and Baltimore & Ohio as inspirations, but the layout could represent almost any Midwestern area by substituting different locomotives and rolling stock.

The plans shown here should give you an idea of how the layout is put together, but to see a step-by-step description on how this layout was actually built, including benchwork, scenery, wiring, and details, see the articles from MR.

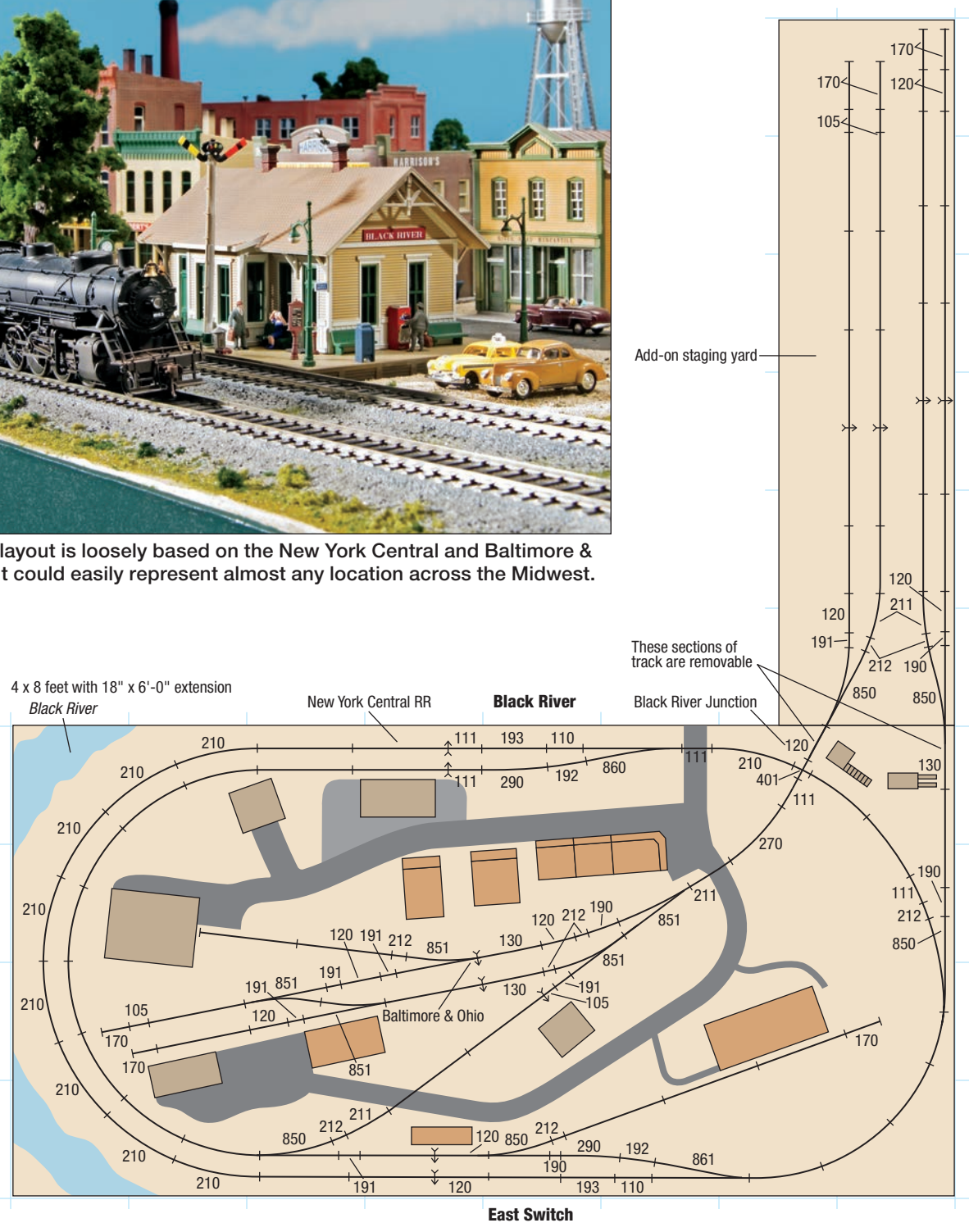
Layout at a glance

Prototype: New York Central and Baltimore & Ohio
Locale: Ohio
Era: 1950s
Style: table/oval with extension
Length of mainline run: 24 feet
Height: 42½"
Benchwork: L girder
Roadbed: 1" foam board
Track: Kato Unitrack
Turnout minimum: No. 4
Minimum radius: 19¼"
Maximum grade: none
Scenery: Woodland Scenics vinyl grass mat over foam board
Control: Digitrax DCC
Publication dates: January and February 2007

A Baltimore & Ohio Fairbanks-Morse switcher hits the crossing next to the tower at the layout's namesake junction.

Although this layout is loosely based on the New York Central and Baltimore & Ohio in Ohio, it could easily represent almost any location across the Midwest.

Scale of plan: ¾" = 1'-0", 12" grid
Numbers indicate Kato Unitrack part numbers
Unnumbered straight sections are No. 150
Unnumbered curve sections are No. 270
Feeder connections



California & Comstock

HO scale

By Hans Renker
Photos by Hans and Christa Renker

With a table layout, you can always expand upon the initial plan. That's the case with this relatively simple layout based in the West. Owner Hans Renker purchased the layout from another modeler, then went to work detailing the layout to represent a fictional short line in California and Nevada in the 1950s.

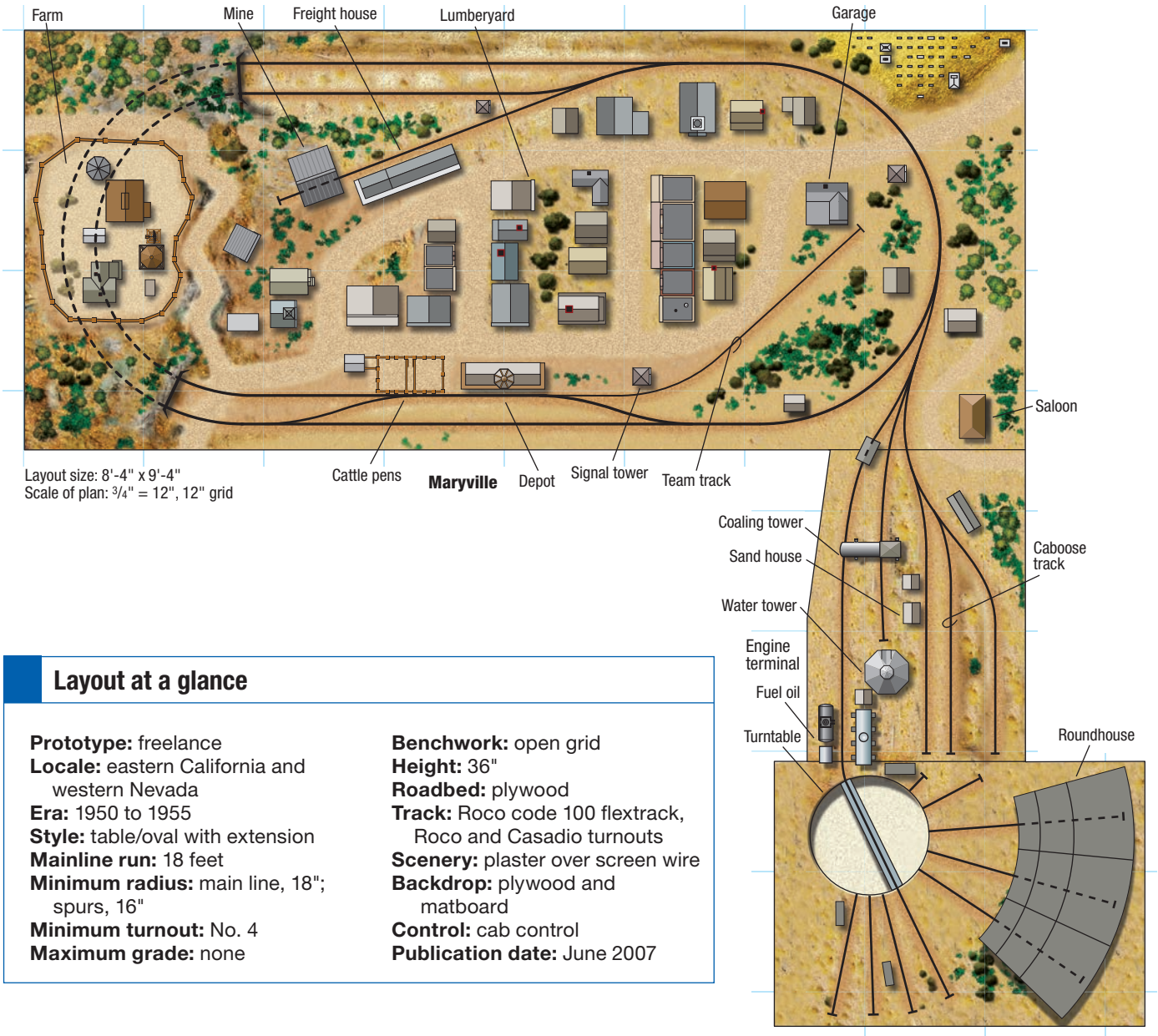
The tunnel at the left side helps conceal the fact that the plan is a simple oval. The inner track can be used as a runaround track for switching, and Hans uses both tunnel tracks to stage hidden trains during operating sessions. The layout's sharp curves (16" radius on the inner track) mean short freight cars and small locomotives will look and operate best. The tight curves allow the 3'-6" table width, which—although still wide for easy access to the rear—allows the layout to be placed against a wall, something that's difficult with a four-foot-wide table.

The track is level, so almost any style of flat-table benchwork will work. The hills are added atop the table with screen wire forms covered by plaster.

The extension on this layout provides a small engine servicing area, caboose storage track, and turntable with roundhouse. You can also add extensions to serve industries, stage trains or cuts of cars, or serve as interchange tracks.

Dual cab control allows two trains to operate at the same time; Digital Command Control would also work well on a layout like this one.

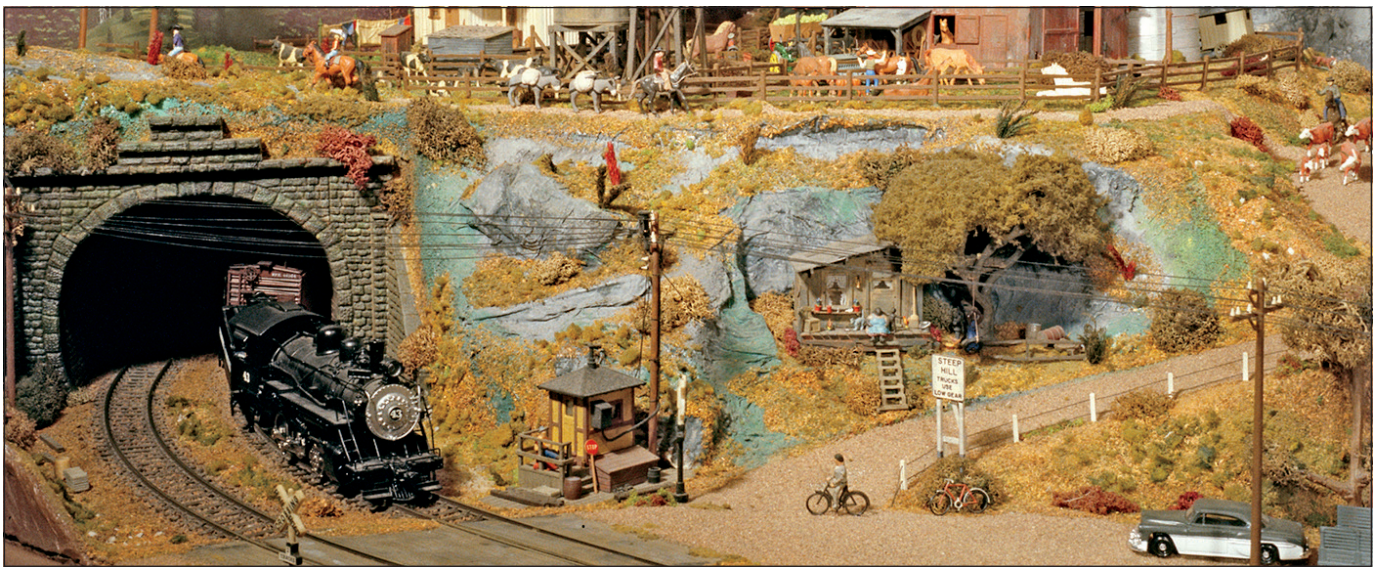
This layout shows that it's possible to pack a lot of scenic detail into a small area. The steam switcher at right is heading in to pull freight cars off of the team track.



Layout at a glance

Prototype: freelance
Locale: eastern California and western Nevada
Era: 1950 to 1955
Style: table/oval with extension
Mainline run: 18 feet
Minimum radius: main line, 18"; spurs, 16"
Minimum turnout: No. 4
Maximum grade: none

Benchwork: open grid
Height: 36"
Roadbed: plywood
Track: Roco code 100 flextrack, Roco and Casadio turnouts
Scenery: plaster over screen wire
Backdrop: plywood and matboard
Control: cab control
Publication date: June 2007



Locomotive No. 42 heads out of the tunnel toward the depot. Both tunnel tracks serve as staging tracks.

Ontabec Central

HO scale

By Howard Scodras
Photos by Peter Nesbitt

This plan shows that it's possible to capture the look of a big city in a small space, provided you forgo a loop track for continuous running. The Ontabec Central is designed to run along the wall of a small room, with an unscenicked staging yard along a second wall.

Layouts like this are great for modelers who enjoy switching operations and those who enjoy big-city scenery with all of the potential for fine detail that comes with it. Builder Howard Scodras reports that since only a small roster of rolling stock and locomotives were needed, he was able to stick with high-quality cars and add additional details without the project becoming daunting from either a time or cost perspective.

Harold based this layout in the 1950s, but you can alter the era with your selection of structures, signs, vehicles, and rolling stock. As with most shelf-style layouts, either wing can be extended if space allows. You can also certainly add scenery to the staging area if you desire.

Because all of the track is level, a simple L-girder or grid table can support a flat plywood or foam table top. The benchwork can be free-standing (a good choice for an apartment) or anchored to a wall (an option that provides free space below the layout).

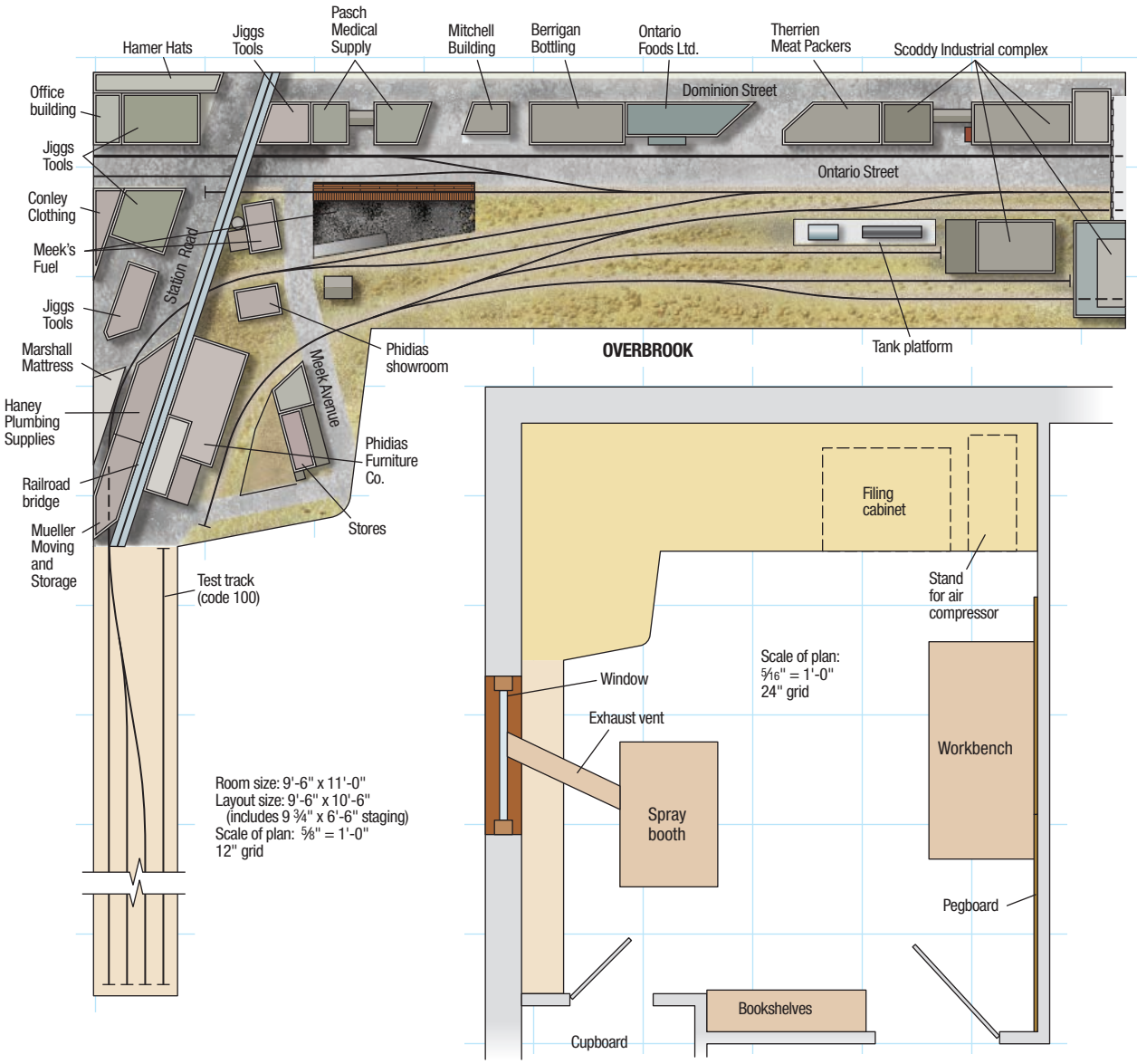
This plan is ideal for a single operator, and since it's only plausible to run one train at a time, the layout can be wired as a single electrical block. Individual tracks in the staging area can be equipped with on/off switches if you want to keep an additional locomotive or two at the ready.

Layout at a glance

Prototype: freelance
Locale: urban
Era: 1950s
Style: shelf
Length of mainline run: 12 feet plus 6 feet in staging
Height: 48½"
Benchwork: open grid
Roadbed: cork on ⅝" plywood
Track: code 70
Turnout minimum: No. 4
Minimum radius: 20"
Maximum grade: none
Scenery: plaster covered with ground foam
Backdrop: foam core
Control: DC and Lenz Digital Command Control
Publication date: February 2005

An Alco diesel pulls a cut of freight cars past the coal trestle at Meek's Fuel. The Rail Diesel Car (top) is on a dummy bridge, which helps add to the crowded urban feel of the layout.

Tall buildings dwarf the trains and track runs through the streets, giving the impression of a large city.


Hamer Hats
Jiggs Tools
Pasch Medical Supply
Mitchell Building
Berrigan Bottling
Ontario Foods Ltd.
Therrien Meat Packers
Scoddy Industrial complex
Office building
Jiggs Tools
Conley Clothing
Meek's Fuel
Jiggs Tools
Marshall Mattress
Haney Plumbing Supplies
Railroad bridge
Mueller Moving and Storage
Station Road
Dominion Street
Ontario Street
Tank platform
Phidias showroom
Meek Avenue
Phidias Furniture Co.
Stores
Test track (code 100)
OVERBROOK
Room size: 9'-6" x 11'-0"
Layout size: 9'-6" x 10'-6"
(includes 9 ¾" x 6'-6" staging)
Scale of plan: ⅝" = 1'-0"
12" grid
Filing cabinet
Stand for air compressor
Scale of plan:
5⁄16" = 1'-0"
24" grid
Window
Exhaust vent
Spray booth
Workbench
Pegboard
Bookshelves
Cupboard

Swartz Creek Timesavers

HO scale

By Ed Vondrak

In 1966, John Allen, builder of the legendary HO scale Gorre & Daphetid (see the January 2003 *Model Railroader*) conjured up a small, fiendish switching track plan he dubbed the Timesaver. The original design, described in a 1972 *Model Railroader* article, was intended to be a game—a switching problem. The Timesaver plan provides the basis for both of these small switching layouts.

The name "Timesaver" is actually a misnomer, since switching cars in the plan can become quite a time-consumer. I design model railroads for various clients, and with their permission I fit some variation of the Timesaver track plan into their layout plans. For modelers who are interested in operation, the Timesaver provides a great deal of interesting operation in a small amount of space, giving operators the most "bang for the buck."

A few years ago, a modeler wrote a letter to the National Model Railroad Association *Bulletin* asking for information about an article that had appeared in MR about a small narrow gauge switching layout patterned after Allen's Timesaver. I responded to that request by offering to provide two small layout designs using enhanced versions of the Timesaver.

The layout design for Swartz Creek No. 1 will fit along a wall in a family room, rec room, or similar space. This track plan has a couple of extra spurs added to the basic Timesaver configuration. Most of the tracks have gentle curves to provide a more picturesque and less mechanical appearance, and I've indicated how a very limited amount of staging might be included. This version of the plan provides plenty of challenging switching in a relatively small area.

If more space were available, the layout could readily be extended off one or both ends. This plan could also be incorporated as one town in a much larger around-the-walls layout. For this, the tunnel track could be opened and serve an industry, or it could be left as a staging track to represent a branch line or an interchange with another railroad.

Bending the Timesaver

Just about the time I finished the first plan, my client moved into a new house, and the new available layout space was quite different, forming a Z shape along a stairway railing. I bent the second plan (Swartz Creek No. 2) to fit the space, this time with just one extra spur (the team track).

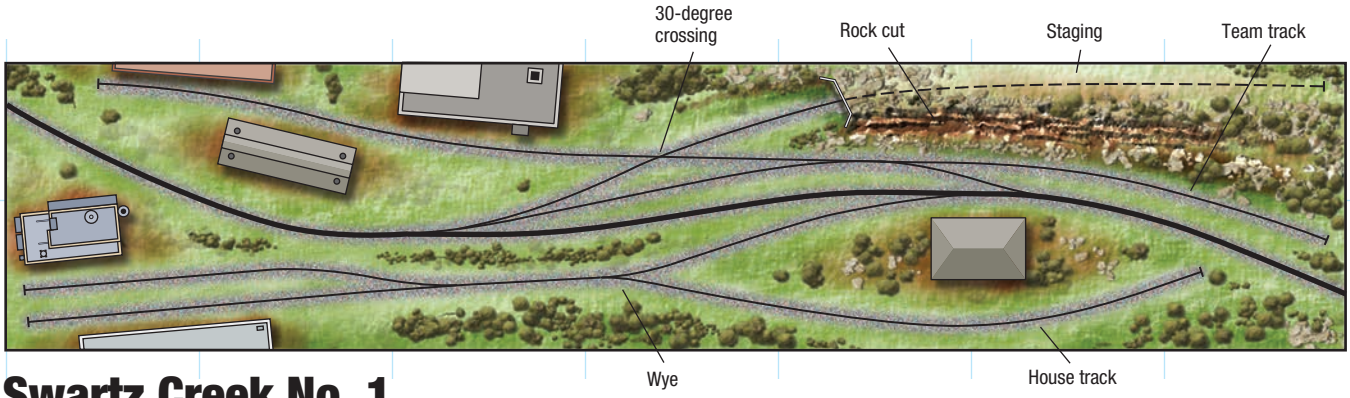
The left end of the main line can be operated as a fiddle track, accessible from the adjacent stairway. In fact, I suggest interchangeable fiddle tracks so entire trains could be removed from the layout and stored underneath the benchwork.

I included a couple of other variations with the second plan. The left end could be uncoiled to make the layout an outside L design. Similarly, the right end of the plan could be uncoiled to turn the layout into an inside L shape. The right end could also be bent toward the front, changing the entire thing into a walk-in U shape. Another option would be to straighten both ends, allowing the layout to be placed along a straight wall.

As with the first plan, if more room is available, you could extend the mainline track off either one or both ends or make it part of a larger model railroad.

The success I had in expanding and bending the Timesaver into a Z shape indicates the versatility of the basic design. Although these plans are designed for HO scale, both of these layouts could be built in the dimensions shown or in different scale and gauge combinations such as Sn3, O, or HOn3, or in slightly less space (if desired) in N scale.

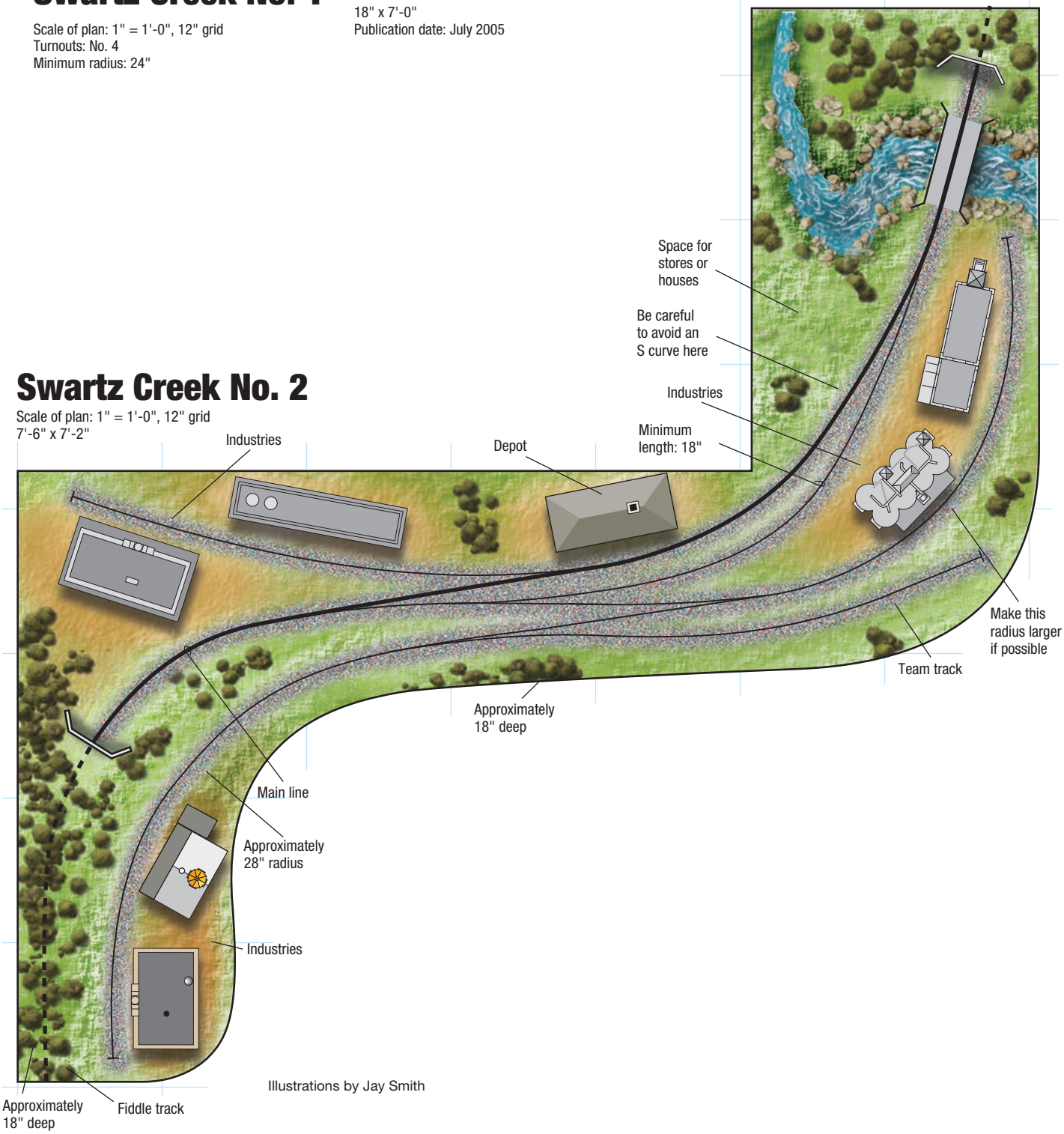
When you operate on a Timesaver layout, it doesn't take long to discover there's much more to this little plan than meets the eye.



Swartz Creek No. 1

Scale of plan: 1" = 1'-0", 12" grid
Turnouts: No. 4
Minimum radius: 24"

18" x 7'-0"
Publication date: July 2005



Swartz Creek No. 2

Scale of plan: 1" = 1'-0", 12" grid
7'-6" x 7'-2"

Illustrations by Jay Smith

Valley City Street & Interurban

HO scale

By Cyril Durrenberger

Short lines are sometimes obscure, but they can be excellent prototypes for model railroaders. Often most, if not all, of the short line's facilities and operations can be modeled if some "selective compression" is used. The April 1981 issue of *The Soo* (magazine of the Soo Line Historical and Technical Society, www.sooline.org) had a comprehensive article on the Valley City Street & Interurban Ry. (VCS&I) of Valley City, N. D. The line had several features that would make for an interesting model railroad.

Valley City is in the valley of the Sheyenne River, and both the Minneapolis, St. Paul & Sault Ste. Marie (Soo Line) and Northern Pacific served the area. In 1891 the Soo Line laid track through the valley, but couldn't locate its line to go through Valley City. The Soo's station was built 1.75 miles north of town.

The NP came directly through the city, but in 1908 built a bypass that spanned the valley on a long, tall viaduct. Local trains of the NP still came to Valley City to switch industries and to pick up or drop off passengers.

The VCS&I electric line was built in 1905 to connect the Soo Line with Valley City and the NP. It ran local passenger service on tracks in the city streets and out to the Soo depot, but by 1945 passenger service was dropped. The line continued to haul freight until its purchase by the Soo in 1953. In later years the VCS&I mainly handled cars being interchanged between the Soo and the NP. It also switched industries in Valley City and carried LCL (less-than-carload-lot) freight from the Soo.

The VCS&I had a total of three pieces of motive power. Interurban combine No. 1 was purchased second-hand in 1905 and used until 1915. Combine No. 2 was purchased new in 1915 and used until 1947. In 1947 a used electric "locomotive" (really a former line-maintenance car) was purchased and served until 1953. Plans for all three appear in the April 1981 issue of *The Soo*. When the Soo Line purchased the VCS&I, electric operations were terminated and the overhead removed.

The track plan

I've designed a track plan to capture the neatest features of the VCS&I in the years after passenger service was discontinued. The layout would occupy about 40 square feet exclusive of the aisleway area and only 59 square feet including it.

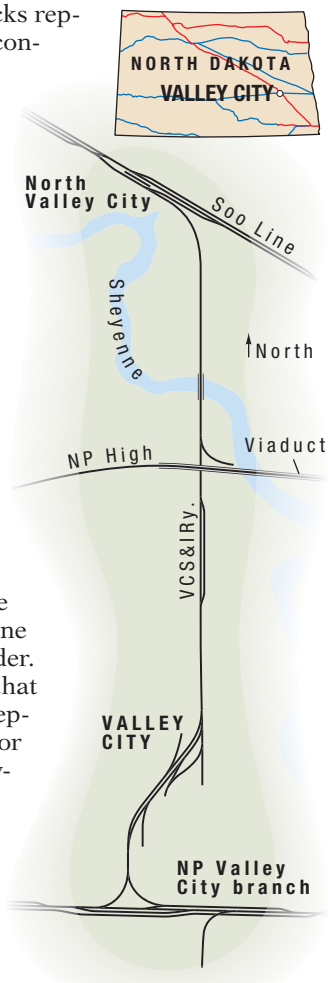
The two staging tracks represent Valley City's connections with the trunk-line railroads and allow Soo and NP locals to appear at their respective stations, interchange cars with the short line, switch a couple of industries each, and disappear offstage.

The Soo at North Valley City is much like the prototype but condensed to fit. The station was a standard Soo Line second-class depot. There's a list of structure kits that could be used on this layout online at www.modelrailroader.com, including two that could be modified to represent this station. For scratchbuilders, however, there are plans in *Soo Line Standards, Vol. 3*, published by the SLH&TS.

Freight cars are interchanged on the station's house track. There's a grain elevator and a coal and fuel-oil dealer. The Soo main line proceeds through a wooded cut into the staging track behind a low backdrop. This should be just high enough to hide the train, and the higher the layout's base height the lower this "train hider" can be.

The VCS&I leaves the Soo station and crosses under the NP "High Line" bridge. It passes a siding for the Soo's stockyard and the Miller Fibre Co. A few blocks into town it reaches the NP interchange track. The VCS&I serves Curtis Olson Oil Co., Smith Lumber and Coal Co., and a freight platform owned by the Soo. The NP track terminates here, and there's a spur to an NP gravel pit.

The NP track goes to that road's station where there's a runaround track and a spur to Russell-Miller Milling Co. The NP "Low Line" out of town to the north terminates at the edge of the layout, while the line to the south passes behind flats of commercial buildings to its own behind-the-backdrop staging track.



Traffic and equipment

Soo traffic at North Valley City includes boxcars for the grain elevator, hopper and tank cars for the fuel dealer, and cars for the VCS&I. The VCS&I delivers stockcars to the cattle pens, tank cars to the bulk oil plant, and boxcars to the remaining industries, plus cars to be interchanged with

the NP. The NP sends a few gondolas to the gravel pit, boxcars to the milling company, and cars for interchange to the Soo.

The VCS&I could be operated with either a combine or the line-car "locomotive." Combine No. 2 could be modeled by using LaBelle Woodworking kit H064 and adding baggage doors. The line car would have to be scratchbuilt. The diesel era would be easiest to model because suitable engines are available for the Soo and NP. If the period is post 1953, a Soo diesel would be assigned to the former VCS&I.

Operations

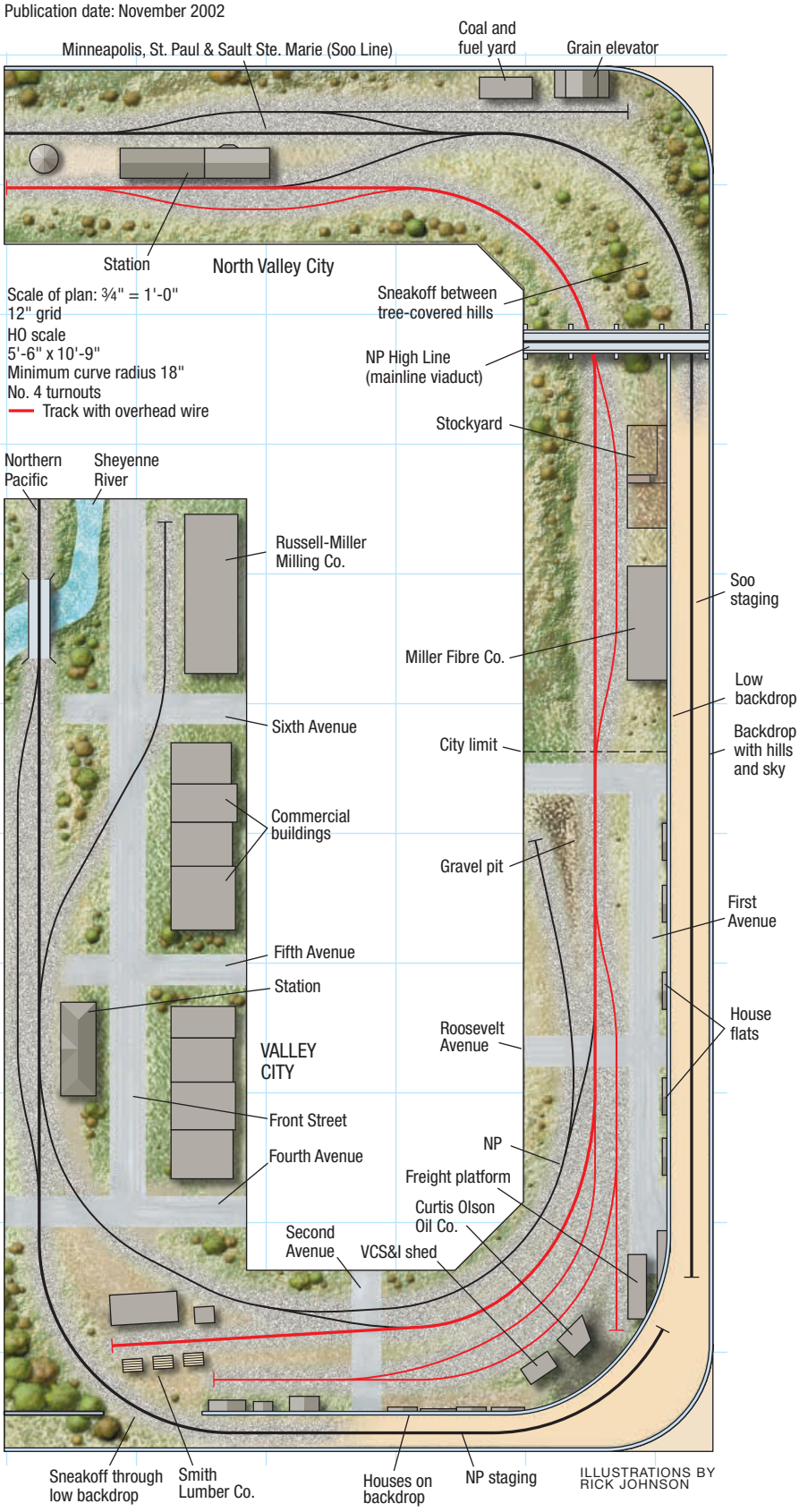
This layout might keep two operators busy if one ran the NP and Soo trains and the other the VCS&I. But this is a low-key, easy-going sort of railroad, well suited to solo operation.

The Northern Pacific local would run from staging to Valley City. There it would switch the gravel pit, interchange track, and milling plant, drop off LCL boxcars, and return to its staging track. The engine and caboose could be "restaged" (exchanged) between operating sessions.

Then the VCS&I switches the local industries and NP interchange track, and goes to the Soo station at North Valley City. There it drops off cars and picks up cars for Valley City and returns south, doing any switching required along the way. Because of the electrics' limited hauling capacity, it may be necessary to make two trips each day.

The capacity for cars on the layout and in staging tracks is limited, but nothing says all the cars have to be on the track at the same time. Cars can be rotated to and from storage when the connecting trains are restaged, so a greater variety of rolling stock than you might expect could be seen passing through this prairie metropolis.

Publication date: November 2002



Red Rock Northern

HO scale

By Jerry Boudreaux

Jerry Boudreaux's Red Rock Northern plan could be adapted to many prototype railroads and eras. One possibility would be steam on the Sierra RR in the 1950s. Peter Hahn

When I designed the 9 x 11-foot HO scale Red Rock Northern RR, I started by making a list of goals, some of which included plausible reasons for the railroad's existence. The railroad had to have some local and bridge traffic that would require both freight and passenger trains. It would also need some online industries for switching.

My list included ideas on operation too. Despite the space limitations of the room, I wanted the finished plan to provide operation for one to three people and feature 10-car trains. I felt the operating scheme should be point-to-point and have provisions for some staging as well, but I also wanted to include an option for continuous display running. Finally, my plan needed some interesting scenery features yet moderate grades and curves. In other words, I wanted the Red Rock Northern to have some of everything!

Adaptable prototype influence

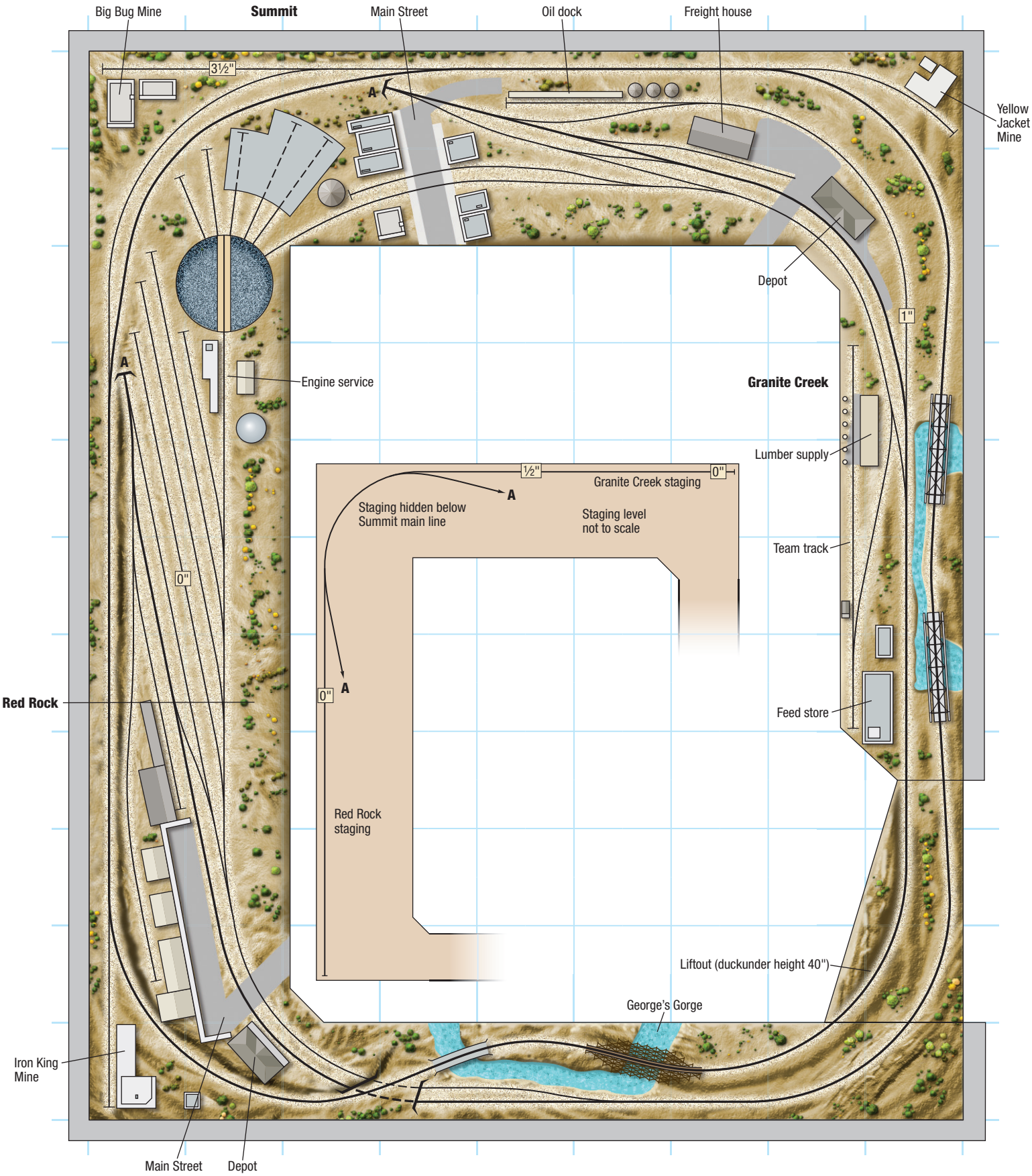
Once I had my list established, I set out to design a railroad that would match it. My Red Rock Northern is a twice-around track plan that could be easily adapted to a number of different prototype railroads and eras. I pur-

Track plan at a glance

Size: 9 x 11 feet
Prototype: freelance short line in rural America
Era: variable
Style: around-the-walls with lift-out section
Mainline run: 68 feet
Minimum radius: 24"
Minimum turnout: No. 5
Maximum grade: 2 percent
Height: 43" to 46½"
Publication date: June 2007

Red Rock Northern

9 x 11 feet
Scale of plan: ¾" = 1'-0", 12" grid



A typical day on the Red Rock

To get a better feel for the Red Rock Northern plan, let's take a trip over the line with the way freight crew.

The train crew shows up for work on a crisp fall morning in Red Rock. They enter the roundhouse through a back door and savor the aroma of steam, oil, grease, and smoke. Just as they've done for years, the crew heads straight for the huge potbellied stove with a hot pot of coffee waiting on top. Each one grabs his mug, fills it, and begins the day's work—the fireman climbs into the cab of the 2-8-2, the engineer walks around and checks the simmering locomotive, and the conductor and brakeman head for the yard office to collect the waybills and orders.

Soon the little Mike is out in the yard, coupled to the newly arrived interchange cars, now blocked into the train it will take west to Granite Creek. After a final check, the engineer gives two hoots on the whistle, and the 10-car train rolls out of Red Rock onto the main.

The train dives into a short tunnel at the edge of town and then emerges to pass through George's Gorge on its way up the hill. Two bridges over the Manitowish River later, the 2-8-2 grinds to a halt to set out and pick up cars at the Yellow Jacket Mine. The crew recouples the train and the little Mike stamps its way uphill to Summit. Here the crew must wait for a meet with No. 42, a passenger train bound for Red Rock and points east. (On days the way freight is too long, the passenger train must wait for the freight to clear the east end of the main line beyond the siding.) After the passenger is through Summit, the crew makes a setout at Big Bug Mine before they're off and running again.

A short time later the train's brakes begin to squeal, and the 2-8-2's stack talk diminishes as the train drops downgrade into Granite Creek. Once they're in town, the crew makes several pickups and setouts, and then they turn the engine on the turntable before heading to beans at Ma's Diner.

After eating, the crew climbs aboard its train once again, whistles off, and makes the return trip to Red Rock, switching the Iron King Mine along the way. Once back home, they spot the cars on track one, set the caboose over on track four, and ride the engine to the house. Another long day's work is completed on the Red Rock Northern.

posely kept the setting for the railroad and types of businesses it would serve fairly generic. This way the plan would be adaptable for many different uses, allowing others choosing to build the Red Rock to modify the design to suit their interests. For example, the mines listed on the plan could be changed to logging camps or grain elevators to fit different themes.

One prototype railroad the design could serve well would be the famous Sierra RR of California's mother lode country. If the era was pre-1956, you could run an assortment of small 4-6-0, 2-8-0, and 2-8-2 steam locomotives. Move the period forward to the later half of the 1950s, and you could run four-axle diesel road switchers.

Though Red Rock could fit any number of other prototype themes, one key to success will be in the equipment you choose. Compact layouts always seem a lot bigger if you use small equipment, so 40- and 50-foot freight cars and 60-foot passenger cars would work well on the layout's 24"-radius curves. Longer cars could look awkward.

And, the curves and grades are gentle enough that you could also change scales. Instead of standard gauge HO, you could build the layout as an HOn3, On3, On2½, or Sn3 railroad, making for an even larger number of possible modeling themes.

Interesting design features

My track plan uses several design features to make the layout seem a lot bigger than its 9 x 11 footprint. One of the unique aspects is that the engine terminal that separates Red Rock from Granite Creek actually serves both of the towns. The turntable is the connection, letting operators turn locomotives at both ends of the railroad without eating up precious real estate for two turntables and roundhouses.

Though it's designed to operate as a point-to-point railroad, the twice-around main line is continuous with a connection behind the roundhouse. This sneak-around track not only allows continuous running but serves as the lead for two hidden staging tracks tucked under the highest part of the layout (one in each direction). These tracks provide off-railroad entrances and destinations, making operating more interesting.

Another feature is that the two main towns on the line are significantly different. Red Rock is arranged in straight lines and includes a few small industries and a compact classification yard. The tracks through Granite Creek, however, are mostly curved and feature a number of small-industry possibilities, including an oil dock, lumberyard, team track, and a freight house.

One feature both towns have in common is train-length runaround tracks with center crossovers, allowing for shorter runaround moves. The two also have main streets with room for a few structures to add scenic interest.

Operating the railroad

The layout could keep three people very busy during an operating session. One person would handle switching at Red Rock. The other two would run local freights, as well as operate the passenger and interchange trains.

The day would start by the interchange train bringing in the cars from the hidden track behind Granite Creek. The train enters Red Rock from the tunnel, sets out its cars, and then picks up others for the return trip back to staging. The setouts are then blocked by the Red Rock switching crew for the local to Granite Creek and points west.

Once the way freight is put together, its crew would then take the train west to Granite Creek, switching industries at Summit along the way. Granite Creek could be an interchange point for a short line to the west, creating some bridge traffic. Interchange cars could be shoved through the tunnel at Granite Creek into the west staging track, or the short line's own train could enter Granite Creek to make the exchange. With work in Granite Creek complete, the crew then turns its train for the run back to Red Rock.

There's also a daily passenger train that runs from Red Rock to Granite Creek and back. The locomotive will need to be turned at Granite creek using the turntable.

Getting started

The Red Rock Northern could be a great layout for old heads and newcomers alike. Its compact size would work well with time-tested layout construction techniques, and the track components are commercially available. Operating the layout would let you share it with friends.

Omaha Road in Eau Claire

N scale

By Dick Christianson

The Omaha used Ten-Wheelers (Class I-1 no. 343 here) extensively throughout its system. Linn Westcott

Spectacular river crossings, branchline switching in an urban environment, a 2 percent grade, and a switchback: That's what this 9 x 10-foot N scale layout is all about. As designed, an operator can replicate the daily switching on the Chicago, St. Paul, Minneapolis & Omaha's "West Side Job" as well as the Milwaukee Road's less-frequent Eau Claire, Wis., to Wabasha, Minn., run.

Eau Claire is a river town built on the logging industry during the mid-nineteenth century. It's situated at the confluence of the wide, rust-colored Chippewa River and the clear-running Eau Claire River (aptly named by French explorers for its "clear water"). Railroads first came to this thriving community in northwestern Wisconsin in 1870 as part of a line linking the Twin Cities and Chicago.

During the late 1940s and '50s, as I was growing up in Eau Claire, the Omaha (absorbed by the Chicago & North Western but still called "the Omaha" locally), the Milwaukee Road, and the Soo Line all served the city of about 35,000 people. The Soo brought passengers and freight down from its main line 10 miles north in Chippewa Falls. The Milwaukee Road linked up with its main line along the Mississippi River at Wabasha, Minn.

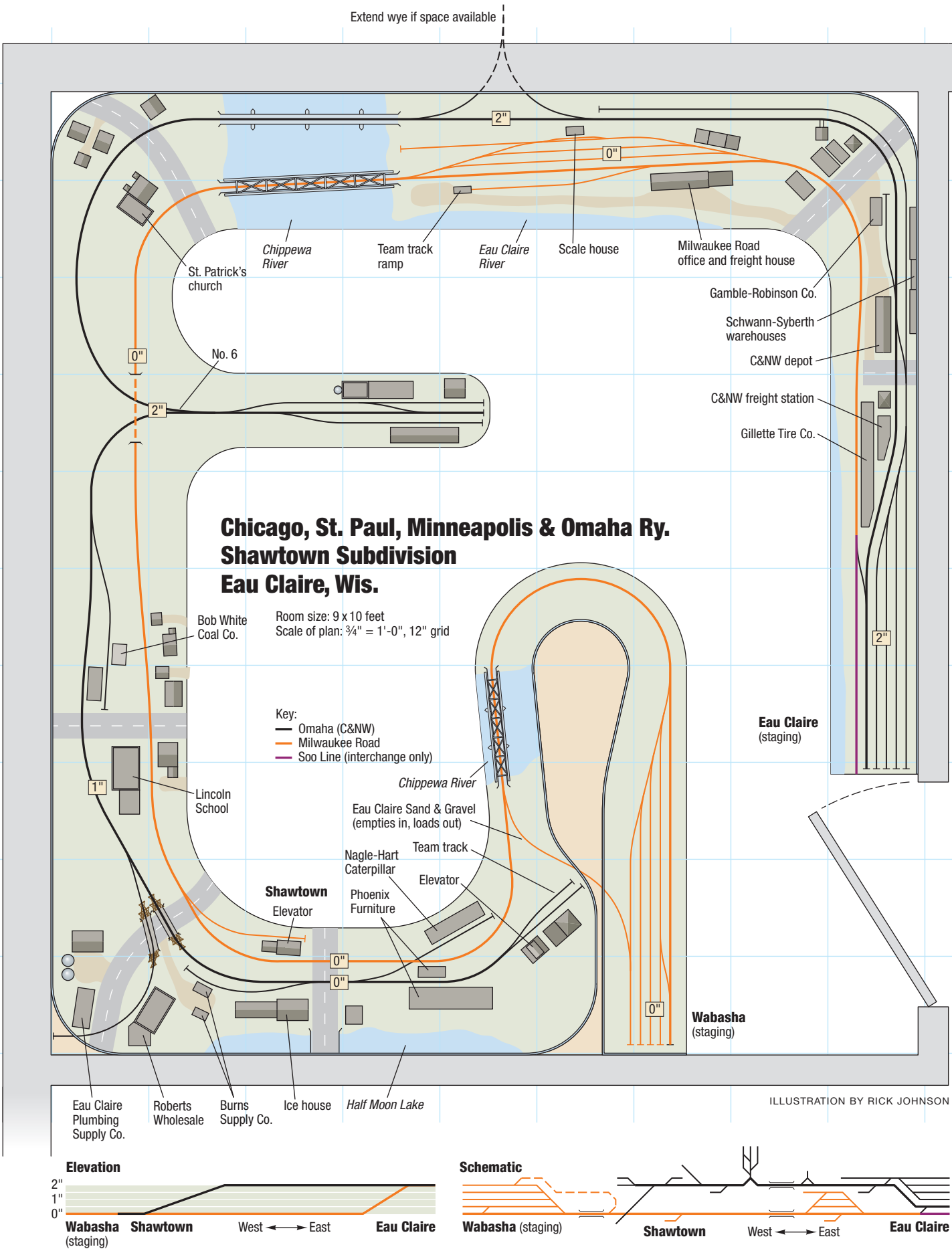
Through the centuries, the Chippewa River had cut deeply into the land, leaving limestone bluffs and steep banks where the Omaha crossed the river on an 1881-vintage steel single-track high bridge (nearly 60 feet above the water) and then, after 1912, over a double-track steel deck truss bridge just upriver. The main line was rerouted over that bridge, leaving the 1881 bridge to serve the south and west sides of Eau Claire.

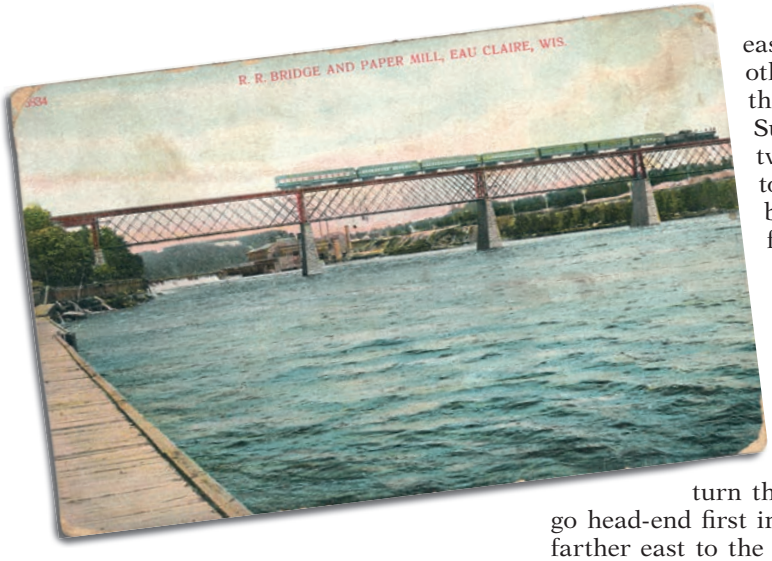
At its simplest, this plan represents two point-to-point lines with staging at one end of the Omaha (and interchange with the Soo) and staging at the opposite end of the Milwaukee Road. Two operators could keep busy switching local industries and, on the Milwaukee, making up trains at either end of the line.

I'd make two additions to this plan if I had the space. I'd extend the Omaha main line to both the east and west and add a return loop at both ends. That would get me fast freights and streamlined or heavyweight *400* passenger trains running to and from Chicago and Minneapolis each day. Second, I'd find a way to finish the wye just east of the Chippewa River crossing. That would allow me to exactly duplicate prototype operation on the Subdivision.

Fun with the switchback

Two things make operation on this straightforward-looking railroad interesting. The first is the switchback on the Omaha Road's Shawtown Subdivision (named for the Daniel Shaw Lumber Co. at the far southern end of the branch). When the main line was rerouted over the new Chippewa River bridge, the connection between Shawtown and the Omaha main line on Eau Claire's west side was severed. So the West Side Job ended up heading into a switchback in the morning and backing 2.7 miles downgrade toward the industries and lumber mills on the way


Extend wye if space available
2"
0"
Chippewa River
Team track ramp
Eau Claire River
Scale house
Milwaukee Road office and freight house
St. Patrick's church
Gamble-Robinson Co.
Schwann-Syberth warehouses
C&NW depot
C&NW freight station
Gillette Tire Co.
No. 6
0"
2"
Chicago, St. Paul, Minneapolis & Omaha Ry.
Shawtown Subdivision
Eau Claire, Wis.
Bob White Coal Co.
Room size: 9 x 10 feet
Scale of plan: ¾" = 1'-0", 12" grid
Key:
Omaha (C&NW)
Milwaukee Road
Soo Line (interchange only)
Eau Claire
(staging)
2"
1"
Lincoln School
Chippewa River
Eau Claire Sand & Gravel
(empties in, loads out)
Team track
Nagle-Hart Caterpillar
Elevator
Shawtown
Elevator
Phoenix Furniture
0"
0"
0"
Wabasha
(staging)
Eau Claire Plumbing Supply Co.
Roberts Wholesale
Burns Supply Co.
Ice house
Half Moon Lake
ILLUSTRATION BY RICK JOHNSON
Elevation
2"
1"
0"
Wabasha (staging)
Shawtown
West ⟷ East
Eau Claire
Schematic
Wabasha (staging)
Shawtown
West ⟷ East
Eau Claire



This postcard, stamped 1915, pictures the 1881 steel bridge over the Chippewa River at Eau Claire, Wis. It would be a major scenic and operational feature on this layout.

to Shawtown.

The other interesting aspect of the layout is on the southbound leg of the switchback. There the tracks headed steeply downgrade (probably 40 or more feet in less than a half mile, or about 1.5 percent) until the line reached the Burns Supply siding. From there the grade leveled out to the end of the branch where it was just above river level.

The little Ten-Wheeler (4-6-0) that served the line when I was a kid had to work pretty hard in the afternoon when it returned heading upgrade. At the top of the grade, it eased into the switchback with its short cut of cars and then backed out across the high bridge over the Chippewa River and onto the main line just west of the Eau Claire yard.

There's another interesting aspect of the operation worth noting (if not modeling). The main line splits here: one route goes west to the Twin Cities and east to Chicago; the other curves east and then north toward Superior, Wis. The two routes connect to the main from both directions to form a wye.

Since the afternoon-returning West Side Job had about three more miles to go at that point, I'm surmising that the crew used this wye to turn the train so it could go head-end first into Eau Claire and farther east to the yard at Altoona to get the locomotive ready for the next day's work.

A photo in Stan Mailer's book *The Omaha Road* (Hundman) shows this little train heading locomotive-first out of Eau Claire toward Altoona in the afternoon, verifying that the crew had turned the train. If you have the space, you could include this wye to exactly duplicate the operation. I've just suggested it on the track plan.

One of the more-interesting aspects of both the West Side Job and the Milwaukee Road operation (which is flat) is that they both worked their ways through residential neighborhoods, behind houses, and with some street running and lots of street crossings marked only by crossbucks. Travel about and through town was at a less-than-hurried pace—automobile traffic and pedestrians were a major concern.

The Omaha interchanged with both the Soo and the Milwaukee at the east end of Eau Claire. At the Shawtown end of the line, it ran parallel to and crossed over the Milwaukee line before the Milwaukee crossed the Chippewa again on its way to the Mississippi. (Both Milwaukee Road river crossings were on long through truss bridges that still stand but are now part of a bicycle trail.)

Mini power

You wouldn't need many locomotives for this layout. By the early 1950s, the Milwaukee Road was using a Geep or an RS-3. I remember seeing both. However, until as late as 1956, the Omaha ran a Ten-Wheeler on the Shawtown Sub. I vividly remember my mother running out to the clothesline to take down the laundry before the soot from the steam engine could get on it. I also remember our black cocker spaniel chasing it. (What would he have done with it had he caught it?)

Coming up with an N scale Ten-Wheeler is a challenge—nobody makes one! My first thought was to settle for a Model Power 4-4-0 American in N; it has roughly the look of a Ten-Wheeler. *Model Railroader* publisher Terry Thompson had an even better idea: use a 2-6-0 Mogul. The boilers and cabs of both Model Power locomotives appear to be the same, and the lack of a pilot wheelset is less noticeable than missing drive wheels.

There's another reason for picking the Mogul. The 2-6-0 easily outpulls the 4-4-0, an important factor on this layout. On a 1.5 percent grade, the 4-4-0 can manage only about five or six cars, while the 2-6-0 is capable of dragging nine or 10 cars up the hill without breaking a sweat. I tested one on a 2 percent grade, and it pulled 10 cars up the hill with very little slipping.

This plan would also work in HO, in roughly twice the amount of space. Aisle width is the key. With two operators there will be a couple of "choke points." On occasion operators could be making up Soo and Omaha trains simultaneously near the doorway, so it would be best not to skimp on that space. The aisle between the switchback and the curve heading into the Milwaukee staging yard is also tight.

At first glance, the plan looks simple to operate, but the thought of pushing and pulling a short train through a switchback, then down a steep grade (and then later pulling it up) is intriguing. Combine that with neighborhood running, rivers, bluffs, and high bridges, and you have—on a smallish layout—scenic and operating possibilities that could be downright spectacular.

Track plan at a glance

Name: Chicago, St. Paul, Minneapolis & Omaha Ry., Shawtown Subdivision
Room size: 9 x 10 feet
Theme: branchline switching
Period: steam/diesel transition
Mainline run: 24 feet
Minimum radius: 9¾"
Minimum turnout: no. 4
Maximum grade: 2 percent
Publication date: August 2007

Industries served

- Gillette Tire Co. (later Uniroyal)
- Schwann-Syberth (building supplies)
- Gamble-Robinson Co. (fresh produce)
- Bob White Coal Co.
- Eau Claire Plumbing Supply Co. (also fuel and lumber)
- Roberts Wholesale (groceries)
- Burns Supply Co. (lumber, fuel)
- Ice house
- Phoenix Furniture (manufacturer)
- Nagle-Hart Caterpillar (heavy equipment)
- Grain elevators (2)
- Eau Claire Sand & Gravel

Bay Point & Diablo

On2½ (O narrow gauge)

By Bill Wilson
Photos by George Hall

Here's another room-sized plan, this time in O scale but based on a narrow-gauge railroad. Narrow-gauge modeling is a popular subculture in model railroading. Several narrow-gauge railroads (those with narrower than the standard 4'-8½" width of standard-gauge track) operated in the U.S. through the early 1900s. Three-foot gauge was the most common, with two-foot gauge used by some New England lines.

The On2½ designation means O scale, narrow gauge, with a scale 2½ feet between rails. (Some manufacturers say On30, for "30 inches"). Although it doesn't match any prototypes, the size is a compromise between two- and three-foot gauge, and was originally developed to allow using HO gauge track.

The track plan is an oval with a long branch serving several industries. Builder Bill Wilson came up with a fictional railroad and industry for his layout, but the plan could also be adapted to represent a prototype narrow-gauge line such as Colorado's Denver & Rio Grande Western or Rio Grande Southern.

Benchwork could be free-standing or mounted to the walls. Bill used a combination of 18"- and 24"-wide shelves, bolted together. A wide duck-under allows entry at the corner of the layout near the doorway—the layout is fairly tall here, about 52".

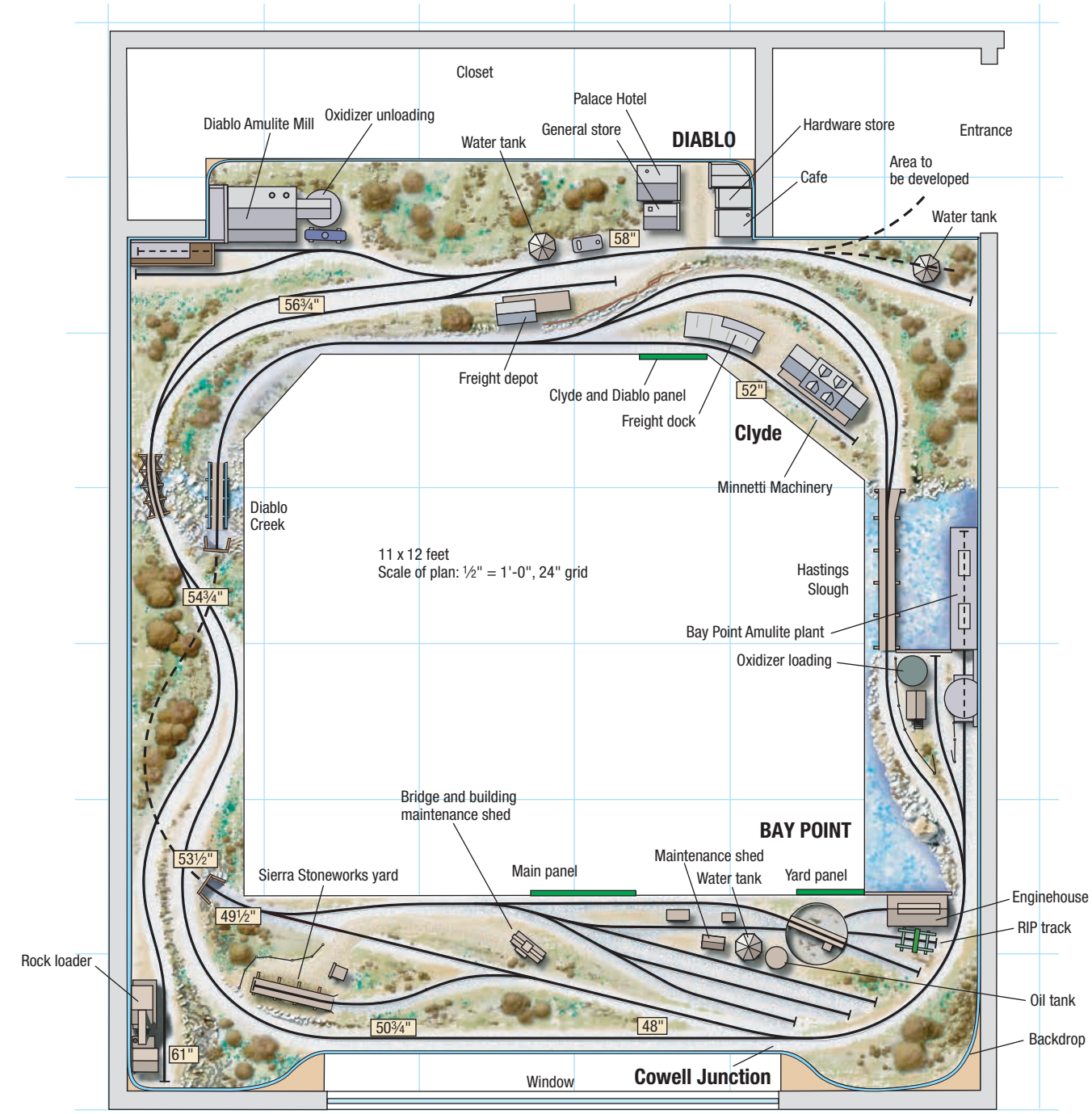
The track on this layout is handlaid, but commercial On2½ track is available from Micro-Engineering and Peco. Rolling stock and locomotives are made by Bachmann, Peco, San Juan Car Co., and others.

Bill runs the layout with DC cab control, with two engineers operating trains during a typical session. Digital Command Control would also be an excellent option.

Layout at a glance

Prototype: Bay Point & Clayton
Locale: San Francisco Bay
Era: Early 20th century
Style: around the walls
Length of mainline run: 33½ feet
Height: 52" to 61"
Track: handlaid
Turnout minimum: No. 5 (main line), No. 4 (yard)
Minimum radius: 24"
Maximum grade: 5 percent
Scenery: Structolite over screen
Backdrop: Instant Horizons backdrops applied to walls
Control: Cab control
Publication date: May 2005

The small size of narrow gauge equipment means that an On2½ layout needn't take much more space than an HO layout.



A small diesel also serves as a switcher on the Bay Point & Diablo.

Fox River

N scale

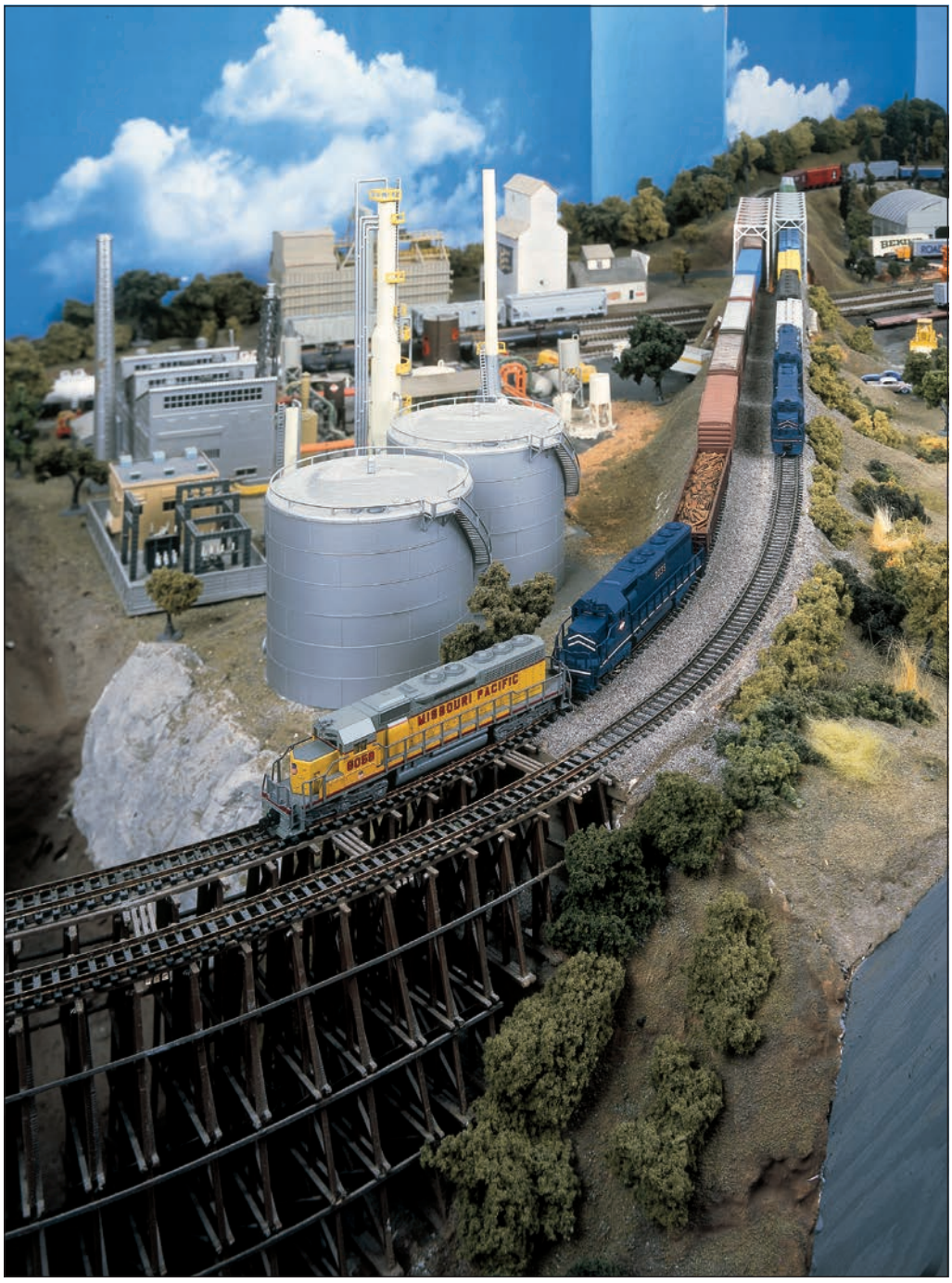
By Travis and Micki Whitten
Photos by George Hall

Travis and Micki Whitten built this L-shaped N scale layout in a spare bedroom of their townhouse. The track plan was designed by their friend Allen Williams.

This track plan works well for a small- to medium-size bedroom or spare room. It features a double-track main line that folds over itself on one wing. A small yard and a few industrial spurs (more could be added) provide potential for some switching action. The plan appeals to modelers who like operating and watching long trains. The curves are reasonably broad (15" radius), which allows operating longer equipment, such as six-axle diesels, auto-rack cars, and passenger cars.

Choosing N scale allows the layout to be located against two walls, saving space compared to an island or table layout.

As built, the Whittens use DC cab control for running trains. If you're building this plan from scratch, it would be an ideal candidate for Digital Command Control.



A Missouri Pacific freight passes an oil refinery as it heads across a tall wood trestle.

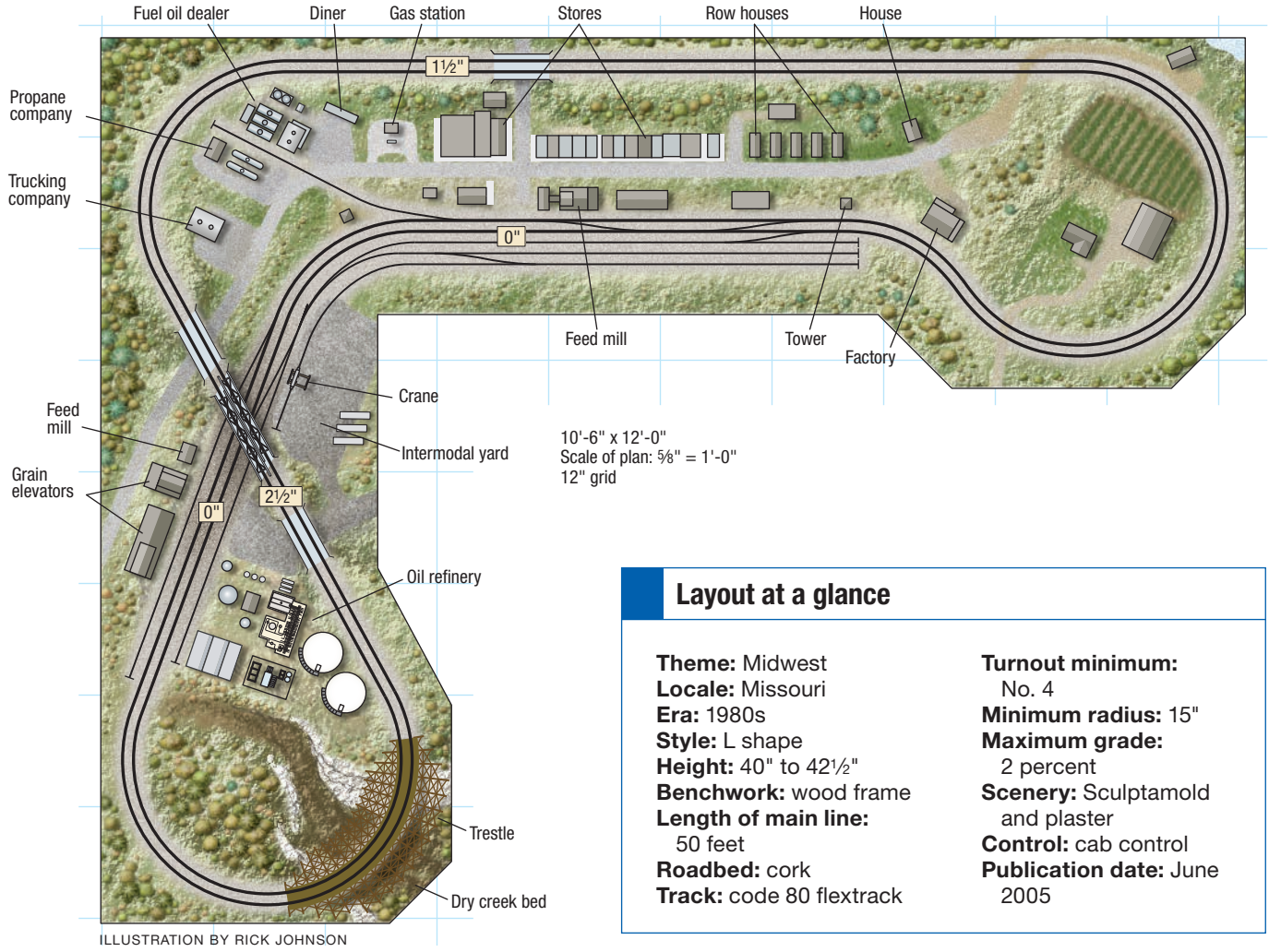


ILLUSTRATION BY RICK JOHNSON

Layout at a glance

Theme: Midwest
Locale: Missouri
Era: 1980s
Style: L shape
Height: 40" to 42½"
Benchwork: wood frame
Length of main line: 50 feet
Roadbed: cork
Track: code 80 flextrack
Turnout minimum: No. 4
Minimum radius: 15"
Maximum grade: 2 percent
Scenery: Sculptamold and plaster
Control: cab control
Publication date: June 2005

A Santa Fe passenger train rolls past a soccer field and track.

Conrail's Sterling line

N scale

By Dana Kawala

The Chrysler plant looms behind Sterling Yard. The auto industry inspired this track plan. Ray Sabo

Prototype railroad track charts can offer great inspiration for a model railroad track plan. While doing an internet search for railroads that served the auto industry, I found track charts for the Detroit District of Michigan's Conrail Shared Asset area. In this district as in other shared asset areas, Norfolk Southern and CSX jointly control former Conrail property, and many of the diesels are still in Conrail's blue livery. Part of the Detroit District is the Sterling Secondary in my hometown of Sterling Heights, Mich.

Reviewing the charts, I imagined a switching layout that could fit into a spare room. After all, two of the main customers of this part of the line, a Chrysler assembly plant and a Chrysler stamping plant, were only a couple of miles apart. Then I went to Google Earth, a website that provides satellite views of most places on the planet, and received a dose of reality.

Automotive plants are massive and often connected to a mainline classification yard. In addition, a network of industrial track serves inter-plant operations and connects the plants to outside vendors. It was clear that I had to make some adjustments if I was going to design a track plan for a relatively small space.

I ended up with this N scale plan that fits around the walls of a 10 x 12-foot room on a two-foot-wide shelf.

Running "just in time"

Although I designed the track plan primarily for switching operations, I used wide-radius mainline curves and made the yard body tracks long enough to handle an eight-car train of 89-foot auto racks led by a pair of road diesels, such as SD70s or Dash 9s.

The main line runs from semi-hidden staging at Livernois Yard to Sterling Yard and is connected to the loading docks of the Chrysler assembly plant. The double-track main line turns into single track just before entering the curve into the staging yard. This turnout lets the main line double as a runaround track during switching moves at the stamping plant.

Although the main line is short, following the prototype's operating rules helps lengthen the run. Along the Sterling Secondary, the maximum speed limit is 10 mph.

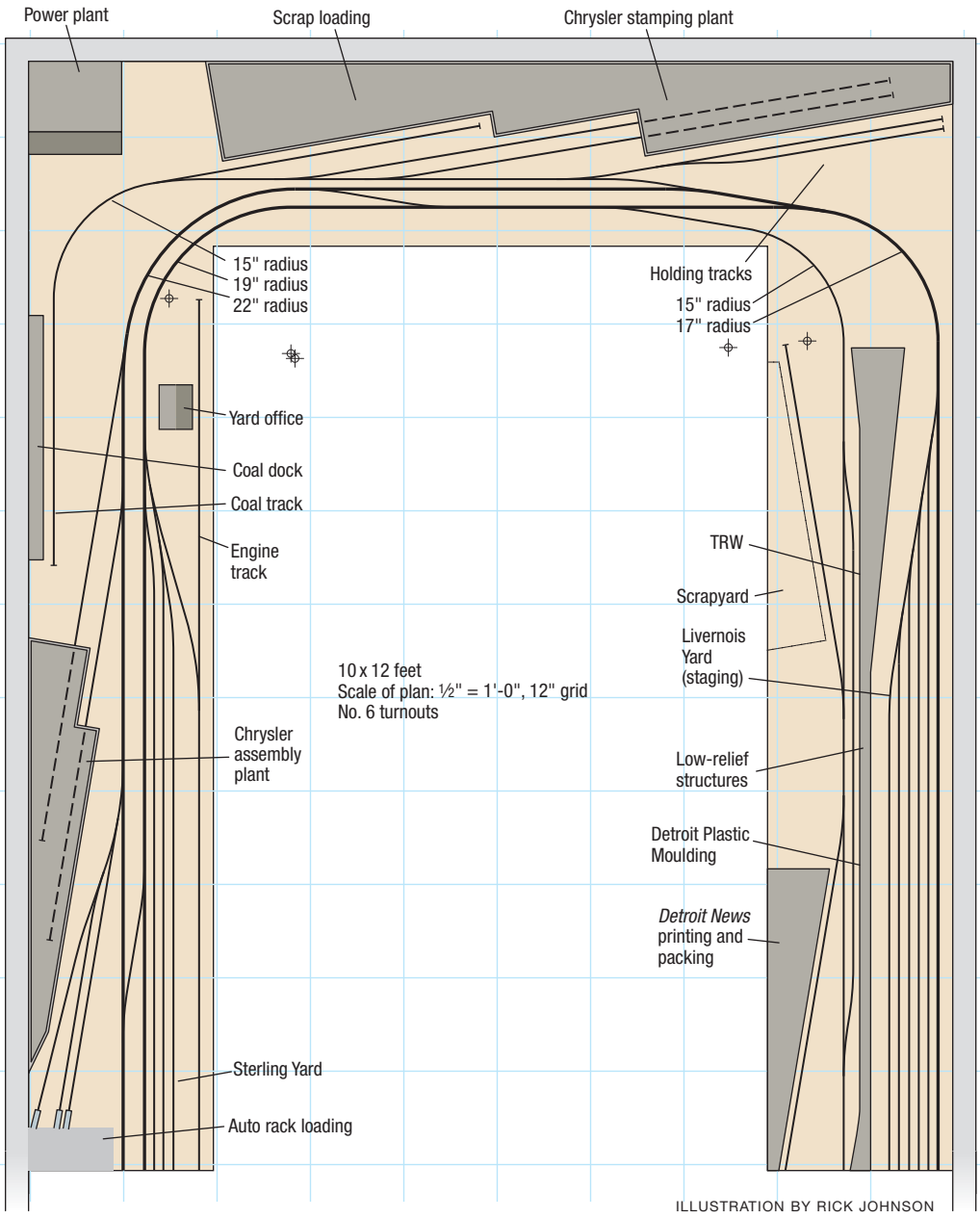
Industrial track serves the stamping plant on the outside of the main line and smaller industries located in front of the staging yard.

The track plan isn't designed for through trains. As on the prototype, Sterling Yard is the end of the line for most of the big diesels originating from out west. Most of the action involves classifying trains that enter the yard into locals that deliver loaded cars and empties to their destinations.

Road engines that bring trains north lay over in Sterling Yard until they have a full train of cars to take back through the district to Livernois Yard.

Industrial track connected to the main line provides access to online industries. In addition to the Conrail Shared Asset local freights departing from Sterling Yard, industrial switchers make inter-plant runs.

The fun of operating an automotive-themed railroad comes with following prototype industry practice of "just-in-time" delivery. Auto companies don't want to pay for warehousing, but they also don't want to pay for workers sitting idle. The schedule of the entire



supply chain is important. From trainloads arriving at Sterling Yard to locals setting out empties and picking up loaded cars to plant switchers delivering parts into the docks, everything needs to be done on time.

A variety of modern rolling stock

This track plan's setting allows for a variety of motive power. Although pairs of modern six-axle road diesels, as well as SD40-2s and SD60s, are primary power for mainline trains, four-axle GP15s and GP38-2s switch the yard and handle local freight traffic. Local power is in either Conrail, NS, or CSX livery, but the larger mainline diesels can also come from BNSF or Union Pacific. An industrial switcher makes inter-plant deliveries, such as moving cars from holding tracks to the docks.

For rolling stock, the auto industry relies on more than 89-foot auto racks. Typical freight cars include 50- and 60-foot hi-cube boxcars, 50-foot gondolas for scrap metal, coal hoppers, and covered hoppers for plastic pellets.

For even more variety, I added a non-automotive customer that I found on one of the track charts. The railroad delivers newsprint cars to the *Detroit News* printing and packing plant.

For most of the structures, I planned low-relief buildings along the walls. You don't need to model an entire mile-long factory, just the parts relevant to the railroad, such as loading docks. Low-relief buildings between the staging yard and south industrial tracks would define the scene in the front, yet still provide an operator with access to the yard in back.

Track plan at a glance

Prototype: Conrail
Theme: modern auto industry
Era: 1999
Style: around the walls
Mainline run: 24 feet
Minimum radius: 17" main line, 15" industrial track
Minimum turnout: No. 6, turnouts set at No. 5 angle in Livernois Yard
Maximum grade: none
Publication date: January 2007

The Sterling Secondary provides plenty of switching fun and has just enough mainline action to keep a few modern road diesels busy.

Cunningham's Gap on the Virginian

N and HO scales

By Roger Marsh

The Virginian Ry. shuttled hoppers between West Virginia's coalfields and the ocean port of Norfolk, Va. Roger Marsh shows how this 600-mile coal hauler can be modeled in a limited space in HO and N scales. D. Wallace Johnson

Plying its trade among the hills and tipples of coal country with massive steam locomotives, growling Fairbanks-Morse Train Masters, and extensive electrification, the Virginian Ry. did things on a grand scale. The drama of tonnage grinding through the mountains is appealing, but how do you do justice to a sprawling prototype in a limited space? A 2-6-6-6 followed by five hoppers and a caboose looks a little odd, believe me!

Here are two plans, one in HO that fills a small room and another in N scale that fits on a pair of hollow-core doors, that show how it's possible to do something interesting with this railroad—even if you don't have a gymnasium to call your own.

HO in a bedroom

I named this layout Cunningham's Gap, partly because it sounds Appalachian, and partly because it's the name of a geographic feature near my home. The west end of the Virginian, where Fairbanks-Morse H-24-66 Train Masters and 2-8-8-2 and 2-10-10-2 steam locomotives moved long strings of hoppers to waiting tipples, is the inspiration. If your nerves can handle rigging catenary, you can shift the layout farther east and take advantage of Bachmann's EL-C electric.

As drawn, the plan requires a room 10 x 11 feet. At a minimum, the layout can operate with a pair of Athearn Train Masters, though an additional pair would provide more flexibility. If you prefer steam, the Proto 2000 2-8-8-2 and an Athearn USRA 2-8-2, dressed up to look more like a Virginian MC-class Mikado, will fit the bill nicely. If you select the steam option, you will want to add some way to turn the engines in the fiddle yard. The Virginian was never a major passenger carrier, and for the purposes of the layout I've assumed that passenger service has ceased.

Rolling stock naturally includes a heavy dose of coal hoppers. Accurail's USRA 55-ton hopper and Athearn's 34-foot, two-bay, ribbed-side hopper both come decorated for the Virginian. These cars can be used to build up rolling stock quickly and more-detailed models can be added later on.

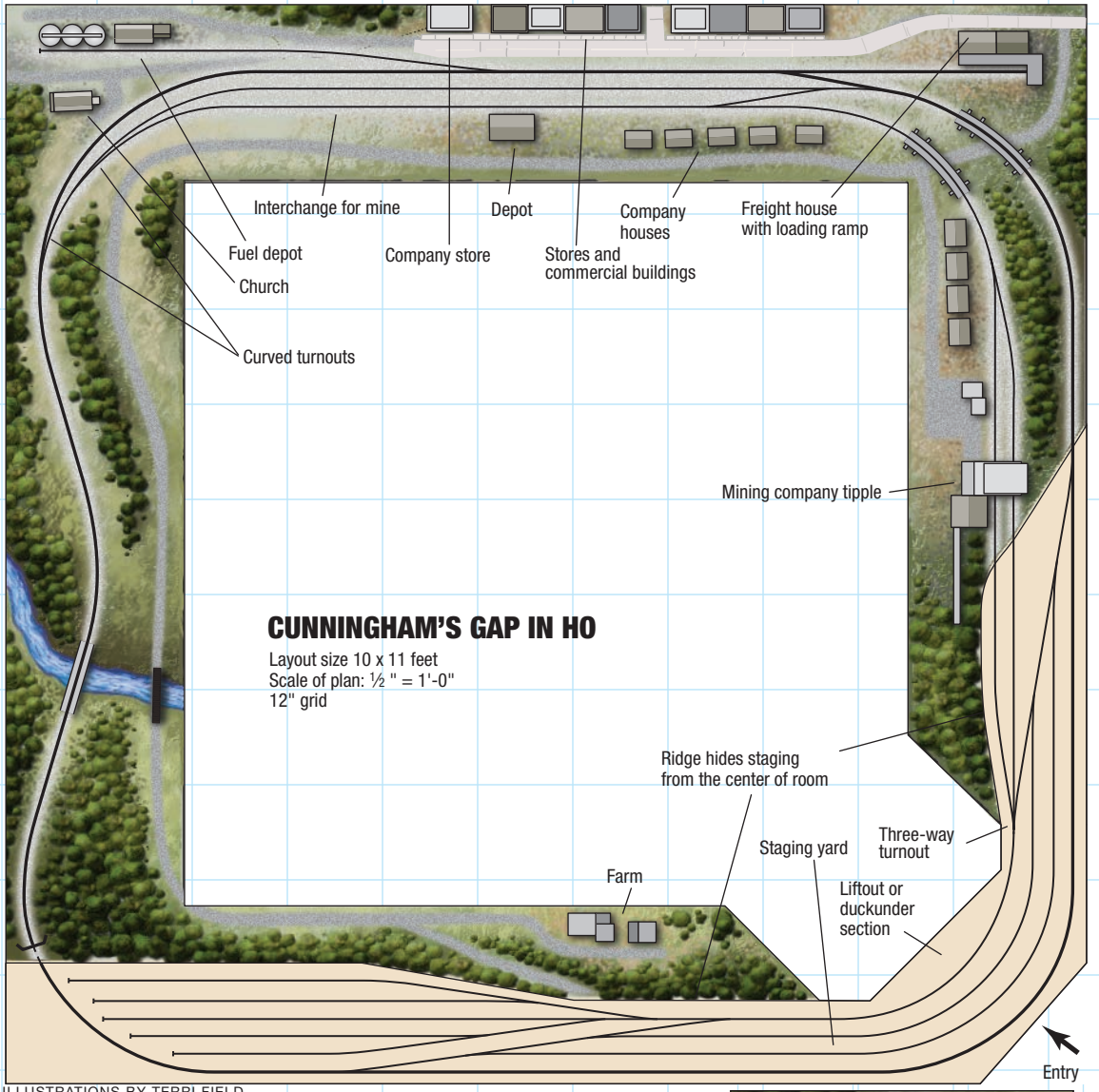
Structure kits for the various buildings on the layout are readily available from the major manufacturers and can be weathered for greater realism.

Operations

A fiddle yard gives this layout considerable operational flexibility, enabling a cycle of loads and empties through the mine. The yard has tracks for staging a pair of hopper consists, one of empties and the other of loads, each with about 15 cars and a caboose.

The mine tracks connect to the fiddle yard to allow interchange of loads and empties. The stub-end tracks are for storing general freight cars, which enables the "dispatcher" to vary the consists of local freights. This helps to avoid the funny feeling you have seen that boxcar before—quite recently in fact!

Digital Command Control (DCC) would be a distinct advantage for this layout. With the amount of activity I've

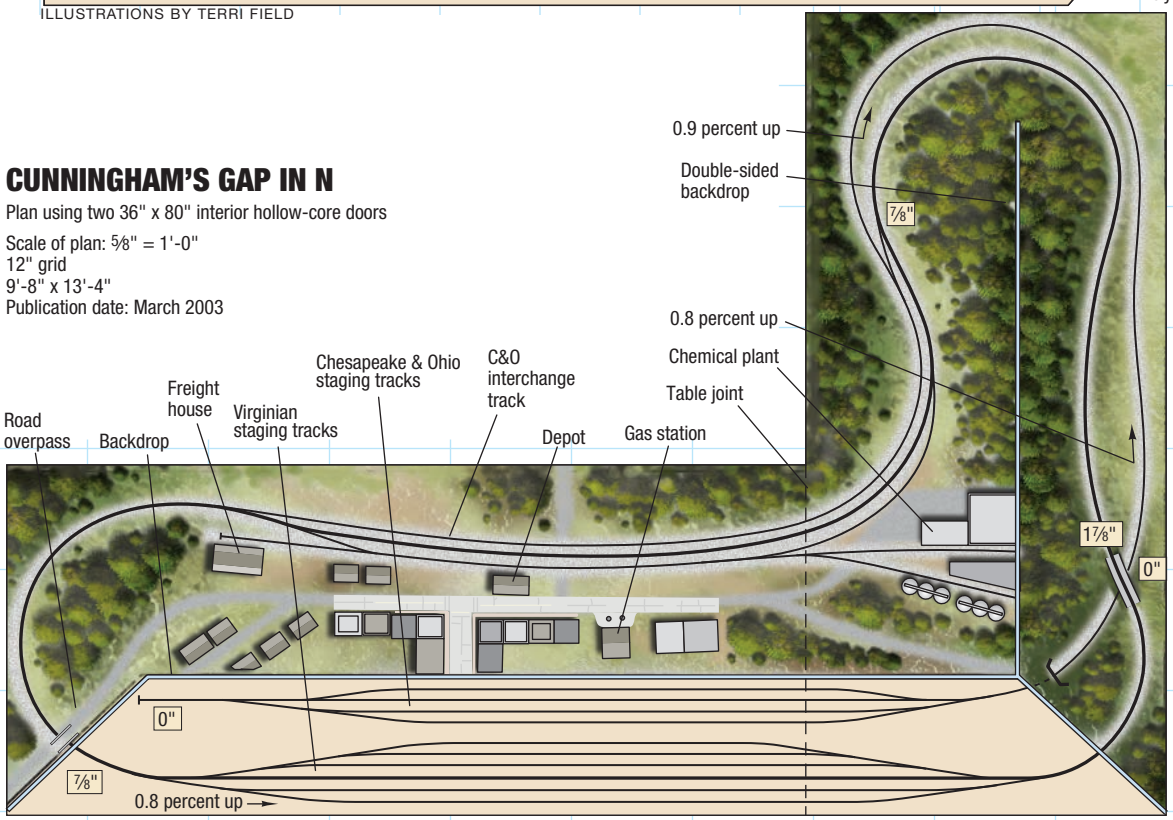


ILLUSTRATIONS BY TERRI FIELD

CUNNINGHAM'S GAP IN N

Plan using two 36" x 80" interior hollow-core doors

Scale of plan: ⅝" = 1'-0"
12" grid
9'-8" x 13'-4"
Publication date: March 2003



The West Virginia coal district accounted for more than 86 percent of the Virginian's freight. This sprawling coal tipple dominates the little mining town of Slab Fork, W. Va.

contemplated in the staging yard, DCC would simplify wiring and control.

This layout is capable of supporting four or five operators, particularly if crews of engineer and conductor are used. For a full operating session, a fiddle yard operator/dispatcher is necessary to keep things rolling.

The staging tracks are mostly hidden, with the fiddle yard operator occupying a position where all the staging tracks can be seen. For solo operations, it would be easy enough to take a train for a walk without being too worried about losing sight of it.

The main traffic on this layout is going to be coal—empties westbound and loads eastbound. Not all of these are through trains, as there is the necessity to set out empties for the mine and for the next eastbound coal extra to pick up the loads from the interchange. A freight house and a fuel depot add local switching interest.

This layout mixes locals with long coal trains, but the Virginian also operated lengthy drag freights. Through freight trains can be accommodated by adding another long track to the staging yard.

Construction considerations

I would build this layout 54" high. That way a modeling workbench with shelves would fit comfortably under the layout and access to electrical systems would be easier, quite apart from the visual benefits of a higher layout.

The use of open-frame benchwork is an advantage since the ground level is constantly changing, in keeping with the hilly terrain so characteristic of the Virginian's west end.

The plan was designed with Peco code 75 track in mind, but you can use other brands as well. The minimum radius is 24", with broader curves used wherever possible. The entry to the room can either be a duckunder or a lift-out section. If the lift-out option is selected, care must be taken to ensure the staging yard tracks are not occupied before you heave away!

N scale using two doors

This compact layout uses two interior hollow-core doors as its base. The layout depicts a West Virginia industrial town, with a freight depot, chemical plant, and an interchange between the Virginian and Chesapeake & Ohio.

Atlas helped N scale Virginian fans by producing the H-24-66 in this scale. The Atlas RSD-4/5 is an ideal C&O locomotive for this layout. As in HO, other rolling stock is available, though perhaps not with the same variety that is possible in the larger scale.

The N scale track plan is fairly self-explanatory. A grade separation allows the Virginian to cross over the C&O. A coal preparation plant is suggested, rather than visually present. Long coal trains are accommodated in the staging yard, so you can still see the drags come through town. Local industries and the C&O interchange in the modeled town provide the switching interest. I got the idea for the chemical plant from an encyclopedia's description of the industries of West Virginia. There is more to coal country than coal!

Digital Command Control is the preferred mode of control, particularly since the Atlas Train Masters come with a decoder socket. The model is also available with a decoder installed.

Stacked and carved extruded polystyrene foam board is used to give relief from the rigid flatness of the doors. After all, West Virginia doesn't look much like Indiana!

The method of joining the doors holds no surprises; it involves gluing two equal lengths of 1 x 2 lumber to the underside of the doors where they intersect at the baseboard joint. Dowels and bolts provide the necessary alignment of the baseboards.

Either plan can be adapted to suit any Appalachian coal-hauler. It's even possible to build a layout that covers a range of eras or prototypes (through interchangeable structures), increasing modeling potential.

National Docks Ry.

HO scale

By Howard R. Lloyd

After spending 20 years working on my HO scale Arvern Bay Terminal layout, I was ready for a change. Although I enjoyed scratchbuilding structures and modeling urban scenery on my old harbor layout (featured in the April 1991 and March 2000 issues of *Model Railroader*), I'd maximized the model railroad's potential in terms of detail and operation. However, I still wanted to model a harbor scene, but on a slightly smaller layout. I finally settled on the track plan shown here for the 12'-6" x 17'-0" HO scale National Docks Ry.

When designing the track plan, set near my hometown of Jersey City and nearby Hoboken, N.J., during World War II, I had a few goals in mind. Tops was finishing the layout in five to seven years. The Arvern Bay Terminal (ABT) was a fun model railroad, but I wasn't ready to devote 20 years to another layout project. I also wanted a highly detailed layout. By selecting industries that lent themselves to detailing, I could achieve that goal.

With the industries selected and the track arrangement set, I'm ready to get started on my new layout.

Prototype history

The section of Jersey City and Hoboken, N.J., that fronts the Hudson River is about six miles long. During the early 1940s, most of this old marshland was crowded with railroad yards, terminals, piers, and rail-marine industries. The Central of New Jersey (CNJ), Erie, New York Central (NYC), and Pennsylvania RR (PRR) operated extensive yards devoted to handling, storing, and shipping cars either across the river to New York City or to other destinations.

A latecomer to the harbor railroad scene was the Lehigh Valley (LV). The railroad wound up with slivers of leftover marshland and had cramped access to the water. The railroad built and acquired three small terminals: Claremont, Jersey City, and Black Tom. After studying the prototypes, I found Black Tom to be the most interesting of the three.

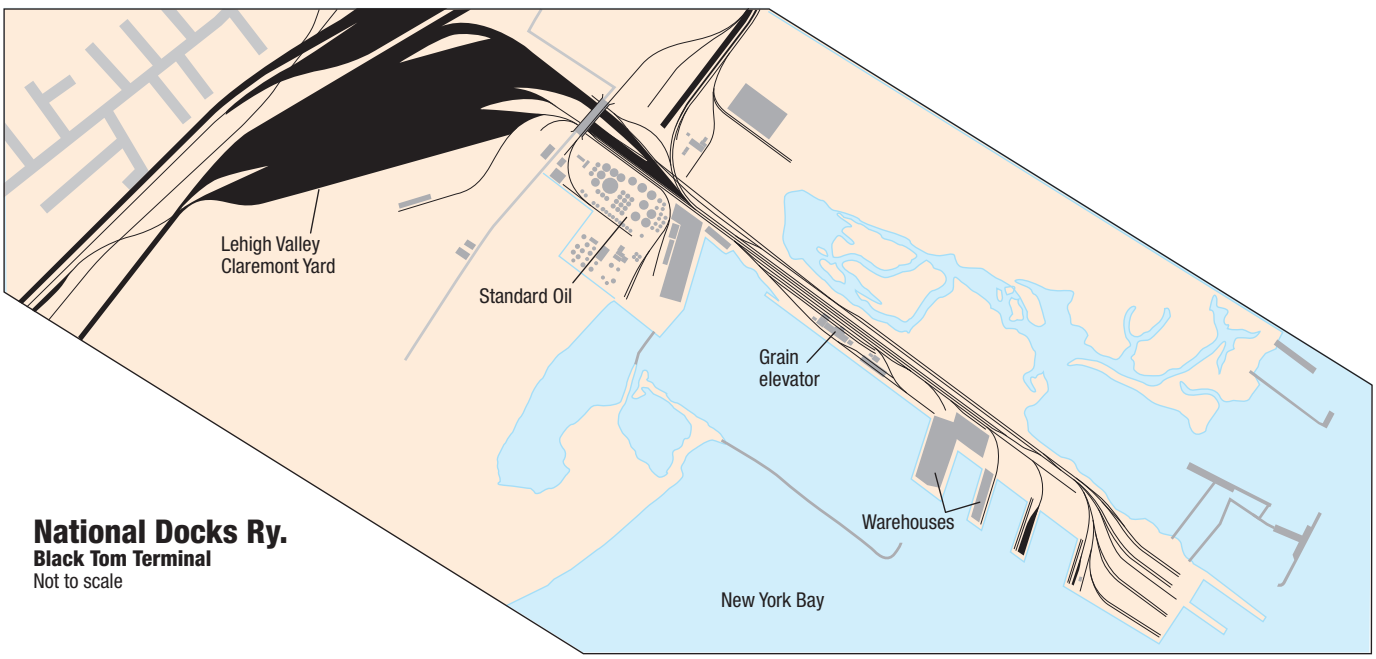
At one time, Black Tom was a small island in the Hudson River. Then, in the late 19th century, thousands of yards of fill were dumped into the river to link the island to the shore. The resulting peninsula was nearly 4,500 feet long and about 300 feet wide at its narrowest.

The newly created land was developed into the National Storage Co. freight terminal. There was a series of brick warehouses, open docks, a grain elevator, and an oil tank farm with harbor frontage on the peninsula. National Storage Co. was even served by its own railroad, the National Docks Ry.

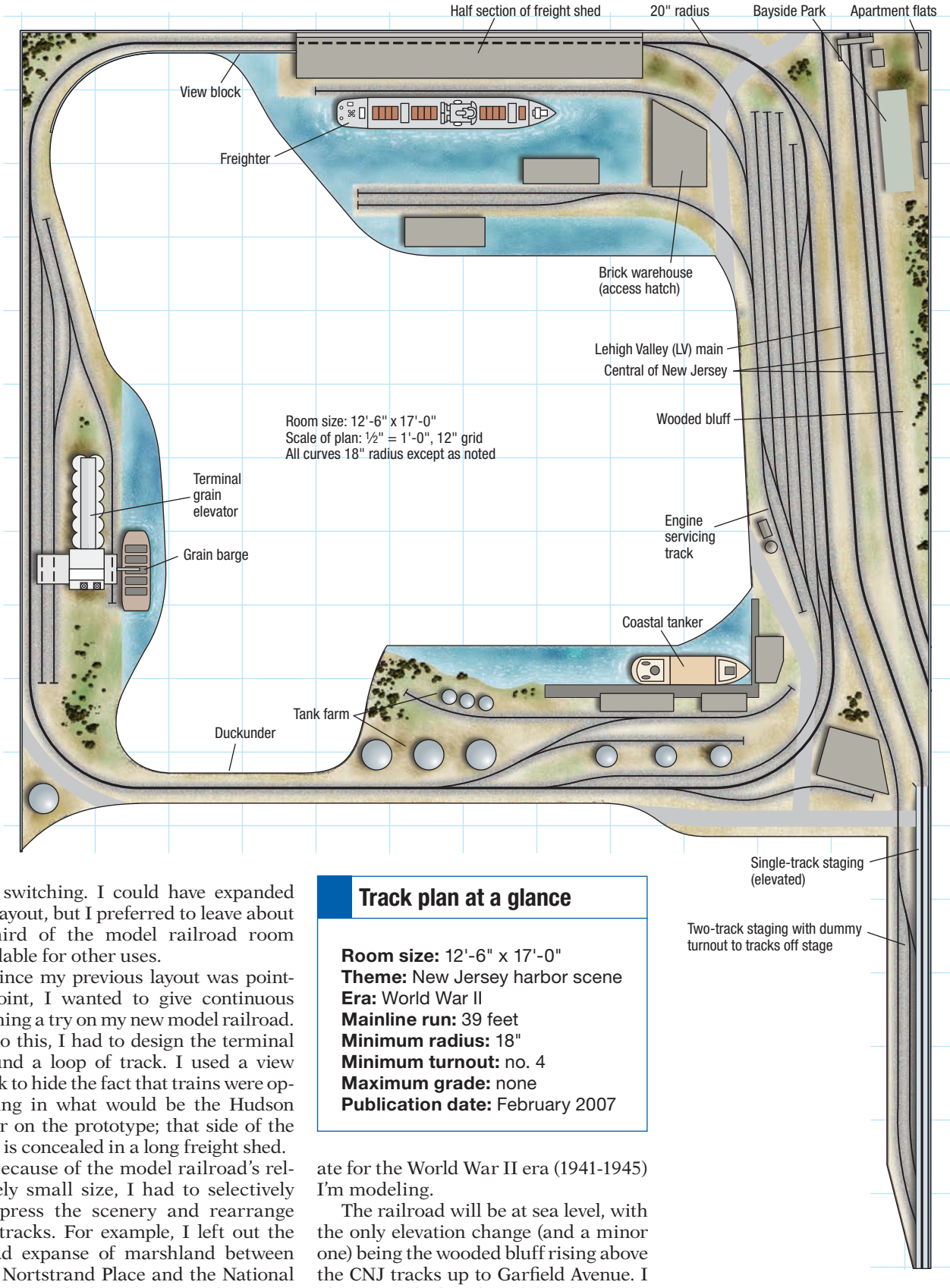
Lehigh Valley eventually bought the National Docks Ry. and expanded it several miles north and south, renaming it the National Docks branch. The branch linked the LV's three terminals and provided connections to the CNJ, Pennsy, and Erie.

Operating a harbor scene

Though operation wasn't my overriding consideration, I designed the plan so there would be a mix of transfer runs



National Docks Ry.
Black Tom Terminal
Not to scale



ILLUSTRATIONS BY JAY SMITH

and switching. I could have expanded the layout, but I preferred to leave about a third of the model railroad room available for other uses.

Since my previous layout was point-to-point, I wanted to give continuous running a try on my new model railroad. To do this, I had to design the terminal around a loop of track. I used a view block to hide the fact that trains were operating in what would be the Hudson River on the prototype; that side of the loop is concealed in a long freight shed.

Because of the model railroad's relatively small size, I had to selectively compress the scenery and rearrange the tracks. For example, I left out the broad expanse of marshland between Van Nortstrand Place and the National Docks Ry. Black Tom terminal.

With curves 20" or less in radius, I'll use small steam switchers and four-axle diesels to serve the terminal, and I'll operate 50-foot or shorter freight cars. All of this equipment is appropriate for the World War II era (1941-1945) I'm modeling.

The railroad will be at sea level, with the only elevation change (and a minor one) being the wooded bluff rising above the CNJ tracks up to Garfield Avenue. I plan to set the benchwork height at 58".

Track plan at a glance

Room size: 12'-6" x 17'-0"
Theme: New Jersey harbor scene
Era: World War II
Mainline run: 39 feet
Minimum radius: 18"
Minimum turnout: no. 4
Maximum grade: none
Publication date: February 2007

Selective compression

According to my version of history, the National Docks Ry. is jointly owned by the LV and ABT (which, in turn, is

Howard's HO scale Arvern Bay Terminal RR was featured in the March 2000 issue of *Model Railroader*. Scenes similar to this could be modeled easily using the National Docks Ry. plan. George Hall

owned by the CNJ) and, for tax reasons, operated independently. All three railroads have trackage rights over the National Docks Ry.

Both CNJ and LV main lines are depicted on the plan, though the former trackage is purely cosmetic. The LV main serves as a one-track staging yard for the National Docks Ry. I included two staging yard tracks at ground level that represent LV's Claremont Yard.

With only a 12'-6" x 17'-0" space to work with, I couldn't possibly include all the industries from the prototype Black Tom terminal in my track plan. Instead, I selected three key areas from the prototype. Tops on the list was the Standard Oil tank farm. This was a distribution point for lubricating oils that arrived by tank car and left by harbor craft. Fortunately, I've already modeled the coastal tanker that will be tied up at the Standard Oil dock.

I also included a terminal grain elevator. This large concrete structure received grain by boxcar and shipped it by barge. One of the elevator's major customers was Schaefer Brewery in Brooklyn, which received grain shipments directly by barge. Other barge loads of grain would be positioned next to ocean-going vessels loading cargo elsewhere in the harbor, and a floating grain elevator would transfer the grain from barge to ship.

Other items I added include a ship basin with an open dock, a brick warehouse (concealing a lift-out access hatch), and a half section of a large, corrugated-iron storage shed.

A three-island freighter, stick lighter, covered lighter, and a tugboat resting between assignments will be tied up in the basin. War materiels waiting to be loaded on ships to be assembled into convoys destined for Europe will be crammed on the docks.

From plan to reality

This plan packs a lot of harbor modeling into a modest space. From ships and barges to big industries, there are many opportunities to add details and run trains.

I hope this plan will inspire you to give waterfront modeling a try. Having completed one harbor layout already, I can't wait to start work on this one.

Sabotage at Black Tom Terminal

During World War I, Lehigh Valley used Black Tom terminal in Jersey City, N.J., for the storage and shipment of munitions. Despite violating a city ordinance, the LV kept explosives within city limits. That was until July 30, 1916.

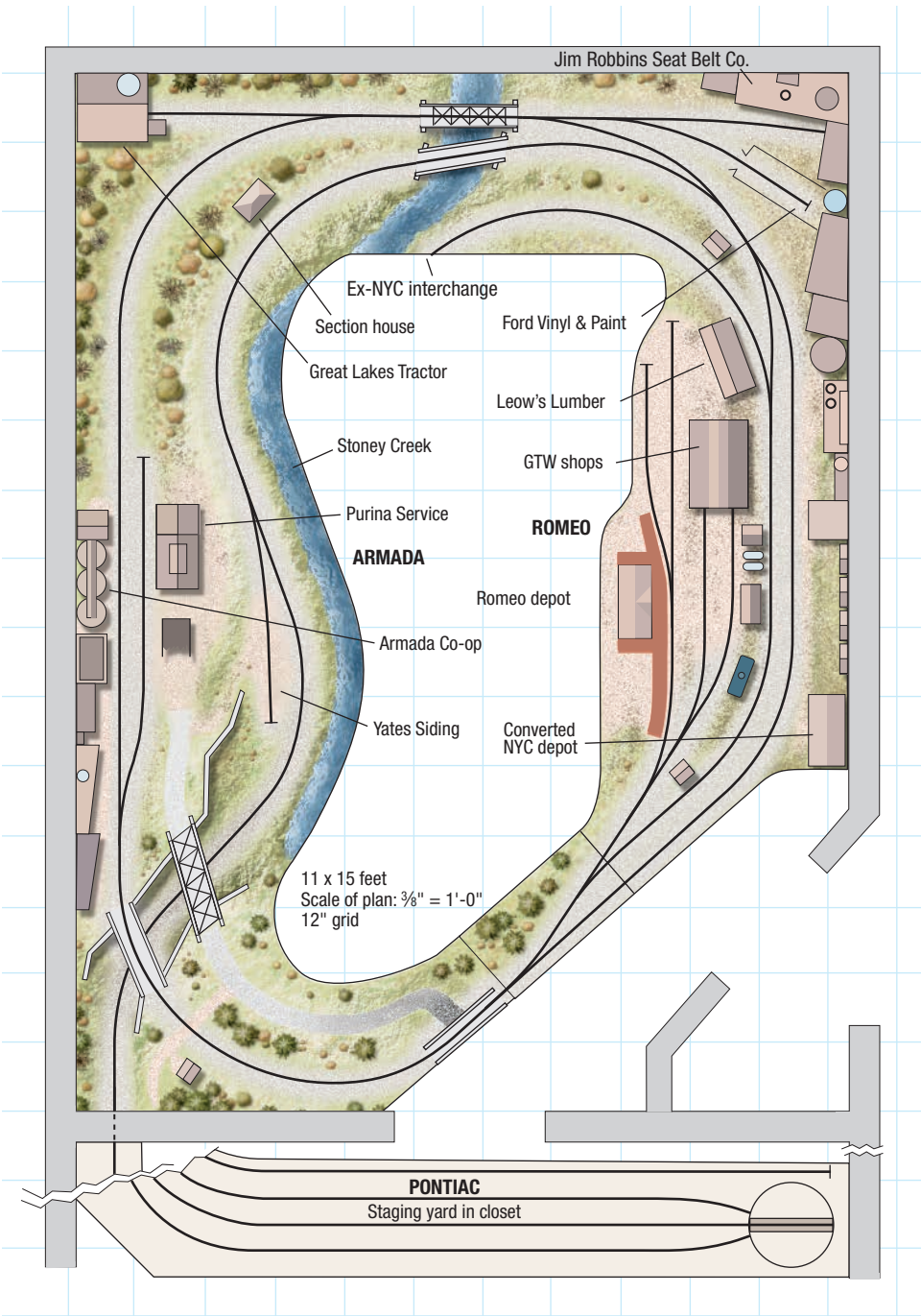
On that date, a fire of suspicious origin spread to a barge loaded with dynamite. The barge exploded, obliterating most of the warehouses and leaving a large crater and smoking ruins.

It was widely suspected that the explosion was the work of German saboteurs, a suspicion that was confirmed many years later through an examination of German records. Although the destroyed warehouses were never rebuilt, the other damage was repaired, and the terminal continued to operate with LV moving record levels of traffic to support the war effort.

Grand Trunk Western

O scale

By Richard Cooke



This O scale track plan allows quite a bit of switching operation and a continuous run in a medium-size (11 x 15-foot) space. This layout would be at home in a bedroom or corner of a basement.

A layout like this is ideal for modelers who like the heft and detail potential of O scale, and who also enjoy switching operations. The around-the-walls design leaves plenty of room for scenery and structures as well. The track plan is an oval with a siding and several spurs for switching, plus a branch line that leads to a hidden staging yard in a neighboring closet. This branch could be truncated or altered depending upon your space available.

Layout owner Richard Cooke built and detailed the railroad to represent the Grand Trunk Western in Michigan circa 1970, but you could alter the scenery and structures to suit almost any other era or locale.

The minimum radius of 36" allows most four-axle diesels, 40- and 50-foot freight cars, and small- to medium-size steam locomotives to operate well.

Entrance to the central operating area is via a lift-out section, which could be changed to a duckunder depending upon the layout height.

Layout at a glance

Prototype: Grand Trunk Western
Locale: southeastern Michigan
Era: 1968 to 1972
Style: around the walls
Benchwork: L girder
Height: 48"
Roadbed: ½" Homasote on ½" plywood
Track: handlaid code 100 and 125
Mainline run: 30 feet
Minimum radius: 36", 24" in staging
Turnout minimum: No. 5
Maximum grade: 2 percent
Scenery: hardshell with real dirt, sand, crushed leaves, and ground foam
Backdrop: drywall
Control: Digitrax Digital Command Control
Publication date: October 2003

Modeling in O scale allows for a lot of detail on locomotives, rolling stock, and structures.

Union Pacific Hillsboro Division

HO scale

By Shaun Toman

Although the overall size of this layout seems quite large, the around-the walls design doesn't take up much overall space. Shaun Toman fit this layout into a built-on garage by working it along the front and side walls. This or a similar plan could also be placed in the corner of a basement or large rec room.

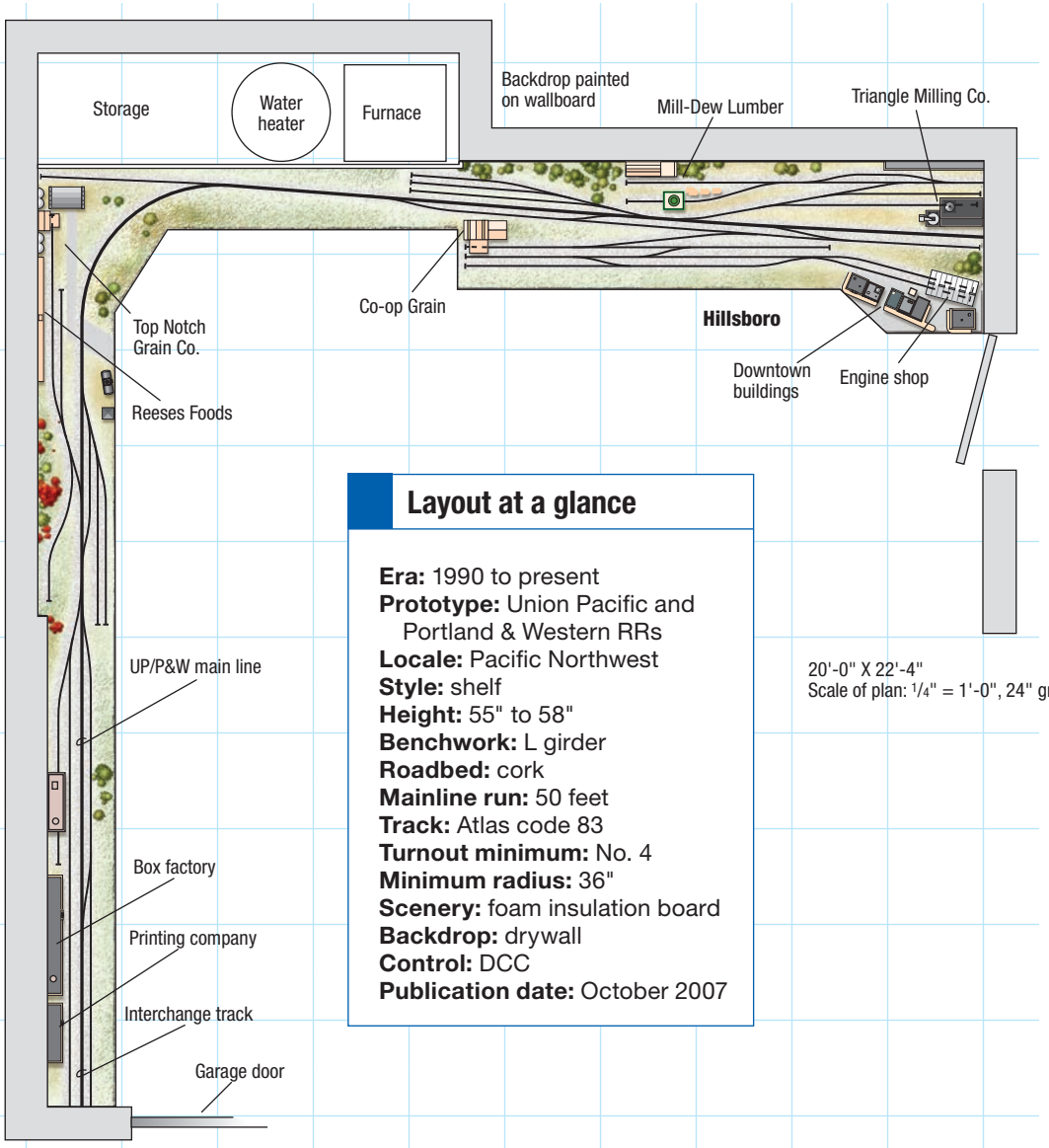
The Hillsboro area is about three feet wide, with the rest of the layout at about 20" wide. These widths are ideal for mounting benchwork directly to walls using shelf brackets. Shaun started by building Hillsboro, then gradually added to the layout to expand the length of mainline run and add industries for additional switching.

As with other narrow shelf-style layouts, this one foregoes a loop for continuous running. The payoff is broad curves (36" minimum) and lots of switching action, with no peninsulas protruding into the train room.

The track is level, with no grades. Shaun used ½" plywood with 2"-thick foam insulation board on top. The foam is easy to carve to create ditches and other below-track features.

Shaun regularly operates the layout, with four engine crews often working at once. Digital Command Control makes this very easy to do.

Trees and low-relief structures help hide where the backdrop meets the layout. The narrow shelf means the railroad doesn't use up a lot of real estate in the room in which it resides.



Layout at a glance

Era: 1990 to present
Prototype: Union Pacific and Portland & Western RRs
Locale: Pacific Northwest
Style: shelf
Height: 55" to 58"
Benchwork: L girder
Roadbed: cork
Mainline run: 50 feet
Track: Atlas code 83
Turnout minimum: No. 4
Minimum radius: 36"
Scenery: foam insulation board
Backdrop: drywall
Control: DCC
Publication date: October 2007

A Union Pacific freight rolls along the main line. The layout's broad curves allow running big modern six-axle diesels. A surprising amount of scenery is possible even on a shelf layout.

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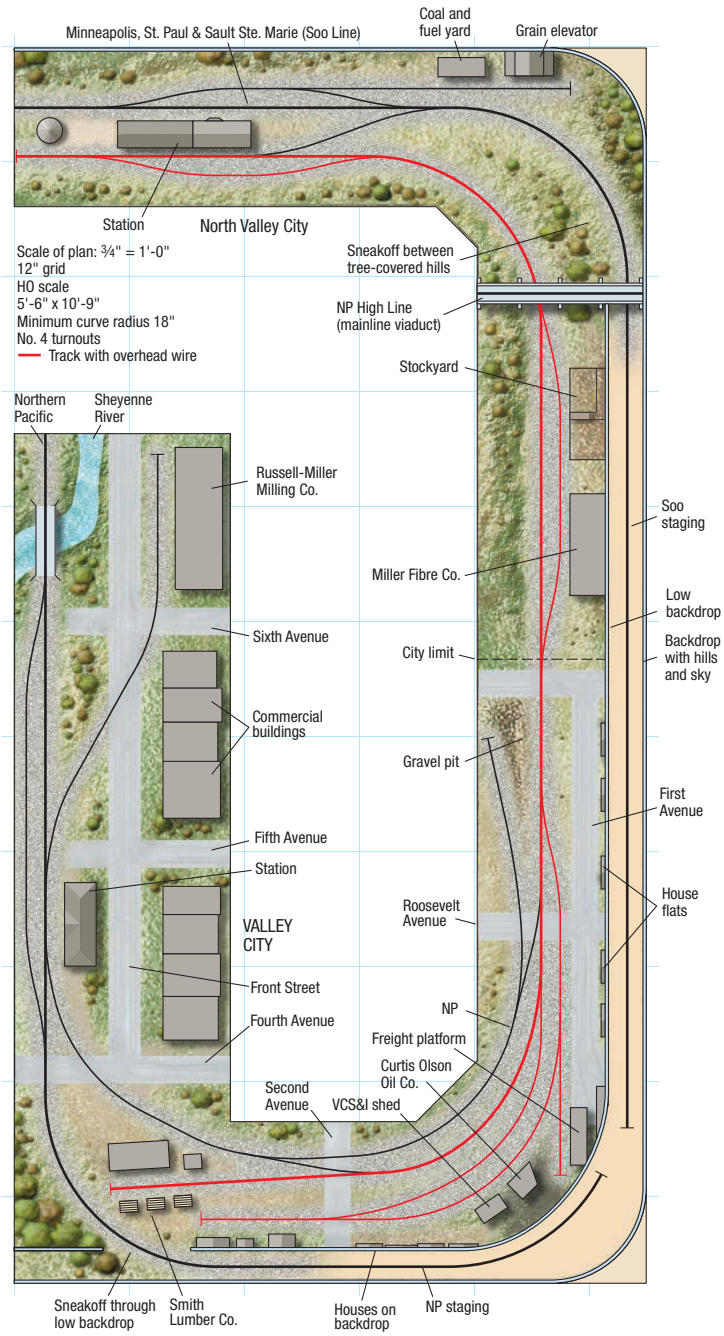

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