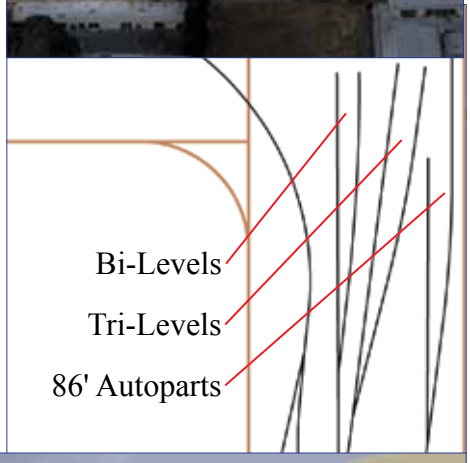
Third Quarter 2014
$12.00 US

LAYOUT DESIGN

JOURNAL 52

1920s British Columbia in On30
Let's Railroad Like it's 1999!
Exploring Fabric Backdrops
HO Switching Variations in 2' X 9'
... and more!



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The LDSIG's goal is to act as a forum for the members' exchange of information and ideas, and to develop improved ways for hobbyists to learn the art and science of model railroad layout design.

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LAYOUT DESIGN *Journal*

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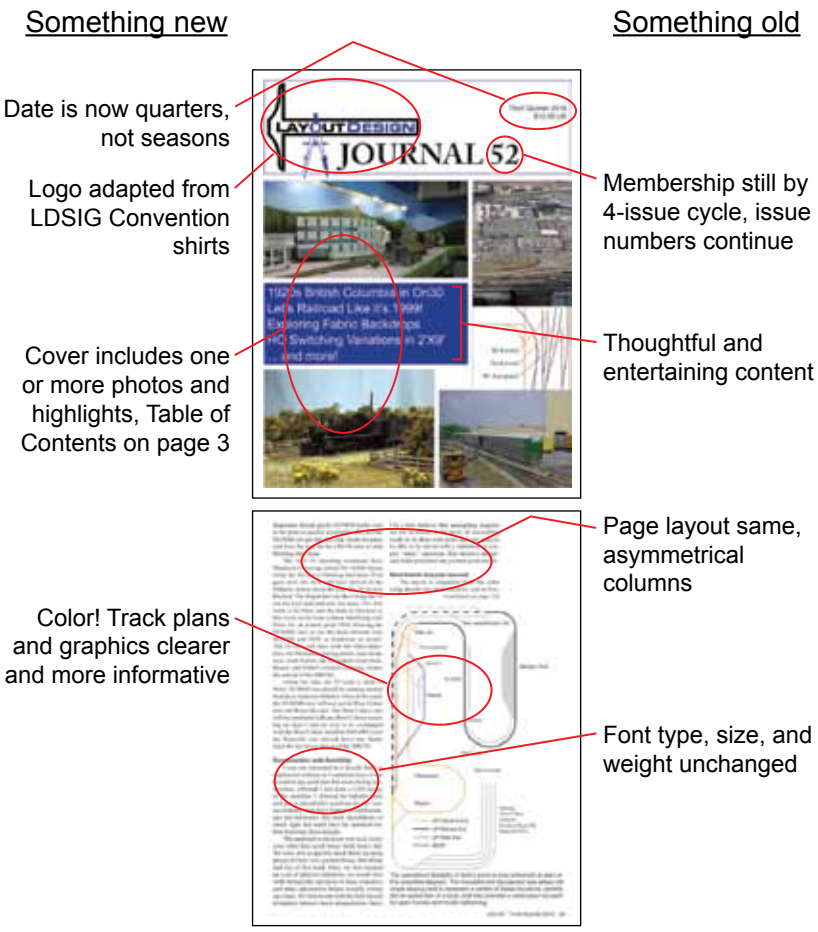
Features

News and Departments

Introducing the Interim Color LDJ



Errata: *Author Ralph Hougesen's name was misspelled multiple times in his LDJ-51 article. Your editor regrets the error. Watch for more from Ralph in future LDJs.* – BH

There *is* Something New Under the sun!

by Ron Burkhardt, LDSIG President

In case you missed it, LDJ-52 is our first color issue!! LDJ Editor Byron Henderson and the LDSIG Board regret the long delay in getting this issue into your hands (page 12), but we hope you enjoy it now that it is here.

This issue brings some interim format changes, a new logo, new ideas – the list goes on! Hats off to Byron and all those whose efforts brought this bold step to fruition, as well as to previous editors and contributors who led the way starting with Doug Gurin.

How many members recall the first LDJs with four pages of "Xerox" copies and some staples? Remember when we first saw Tony Steele's multi-deck D&H unfold over several issues? Were you as interested as I to read about Tony Koester's new layout after hearing of the demise of his Allegheny Midland? How about the Atlantic Great Eastern and all the other great layouts, designs, and ideas that we've had the privilege to share? Good memories, and now we can anticipate new ones as we transition into a new era for the LDJ and our Layout Design SIG.

Dues changes to address costs; new international options

The LDSIG Board of Directors approved new membership fees effective with any new memberships and renewals after LDJ-52. I could give you the tried and true reasons of postage and production costs increases (and color *is* certainly more expensive), but in this case, it's *good news*!

For a number of years the cost of printing and mailing the LDJ (especially for readers outside of the US) has exceeded the dues that members were paying. With the change to color, we have taken the opportunity to adjust our dues to better reflect the actual costs involved in printing and mailing the magazine around the world.

LDSIG membership continues to be on the basis of a 4-mailing-cycle period, rather than a yearly renewal. The new rates with print delivery of the LDJ, effective immediately, are US $40, Canada $55, International $70 (all USD). In the future, print memberships will also include access to the on-line-delivered LDJ (see below) for each print issue the member is qualified for. Availability for earlier issues is to be defined and will be rolled out over time.

(continued on page 31)

Clearwater Valley Railway "G"s & "D"s

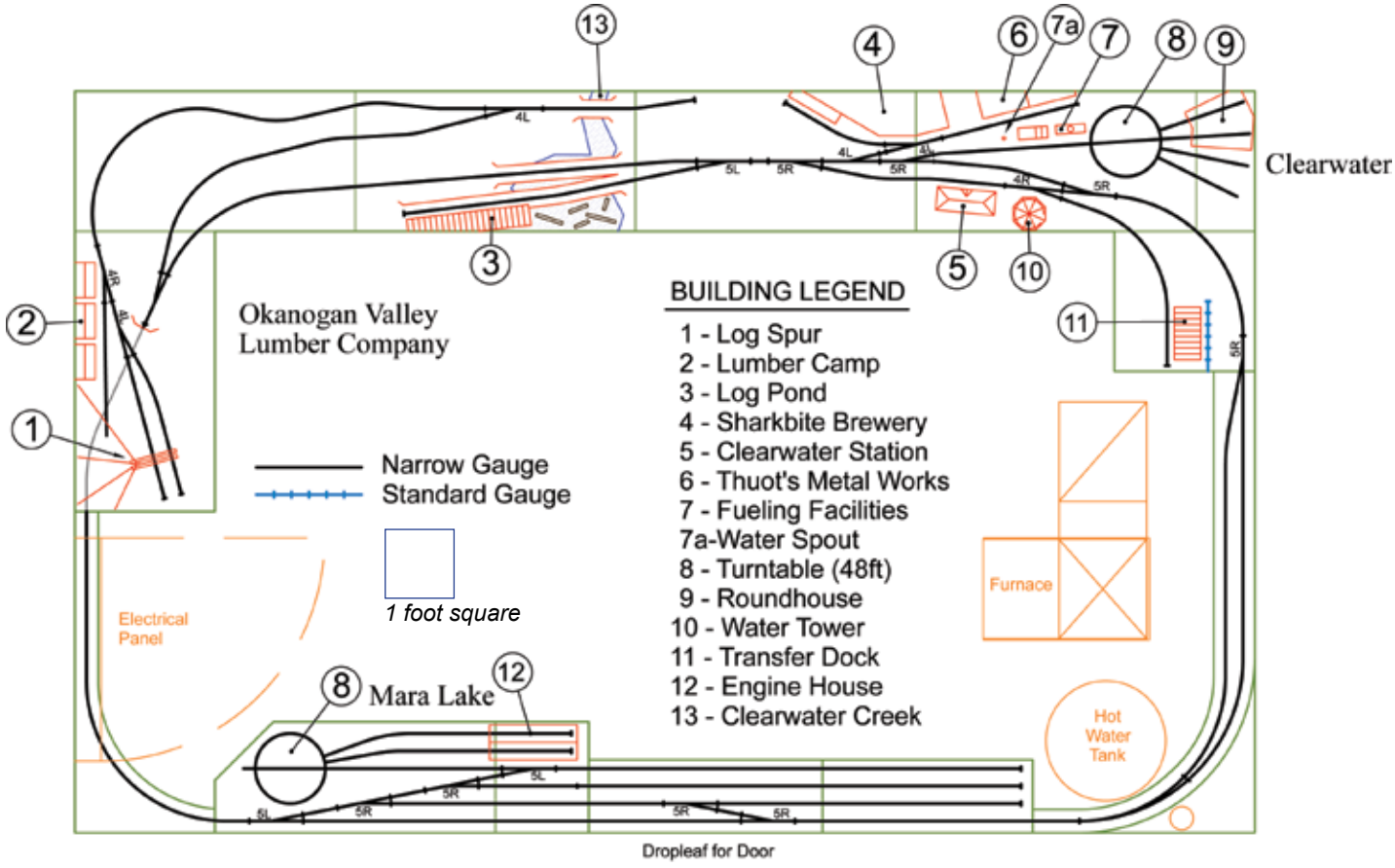
Givens	*'druthers*
• Room size: 16'-10" x 10'-7", also in the room is the furnace, hot water tank and electrical panel	• Layout shall be around the room design
• Scale: On30	• Design to allow for 4-6 operators
• Locale: The Okanagan Valley of British Columbia	• Minimum isle width to be 30"
• Era: late 1920's	• Track and turnouts to be hand laid code 70
• Electrical System: DCC (Digitrax as I already own the system)	• Minimum Turnout size: #5 on the main, #4 elsewhere
• Operation Style: Point-to-point with option for continuous running (for breaking in equipment)	• Engine facility to be included
• Any track work in front of the furnace, hot water tank and electrical panel has to be removable to allow access to those items.	• A way to turn engines at both ends of the layout
• A logging line would be represented.	• A least one yard to be included
• Minimum mainline radius 24"	• Design shall be lineal
	• Industries to be included to allow for switching opportunities
	• Typical train to be 4-5 cars
	• No duck-unders. – *RN*

At this time I decided to make up a "givens & druthers" list, à la John Armstrong (at left).

Version 2: better, but not right

With the list completed it was time to put pencil to paper (or in my case, mouse to computer) and Version 2 was the result (below). While Version 2 was much better than Version 1 there was at least one big problem that I could not live with: the 4-track yard across the doorway. I felt that when the layout was operating the chances of someone entering the room and accidently hitting the lift-out section and knocking cars off the track was great.

Another issue is that while there were industries in the town of Clearwater there were none anywhere else. This meant that any products that came or went from Clearwater had to go to the yard at Mara as there was no other place for the products to go. I also felt that coming up with an operating scheme with this track plan would be difficult. What I did



On30 16'10" X 10'7" overall
Minimum radius 24"
#4 turnouts

After undertaking a "givens and 'druthers" process, Ron came up with Version 2. While adding some good features, he did not like the multi-track yard across the doorway and the fact that nearly all of the rail-served industries were clustered in Clearwater. Feeling that the plan would not serve well for session with multiple operators, Ron kept on designing.

ter now had three industries and space to build a town. The track over the door would only be used for breaking in equipment and would not be used during operating sessions. I liked the flow of this plan and construction started between the Okanagan Lumber Company and Clearwater.

I wanted the layout to be supported without legs, so the basic framework was built using 2' X 4' modular sections supported by shelf brackets. The sections themselves were built using 3/4" furniture grade plywood ripped to a 4" width, glued and screwed together. 2" foam was used for the base. The modules were bolted together using 3/8" bolts, nuts and washers. There are no gaps in the tracks or scenery on the top of the sections as this is a permanent layout, but if there is a move in the future the scenery and track work on top can be cut for easy transport.

Clearwater was one the first areas Ron built. This partially-completed view looking down the mainline toward Clearwater shows the nice effect provided by the Code 70 rail. Although On30 is the same track gauge as HO, realistic structures are in 1:48 proportion and thus quite large. All photos by the author.

Expanding away from the walls into the center of the room allowed the addition of Mara Yard on a narrow peninsula. Just beyond the yard throat can be seen the room entrance with the dropleaf removed.

For the shelving brackets I used the Rubbermaid "twin bracket" shelving system. I couldn't find any 24" long shelf brackets made for this system at the time I started construction of the layout so I used 18" long brackets with a 1X2 pine board 24" long to support the module sections. This proved to be too flexible (too much bounce) so the pine was replaced with oak and this took care of the flexing problem. Height of the layout was 49" from the top of the rail to the floor.

After the track on this section of the layout was built construction got started between the Okanagan Lumber Company and Mara. Originally I had planned to run the mainline under the electrical panel but a tiny miscalculation left me a quarter inch short in clearance so the mainline was re-graded to pass in front of the electrical panel. Again this portion was built using modules and supported by wall brackets along the wall and by two legs at the front of the peninsula. Pretty soon I was running trains between Mara and Clearwater.

Rethinking the design in light of ops

It was at this time I was starting to have doubts about the track arrangement at Mosquito Flats. While I could turn engines, there was no space for car storage, which meant that all cars had to be left at industries. Also at this time I wasn't sure what operating scheme I would use, but I was leaning towards switch lists.

I made a list of the industries on the line and what products that they would receive and ship. It soon became apparent that all car loads were dependent on the standard gauge transfer at Mosquito Flats and that the car types required were different from what was shipped and received. This would create potential bottlenecks in Mosquito Flats as there was no space to store cars.

Trading turntable for staging

A redesign of Mosquito flats (facing page, top) allowed for a small staging yard that would serve as all points west of Mosquito flats. The redesign eliminated the turntable and

Let's Railroad like it's 1999!

Northern California track plan driven by large industries

by Seth Neumann

When I first got back into model railroading in 1987, I was regularly driving through Niles Canyon along a section of the old Western Pacific First Subdivision between Niles and Radum (East Pleasanton), California. I had been aware of this railroad since my college days, but I was in dormancy back then as far as rail fanning or model railroading was concerned, being focused on academics, starting my career … and female companionship.

Side-by-side through the canyon

But now that I was focused on model railroading again (with a supportive wife!), I found that significant portions of this railroad were visible from the major highways I traveled from the field office in San Jose to the headquarters of my division of Pacific Telephone in Walnut Creek. This naturally became an interesting section of railroad to me.

I discovered that there were actually *two* lines through the area, never more than 200 yards apart. One was the former Western Pacific (WP) which became the Union Pacific (UP) in the 1982 MoPac/WP/Union Pacific merger. This was the UP's major entry into the Bay Area at the time and was a fairly busy line.

The other railroad was the former Southern Pacific (SP) extension from Sacramento to the Bay Area, built in 1869 by a corporate predecessor. The SP line was abandoned in 1985 after a major washout in Niles Canyon and the right-of-way reverted to Alameda County. The county then leased the right-of-way to a preservation group operating under the name of the Niles Canyon Railway (NCRY). NCRY built a small yard at a former quarry called Brightside and stored historical equipment there.

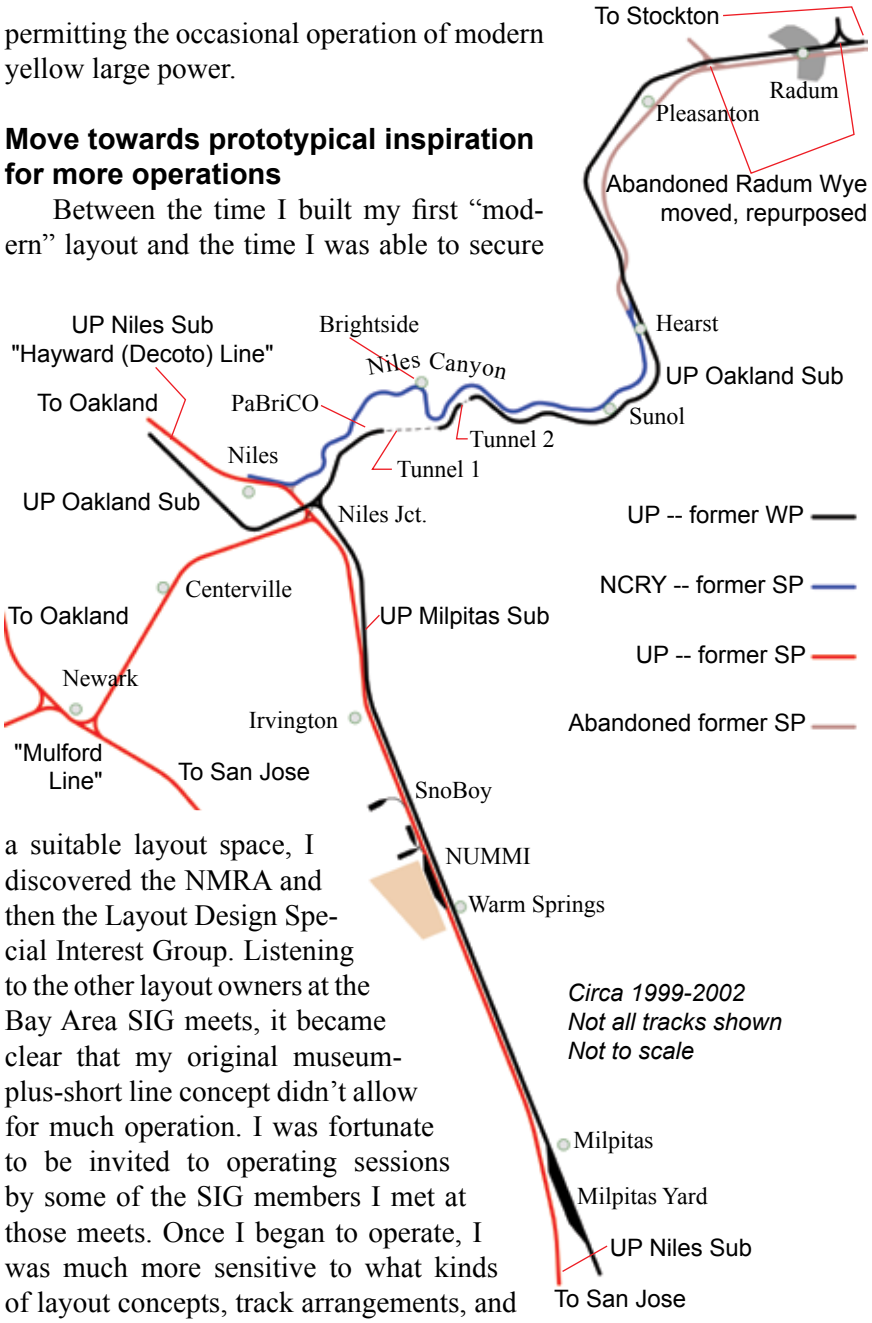
Just the thing!

This was just the excuse I needed to run anything I liked. My original concept was to combine the museum operation with a private-name short line that would run from Niles to Pleasanton serving a series of gravel pits on one end and Silicon Valley's construction needs on the other. If space permitted, the UP line would have made a cameo appearance, permitting the occasional operation of modern yellow large power.

Move towards prototypical inspiration for more operations

Between the time I built my first "modern" layout and the time I was able to secure a suitable layout space, I discovered the NMRA and then the Layout Design Special Interest Group. Listening to the other layout owners at the Bay Area SIG meets, it became clear that my original museum-plus-short line concept didn't allow for much operation. I was fortunate to be invited to operating sessions by some of the SIG members I met at those meets. Once I began to operate, I was much more sensitive to what kinds of layout concepts, track arrangements, and construction methods would lead to a satisfying operational layout.

I found that for me the most satisfying operating experiences were on layouts where I could put myself into the time, location, and business rationale for the railroad. These layouts were typically either proto-freelance- or prototype-based. Since I didn't have the imagination to create a layout of the out of the whole cloth, I tried to follow a local prototype so I could just go out and look at it. The former



Seth ultimately chose to focus on the UP's ex-WP Oakland and Milpitas Subs, which meant moving some elements from the adjacent ex-SP lines for more operating interest.

With this arrangement, I had also considered running another staging track through the wall and into the office. This would have obstructed my view out my office window and I concluded against it for aesthetic reasons. In the end, the big limitation in the yard has proven to be the single lead to the northeast (see below). Additional staging would probably *not* have led to more operation as we generally don't get through the schedule as it is.

The prototype industry (top) and model at Radum. Earl Girbovan's prize-winning structures and material piles against the backdrop strongly suggest the massive Kaiser facility. Note the stand-in signal behind the clear plastic shield. Until appropriate model signals were available, Seth used signal repeaters mounted above the backdrop that are easily seen by crews in the aisle. The stand-in has two signal heads, as does the repeater and the later scale model. All photos by the author.

Around the layout from staging

Four staging tracks in the narrower portion of the space serve as a variety of destinations. They are reached over a removable section of benchwork in front of the inside door to the rest of the house. Since the layout is point-to-loop with a folded dogbone forming the loop, staging represents nearly all possible off-layout destinations. Those are Oakland, Roseville (via Stockton), West Colton (via San Jose), and Sunol, depending on whether the train proceeds onto the visible layout (UP Oakland Sub), heads down the hidden back track which is the ex-SP UP Niles Sub as far as the Niles cut-off, or continues around to Milpitas where it becomes the Milpitas Sub.

Radum (F044)

Trains enter the visible layout (facing page) at Control Point (CP) F044[7] (Radum). The entrance to the visible layout is marked by a tower. There was a tower at Radum at one point, built by the SP at the crossing of the WP by the SP San Ramon branch. The tower was long gone in 1999, but it is a handy way to distinguish the end of the layout proper from the beginning of staging.

Since a wye was needed anyway to complete the point-to-loop topology (see page 25), I moved the former SP wye to this location. This also allows for the LRV54 local to turn. Originally I had placed an extra crossover in staging to permit a run-around, but this placed some limits on which trains could be staged on those staging tracks during the time LRV54 could be expected to work Radum. Using the wye keeps the local on the visible layout.

There is a double-headed signal at F044 which controls entry onto the layout from staging. A high green indicates the train is proceeding down the Niles sub and through hidden trackage behind the backdrop. A low green or yellow indicates the train is taking the diverging route onto the Oakland sub.

Radum consists of a single large industry, Kaiser Sand and Gravel (photos at left). This was a major supplier of construction material for the Bay Area until its closure in 1999. I was fortunate in the pre-Google Earth days to have a private pilot friend fly me over the complex so I could take photos from the air.

7 "F" Mileposts are on the UP's Feather River Division, Oakland Sub. "M" Mileposts are on the Milpitas Sub.

rene for previous layouts. But knowing I would need access to the rear of Port Rowan, I did not like the idea of access panels and their associated seams. I also did not like the idea that I would have to unfasten and safely store such panels each time I wanted to get at the back of the layout.

Given that my preference is for a plain backdrop – on the theory that I want visitors to focus on the modeling – it occurred to me that if I could create a backdrop out of a roll of plain blue fabric, I could use Velcro® to attach it to a simple frame secured to the ceiling and then duck under it whenever I needed to get at the back of Port Rowan.

A "remnant"

I checked at a local fabric store and found a suitable fabric. I suppose if the goal is to make the background disappear, one could use any neutral color. Unbleached canvas – used as a cyclorama in theaters – would allow the layout owner to project colored lights onto the backdrop to vary the mood and intensity of the skyline. This would be useful for creating dawn/dusk or storm lighting, for example. But I went with a medium blue. It's very conventional – it's the blue sky we expect to see – but it's not distracting and thus it works for the layout.

Even better, my roll of medium blue was reasonably priced since, technically, it was a remnant – which I find amusing since the roll was about 70 feet long. I also picked up rolls of one-inch wide Velcro (hook and loop) with peel-and-stick backing.

To prepare for the backdrop, my friend Chris Abbott and I cut and installed supports using 1X2 lumber, with strips of Masonite curved in the corners. Some of this was screwed to studs in the walls. Elsewhere, it's

Using fabric for his backdrop and valance, the author solved some design challenges while creating a dramatic presentation for his layout. The look will be further enhanced once the fascia is painted black to match the valance. Note that the staging sector plate at far left is not brightly illuminated.

(Middle right) This is a typical point of view for an operator working a train through St. Williams, Ontario, en route to Port Rowan. The layout is 24" deep here. Trains have been running on the layout for more than two years now and visitors report the plain blue backdrop simply fades from view during operating sessions. All photos by the author.

(Bottom right) In some areas, trees almost completely obscure the backdrop, as is the case here in the Lynn Valley. The black valance above hides the top of the backdrop.

suspended from the ceiling. We took care to make sure the top of the framing was level all the way around the room.

With the framing in place, I then secured the hook portion of the Velcro to it. The peel-and-stick adhesive was great for positioning this, but to ensure it would not give way over time I drove small screws through the Velcro into the backdrop support every foot or so.

How to sew a backdrop

It's difficult to accurately measure something organic, like a backdrop. But this is where the Velcro really helped. I attached the loop Velcro to hook, in a continuous strip, starting at staging and ending at the end of the peninsula. Where it ran out, I cut the loop material to length, pulled it free from the hook material, and had an exact measurement for the backdrop fabric length.

My wife and I then cut and sewed the fabric as follows:

We started by determining how high the backdrop needed to be. (See the sidebar for more details.) With this established, we hemmed one end and the top of the entire roll of material. We then went back and attached the previously measured and cut loop Velcro to the hemmed top – first with the peel and stick, then through the sewing machine to secure the Velcro to the fabric with a mechanical joint as well. At the point where the Velcro ran out, we measured for a hem, cut the fabric and hemmed it. At the bottom, we simply cut the fabric with pinking shears and ran it through the sewing machine to add a zig-zag stitch, to keep it from fraying.

(Top left) Leaving an inch or two of space between the backdrop and the layout, as seen behind the orchards here, allows the backdrop to hang without interference. This actually creates a softer transition between layout and backdrop that's equally effective with traditional (hard) materials.

(Middle left) Scenic details like the orchard in Port Rowan disguise the point where backdrop and foreground scenery meet.

(Bottom left) Supporting the fabric backdrop is pretty straightforward, as seen in this view taken in the furnace room access aisle. For tangents, 1" x 2" lumber is attached to walls or suspended from the ceiling. These tangents are then connected with strips of Masonite to form curves. The fabric is attached to the support framework with Velcro. Note that the fabric hangs to within an inch or so of the layout benchwork. This is several inches below the base level of the track and scenery (which is on risers anyway, to allow space for switch machines).