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# Sunrise Trail Division Fall Meet — Sharing Modeling Ideas

by Steve Perry, MMR

The Sunrise Division's Fall Meet brought about 50 people together on a beautiful fall day. There were models; there were layouts; there were clinics. There was contest judging. There was a white elephant sale. There was a Timesaver layout. There were refreshments.

It takes a lot to put together a meet. The venue, the clinics, the details. But it went well, and here Steve Perry, one of the organizers, explains why it went well.

The layouts: The Sunrise Trail Division is always glad to have HOTrack and L.I. Traction set up and operate their modules at our events. This year, as in the past, they did not disappoint. Thank you, gentlemen for coming. Thank you Dennis and Steve for bringing your groups.

New feature—a roundtable discussion: Joe Bux had a good idea for setting up a roundtable discussion for the early period between opening the doors and the commencement of the clinics and white elephant sales. Advertising it in advance and setting a theme or topic will attract more modelers next time.

Door prizes: Dave generously donated two of the remaining kits for door



Kevin Katta works the white elephant



Continued on page 3 L.I. Traction kept the trolleys running

## The Patchogue Project – Part III : Design thoughts for an LDE-based layout



Patchogue once had a large industrial base that kept the railroad busy-and which would serve as a good prototype to model

### By Steven Lynch

The first two installments of the Patchogue Project were featured in the Cannon Ball Winter 2012 and Spring 2013 issues. In my first installment of the Patchogue Project: Cannon Ball - Winter 2012, I presented the case for Patchogue as a unique LIRR area to explore and model. The Cannon Ball - Spring 2013, presented an interview with J. J. Earl to help define operations. Industries and freight traffic in the area followed. They can be found on the Sunrise Trail Division website at http:// sunrisetraildiv.com/default.htm

Here we will look at the Patchogue industries and other businesses, which were or might have been customers for the LIRR and the



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#### perspective / DENNIS DEANGELIS

40 members took part. Thanks to all who made it possible and to all who attended. Special thanks to the manufactures and Willis Hobbies for their donations for door prizes. See our website for all who donated. Support those who support us.

The members of the Board are constantly working to improve the Meets and make them more interesting to the members, We welcome your comments. If you came, what did you think?

If you did not come, why not? It was a beautiful day that Saturday. I could easily understand why you would take advantage of the nice weather. Is that why you did not attend? If you have not attended a meet lately, I encourage you to give it a try. It is a great way to meet others modelers, talk about the hobby, get some new ideas. Next is the Winter Meet. This is our annual business meeting and will be the weekend after the Super Bowl. I hope you will join us.

At the Winter Meet, we will elect our Officers and Directors. Interested in serving? We can use your help. Let me know. The holiday season is traditionally a time for model trains. Our annual

# president's corner

We recently held out Fall Meet. About list of local open houses is published in this issue and posted on our website. Go see what is being done. Take your grandchild, niece/nephew, a nonmodeler friend. This a great time to promote the hobby.

> Three Guys Hobbies Guys is currently only open Saturdays and Sundays. This shop has been a fixture on Main Street (NYS25) in Smithtown for many years until moving on to a side street for the last few years. Rising rents and heath issues have forced Betty to cut hours. We send her our best wishes. As I have previously said: Next time you think you can save five cents or five dollars on an item by buying it on line, consider your local hobby shop. There are only a handful left. And if you think they (and other brick and mortar store) are important to the hobby and community, patronize them when you can or you make wake up and find they are gone.

This is your organization. Let us hear from you.

Best wishes to all our members and their families for a happy holiday season.

Dennis

mixed consist

#### commentary / DAN SHEPARD

If you're like me, you read a lot of model train periodicals. I subscribe to Model Railroader and get Railroad Model Craftsman at the newsstand (so I can read it during lunch). There is the NMRA magazine and there is Model Railroad Hobbyist online.

And then there are list servers and online for a on just about every facet of model railroading. If this isn't enough, let us not forget the considerable video resources available to us online.

Then there is the Cannon Ball-in just four issues a year, I wonder what it can add to the mountain of information that is already out there.

To me, the greatest practical need is to

let modelers, or prospective modelers, in our region find out what people in our Division are up to. Yes, there are skills, experiences and ideas that transcend geography, but how often in a general coverage publication are there models of the places and scenes that are most familiar to us?

Our territory holds prototype ideas for just about any type of modeling-steam, diesel, electric, or high density passenger or almost bucolic branch line. It is a dynamic region, where change, for better or worse, is constant.

That is why the Patchogue Project, by Steve Lynch, is worth a look. Steve, a longtime Sunrise Trail Division member who

# **Sunrise Trail Division Fall Meet**

### Continued from page 1

prizes. Yours truly took one when his ticket was drawn. Joe called the door prize tickets.



**Registration:** Mary and Joe handled registration with their usual efficiency. Welcome back Mary,it was nice to see you.

A hand's on clinic: Dave Metal's handcar shed "make and take" clinic attracted six participants who now have a neat little structure for their layouts.

**Contests:** The contest room did not have many models but sure had quite a few pho-

tos. Byron Lane earned best in show with his "West End Lawn Mower and Golf Cart Repair" scratchbuilt HO filling station/garage he started in a Sunrise Trail Division participation clinic a few weeks earlier (photos on page 9). Mike Bowler's engine house was the last structure he needed for his Master Builder's - Structure A.P. certificate. Howard Dwyer took top honors in the photo contest as did Mike Siegel. Congratulations gentlemen, keep up the good work. John Feraca did a great job organizing and running the contest room with the assistance of Howard and Mike Siegel. Both helped John with the judging duties.

**KP:** Rick Mazzola and Kevin Katta manned the kitchen and white elephant table, respectively. They were also responsible for bringing the food and supplies so we all could have lunch.

**Clinics:** Last, but by no means least, are out clinic presenters - Dave Metal, Ed Koehler and Dennis D'angelo. All were well done.



Scenes from the meet: Right—HOTrakers keep the mainline humming; below, mountain goats take center stage on HOTtrack module. Steve Perry makes adjustments on the Timesaver layout, which doesn't look difficult until you try to solve it. Left, Mary and Joe staff the registration table and participation clinic focused on building a handcar shed. Below left, Ed Koehler presents a clinic on buildina the new East Side Access link that will bring LIRR trains to under Grand Central Terminal.









# The Patchogue Project

### Continued from page 1

early years during which they operated. As the major center of commerce, tourism, entertainment, growth and LIRR traffic in Suffolk County in the early 20<sup>th</sup> century, its history and modeling opportunities are perhaps unique to Long Island.

I'll define model train "Layout Design Elements," or LDE's as follows: These are the specific scenes, industries, locations, or geographic features of the prototype that are recognizable visually and operationally that you *do* want to model in some detail. Your particular LDE needs might include certain industries that are critical for the prototype you are modeling, known as "signature industries" (Patchogue Lace Mill, PELCO, PD Tower, or Swezey Fuel), or even certain scenes (Patchogue Station area, Patchogue River and yard area, Four corners) that are or were important to the prototype. Patchogue presents an excellent opportunity for LDE development with its vast multitude of sidings (upwards of 16), industries and a compact linear shelf design as follows:

With well over 40 industry car spots (peak period-post WWI), when one includes yard and team tracks, the operational functionality is extremely high. Incidentally, this does not take into account additional locomotive spot locations such as the turntable, coal delivery track, ash pit, roundhouse stalls, water tank/spouts and PD tower, for example.

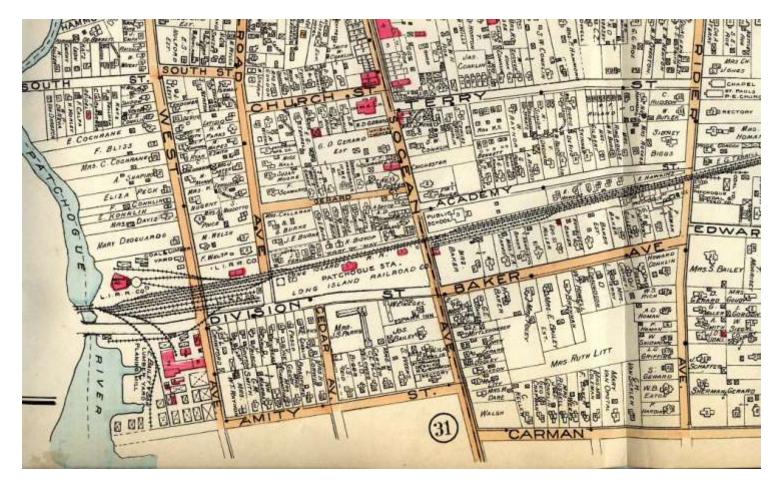
Major features of an LDE are recognizable structures, landmarks, natural surroundings or a combination of these. The Patchogue area extends roughly 2 miles between mileposts 52 through 54 and provides a number of "signature industries" that help to identify Patchogue.

Approaching from the west via a single track, branching into the two main through tracks crossing the Patchogue River, we enter the yard and engine servicing facilities. Proceeding a ¼ mile further east are the freight, baggage express house,

						1870	1890	1900	1920	1940	1950	1960	1980	2000	2010
1926	1958	1951/C	Y	Reid Ice Cream (Blue Point)	Note 1	-			-	-		>			
1902		77		Bunk House	Note 2				<u> </u>				-		
	1958		Y	Underwood (coal) Fuel Co.	Note 2							->			
1899	1958	1967R	Y	PELCO	Note 3	_		<			-	>	-	-	
1925	1958	77	Y	Patchogue Gas Co.	Note 4			1	÷	-	-			-	
1893	1958	1954		Patchogue Manuftg Co Lace Mill	Note 5	_		-			->	>		_	
1869	1888	1943	Y	Bailey's Lumber & Planing Mill	Note 6	-	-	-	-		-	->	-		
1889	1893	1928	Y, S	Roundhouse	Note 7	-		-	,	_	_	->	-	1	
1889	1893	1957	5	Turntable	Note 7			*		-	-	->			1
1889		1949	Y	Roundhouse Coal track	Note 7		3	<			_	->			
1889		1959	Y	Weeks Coal Trestle	Note 7			1							
1889		<1948		Weeks Coal	Note 7a				_		_	->			
1948	1958	<1963		Snedecor Coal & Fuel	Note 7a			120		1.1					
1889		1963	Y, X	Yard	Note 7			<del>&lt;</del>	-			->			
??		1951	S	Water columns	Note 7			-	_	_	*				3
1889		1963	Y	Freight House	Note 7			<u> </u>	-	→		>			-
1889		1950	s	Water Tank	Note 7										
1889	5		S, D	Express house	Note 7			+		_	_	->			1
1889		1963	S, D	First Station	Note 7				-			>			
1889	. 5		S, D	Baggage House	Note 7			<del>\</del>	-		-	->			3
1902		1963		Supervisor's Office -Carpenter Shop	Note 7			+		-		->			~
1912		2010	S, D	PD Tower	Note 7	-	_	-	-	-		-	-	-	*
1902		1950	¥, x	Team Track	Note 8			-	-	-		->			
1902	1000000	7	×	Hiscox Chemical	Note 9			-		-	-	->			
7	1958	7	x	Knickerbocker Ice Co.	Note 9	-		122	<b></b>		-	$\leftrightarrow$			
7	1958	1986 Arson		Queensboro Ice Cube/Co. ?	Note 9a			1		-	-		$\leftrightarrow$		
1922	1958	CTO VERSIONE	-	Swezey Fuel Co.	Note 10	-	-	-	-	-	-	-	-	-	->
		Evergreen A				<	Fuel Co.		1	Raker Stre		vick Browery	1	PD Tower	ge House

# Industries of Patchogue: A Timeline

Station



passenger station, commuter parking area and the classic signature PD tower.

NOTES		-						
Note 1	MP52-53 1958	Blue F	point can be active or closed					
Note 2	Was converted to Underwwod Fuel Oil							
Note 3	Change sign to LILCO, build abandoned, or replace with transformer pla							
Note 4	Replace with Patchogue water tower							
Note 5	Flat as backdrop - selective compression behind Patchogue River woods							
Note 6	Off front of layout, build as interior of structure							
Note 7	Continue until 1							
Note 7a	Sold to Snedeco	r Coal &	Fuel					
Note 8	1 or 2, or adandoned team tracks							
Note 9	On same siding							
Note 9a								
Note 10	On Rider Ave							
LEGEND								
$\leftrightarrow$	Known dates							
	Tentative dates							
	1920-30 Height o	of Steam	Era					
	1950-60 Transitio	on Era						
$\leftrightarrow$	Signature Elements							
Y	Siding Location							
x	Additional spot	on same	siding					
s	Steam engine spots							
D	Diesel engine s	pots						
$\rightarrow$	Freelance extended dates							

Alt Ta

Further east we have a number of industries; an ice house, pharmaceutical factory, brewery, plumbing supplies, fuel oil dealers and team tracks. Finally, out of town we settle back into the single track Montauk Branch line extending out to Long Island's east end, Montauk Point, some 70 miles distant.

### Continued on page 6

Wate

Historical populations						
Census	Pop.	96±				
1900	2,926	T.				
1910	3,824	30.70%				
1920	4,031	5.40%				
1930	6,860	70.20%				
1940	7,181	4.70%				
1950	7,361	2,50%				
1960	8,838	20.10%				
1970	11,582	31.00%				
1980	11,291	-2.5%				
1990	11,060	-2.0%				
2000	12,919	16.80%				

Patchogue Ri

Nater

Tank

Rollroad Ave

Division Ave

Freight House

# The Patchogue Project

This LDE utilizes the major industry locations, obtained from Hyde, Sanborn, other research maps and other historical references with allowance for selective compression built as a shelf type layout.

Here is a list of suggested Signature Industries for the post WW I era, c.1920's forward, for example:

Reid Ice Cream (Blue Point) at Atlantic Ave. Bunk House, later Underwood (coal) Fuel Co. at River Rd. PELCO Patchogue Gas Co. Patchogue Manufacturing Co. - Lace Mill Bailey's Lumber & Planing Mill LIRR Roundhouse, Turntable, Roundhouse Coal track Weeks Coal Trestle, later Snedecor Coal & Fuel LIRR Yard: Water columns, Freight House, Water Tank, Express house, Baggage House, Supervisor's Office -Carpenter Shop, PD Tower and Team Tracks East of the station: Hiscox Chemical, Knickerbocker Ice Co., Queensboro Ice Cube/Co. and Swezey Fuel Co.

Later modeling evolution requires adjustment for some industries abandoned, but still in evidence well into the 1960's. More on this later as I outline the "Time Machine" concept.

Next time we'll look at modeling this operational "rich" location.

# Fall Meet Contest Winners

John Feraca

### Models

Best in Show – Byron Lane, "West End Lawn Mower and Golf Cart Repair" HO scale, scratch built.

Received merit First Place – Mike Bowler – "Single Stall Engine House, "HO scale, scratch built. Received merit (

### Photos

Model – Best in Show – Howard Dwyer – "Island Central S2" Prototype color – First Place – Mike Siegel – "CN GMD1"

There were 12 entry's in the photo contest and 5 in the model contest.







THE CANNON BALL

# Mid-East Region Convention in Harrisburg a Learning Opportunity

### David Metal

My wife and I drove out to Harrisburg,PA, to attend the MER convention held from October 12 - 15. As with most regional conventions there was more to do than time to do it in, much like a national convention.

We chose to attend the clinics and activities that were conducted within the hotel. There was a raffle for a painting, a convention tank car lettered for PUBLICKER DISTILLING Co. was available for sale, the usual white elephant tables (many tables full of stuff), a live auction and clinics. There were prototype tours of American Car and Foundry, Bowser Manufacturing, English Hobby, Harris Tower, Harrisburg Amtrak Station, and the Civil War Museum. And there were layout tours and layout operations.

There was also an HO "Free-Mo" layout setup where they held operations sessions all week end. As an interesting twist, they invited you to run your trains on it. Some of the modules had very fine modeling.

After we arrived and got settled into our room, we presented ourselves at the convention check in table and got our badges, convention schedule book and our layout tour book. My main interest was the clinics and I was happy to see there were four clinics available at the same time each hour for Thursday night. I attended two of the of the 12 clinics and called it a night.

# mixed consist

### Continued from page 2

now lives in Florida, runs one of the most authoritative websites on the LIRR—http:// www.trainsarefun.com/. While the scene in Patchogue today might only consist of the two main line tracks on the Montauk line—that are the jumping off point for the Fire Island ferries, Steve shows how Patchogue, in its heyday, hosted an industrial base that can certainly be the inspiration for a model railroad.

There is absolutely no requirement that anyone has to model the region—in fact some of the best layouts I've seen depict scenes well west of the Hudson. But there are enough layouts that draw on the local flavor—and nail it. This "New York State of Mind," is one way the Cannon Ball can help enlighten all of us on how we can better model the familiar—and often, the familiar can be spectacular.



Patchogue view SE ; Pen and Ink c. 1888

On Friday there were 36 clinics to choose from and I attended eight of them. The Time Table & Train Order clinic ran two and a half hours and I gained a lot of information from the class. There was a very interesting clinic on JMRI throttles where I learned how to set up my phone as a low cost wire-less throttle! I want to get one of those \$20.00 phones and see if it can be made into a throttle, may be a cheap (I like cheap) way to go to wire-less throttles on my layout. A clinic on making electroluminescent signs also had some great ideas that I need to try as well.

I chose to attend one clinic on Saturday on signs, awnings and building details, and just using the information from this clinic will keep me busy for the next two years. The next clinic was on a car ordering system that could be used to introduce operations to a modular type layout. Then I went to a two-and-a-half-hour clinic on Layout Command Control, the new NMRA standard bus. It's interesting but it still needs to develop more support from manufacturers unless you want to design and build your own boards.

There was a big banquet and Awards Ceremony that night and the live auction (did not stay, have too much stuff as it is). On Sunday morning, there were three clinics — we went to one full of ideas for what to do with almost everything you would normally throw away. Then we left for home, tried to find a layout to visit on the way but there were none available on our route as we quickly exited the region area. Got home with lots of notes and ideas for this year. If you get a chance why not try to attend a regional convention, you never know what you will learn.



September 13-16, 2018 ErieLimited.org

# A Signalling System for Your Model Railroad: Part 4 Four-head signal driver circuits

### **By Dave Metal**

The four-head signal driver circuit is used at a turnout to control the signal aspects (red, yellow or green) of each of the four signal heads around the turnout. Screw terminal strip J1 controls the upper signal head and screw terminal strip J2 controls the lower signal head of the signal located at the entry to the point end of the turnout. Screw terminal J3 controls the main line signal and screw terminal J4 controls the siding signal at the frog end of the turnout. Each signal head is controlled independently of the other. The current to the LED's in each signal is limited by R1, R2, R3 and R4 (510 ohm resistors) to about 10 milliamperes. The total current drawn by one board driving four signal heads is about 50 milli-amperes. The signal head driver board is built

PARTS LIST:						
1 ea.	Perf-board 4 x 4 inches.					
4 ea.	Standoffs.					
4 ea.	6-32 nuts.					
1 ea.	Terminal strip (J6), 2 screw terminals.					
1 ea.	Terminal strip (J5), 14 screw terminals.					
4 ea.	Terminal strips (J4, J3, J2, J1), 4 screw terminal strips.					
4 ea.	Resistors (R1, R2, R3 & R4), 510 ohms ¼ watt.					
12 ea.	Diode (D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12) 1N4002.					
3 ea.	Socket, 14 pin wire wrap (U1, U2, U3).					
2 ea.	Circuit 74LS04 (U2, U3).					
1 ea.	Circuit 74LS00 (U1).					
	Wire-wrap wire.					

on a perf-board that is 4 x 4 inches and uses wire wrapping. **OPERATION:** The operation of each of the signal heads is the same as a two-head signal driver except there are four

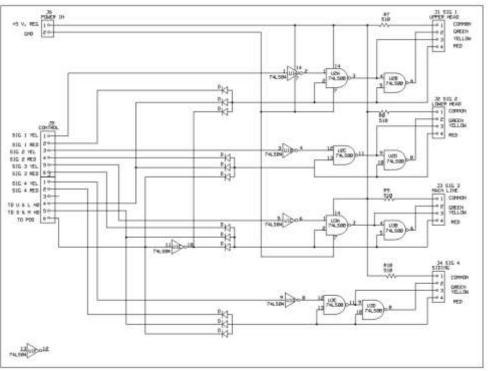
three-input "OR" circuits that control the red aspect of the signal. One of the three inputs of the "OR" circuit is the input from the block occupancy detector, the second is used by the "tumble down" control signal and the last is used by the turnout position signal. The turnout position signal provides operation of the signals in conjunction with the position of the turnout points. With the turnout in the normal position and the blocks ahead clear, the upper signal head will display a green signal and the lower head will display a red signal, indicating that the turnout is set to the main line. If the turnout was reversed, the upper head would be red and the lower head would be green. The signals at the frog end of the turnout operate the same way. If the signal is set for the main line, the signal would be green and the siding

signal would then be red. With the turnout reversed the main line signal would be red and the siding signal would be green. The "tumble down" control is used to protect against an opposing train leaving a siding area and entering the single track between sidings when it is occupied. See the complete explanation in the "tumble down" circuit section.

**ASSEMBLY:** Position the perf-board with the long edge at the top and bottom. All locations are given using a two-digit code that is referenced to the bottom left edge of the board. The hole at this point is 1-1 and the hole at the top right of the board is 29-15. The first number is the number of holes to the right from the left edge of the board, the second number is the number of holes up from the bottom of the board. To locate a point, use the first number and count holes to the right then use the second number and count holes up. Use a Sharpie pen to place a dot at each of the hole locations. These points will be marked on the top of the perf-board.

Stand-off mounting holes – 2-2, 2-38, 38-2 & 38-38. J1 – 34-30, 34-32, 34-34 & 34-36. J2 – 34-21, 34-23, 34-25 & 34-27. J3 – 34-12, 34-14, 34-16 & 34-18. J4 – 34-3, 34-5, 34-7 & 34-9. J5 – 5-13, 5-15, 5-17, 5-19, 5-21, 5-23, 5-25, 5-27, 5-29, 5-31 & 5-33. J6 – 5-5 & 5-7. D1 – 12-37 & 16-37. D2 – 12-35 & 16-35.

### Continued on page 9



TURNOUT SIGNAL DRIVER – FOUR HEADS

## **4-Head Signal Driver Circuit**

### Continued from page 8

D3 - 12-33 & 16-33. D4 - 12-29 & 16-29. D5 - 12-27 & 16-27. D6 - 12-25 & 16-25. D7 – 12-21 & 16-21. D8 - 12-19 & 16-19. D9 – 12-17 & 16-17. D10-12-13 & 16-13. D11 – 12-11 & 16-11. D12 - 12-9 & 16-9. U1 - 25-19 pin 1, 20-22 pin 14. U2 - 20-29 pin 1, 20-32 pin 14. U3 - 20-9 pin 1, 20-12 pin 14. R1-36-36 & 30-36. R2 – 26-27 & 30-27. R3 - 26-18 & 30-18. R4 – 26-8 & 30-8.

- Install J1 a 4-screw terminal strip with the wire holes facing the edge of the board, (use liquid nails for projects on the base of the terminal strip) at 34-30, 34-32, 34-43, 34-36.
- Install J2 a 4-screw terminal strip with the wire holes facing the edge of the board, (use liquid nails for projects on the base of the terminal strip) at 34-21, 34-23, 34-25, 34-27.
- Install J3 a 4-screw terminal strip with the wire holes facing the edge of the board, (use liquid nails for projects on the base of the terminal strip) at 34-12, 34-14, 34-16, 34-18.
- Install J4 a 4-screw terminal strip with the wire holes facing the edge of the board, (use liquid nails for projects on the base of the terminal strip) at 34-3, 34-5, 34-7, 34-9.
- Install J5 a 12-screw terminal strip with the wire holes facing the edge of the board, (use liquid nails for projects on the base of the terminal strip) at 5-13, 5-15, 5-17, 5-19, 5-21, 5-23, 5-25, 5-27, 5-29, 5-31, 5-33, 5-35.
- Install J6 a 2-screw terminal strip with the wire holes facing the edge of the board, (use liquid nails for projects on the base of the terminal strip) at 5-5, 5-7.
- Install resistor (R1) with the lead near the green band in the hole at 26-36 and the other lead at 30-36 bend this lead to the screw terminal pin at J1 pin 1 and solder. Cut off excess wire lead.
- Install resistor (R2) with the lead near the green band in the hole at 26-27 and the other lead at 30-27 bend this lead to the screw terminal pin at J2 pin 1 and solder. Cut off excess wire lead.
- Install resistor (R3) with the lead near the green band in the hole at 26-18 and the other lead at 30-18 bend this lead to the screw terminal pin at J3 pin 1 and solder. Cut off excess wire lead.
- Install resistor (R4) with the lead near the green band in the hole at 26-8 and the other lead at 30-8 bend this lead to the screw terminal pin at J1 pin 1 and solder. Cut off excess wire lead.
- D1) at 3-17 & 3-21, with the band end in the hole at 3-21. Bend both leads into terminals.

- Install Diode

   (D2) at 5-17 & 5
   -21, with the
   band end in the
   hole at 5-21.
   Bend the lead at
   5-21 into a
   terminal and
   the lead at 5-17
   toward the lead
   at 3-17 and
   solder. Cut off
   the excess lead.
- Install Diode

   (D1) at 3-17 & 3
   -21, with the band end in the hole at 3-21.
   Bend both leads into terminals.
- Install Diode

   (D2) at 5-17 & 5
   -21, with the
   band end in the
   hole at 5-21.
   Bend the lead at
   5-21 into a
   terminal and
   the lead at 5-17
   toward the lead
   at 3-17 and
   solder. Cut off
   the excess lead.
- Install Diode (D1) at 3-17 & 3 -21, with the band end in the hole at 3-21. Bend both leads into terminals.







Above right—model scene on the editor's N scale Wayward River RR.

Center—dwarf signals protect the tracks at the south end of the Rensselaer, NY, station. Tracks on right go to NYC; far left to Boston. Bottom—shot taken from rear of Amtrak Southwest Chief just east of the Mississippi, on the way to Chicago.

- Install Diode (D2) at 5-17 & 5-21, with the band end in the hole at 5-21. Bend the lead at 5-21 into a terminal and the lead at 5-17 toward the lead at 3-17 and solder. Cut off the excess lead.
- Install Diode (D1) at 3-17 & 3-21, with the band end in the hole at 3-21. Bend both leads into terminals.
- Install Diode (D2) at 5-17 & 5-21, with the band end in the hole at 5-21. Bend the lead at 5-21 into a terminal and the lead at 5-17 toward the lead at 3-17 and solder. Cut off the excess lead.
- Install Diode (D1) at 3-17 & 3-21, with the band end in the hole at 3-21. Bend both leads into terminals.
- Install Diode (D2) at 5-17 & 5-21, with the band end in the hole at 5-21. Bend the lead at 5-21 into a terminal and the lead at 5-17 toward the lead at 3-17 and solder. Cut off the excess lead.

The signal assembly is now ready to be installed on the railroad.



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FALL MEET: SHARING IDEAS THE PATCHOGUE PROJECT BUILDING SIGNAL ASSEMBLIES

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IN THIS ISSUE

TMB Model Train Club, 120 Schmitt Blvd., Farmingdale, Jan. 6 \$ 7, Feb. 3 & 4, 12-4 PM tmbmodeltrainclub.com

**Old Bethpage Restoration**, 1303 Round Swamp Road, Old Bethpage, HOTrack & LI Traction Society Exhibiting Dec. 26, 27, 28, 29 & 30 5:00 PM - 9:30 PM, obvrnassau.com

**Great South Bay Model Train Club Train Show**, Jan. 7, 2018 10:00 AM - 4:00 PM, Freeport Recreational Center, 130 E Merrick Road, Freeport

**Grumman Model Railroad Club**, Bethpage High School Train Show, Stewart Ave., Bethpage, Jan. 14 10:00AM - 3:00 PM

Amherst Railroad Hobby Show, Springfield, MA, Jan. 27 & 28,2018, Details: railroadhobbyshow.com, Bus trip from LI contact Steve Williams 516-346-9071 Stephen.williams@ncg.com

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