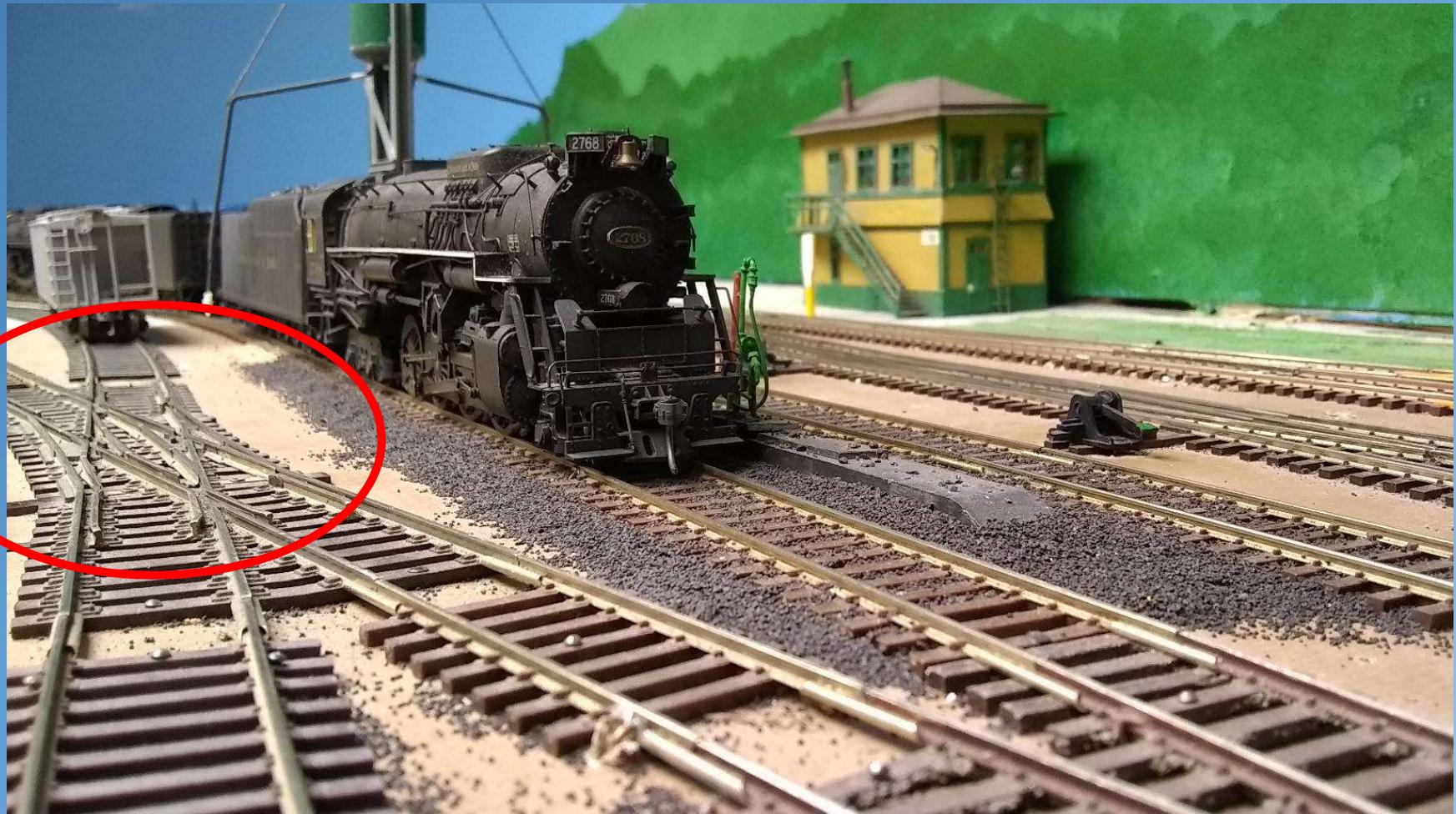


HO Layout  
Summer Maintenance  
2019

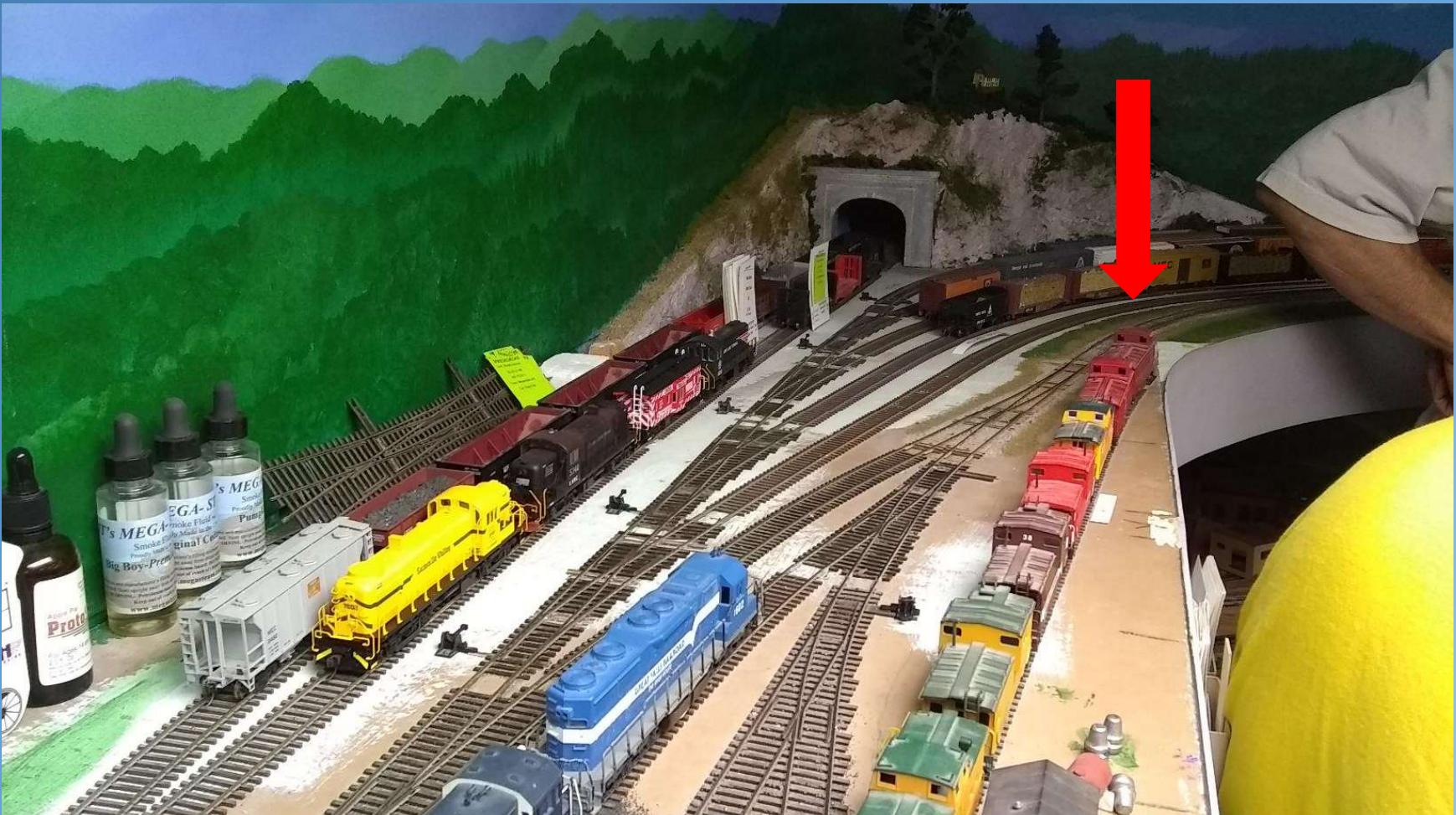
The Hillcrest Project

# The Culprit





# Single-ended Caboose Track



# Operating Issues

- Smooth operations are a must for satisfaction!
- The double-slip switch was sharp and caused myriad short circuits – it had to go...
- The single-ended caboose track limited flexibility and access was greatly hampered by having to traverse the problematic double-slip switch four times to access it

## The Solution

- Remove the double-slip and replace with two “normal” switches
- Relay the caboose track and make it double ended
- Ensure that the new trackwork is 100% bulletproof – no possibilities of short circuits or dead spots
- New switches would be handlaid to fit the existing track profile

# The starting point



Double-slip switch removed,  
caboose track sketched in



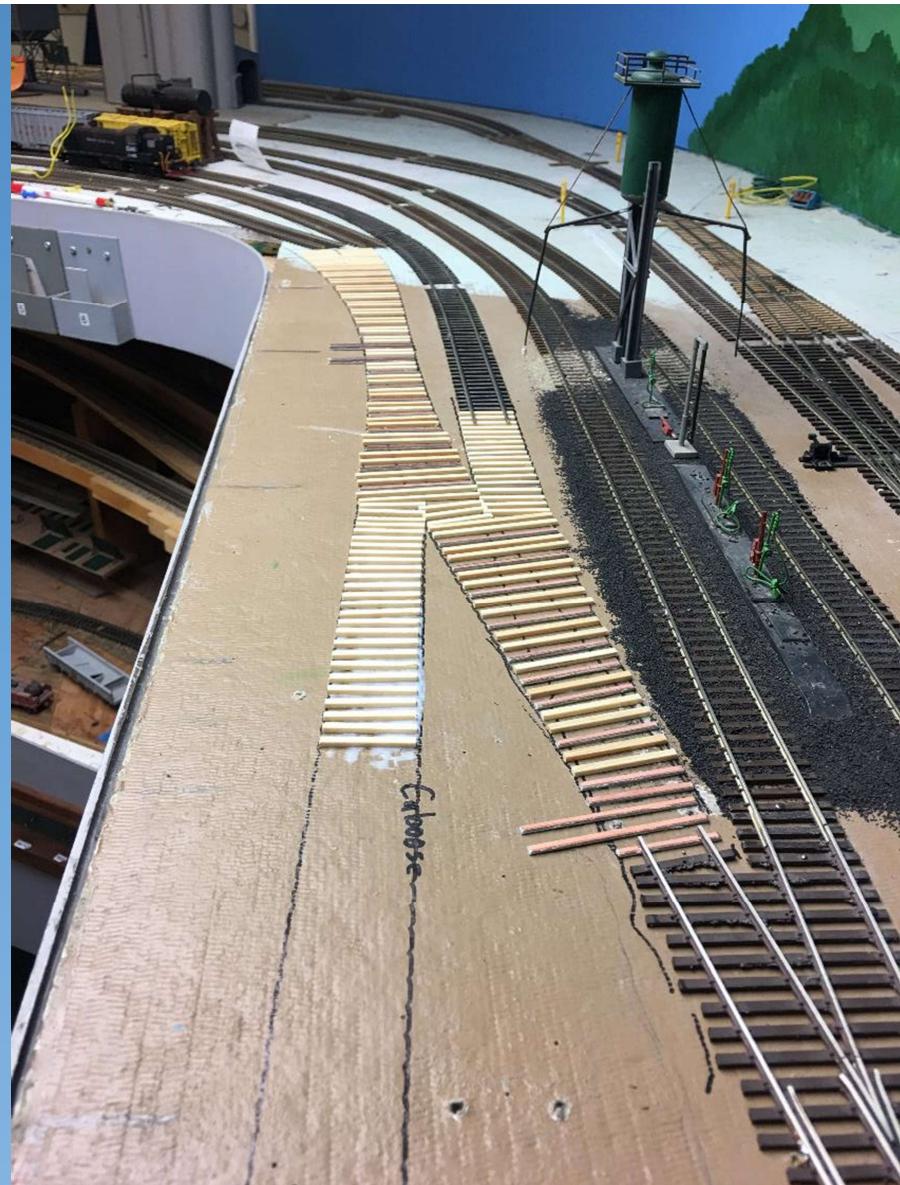
Far end of the caboose track  
sketched in



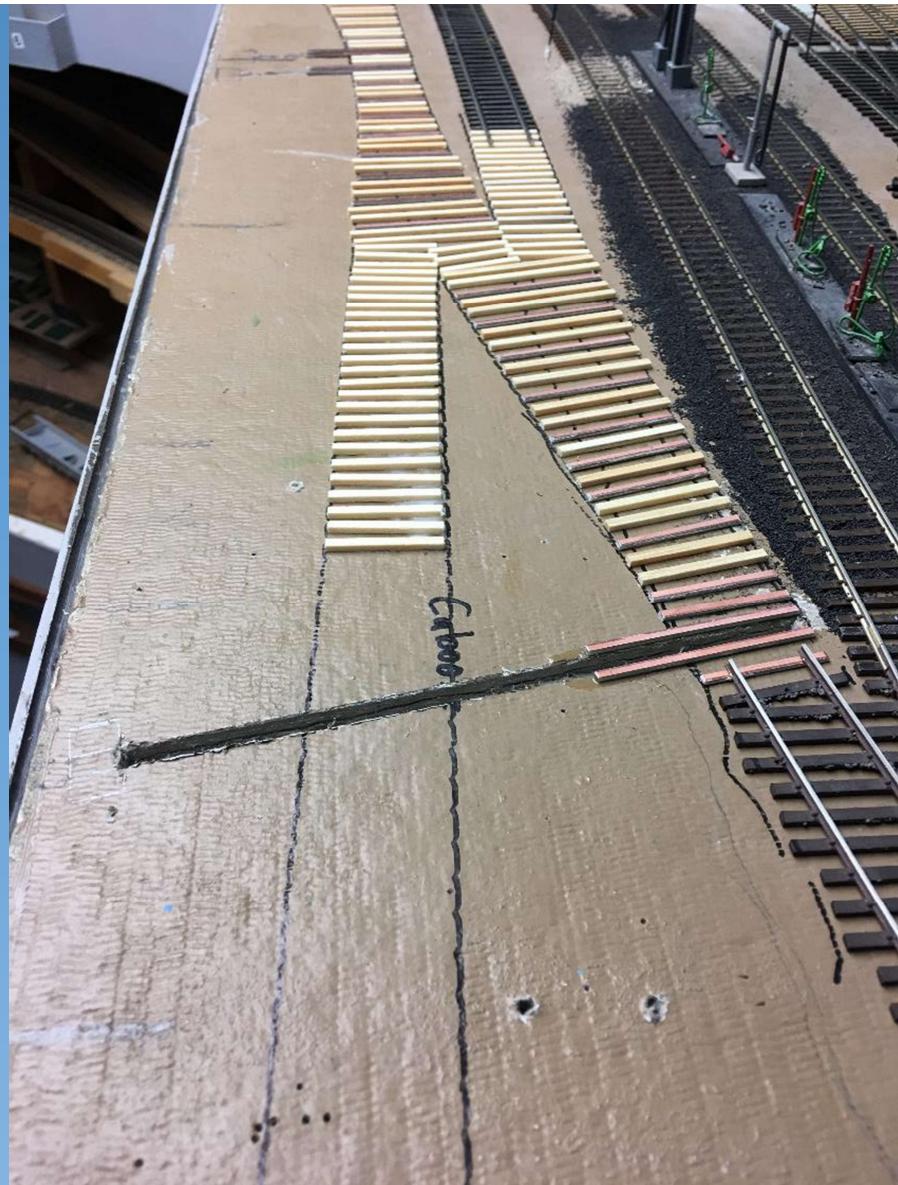
Replacement switches are drawn in and initial ties are laid



More ties flesh out the switches. The ties are a combination of wood and printed circuit (PC) board (copper clad). The switches will be soldered to the PC ties rather than spiked to the wooden ones.



The decision was made to locate all the ground throws at the front edge of the layout. This requires some preplanning and slotting the roadbed to accommodate the throw rods.





Wood ties are stained and weathered prior to rail installation



Ground throw installed. The throw rod is 1/16" piano wire in a brass sleeve to protect it from the scenery to follow (at some point...)



I'm a messy worker and have tools spread all over as usual...

All three switches have to be built simultaneously to minimize rail joints.





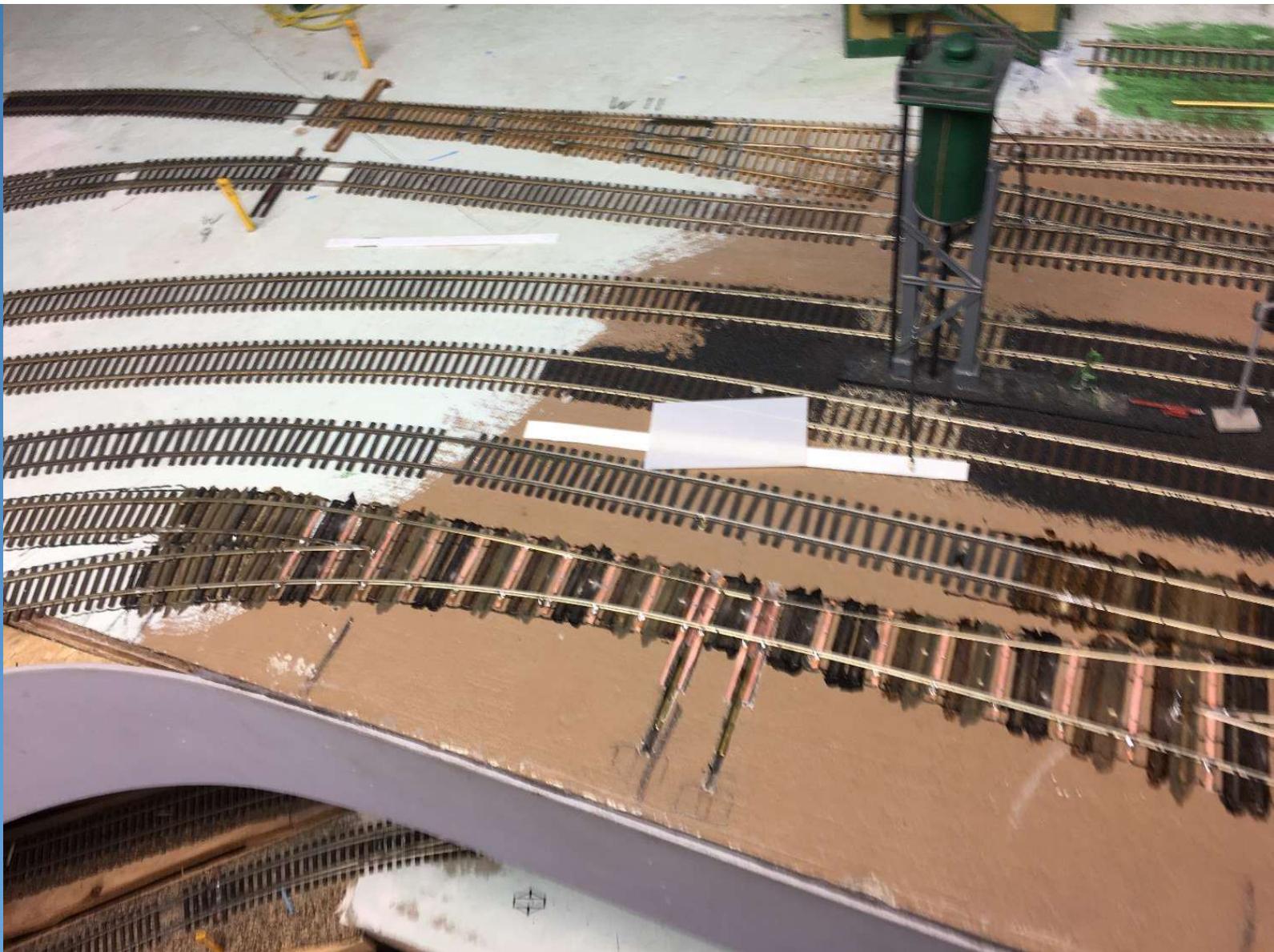


Frog points are hand-filed  
using a jig from FastTracks



Now we just need points and closure rails and we'll be in business!





Electrical gaps are cut in the rail with a cut-off wheel in a Dremel tool, then filled with styrene. They will disappear when the rail is painted.



Point and closure rail are one continuous piece of rail which also includes the frog wing rails. This makes for some fussy fitting, but the end result is well worth it. Guardrails are also installed. Gauging of the rails and guardrails at the frog is absolutely critical for reliable performance.



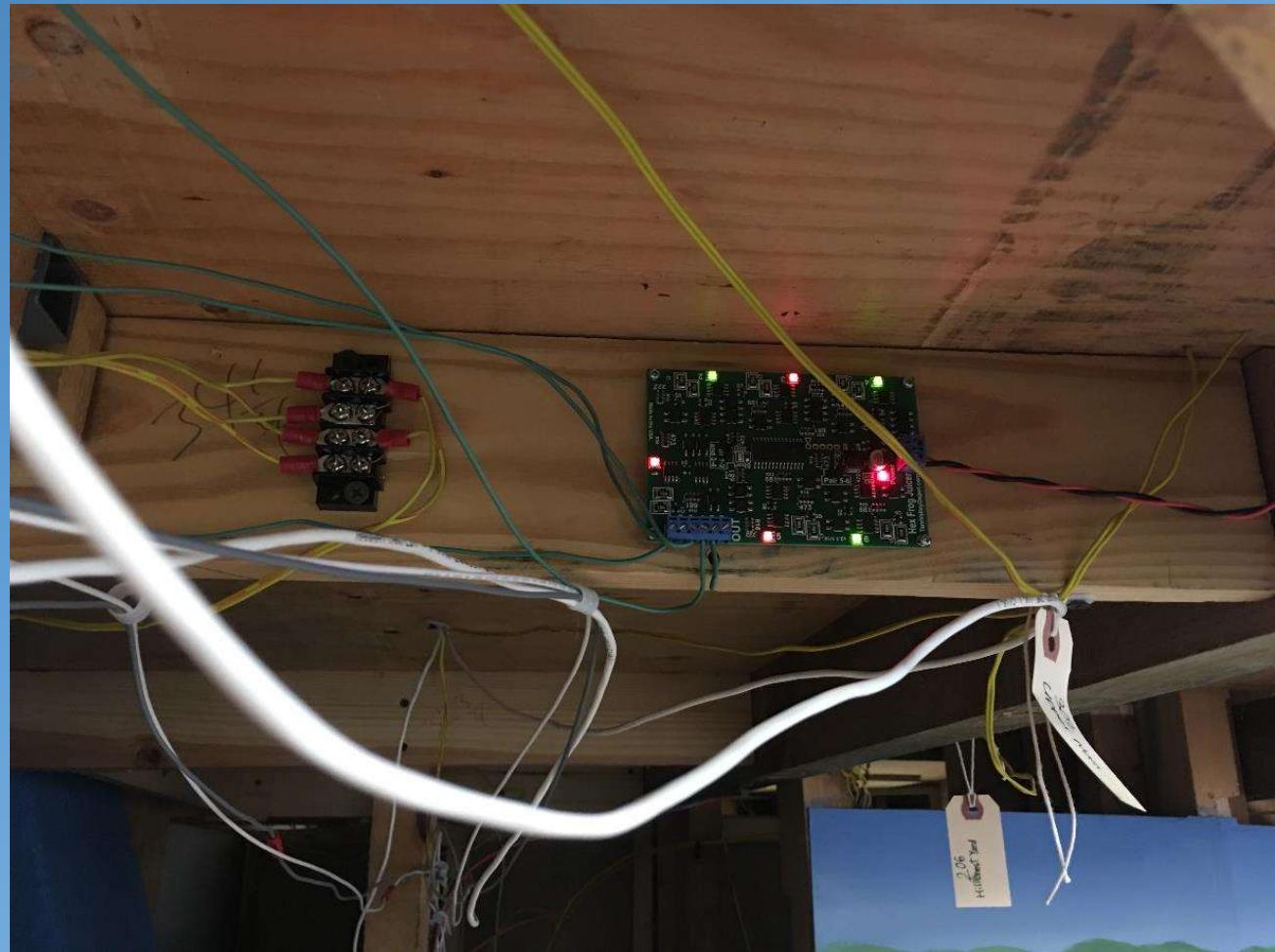


The three new switches are now complete and the caboose track set in place temporarily





A frog juicer was installed under the engine terminal to power the switch frogs. A juicer is electronic and automatically corrects frog polarity.



Now attention turns to the other end of the caboose track.  
Scenery is already removed for the new switch



Remember this picture from the beginning?

Well, this little bend in the main line bothered me.

It just wouldn't do!

Where do we go from here?



# The Hillcrest Project – Phase II

- Reconfigure the main line
- Rebuild the entrance to the engine facility
- Add the switch for the caboose track
- Add a crossover between the main line and track 1





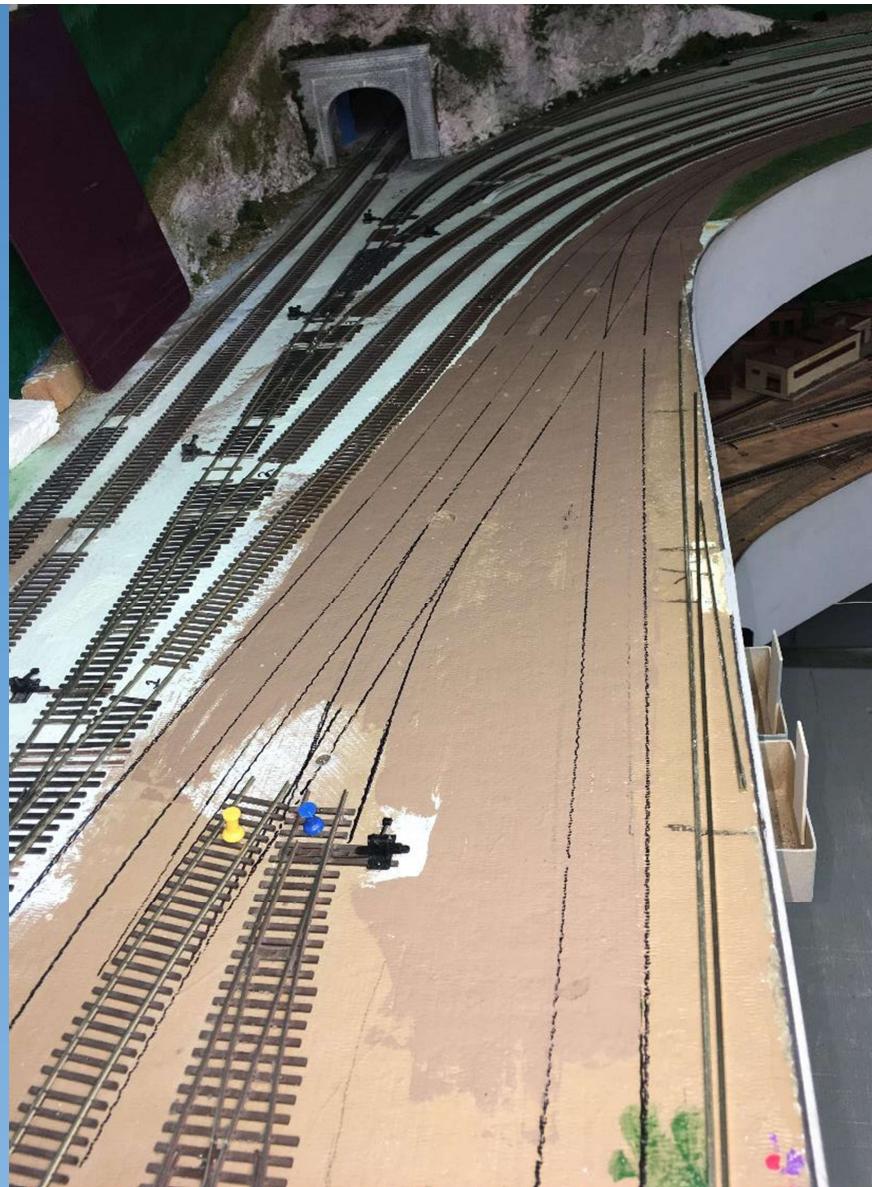
The main line relocation required a new entrance to the engine terminal, so it was sketched out. I mulled it over for a couple of days because it didn't feel right...



Time for plan B – laying it out – using an entrance from the caboose track needs only one main line switch!



Plan B feels right and looks good. The curves are better. Railroads dislike main track switches and this is a more realistic track layout.



Did I mention a crossover from the main to track 1?



Crossovers will be hand thrown (with provision made for future installation of motors if desired), so roadbed slotted as ties installed...



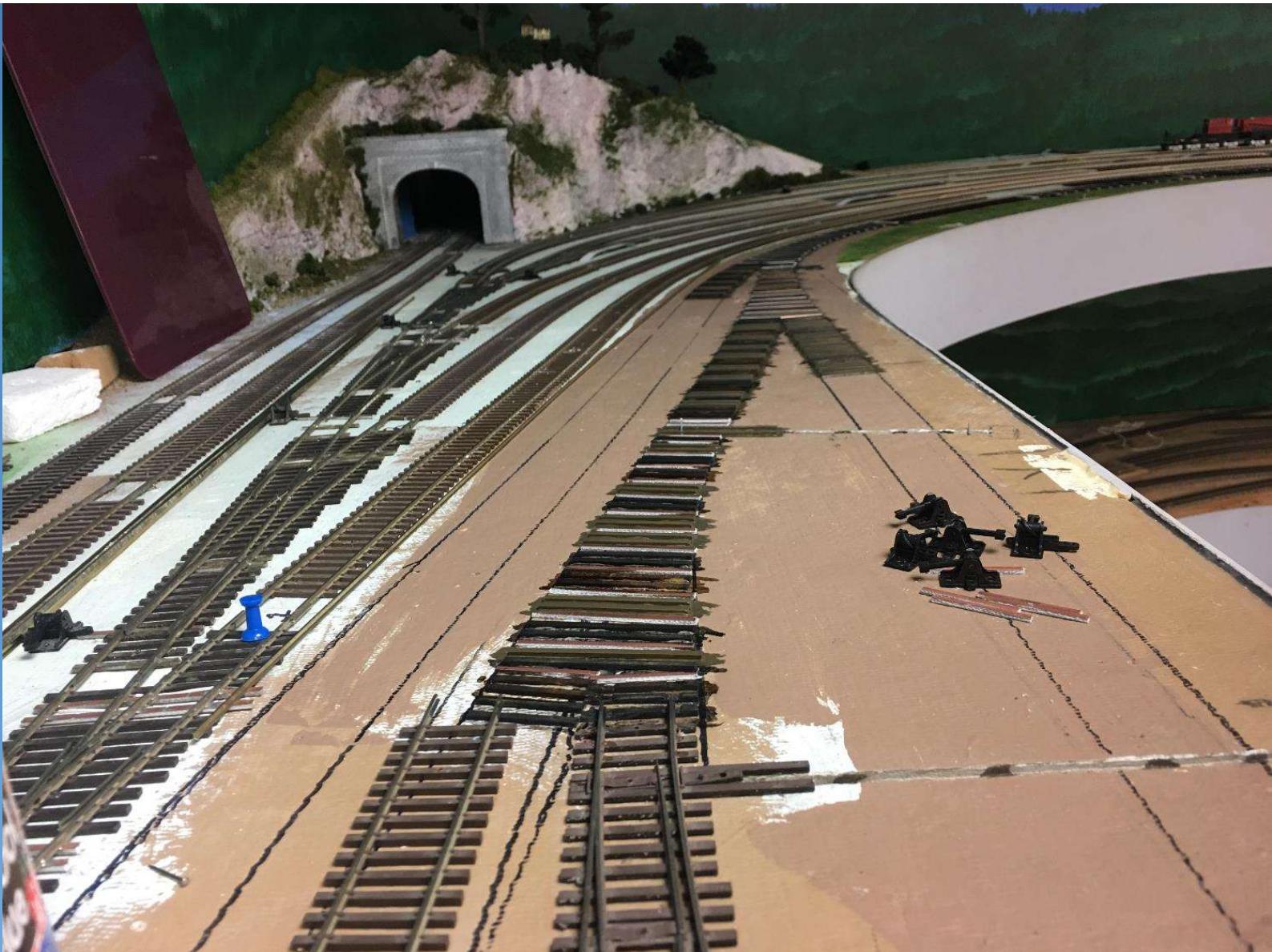
Essential  
ingredient –  
Iced decaf,  
extra, extra!



Again using a combination of  
PC and wood ties for the  
switches



All the ties  
are now in  
place. Some  
of the track  
will be flex...



# Not the neatest workspace...



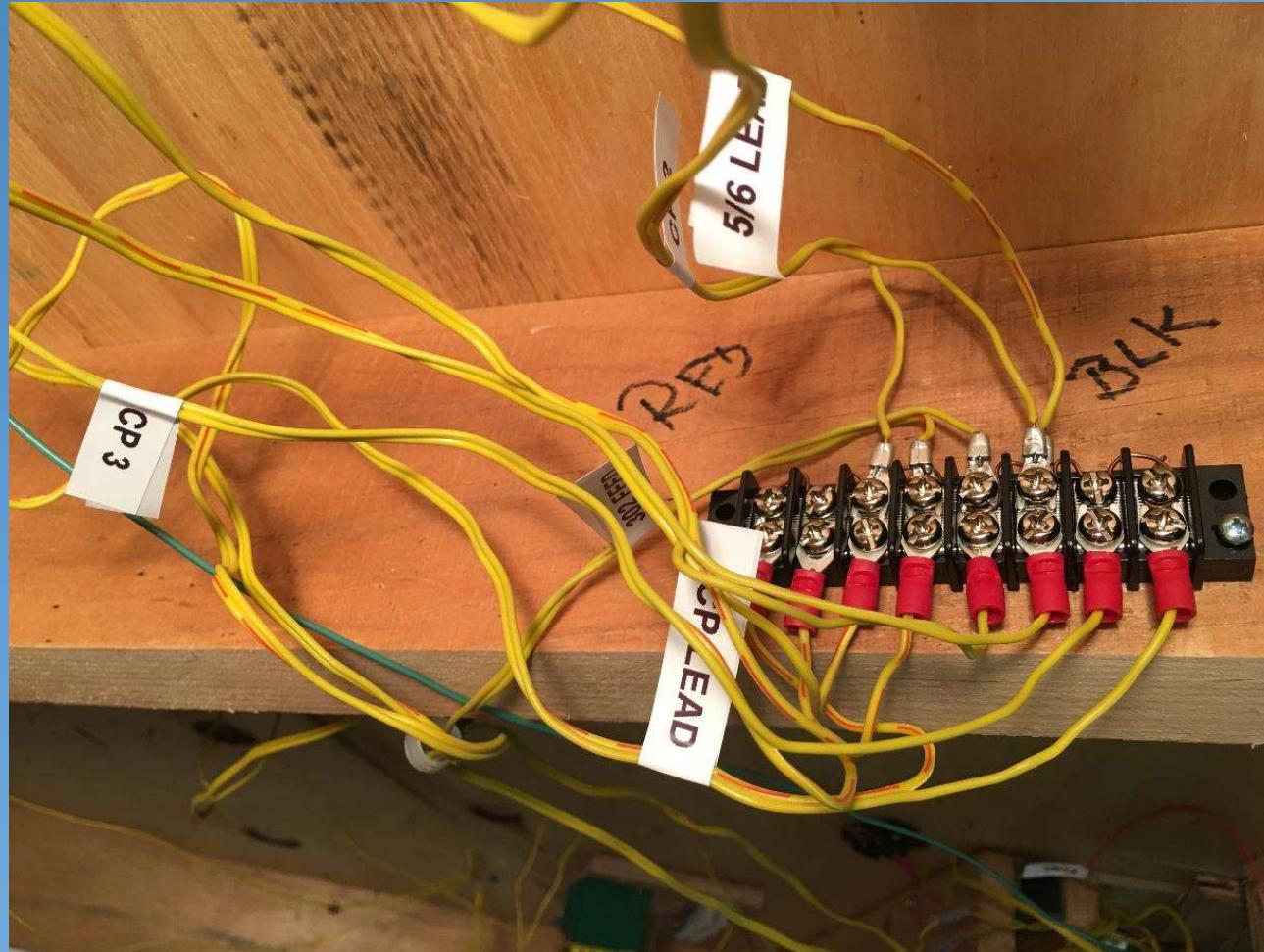
# The main line crossover takes shape



I always test electrical as new track goes down, and a short popped up. After several hours, I isolated it to the old scenery in the CP staging yard – the screen wire was shorting 2 rails together!



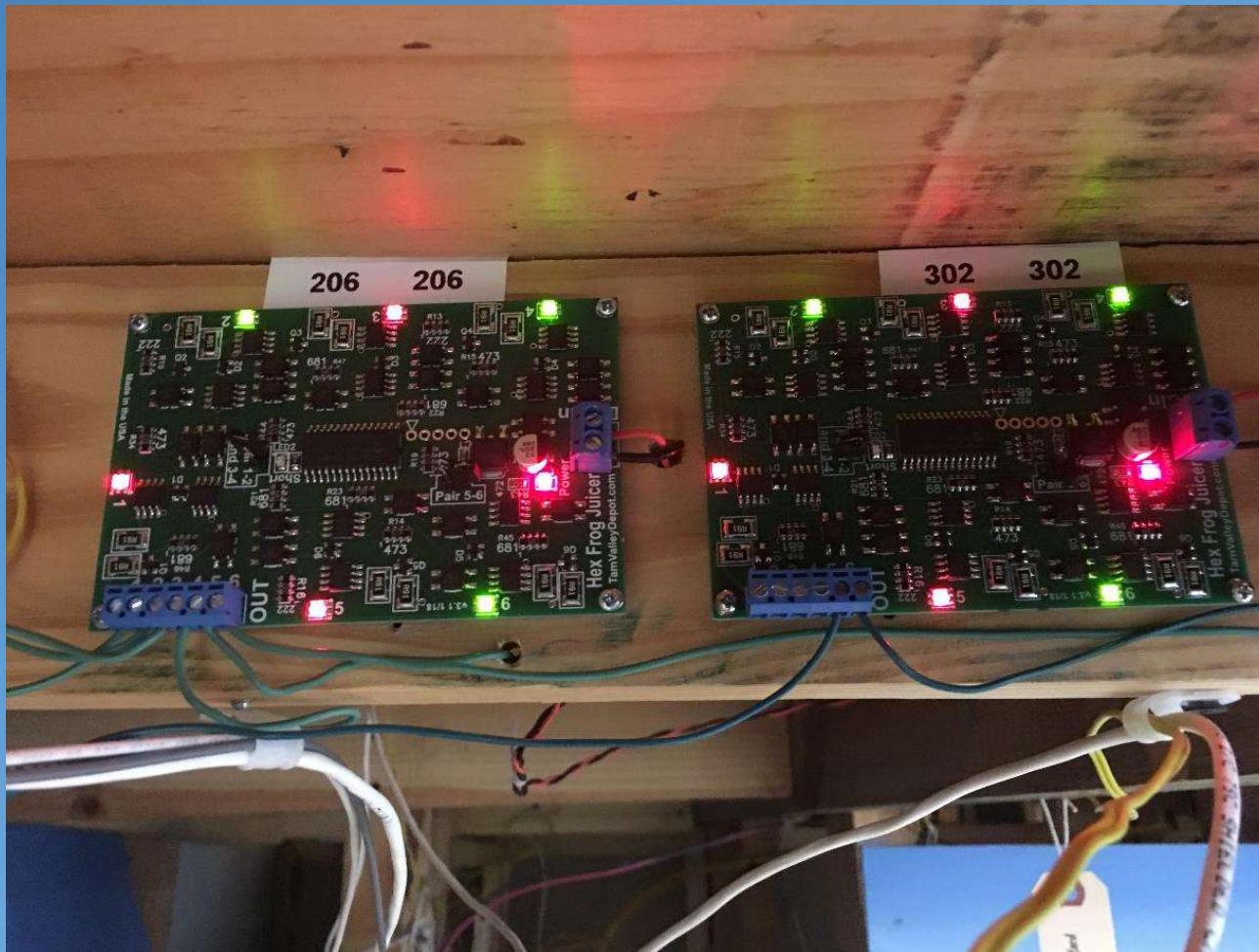
As I was hunting for  
the short, I got a lot  
of wires labeled...



With the ties stained, the rail's going down. This is the main line switch into the caboose track/engine terminal.



Two frog juicers were installed to power the new switch frogs, as well as the yard throat.









This is the divide switch between the caboose track and the engine terminal. You just can't get this sort of linear flow using prefab track! Note that the annoying "bob" in the main line is gone too. There's a little bend in the main line at the yard entrance. That's for next year when we start **Phase III!**

