

# So You Want to Build a Dream Model Railroad?



## *Reflections on One Man's Journey*

**Bill Decker**

**Bay Area Layout Design and Operations Meet**

**January 30, 2021**

# Disclaimer:

- This presentation is intended to provoke thought.
- Your “mileage” WILL vary!
- I am NOT “THE” Expert!
  
- This presentation was originally developed to be an interactive, in-person discussion, BUT:
- Our 2021 virtual meet presents dialog challenges.  
Please persist via:
  - Host-moderated chat comments and questions
  - Separate e-mails now or in the future
  - [Sp.billd@att.net](mailto:Sp.billd@att.net)
  - This is a “living” presentation intended to grow with my and your experiences.

# Outline

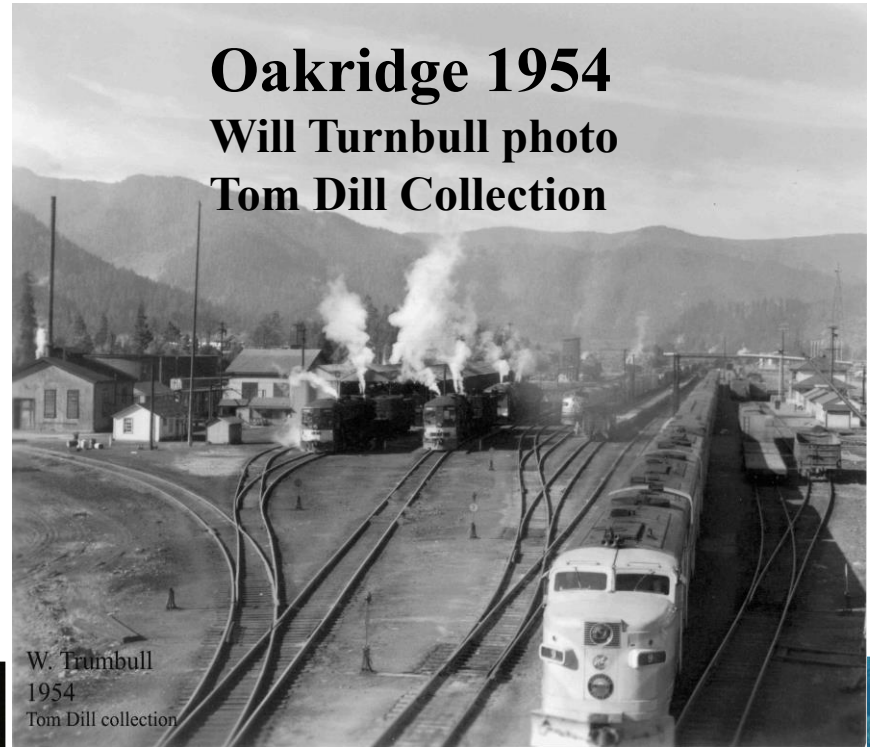
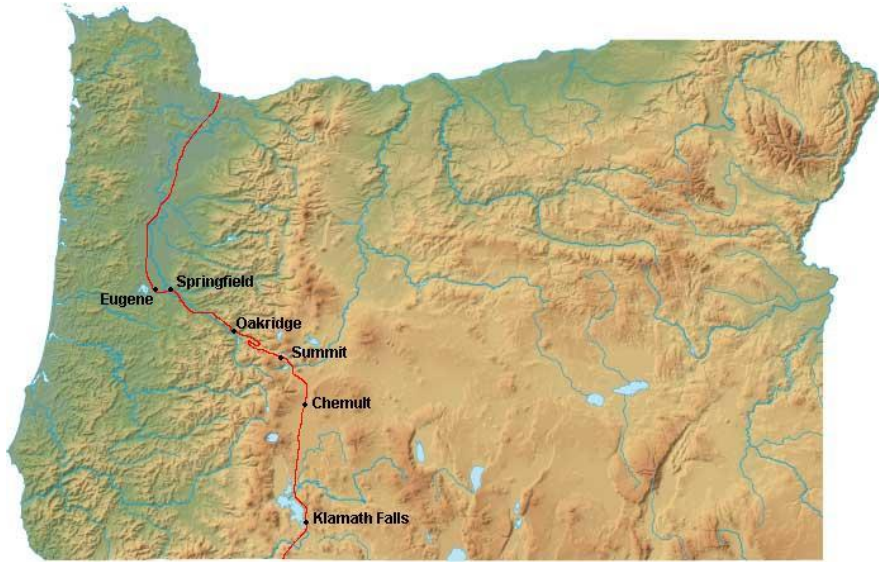
- Introduction to me and my railroad
- Layout Design
- Project Management
- Construction

# Who is Bill Decker?

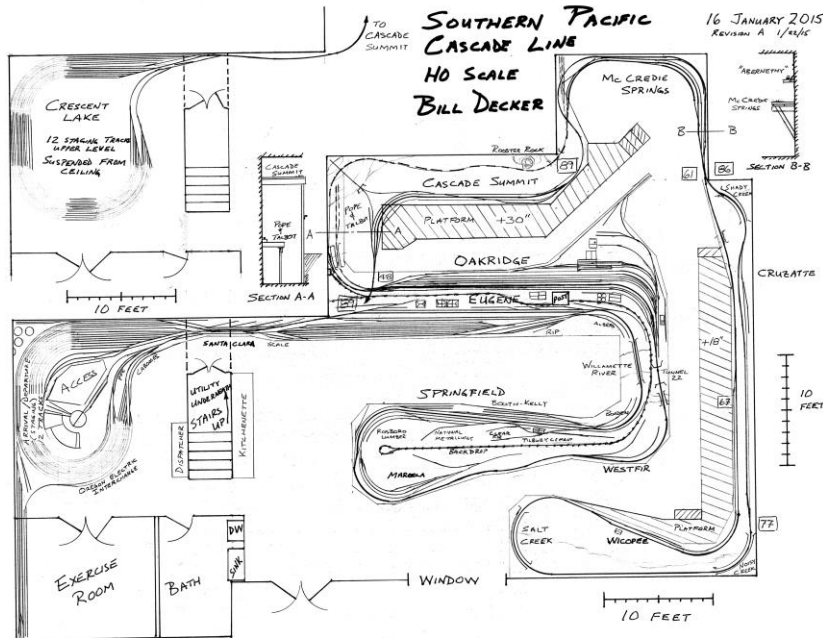
- Life-long railroad enthusiast
- Southern Pacific is in my blood!
- Serious model railroader since age 16
- Career NASA aero research engineer
- Retired and returned to native Oregon
- Enjoy the resources to build a basement-filling railroad
- <https://espeecascades.blogspot.com>



# Brief tour of my SP Cascade Line



# SP Cascade Line in HO Scale



- 2400 sqft railroad space
- Loop (Eugene A-D) to Loop (Crescent Lake)
- Eras 1954 to 1984 (1984 now)
- Track Specifications
  - 42 inch mainline minimum radius
  - 36 inch secondary track radius
  - 32 inch at pinch point
  - Turnouts: #8 main; #6 secondary
- Historic 1.8% grade above Oakridge
- NCE DCC

<https://espeecascades.blogspot.com>

# Eugene Arrival/Departure Yard, aka Santa Clara Tower



Santa Clara Tower controls RR-  
East (lower) staging.

<< SCTwr Operator confers with  
Crescent Lake (RR-West—upper  
staging).

# Eugene Depot and Classification Yard



Eugene Classification Yard works cars for the modelled industry on the railroad at Eugene, Springfield, and Oakridge and their return to the yard on the way off-line to the rest of the rail network.

Note the wide aisle in this switching-intensive area.



# Springfield



Major industrial site on the RR. Separate local turns work either side of the mainline.

I am filling the industry blank spots during the current public health crisis.



# Marcola Turn



Located off Springfield, the major industry here is the Weyerhaeuser interchange.

Neste Resins is under development, but major pieces now identify the industry.

# Westfir



Western Lumber is located at Westfir, one of two major mills on either side of Oakridge.

# Oakridge



Oakridge was the steam-era helper station at the base of the Cascades climb. I retain it as my helper station.

# Montieth Rock, aka “Rooster Rock”



# Wicopee



Mid-climb siding. Regular water stop in the steam era.

# Salt Creek Trestle



Signature Scene

# Cruzatte





# Cascade Summit



Top end of the railroad. Helpers removed here.  
Crescent Lake staging is around the corner to the left.

# Train Control

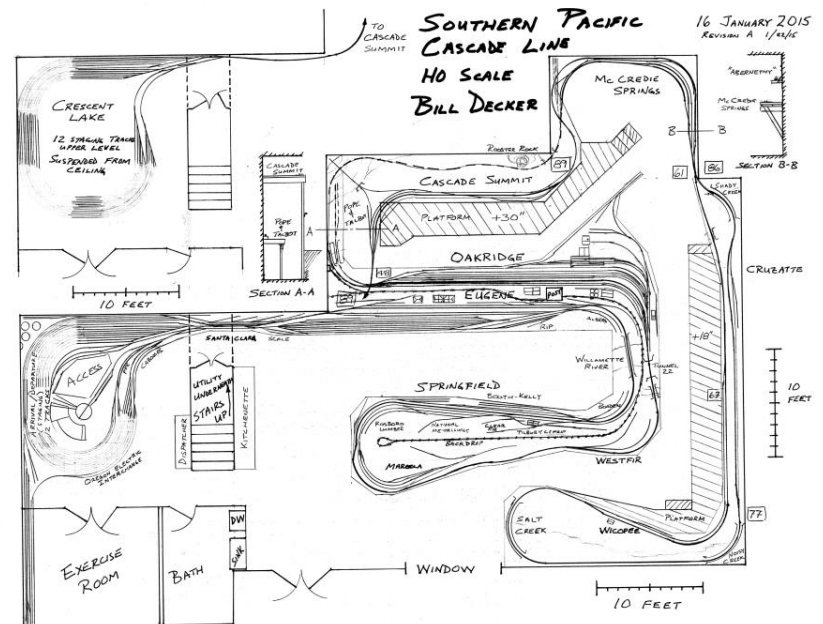
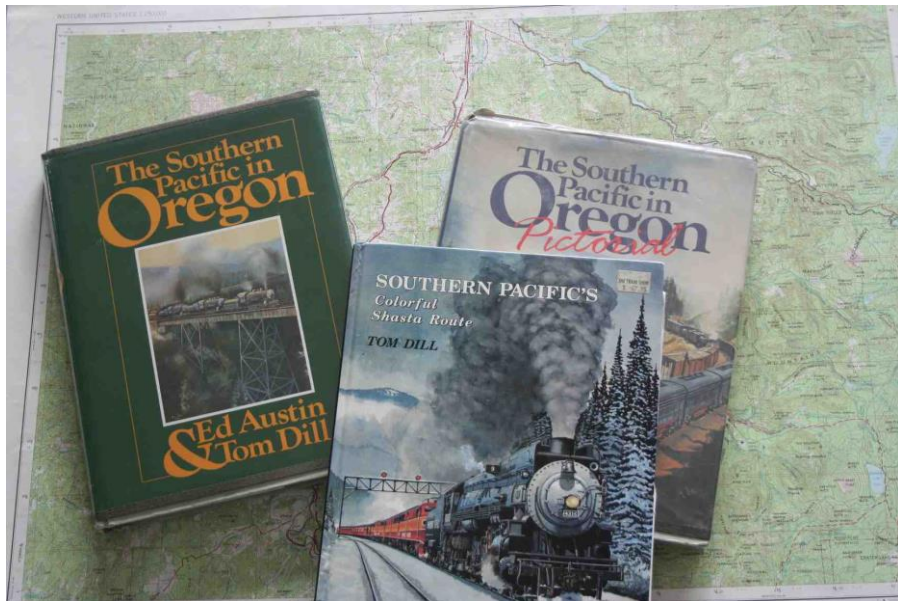
Direct Traffic Control used until CTC and signal system installed.

Dispatchers >>

Assistant Chief Dispatcher  
and Crew Caller



# Model Railroad Design Thoughts



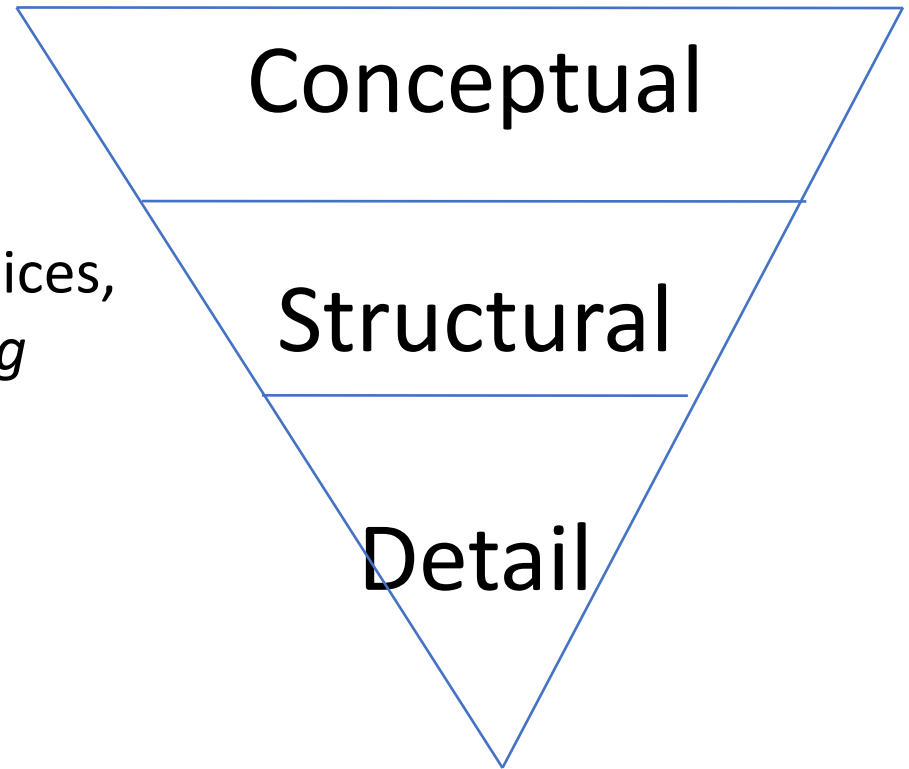
Getting from photos and dreams to a buildable track plan.

# Byron Henderson Thematic Approach to Layout Design

Theme, Vision, Concept, Research

Givens & Druthers, Research, Choices,  
LDE Sketches, *Operations Planning*

Refine, Final Design

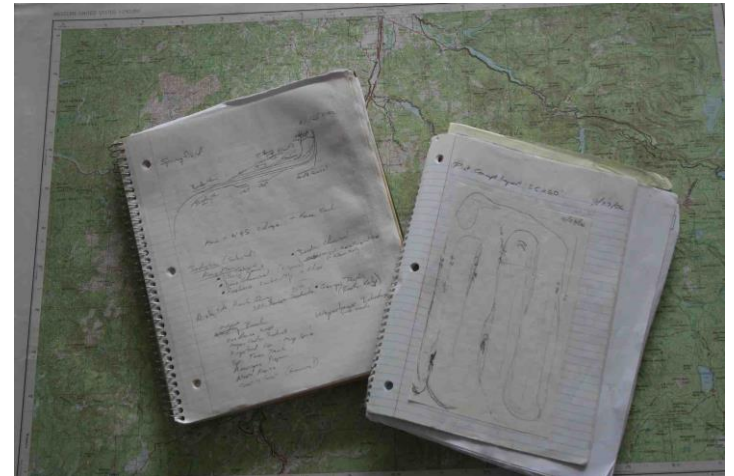


*Byron Henderson, Layout Design Journal # 40*

*Also used by Steve Moore, 2012 NMRA National: Track Planning and Layout Design*

# Define YOUR Dream!

- Articulate your interests
- Record your choices



- A model railroad is an artistic expression!

# Match Your Goals to YOU!

- Type of Model Railroader
- Prototype vs. Freelance
- Operations vs. “Museum Set-Piece”
- Time, Experience/Skill, Cost, Space, ...
- Discipline!

# Prototype Modelling vs. Freelance

## Prototype

- Specific railroad
- Specific location
- Specific time-frame

## Freelance

- Vary any or all of the above.
- Anything goes?



# Operations vs. “Set-piece”

## Operations

- Individual car movement
- Purposeful train movement
  - Timetable
  - Daily Line-up
- Modelling jobs



## Set-piece

- Scene more important than train movement
- Individual structures and rolling stock carefully crafted





# Managing the Project

- Develop budgets for time and cost.
  - How much time/money are available?
  - How long will it take to build something vs buying?
- Assess your skill level.
  - Newbie or master craftsman?
  - Jack of all trades or master of none or one?
  - Do you enjoy or are willing to do all steps to the dream?
  - What skills can you recruit or pay for?
- How disciplined are you?

# Project Management Tools

- Deadlines can be useful!
  - PDX2015 just 3 years from construction start!
  - Monthly Operating Sessions
- Regular "progress" reports
  - <https://espeecascades.blogspot.com>
  - My goal is twice a month.
- List making
- Regular work: e.g., an hour a day



# Rising Tide vs. Station Focus

SP Cascade Line built with a Rising Tide—Mainline operations focus

- Construction started August 1, 2012
- Construction focused on achieving full mainline operations ASAP.
- Test ops began on “Valley Core” in 2014
- Mainline Gold Spike April 12, 2015
- PDX2105 operating session (fourth on full mainline) August 2015
- Monthly operating sessions from June 2015 to March 2020
- January 2020 full base terrain completed
- Industry blank spots filled during 2020



Shady Creek, July 2015



Tunnels 5 and 7 and Shady Creek, October 2018

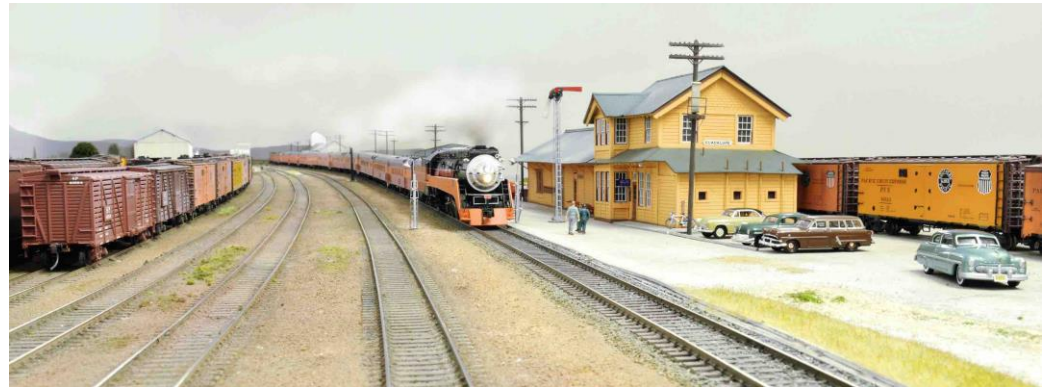
# Rising Tide vs. Station Focus - 2

Station focus displays a completed scene fairly “quickly.”

Tom Dill SP-Ashland, OR



Brian Moore – SP-Guadalupe, CA



# Bench-work Construction



Open Grid vs. L-Girder



Plywood Sub-roadbed  
vs. Spline

# L-Girder to the Rescue!



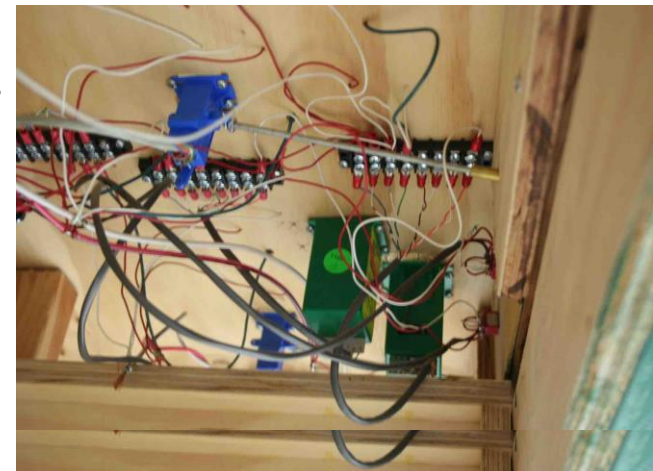
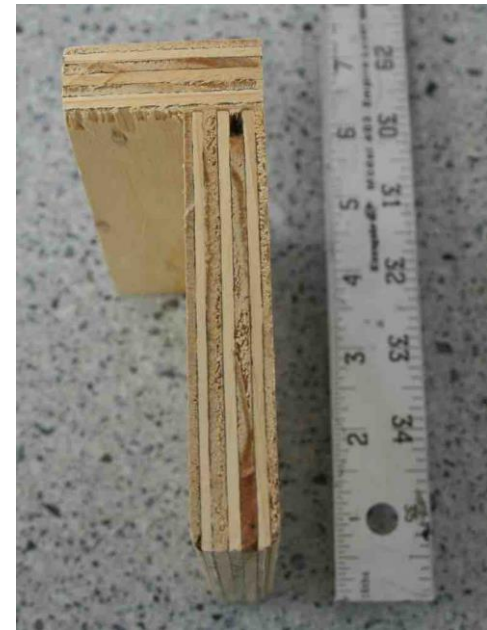
Turntable pit center was not where originally planned!

# Other Bench-work Ideas

- Foam Sub-roadbed or “table” surface
- Shelf brackets
- Formal or informal modules (sections)
- The One Module Approach (TOMA)

# Design and Construction Thoughts and Experiences

- Use high-grade materials for bench-work
- Build it to support your weight
- Spline vs plywood –smoothing spline top vs. plywood section joints
- Standardize components--especially for larger layouts
  - Tortoise and Blue Point Switch Machines
  - Soundtrax or TCS decoders
  - KD-5 series (now use KD-148 whiskers)
- Avoiding traps
  - --Easy to fall prey to ideas of the past





# Which is the Mainline?



<< East Wicopee

West Wicopee



*Sadly, in both cases it is the diverging route.*

# Curve Easements!

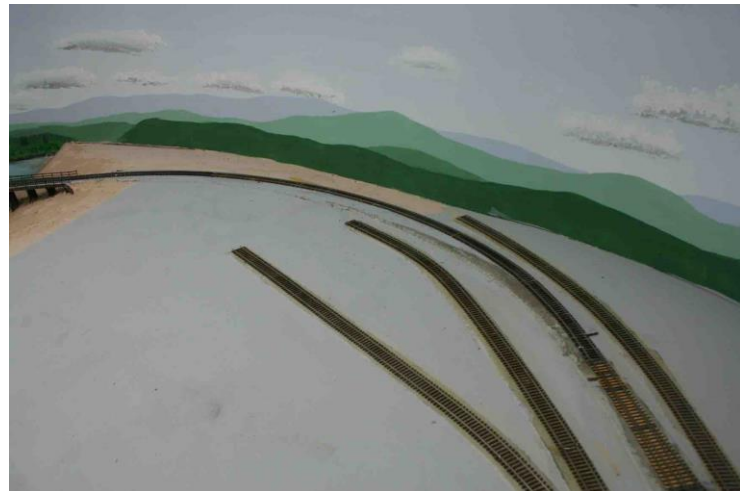
The problem



Success!



The cure: re-lay the track.



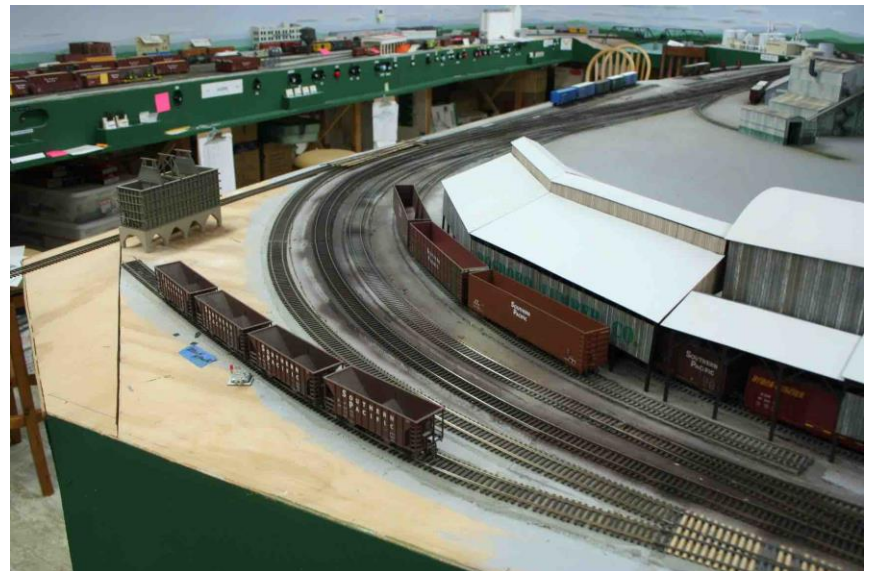
# Modify Prototype When Needed --BUT do so carefully!

Rock spur at West Springfield today



Current spur requires mainline authority to switch.  
Active consideration is to relocate the spur to only use the siding.

Possible relocation of rock spur



# Operations Thoughts

- Design for flexible crew size.
  - Cascade Line designed for minimum of 6—Great for COVID ops!
  - Normal crew is 16-20
- Operator Space is important!
- Know your crew skills.
  - Yard crew vs. road crew
  - Experienced Operator vs. Newbie
- Listen to your crew! Observe.
- Model RR operations are a social event
- Normal operating session time length
  - 3 hours continuous
  - 4 hours if mid-session break



Biggest Surprise—discovering how important DISCIPLINE is to fulfilling my model railroad dream.

Equally surprising was that I had that discipline!

# QUESTIONS?

Contact Bill Decker:

[sp.billd@att.net](mailto:sp.billd@att.net)

Follow my journey:

<https://espeecascades.blogspot.com>