



# Orientation Handbook

## Table of Contents

Probationary Letter	Page 2
Club Activities	Page 3
CB&W History	Page 3
Club Layout Description	Page 3
Track Statistics	Page 4
Track Schematic East & West	Page 5/6
Layout “Choke” Points	Page 7/11
Layout Tour – Schematics & Photos	Page 12/21
Signal Aspect & Indications Rules	Page 22/23
Inside the Club – Photos	Page 24
Sponsor/Orientation Checklist	Page 25/27

# **Chesapeake Bay & Western Model Railroad Club**

**110-F Dare Road  
Grafton, VA 23692**

Dear CB&W Probationary Member,

Welcome to the Chesapeake Bay Railroaders and the Chesapeake Bay and Western Railroad Club. We hope that you will find membership rewarding, fulfilling and fun. Please read this to see what your membership entails.

First, you will have a probationary period of 90 days. At the end of this period, your name will be brought up for a membership vote. Current members are asked about your participation, interest and other such items. A club officer will need to sign off on your completion of the new member checklist, which will be provided to you shortly after your application is processed. To ensure a positive vote, please try to attend as many operating or work sessions as you can. This way you can meet members and begin to learn the layout, show off your skills and be able to identify what you are interested in learning more about.

If you plan to operate at club events, you will need to purchase a radio and headset. These are typically sold in pairs, so it might be possible to work with another member and share the costs, or have a spare radio. When purchasing the headset, be sure it is compatible with your radio. Check the jack carefully on your radio, as there are a variety of headsets available. The CB&W club operating system is Digitrax. There are several throttles available that will work well with our system. Another option is to download the app to your cell phone. We suggest you contact a member to inquire about the app and how to best utilize this option.

Prior to the business meeting when you are eligible for a vote into membership, you should be sure a member of the Board has signed off and approved your successful completion for training on the proper operation of the layout and inner workings of the club building. As a full member, it is imperative you fully understand and have a working knowledge of all the necessary steps to turn on/off, operate and care for the layout. The process for entering and leaving the building must also be understood as well. Next, once a member you will need to pay your initiation fees, which is equal to two months dues (\$50), plus the current month's dues (\$25) and the fee (\$2) for your key.

Should you wish to participate in sanctioned club events, such as operating sessions and Open Houses, you will need to have your locomotives and rolling stock inspected. You will be provided with the inspection guidelines, as well as the CB&W Member Handbook early in your probationary period. These procedures ensure your cars and locomotives conform to the operating standards established by the club. The standards are spelled out in the CB&W Members Handbook. Each item will need to pass both a static and dynamic test.

Should you decide prior to being voted in that the CB&W Railroad Club is not for you, or your schedule will not accommodate, please notify the Vice President to withdraw your application.

CB&W Vice-President  
Chairman – Membership Committee

## CLUB ACTIVITIES

Membership in the Chesapeake Bay Railroaders is usually open and prospective members are encouraged to apply. The club is incorporated in the Commonwealth of Virginia and operates as a non-profit 501(c)(3) organization. It derives its income from monthly member dues (\$25 per month) donations and income from railroad flea markets held in conjunction with the CB&W Open House.

The club meets every Thursday night at 7:30pm (business meeting on the first Thursday of the month). Normally, Thursday nights are reserved for railroad operation. Major layout construction, maintenance, etc., are normally done on Tuesday nights or other times convenient for the workers involved.

Members are issued clubhouse keys upon acceptance and are free to work on or operate the layout at any time, provided they have been qualified in the details of its operation.

Members train equipment on the layout during club operating sessions must have passed inspection as outlined in club by-laws. (Reason for change is requirement for metal wheels is a club standard and not an NMRA standard)

The club is not only a place for work but a place for members to meet and discuss all facets of prototype and model railroading. Inexperienced model railroaders have the opportunity for learning the "tricks of the trade" from more experienced members.

The club's recent expansion allows slide and video shows and clinics on various aspects of model railroading.

The club holds a free Open House several times during the year to allow the public to enjoy the railroad. A railroad flea market is usually held at the same.

## CLUB HISTORY

The Chesapeake Bay Railroaders began in July 1973 with the first layout built in the Graton Hobby Center. In 1975, members dismantled the layout and moved to a farmhouse at 246 Railway Road, Grafton. Then in April of 1983 the club rented the east half of the present building and began construction of the present layout. In February 1995, the club rented the west half of the building and initiated plans for expansion of the layout. Members live in York County, Hampton, Newport News, James City County, Williamsburg, Gloucester, Mathews County, Portsmouth, Norfolk and Virginia Beach.

## CB&W Layout Description

Scale: HO (1/87th scale)  
Power Control: Cab control, central dispatch, remote DC throttles and Digitrax DCC system  
Mainline Min. Radius: 42 in  
Max Grade: 2%  
Motive Power: Wide variety of steam and all eras of diesel power  
Layout Size: 3-levels in a 2400 sq. ft. building  
Mainline Length: 1,004.5 ft (28.7 HO Miles)  
Total Track on both Main Lines: 2,037 Linear Feet

# Track Statistics

**Courtesy of Ralph & Everett Digges  
(COA May 2016)**

The first test started at the MILE 0 marker at Langley. We found the following distances in-scale miles:

Mile 0 to end of yard lead is .9 miles  
Mile 0 to the end of Croaker is 1.4 Miles  
Mile 0 to Thornburg is 2.1 Miles  
Mile 0 to Rapidan is 2.5 miles  
Mile 0 to Columbia Furnace switch (west End) 3.0 miles  
Mile 0 to Shenandoah is 4.1 miles  
Mile 0 to Tunnel switch is 6.3 miles  
Mile 0 to Helper is 7.2 miles  
Mile 0 to Mingo is 11 miles  
Mile 0 to Nitro is 12.9 miles  
Mile 0 to 14.2 miles

(NOTE: This is not the complete loop)

From the red ball to mile 0 which runs through the turnaround in the helix is 14.5 miles. This creates a total loop of 28.7 miles, or a one way trip of the layout of 14.35 scale miles. One scale mile is 70 feet long. At this, the main line would be 1004.5 feet.

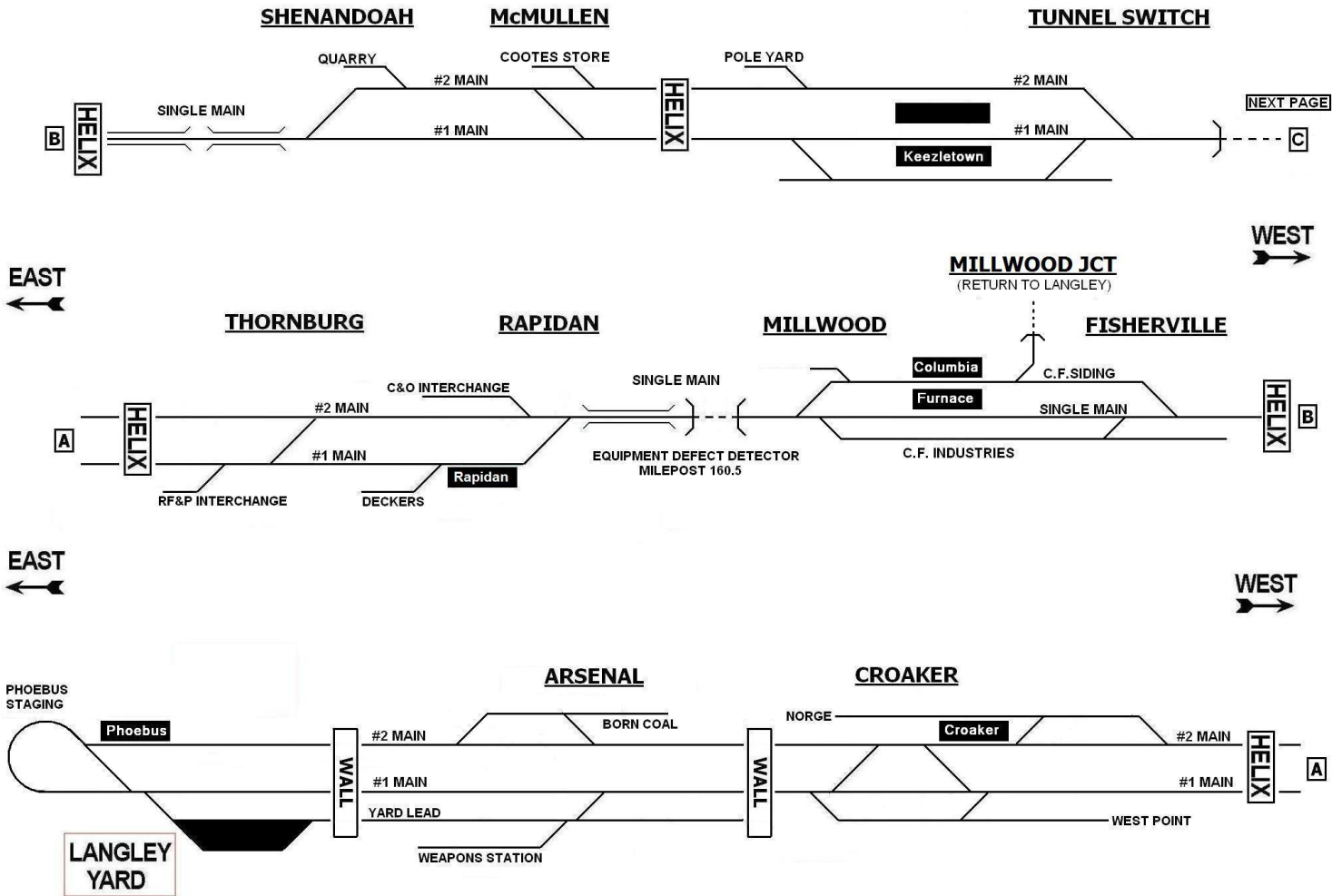
Double track main from Main 0 to Rapidan is 4.1 miles 287 feet.  
Single track from Rapidan to Shenandoah would be 1.6 miles 112 feet.  
Double track from Shenandoah to Tunnel switch would be 2.2 miles or 154 feet  
Single track from Tunnel switch to Helper is .9 miles or 63 feet  
Double track from Helper to red ball would be 490 feet  
Total track on the main line both lines equals 2037 lin. Feet

(Statistics were provided by using a "Model Train Speedometer Car" made by Computer Products for Education, Kingston, PA)

# Track Schematic – East

## CHESAPEAKE BAY AND WESTERN RAILROAD -- EAST END

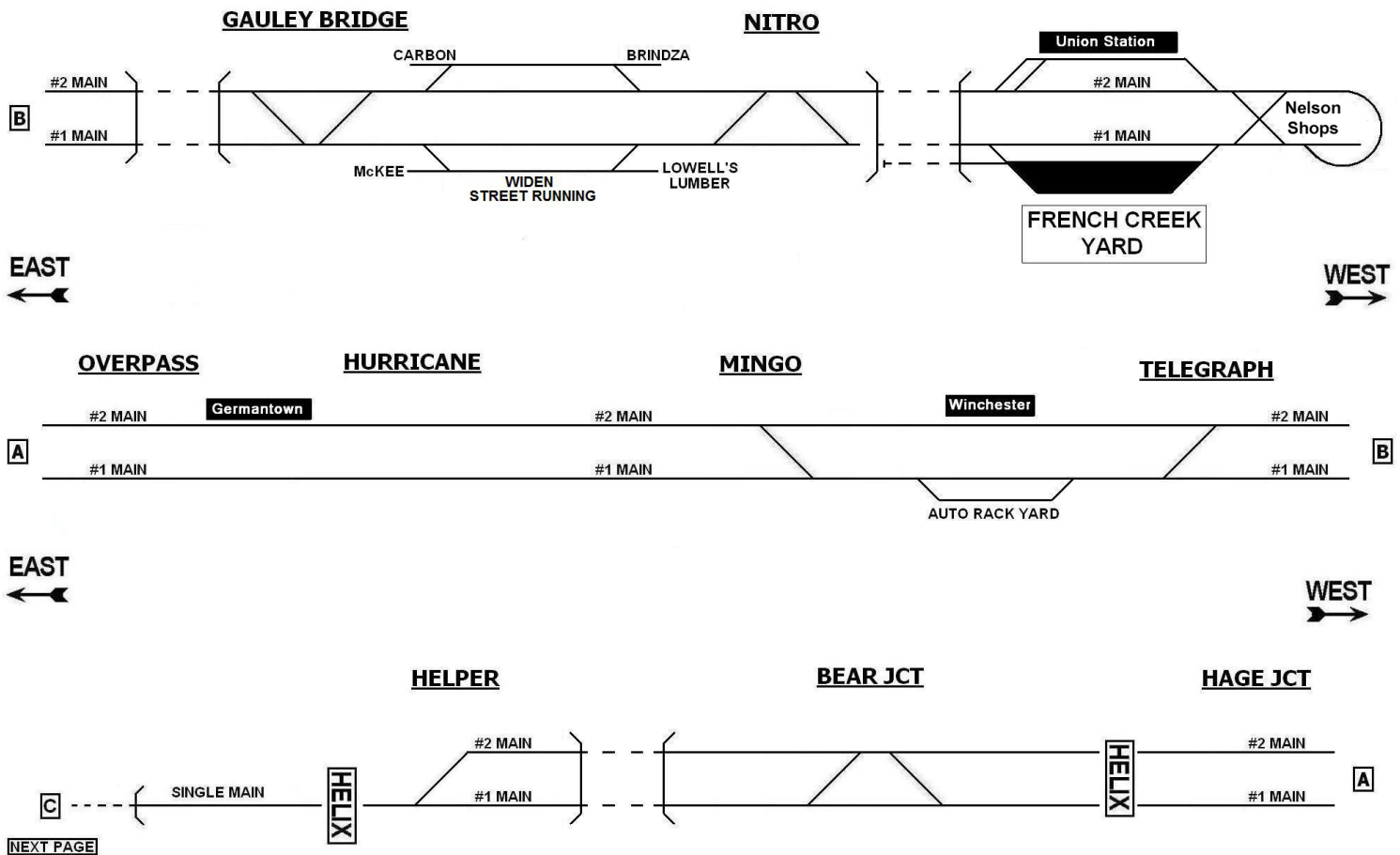
UNDERLINED STATION NAMES ARE DISPATCHER CONTROL POINTS



# Track Schematic - West

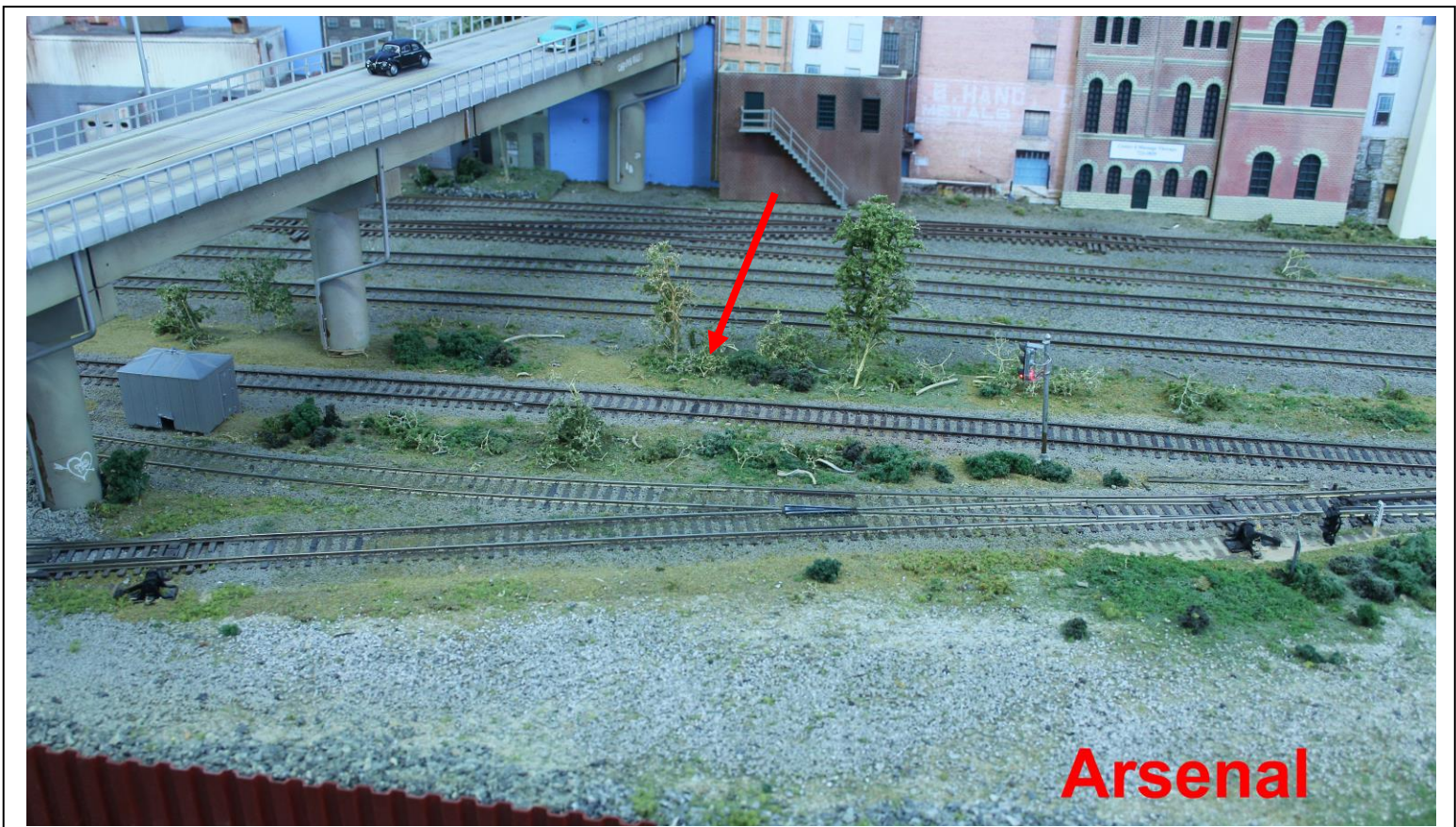
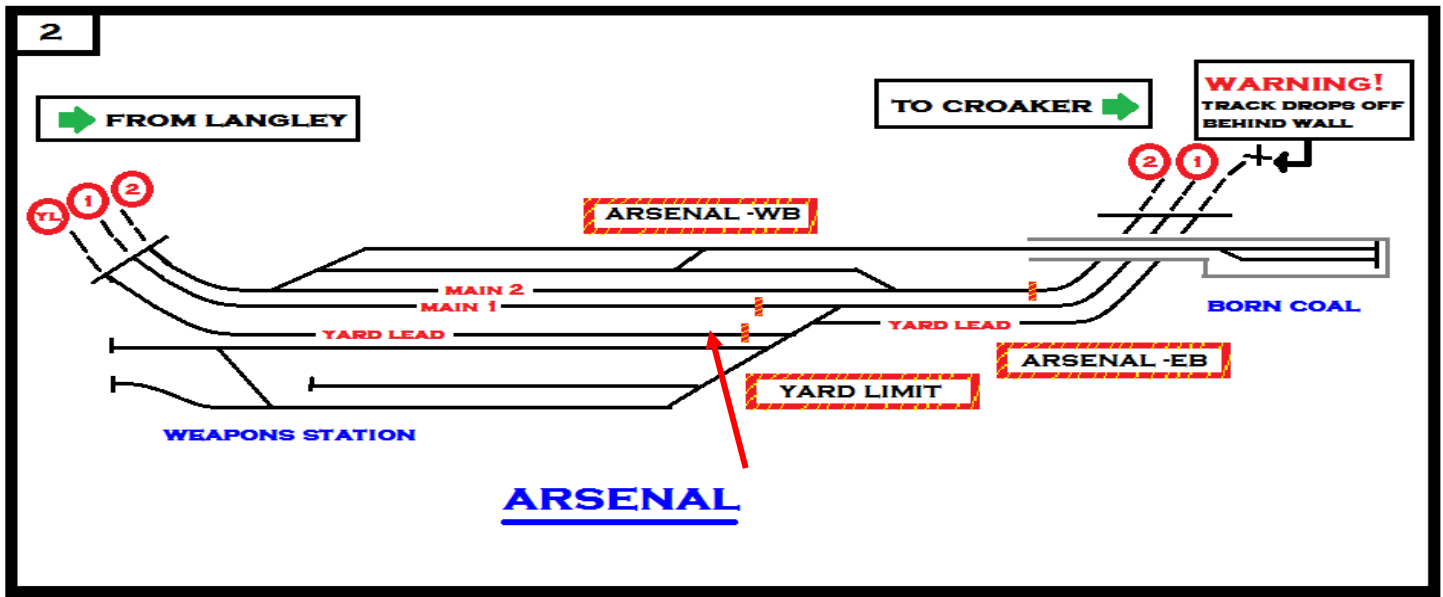
## CHESAPEAKE BAY AND WESTERN RAILROAD --WEST END

UNDERLINED STATION NAMES ARE DISPATCHER CONTROL POINTS

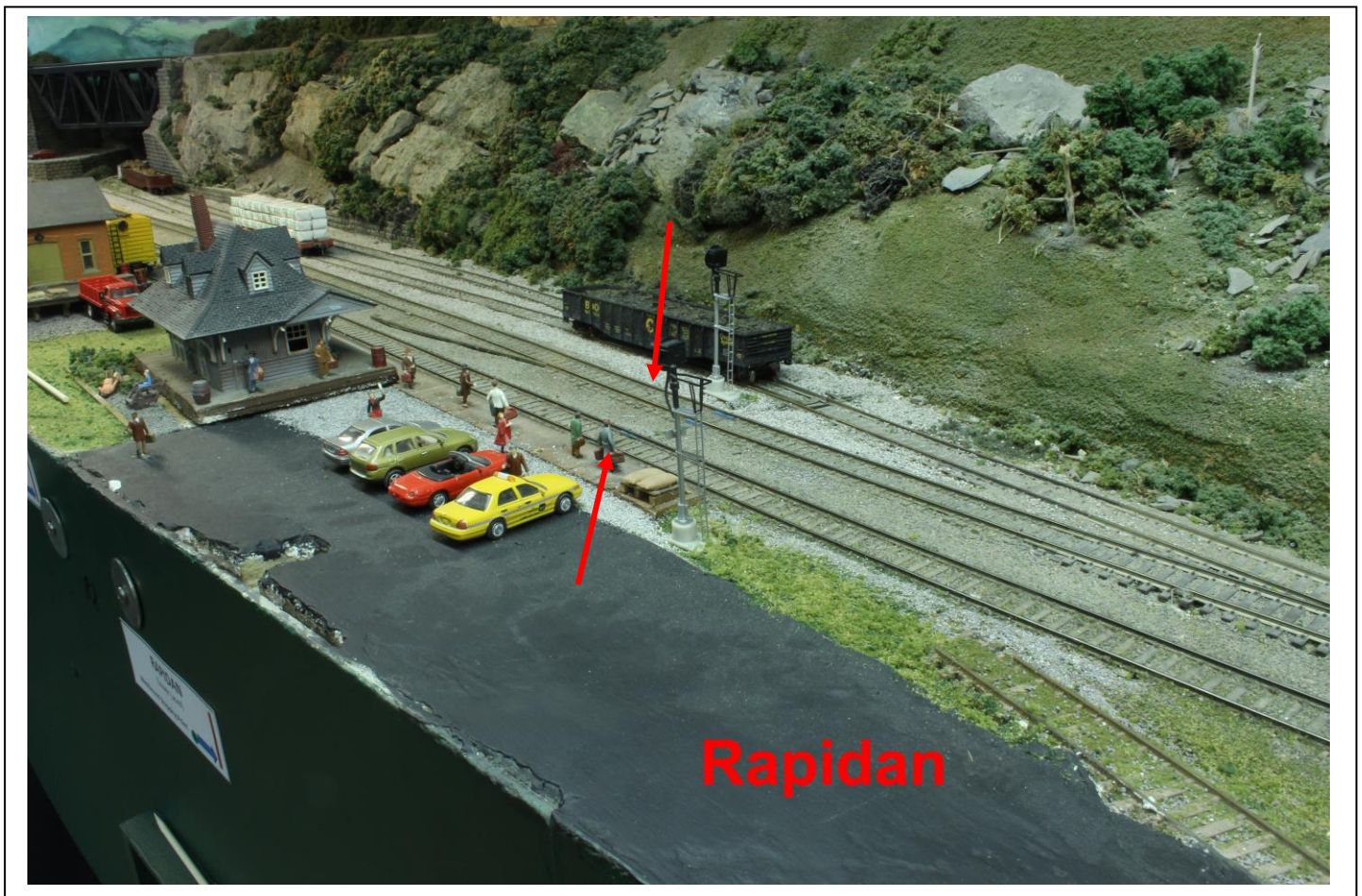
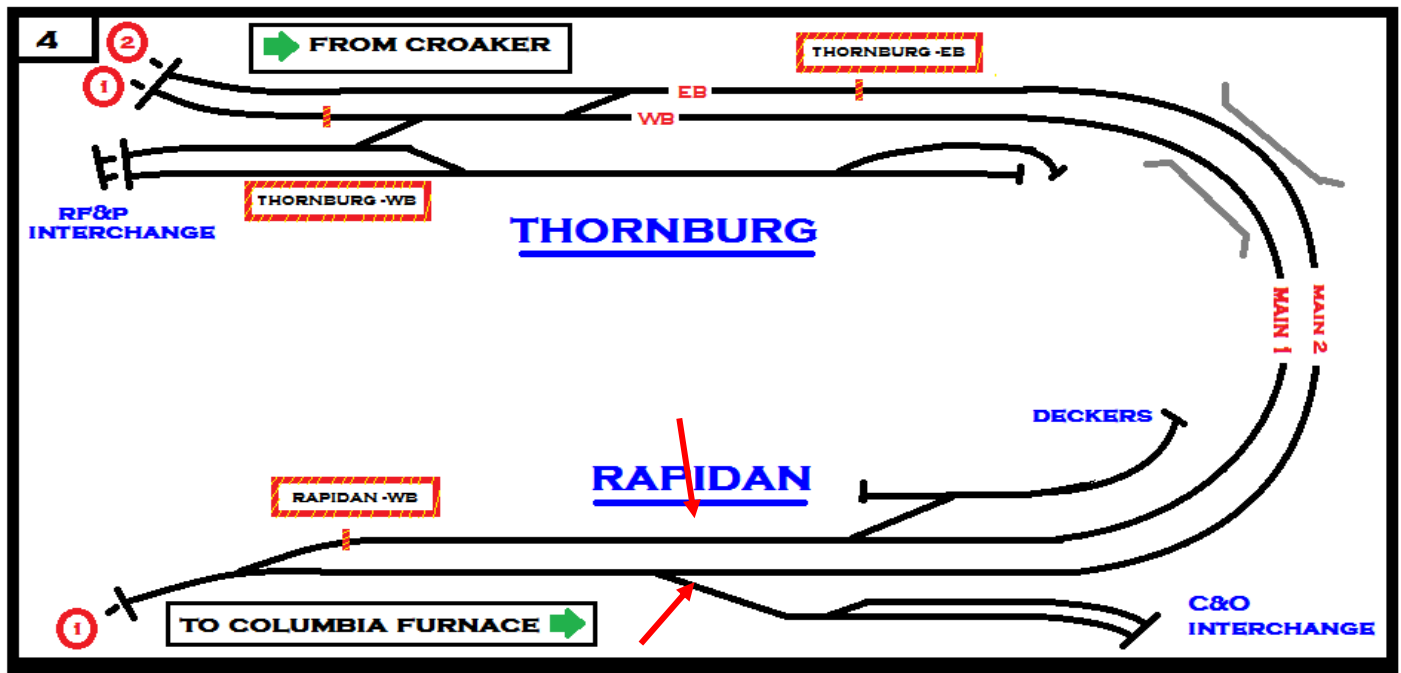




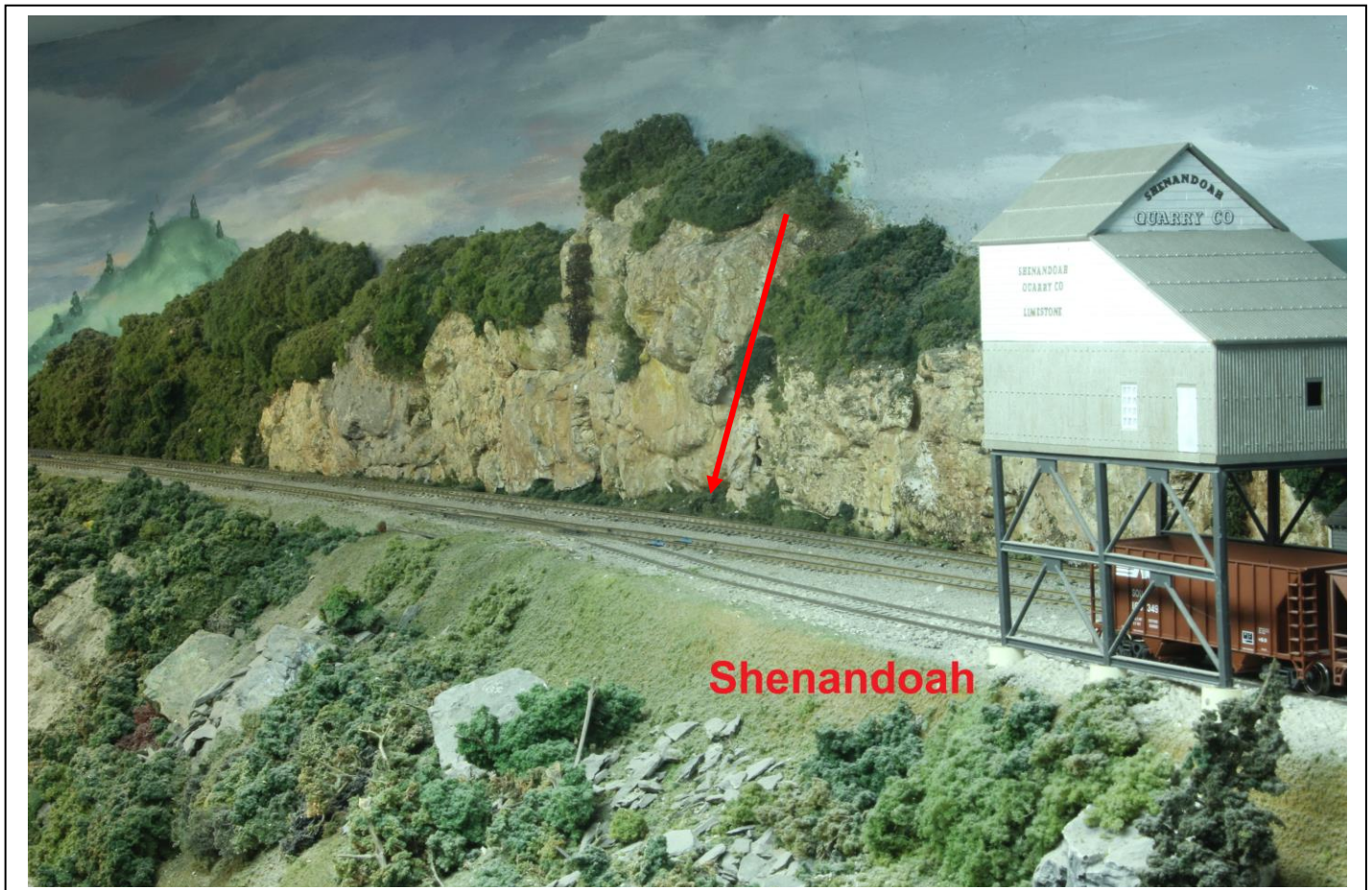
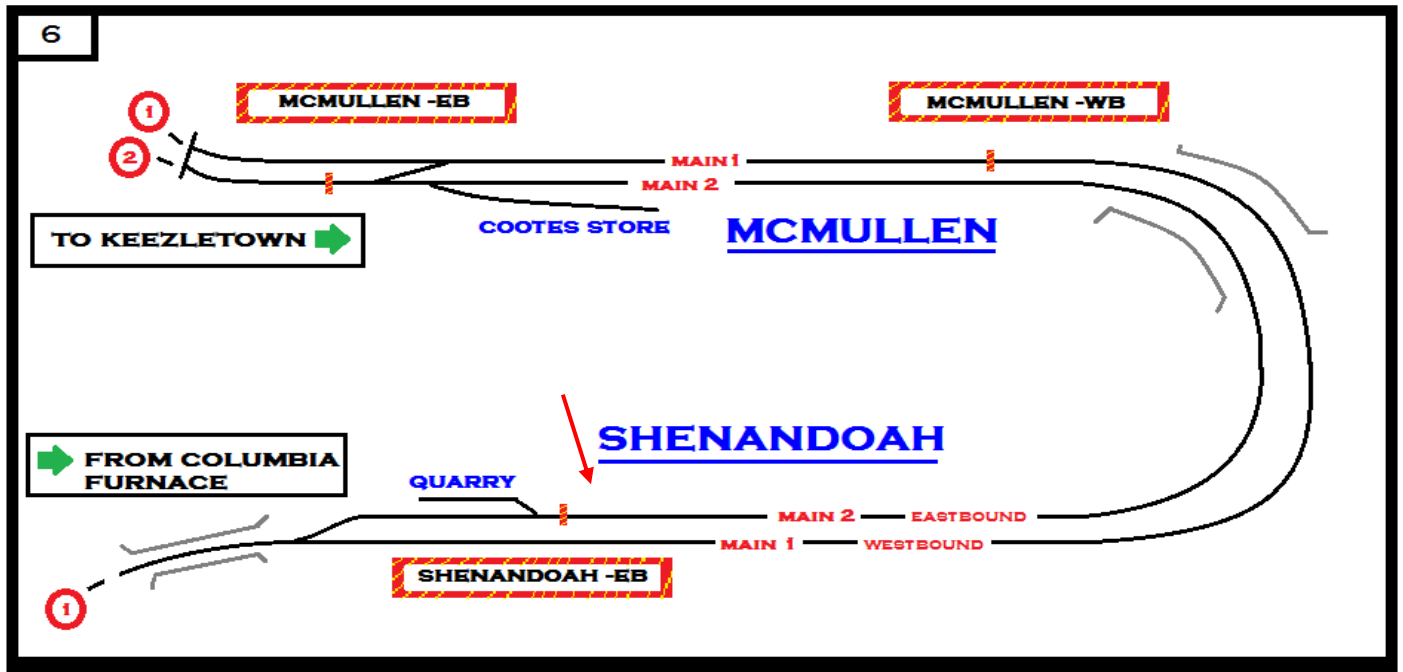
# Layout “Choke” Points



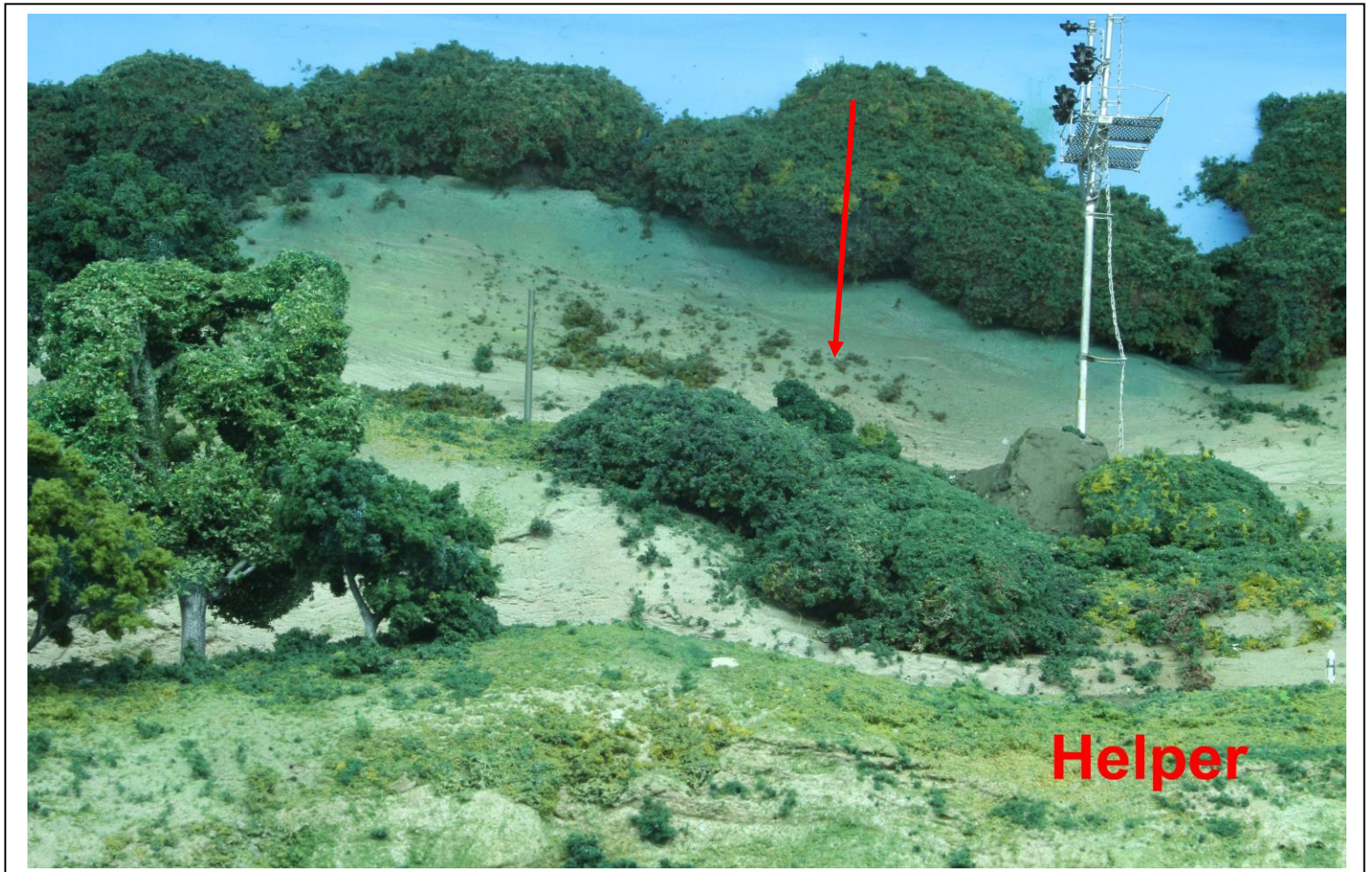
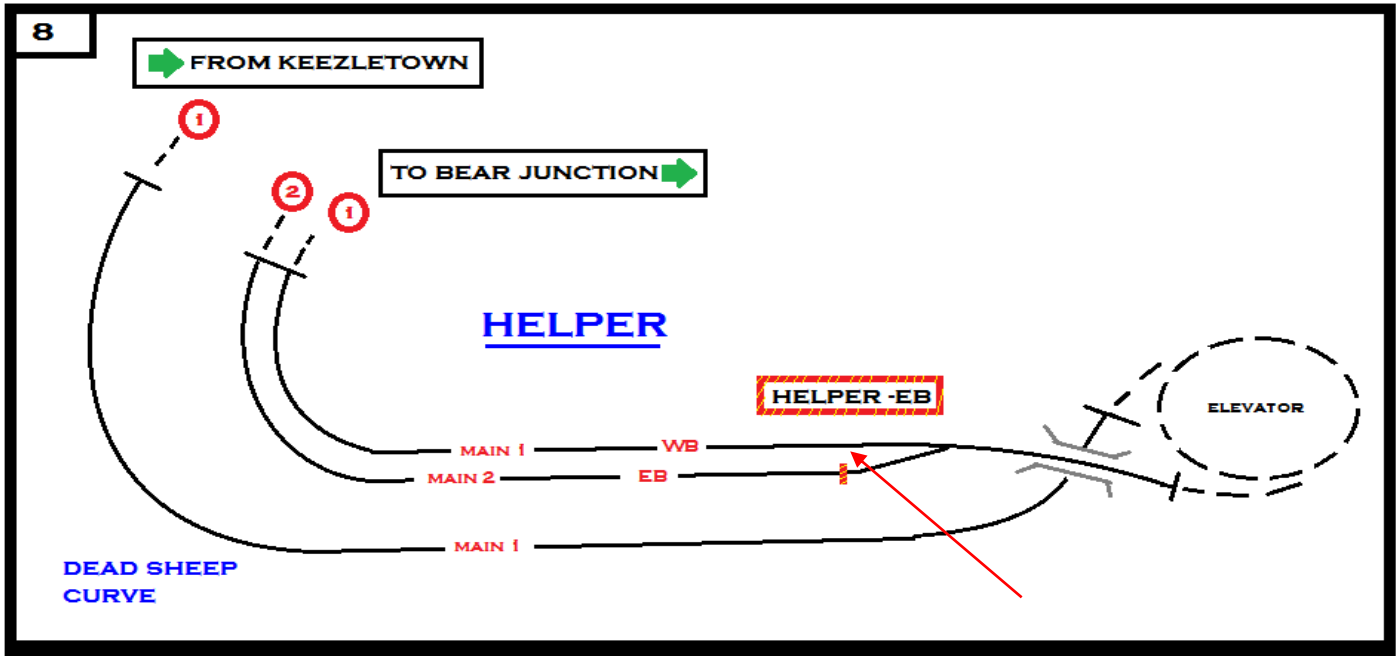




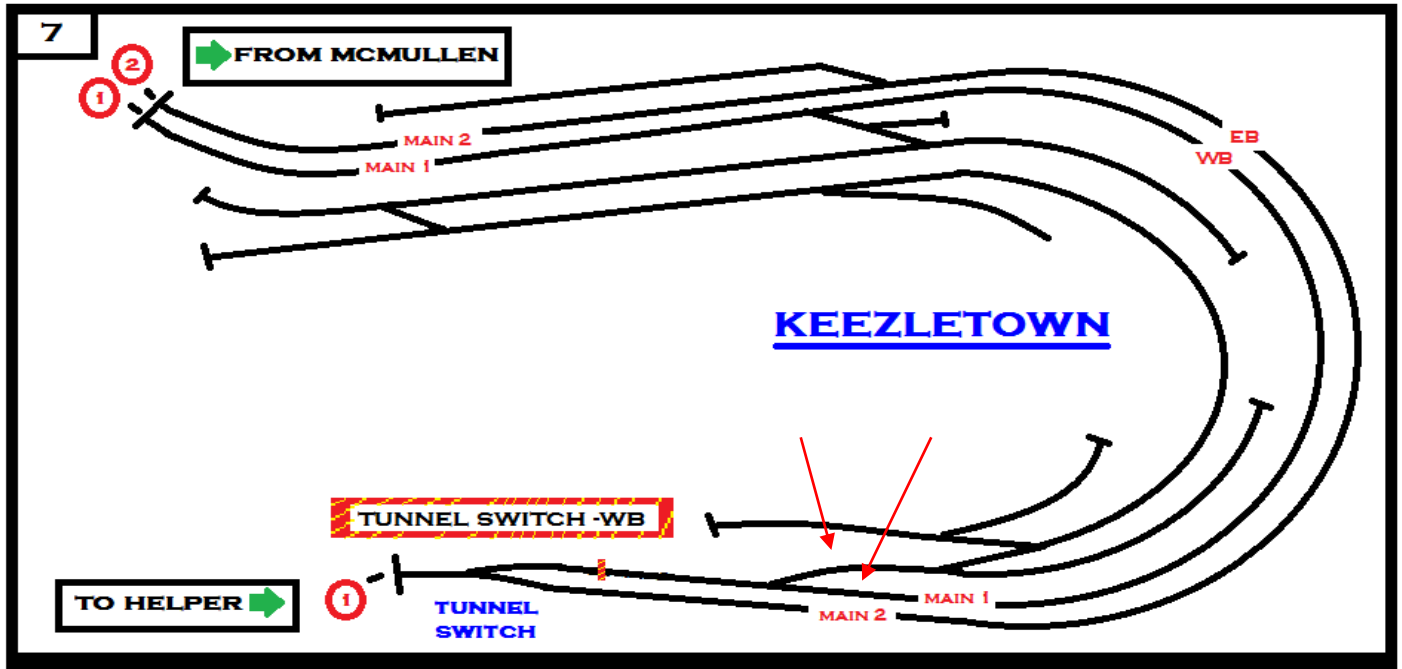






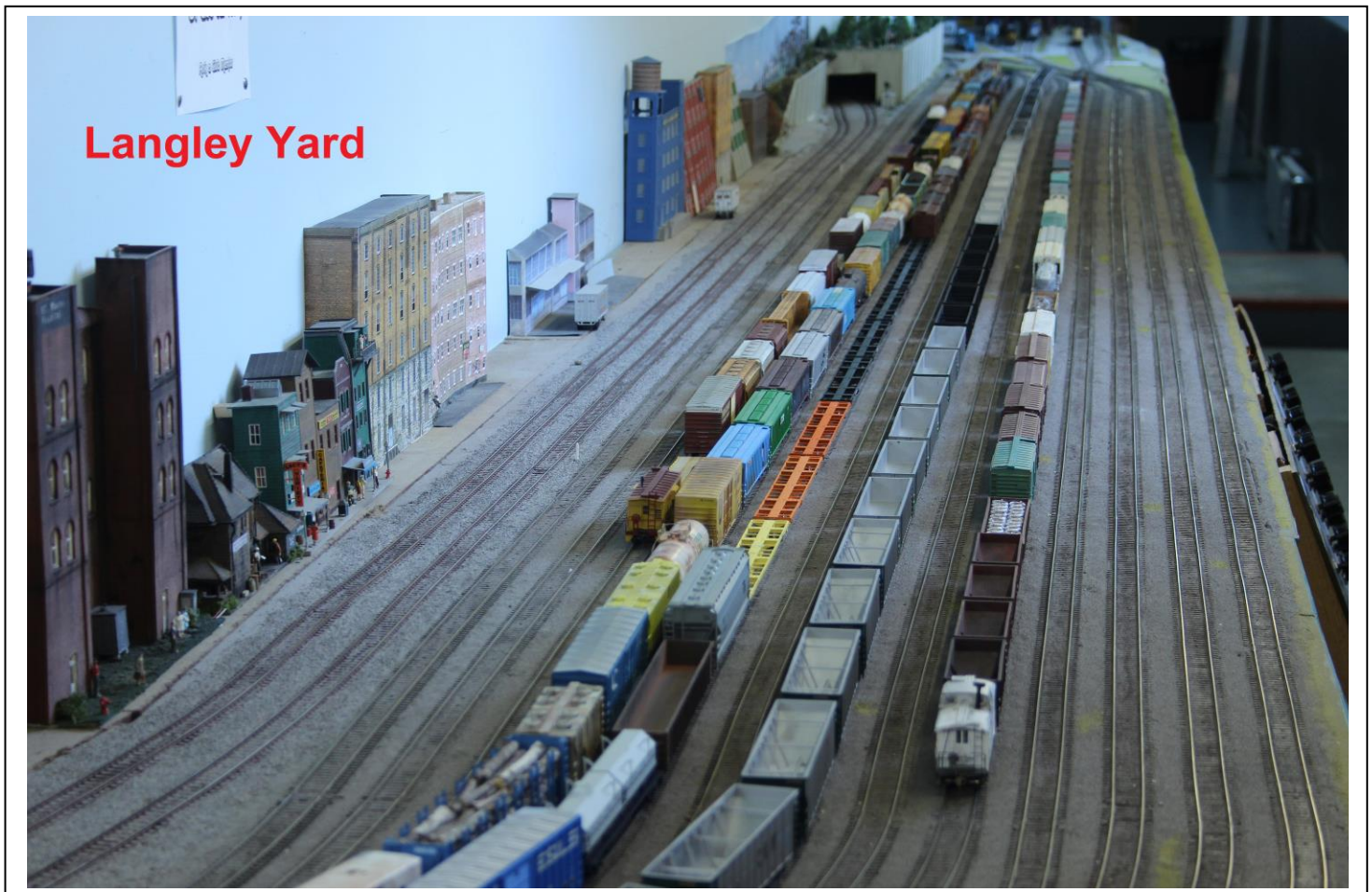
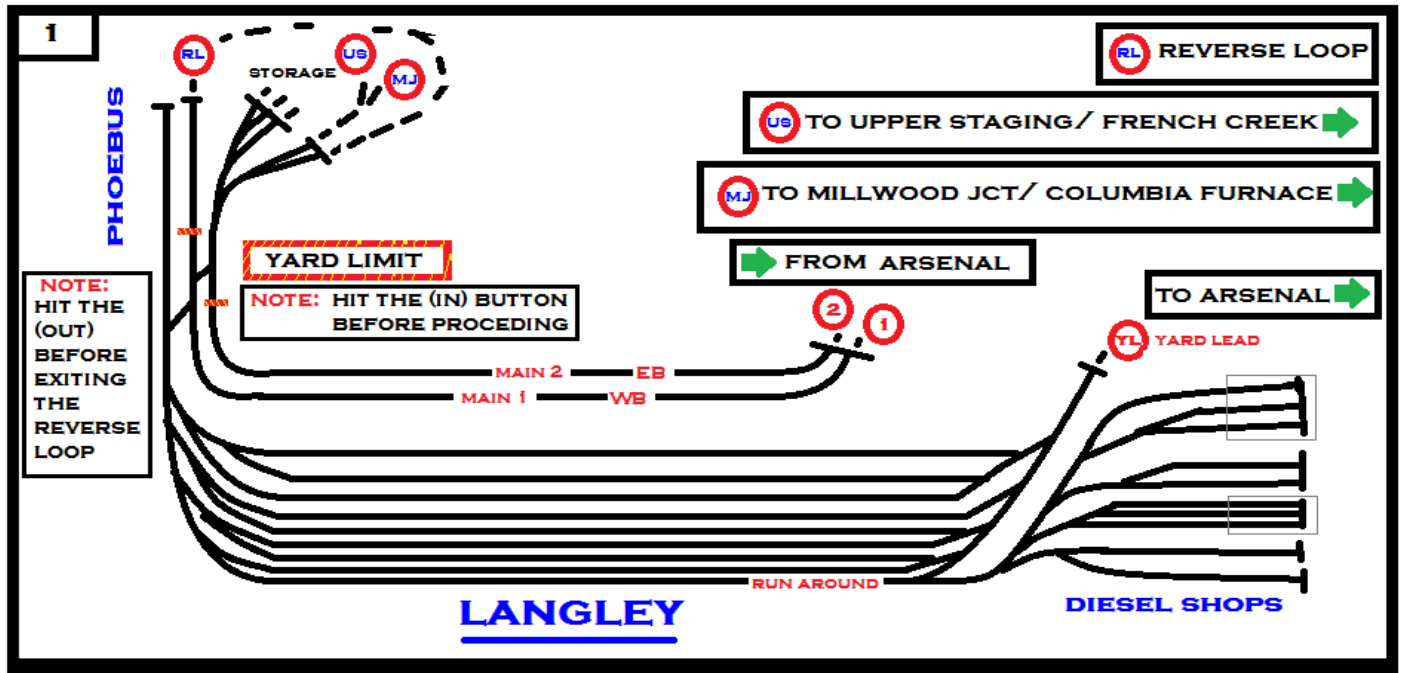




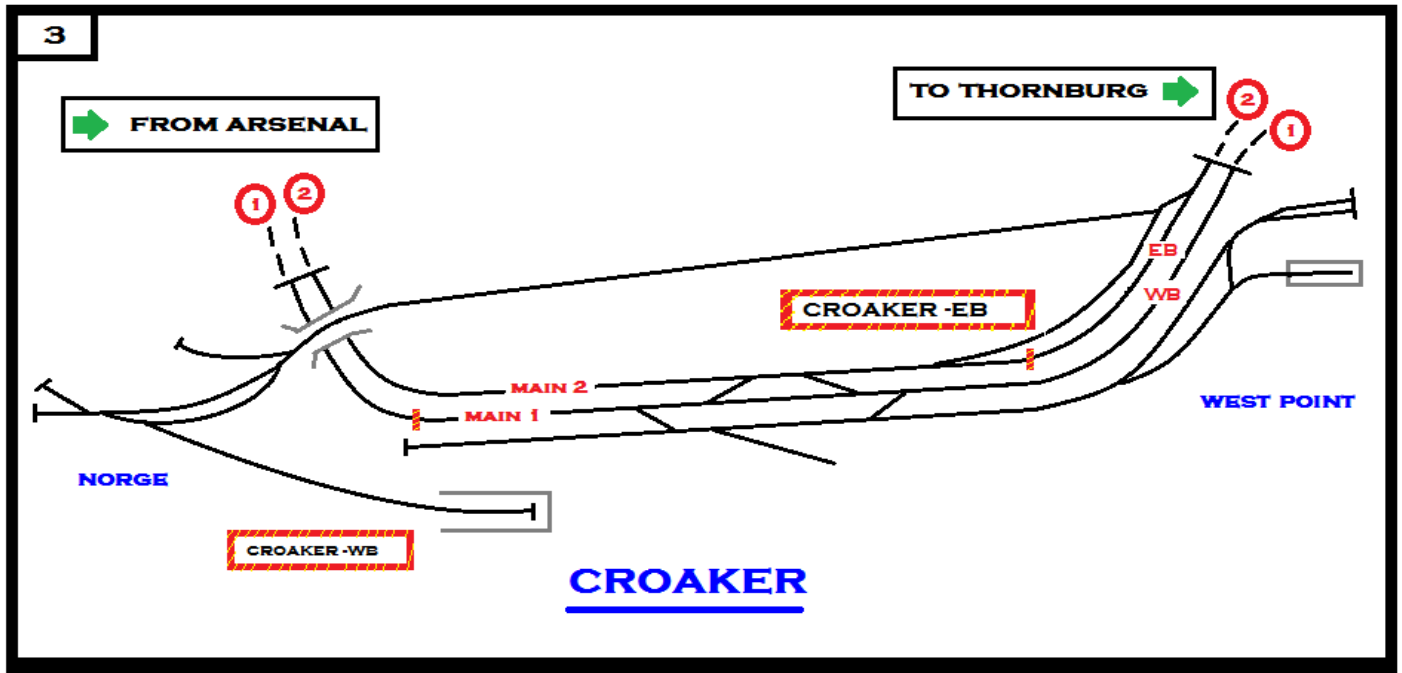


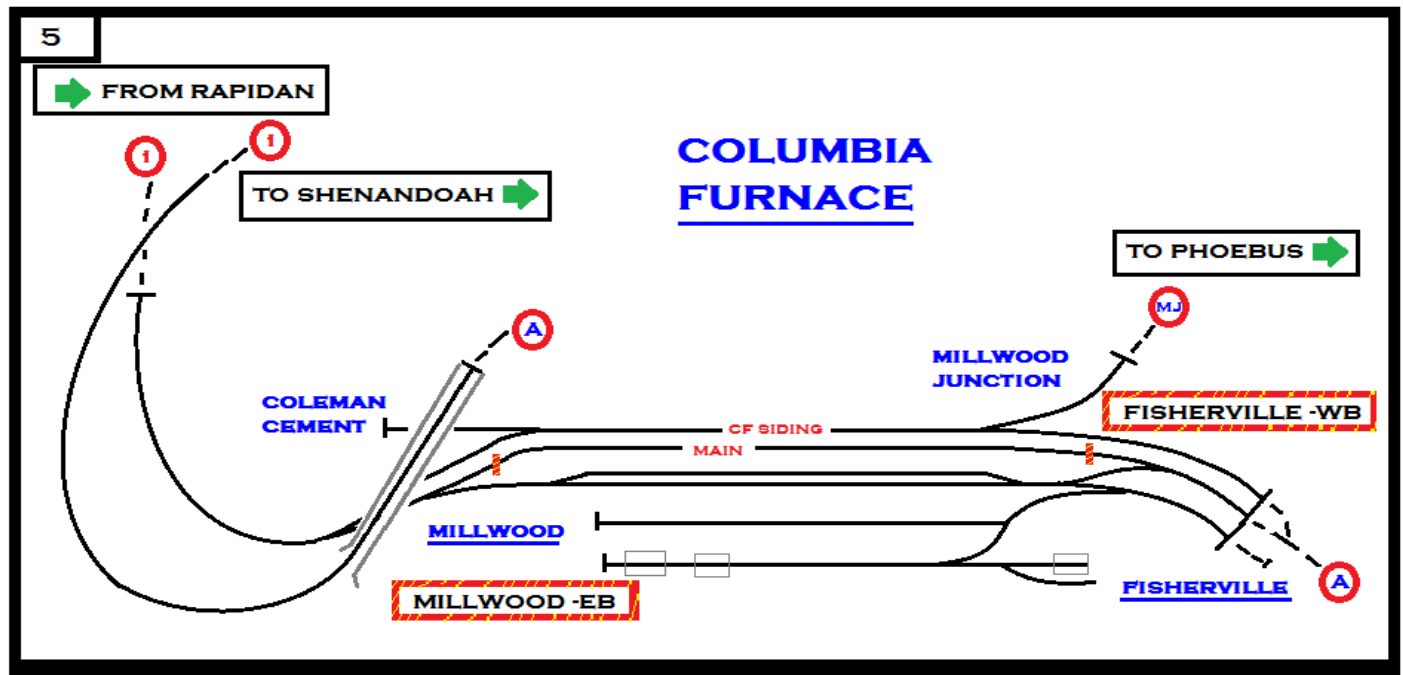
# CB&W Layout

(Langley Yard to Nelson Shops)

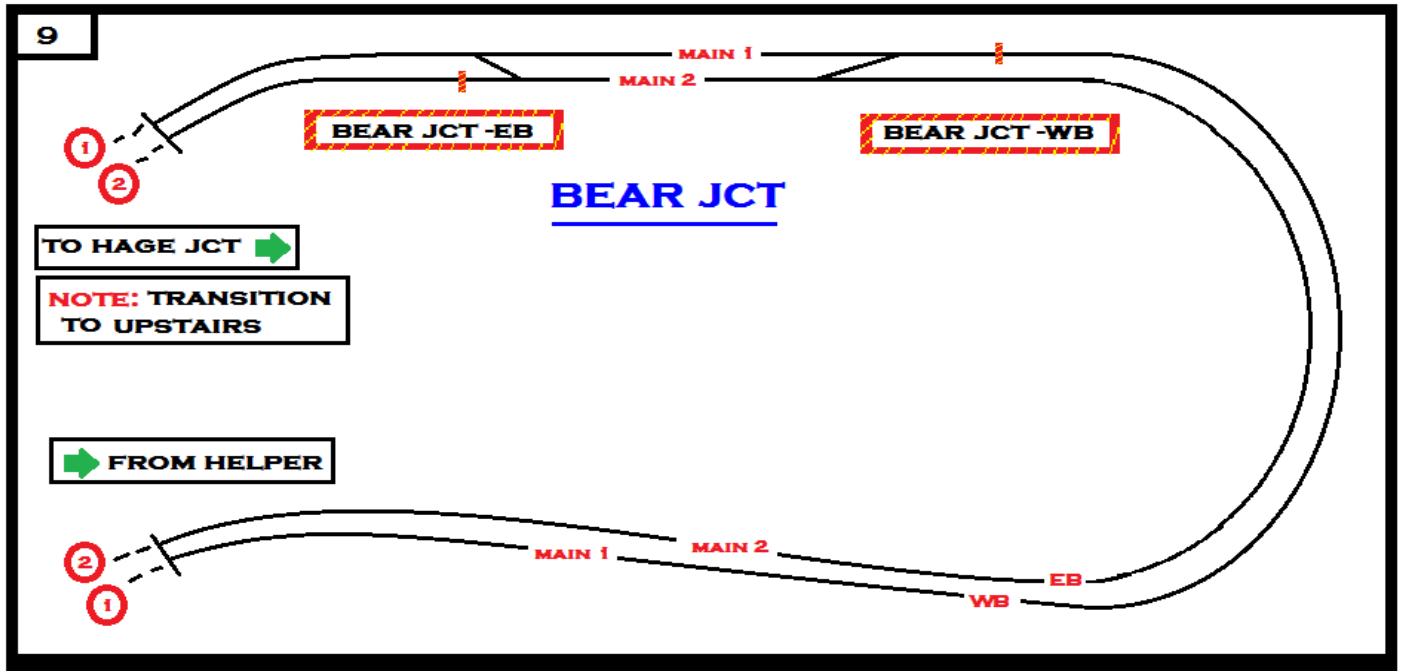


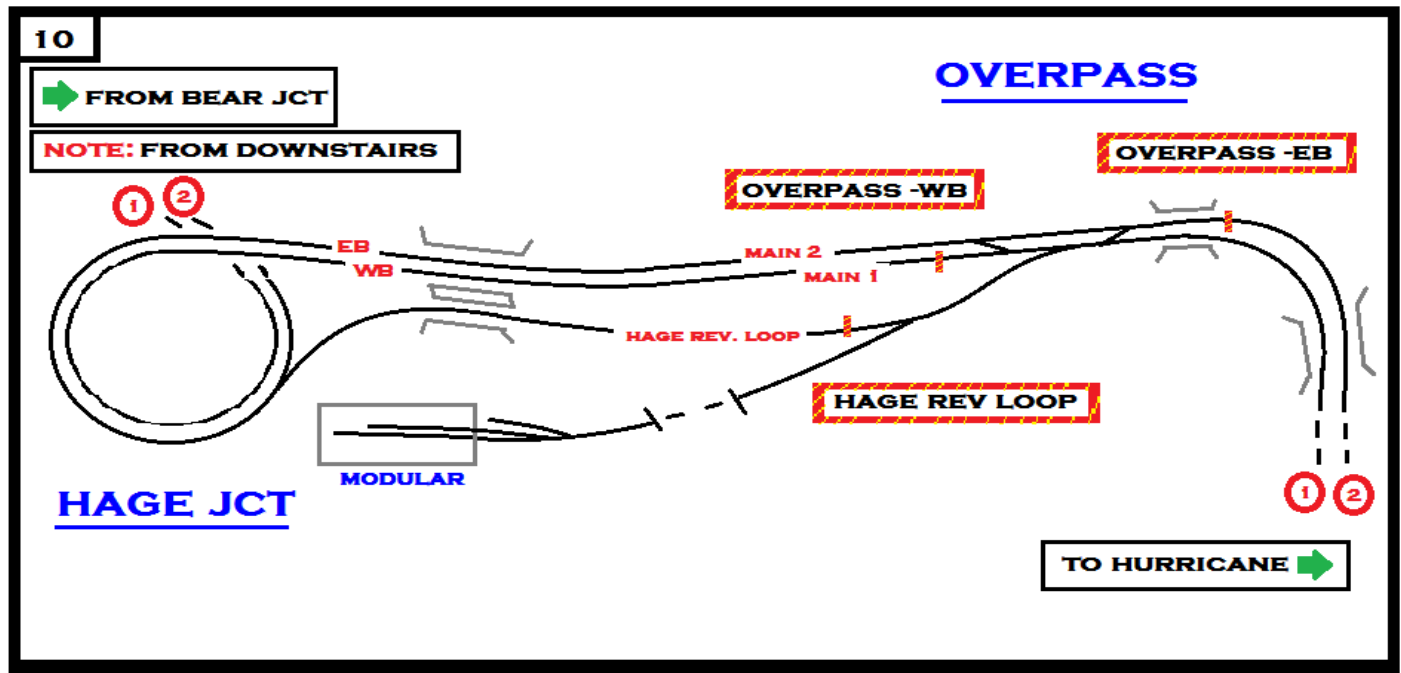




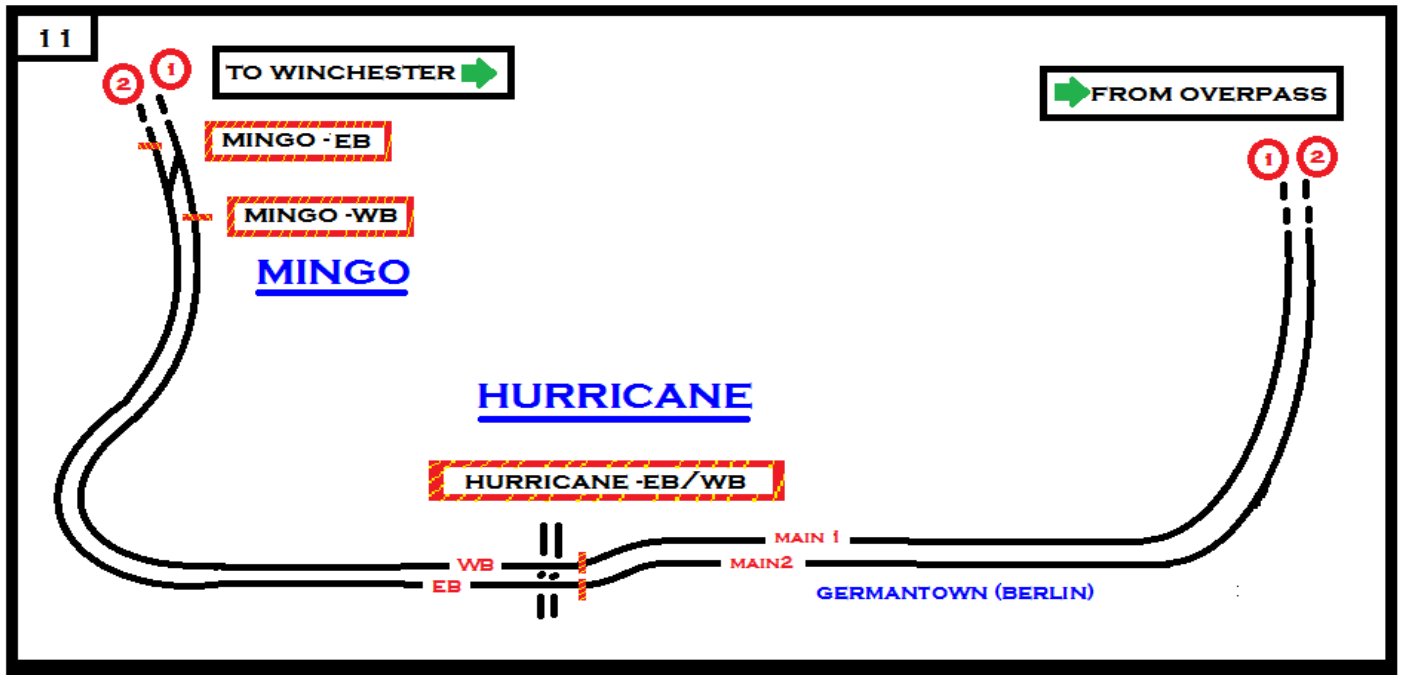


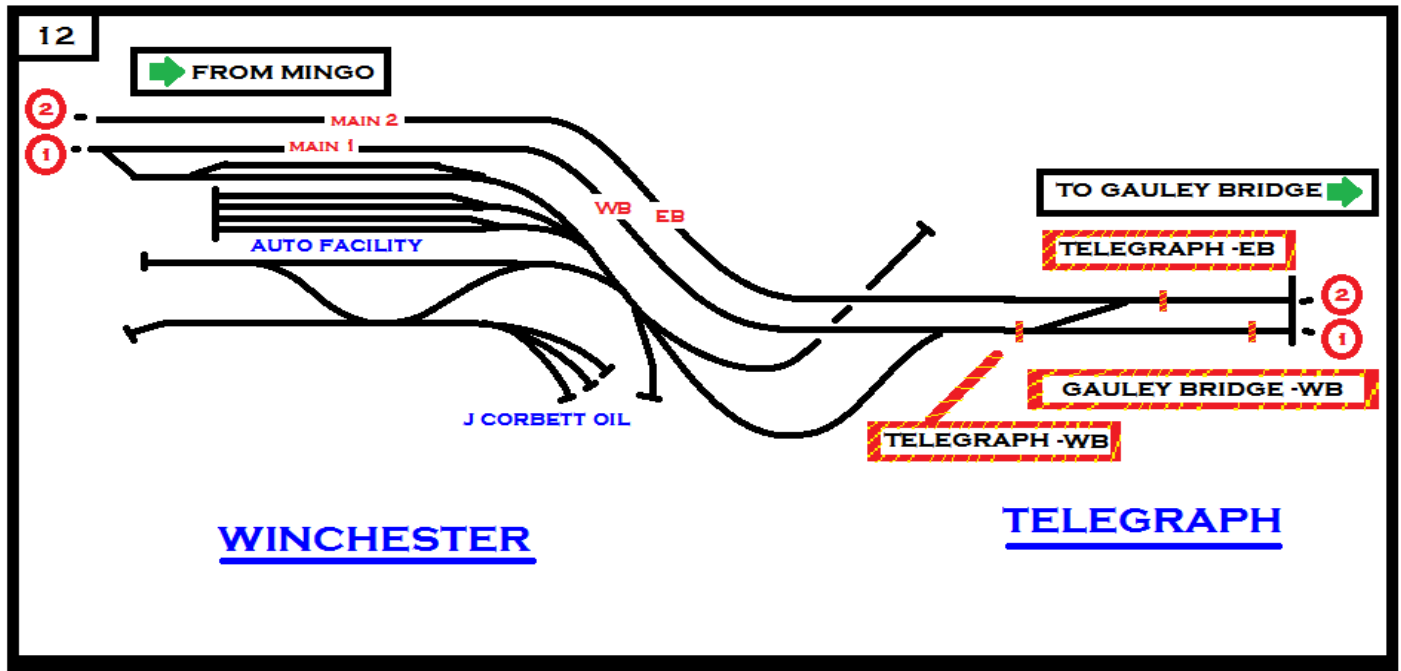




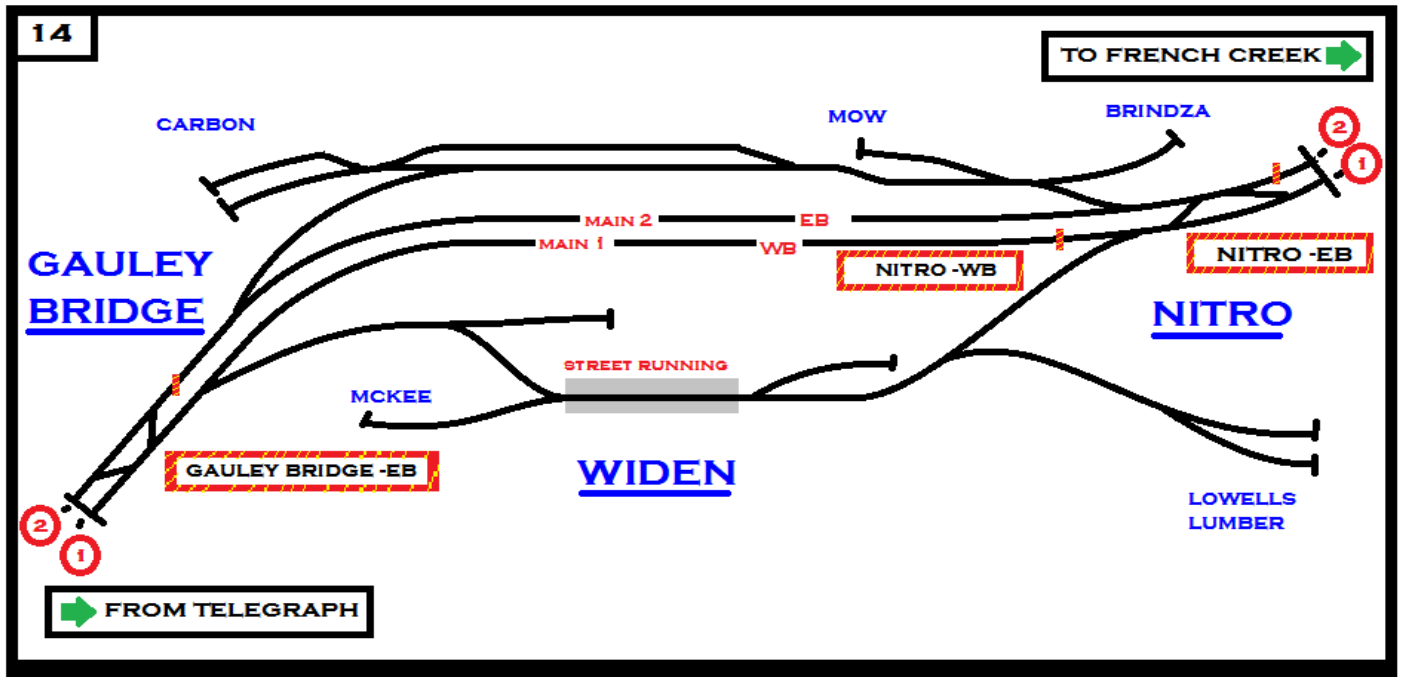


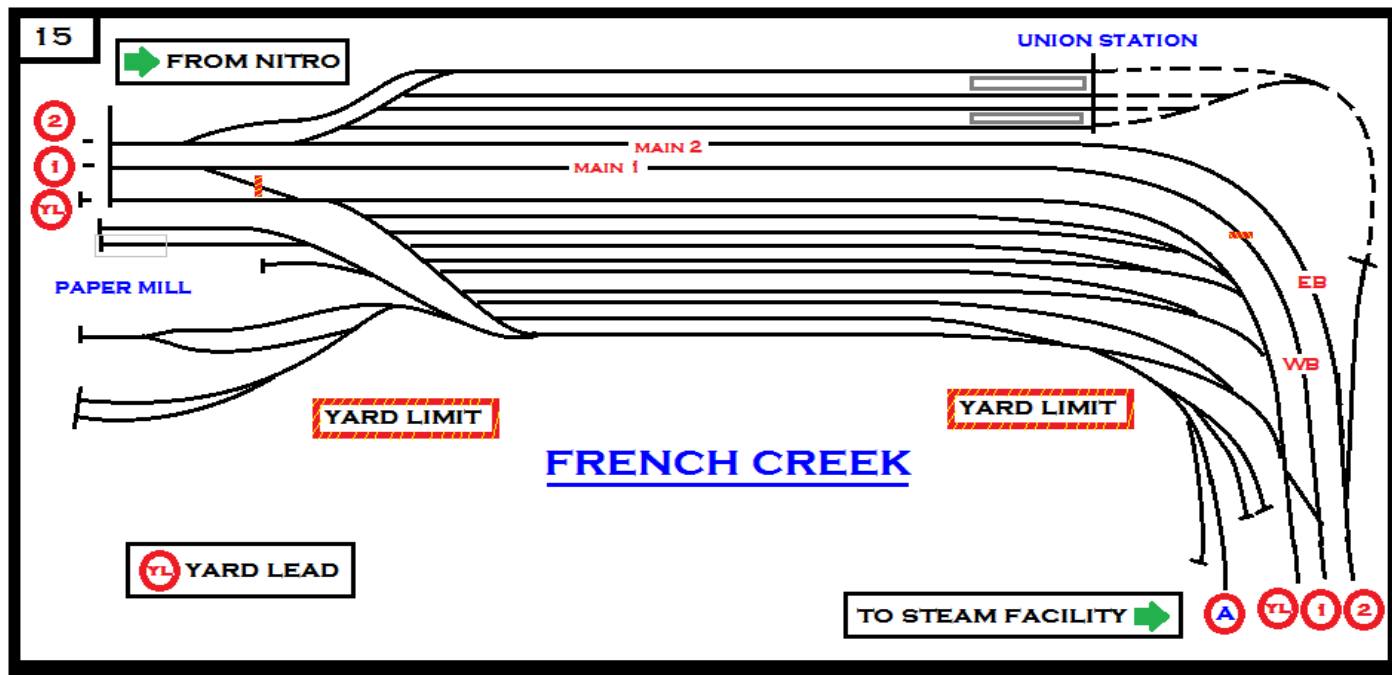




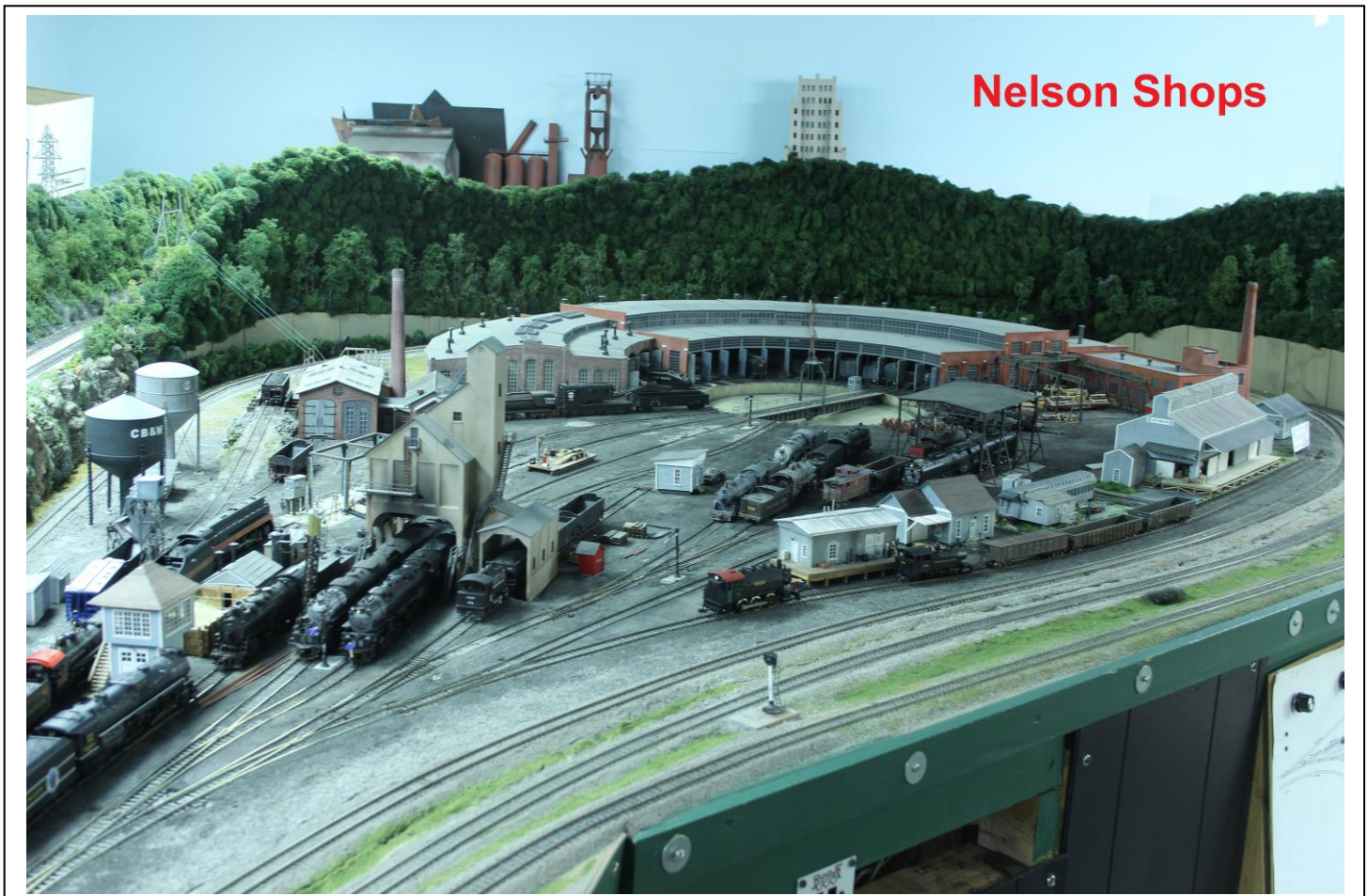
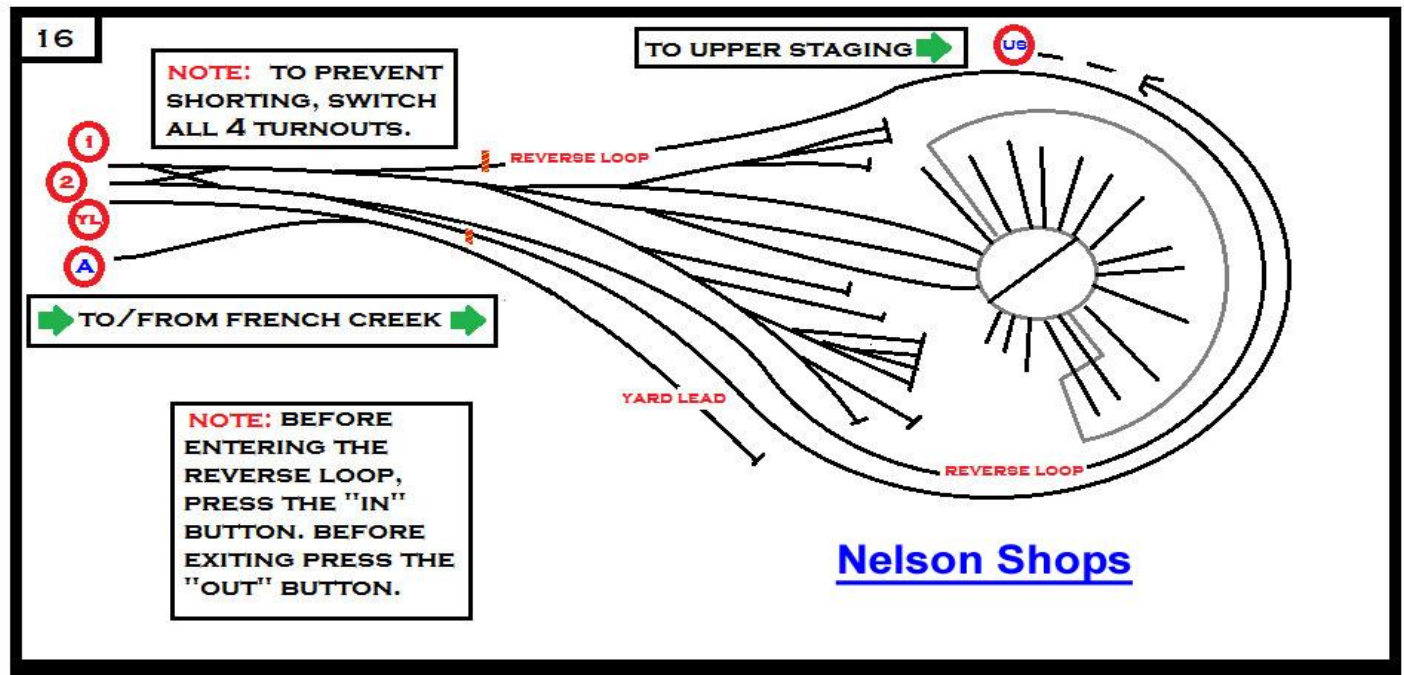






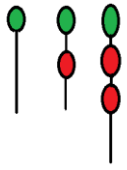
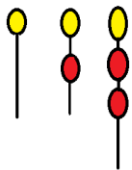
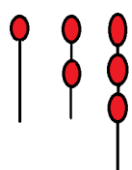




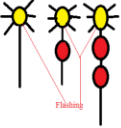






# Signal Aspect And Indications Rules

(current as of 1 June 2014)

Aspect	Name	Indication
	Clear	Proceed to the next signal
	Approach	Proceed to the next signal prepared to stop.
	Stop	Stop
	Medium Clear	Medium speed through turnouts , and crossover then proceed to the next signal.

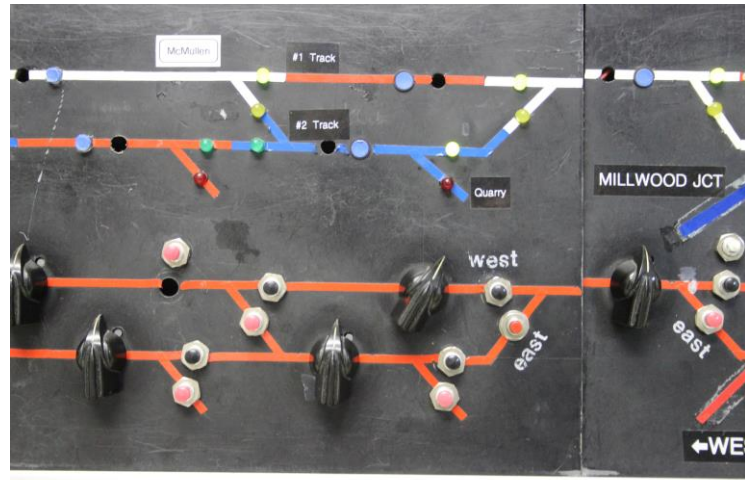
	Medium Approach	Medium speed through turnouts , and crossover then proceed to the next signal prepared to stop
	Approach Slow	Proceed to the next signal at slow speed prepared to stop
	Slow Approach	Slow speed through turnouts , and crossover then proceed to the next signal prepared to stop
	Restricting	Proceed at restricted speed.



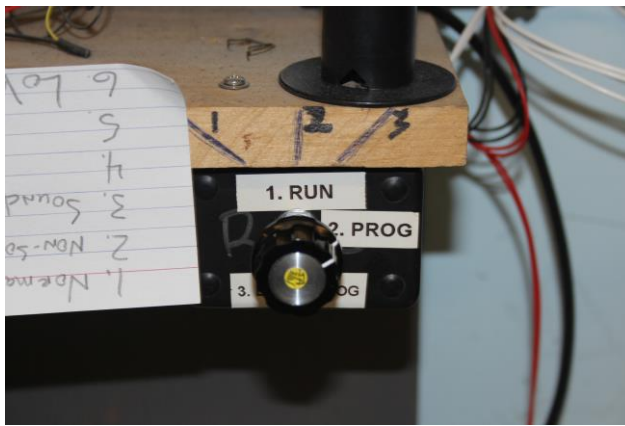
# Inside the Club - Photos



**Dispatcher's Camera Panel**



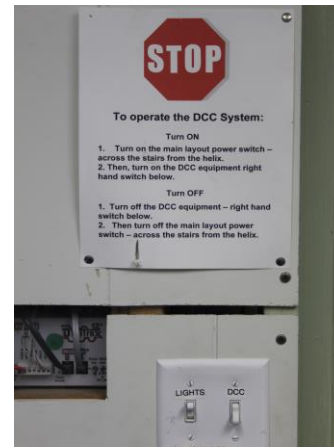
**Dispatcher Control Switches**



**DCC Programming Station**



**Club Lights & Layout Switches**







# CB&W Sponsor Training

The Sponsor will train a new member on all the aspects of the club as outlined below. The sponsor will sign-off the new member's checklist once they are confident on the level of knowledge. In the event an individual's sponsor is unavailable to complete an assigned tasks, either a Board member or committee chairman may sign off a task in the sponsor's absence. Should this happen, the trainee will inform their sponsor of this occurrence. The trainee should understand the sponsor does not need to be present in order to operate trains. The trainee is encouraged to be at the club as their schedules permit to operate trains. Finally once the checklist is signed off, it must be reviewed and signed by a member of the Board prior to the trainee being eligible for a full-membership vote.

Task	Start	Finish	Init	Remarks
1. Club Committee's				
1.1 If possible, introduce member to committee chairs.				
1.1.1 Explain each committee's role in the club.				
2. Member Orientation - House				
2.1 Know where the doors are, demonstrate ability open and close the locks. Be sure to close and lock the doors when leaving the club.				
2.2 Recognize where the light switches are. Be able to turn on & off the lights in all the areas (even outside) of the clubhouse. (see 3.1)				
2.3 Learn where the A/C controls are. Understand how to work them and know what temperature they should be set at in the winter/summer.				
2.4 Locate all the garbage cans in the club. Be sure to be able to locate empty garbage bags. Demonstrate ability to empty the garbage and replace the bag into the now empty garbage can. Display similar proficiency with emptying the soda cans. Remember, soda cans are recycled.				
2.5 Be able to locate the following items: cleaning supplies, broom, dust pan, vacuum, ladder and new florescent light bulbs. Demonstrate proper use of all these items.				
2.6 Fire extinguishers: understand their operation and know all club locations.				
3. Powering Up The Layout				
3.1 Lights and layout – following order: Near front door, switch outside of dispatch, layout light panel (x4), main train power and finally inside dispatch (lights & DCC) – scenery auxiliary lights (x4) optional (high near steps). <b>NOTE:</b> Always				

turn on Main Track Power before DCC and turned off after DCC				
3.2 Dispatch Office				
3.2.1 Switches – alignment for Main Line running				
3.2.1.1 Track leads at Arsenal and French Creek.				
3.2.1.2 Explain local vs dispatch control				
3.2.3. Turning on the cameras – demonstrate what the camera is and is not showing you (i.e. “Can’t see Langley Tunnel, Keezletown,” etc.)				
4. Equipment Needed				
4.1 Radio				
4.2 Headset with boom microphone				
4.3 Throttle: the recommended throttle is a Digitrax DT402D or the smaller UT4R, or download the appropriate app to your cell phone.				
5. Running on the layout – the member will:				
5.1 Know the four (4) choke points (Shenandoah, Rapidan, Tunnel Switch and Helper).				
5.2 Identify ALL points on dispatch board with corresponding track location (technique: use an engine and when light changes on the board, go out and see where the train is physically).				
5.2.1 Repeat for both Main #1 and Main #2				
5.3 In conjunction with 4.2, identify ALL block stopping points (NOTE: some have a combination of one or more)				
5.3.1 Markings (Blue) on the rail joiners				
5.4 New member should be familiar with localize running operations, i.e. Arsenal, Croaker, etc.				
6. Getting in and out of Langley and French Creek Yards.				
6.1 Setting power and switches at the two yards.				
6.2 Reverse loops (Steam Facility, Langley, Hage Jct, Upper & Lower Staging)				
6.2.1 Exceptions: non-US or integrated consists (i.e. an Acela)				
6.3 Using the elevator (ladder) going between the Steam Facility & Langley Yard				
6.4 The Langley Tunnel (Columbia Furnace to Langley Yard.				
6.5 Double crossover between Steam Facility				



and French Creek yard – settings needed to prevent a short.				
7. Derailments – show the new member where access points are for derailments.				
7.1 Under Union Station/Staging				
7.2 Auto rack				
7.3 Steam Facility				
7.4 The Diamonds				
7.5 Under the mountain by Gauley Bridge and underneath the lodge.				
7.6 Anywhere along the double track at Telegraph.				
7.7 single track between Millwood and Shenandoah (the coffin).				
7.8 Under the stairs from Langley Yard or approaching Croaker.				
8. Car Standards (if leaving cars on layout or running during a club event).				
8.1 Introduce to the Standards Committee Chairman. Be able to contact the Committee Chairman should any questions or concerns need to be addressed.				
8.2 Couplers – Kadee compatible				
8.2.1 Exceptions: non-US or integrated consists (i.e. an Acela)				
8.3 Metal wheels (all rolling stock regardless) in gauge per NMRA standards.				
8.4 Locomotives/Rolling Stock on the Layout				
8.4.1 Understand rules & responsibilities as they apply to using club locomotives/rolling stock.				
9. Signals (mention currently limited use in the club).				
9.1 Understand their meaning.				
10. Basic Programming: Once account is established. Understand Decoder Pro				
10.1 Use speed tables				
10.2 Renumber decoder with long/short address				
11. Throttle Operations				
11.1 How to “Dispatch” your locomotive once you’re done operating.				
12. Generalities				
12.1 Storage Shed & Trash – Key Location				
12.2 Club Phone Number				
12.3 Web Site				
13. Checklist Completion				
13.1 Sign off by member of BoD				<b><u>Must be accomplished prior to full membership vote.</u></b>