

Walnut Creek Model Railroad

D.V.L. Valley Operator Pamphlets

This document contains a collection of single and two page pamphlets for each panel position on the Walnut Creek Model Railroad Society's **Diablo Valley Lines**. This document covers the Valley district only. Each page includes a map of the area, explanation of the role of the yard, and how to perform common tasks. The text is brief and concise in this document.

Outline.

Each pamphlet contains an introduction to the area/yard in picture and text forms. "Local Operation" describes how to operate without interfering with neighboring areas/yards. The startup and shutdown procedures are outlined. Next are directions about receiving trains over interchange points. The page concludes with information about interesting operations within or near the yard.

These pages explain how to operate, not why or when. They are short notes on operation. This document is set up so each section may be printed all by itself. They are meant to be folded length-wise. New members, operators new to the position, or visitors wishing to provide a hand, can use these pamphlets. The author hopes this information is readable and usable.

Table Of Contents.

Introduction and Conventions.....	2
Diablo Arrival.....	3
Diablo Departure.....	5
Diablo Engine Facilities.....	7
Nevins Tower.....	8
Olympia Freight.....	9
Olympia Interurban.....	11
Setup Yard.....	12
Diablo Industrial District.....	14

*(Clicking a page number in the table-of-contents above, will cause MS-Word to move to that page.
Not applicable to pdf format.)*

Revision History.

5-Nov-96	Brian Witt	Initial typing in.
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Introduction and Conventions

Diable Valley Lines is an immense layout . To help you affect and determine what is going on, the layout provides controls and feedback. Controls include throttle power that can be local or from a mainline cab. Many turnouts also provide throttle power to the selected track. Feedback is in the form of LED's (light emitting diodes) on the yard panels. Track that overlaps with the mainline (e.g. a yard lead) has a 7-segment display that indicates the cab that's plugged the block. A blank display means no mainline cab has the block plugged.

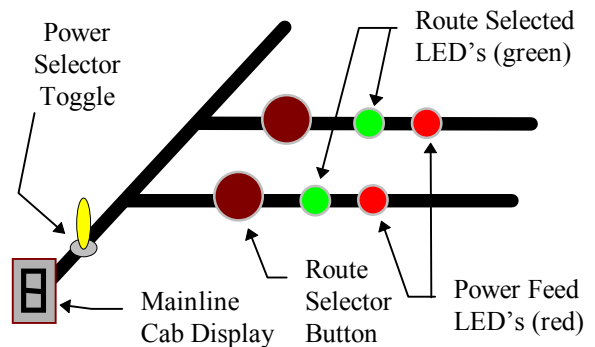
Nomenclature

A *switch* is on a panel, and can be a slider, push-button, or toggle switch. A *turnout* is part of the trackwork, and routes a train to one of two destinations. A railroad turnout is controlled by a panel switch. When you leave a panel, most turnout switches should be left in the down position. Switches with white dots above them are left in the up position.

When referring to a mainline block it is in **bold type**. Turnouts and yard ladders are referred to by a letter and a digit, like Y3. In the track schematics below, the mainline (or a through route) is in bold. Yard leads are numbered from 1. Occasionally there are letters before the number (like in Engine Facilities).

Throttle Power

Power selectors are three- or two-position toggle switches, depending on whether the panel “owns” the track or not. Owners can always gain throttle control of a block. Non-owners only gain control if the owner has released it. Down position gives control away (“foreign powered” or “release”), and up position tries to gain local throttle power to the track. If the track owner wants to power the track, (in most cases) all other panels and mainline cabs will instantly have their throttles disconnected from the track. Center position retains control, but doesn't provide power; useful for parking an engine. Panels that don't own the track have two-position toggles instead of three-position toggles, and lack the middle (off) position.



Route is indicated by green LED's, and power by red LED's. For a given track both green LED's can be lit, but at most one, and possibly neither, red LED will be lit.

Yard tracks are fed via the current route in the ladder. If both ends are set to the same track, the side that first selected the track powers it, and is marked by the red LED. If the power selector is set off (middle position), it yields power to the other side of the turnout ladder.

Panel Meters (Opens and Shorts)

Almost all of the throttles have two corresponding meters: one for track voltage and one for current draw. When an engine is powered, it draws more amps the heavier the load that's placed on it. A *short* means high amps are being drawn from the throttle, and the amp meter needle swings to the right. This can happen if a turnout is thrown under an engine, entering a reverse loop with wrong track power polarity (need to change the reverse loop direction switch), or in some engine derailments. An exposed wire inside an engine, or truck side frames touching the frame or uninsulated couplers, can also cause a short circuit.

The voltage meter is a general indicator of the speed of the engine. However, different brands of engines move at different speeds for the same voltage. If you power a block where there is no engine (and no car lighting), no current will be drawn and the amp meter will not respond (needle stays at 0 to the left), but the voltage will go up (needle swings to the right). When there is no load to draw current, this is called an *open circuit*. If the turnouts are aligned to where the engine isn't located, this can happen. If the engine derails, and at least one wheel set side is no longer in contact with the rails (e.g. the engine falls off the tracks), an open occurs. A loose wire inside the engine can also cause an open circuit, as can dirty engine wheels, or failure to plug your next block. If your reverse loop switches are set incorrectly, an open circuit can also occur.

Diablo Arrival

Arrival connects with the rest of the layout via Y2, Y3 and the **Interurban**. Within Diablo yard it connects to **Departure**, **Engine Facilities** and the **Hump** yard switching lead. The yard tracks have A/B end power (throttle) feeding indicated by a red LED, and route shown by a green LED. On the Y2 side, **Arrival** can be an external cab power source for **Engine Facilities** and for **Departure**.

What Happens Here

Freight trains can be received from Y2, Y3, or Y4R via RA (behind the roundhouse). For arriving trains, you allow the cab to power it to the end of the track. You should tell them when to stop. The engine and caboose are removed, and the hump yard takes the cars away. Steam engines can be sent to RA or XA in Engine Facilities to be turned around on the turntable. Diesels retrieve their caboose and head down the Y2 lead, then into Engine Facilities. Y9 does not lead to the Arrival yard.

Some movements require using the Y2 lead. Make sure Setup isn't moving a train to Departure during this time. Since Hump cannot power the Y2 lead, the Arrival operator must control his engine to retrieve the cars.

Local Operation

Since the job here is to receive trains on **Y3** (mostly), leave its two power selectors down (released to mainline cabs). Clear the RA turnout (toggle switch up) and pick an empty track. This way you're immediately ready for **Y3** inbound trains. For a show, you should probably set Y2 to Departure so Setup can send them more cars and engines.

Panel Shutdown

On the Y3 end, set a route to an empty track, put *both* power selectors down (release), and clear the RA turnout. On the Y2 end, set the power selector down.

Receiving On Y3

To receive freight from Y3 under cab power, set the Y3 power selector down, and the ladder power selector

down. Clear the RA turnout (switch up). On the Y2 ladder, choose a track you don't want the train to enter. On the receiving side (Y3), choose a track for the train. On the Y3 side, the green LED (route) and red LED (power) should be lit.

The route from **42R** across turnout C3 puts **Y3** on the other side of a reverse loop. If the trains stop, have the cab change their mainline direction switch. When the outer Y3 power selector is up and turnout Y3 is picked, it reaches up to turnouts C2 and C3.

Receiving On Y2

On occasion, trains will arrive on Y2. To set the route, the hump operator must set the H-M-S switch to M (main). On the right side of the Arrival panel, set Y2 to Arrival. Set the power selector down and select a track in the yard. On the Y2 side of the ladder the green LED (route) and red LED (power) should be lit.

Receiving on Y4R

On Departure, release power to the Y4 lead (toggle down), release the RA (if taken), and pick Y4 to RA. On Engine Facilities, release (toggle down) the RA lead, and clear the turnout to the diesel facilities, the roundhouse lead, and route around XA. On Arrival, grab the RA lead (toggle up) and the Y3 ladder (toggle on the Y3 ladder). Choose an empty track as if you were receiving on Y3.

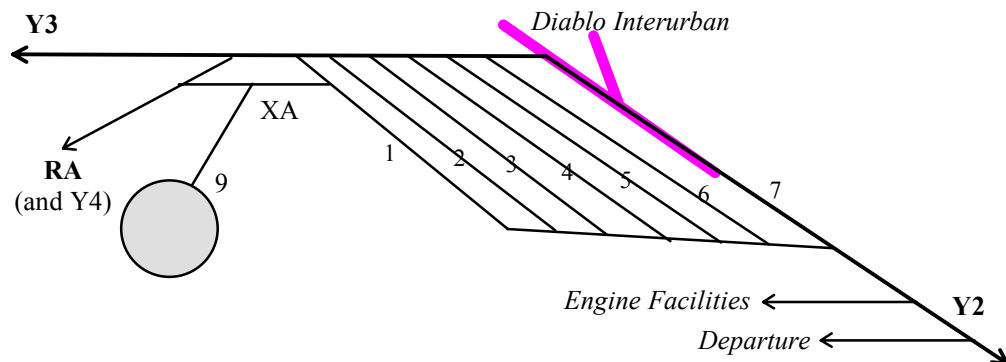
Do not *push* cars down the RA track. The curve near Y4 derails many cars and engines. Pull only short cuts of cars through here.

Giving to Interurban

Arrival track #7 (far back) is the interchange track. Have Interurban release the track (its power selector down) and clear both of its turnouts on track #7. Pick track #7 and drop off some cars. Drive your engine out and select a different track. Interurban can now grab power for the track and haul away the cars you've left there. Track #7 has three mag ramps, so you can enter on the Y2 or Y3 side. Depending on how many cars you're moving, you may need the Setup lead on Y2.

A Gathering of Engines

After receiving a train, flip the inner Y3 power selector up (local). Set the Y2 ladder end to the track where the train is. Again the green LED (route) and red LED (power) should both be lit. You can move a little way onto the Y2 lead. Usually, you uncouple the engines, go around to the rear of the train and get just the caboose.



Move the engine and caboose to an empty track in Arrival and wait for Engine Facilities to receive them.

into the yard and gather a bunch of cars. If the caboose is still attached, it can be uncoupled at the Y2 end.

Giving to Engine Facilities

Use either XA, RA or the Y2 lead to move engines to Engine Facilities. Diesels go RA or Y2, steam engines go XA or Y2, and engines with cabooses should go out Y2.

For XA drop-offs, Engines Facilities must yield power (its power selector down) and set turnout XA appropriately. Run steam engines down the turntable lead. Else if you park an engine on XA, you can turn the power off to it.

Set a route down Y2 for the engine and caboose. Ensure Arrival's power selector for Y2 is up. On the far left of the panel, set route from Y2 to Arrival. Facilities should have their leftmost power selector down (Y2 lead to the caboose tracks). Drive the engines down Y2, making sure you don't fowl the mainline. If you need more room, have Hump throw the H-M-S turnout control to S (setup). Go past the turnout to Engine Facilities on Y2. On the Arrival panel throw the turnout, and set the lead's power selector on the Arrival panel up (the small metal handle toggle switch). Take the engines off the Y2 lead. Once inside turn off your power to Facilities (toggle down) and you're done.

Straight to Departure

Sometimes Departure has an immediate need for an engine and/or cars. First, make sure Y2 is available, then ask the Hump operator to throw the H-M-S turnout control to S (setup); this provides you a long lead to back up the train without interfering with the mainline. Have Departure provide a route in and release the Y2 end (power selector down). On the far left of the panel, set a route from Y2 to Arrival. Have Departure set a route to an empty track, and release its Y2 power (selector down).

Drive the train down until it's past the entrance to Departure. On the Arrival panel throw the turnout, and set the lead's power selector on the Arrival panel up (the small metal handle toggle switch), and a small red LED should light up. Drive in to the awaiting track.

To cleanup, release Arrival power to the Y2 end of Departure and the Y2 lead (both power selectors are on the Arrival panel). Let Hump know you're done with the H-M-S turnout.

Giving to the Hump Yard

The Hump yard is only busy when Arrival gives them cars to classify. Cars can be moved while waiting for Engine Facilities to become ready to receive the engine and caboose. The hump guy will move his engines up hump's switching lead, then throw the H-M-S turnout to H (hump) and pick the turnout on the hump lead. You set Y2 lead to Arrival yard, set the Y2 power selector up to control the hump engines, and then choose a route. The red and green LED's do their thing. Move the engines

Diablo Departure

Departure builds up trains from cars moved from the classification yard. Trains depart Y6 to block 60, Y4R to block 40 or 41, or Y9 to block 4. The area connects with **Diablo Arrival** and **Hump Yard**. With its connection to Y2, it can take engines directly from **Setup**.

What Happens Here

Trains are built up with engines in from Engine Facilities, cars from the hump yard, and a cabooses from the cabooses track. When a cab operator needs a train, it leaves out the Y4R, Y6 or Y9 lead. Stay with the cab (using the intercom) under the cabooses is out of sight. If a train is ready, but the mainline turnout isn't throw, have the cab operator pull out anyway. The Y4R and Y9 leads can handle trains over 35 feet long (70 40' cars)!

On the Y2 end, the Long Track is selected by flipping up a toggle switch. Unfortunately, selecting another track on the Y2 end does not release the Long Track turnout. There are two unpowered crossovers: one between

Local Operation

Set the power selector toggle switches up. There are five of them: the cabooses area, track between cabooses and RH tracks, the track to Departure, XA lead to Arrival, and RH (behind the roundhouse). If there is no Engine Facilities operator, turn the panel's EF/DEP power toggle to "EF."

Panel Shutdown

Move all power selectors down, turn off the long track turnout at Y2 end), and release power to Y4R, Y6 and Y9. Release RA and RH4 (two toggles) in Engine Facilities, and make sure the EF/DEP power toggle is towards EF. Put all turnout controls down except those with a white dot above them. Hit the RESET button to remove track power.

Yard Maneuvers

Move your engine from the Departure ladder to the

bottom of the Hump yard. To get across, flip the Y9/Y4R crossover switch to the left, and power the Y9 lead. Once onto Y9, center the crossover switch, choose a route in the Hump yard, and power it by flipping up (local) the black handled toggle switch. In the down position it powers using the selected route to Y4R, Y6 or Y9. This way Nevins can reach the Hump yard. The electrical power gaps are located at the left end the icing platform (as viewed for the Departure operator's position).

The engine returns with cars, which are dropped off on, the Departure leads. A cabooses can either be the first car on the track, or picked up just as the trains leaves.

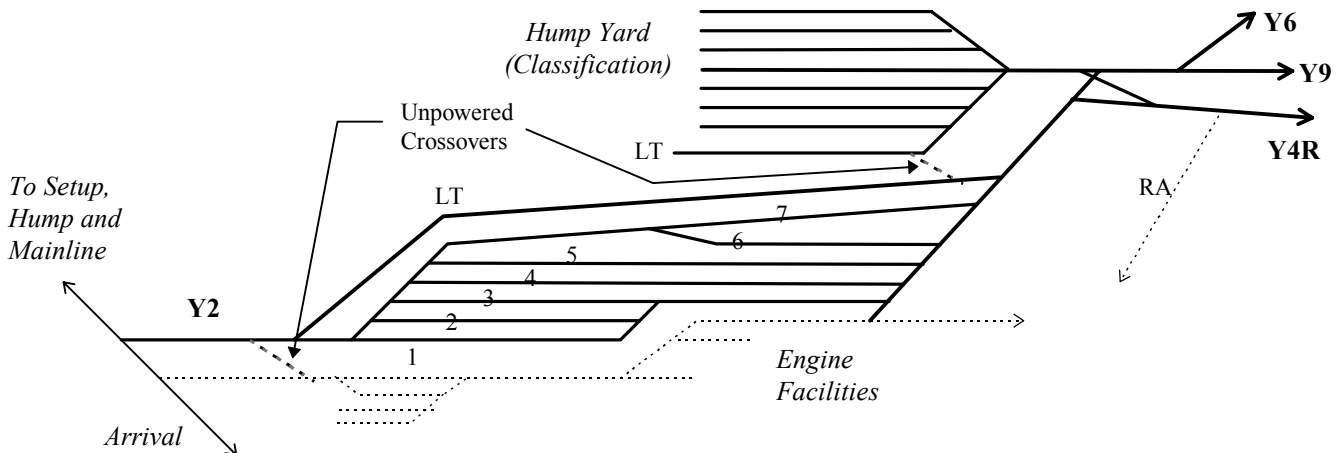
Departures Out Y4R, Y6, Y9

Trains generally leave out Y4R, Y6 or Y9. Since this end of the yard can be seen clearly from about a third of the cab stations, you should have engine hitched up before turning power control over to the cab. Set the Departure ladder power selector down (release). Select the outgoing route and set its power selector down. Stay with the cab until the cabooses disappears into the tunnel.

Block Y4R is a reverse loop. By watching the direction lights on the big board and plugging the next block out (usually 40), both of the cab's direction switches can be set.

From Setup on Y2

This requires Dispatch to clear Y1 and Y2, and the Hump yard operator to pick "S" on the H-M-S control. Arrival must set the Y2 lead to the Departure yard. Departure's Y1 and Y2 LED's should show green now. Set the Y2 power toggle up (local) and have Setup throw the Y1 lead power selector down (release). Its "DEP" and "Y1" LED's should also be green. If not, make sure Dispatch has cleared Y1 and Y2. Lastly, Departure should select a track for the train. Since the Long Track power doesn't feed form Y2, it cannot be used. Power up and have Setup you tell when the trains is moving.



Departure From Hump Yard

If a cab calls for a train currently in the hump yard, a departure can occur from the hump yard directly. Set a route to the departure lead, and flip its power toggle down (release). In the middle of the hump yard schematic on the Departure panel is its power toggle switch (black handle). Flip it down. This configuration is nice since the departure ladder is still under local control and switching can continue.

From Arrival on Y2

The turnouts and power selectors need to be setup similar to that for Setup. If Departure's Y2 power selector is down (release), then Arrival can power a train into the yard. On Arrival's panel, turn up the power toggle for Departure. A small red LED should light. If powering externally, the Long Track cannot be a destination since it doesn't feed power from Y2.

Diablo Engine Facilities

Engine Facilities provides storage for steam and diesel locomotives and space for caboose storage as well. It is equipped with refueling and cleaning facilities. This area connects with **Diablo Arrival** and **Departure**. With the connection to Y2, it can take engines directly from **Setup**.

What Happens Here

Steam engines arrive on the Y2 lead, RA or XA to be turned around on the turntable if needed. Before assignment, the engine may stop under the coaling tower. Diesels appear on the same leads as steam engines. The diesel area is equipped with a shop and cleaning racks. There are four caboose tracks, which may or may not be the best place to store cabooses.

These facilities make ready an engine-caboose combination for Departure. As they pull out towards the Y4R end of Departure, the caboose can be left above track RH4. The engine continues on, picks up cars and pulls them out the Y4R lead. Then it backs down to pick up the caboose. The consist is then stored on a track in Departure waiting for an assignment from Dispatch.

Don't forget the coal towers need coal hoppers for deliveries. The roundhouse needs heavy machinery from time to time from flatcars, and scarp iron leaves in gondolas.

Local Operation

Set the power selector toggle switches up. There are five of them: (1) the caboose area, (2) track between caboose and RH tracks, (3) the track to Departure, (4) XA lead to Arrival, and (5) RA (behind the roundhouse).

The throttle can be independent, or "borrowed" from Departure. If there is a Facilities operator, flip the DEP/EF toggle EF, which also separates the panels. For some moves, it's easier to use this toggle rather than Facilities releasing track power.

Panel Shutdown

Put all turnout controls down except those with a white dot above them. White dot marked turnouts are left in the up position. Move all power selectors down. Hit the RESET button to remove track power. Flip the DEP/EF toggle to EF so the next operator isn't surprised.

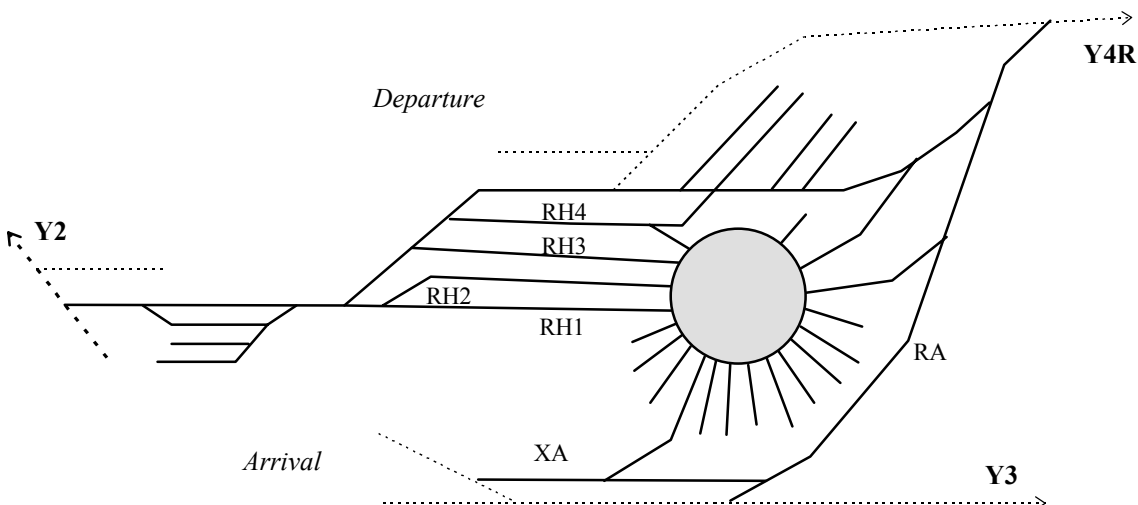
Push-button Blocks

There are many blocks that get power when a push-button is held down. This applies to the RH tracks, diesel facilities, and the roundhouse leads. Some are push on-push off action. If an engine starts to move unexpectedly, hit the RESET button to remove power to all push-button controlled blocks. As an engine moves through the terminal, you will need to let go of some buttons and press new buttons.

Receiving from Arrival

Once Arrival uncouples the engine and caboose from a recent arrival, they will head to Engine Facilities to await their next assignment. Diesels are driven into the caboose area. Arrival will pick the Y2 turnout. Facilities must release that portion of its track including the track between the caboose area and the RH tracks (two left-most power selectors down).

Steam can arrive on XA via turntable track #8. Facilities must release that portion of its track for Arrival to park engines here.



Nevins Tower

Nevins Tower straddles the mainline at blocks **44**, **46**, **46S** and **60**. When this panel is powered, only it controls the five turnouts and the double crossover here, not Dispatch. Given a route, Nevins can reach into **Olympia Freight** yard from blocks **46** or **46S**. Nevins can force a route up Y6 into **Diablo Departure** or the **Hump** yard. It can also reach into **DID** via J1 and J2.

Nevins' industry includes freight, cattle, and the Bigg-O Oil refinery, allowing a variety of cars to be switched.

What Happens Here

Nevins can wait for freight trains to arrive, or it can go get freight from neighboring yards. If you decide to switch a passing freight train, have Dispatch route it to **46S** to reduce interference with thru traffic. The operator shuffles cars from one side of Nevins to the other. If needed, the mainline blocks can be used for temporary storage (with Dispatch permission or notification). Block **46S** is useful for Nevins; try to keep a route from block **44** clear for thru-trains. When you venture onto the mainline to Olympia or Diablo, inform Valley Dispatch first. Your call may annoy them, but they'll be more annoyed if two trains collide!

The Nevins panel is right next to the public, so you'll be answering frequent of questions. Don't put yourself into a long maneuver with the mainline if chatty people are nearby.

Local Operation

An unmarked switch turns the panel on and off. While switching keep the crossover de-activated and the mainline turnouts in their neutral position, i.e. straight through. Change the turnouts as you need them.

Panel Shutdown

Put all turnout controls down except those with a white dot above them. White dot marked turnouts are left in the up position. Move mainline power selectors down.

To and From Diablo

Using block **60** and turnout Y6, Nevins can reach into Diablo Departure or the bottom of the hump yard; the

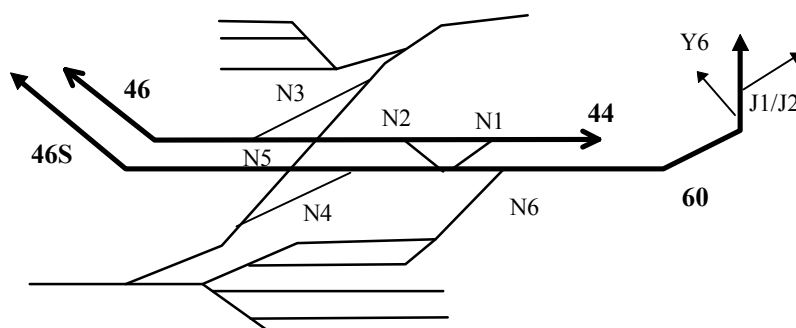
route is determined by the Departure panel. The Y6 switch on Nevins' panel (upper-right corner) forces the route, and Dispatch cannot take it away from Nevins once set, so be careful. Be sure to contact Dispatch first. On Diablo set Y6 power selector down (release, or external). Do the same for Hump or the Departure lead (depending on the internal route). Once you're done and clear of Y6, set the turnout's switch on Nevins' panel to center position (neutral) and flip down (release) block **60**'s power selector.

To and From D.I.D.

With the flick of a switch, Nevins, can force a route to DID via J1 and J2. The DID operator sets the power selector down (release) for the lead between J2 and the double crossover, and Nevins can drive right in. Make sure the mainline is clear by checking with Dispatch and the DID operator is ready to receive your engine. Use either N4 or N6 to get to block **60**. Pick the turnout and flip the power selector up for block **60**.

To and From Olympia Freight

Although Nevins can control X3, it doesn't control the "T" end of Olympia passenger yard. Start from either **46** or **46S** and ask Dispatch for a route to Olympia. Once granted, flip X3 up (in upper-left corner); this will grab the turnout and power the X3 ladder. Have Olympia Freight select a track (different on each side). Drive your train in or out. Once done, drop X3 and inform Dispatch you're done.



Olympia Freight

Olympia Freight yard connects with the rest of the layout via X3, X5, and the **Interurban**. Olympia is the lower terminus for the Branch-line that connects to **Potterstown**. Olympia can take trains from X1 (Passenger Setup), and can control main blocks **50**, **50S** and **50R**.

There is a double track engine facility and single track engine house to display engines or cabooses. These tracks contain sub-blocks which can be powered on or off individually. The yard tracks have A/B end power (throttle) feeding, but there are no panel indicators. The X5 yard ladder is not reliable. Since there are no panel indicators for routing (Fall '96) you must manually inspect the turnouts.

What Happens Here

Olympia yard doesn't have all the features of Diablo. It is smaller than Diablo, and has a tiny switching lead on the X3 end. Also, to turn an engine or train around requires use of the mainline. This can make shuffling cars between trains difficult. Use **50R** as the switching lead, and try to keep cars out of the lumber spur off X3; that space is valuable!

Trains typically enter and leave X3. This provides maximum "show time" for the public. On the X5 end, Olympia can control blocks **50** and **50S**, usurping mainline control. This is helpful when turning trains, or routing from X1. Currently, the tunnel for 50R cannot handle double-stack COFC or "autorack" cars.

Many yard movements require using the X5 lead. If a mainline train just used X5, make sure the route switch is set all the way up for a route towards **50R**. Some dispatchers may want you to power this lead only when needed.

Local Operation

To operate locally, pick the lumber spur on X3 (toggle switch up), set X5 lead up (using **50R**), and power selector toggles up for X3 and X5 ladders. The power direction for **50R** should be away from the main yard. (Note some Dispatchers regard **50R** as mainline territory, so you must power it only when needed.) On the interurban panel, clear the crossover on track #5. On the

Mallard end, set the Interurban three-way turnout to middle or up.

Olympia's X5 turnout toggle switch connects with mainline (down), towards **50R** (middle), or onto **50R** (up, common position). For mainline route **50R** to **48B**, this switch must not be in the up position.

Panel Shutdown

When you leave, you should set the yard to receive a train on both X3 and X5. On the X3 side select a route from the mainline to an empty track with the power selector down, clearing the spur turnout. Same for the X5 side, plus have the X5 turnout down (mainline) and the **50R** direction toggle in the middle position (off), which allows mainline cabs to use **50R**. The toggle on track #1 into the engine facilities should be down.

Receiving On X3

Dispatch (or Nevins) will pick X3. You clear the lumber spur turnout, choose an empty track, and set the power selector down (release). If the destination is track #1 or #2, be sure the engine facility turnout toggle switch is up. For track #5, ensure the interurban crossover is straight. For all tracks, the X5 end should be a different track.

Receiving on X5

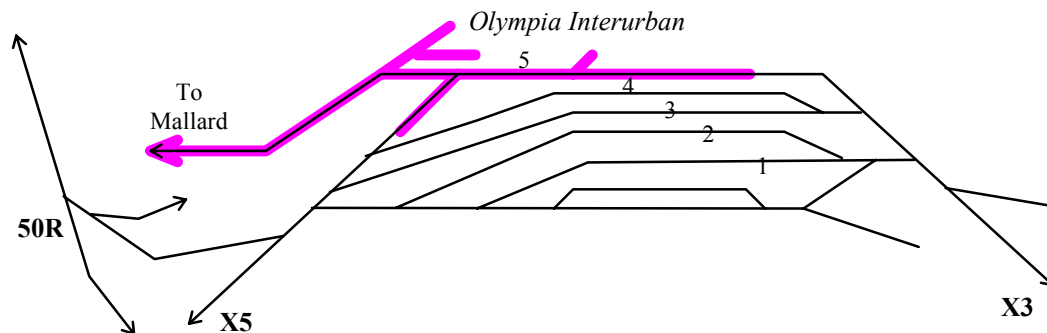
For X5, set the yard lead toggle switch all the way down; it's a three position switch. Choose an empty track, and set the power selector down (main feeds). If the destination is track #5, make sure the Mallard end of the Interurban yard doesn't choose your track #5 (Interurban track #1) and the crossover is straight. For all tracks, the X3 end should select a different track.

Receiving on 50R

Dispatch should have used X3 instead. However, emergencies and de-caffinated coffee can affect their decision making abilities. Set the X5 switch all the way up, and the **50R** power toggle in the center (off). Set the **X5** power selector down and choose a track to hold the arriving train. **?? MUST CAB PLUG X5 ??**

Receiving from X1

Using X1 (Passenger Setup) is a little dicey. Ask Dispatch for a route from X1 to X5 (Olympia and Setup have no turnout control here). Agree on a throttle voltage, say 6 volts. Right where X1 ends, block **50S** (or **50** if Z1 is thrown) starts! Setup



gets local control of the X1 lead, and Olympia gets local control of block **50S** (or **50**) and the X5 ladder. Both operators power to the same voltage and the train should glide from Setup to Olympia control.

Be *sure* to tell Dispatch when you're doing this, and clear the mainline power when done.

Two-rail Interchange with Mallard

First get your train onto track #5. On the Interurban panel set the Mallard end (leftmost toggle switch) power selector down (release) and set the power selector for the lead into Mallard up (the leftmost toggle on the panel). Set the three-way turnout down (interurban track #1). Only the green LED should be on. The three-way turnout sends throttle power from Olympia Freight through to the lead into Mallard. Using the Freight panel's throttle, you can drive a train down to the city level and around up to the wye before Mallard.

To get into Mallard requires setting the yard for two-rail operations. Flip the operations toggle down ("2-RAIL"). Set the wye to external power (down) and drop the wye's turnout to get a route from Olympia into Mallard. Choose either the front or rear track, and flip its power toggle (labeled "P") down (release). Olympia Freight now controls Mallard. However, for switching, you should let the Mallard operator handle the train.

Reversing a train via 50 and 50R

The train can leave via X5 to block **50**, turn at Z2 and return via **50R**, or it can go the other way around the loop. Ask Dispatch for this route, and set X5 switch down and block **50** power up (local). Set the **50R** power towards to yard. Drive your engine through block **50** and over Z1 to **50R**. When the train is fully on the mainline, set the X5 switch up (route towards **50R**). When you see the engine's nose stick out the tunnel by the rock quarry, stop the engine. Now reverse the **50R** direction (away from the yard) and reverse throttle direction toggle. Power again and the train should move towards the yard.

Olympia Interurban

Olympia Interurban yard is right behind Olympia Freight yard, sharing one track. It connects with Mallard to the east and Diablo Interurban via the Canyon. There is one spur track with its own power control. The yard tracks have A/B end power (throttle) feeding indicated by the red LED, and route shown by a green LED.

What Happens Here

Olympia Interurban yard provides interchange with Diablo, and convenient storage if Olympia freight yard gets full. Short passenger service can move between the passenger platform on the Mallard end to the baseball diamond near the canyon.

Because of the steep grade up from Mallard, engines may have trouble pushing cars up toward Olympia.

The overhead wire is for engines with pantographs on them. The Olympia Main Street route handles trolley poles. If the engine stalls, either tap the wire (best), or push the engine along.

Local Operation

There are two sets of power selectors on each end of this yard (four total). The outer-most are two position and control the track between Mallard on the left, and Diablo on the right. For local movements, these can be left down. Next, inward are the three position toggles with long handles. These control A/B power feeding into the yard tracks. These should be up unless you're interchanging with another yard.

The spur off track #3 has two blocks in it. The toggle switches are power on or off.

Panel Shutdown

Set the east end (to Mallard) three-way turnout to its middle position, clear the spur turnout (off track #3), and clear the crossover between track #1 and #2. Set the yard end power selectors down. If you have an engine do not park it on track 1 because it's used by Olympia Freight.

Interchange With Olympia Freight

The easiest way is to leave cars on Olympia Freight track #5. To leave cars on the X3 side, create a route for the

canyon end to track #2, over the crossover, and out track #1 towards Mallard. Pull the train through the crossover that's midway on track #5, and then clear the turnout once the cars are past. (Interurban power is available because the Mallard end selects track #1.) Move forward to the uncoupling ramp, then leave the way you came in.

Alternatively, you can leave the cars on freight track #5 by not setting the three-way switch on the Mallard end to track #1. To push the cars, the freight ladder should not be set to freight track #5.

Loop Operation via Port Allen

The reverse loop in Port Allen shares an interlock with the main street trolley. When Mallard clears its entrance turnout, there is a route around the loop. You should set this turnout prior to the operating session. Run your engine down the grade and around behind Port Allen. Long cars may snag on building supports. Push the red button in the lower-left corner to control the interlock and stop any nearby trolleys. Hold until your train passes the spring turnout, then throttle up to make the grade.

There are no reverse block direction switches for interurban. When the engine returns, the throttle direction lights will be opposite from before.

Interchange with Diablo Interurban

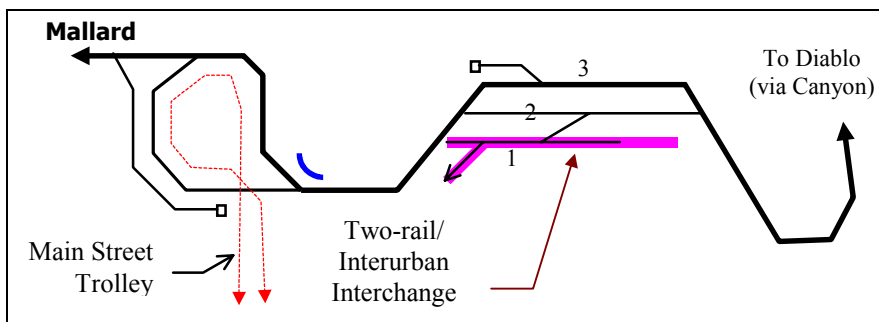
The canyon track can be powered by either Diablo or Olympia interurban, but not both. When your engine arrives in Diablo, it will be on the front track unless the crossover is thrown. Olympia grabs power for the canyon, and Diablo yields power by setting its power selectors down. Olympia cannot power the lead from Diablo to DID.

While in the canyon, the engine might stall. Watch the amp meter and if it goes to zero, call Diablo Interurban to give your engine a nudge.

Loop Operation via Diablo

Diablo Interurban has a reverse loop. The operator there can set a route through the spring turnout, across the two tracks and past the passenger platform to the reverse loop. The two power selectors must be down (external). The reverse loop itself has a spring turnout, too. Once the route is set up, it needs no maintenance.

Have Diablo release the canyon track, and you grab it (power toggle up). Olympia's throttle will now power tracks into Diablo. Throttle up and watch the amp meter. If it goes to zero, call Diablo to give the engine a nudge.



Setup Yard

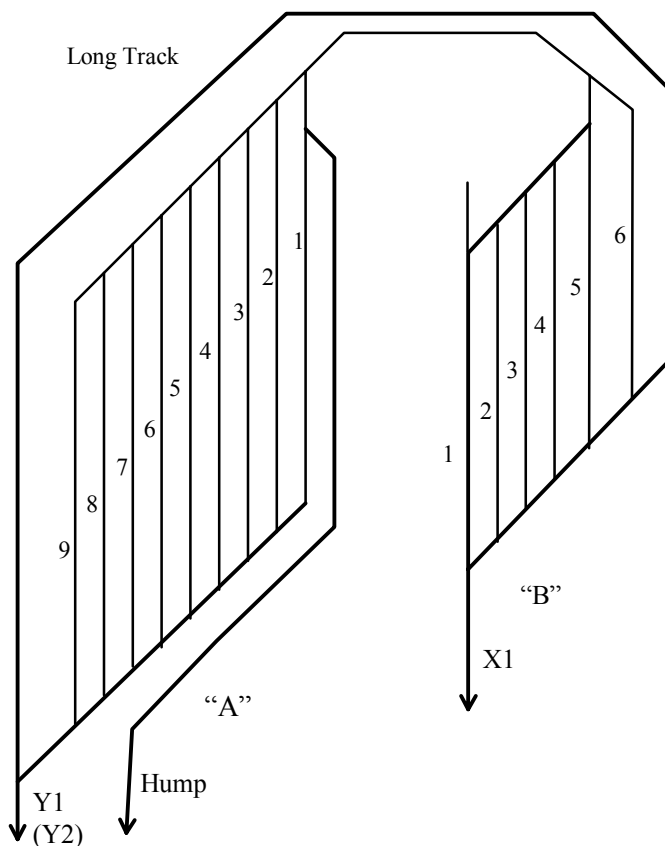
Setup yard is hidden inside the Mountain, accessible from the club room area, or by crawling under the layout. It connects to the mainline via Y1 starting at block 2 or 2S depending on turnout D3, and via X1 to blocks 50 or 50S depending on turnout Z1. It reaches **Diablo** via Y1 and its Y2 lead, and **Olympia** using either block 50 or 50S, and turnouts X1 and X5.

The yard is actually two halves. Custom dictates the Y1/Y2 side is freight (yard "A" end), and the X1 side is for passenger trains (yard "B" end). A short curved track connects the two on the far side (middle of the layout). The turnouts and track here have sharp curves, and not all engines or long cars will successfully negotiate this curve. An extra long track goes around the two halves.

What Happens Here

This yard is where members setup their trains. It provides a hidden yard where people can prepare their trains, ensuring the engines work and cars roll smoothly. During a show, freight trains are first sent to Diablo. Passenger trains roll out to Olympia Passenger area. There are 9 freight tracks, a long track, a lead to the hump yard (runs next to Y1/Y2), and 6 passenger tracks.

During a show, the Setup operator is also an important trackwalker.



Local Operation

Once a member sets up their train, they usually take the throttle and run their engine(s) back and forth to ensure they work. Once in the cab, they may call for the specific track their train is on. Set the Y1 route, drop the power selector switch, and watch to ensure the train leaves without incident. Once the train leaves, you should set the power selector to local (up) to keep unannounced trains from entering. The hump yard lead power should be down (hump yard). Setting this up (local power) also throws the turnout on track 1.

The A and B ends have local (up) or external (down) power selectors. The center connecting track can be powered from the A or B end, or locally. If you want to accept a passenger train on Y1 but park it on the passenger side, set the A power selector down and push the A button in the middle (near the yellow tape). Whoever is powering Y1 will also power the center track. The cab operator can now drive their drive all the way up to the X1 ladder. If the cab operator needs to do other things, just flip the A power selector up to take control: local power will now be used on the center track.

The yard tracks have power (throttle) feeding indicated by the red LED, and route shown by a green LED. The throttle has push buttons for forward, stop, and reverse. There is no place to plug in a hand throttle unit.

The panel has two 7-segment displays, one for each yard entrance. It displays which cab has Y1 or X1 plugged. Multi-color LED's on the Y1 lead tells if the route goes to Diablo (green color) or the mainline (red color).

Panel Shutdown

At the end of a running session, set all ladder toggles down and hit the OFF throttle power button in the middle of the panel. Set the Y1 and X1 power selectors down. The hump lead power selector should be down (release), and the long track off (center position).

If during a run session, you leave the yard, set a route to an empty track, if available, in case a train arrives. If no track is available, then set the power selectors up to stop arriving trains entering Setup.

Mainline Departure Via Y1

The cab operator will probably want a specific train, usually their own. Select the track and set the power selector down. The red and green LED's on the desired track should be lit. If not make sure the middle route doesn't go to the selected track, too. The 7-segment display should show the cab number. The Y2 LED should be red (mainline) and not green (Diablo).

Mainline Departure Via X1

Passenger trains usually leave via X1 with a stop in the Olympia Passenger yard. Select the track and turn the power selector down. The red and green LED's on the desired track should be lit. If not make sure the middle route doesn't go to the selected track. The 7-segment display should show the cab number.

Interchange with Diablo Departure

Often, Setup will contain a string of cars that Diablo can make into a train. Since Departure has engines, it can send them in to pull the cars out. First, Dispatch must clear Y1 and Y2. Then Hump operator (or Departure) sets a Y2 route to Setup. On Setup's panel the Y2 LED will be green. Set the power selector down (external) and set a route. The red and green LED's on the desired track should be lit, and the 7-segment display should be blank.

Interchange with Diablo Hump

The hump yard has its own lead all the way to the middle of the Setup yard. Because the engine must *push* the cars out, this is seldom done. Departure pulls the cars out; Hump has no "run around" track. To set the inside freight setup ladder to the hump yard, throw the Hump/Local toggle up. Like the long track, this picks the turnout and powers the block.

Move the train to the connector track between the two halves. Pick freight track 1. You now have a route from the curved track to the hump lead. To save torturing long cars, you can place the cars on the hump lead to begin with.

Interchange with Olympia Freight

Using X1 to Olympia is a little tricky. Diablo freight will get a route from X1 to X5 (Olympia and Setup have no turnout control here). Use the throttle push buttons to reach the same track voltage. Right where X1 ends, block **50S** (or **50** if Z1 is thrown) starts! Setup gets local control of X1, and Olympia gets local control of block **50** and the X5 ladder. The train should glide from Setup to Olympia control. Give Olympia the joy of calling Dispatch to clear this route.

Diablo Industrial District

Diablo Industrial District (DID) is a street-side switching area at the edge of the layout. It can interchange with **Diablo Interurban** and **Nevins**. Way freights can also switch out and pick up cars here. DID reaches **Diablo Yard** indirectly through **Nevins** or the **Interurban**.

What Happens Here

This area provides close-up entertainment for the public to watch a switch engine in action. The industries handle boxcars, gondolas, and lumber cars.

The turnouts J1, J2, and J5 are not under DID control. Nevins can grab J1 and J2. Crossover J3 is a pluggable mainline block. Crossover J4 are under DID control, with cab power across them provided by block **61S**. Although Diablo Interurban can power some of the track, it has no turnout control.

Local Operation

Swing the panel out and set track power by flipping up the green handled toggle switches. Flip the two-rail/interurban switch up (two-rail). Turnouts are controlled by the panel and by rocker switches along the edge of the layout. If the lights are backwards from the toggle position, the rocker switch may be depressed. Make sure the white dot is depressed, so the panel switches work correctly and not backwards.

If DID is short of engines, it can grab an interurban to switch some of the industries here.

Panel Shutdown

Again, make sure the white-dot on the rocker switches are all depressed. Flip the green-handled power selectors down. If you interchanged with Nevins, make sure the operator clears J1. Lastly, slide the panel under the layout.

Grabbing Local Freights

Have Dispatch throw J1 and J2. You pick the J4 crossing and flip the power toggle (green handle) down (release). When the engine arrives in DID, flip the power selector up to gain control. Switch the cars you need. When done,

flip the power selector down (release) to give control back to the cab. Block **62S** sends it power across J4. Block **60** sends its power across J1/J2.

Interchanging With Nevins

Nevins will call Dispatch for rights to block **60**. You should give a route either to near J4 or into town with the power selector down. Since Nevins can control the mainline it can take an engine or drive an engine into DID. When the maneuver is done, Nevins will clear J1 and J2 and release block **60**.

Interchanging with Interurban

Diablo will call Dispatch for rights to **62S** where the Interurban comes out of a tunnel and crosses into DID. On your panel, flip two-rail/interurban toggle down and set a route. The grade up to DID is steep and might require lots of juice for the engine.

Once into DID, Diablo can release the **62S** crossing. DID changes the route so the interurban can switch cars. Once done, have Diablo Interurban grab the **62S** crossing and return. With the train out of sight, flip back to two-rail operation.

Interchanging with Diablo Departure

Call Nevins to bring an engine over as described above. Take the cars out **60** past the Y6 turnout. Have Nevins release J1 and J2, and pick Y6. On Departure's panel release Y6 and provide a route from there. If Diablo is busy, it can route into the bottom of the Hump yard (it has its own power selector). Nevins can now drop off cars in Departure. When done, Nevis pulls out and releases Y6.

