



The Mail Car

Newsletter of the St Lawrence Division – NMRA

Issue no. 36 – November 2005

St. Lawrence Division web site: www3.sympatico.ca/gd.knowles/sld/sld_index.htm

From the Superintendent's Desk

By Stanley Conley

The last Saturday of September dawned clear but cold with frost on the ground as we made our way to the first meet of the season for the St. Lawrence Division. The Beckwith Township hall was warm, bright and more than ample for the twenty or so who gathered to renew acquaintances and catch up on summer activities.

The meet followed the tried and true format with a bit of business to get started, mostly related to changes in the NMRA structure and regulations, and the effect on our operations. The first change we have implemented is the requirement that all long term participants at the meets must be NMRA members - basically we have implemented a short term guest list so potential members can attend a couple of meets and if they choose to continue to participate they become NMRA members. Perhaps ironically, this is an easier sell if packaged as 'SLD membership is \$20 per year, with Regional and National Membership as a benefit'. The second change is a response to the inability to charge a separate membership fee for the SLD, which in the past has been used for the most part to cover the publication costs of the **Mail Car**. Under the new regulations we are allowed to charge a subscription fee for

publications. What we have implemented is the primary distribution of the Division newsletter the **Mail Car** will be in electronic format; all members will receive an email informing them that the electronic version is available on the web at no cost. In addition, members can opt to have the **Mail Car** printed and mailed to them, as in the past, at the cost of five dollars per year. A collection of past issues of the **Mail Car** in PDF format is already available on the web, with the benefit that they are in full colour! The web accessible issues are open to the public and it is the superintendent's opinion that the newsletter is not so much a member's only benefit, but more of a promotional tool for the division, and the wider the distribution the better, so if you know someone who might be interested, send them the URL! One side effect of this change is that it will be in the member's best interest to keep their email contact information up to date with the Division Clerk. After the November meet, the subscription list will be used to determine who receives a printed copy of the **Mail Car** so please contact the Paymaster or Clerk to ensure delivery if you have not attended a meet by then.

We then turned our attention to David Steer as he described his



On2 Garratt of the South African Railway build by David Steer from a Backwoods Miniature kit.

Photo: Stanley Conley

St. Lawrence Division

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Copy Deadlines

January Issue - December 15
March Issue - February 15
May Issue - April 15
September Issue - August 15
November Issue - October 15

Special thanks to Beate Herzig for proofreading and general nit picking

Continued from page 1

journey of discovery as he assembled an On2 Garratt of the South African railway from a Backwoods Miniature kit, a lot of research and more than a dash of perseverance resulted in the final creation of a most wonderful model. David gave us a history lesson combined with a dash of engineering education to answer the ‘what and why’ of the prototype Garratt. He attempted to explain why he had purchased a kit for the Garratt (bottom line, ‘it looked neat’). And he covered how he built the Garratt, adapting the construction methods in the instructions for his own style, and experience in finishing this type of model with multiple colours and materials in the end product, no overall black here! I used the word journey in the opening line as David demonstrated that the process of model building is an exploration of the prototype, tools, methods, materials and skills, leading to an end result, and he demonstrated that he thoroughly enjoys the trip!

The meet continued with coverage of the display table, mostly of summer projects and discoveries, which you can read about in the display table write up inside the **Mail Car**. The morning session finished off at about a quarter after twelve, a new record for finishing on schedule for the SLD!

The afternoon activities consisted of visits to three local layouts: Neil Lowes who is modeling the CP centered on nearby Smiths Falls in the transition era in HO; Brian Hanna who has an extensive freelanced layout currently undergoing a major re-engineering. Brian favours heavy power and long drag freight and ore operations with two co-related railways. The third layout allowed us to soak up some of the afternoon sunshine; David McCurdy’s layout is patterned after the Rio Grand Southern and includes many locations from the prototype as David is hoping to begin operations on a large scale in the next year. David’s main tool for scenery is a front-end loader, he likes Really Big Rocks!

October 15 and 16 found the SLD at Railfair with the switching module where we gave away about 200 certificates to budding train operators of all ages. As in the past, a number of volunteers were the essential ingredient required to bring the SLD to the public, and pass on the joy of train operation to a new generation of enthralled youngsters. I would like to thank Grant Knowles for prepping, delivery, set-up, and pickup of the module. I would like to thank Grant’s wife Francis for storing the module, or at least putting up with it! And for those who manned the module and greeted the public I thank John Shipman, Don Leger, Bill Meek, Mike Hamer, Andreas Mank, Alex Binkley, Peter Nesbitt, Gregory Gee, Jim Baxter, Paul Bullock, Gary Baillargeon, Seanna and Steve Watson, Tom Badenoch, John Mitchell, and Pierre Burgoyne. As always, I am sure I have left someone off the list who deserves to be mentioned and I apologize in advance.

Looking toward the future, we have our next meet on November 26, to be held at Emmanuel United church, 691 Smyth Road. As I write this we are finalizing the morning clinic(s) and afternoon layout tours so pay attention to the web site for details. As always, we are looking for presentations and candidates for layout tours to fill out programs right through May so if you have something to present, or have a candidate we can approach please contact a member of the executive so we can act on it.

Alex Binkley has stepped forward with a suggestion, and volunteered to help organize one or two workshop sessions for some hands on modeling. He has submitted an announcement for the **Mail Car** so please check it out and provide some feed back so we can make appropriate accommodations for all interested.

One other item to bring to your attention, with this issue, Andreas Mank has taken over the editorship of the **Mail Car** and I am sure he would appreciate support in the form of articles, pictures and news related to the St. Lawrence Division and its members. I have enjoyed my time as editor; I have learned a number of new skills and will continue to apply them to the Niagara Frontier Region Flimsy.

Layout Tour Photo Report

All photos by Stanley Conley



Left: Neil Lowes models CP Rail around Smiths Falls in HO scale.

Center Right: Brian Hanna's Canadian Pacific National is a busy place.

Center Left and Bottom: Rio Grande Southern on a truly large scale is the subject of Dave McCurdy's garden layout.



Display Report

Compiled by **Andreas Mank**

David Steer brought a model of a South African Railways NGG16 Garratt kitbashed in On2 from a Backwoods Miniatures kit. (See the photo on the cover page)

Normand Levert displayed the finished plate girder bridge he assembled for the SLD module (see the detailed report on page 5)

Mike Hamer displayed an Athearn Genesis F3A/B set in the green & yellow Maine Central scheme. Looks great straight out of the box and only needs a little weathering. Both units are powered and can pull a ton!

Photo: Stanley Conley



John Licharson showed an HO model of a CP Rail Mack Railbus. He re-motored the brass kit, added power pick up, DCC and repainted it.

Later in the day, it was pressed into service on Neil Lowes layout. John is planning to finish the model by adding marker lights.

Photo: Stanley Conley

Paul Anderson could not bring his summer projects but showed some 'aerial' photographs of the HO Trak modules instead. He also worked on the signalling of his Castor River module set and a new workbench.

Stan Conley and Andrew Bachelor shared their respective summer reading list. Stan also had a slide show running on his railroad themed summer vacation in southern BC.

NMRA Dates

SLD Meetings

November 26, 2005	Emmanuel United Church 691 Smyth Road, Ottawa
January 28, 2006	Emmanuel United Church 691 Smyth Road, Ottawa
March 25, 2006	Emmanuel United Church 691 Smyth Road, Ottawa
May 27, 2006	TBA

NFR Spring Convention

2006
Chatham Ontario

Le pont noir – Building the SLD Timesaver Layout Girder Bridge

By Normand Levert

Railways typically use girder bridges to span small rivers or roads. When I was growing up, it seemed there was always a girder bridge invariably painted black in our neighbourhoods. So, “le pont noir” – the black bridge - would become one of our landmarks. Taking the “contract” to build the SLD Timesaver Module girder bridge gave me a chance to re-create one of those landmarks.

Girder bridges are relatively simple structures. Two main beams are made of structural plate steel. Early in the last century, the girder beams would be built up with smaller plates and angles, using tons of rivets to hold everything together. As steel technology improved and steel rolling mills made wider and thicker plates, newer girder bridges were welded together. The girders are built-up ‘I-beams’ to resist bending. The metal in the beams does a better job of resisting forces induced by bending moments when it is further from the neutral axis. The top of the bridge is in compression, while the bottom is in tension. Somewhere between these two conditions there is neither; this is the neutral axis. One complication for bridge designers is that compression tends to push beams or columns out of straight, just like bows. So members in compression must be very stiff to resist this effect. I-beams are efficient at these tasks, as most of the steel is on the top and bottom flanges.

Because bending moment increases with span, girders need to become deeper or higher as they become longer. The rule of thumb I learned building hasty bridges in the Army Engineers was to have at least a 1:12 ratio. This rule simply meant that an I-beam’s depth in inches should be the same as its length in feet. This considerably simplified calculations, but a better ratio is 1:10. The simplest girder bridges place the girders under the track structure, thus reducing the underside clearance more and more as the span increases. This is not a problem where there is enough clearance between the bottom of the girders and whatever traffic or water flowing under the bridge. In many instances, placing the girders under the track structure would force the rail line to climb in order to get enough clearance. Rather than raise the tracks and introduce grades, bridge engineers would then use a through girder bridge.

The Central Valley kit is a through girder bridge. It has a 73 feet span and the girders are 7.25 feet deep, right on the 1:10 ratio. With through girders, the depth of the track support structure is reduced and most of the girder depth is above rail level. This gives the maximum clearance possible below the bridge. One disadvantage of the through girder design is that the main girders no longer carry the track structure directly. Instead, there is a series of smaller I-beams under the track structure. They span the distance between the cross beams. The crossbeams transfer the load to the side girders. In essence, through girder or truss bridges are like trestles, except that the bridge sides have replaced the trestle bents.

On the Central Valley kit, there are five spans of 13 feet, resting on six cross beams 6 inches wide, for a total length of $65 + 3 = 68$ feet. There are short girders at each end to carry the track structure as far as the end of the two main girders. The Central Valley people have been very clever in designing their kit. They cast the whole floor structure as one part. To do so, they simplified the crossbeams and small girders from I-beams to beefier rectangular box beams. They even included the horizontal cross bracing in this casting. In effect, the floor structure provides all the strength necessary to carry trains across the gap. This one piece casting considerably simplifies assembly. For most applications, this little cheating is unnoticeable.

The modeller builds up the main girders somewhat like the prototype. The vertical portion, the web is cast in one piece with all the stiffening angles riveted in place. The flanges come in seven pieces; two end verticals, two end rounded corners, one top flange and two half flanges for the bottom. I suspect the bottom flange comes in two parts because it was easier to cast that way. It should be one continuous flange as on top, but the joint is difficult to see underside the girders. There is a clever arrangement to ensure the flanges are centred; the flanges include one of the angles holding them to the girder. The girders have the other angle. If you line everything correctly, the flanges are properly centred.

There is flash on the girders and flanges and it should be removed carefully. I found I needed to trim the bottom flanges to fit the vertical end flanges correctly. The curved flanges go on last and they need to be carefully trimmed to fit well. I used both liquid and tube plastic cement and found the tube variant easier to use in this case. I would make a small puddle of cement and then use a small brush applicator to achieve better control than using the tube directly.

Once both girders were ready, I prepared the floor system casting for cementing. The gates for injecting the plastic in the mould are on the end of the crossbeams; therefore the crossbeam faces are less than perfectly flat or vertical. I trimmed the excess and sanded the faces so they would be flat and vertical. I then cemented the floor system casting to one girder, ensuring that the girder was perfectly vertical. To achieve vertical alignment, I slipped the other girder in place, so the floor would be parallel to the work surface, and used a machinist square to check the girder being cemented in place. Once the first girder was cemented, I repeated the process for the other girder. At this point, the bridge is nearly complete. You still have to add the bridge shoes or bearings at each end. Technically, they should be different for each end. One set would be fixed and the other would have rollers or sliders to let the bridge expand and contract. All four bridge bearings supplied with the kit are the same. No one but a fussy civil engineer will notice.

Now, once I got the contract, I learned about the catch: "Would you also letter it with CNR slogan?" Sure, why not, how difficult could it be to letter a slogan across 10 to 12 ribs? I did have a CN engineering drawing of the slogan, without a Maple Leaf, but with an annotation to see revision X for the Maple Leaf. Well I started with a CNR Maple Leaf "Serves all Canada" decal from a Microscale 87-1033 CNR van set. With Microscale "Micro Set" and "Micro Sol" the decal snuggled very well over two ribs. Great, we're off to the races! Now for the slogan I thought I would use a trick I had read about in magazines: apply my old Lettraset™ dry transfer on blank decal film and then decal the bridge. Clever plan? It turns out that placing white letters against the white background supporting the decal film was not so easy. And the now twenty years old Lettraset doesn't transfer well at all to decal film. Basically, I was trying to run a narrow gauge engine on broad gauge track. This is where fellowship in the SLD paid off. Someone else has already done the decals – CN Lines SIG #300-017.

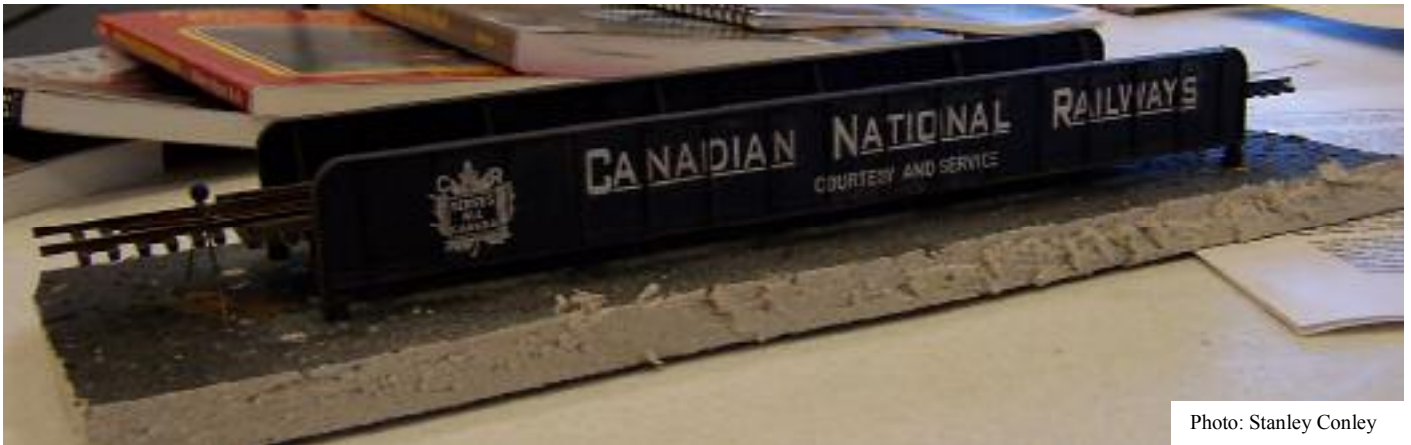


Photo: Stanley Conley

By then all sorts of things interfered with the hobby, so progress on the decals was slow. The decals are cleverly designed with black alignment lines to aid in cutting the decals apart to fit between the ribs. I have to admit I made life difficult for myself; I did cut the decals as recommended but then for some obscure reason in the back of my mind I used the Mark 1 eyeball and ruler to align the decals. That's what happens when By Gosh and By Golly hire painters who use half full beer bottles as levels. They swear the problem is at the factory where the labels were put on a bit crooked!

The decals not only provided vertical guide lines, to cut for ribs, but a top horizontal guide line to set the lettering at the correct height. Well, I believed that this feature would automatically line everything up horizontally. **As you were!** So things did not end up perfectly lined up. In hindsight, I think one might be better off trimming the first piece of decal for each word, or even only the first word to the horizontal trim line. The first piece would then position the lettering correctly on the bridge. All other pieces could be trimmed as close to the letters as possible. Then of course one would use dividers to line every thing up. The underline would make this quite easy. I made good use of Micro Set and Micro Sol. The stuff does work great wonders.

Weathering came next. After all I had to tone down the lettering so the imperfect job was not too obvious. First I washed the residue off, then applied a few coats of Dullcote. Next, I wanted to wash the sides with thinned weathered black paint. Since I used water base paint, I would pre-wet the sides to get a better wash. I used alcohol to make the water based paint flow even better. Remember the article by the chap who discovered that alcohol turns Dullcote white? It's true! Thankfully, as he also discovered AND reported, the effect is reversible. After more Dullcote I pre-wetted the girders with water, then flowed washes of weathered black. I added some local washes of rust. For my taste, Floquil Rust is too orange, it is not that it is the wrong colour for rust, but it is the colour of fresh rust. A better colour to my eyes is "NATO Brown" from military modelling. This colour is closer to corrosion than rust. I weathered not only the outside of the girders, but the inside and the floor system as well, top and bottom. (The rails and ties are not fixed to the bridge, maybe some day the rails will be pulled off?)

I also painted the bridge tie strip before I put on the rails, to kill the plastic shine of the ties. A few touches with diluted NATO brown washes highlighted the wood guardrail nut and washer details.

So, in a long story this is a good bridge kit. It goes together well, with a bit of care. It does look great with lettering on the sides. If you are going to letter yours, use dividers to line everything up! The floor system cast in a single piece helps tremendously. Since most of the floor is under the ties, Central Valley's little cheating trick is hardly noticeable. All the open spaces between the ties and the girders are there for good effect.

Shawnigan Lake Lumber Company

By Jim McSherry

The setting is Vancouver Island, British Columbia, Canada in 1949; the objective is to give a feeling for the Island's railroads at that time, rather than to accurately represent the prototype. The Esquimalt and Nanaimo Railway (E&N) was the principal railroad on the island, running from Victoria at the southern tip along its East coast to Nanaimo and beyond. While the model goes no further, the railroad continued North and West. There were numerous logging and mining railroads all over the island, most using standard gauge equipment.



The 11' x 24' Vancouver Island model railroad incorporates a fictitious logging railway, tentatively named the Shawnigan Lake Lumber Company, and portions of the Esquimalt & Nanaimo Railway from Victoria to Nanaimo. The year was chosen because the CPR, owners of the railroad, converted the E & N completely from steam to diesel in 1949 (ref. Vancouver Island Railroads by Robert D. Turner, pp 68-69) and I wanted to have both steam and diesel on the E & N portion of the layout. The logging road provides ample opportunity to include additional steam, as it was used right into the 1960's; the E & N had both in 1949, but its 20 steam locomotives were all transferred to the mainland by year's end, replaced by 13 Baldwin road diesels.

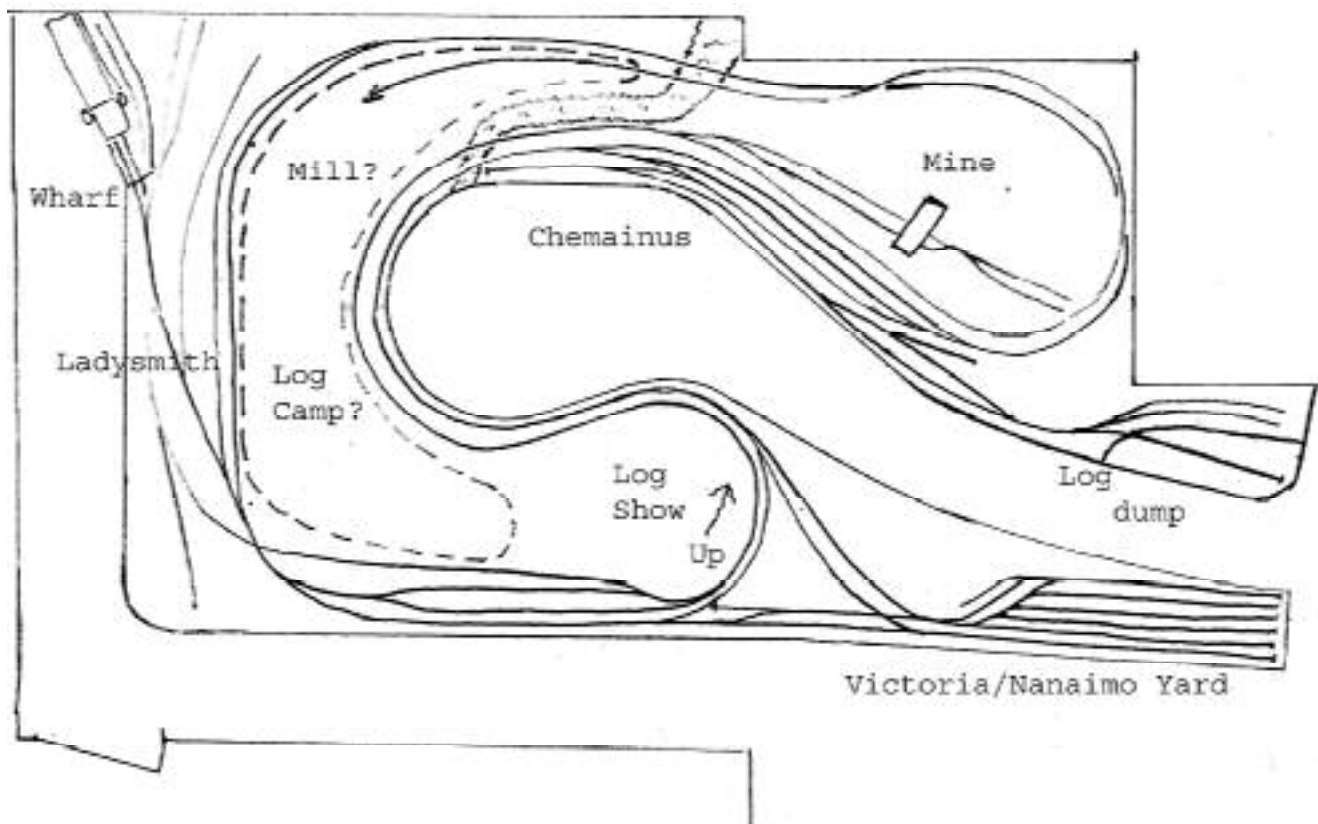
While it is still possible I'll cheat and move to a slightly later year, there is not a lot of advantage; the mine to be represented was closed in 1951, the transfer dock at Ladysmith torn down in 1955. The Shawnigan Lake Lumber Company logged further south, 28 miles north of Victoria (Chemainus was at 52 miles, Ladysmith at 59 and Nanaimo at 73) and was out of business before 1949, but it was the memory of trains around Shawnigan Lake around that time that motivated my choice of Vancouver Island railroading. So, it lives a little longer.

The particular section of the island located midway between Victoria and Nanaimo was chosen because there were logging operations active up both the Chemainus (Copper Canyon) and the Nanaimo rivers (between Ladysmith and Nanaimo). Log dumping took place at both Ladysmith and Chemainus during this same period. Coal and lumber were delivered to Ladysmith, 7 miles north of Chemainus, for carload shipment by transfer barge to the mainland. With other carload barge traffic, log and coal shipments from the

Nanaimo river to Nanaimo and Victoria, a yard south of Chemainus representing Esquimalt/Victoria and another, co-located yard north of Ladysmith representing Nanaimo, there is ample opportunity to generate passenger, freight, logging and coal traffic on the E & N.

The logging operations will include a logging show (where the actual log cutting and loading took place), a camp (maybe), hopefully a sawmill, interchanges with the E & N (just north of Ladysmith and also at Chemainus), and a log dump at Chemainus. There are two primary operating areas: one at Ladysmith with its transfer wharf, other industry and a passenger station, the other at the joint Victoria/Nanaimo yard. Secondary operations will exist at the logging show, the logging camp/sawmill area, the interchanges and the log dump. There will be one passenger station on the E & N mainline at Ladysmith and at least a notional station in the yard. There will also be a coalmine on the logging line (per the prototype) to provide further operating activity.

Operation takes place in three main areas of the U-shaped layout, which is accessible from all but one side of the U. The end of one side of the U is used for both Victoria and Nanaimo yards for the E & N. The outside bottom of the U is Ladysmith. Most of the lower inside of the U will be used for the log camp/sawmill. The log dump is on the upper arm of the U opposite the yard. The logging show and the coalmine will occupy the centers of the two dog bone loop areas in the arms of the U.



To incorporate a reasonable amount of track, there is a point-to-point run around the U and back at a base, 50" level; this represents E & N track from Victoria to Nanaimo. Not including the yard(s), this yields about 60 feet of mainline; passing track, interchanges, industry track and yards are in addition to that. The logging show, camp/sawmill and the coalmine are at various elevations, using the centers of the loops and the inner part of the U. With the layout base at 50" (on a T-girder frame with 1x4 beams, 1/2" plywood, homasote and cork roadbed), the camp/sawmill area will be at about 56" and the upper level (the log show) will at 58" to 62". The design is set up for point-to-point operation with continuous running as an option.

As most of our Friday Night Group's layouts operated with Digitrax DCC, I incorporated the same system from the start (the layout is just a couple of years old). The frogs are all dead, though they could be wired at a later date if necessary. Since I have no short-wheelbase locomotives on the layout and no sound, they are causing no problems. Only one, powered (Tortoise) switch is used, although the yard will probably have some diode-matrix-controlled throws eventually. Lighting is fluorescent with 5000K high-efficiency lamps.

Operation includes:

- Passenger trains on the E & N, both directions, yard to yard with stops at Ladysmith and Chemainus.
- Freight and mixed passenger/freight with stops at Chemainus, Ladysmith, the Ladysmith interchange and Nanaimo.
- Logs from the show to the camp/sawmill, on past the mine to the E & N interchange, from there via the E & N to the Chemainus interchange and finally to the log dump. Empties return.
- Ladysmith operations with E & N trains, the transfer barge and local industry.
- Freight to and from the log camp/sawmill.
- Coal from the mine to the Ladysmith interchange, from there to Nanaimo, Victoria and the Ladysmith transfer dock.

Locomotive servicing will be located at Ladysmith, the joint yard, the log dump and the log camp.

I am looking forward to adding scenery and structures to the layout, but have had to defer it until there was sufficient track to support our operating sessions. Painting and finishing of a variety of locomotives and cars is also on that list, as is building more cars and structures. Some of the spline roadbed leading to the mining and logging areas has been built, with much more to come.

A bit more history:

- The E & N and CPR entered into an agreement in 1900 for the exchange of freight cars at Ladysmith via rail car ferry service between there and Vancouver. They built a transfer slip at Ladysmith (whose name was changed that year from Oyster Bay) and operated the water route with the tug *Czar* and the barge *Transfer* with a capacity of twelve cars (condensed in my case to six). The slip was used until 1955 when the Nanaimo "Wellcox" yard was opened and all traffic channelled through the new Nanaimo barge slip. The Ladysmith facility and tracks were dismantled and converted into *Transfer Park* (ref Robert Turner).
- In 1931, the whole of the Extension Colliery (North of Nanaimo) was closed down and permanently abandoned. The railroad was abandoned between Ladysmith and Extension shortly after, and the docks and other facilities were soon torn down. However, the large steel bridge over the Nanaimo River was left intact and was used by the Comox Logging and Railway Company when it began logging in the Nanaimo Lakes region in 1943. The Shawnigan Lake Lumber Company operates there instead.
- In 1943, a coalmine was developed by Canadian Collieries (Dunsmuir) Ltd at White Rapids, utilizing the new logging railway. The coal was shipped over the Comox Logging and Railway Co.'s line to the E & N Railway at Storms, just North of Ladysmith, where in 1944 an interchange track was built.

Editor's note: Jim's layout will be open for visitors as part of the SLD meet on Saturday, November 26, 2005

Kitbusters

Do you have a kit for a structure, a piece of rolling stock or a locomotive that has you psyched out? You would love to see it on your layout but every time you open the box all those parts and the thick wad of instructions spook you into putting the lid back on. Or maybe the lack of instructions has unnerved you?

Well the SLD will try to help you get those bits and pieces into a recognizable shape and onto your layout. Two Saturday work sessions will be held in the coming months at which our award winning modellers will be available to help get you started and as they are a friendly and affable lot, they will be delighted to provide additional coaching if you need it.

However we need some help from the membership in deciding whether to hold the first session in early December or wait until after Christmas. If you cannot attend the November meeting but would like to be included in the work session, please contact

alex.binkley@sympatico.ca or 749-7633 or stanley_conley@carleton.ca or 523-8237

about your preference.

Naturally you must bring the kit in question, a work surface, appropriate tools and other material to the work session.



Next Division Meet

St Lawrence Division – NMRA

When:

Saturday, November 26th, 2005

Where:

Emmanuel United Church

691 Smyth Road,

Ottawa

East of CHEO at Dauphin Road

Doors open at 9:00am -- Admission \$5.00

What's on:

Morning:

Division Business

Clinic

- TBA

Display

- Summer projects

Door Prizes

- You never know what to expect!

Afternoon:

- Layout Tours

