

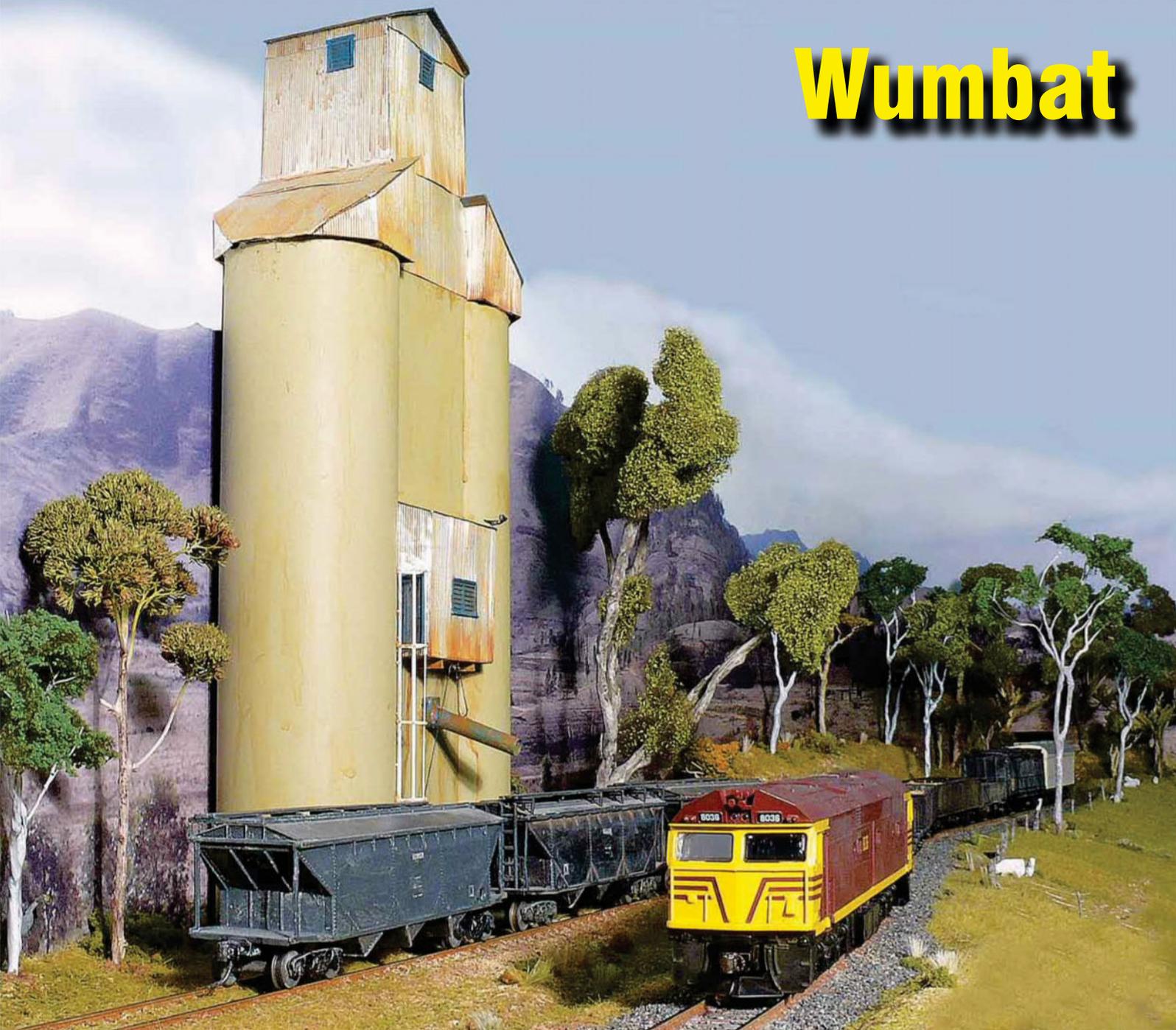
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MODEL RAILWAY

MAGAZINE

Wombat



Build a VR KS Scantling Timber Wagon
Computer Aided Design
Atmospheric Lighting
Reviews • Mailbag • AMRM News

Issue 328 Vol. 28 No.7

ISSN 0045-009X



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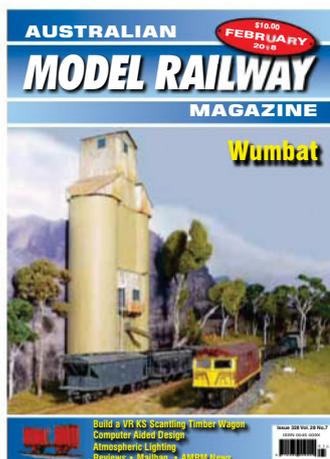


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ON THE COVER: A 1980s-era scene on Daniel Thomson's HO scale exhibition layout, Wombat, featured in this issue. Photo by James McInerney.



The Christmas Issue

In days of olde, for many modelling magazines, this issue, the first after Christmas, would have been full of 'Welcome to the Hobby' articles explaining to the new readers the many tasks of building a model railway. While AMRM, a bi-monthly volunteer publication, did not always participate in this activity, the commercial magazines saw it as a need as many potential readers received their first 'train set' at Christmas. There was great benefit in capturing the attention of the new reader, then, more often than not, of youthful age.

Regrettably to some, newcomers to our hobby no longer invariably start with a train set, nor are they necessarily young. Times have changed. Where were the train sets in the shops before Christmas? We have learnt that the demand for these has diminished so much that only a few manufacturers cater for this trade. More often than not that which is on offer is from the cheaper side of the manufacturers' lines. In itself there is nothing wrong with that, but it is a clear indicator that the model railway hobby has grown up and morphed into a serious modelling arena, no doubt partially through the efforts of the many importers of very high quality models.

Where have the 'young' gone? I do not pretend to have the answer for this. None of my children, nor for that matter, grandchildren, have an interest in model railways. In days past, one of our long time importers would occasionally call into the magazine office at lunchtime for a chat. The discussion would always turn to where the hobby was heading. On one occasion, our office manager explained why she would not have encouraged any of her sons to take up the hobby, the issue then being cost. The models available today are brilliant scale models, but no way can they be considered cheap. With ongoing inflation, it is difficult to purchase an Australian locomotive under \$250.00. And where do the parents seeking a present for their child go to make the selection and purchase? To most of us in the hobby, the specialist hobby shops cater for our needs quite well. Sure, there could be more of them, but as none of the proprietors drive around in BMWs, we have to assume that their profits are not that great.

To me, the reality is that along with the disinterest of the young, the quality and price of the commercial models available have set the bar reasonably high. To participate in the model railway hobby of today we need a reasonable disposable income. Sure, scratchbuilding is still an option for those without the cash to purchase but, we are told, this aspect of the hobby is diminishing. Again, to me, the referee is still looking at the replays. There is still a very strong modelling fraternity out there. We just need to find them.

So, back to Christmas, which is still a great opportunity to introduce new blood to the hobby. In the weeks leading up to the holiday our sales department is almost always very busy selling our calendars and our books. But we also sell a high number of gift subscriptions. Sure, some of these drop off a year later, but more often than not the giftee becomes a regular reader. This puts the onus on AMRM to produce a product that not only interests the readers, but also enhances their modelling skills. With only six issues a year this does not give the magazine much space to cover all the aspects of the hobby, particularly the so-called 'essentials' for the beginner. Repeating a basic article on scales, track laying, etc. every sixth issue is not practicable. Let us face it, AMRM must strive to cover its market, appealing to readers from the intermediate to the high end of the market (and assisting the transition from one to the other), as well as reporting on the Australian model railway scene in general. Catering regularly to the beginner has to be left to those with more resources than we can command.

So, if you are one of the many who has received AMRM as a Christmas gift and are new to the hobby of model railways – Welcome! This is a great hobby with a lifetime of enjoyment available. Open your eyes, your mind and your arms, enhance what is available and share with others. You cannot go wrong!

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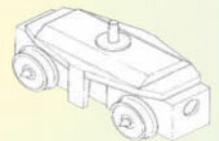
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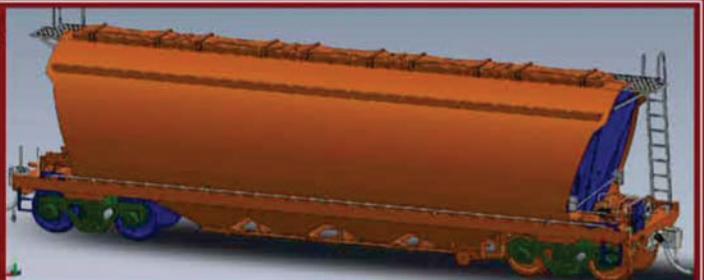
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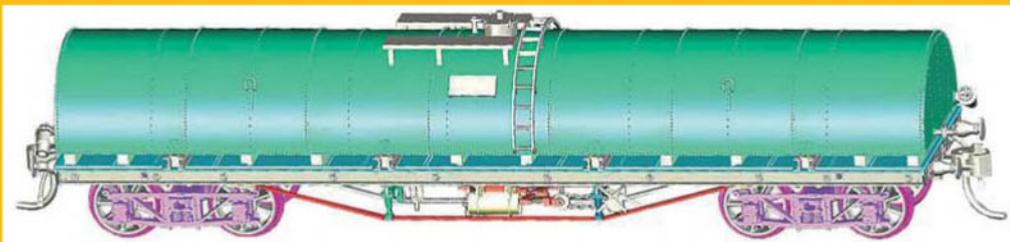
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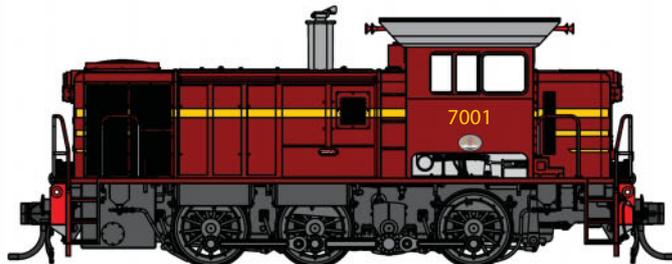
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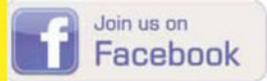
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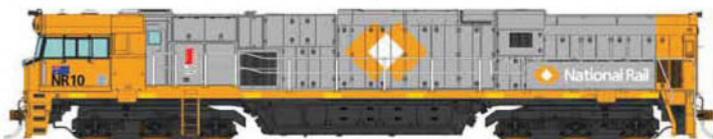
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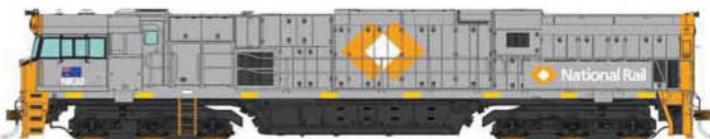
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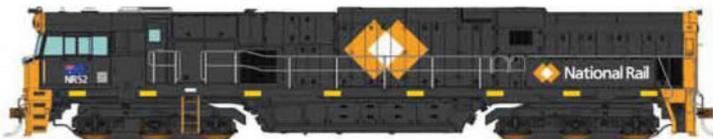
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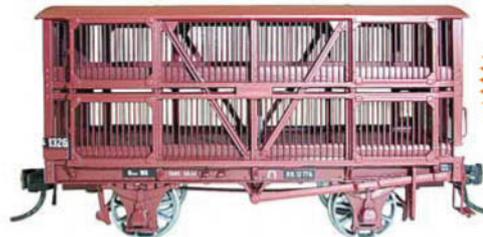
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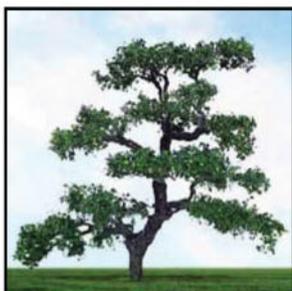
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▲ Modelling a scene without too much era- or location-specific detail allows the prototypical operation of a wide range of rolling stock. Here we see Austrains r-t-r 3649 rolling past the silo with a train of 1960s era rolling stock, recreating a typical main or secondary line goods train of the period.

▼ Another train, another time... a branch line wheat train, trailed by a red GHG, is shunted at the silo by r-t-r Powerline 4894. The yellow painted buffing plate on the 48 sets the period to post-1978.



◀ With the rolling stock setting the period, maroon r-t-r Ixion 3265 brings a typical 1950s period branch line passenger train, comprised of LFX, MHG and ACX, past the silo.



Wumbat

Daniel Thomson describes his small, HO scale NSW exhibition layout. Photos by James McInerney.

Wumbat is a freelanced layout depicting a generic NSW country branch line. It is my third exhibition layout and my first attempt at building an Australian outline HO scale layout (my previous two exhibition layouts were both American N scale).

The desire to build a NSW outline layout in HO scale was hatched while I was exhibiting my first layout (*Buffalo Junction*), at its first exhibition in July 2011. I spent that weekend next to one of the Epping Model Railway Club's large HO NSW outline layouts (*Brunswick Park*) and by the end of the weekend I had made the decision to start acquiring NSW locomotives and rolling stock in HO scale.

The next challenge was to come up with a layout plan. I developed a list of elements that I wanted to include such as a grain siding and associated silo, station and road overbridge. The layout also needed to be transportable, which meant it had to pack down into a space of 1200mm x 900mm x 500mm as that is the largest 'box' I can fit into my car. Over the next twelve months I came up with a number of ideas, but none seemed workable until, in July 2012, a fellow exhibitor (who was with the layout *Smugglers Cove*) mentioned that fiddle yards needn't be very thick. This was the light bulb moment that resulted in the design that became *Wumbat*. I could make two 1200mm x 300mm x 500mm scenic modules and four 1200mm x 300mm fiddle yard

modules that could be stacked together for transport. This resulted in a layout that, when set up, is 3m long x 1.2m wide, but that packs into a 1.2m x 0.9m x 0.5m 'box' for transport.

With the layout's dimensions finalised, I reviewed my list of elements and realised I could realistically only include one from my list and, as I had already purchased a number of grain wagons, I decided to go with the grain siding.

One final challenge before construction could begin was figuring out how I was going to transport the rolling stock to the exhibitions, as the layout was going to take up all of the available space in the car. The solution was to build rolling stock transport boxes into the layout scenic modules.

Construction

Construction of *Wumbat* commenced on 30 August 2014 with a trip to the local Bunnings to procure the necessary materials. The layout made its exhibition debut on 18 July 2015 at the annual Hills Model Railway Exhibition.

The framework for the layout is made from 42mm x 19mm dressed pine with a 7mm plywood table top. The track is laid on cork, which is on a 7mm plywood base that is elevated 19mm above the table top, to allow for below-track scenery. For the scenic sections, painted and weathered Peco code 100 track rests on a cork roadbed. The track in the fiddle yards is GT (an Italian



The owner operating the layout at the 2016 Thornleigh (NSW) exhibition.

At A Glance

Scale: HO

Prototype: NSWGR branch line

Layout type: Continuous run exhibition layout

Layout Size: 3m x 1.2m

Rail height above floor: 1.2m

Baseboard: Pine frame, plywood base

Track: Code 100 Peco flexible track, Code 100 GT flexible track, Peco and Atlas set track, Peco turnouts and Peco point motors

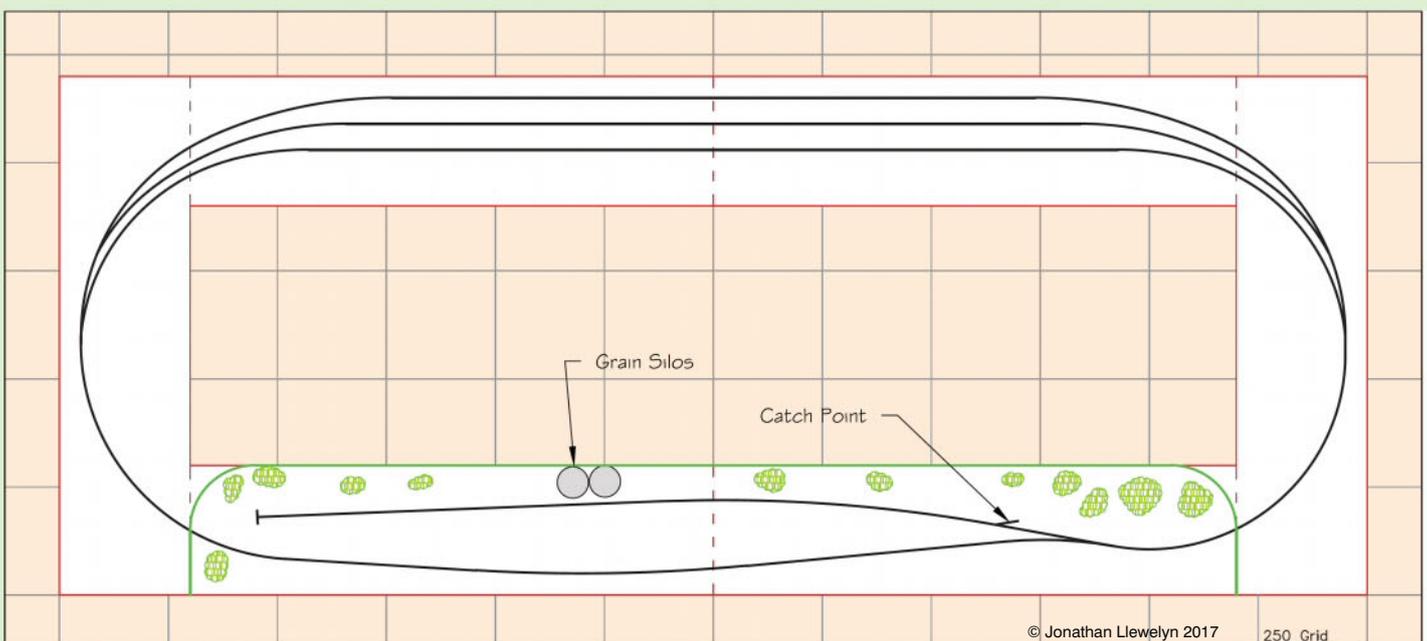
Control: DC

Scenery: Extruded polystyrene foam, sands and ballast from Chuck's Ballast, ground foams and static grass from various manufacturers

Locomotives: R-T-R from various manufacturers

Rolling stock: R-T-R from various manufacturers

Builder: Daniel Thomson



© Jonathan Llewelyn 2017

250 Grid

brand) code 100 and is laid directly on to the plywood table top. Curved sections accessing the fiddle yard are a combination of Atlas 22" and Peco No.2 radius Setrack. Fiddle yard turnouts are the Peco Setrack curved variety.

Accurate alignment of the baseboard joints is achieved through the use of bullet-type dowels that were acquired online from Station Road Baseboards. Printed circuit boards were secured at each end of the joints prior to the track being laid. The track was then soldered to these boards before being cut.

Electrics

Layout lighting is provided by sticky-backed LED strip lights and the trains are powered by very simple home-made throttles (they only have seven parts, including the case). A 12V DC plug pack provides power for both the trains and LED lights. Single button route selection is achieved through the combination of a capacitor discharge unit and diode matrix powering Peco point motors. Electromagnetic uncouplers have been installed under the track on the main line and the grain siding allowing the siding to be shunted during exhibitions. The power supply for both the capacitor discharge unit and the electromagnets is an 18V AC laptop plug pack.

Scenery

The landforms are all carved from extruded polystyrene foam, which I then covered with a thin coat of Polyfilla before staining with washes of watered down acrylic paints. Over this I placed numerous layers of sand, ground foam and static grass which were all secured with watered down PVA glue. Due to the narrow modules, I included a photo backscene (from the Haskell range) to provide some depth of field. The ground foam and static grass colours were carefully selected to blend in with the backscene.

The grain silo on the layout was scratchbuilt from 50mm PVC pipe, styrene, scale corrugated iron, a drinking straw and some detail parts purchased from Kieran Ryan. Trees on the layout are a mixture of commercially-produced and dried Sedum Autumn

Joy that I grew in my front yard. There are numerous typically Australian scenic elements including kangaroos, cockatoos, crows, a koala, an emu and, yes, there is a wombat!

Soundtrack

I created a soundtrack that plays on a loop when I am exhibiting to add some atmosphere. I downloaded a number of outback Australian sounds and mixed them together using Windows Movie Maker. I also included a manually controlled day/night sequence that includes a thunderstorm (with lightning) that is supported by an accompanying soundtrack. This feature has generated positive comments at exhibitions.

"Hey mister, you have misspelt Wombat"...

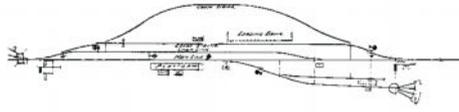
When I was trying to come up with a name for the layout my wife suggested Wombat. I liked the name, but then got to thinking that maybe I could make it a little bit different and decided to look up what the Aborigines called wombats. A quick search online found that there were a number of different names from different parts of Australia and in the end I decided to use the name that the Barani people of Sydney used and so *Wumbat* was born.

Exhibitions

At present my main interests with the hobby are building layouts and exhibiting them; even before one layout is complete I am already planning the next. I include a construction photo album with my display to show that it is not really difficult to build a layout. I am always happy to answer questions about the layout and what went into building it. 

▼ *A glimpse behind the scene of the small, but effective, fiddle yard. The entire layout dismantles into a 1.2m x 0.9m x 0.5m 'box', including stock transport boxes built into the scenic module, for transport to and from exhibitions.*





IN THE LOOP

Things Made of Wood

Trevor Hodges discusses the advantages of timber in layout construction. Photo by the author.

A few months ago I read in the paper that the New South Wales government was about to embark on a refurbishment program of the enormous Westmead Hospital complex which is located in Sydney's western suburbs, not far from Parramatta. Why were they wasting money on refurbishing a hospital that was only built a few years ago I thought to myself? As a 17-year-old I'd spent some months on the building site of Westmead Hospital as a carpenter's apprentice. Then it dawned on me: as I'm now 56 this means the hospital must be approaching forty years of age! A few years ago indeed! I didn't end up completing the apprenticeship, but for about six months I helped my employers install crash barriers around the loading docks and through some of the wards of the hospital. Like most first year apprentices I spent a good proportion of my time at work sweeping up, collecting the lunch orders for everyone else and being shouted at by my bosses, in my case in Italian. Johnny, the Italian carpenter who'd agreed to take me on as a favour to my mother, taught me four Italian words on my first day at work but *pronto* was the one that most often featured in his tirades at me.

If you're thinking that training as a carpenter means I acquired lots of knowledge about wood, think again. The sad reality is that you don't learn a great deal about wood or woodwork from sweeping up or being sworn at, even if it's in Italian. While my formal training in the art of woodwork may be fairly limited, I've spent many years since trying to pick up the skills I failed to acquire in the formal phase of my woodworking career. Before we go any further the most important lessons I've learnt over the years are these: wear safety glasses whenever you work with power tools and keep your fingers away from the sharp parts.

Perhaps we should start by addressing the following question: do you need to be a skilled woodworker to build a model railway layout? My very first layout, built when I was a teenager, was in N scale and constructed on a hollow core door following directions contained in a book from the Model Railroader stable entitled *N Scale Primer*, by Russ Larson. After more than forty years I still have the book (it's no longer in print) and the things I learnt from it are just as valid today as they were then. While the book covers a wide range of topics, including building quite sophisticated layout benchwork of the L-girder type, the small layout I built following the instructions contained within its pages required almost no woodworking skills whatsoever. So, the simple answer to the question posed at the head of this paragraph is probably no, you don't need very high levels of woodworking skill to build a *simple* layout.

However, I quickly became bored with my N scale layout and it spent a number of years propped against a wall in a spare bedroom before it was eventually discarded. For my second attempt at building a layout, about twenty years after the first, I grew more ambitious and it was at this point that I started to require a degree of woodworking skill that went beyond the basic lessons I'd picked up in High School and working at Westmead Hospital. However, in spite of this, it's my experience that the level of skill required to build any but the most ambitious layouts requires woodworking skills well within the reach of a competent amateur. I've designed and helped build a layout with a helix – a structure to get trains from one level of a double level layout to another (the Wyong and Districts Model Railway Club's *Upper Hunter*, described in AMRM Issue 251, April 2005) and while this is not a structure I would rec-

ommend a beginner undertake, it's unlikely to be included on a first project.

What makes the biggest difference in whether you can build a layout where trains will run reasonably reliably is some degree of familiarity with the materials being used, a few basic tools, a bit of planning and a willingness to give something new a try. If you come up against a problem you can't solve you might be able to call on a more knowledgeable friend and if such an individual isn't available, there's always YouTube.

As I've gone about planning my new home layout I've been putting some thought into the materials I'm going to build it from. Over the last twenty or so years I've experimented with a range of layout materials, including aluminium in a number of different shapes, sizes and thicknesses, sheet wood products such as MDF (medium density fibreboard) and plywood, extruded foam and dimensional lumber (mostly Radiata pine).

If you use a powered mitre saw and a suitable blade, aluminium is not much more difficult to work with than timber and its dimensional consistency and reliable straightness is a real plus. However, aluminium can be expensive compared with timber and I've never built a layout from this material alone: I always seem to find timber (either pine or plywood) sneaks into my bench-work somewhere along the line. While aluminium has some real advantages in the right application, especially where things need to be light, I've yet to figure out a way to satisfactorily lay track onto it. For this reason you still need some type of sheet material to lay your track on other than aluminium. I've read about and talked to modellers who've experimented with different types of foam products on which they've laid track, but I've yet to move far beyond plywood of 12mm thickness or more as a track base.

Both my portable layouts, *Queens Wharf* and *Morpeth*, have aluminium incorporated into their benchwork and while my new home layout will incorporate both of these smaller layouts into the design, one of which will remain available for exhibition use, this new layout will primarily be a 'permanent' home layout that is not designed to be moved. As such, weight is not the same issue it might have been if I were building another exhibition layout. So this, combined with the consideration of cost, ease of construction and my personal skill set, suggests that timber is the logical choice to build the layout from.

The first layout I built as an adult, starting in 1992, was constructed from pine and plywood in the shed I wrote about lining out with Gyprock in a recent *In The Loop* column [*'Taken At The Flood'*, AMRM Issue 326, October 2017–Editor]. I laboriously cut the pine up using a hand saw and assembled it with a Stanley screwdriver and slotted screws. It took forever to get trains running and, perhaps unsurprisingly, by the time I'd pulled it down, lined the walls of the shed and reinstalled a slightly expanded version of the layout in the newly-lined shed, I'd purchased my first cordless drill and a Triton workbench, which could be configured as both a table and a cross-cut saw.

As is usually the case with me I spent ages looking at Triton workbenches at different outlets, comparing prices and trying to convince myself I didn't really need one. My friend, the one who was helping me line the shed, and I were talking about my research into these contraptions and he said his boss had one he wanted to sell. I was immediately interested until he said "Yeah, he cut two of his fingers off

with it and isn't sure he wants to use it anymore." I asked him whether his boss had cleaned the blood off as a not very funny joke, but the message has stuck with me: just because these machines are used at home doesn't make them any safer than if they were being used in an industrial setting. I didn't buy the Triton that caused the accident, but I still own the one I did purchase and it's been used to construct every one of my layouts since about 1993.

If I were buying a power saw to aid in the construction of a layout today (and if I didn't already own a shed full of power tools) I'd probably buy a cheap mitre saw from one of the big hardware chains. My partner recently bought herself a mitre saw for less than \$70.00, which she proceeded to use to cut the decking timber for her new home and then commenced cutting up a huge pile of hardwood left over from the demolition of the previous house which she planned to use as firewood. The saw eventually burnt out before she'd finished cutting up all the hardwood, so she took it back and got them to replace it. If her saw can cut its way through most of an enormous pile of hardwood it should be more than up to the task of cutting some soft Radiata pine for your next layout.

I find I can do approximately 90% of the cutting required for a layout with a mitre saw. You only need a table saw on rare occasions with this type of straightforward woodwork. The other 10% of cutting is mostly the use of a jigsaw. I'd also recommend splashing out and getting yourself a half decent cordless drill or two (who doesn't own one of these nowadays?) and perhaps a small power drill as well. I put a countersink drill-bit into my power drill and use the cordless to drive home the screws as I'm building a layout. This arrangement saves a huge amount of time over trying to do both jobs using one drill and swapping the bits back and forth. Pine is prone to split unless you drill a pilot hole and countersinking the holes is a must.

Finally, it would be worthwhile getting at least a couple of saw horses, which can be picked up very cheaply these days. If you get yourself four saw horses you can mount the mitre saw on two while the other two can be used to hold the parts you're constructing off the floor. I use both 6G, 30mm long and 8G 40mm long wood screws to assemble my benchwork and hardly ever use glue. Screws alone are more than secure enough in this application unless you're planning to climb on your benchwork. I've recycled a large percentage of the wood and screws from earlier layouts into those that I built later. I've only been able to do this because I don't use glue.

One final tip is to buy your screws in larger quantities (500 or 1000) rather than in the small packs of 50 or 100. I was recently looking at buying 500 screws and the price was \$32.00, when I looked down and saw a pack of 1000 for \$27.00! With a pack of 50 being around \$5.00 you do the sums. While you can spend hundreds (if not thousands) of dollars on really good quality power tools, if you look around and buy when things are on special you should be able to pick up everything you need to build a layout for between \$200.00 and \$300.00.

While using left-over timber to build a layout is an option that can save you money, somewhere along the line you're probably going to have to buy some timber, especially if your layout is of any reasonable size. Buying wood is not as simple as it might appear at first, especially if you haven't purchased much in the past. Years ago, I used to be quite intimidated by the 'blokes' working in most hardware outlets who always made it pretty clear they were more comfortable working with tradespeople than with a Saturday morning amateur like me, buying one sheet of plywood and five pieces of 2 x 1 pine. The introduction of self-serve timber outlets in stores like Bunnings, where you can drive your car into the store, get a hefty trolley to wheel around your purchases and pick your own wood has changed all that. I probably know far more about the wood I'm looking to purchase than the spotty teenagers I ask to help me load



The author's mobile worktable, mentioned in the text.

up, so any self-consciousness I may have felt about not being 'blokey' enough has long since passed.

When and where you buy your layout timber is a matter for you, but I always go on my own when I'm buying timber because I don't like being rushed or interrupted by the better half, especially when she's on the hunt for mitre saws and wants advice. The majority of the pine I buy is 2 x 1, 3 x 1, 4 x 1 and 2 x 2 inch dimensions. This mix is enough to build just about any layout you're likely to design. I never let someone in the shop select my wood: I sight down each and every piece and if it has knots or is twisted or warped in any way I put it aside and look at the next piece till I've selected all I need. Let someone else buy the warped pieces, our trains need to run on benchwork that is bump free and true and in my experience the quality of the timber you build your layout from will inevitably play a role

in the way your trains run. A straight piece of knot free timber is the same price as a piece that's twisted.

The area I tend to splash out on is plywood. I won't use anything thinner than 12mm ply for the trackbed on my layouts. I've had real trouble with using MDF and thinner ply in the past and these problems only tend to emerge after the ballast has gone down, a stage in a layout's development where it's almost impossible to fix track problems by a simple tweak. You have to get physical and pull the track back up to fix the problems. I'm an advocate for using ply over MDF because I've never had ply swell up under the track the way the MDF on *Queens Wharf* did after it got wet from the application of ballast. I only fixed this problem after major surgery under one of the points. You may have used MDF and had no problems and, if so, I congratulate you, but I'll never again use MDF for track bed on a layout I build.

I recently purchased four sheets of 12mm ply for the track base of my new layout and the label on the sheets reads AA Grade Marine Plywood. I do use MDF in the layouts I build, but I restrict it to roles where it isn't required to get wet, such as in the application of ballast cement under track, and where it isn't bearing much of a load when unsupported over any distance. It will sag quite alarmingly if not properly supported over a distance of much more than 500mm. With these restrictions in mind, MDF has a beautiful flat surface and takes paint well so it's great for backdrops, fascias and lighting pelmets. Its cheapness when compared with plywood also makes it the ideal choice for any templates or jigs you might need to help guide your cutting and shaping of more expensive timber.

So, with the new layout space ready to occupy, two small, portable layouts set up, a layout plan reasonably close to being finalised and a moderately sized pile of wood sitting in the workshop ready to face the saw, you could be forgiven for imagining I went into a frenzy of sawdust production building a new layout. Well you'd be wrong! My new layout room was essentially a clean slate: there was nothing in there but painted walls and vinyl on the floor. After I got some friends over to help me get *Morpeth* and *Queens Wharf* set up and ran a loco back and forth it became very apparent that I didn't have anywhere to put anything except the floor. There were no flat surfaces where I could lay down a tool or place a coffee mug. The usual repository for such items, the surface of the layout, wasn't available because both of the layouts had scenery on them and there was no acreage of empty plywood conveniently available where I could pile all my junk. I needed a solution.

So, the first item I built from wood for my new layout room was a mobile worktable that is already piled high with my junk. It's somewhere to place tools, hold my soldering iron at the correct height and lay down a hand throttle when needed. It took me about two hours to make and was constructed from scrap timber, so it was definitely the right price! Not everything you make from wood in your layout room has to be a layout. I might come back to the use I make of jigs in easing the building of a layout in a later column.

How to Make Working O Scale Gooseneck Lamps

Jessica Brisbane provides some illumination...
Photos by the author.

My model railway is based on the Maine 'Two-Footers', set in 1925 and while looking at old reference photos, I realised that most of the buildings had gooseneck lamps over the door, or at least the main doors. Similar lamps were used in Australia in many guises, just look around for modern day examples and old photos if you are into an earlier era. So, being a cheapskate like most On30 modellers, I decided to make my own. Here's how...

Building the Model

First, you need to carefully lift an LED out of the carrier strip and use tweezers to transfer it to your holding jig. Orient it with the two metallic strips on the back of the LED facing up. Be gentle; it's easy for the LED to slip and go flying. Don't even try to find it, just get out another one and be more careful this time!

Cut lengths of red and black wire about 200mm long. On the face of the LED, there's a little triangle in one corner. This marks the side where the cathode is. You want to solder the black (negative)

wire to the cathode. If you're not sure, use the test battery to see which way around the LED is oriented. It's best to use a fairly high soldering temperature so the solder will melt as quickly as possible. Blowing on the LED to keep it cool will help it to survive the process. Use the test battery to make sure the LED still works. They're not designed for hand soldering, so you'll probably fry a fair percentage of them. If you're cheap, you can clip off the

wires for re-use before you throw the LEDs away.

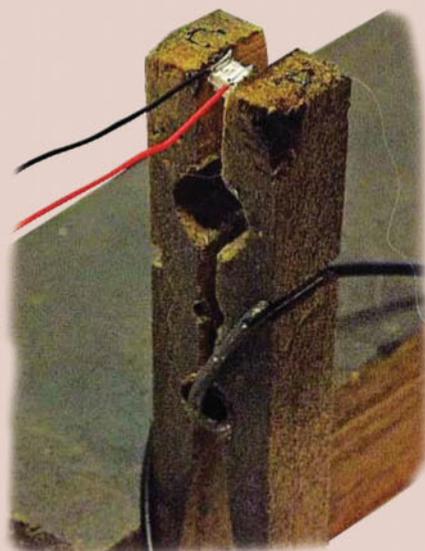
Put a little blob of liquid electrical tape on the back of the LED. This will both insulate the connections and give them a little extra mechanical strength.

Twist the wires together tightly for about 40 or 50mm and bend them so that they come straight out from the back of the LED. Be careful not to break either of the connections while you do this. Now slide the lamp shade of your choice over the wires. Mine are over-sized scrapbox parts, but any commercial or home-made equivalent would do. I painted mine white inside and dark green on the outside, which seems to be the most common arrangement in the place and time I model. Now glue the shade in place with super glue. While you're at it, glue the twisted wires together as well. You want the wires to look like scale electrical conduit, so fill in any gaps.

Now you can form the wires into the goose-neck. You can do this by carefully bending the wire around the shaft of a screwdriver or a suitably sized piece of tubing, but it's easier if you use loop-forming pliers. You could bend the wires into any shape you like, of course. Paint the wires to look like electrical conduit (I use Payne's Grey, a very dark grey artist's colour), and you're done. If you would

Materials Required

- SMD white LEDs
- Fine insulated wire – I use 30g wire-wrap wire, because it comes with coloured insulation
- Soldering equipment
- Liquid electrical tape
- Superglue
- Something to hold the little LED while you're working on it. I use a modified wooden clothes peg screwed to a block of wood
- Something to test the LEDs with. I use a 9V battery with a 1000Ω resistor.
- Loop-forming pliers are useful, but you can do without.



A wooden clothes peg with the end cut off square and screwed to a block of wood makes an excellent, insulated parts holder for soldering 30 gauge 'wire-wrap' wire to the surface-mount white LED after it is removed from the carrier strip. Once soldered, the wires are insulated by applying some liquid electrical tape, a coloured liquid rubber that is painted on to the connections. Once the joins are insulated, the LED is tested with the author's battery tester, a 9V battery with crocodile clips soldered to the leads of the snap-on connector. A 1000Ω resistor in one of the clips limits the current while testing naked LEDs, otherwise the 'magic' smoke gets out and the LED stops working...



An LED glued to its shade with the wires glued together and shaped into a 'gooseneck'. The lamp is now ready for painting, installation and connection to a power source.

prefer your lamps to look like they were incandescent bulbs rather than mercury-vapour lamps, a little clear yellow-orange paint on the LED will do the trick. Tamiya clear colours will do nicely, but I use glass paint because there's a wider range of colours.

Don't forget to put current-limiting resistors in series with the lamp when you install it; 1000Ω, ¼W resistors are cheap and will suit the vast majority of LEDs and supply voltages. All you have to do now is install them over any doors or other areas that could use a bit of light. 

The soft yellow glow, obtained by painting the white LED with clear yellow-orange paint, enhances the night view of Innsmouth station.



Computer Aided Design

Brian Peacock designs a layout using his computer. Photos by the author.

So, you have decided to finally build that dream layout that you have been considering for years or you may be embarking on your first layout. When designing a new layout, you may have considered a number of issues:

Where will it be located?

How much space do I have?

Is it to be a permanent home layout or a portable layout that can be taken to exhibitions?

Even if space is not a limitation (which would be rare), how much money do I want to spend as the bigger the layout, the greater the cost?

As many of us may be retired or our physical mobility is limited (working under a layout is no fun), then the size and complexity of the layout needs to be considered.

How much time can I put into building and maintaining the layout?

Will it be on a single level or have gradients/bridges etc.?

Will it be a shelf or table layout?

If it is a table layout, will the operator be able to walk around the entire layout or will there be an internal control pit which is reached via a removeable shelf or bending under (how are those knees?)

Will it be modelled on a real world (prototype) location or will it be a freelance design, or perhaps a bit of both?

Do you want to include a train shunting puzzle such as Timesaver or Inglenook Sidings?

Are you more interested in the operation of the trains perhaps with manual schedules where trains travel from point A to point B and then change loads for another journey perhaps requiring several operators or are you more interested in the continuous running of multiple trains on various tracks?

In some cases, it may be possible to simply start laying track with a general design in mind or a simple drawing on paper. This may be the case if you are quite experienced in building layouts or it is a simple point-to-point design. However, a detailed design will always be of assistance and in some cases, it is mandatory. If it is a reasonably complex design with multiple curves where you want to implement a minimum radius, say 610mm for a HO layout, and space is tight, then a detailed design is essential. Experienced modellers may still be able to do this with pen and paper, but the use of a computer program as a tool to design the layout should be considered.

What is CAD?

What is involved and is it for me? Clearly it involves the use of a computer program. Ah, I can hear the turning of the page as many readers will stop reading this article at the mere mention of computer usage. Yes, it does involve acquiring a computer program, either a freeware version or a purchased program, and it will involve learning how to use it. If you are completely computer-phobic, then this may prove to be more difficult than it is worth. However, these programs are not high-end complex general purpose computer aid design (CAD) programs, but are particularly suited for model railway track design and are intended to be fairly simple to learn and use due to their restricted and special purpose capabilities.

The programs use a menu style to allow the user to select various track elements from a track library. These libraries contain the correctly sized track elements from a wide variety of manufacturers in the scales that they offer. The track elements include flexible track which you can 'bend' to form a curve of any radius. To begin, you define the dimensions of your baseboard and then start to add track elements using turnouts and curves to shape the design that you want. Being computer-based, you can easily make a change by removing some track elements and replacing them with others or changing the radius of the curve to change its shape.

Issues to be Considered

OK, if you are still with me, let's look at some of the issues that you want to consider. Firstly, I recommend that you keep in mind that a CAD program is a tool and not an end in itself. You should use it to help you design your track layout, creating the basic shape which includes the different types of turnouts, slips, straights and curves. These programs also support components such as bridges and tunnels. They will also assist with ensuring that gradients are within your preferred tolerances. Likewise, the radius of the curve can be specified thus ensuring that you don't have curves that are sharper than your preferred minimum.

Some programs go beyond simply supporting the drawing of the layout and allow some basic scenery and rolling stock to be shown. Whilst this may seem helpful, it isn't an essential part of designing your track layout and takes further time to master the use of those features and to apply them on our computer drawing. The more sophisticated programs will cost

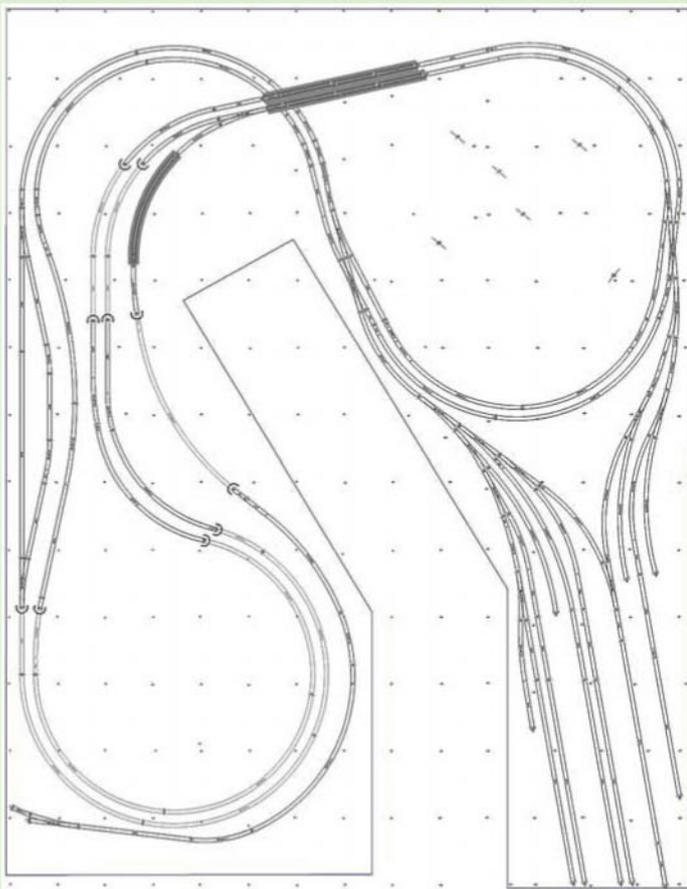


Diagram 1

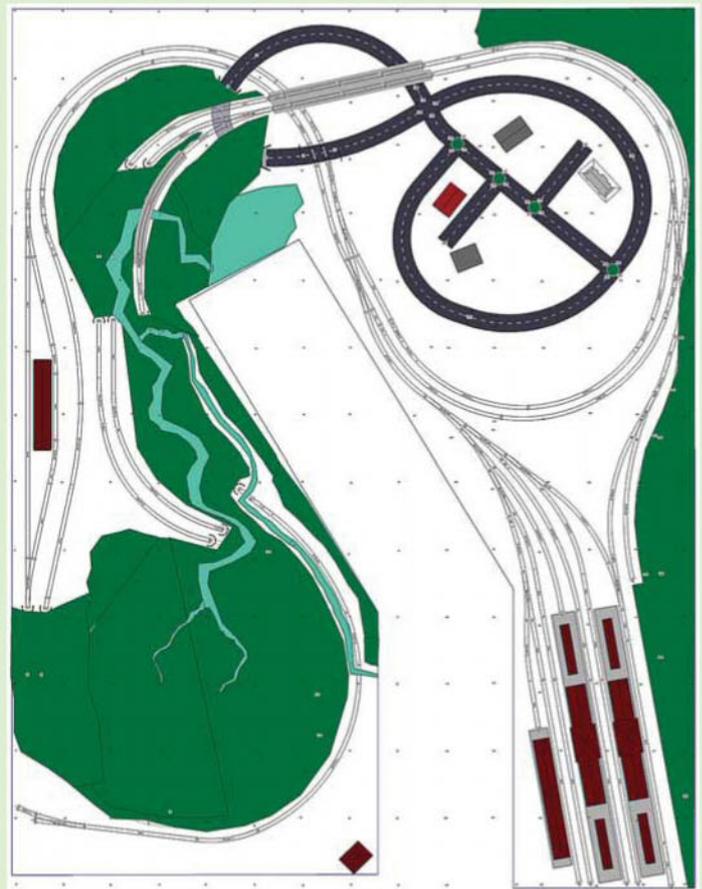


Diagram 2

money, however the basic programs such as SCARM do a perfectly fine job at the essential task of drawing your track design.

What Programs are Available?

XtrkCad is an open-source program maintained by a team of volunteers whilst SCARM is a freeware program that has been in active development for the past seven years. Atlas offers the Track Planning Software, which is really just a cut-down version of the SCARM program. Because its track library is limited to just the Atlas range of turn-outs and track, it is simpler to learn and use, but with those significant restrictions. Other programs such as AnyRail (\$69.00) and 3rd Plannit (US\$124.95) offer more powerful features that make it easier to design your layout. They also offer additional features such as scenery and buildings that make your design look a little better, but it all comes at a cost. They offer better documentation and probably better support, but I was completely happy with SCARM's features and ease of use and it is free (although if you make good use of the program, a small donation is appreciated by the developer).

Training

Is a CAD program right for everyone? Almost certainly not. I fully appreciate that for some people, the



Diagram 3



Diagram 4

thought of using a computer program as an aid in designing their track layout fills them with terror. They don't feel comfortable trying to learn a new program and worry what they will do if they get stuck. However in terms of training, the world really has changed. Although all programs offer some documentation, with the purchased programs offering more extensive documentation to justify their price, YouTube videos are a great source for learning how to use these programs. These videos explain and demonstrate how the various features are used. In the case of the SCARM program, there are excellent tutorials by Ruud Boer and Gilshrat that explain just about everything you need to know on how to use this program (see: tinyurl.com/kah73j3). There are similar videos for the other programs mentioned above.

My Approach

Here is how I went about designing my layout. I firstly decided on a few basics e.g. it would be a permanent home layout; I wanted gradients and a bridge for interest; it would largely be a freelance design, but I wanted to incorporate an area around the Bell's Grotto along the old Wolgan Valley Railway line; the dimensions were determined by the amount of space that I could cordon off in my garage, plus it would be continuous running with a multi-track mainline. Since I have a limited imagination, I then went searching for track plans to give me some ideas. There are many booklets and designs available on the internet, but I found the *101 Track Plans for Model Railroaders* to be an excellent source for inspiration. Although I chose a layout from that booklet, I modified it so extensively that it is barely recognisable compared with the original.

I tried using pen and paper to re-design a layout based on a layout from the booklet, but I quickly found that this was going to be too difficult. I started on a little research on the internet and came across CAD programs specifically designed for railway modellers. I chose the SCARM program, since it was simple to use, had an extensive track library and it was free, so if I decided that I wouldn't continue with it, then I hadn't wasted my money. It also had a 3D feature, so I could gain an idea of how the gradients and bridge would look. There are several screenshots from the program included in this article. The first diagram shows the basic track design and the second diagram also shows the major elements of scenery (e.g. mountains, waterways etc.), roads and buildings. The final screenshots show 3D images of the same layout.

During this design phase, with the aid of the CAD program, I was able to make many, many changes that simply would not have been possible using pen and paper. The simple scenery

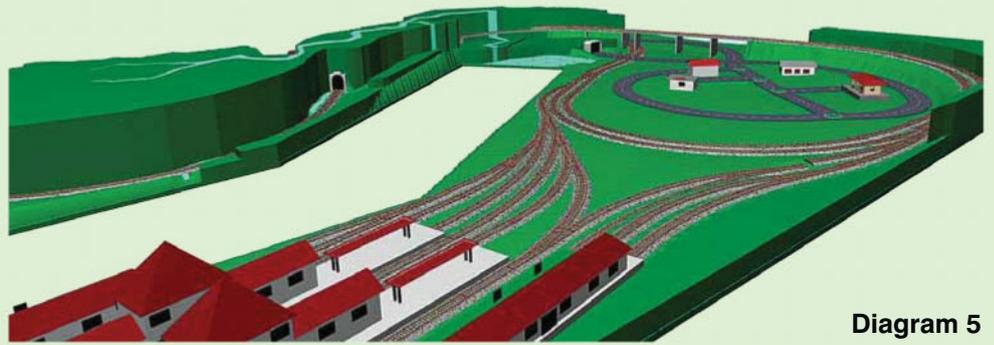


Diagram 5

building facility gave me a reasonable idea of what could be incorporated and how it would look.

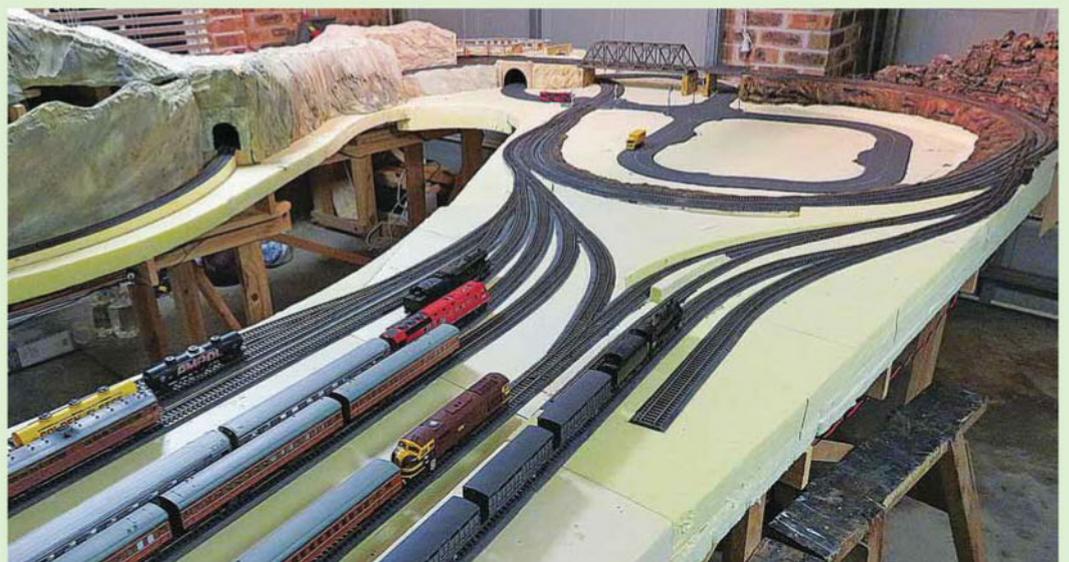
Conclusion

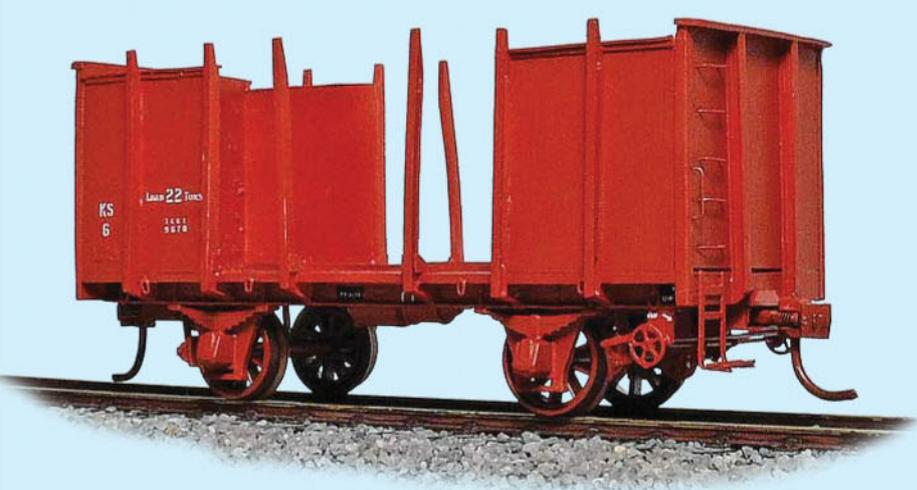
I found the program an invaluable aid that allowed me to fully explore various designs incorporating different elements such that I was confident when I started to lay the track that it would work within the confines of the available space. In fact, since the design was quite complex and used all the extremities of the available space, it was imperative that the laying of the track following this design to the centimetre. To this end, the SCARM program supports the printing of the entire layout in a 1:1 scale. Obviously, this required the printing a lot of pages in greyscale (around 200 pages in my case), but I was able to lay the sheets on my baseboard and cut/trace out the entire layout so that I could lay the track exactly as determined by the design. Although this took some time, it was still far more efficient than laying track only to find that the curves weren't correct or it didn't fit correctly and thus have to pull it up and re-do it.

So, back to the original questions of whether it is worth it and is it for everyone. For me, I don't believe I could have implemented my design without this type of program. The effort to learn and use the program was small compared to the time it saved by getting the track laid correctly first time round. However, it is easy for me to say that it was worthwhile since using computers is my background and this won't be the case for many modellers, but it is worth considering particularly if you have a friend or fellow club member who may be able to give you some assistance.

As good as these programs are, they really only show the track layout and give some basic impression of how it will look via its 3D images. However, they don't show how the layout will actually operate with trains moving around and interacting with each other. To do this, you will need to explore the world of computer simulation. A topic for another article in AMRM perhaps?

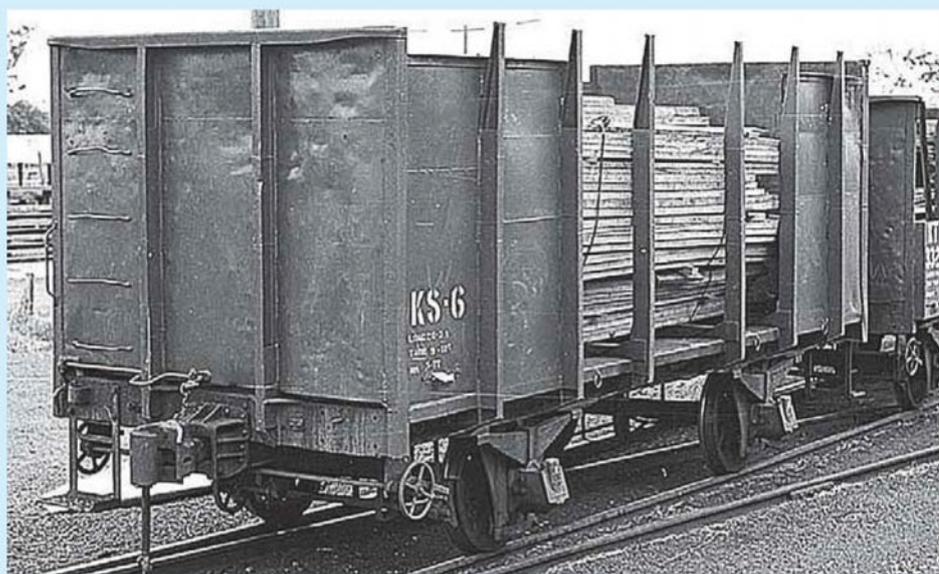
A view of the author's under construction layout from a similar viewpoint to Diagram 5.





Build a VR KS Scantling Timber Wagon in HO Scale

*Peter Ennis constructs a Victorian Railways KS scantling timber wagon, using an SEM GY underframe.
Model photos by James McNerney.*



Wagon KS6, the subject of this article, displayed some noticeable differences from the rest of the class, particularly the vertical sheeting between two of the stanchions (the rest of the class had only one section between the end bulkhead and the first stanchion sheeted at the ends). This may have been a legacy of its original design being for the transporting of hardwood, however in traffic it was pooled with the rest of the class and used to transport scantling timber, as seen here at Dandenong in February 1978, just over a year before it was scrapped in March 1979. Photo by Mark Bau from his VR website: www.victorianrailways.net.



The rest of the class looked more like KS5, seen here at the North Geelong yard in early 1977. Photo by Geoff Winkler, courtesy Mark Bau from his VR website: www.victorianrailways.net.

A Brief History of the KS Wagons

There were seven members in the class. KS1 was converted from KT320 in 1957 by removing the pulpwood dividers and adding side plates to the bulkheads. KS2 to KS6 were built with 'new' bodies attached to former IY open wagon underframes, while KS7 was originally a KT class that was briefly coded IT.

Commercial Items Required

- SEM (C18) GY open wagon underframe and wheel set
- SEM (E5) shunter's steps and brake gear
- SEM (M6) Imperial decal kit
- SEM (P7) russet red VR wagon paint
- Model Etch (ME30) Waybill Clips
- Model Etch (ME41 and ME46) Lashing Rings
- Kadee No.58 coupler (or equivalent)
- Kieran Ryan Models hand rail bending jig 0.5-50mm.
- Solvaset and Dullcote or similar products to settle the decals in place
- Styrene glue Testors/Revell and superglue.
- Styrene components:
- 10" I beam section (Evergreen No.274)
- 4" I section (Evergreen No.261)
- 5" I beam section (Evergreen No.271)
- 2" rod (Evergreen No.219)
- 2" styrene strip (Evergreen No.8102)
- 3" styrene strip (Evergreen No.102)
- 0.005", 0.010", 0.020" and 0.040" styrene sheet

Tools Required

- Modeller's knife
- 4" try square
- 4" hand smooth file
- No.76 and 2mm drill bits and suitable drive.
- HO scale rule

They were built for the sawn timber traffic from Gippsland to various yards in Melbourne, such as Graham, Westall and Dandenong, or to the Newport Workshops sawmill for VR internal use.

The wagons were all out of service by the 1980s.

Building the Model

I have chosen to model K6, converted from an IY open wagon in March 1959, modified to carry hardwood in April 1959 and scrapped on 16 March 1979.

If you decide to model other members of the class the construction technique for

them will be very similar. Refer to the outline drawings and photographs on various websites to see the variations within the group.

Chassis Construction

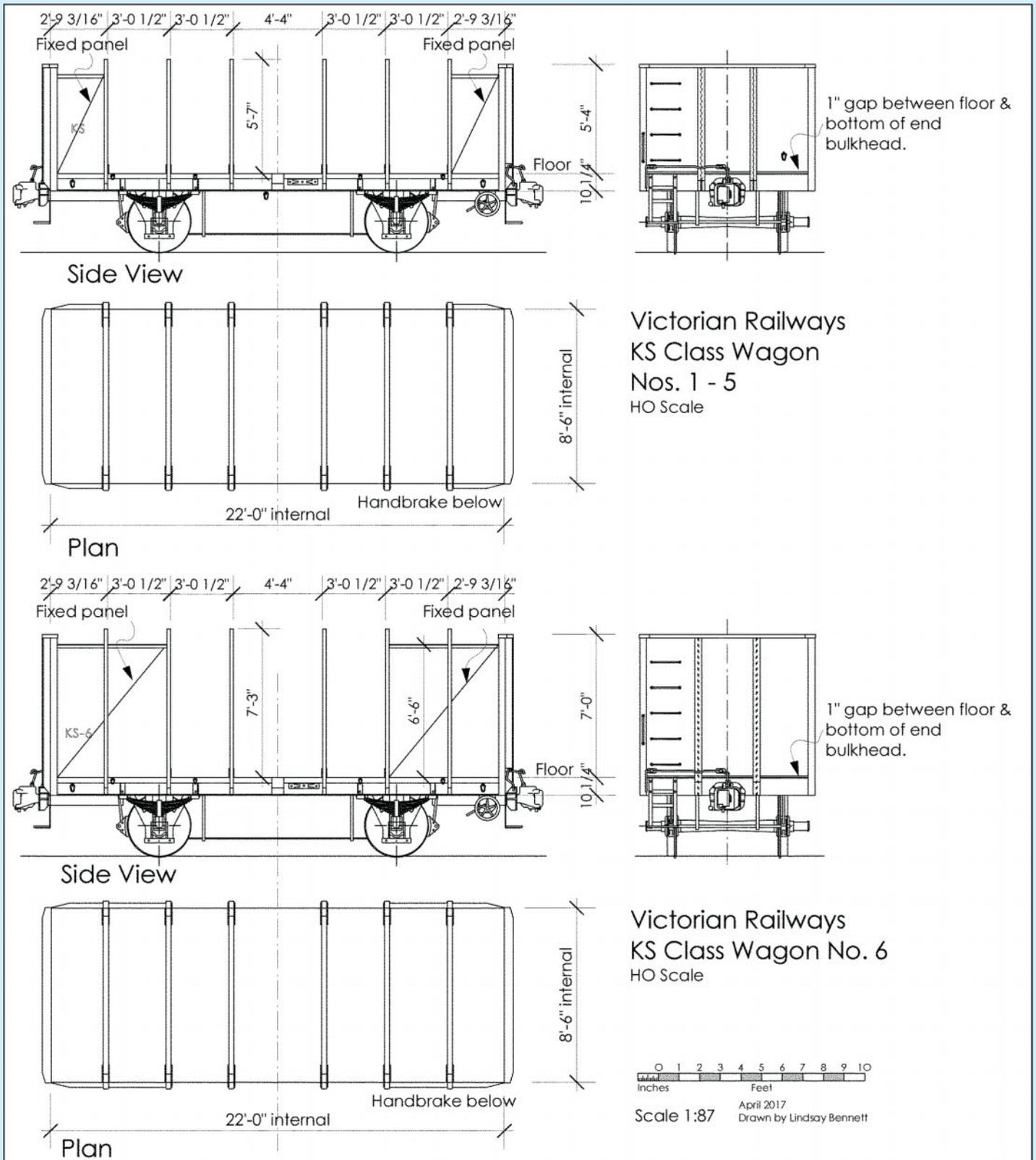
I decided not to use the SEM floor because after fitting the 3" side lip the thickness of the floor is still visible. Therefore I have used 0.020" sheet styrene, cut to scale dimensions of 22' x 8'6", to achieve a more prototypical floor thickness (refer Fig 1).

On the new floor, with a pencil, mark the centre line.

From 0.040" sheet styrene make a side sill (solebar) spacer 21.4mm x 70mm, then with a pencil mark the longitudinal centre line. Remove the side sills from the sprue and then remove the four door support brackets that are moulded onto the side sills.

Insert the axle bearings into the pre-drilled holes in the axle boxes.

Place the new wagon floor on the work bench, so we can see the previously marked centre line, then place on top the side sill spacer that we have just made and if all goes to plan by lining up the centre lines with each other we now have



a guide to fix the side sills in place at the correct distance apart for the wheels/axle to fit between the W irons.

Fix one side sill in place at a time, using minimum glue so that we do not melt the styrene wagon floor, though some floor deformation can be tolerated as the floors of the wagons in service were subjected to heavy loads and rough treatment.

Check the axles are at right angles to the side sills and run freely, always keep in mind that if a mistake is made, the new floor is made of plastic that can be removed and a new one made (Refer Fig. 2 and 5).

From 0.020" styrene make up the two headstocks, 8'6" x 6" and fix into position. The headstocks are normally 10" deep, however, in this case, because we have used 0.020" styrene for the floor, we have to make the headstock 3" less than normal. The headstocks are fixed under the floor maintaining the 22' floor length and 10" deep headstocks. The ends of the headstocks are square and not bevelled [Drawing 5 and wagon end detail photograph].

Referring to Drawings 1 and 2, from 0.040" styrene sheet make up two coupling support blocks 2mm thick, then drill a 2mm hole for the self-tapping screw that will hold the coupling in place, before fixing to the wagon floor.

From a section of 10" I beam cut two lengths that fit in between the two coupling support blocks and fix these two beams in place with their centre lines 9" either side of the wagon centre line.

Using 4" [sections make four transoms and fix in position

From 0.020" styrene make up three 8" x 1'6" air reservoir supports and fix in place. These measurements are non-prototypical as the air reservoir was supported by 2" angle iron that we cannot see because of the wagon floor. Now fix in place the combined air reservoir/brake cylinder. Check photographs for the correct position.

Wagon Body Construction

Using 3" strip styrene fix a section on each side for the full length of the wagon and flush with the wagon floor.

Before fixing into position the bulkhead supports reduce the I beam flange width to 4" and note that they are bevelled at 45° at their base where they attach to the buffer beam.

Make up the end bulkhead sections from 0.010" styrene sheet.

Fix the bulkheads into position, noting that there is a 1" gap between the bottom of the bulkhead and the wagon floor. To achieve this before gluing into position place some scrap 0.010" styrene strips as a

spacer on the wagon floor before fixing the bulkhead into position. Once the glue sets remove the spacer sections.

From 0.010" styrene make up the end bulkhead gunwale, 8'9" x 6" wide. The outer ends taper in slightly. Reproduce by removing a triangular section 6" in from the end and 2" off the outer corners.

Using scale 2" strip styrene, fit the gunwale outer lip. This makes this section a right angled section, adding a great deal of strength to the wagons ends to withstand the less than gentle care they were subjected to in timber traffic and which we reproduce in miniature when the model is handled!

Make up the wagon side sections from 0.010" styrene; fix into position.

From 0.005" styrene make up the corner strengthening that is 8" wide. When folded this wraps around 4" on the side and end. By using 0.005" styrene you can fold it like paper to give a sharp 90° edge.

From 3" and 2" x 0.010" styrene strip make up the gunwales of the wagon sides. The 2" is fixed to the wagon side and the 3" on top, reproducing 2" angled gunwale.

Make up from the 4" [section styrene the side stanchions and fix into position [Drawing 3]. The channel sections have been filled in to add strength and we represent this by fitting a 5'3" long section of 3" styrene strip between the flanges. Use a minimum amount of glue as excessive glue will cause the freestanding stanchions to distort. Mine have distorted as I used a bit too much glue, but I am claiming that it happened due to rough loading and unloading in the yards! Also note that the channel flanges working out from the centre of the wagon face the wagon ends.

The next step is to fit the gussets that brace the side stanchions back to the side sill. The four stanchions located above the wagon springs are braced with a section of 3" steel strip only and are not fitted with the gusset shown in Drawing 4.

Once all of the gusset plates are in position a section of 3" strip styrene is added to the outer edge of these plates to represent the strengthening flange.

Fix into position the timber 4" x 4" load supports that are bolted to the wagon floor.

These supports allowed the crane slings to be removed or placed under the timber when being loaded or unloaded.

From 0.010" styrene make up the securing plates and fix into position.

Note: The plates that are fitted to the timber load supports that are within the end sections fitted with the steel sides will have the cross hatched section removed before fixing into position.

Make up from 1/2" wire the shunter's handrails and fix in place on each end.

Fix in place the four brake hangers and shoes.

Fix the couplers in place.

Using 2" rod, fix in place on each end, between the brake shoes, a section of rod to represent the spacer/retainer that was part of the brake rigging.

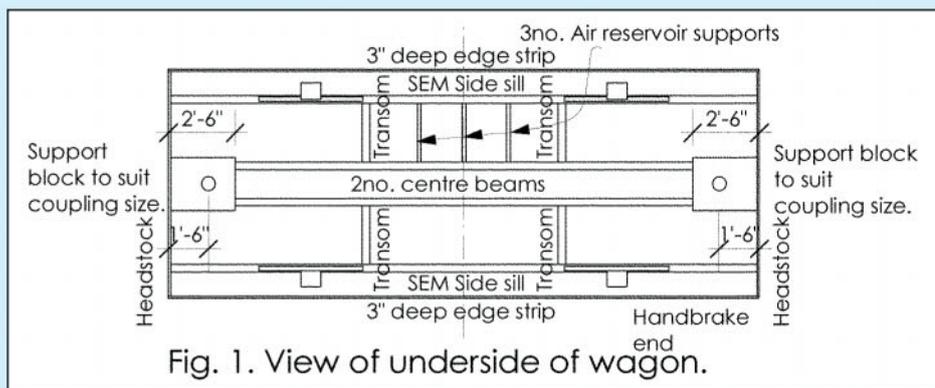


Fig. 1. View of underside of wagon.

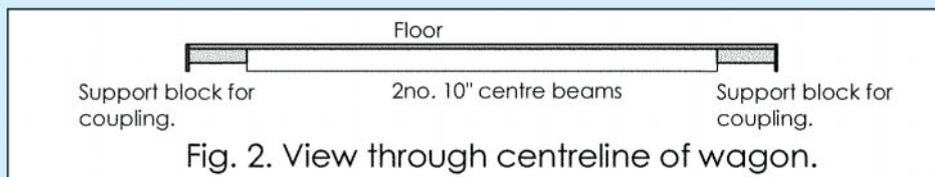


Fig. 2. View through centreline of wagon.

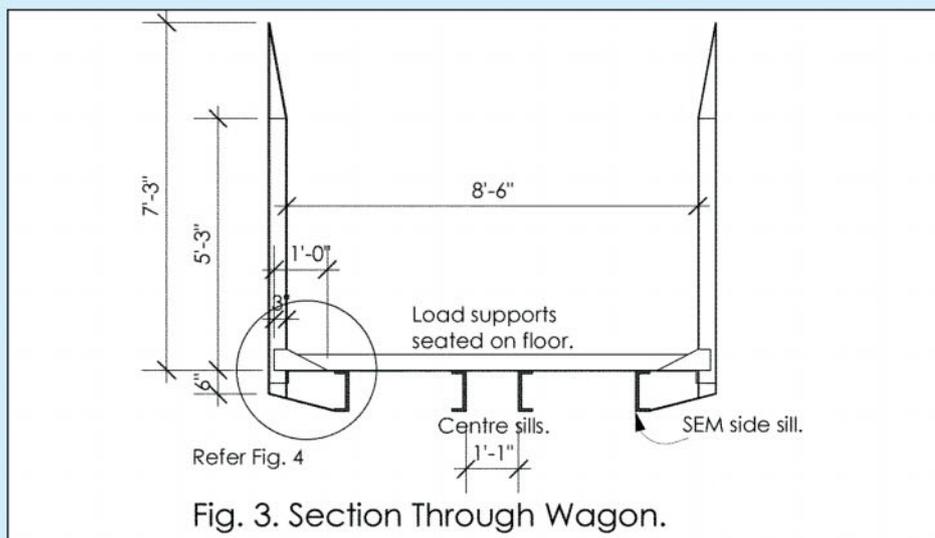


Fig. 3. Section Through Wagon.

Using the SEM instructions from the E 5 accessory kit, fix in place the shunter's steps and handbrake components.

The sharp-eyed may notice that the photograph of K6 on Mark Bau's website (reproduced in this article) shows that one brake wheel has four spokes and the other has five!

Wooden shunter's steps were progressively replaced with metal treads from 1969 onwards.

Before fixing into position the Model Etch wagon waybill clip and lashing rings, refer to photographs and the outline drawing for their location. The ME41 smaller lashing rings are fitted to the wagon's sides and the ME46 lashing rings are fitted to the side sills at each end.

Recommended wagon weight is always a problem and in this case some lead can be added between the centre sill sections and other areas of the underframe where the lead will not be visible when the wagon is in service. When running the wagon loaded some extra lead weight can be incorporated within the timber load.

To check for the correct weight refer to Kadee literature or AMRM Issue 238 (February 2003) *Wagon Weighting & Weighting Wagons* by Mike Boyde.

Paint the wagon russet red, often referred to as VR wagon red.

Decal to the era that suits your time period, bearing in mind these wagons were in service from 1957 to the early 1980s. Prior to 1972 most wagons had the class and wagon number repeated on the side sill because, in the case of open wagons, tarpaulins could be placed over the code and number on the wagon side. Photographs I have access to, taken in 1968, of K6 do not clearly show if the code and number were repeated on the side sill. Hence I have left them off the model until further information comes to hand.

Imperial weight markings and 5" lettering was used until 1972, when metric weights and 7" lettering spread rapidly throughout the fleet.

Operation

These wagons carried timber from eastern Victoria to Melbourne however, on odd occasions they could have ventured further afield, as in the case of IT210 photographed by Bruce McLean in Mildura. It therefore broadens the potential operational boundaries to where we can run these timber-carrying wagons.

References

VR Goods Wagon Promotional Booklet, published by the Victorian Railways in 1968.

Victorian Railways Outline Book 1926 to 1961, published by the ARHS (Victorian Division).

P.J. Vincent's website:

www.pjv101.net/cd/pages/c179m.htm

Mark Bau's website:

www.victorianrailways.net

Rob O'Regan's website:

www.robx1.net

Mildura Railway History Vol.1 2003, CD published by Bruce McLean.

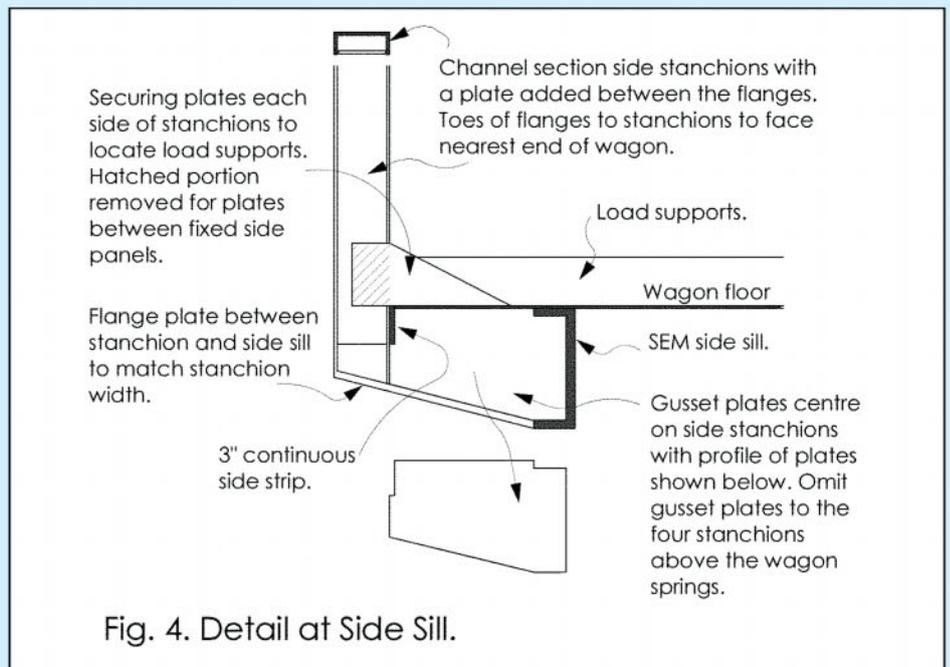


Fig. 4. Detail at Side Sill.

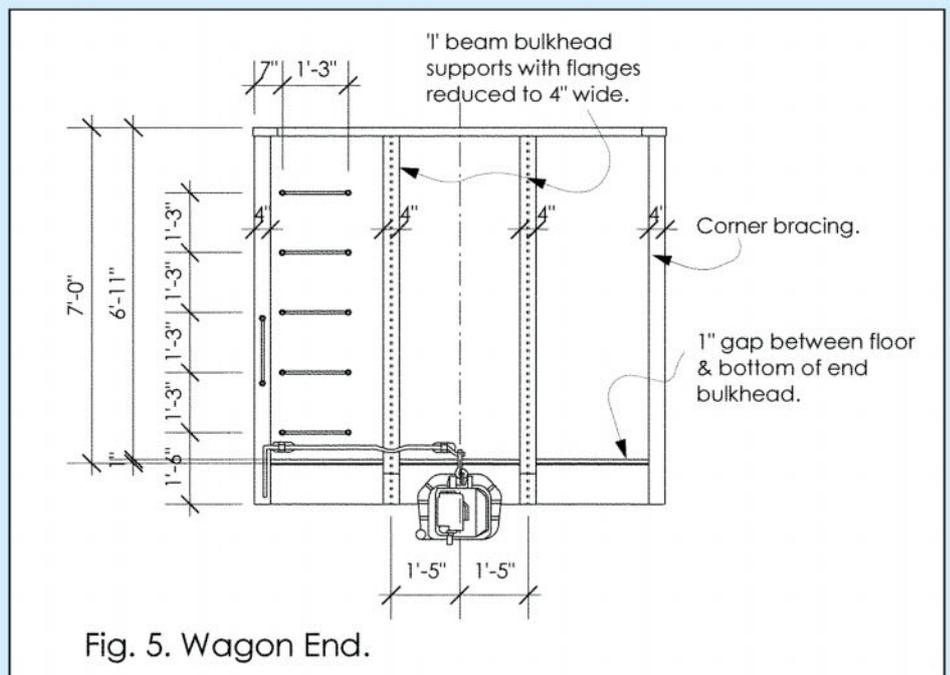


Fig. 5. Wagon End.





BEYOND THE FENCE



1

The original timber-built Scottsdale dairy building shortly after opening in 1911.

Scottsdale, Tasmania

Geoff Collis describes a not often modelled lineside industry. Photos courtesy of the Queen Victoria Museum and Art Gallery.

For modellers of things Tasmanian, the Launceston-based Queen Victoria Museum and Art Gallery has an extensive online photo collection, with many pictures relating to Tasmanian railways.

One that caught my interest was this delightful photo [Photo

1] of the magnificent Scottsdale Dairy Co-operative Company building, which was located near the western end of the station precinct at Scottsdale, the major town on the North Eastern line.

The lush, fertile, pastures of northern Tasmania have hosted a thriving dairy industry since the mid-19th century, with the



**RECYCLED
ROLLINGSTOCK**

The LLV on Gorman Road

Leon Oberg presents an idea for another interesting scenic cameo.

Photo by the author.

Owners, Paul and Sharyn, with their former LLV wagon body that has been on their property, known as 'Boomerang', for almost 30 years. In that time it has developed an interesting weathering pattern that would make an attractive centerpiece to a small scene on any layout.

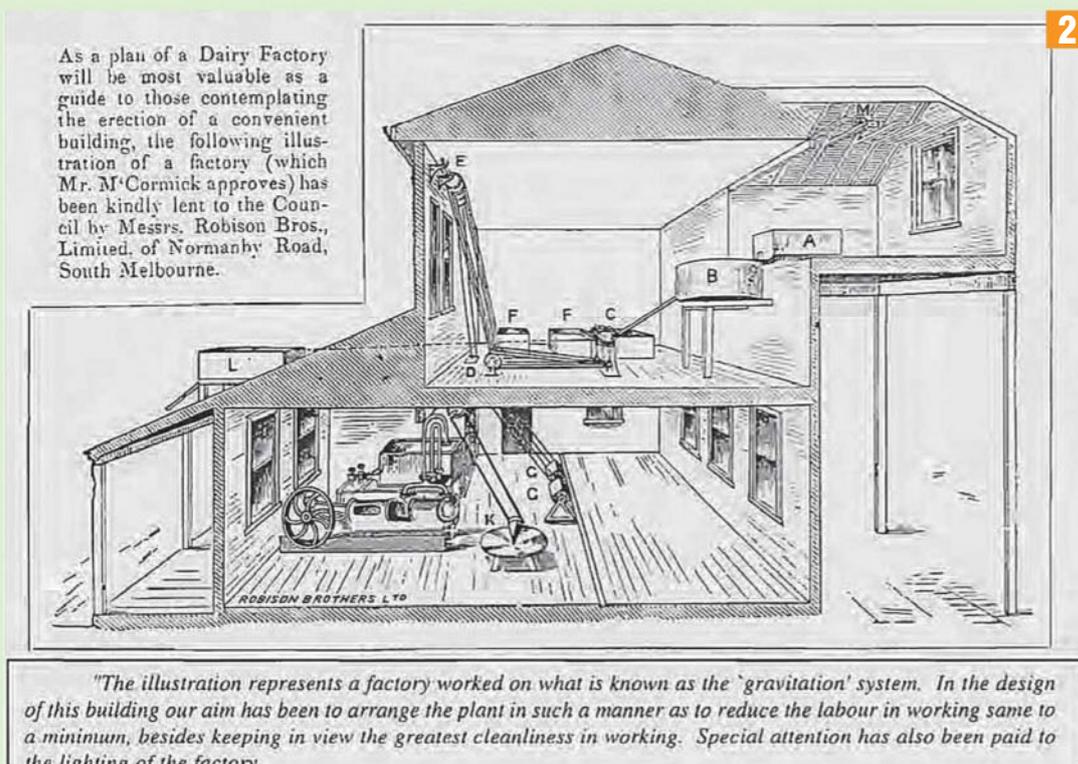
Tasmanian Government Railways for many years playing a notable role, particularly in the transport of finished products such as butter and cheese. Although the TGR did not operate milk tank wagons, ventilated, insulated and then refrigerated vans were used for transport of dairy products and, despite the mild Tasmanian climate, the 1950 TGR *Appendix to Rules and Regulations* instructed staff to take care with rubber-sealed doors on insulated wagons due to complaints from dairy factory managers about their internal air temperature. They further stated that insulated wagons should be “kept under cover in goods sheds and kept closed except when required for loading and unloading purposes.”

A Scottsdale Co-operative Dairy Company was established around 1899 but, despite grand ambitions, was short lived, being liquidated the following year. A second attempt at a co-operative butter enterprise began in 1910, again using the name Scottsdale Co-operative Dairy Company. In September 1911, the business moved to a new purpose-built factory next to the railway line, although the official opening was on 12 October. This photo [Photo 1] was apparently taken on the opening day, and shows one of the ubiquitous TGR C class open wagons in the foreground.

The unusual design of the building enabled loading of the raw milk by hoist from a delivery vehicle to a weighing tank in the upper level. The milk then flowed by gravity to cream separators and into tanks in a cool storage chamber in warm weather, or down to the lower level to the butter churns, skim milk being siphoned off to a separate tank [Photo 2]. The railway would have provided reliable and relatively quick

transport to Launceston and beyond, with much Tasmanian dairy produce at the time being exported to the United Kingdom.

By 1935, the Government Chief Dairy Officer reported that the premises were unsatisfactory in light of the new sanitation requirements of the Dairy Produce Act of 1930, so the majority of the building was dismantled and replaced with concrete construction. The remaining wooden sections, such as the small office in the left side of the photo, were demolished in the early 1950s as the factory expanded. The Scottsdale factory finally closed in 1970. 



A diagram of the internal arrangements of a typical commercial dairy.

What can the creative modeler do with their redundant or damaged rolling stock? The easy answer could mirror what people in real life do, for scores of rural people around the nation have recycled once proud rail vehicles, fashioning parts or all of them into living accommodation, storage sheds, barns, tack rooms, stables and even small on-farm bridges, as we have seen in these pages from time to time.

At Goulburn (NSW), throughout the 1970s to 1990s period, when a local scrap firm received ongoing contracts to dispose of condemned freight and passenger vehicles, he had a ready market. In some cases, the contractor was just required to remove the bodies from the frames and then the rolling chassis of former bogie livestock or louvered vans would be reclaimed for further use by the NSW State Rail Authority, some seeing further use carting containers.

However, rather than cut many of the vehicle bodies up, the scrap firm on-sold them to property owners, such as occurred with this former LLV body, now residing on a Gorman Road, Goulburn, rural holding. Owners, Paul and Sharyn, use the structure as a shed to house machinery and tools, as well as storing freshly picked pumpkins, potatoes, onions, garlic and other farm produce earmarked for domestic consumption.

While there are no longer any indications as to the previous identity of this LLV body (the numberplates have vanished and the painted number on the code board has faded into oblivion), there is still a considerable amount of graffiti written on the interior ceiling. "Obviously railwaymen writing crude messages to one another at various ends of the supply chain," the owner observed, pointing to one entry dated 1976.

Describing himself as "something of a

railway enthusiast", Paul told the author that he liked nothing better than to unwind late on some sunny afternoons by grabbing a couple of beers and ambling over to his western boundary fence, a section of which overlooks the old North Goulburn railway ballast quarry, and consuming them as a parade of trains roll by, lit by the setting sun, thereby neatly describing a scenic cameo that would nicely complement the heavily weathered wagon body with a little miniature 'human interest'! 



Atmospheric Lighting

*Warren Miller adds interior lighting to his engine shed.
Photos by the author.*

Not many modellers spend a lot of time operating their layout in 'night mode'. In the past it wasn't very interesting watching a flickering headlight running around on a darkened

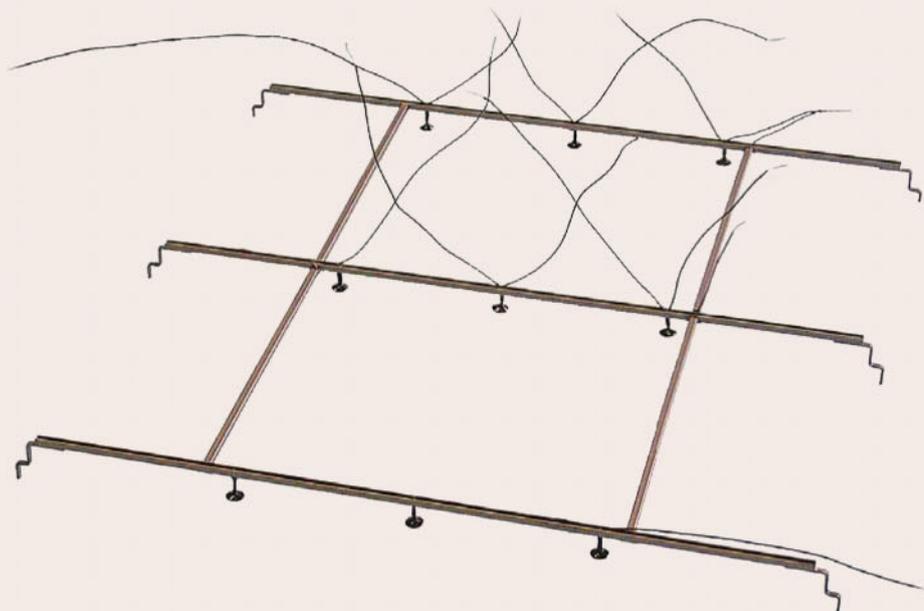
layout. Now, however, with the availability of good quality lighting in locos and coaches, night operation is more attractive, but the buildings and infrastructure need to be realistically lit as well as the trains.

I decided to install lighting in my loco shed [See 'Building the Eveleigh Running Sheds' in AMRM Issue 294 (June 2012) – Editor], but rather than simply put a single light under the roof, I aimed at something that would hopefully convey more of the character of a prototype loco shed at night. To do this I used an array of small incandescent bulbs, installed in a similar manner to the real thing. I was especially keen to avoid having loose out-of-scale wires visible inside the shed.

Planning the Lighting Scheme

For a four road shed, I decided on a three by three array of nine lamps, arranged at the level of the top of the side walls (not right up in the top of the roof). The lamps used were nine 1.5V lamps in series. This results in each lamp running a little below its rated voltage when the lamps are fed from 12V (they would need 13.5V to all run at rated output). This gives a warmer colour (a lower colour temperature) which approximates nicely to the appearance of incandescent lights in a depot when seen through a haze of smoke and soot. I added shades to the lamps, but it would have been easier to use lamps with shades already fitted (e.g. Miniatronics item 72-001-05).

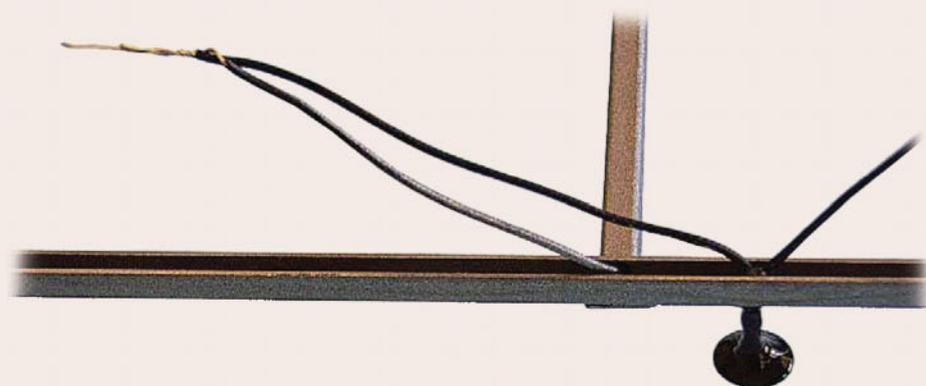
For ease of construction, and subse-



The lamp array is carried on a brass grid structure. The connecting leads on the front cross piece have been tucked down into the recess in the U channel and those behind have yet to be done.



The lamp array is connected to the uprights (brass tube) with H section brass, shaped to follow the shape of the cornice inside the shed.



The lamps are glued into a hole in the cross member and then connected in series. Heat shrink insulation tube (not yet attached at the time the photo was taken) is used on the soldered joints before hiding the leads in the U channel.

quent maintenance, the lamps are supported on a free standing frame within, but separate from, the shed itself.

The Support Frame

The lamp support frame was made from brass, to give it some strength, as it also serves to locate the shed in position on the layout. The uprights are 2mm brass tube, and the power leads for the lights run up through these. These uprights are spaced so that, with the shed in situ, they locate against the inside wall, next to the building roof supports. They are hardly noticeable, and resemble the conduits or building services that would be found in the prototype.

The frame that carries the lamp array is made from 2.5mm U channel for the cross members carrying the lamps and 2.5mm square tube for the inter-connecting pieces. Each cross piece carries three lamps, connected in series, and the power lead then runs through one of the inter-connecting pieces, to the next cross piece, and so on. The leads for each lamp, once soldered together, are insulated with heat-shrink tube, and then tucked down into the channel of the U section cross member. This gives a tidy appearance, with no out-of-scale cabling visible to spoil the effect. The support frame is mounted onto each of the uprights using a piece of H section brass (see photo), bent to accommodate the shape of the cornice in the inside of the shed. In fact it is not necessary to solder the H section into the tube as it will rest there under the weight of the lamp array, which can be removed if future maintenance is needed. On the uprights that carry the leads to and from the lamp array (those on diagonally opposite corners), a hole in the tube, just below the



The completed lighting structure in situ on the layout. The shed fits comfortably over this assembly.

top, allows the lead to enter the tube, then run down the tube and through the baseboard.

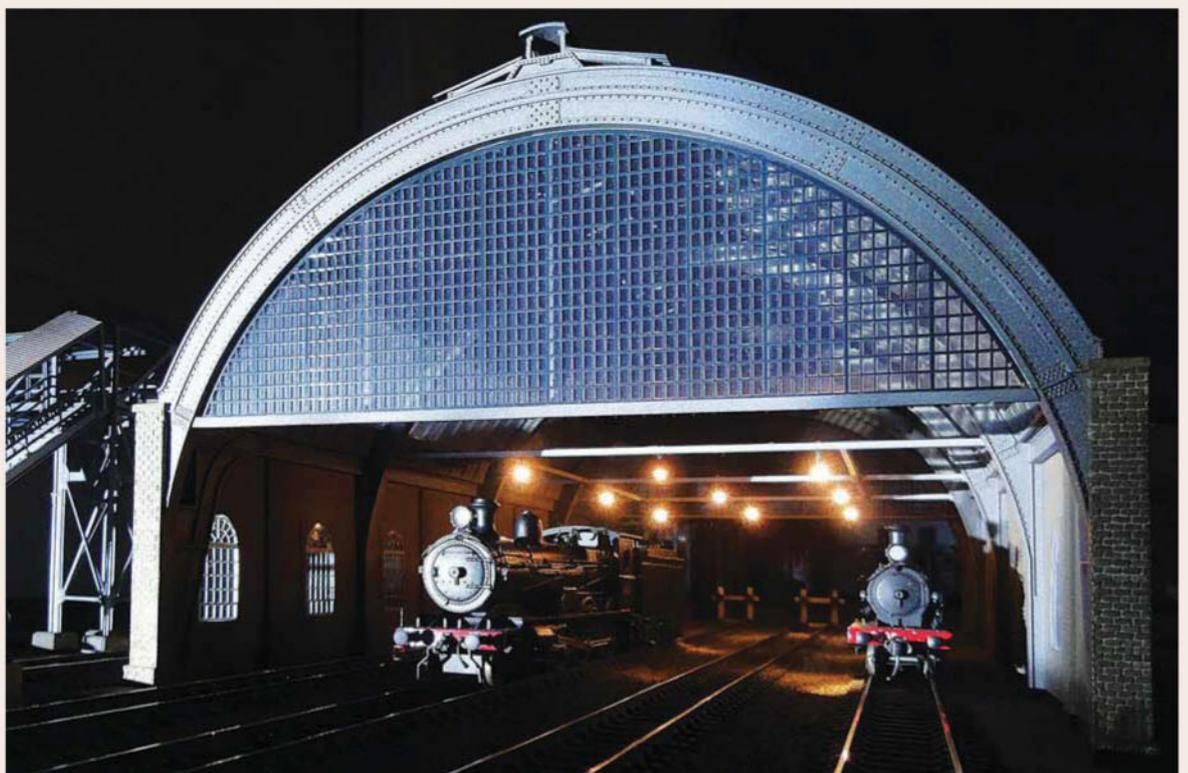
The Electrical Circuit

I used a series circuit in order to utilise low power lamps, but the main purpose was to reduce the amount of wiring needed within the building. (Connecting nine 12V lamps in parallel would have meant too much wiring running around in the roof of the shed). The only drawback with a series circuit is that if one lamp fails (i.e. goes open circuit), then all will go out, and locating the failed lamp will be fiddly. However, the lamps are claimed to have a

life of 1000 hours at rated voltage, and since I am running them each at about 10% below the rated 1.5V, I'd hope that they'll outlast the layout.

Conclusion

The result has been worthwhile; the shed is lit with a soft light, proportionate to the size of the building, with realistic 'pools' of light below each lamp, through which locos move as they come and go. All that is needed to complete the scene is a haze of smoke and the smell of coal and oil. Perhaps if I heated some coal dust on the surface of an old steam iron... – a project for the future! 



The lamps create realistic looking pools of light in the shed and give the variation in lighting that would be found in a prototype engine shed.

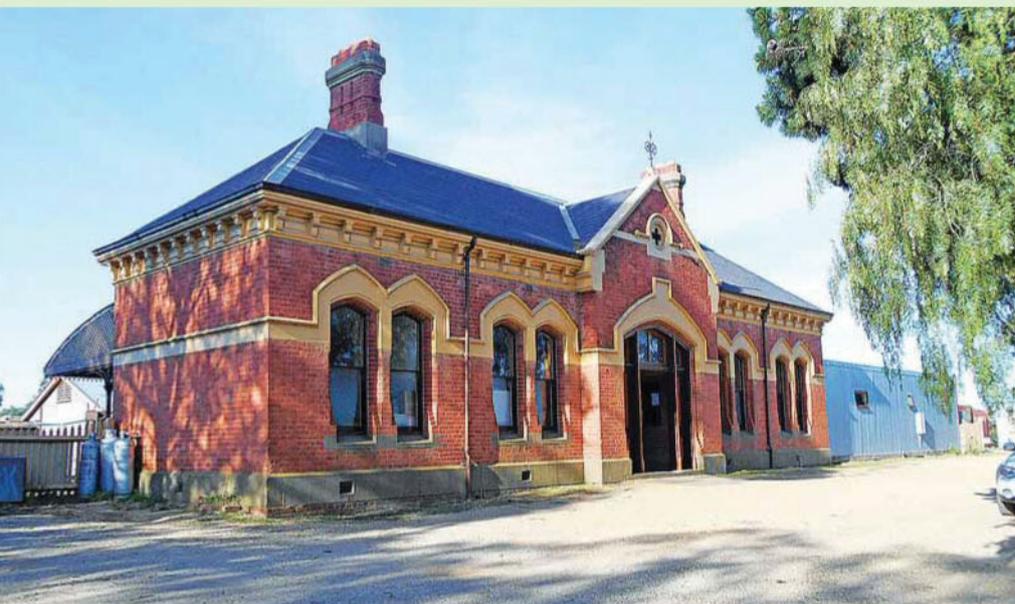


A view of Maldon station in 2012 with J549 at the head of a short mid-week service.

PROTOTYPES WORTH MODELLING

Maldon

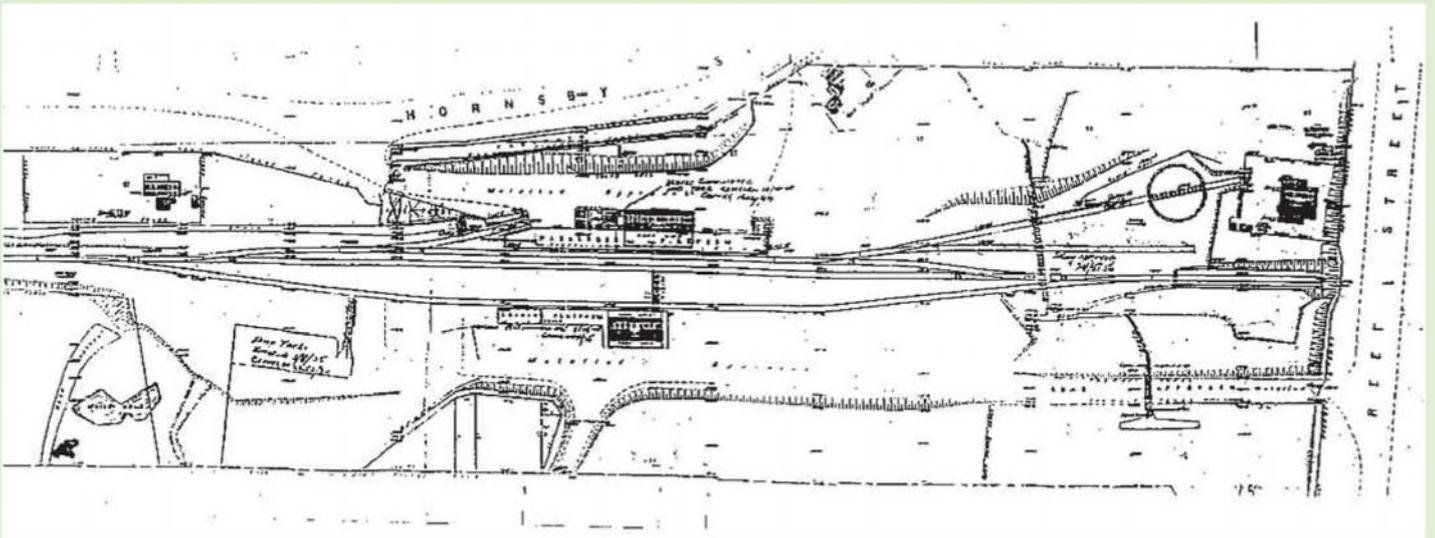
Rodney Barrington explores a Victorian branch line that would make an interesting layout. Photos by the author, unless otherwise indicated.



A view, from the forecourt, of the standard VR brick-built station building at Maldon.

There have been some recent releases of VR locomotives and rolling stock in O scale that have got me excited about a favourite railway, the shortish eleven mile (17.7km) long branch line from Castlemaine to Maldon in the Central Goldfields region of Victoria. It was built at a time when the district around Mt. Tarrengower was an important goldmining centre, opening for traffic on 16 June 1884. It was constructed to 'light-line' specifications, including grades of 1 in 40, sharp curves and rail of 60lb per yard. Unfortunately, when the railway arrived most of the gold had run out! So the grand brick station building overlooked a simple three-track yard with carriage dock, 50' diameter turntable and single-track engine shed. It remained sufficient for its new role as a sleepy rural destination.

As a modelling scenario its simplicity and compactness make it a delight;



A copy of an early VR plan of Maldon.

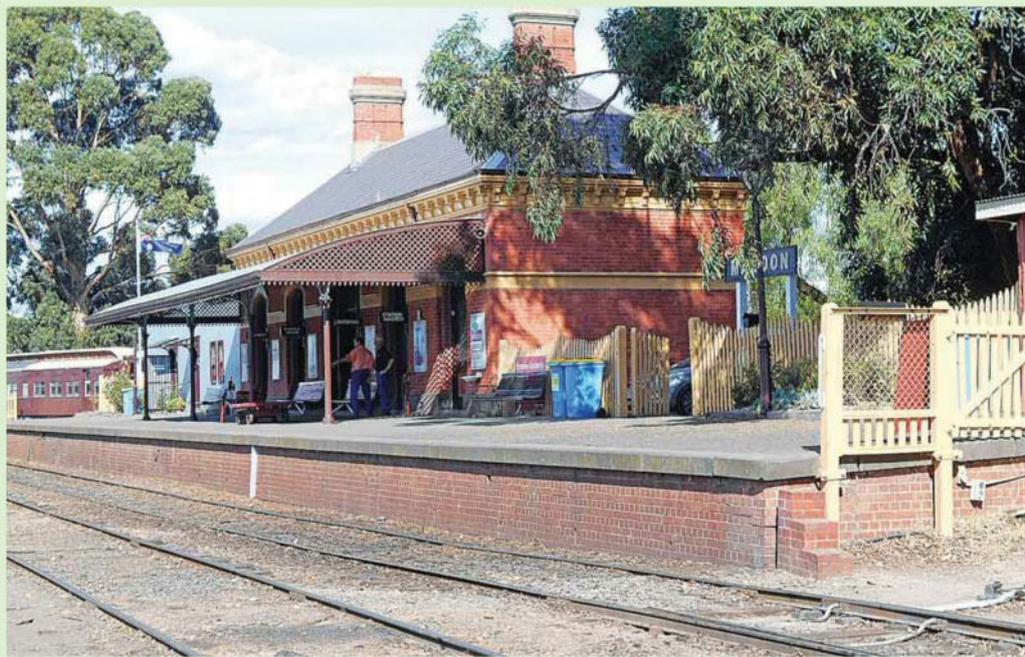
indeed, the arrangement is redolent of one of those classic English branch lines so beloved in the 'Old Dart'. But the story gets better. In 1891, Maldon became a junction station, when a branch line was built to Shelbourne. The actual junction was half a mile before Maldon and operationally it was the continuation of the same railway, but for good geographic reasons the line continued in the reverse direction, with ambitions of continuing on to an inland river port on the Loddon River at Laanecoorie. Indeed, some civil works were constructed, but Shelbourne remained a terminus. It never received any locomotive turning facilities or even a town!

Operations

Initially, two mixed trains a day were provided to Maldon and this was soon increased to three return trips per day. With the opening of the extension, one mixed train per day served Shelbourne. An AEC rail motor was introduced in 1924 which, at one stage, provided four trips per day on weekdays intermingling with a mixed train that ran through to Shelbourne three days per week. But the last gold mine closed in 1926 and the population declined. In 1941 the passenger services were withdrawn and operations settled down to a goods service. The line was not even destined to see those Irish eccentricities, the Walker railcars, except on occasional excursions.

By the 1960s the goods train ran a once a week service, on Mondays. Beyond Maldon the steam locomotive continued tender first to Shelbourne, turning at Maldon on the return journey to operate funnel first in the direction of the outward loading.

Eventually, in 1969, bushfires damaged bridges on the Shelbourne extension leading to its official closure in 1970. Without the grain traffic there was little commercial incentive to retain the railway into Maldon, nevertheless it soldiered on until 1976 when it, too, officially closed.



The platform side of Maldon station building.

A rake of restored goods and passenger rolling stock stands in the loop at Maldon.





◀ Just beyond Langs Lane is the site of Shelbourne Junction. The line to Castlemaine swings to the right; to the left, behind the fallen branch, is the formation of the former line to Shelbourne. The flat landscape with dense tree cover is typical of the background scenery near Maldon and quite easy to reproduce on a model.

Fortunately, the story has not ended here as a preservation movement had got underway ahead of official abandonment. Back in 1966 the National Trust had declared Maldon Australia's first notable town and tourists were taking an interest in the town. Soon a steam passenger train was working again out of Maldon. Initially excursion trains were propelled for a short distance and then for many years terminated at the intermediate station at Muckleford. Now steam trains run through to Castlemaine and it is possible every Sunday to travel again from Melbourne, changing trains at Castlemaine, lunch at Maldon and return in one day. The Shelbourne extension has not fared so well though; the rails have long gone.

A Model Scenario

The proposed model is presented as a relatively simple layout with some wonderful operational features. It includes a complete point-to-point branch line, that from Maldon to Shelbourne. Then there is Maldon, which is a terminus with a loco depot. It is also a junction with a line that, via some handy staging loops, leads off to the rest of the Victorian system. It can all be modelled with only two stations and a set of offstage hidden sidings.

It is easily achievable in O (1:48) scale in space the size of a large double garage. It can be set out in simple U or L shaped format, no duck-unders are necessary!



A scene showing J549, running tender first, approaching the Langs Lane level crossing with a typical preservation era train. This scenario of the line appearing out of a clump of trees and crossing a rural byway would make a very nice cameo scene to incorporate on a layout.



A preservation era train standing at Maldon in the charge of visiting D³ locomotive No.639 in May 2016. The luxurious accommodation provided by Pullman car 'Macedon' and ex-joint stock observation car 'Tambo' is a far cry from what could have been expected when the line was a far-flung limb of the VR. The subdued colours and near-white sky of this cold, overcast day would make an interesting variation to the 'bright summer's day' look of many layouts.



Two photos from Mark Bau's website: www.victorianrailways.net showing pre- and post-preservation views of Maldon station area from the terminus end. The scene above shows Y135 in April 1972, shunting the regular goods train in the sparse surroundings typical of a country terminus in the VR era. The view below, taken in July 2008, shows a much more 'detail rich' environment brought about by the needs of the preservation era. There is a lot to be said regarding the advantages of 'thinking outside the box' and modelling the station in the preservation era for the modeller who likes highly detailed scenes and wants to run more than the basic service provided during the government era. Both photos by Mark Bau.

There can still be room for one or two cars as the railway can be restricted to a narrow shelf construction at relatively high level on three sides of the room. Conversely in HO scale with radius reduced to 750mm the complete railway could be built in a small bedroom of around 9'0" (2.70m) x 12'0" (3.60m), or even smaller if radius is further reduced.

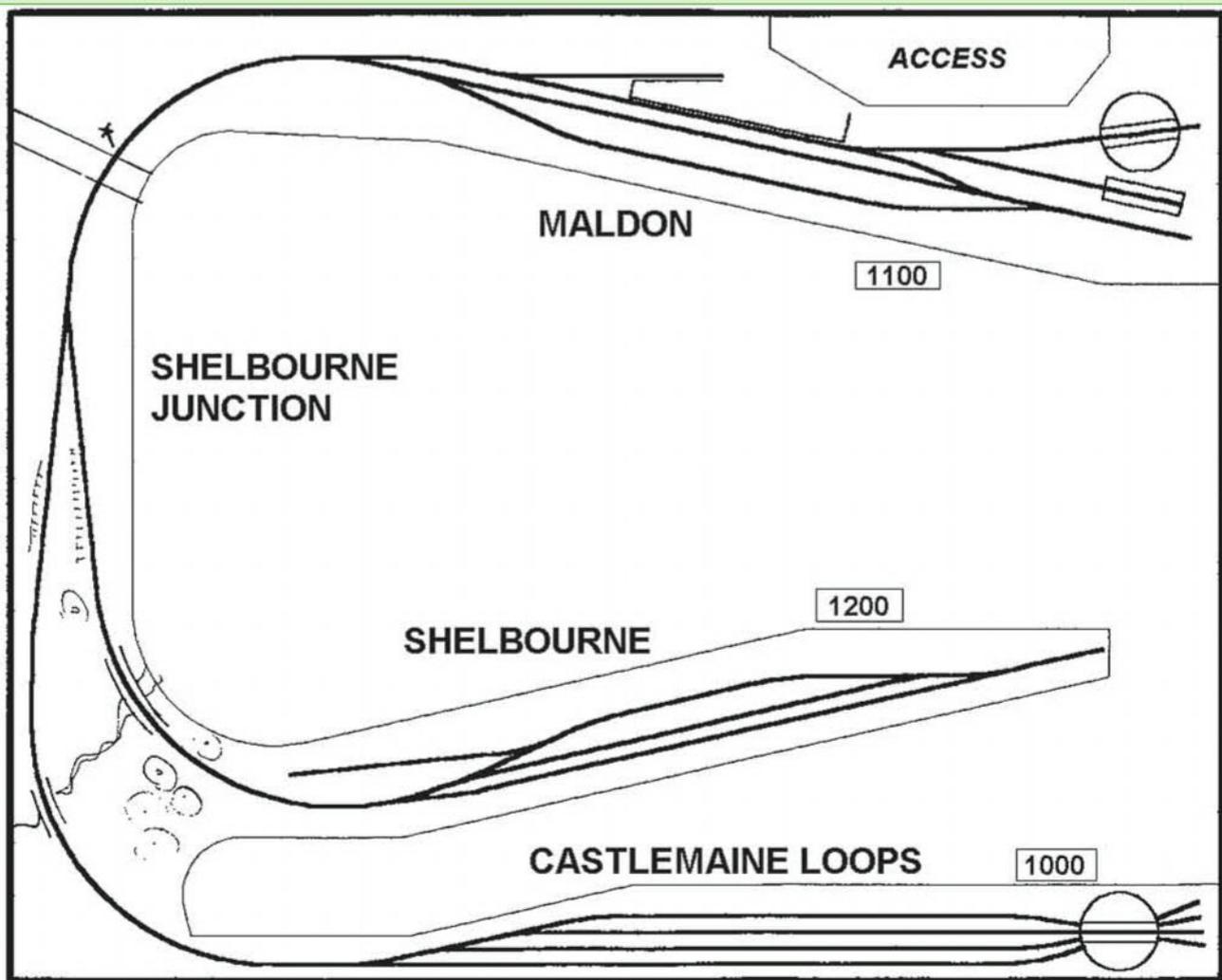
There are no difficult scenic challenges for this layout so construction can proceed relatively quickly. At Maldon the station is on the edge of town, so structures can be limited to the station facilities and a couple of departmental cottages. The goods shed was a standard four-door 50' gable roofed building and the loco shed was a basic corrugated iron structure that disappeared long ago, now replaced by a similar, but more modern, structure.

At Shelbourne there was even less; the country was relatively flat, the short station

platform probably only saw one of those ubiquitous portable buildings, but by the 1950s was devoid of any structure, and the goods shed was a standard design lean-to. The most significant structure was a two-cell concrete grain silo; it still remains today as a ruined shell. But for modelling interest and to help separate the stations I would include a two- or three-span timber trestle bridge. AMRM has recently published a three part article by David Foulkes on VR timber bridges [AMRM Issues 320, 321 and 322 (October and December 2016, February 2017) - Editor] that included images of the still intact examples on the Maldon railway.

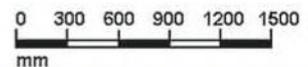
Backscenes can be kept relatively simple, with scrubby forest nearer to Maldon merging into rolling wheat fields around Shelbourne. Also, to provide a strong visual separation between Shelbourne and the Castlemaine staging loops, I have shown





O Scale
6.00 x 7.50m

© Rodney Barrington 2017



The basic version of Maldon.

these latter sidings at a lower level. The level differences also provide upgrades from Castlemaine to Maldon and through to Shelbourne that will give operational challenges in respect of engine loads.

In O scale the model can be worked by a single locomotive and small representative collection of four-wheel wagons, including some grain-proofed GYs to serve the silo at Shelbourne, along with a ubiquitous Z brakevan. Easy to operate a once a week goods train! A T class diesel kit is available from Veteran Models, but to add interest there is the delicious r-t-r Haskell/Hobbies Plus DERM (diesel-electric rail motor) and Y class diesel (both now sold out, but occasionally available on the second-hand market), plus AW/BW passenger car kits available from Veteran Models and, for steam enthusiasts, a D³ 4-6-0 is promised. Veteran Models and QuVic Models between them produce kits for all the wagons (and Z vans) you are likely to need.

So, for operation, we can change history a bit and perhaps assume that the dis-

trict enjoyed greater prosperity. The small loco depot could support a locomotive dedicated to operating an independent service between Maldon and Shelbourne with separate trains feeding in as required from Castlemaine, as represented by the staging loops.

These trains could include locomotive-hauled passenger trains and a railcar of the Walker or DERM variety. For operational interest one railcar service could work through to Shelbourne at school times and connect at Maldon with a loco-hauled train to Castlemaine. The whole service could be worked by a mere two locomotives and a railmotor. My suggestion would be a J or K 2-8-0 for freight work and a D³ 4-6-0 for the big wheel traffic from Castlemaine.

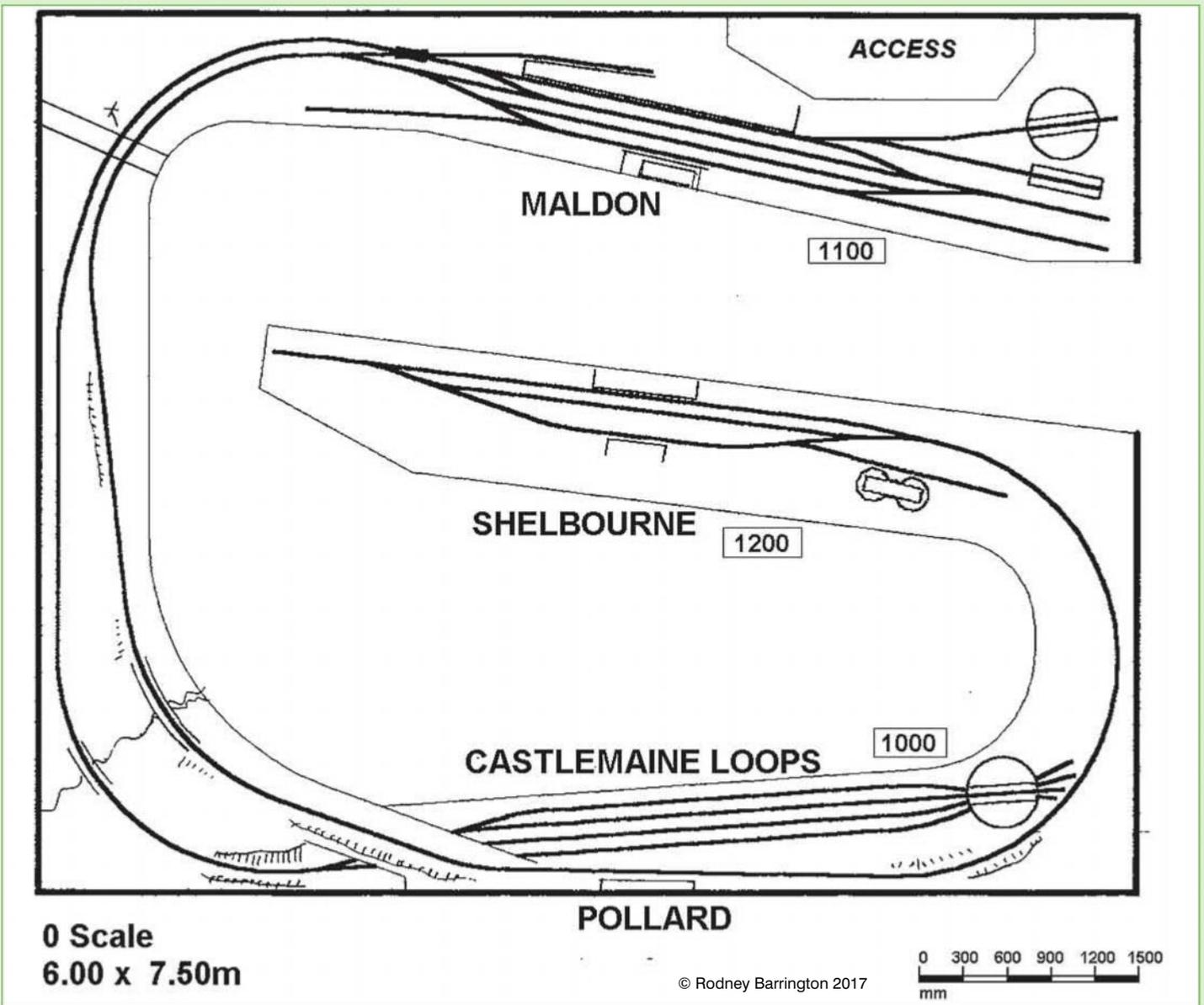
For ambitious modellers armed with some imagination, perhaps that extension to an inland river port could get built! The reality was the Loddon River never became navigable and indeed thanks to upstream dams it is now a mere trickle, but these facts should not stand in the way of a good idea for a model railway empire. Other options could include the

provision of a larger turntable at Maldon and additional sidings. The expanded layout plan offers a junction option similar to the arrangement that once existed at Daylesford whereby the branch line (to Creswick via Newlyn) paralleled the Karlsruhe main to a point where the lines bifurcated. Then of course the intermediate station at Muckleford could be added in, but don't try to include Castlemaine as it will become a completely different railway!

There is also an option to model the preservation era, when almost anything can happen, including running a Pullman car! But then there is no branch to Shelbourne... unless you build it!

Conclusions

I would like to hope this article provides inspiration for modelling a simple branch with ambitious operating potential. If you are inspired by Maldon then it is worth a visit to ride the train and carry out further 'on the ground' research. The intermediate station at Muckleford has been delightfully restored to the simplicity of its 19th century three-track yard



The extended version of Maldon.

with carriage dock. The compactness of Maldon has already been referred to and, on the long gone line to Shelbourne, the formation can still be traced.

The Victorian Goldfields Railway website www.vgr.com.au is also a useful reference with further information on history, rolling stock and photos. Maldon and surroundings can also be explored on Google

Maps: <https://tinyurl.com/yc4yvamv>.
Extra prototype photos courtesy of Mark Bau's excellent Victorian Railways web site: www.victorianrailways.net.

CASTLEMAINE-MALDON-SHELBOURNE.

Miles from Melb.	DOWN	1 Goods Mon. (Fri. †)		UP	2 Goods Mon. (Fri. †)
78	CASTLEMAINE ES W dep.	A.M. 11 20	...	SHELBOURNE NC † dep.	P.M. 2 40
79	Maldon Junct. NC ES †	11 25	...	Shelbourne Junction NC	...
84½	Muckleford NC (See note)	11 49	...		
88½	Shelbourne Junction NC	MALDON † ○ W ...	arr. 3 35
		P.M. 12 15	...		dep. 4 10
89	MALDON † ○ W ...	(Tender First) dep. 12 40	...	Shelbourne Junction NC	...
89½	Shelbourne Junction NC	Muckleford NC (See note)	4 24
99½	SHELBOURNE NC †	arr. 1 45	...	Maldon Junct. NC † ES	4 55
			...	(See note)	...
			...	CASTLEMAINE ES W	arr. 5 0

NOTE :—Maldon Junction is an unattended Electric Staff station worked in accordance with instructions in the General Appendix.

Muckleford may be opened as an Intermediate Block Post as required. See the General Appendix for instructions.

The 4 November 1963 VR timetable entry for the Maldon line.



In October 1970 Albury looked a lot different than it does today. It was still a busy border station with all trains stopping and changing locomotives to those for the appropriate state system the train was about to traverse and the transshipment facilities were all still intact, despite the extension of the standard gauge line from Albury to Melbourne having opened in 1962.

While the cloud of smoke from the 44 class locomotives may be a little difficult to reproduce in model form, there is plenty of other detail in this picture that would enhance any model. The most prominent to the casual observer is the texture of the ballast. It isn't the 'six inch cobbles' so beloved of modellers, it is made up of ash and 'fines' as yards have to be walked on by the staff and 'main line' ballast is very difficult and dangerous to walk on. One can also discern the lighter areas between the tracks where the staff habitually walk while carrying out their duties. Rather than an expanse of mono-coloured large lumps of rock, the yard has subtleties of fine texture and colour that is rarely modelled accurately. Another detail that adds interest and sets the era very well is the road vehicles; to the right of the locomotives is an interesting collection of private and departmental vehicles, some parked on the platform of the no longer used dock. A departmentally-modified Austin truck, with a cabin for the staff on the tray, is parked conveniently close to the departmental buildings off the end of the platform. Nearby is an interesting collection of 1950s/1960s era vehicles, including an Austin Cambridge, a caravan and the usual for the period collection of Holdens.

The point rodding runs from the signal box are grouped a couple of tracks out from the platform, with links under the tracks to the catchpoints protecting the standard gauge mainline where the broad gauge connection to the goods yard crosses it. The dual gauge crossing also has a colour light signal to control access across the standard gauge tracks from the broad gauge sidings. As is usual with mainline Australian interlocking systems, only the mainline turnouts are controlled from the signal box, all other turnouts in the yards are hand-operated.

There are many details that mark this as a NSW station, such as the distinctive yard lights, ancillary buildings, buffer stops and old vehicles stabled in sidings for the Way & Works Department. The addition of these items, plus other details such as the spare bogies stored at the end of the siding on the left and the distinct styles of staff uniform, will add greatly to the realism of a scene.



While ostensibly a portrait of 42104, once more the surroundings have much to inspire the modeller. The mix of NSWGR and VR wagons on both the standard and broad gauges in the yard, four different styles of road trucks and a mix of Australian and British cars parked in the goods yard. Just to the left of the locomotive is what looks like a box containing a fire-fighting hose, while to the right is a fuelling point for diesel locomotives and a water column for steam. Over the other side of the main line, in the goods yard, is a standard sleeper-built NSWGR ash-filled buffer stop. The size of the goods shed, only partially visible in this shot, gives an indication of the considerable traffic that once flowed into and out of this important location.



Albury (NSW) 1970

Phil Jeffery has been exercising the Hound again, this time a little north of his usual territory. Photos by the author.

DETAIL HOUND

► This photo shows a fairly recently delivered 422 class loco, still in fairly clean condition. Looking beyond the locomotive, interesting as it is, reveals plenty of other equally interesting things to see and reproduce on a model. Once more the fine texture of the ballast and the variations in shade are most prominent. The vehicles are still parked on the end of the platform, but have now been joined by a more recent model of standard-sized Holden. The ash pit to the left of the locomotive has a hose for cooling down the ash and an implement for raking the ash out of the ash pan of the locomotive. At this time, while mainline trains had been dieselised for nearly a decade, shunting was still firmly in the hands of steam.

▼ Looking north we see VR diesel locomotives, S315 and T412, preparing to haul an interstate freight south, having replaced the NSWGR locomotives that brought it from Sydney. The first wagon of the train is an SL heavy load wagon loaded with steel rod, with a variety of open wagons making up the visible section of the train. In the background is the Albury locomotive depot, with a variety of NSW motive power laying over between trains and, in the case of the steam locomotive barely visible on the far left, waiting for its next stint shunting the yard. There are far more things visible that, translated to model form, would greatly enhance a model than can be mentioned in this caption. Some of the more prominent ones are the gantry carrying pipes across the sidings, the two departmental DOT diesel fuel tank wagons, the many standard NSWGR yard lights, the various buildings and other infrastructure (including water tanks and water column for steam locomotives and fuel storage tanks for the diesels), the variety of period cars in the staff car park, a stray bush in the 'six foot' and the two types of point lever, a spring loaded lever and a ball lever. The ball lever was a type of lever that ensured that the points were always set for one fork of the turnout. To access the other 'leg', a staff member had to hold it down. Usually, in those far-off days before OH&S concerns became paramount, by sitting on the lever, completely at a variance to the regulations which directed that the lever be held down and not sat on!





The long-demolished Whitton ballasted deck timber trestle bridge that once carried the Blayney-Demondrille line across a minor creek near the 429km mark, north of Young. Photographed by James McInerney on 10 September 1988.

A Bridge For Your Model Railway: 2 Building a NSW Timber Trestle Bridge: Part C

Michael Gourlay concludes construction of his NSWGR timber trestle bridge project. Photos as credited.



Variations from the Standard Design

Bridges on Grades and Curves

For a bridge on a grade the piles of the piers should be cut to appropriate increasing lengths. For example, for spans of 14' and a 1 in x grade the elevations of the tops of successive piers should increase by $14 \times 3.5 / x = 49 / x$ mm. That is 1 mm for a 1 in 50 grade. The piers can then be glued in place and, after checking with a level and straight edge that the grade is correct, the corbels, girders, etc. are laid on top.

For a bridge on a curve the inner beams will need to be slightly shorter than 14' and the outer ones slightly longer. I forgot to do this when making my bridge, but was able to shorten the inner girders and disguise the gap between the outer ones by the transom laid over it. As my bridge was built on a 2' (610 mm) radius curve this should not be a problem with larger radius curves.

Timber Bridges with Ballasted Decks

The older timber bridges in New South Wales (before 1890) had ballasted decks. Since they had to support the weight of the ballast in addition to other loads, they required a stronger timber structure with four piles and stronger girders, etc. (see pages 26 and 27 of *Bridges Down Under* by Don Fraser (ARHS [NSW], 1995) and *Bridge at Rylstone* by P B Grant, on pgs 38-39 of AMRM Issue 116 (October 1982). In this case there are no transoms and the model flexible track should be laid straight across the deck of the bridge with appropriately sized packing pieces under it and then ballasted in the usual way (Photo 1).

A Whitton-era ballasted deck timber trestle bridge on the Queanbeyan to Michelago section of the Cooma line, photographed by the author on 15 October 1999.

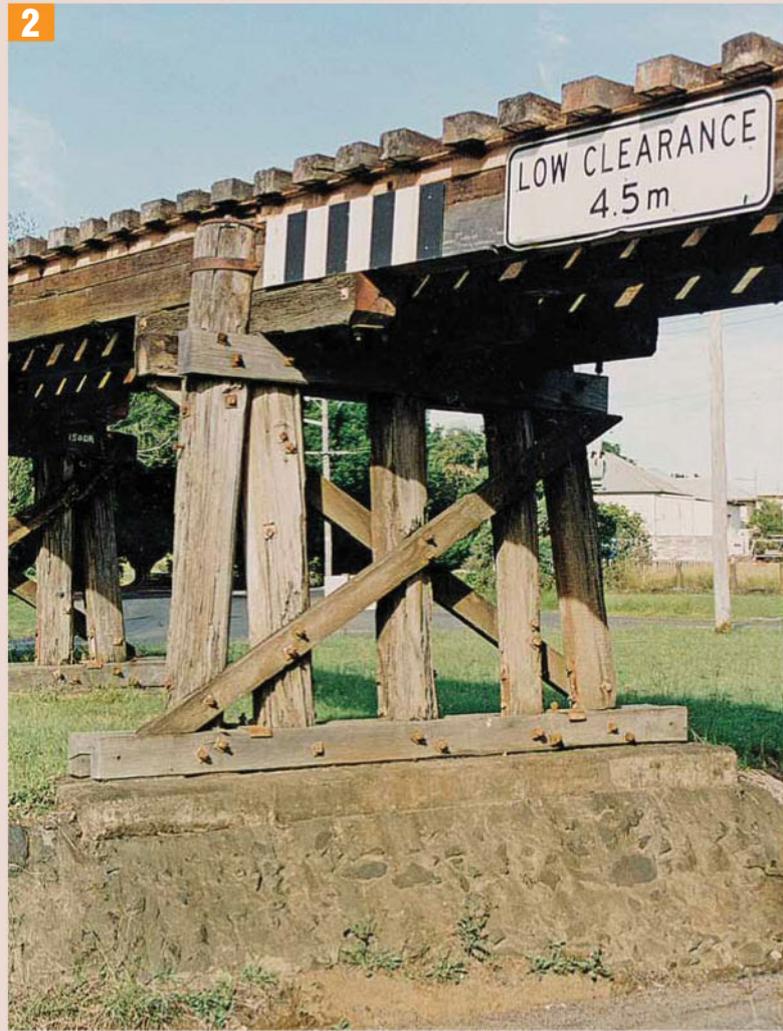
1

Piers with Concrete Bases

These can be modelled simply by making a rectangular base of the appropriate size from a piece of pine or balsa wood. This base is glued to the baseboard or sub-base surface. The shortened piers are assembled including a pair of bottom wales to hold the piles together. Install piers on top of this base in the same way as for a normal bridge. Details of iron straps and bolts can be obtained from photographs (Photo 2). To make the model bridge more robust the vertical piles may be extended below the bottom wales to fit into locating holes in the concrete base.

We've finished our bridge and it's a beautiful bridge! The trackwork is complete and the trains can now run over it (Photo 3). However, unless your layout is set in permanent snow country, there is a lot of landscaping and creek formation to be done. I am well on the way to completing this work as you can see from Photo 4, but there is still more work to be done in planting vegetation along the creek and on the hill, installing the back scene on the right, as well as other details elsewhere. 🛠️

The first two parts of this article 'A Bridge For Your Model Railway: 2, Building a NSW Timber Trestle Bridge' parts A and B, appeared in AMRM Issue 326, (October 2017) and AMRM Issue 327, (December 2017) respectively. – Editor.



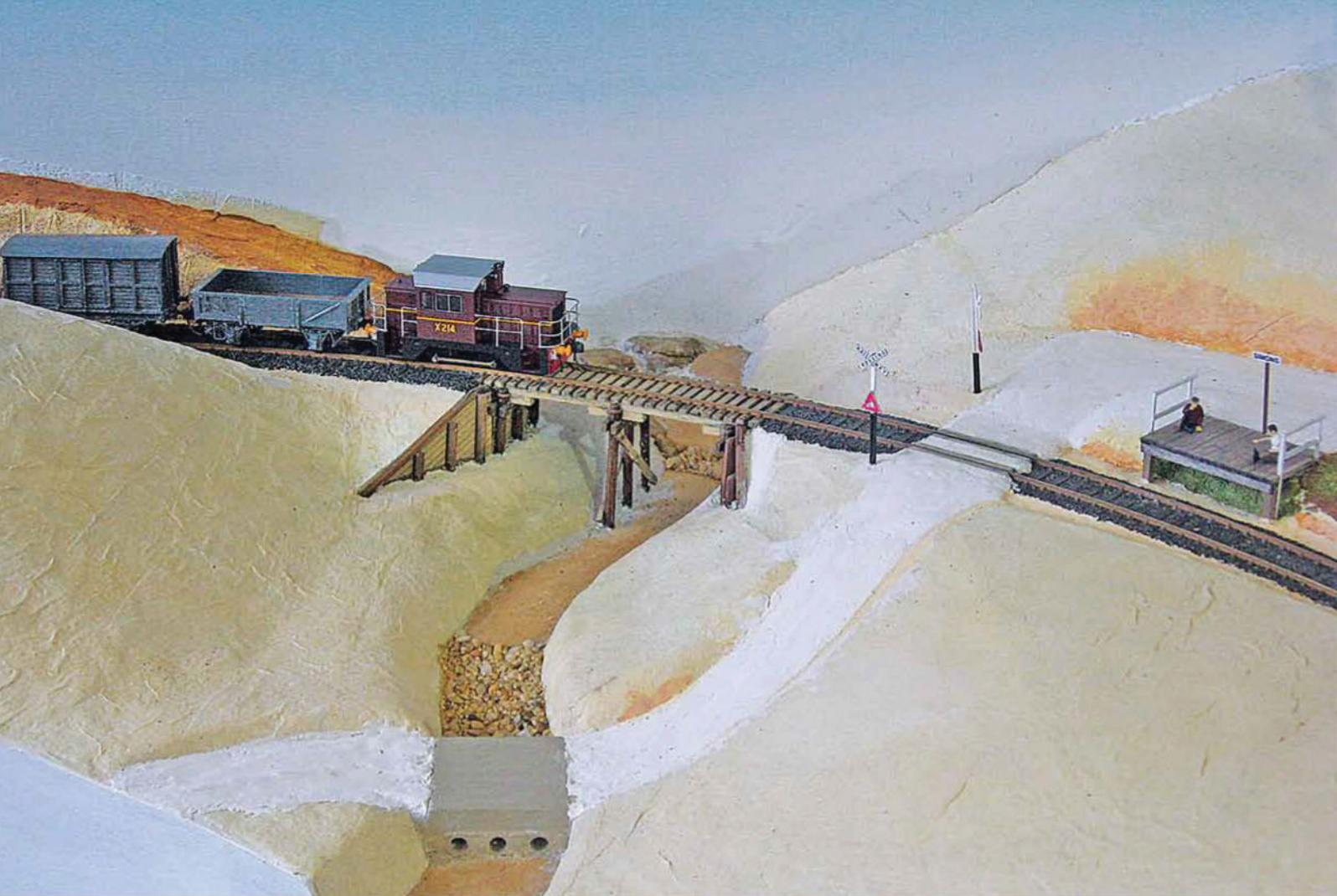
A transom top timber trestle bridge with double-girder spans, requiring a five-pile pier, secured by a concrete base on the trestle bridge spanning Union Street on the now closed Murwillumbah line at North Lismore on 1 May 1995. Photo by the author.



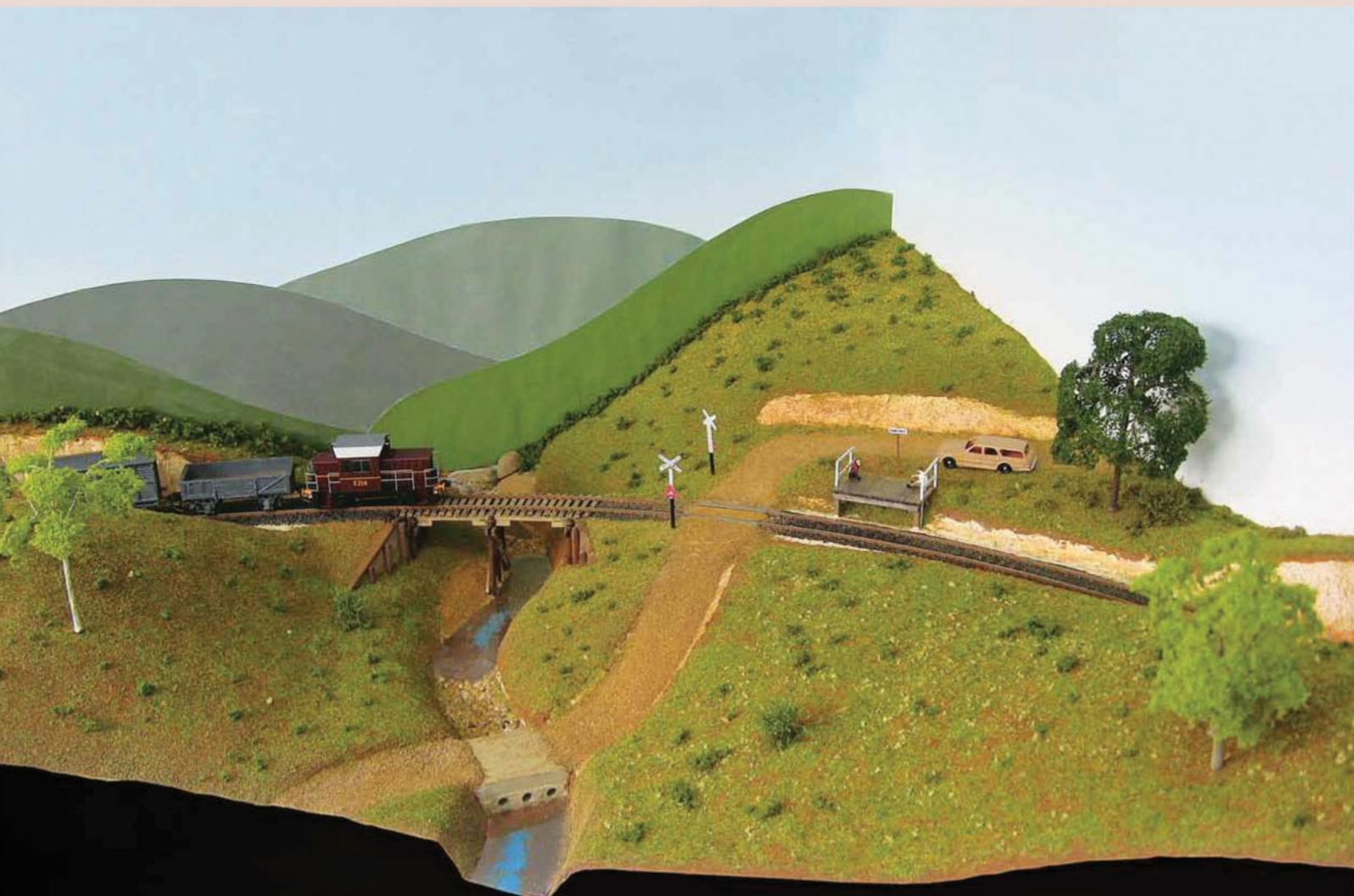
▲ The author's bridge is complete and installed on the layout. Load testing is being carried out with Es Davies' Camden line stock while the author contemplates the next step; adding scenery! Photo by James McInerney.



► Scenery construction is progressing well on the bridge scene as 4101 passes with a short goods train. Photo by the author.



A contrast between the bridge scene before and after the scenery was detailed. Photos by the author.



GALLERY



▲ John Dennis's photograph shows the prototype 'Weedex' train, hauled by B65, spraying the lineside growth near McMahons Road, Frankston, on Wednesday 5 April 1978. Other than the replacement of crew accommodation car 1HW with a repurposed passenger car, the train is substantially as modelled by Don, though this run only required two WA tank wagons, rather than the four Don is in the process of constructing.

Modelling the VR 'Weedex' Train

John McCallum photographed Don McGilvery's under-construction HO scale model of the VR's 'Weedex' train at the 2016 Victorian 'Prototype Modellers' Forum'.

The text accompanying the photographs of the models has been prepared using notes provided by the builder, Don McGilvery, at the Forum and information sourced from Norm Bray, Peter J Vincent and Darryl M Gregory's "a brief history" series of books on VR rolling stock – Editor.

Don McGilvery is constructing an HO scale model of the VR's 'Weedex' weed spraying train. He is working towards finishing the model as it appeared during the mid-1960s, though some of the detail is more appropriate to the train as it appeared in the mid-1970s,

due to that period being better covered by the sparse information that was available when he began the project. As more accurate information comes to hand, the models are being re-detailed to match the new information.

► The model of 1WZ, the spray van, was constructed from a VR Casts kit. The positions of spray nozzles more closely approximate that of the van as it appeared in the mid-1970s, rather than the 1960s era the builder wishes to reproduce. New information received since the model was completed indicates the need to modify the side sprays by removing the upper sprays and moving the lower side sprays to below floor level, to better represent the vehicle as it was in the mid-1960s. Constructed as horse box 53FF in September 1905, the prototype was renumbered 25F in 1910, modified and renumbered 1HZ in December 1954, then reclassified 1WZ in March 1959. It was stored around 1990 and scrapped in July 1996.





The four WA/WX tank cars, used for carrying the Weedex mixture that was released via the spray van, were built using VR Casts kits (the tank, underframe and tank supports) with a lot of added detail. New information received via the research of Ian Weickhardt and Lindsay Carrol indicates that many details need to be modified to better fit the mid-1960s era. WA1 needs to be renumbered and have timber walkways, as this representation only fits WA4-WA9, which had the single pipe represented in the model.

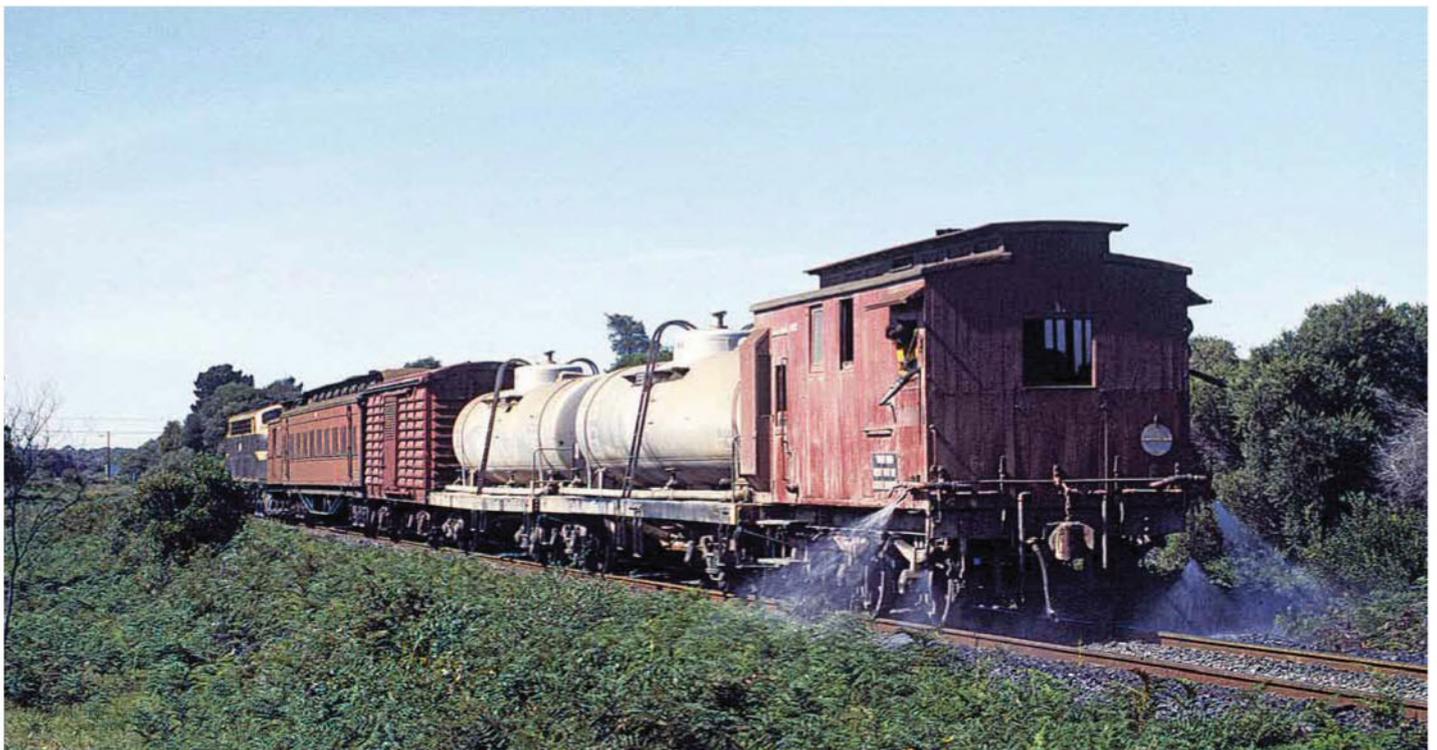
WA5 should have a solid deck. The open deck depicted was only present on those tank cars built on ELX underframes. The unfinished models are of WA1-WA3, which all had the three pipes depicted in the models.

Access to better drawings, courtesy of Glenn Mills, will allow the models to be finished as more accurate representations of the prototypes as they were during the mid-1960s.

V13 is a V louvered van built from a BGB kit. In 1962 V13 became VF13 when fitted with roller bearing bogies and in 1977 was allocated to the Weedex train, renumbered HD247 and fitted with bar frame bogies. It spent the remainder of its life as a supply van providing concentrated weed killer (most likely in powdered form in boxes) for the Weedex train. Although not present in the formation of the Weedex train prior to the 1970s, it is an essential part of the formation for models depicting the train post-1977.



▲ This model of 1HW spray train crew car was scratchbuilt using measurements derived from photos. It uses Evergreen styrene for the body and parts from an SEM W car kit, including underframe, details and roof, for the rest. The positions of the roof detail were 'guesstimated' from photographs. The prototype was converted from horsebox 16FH and was renumbered 1HW on 18 April 1963. For most of its service life the Weedex train ran with a Z van marshalled on the opposite end to the spray van. This permitted reversing of the train by merely running around the consist, as guard's accommodation was available at both ends of the train. The prototype was fitted with cabling and connectors for the telephone link through the train and to the locomotive. This model of 419ZL is a r-t-r Austrains model, which has been fitted with tail discs, though as only the disc at the end of the train should be 'open', the builder thinks it would be nice to be able to open or close them as required!



As the train passed, John Dennis also shot this view from the rear, showing the weed killing spray in use.

Byways of Steam 32, published by Eveleigh Press/SCR Publications, PO Box 345, Matraville 2036. Ph: 02 9311 2036. Website: www.australianmodelrailways.com. Price: \$50.00 (plus postage).

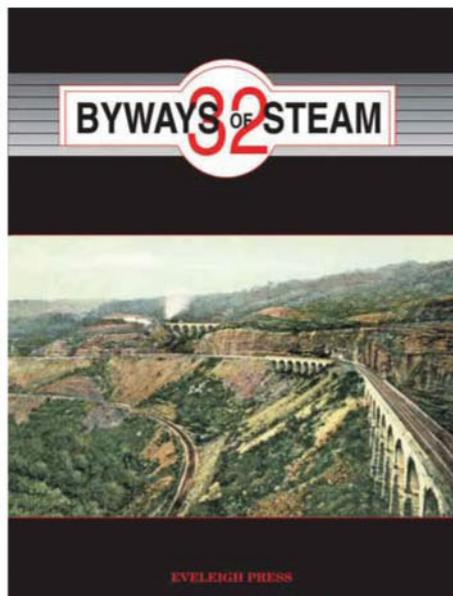
Hot on the heels of *Byways of Steam 31* comes the next volume in this classic series. As the title conveys, when you open a Byways book you are transported back to another time, when the steam locomotive ruled the rails, transporting the goods and the passengers. While much of the focus is upon the locomotives and their crews, more than a nod is given to all railway employees, when men and women worked hard for their living, through harsh working conditions and long hours.

For many of the men in that world, hard physical labour was another part of the equation. Steam crews in particular had to be physically and mentally tough, but their labour arguably gave them a greater sense of satisfaction, and certainly kept them fitter than today's equivalents pushing buttons in air-conditioned comfort.

Byways 32 begins with an introduction by Ian Dunn, which describes the political machinations which led to a confusion of locomotive types forming the NSWGR fleet through the 1880s and 1890s. While this made life difficult for those charged with locomotive maintenance and operation, it has certainly provided a rich lode of folklore for those who tell the stories from the perspective of later times.

In the first section, Ray Love takes us to the ground level of dealing with the various locomotive types in the western depots of Wallerawang, Mudgee, Eskbank, Dunedoo and Coolah. This dovetails with Ray's detailed examination of Lithgow in *Byways 31*.

It is difficult to conjure a period richer in locomotive diversity, in an area more redolent of the struggle between human progress and the opposing forces of nature, than the ramparts of the Great Dividing Range. In order to conquer the descent into the Lithgow valley, a great zig-zag was built to ease the grades dictated by a challenging topography of precipitous sandstone cliffs. The bitterness of the winters further increased the challenge.



It was the loco depots at Eskbank and Wallerawang that housed the locomotives and crews in the early days of settlement in the Lithgow environs. There was a rich variety of engines, from both British and American influences. Hence we had the likes of US Baldwin O and J classes (23 and 29) rubbing shoulders with A, B, I, P and T classes (19, 25, 26, 32 and 50), and others, of British origin. With bank engine working in every direction, there were few quiet moments.

When one considers the spectacular setting and operations, it is hardly a surprise that some of our finest railway artists (Belbin, Wynne, Baigent, Mitchell etc.) have been inspired to wield their brushes to vividly portray scenes from a time when cameras were in their infancy.

If ever a time machine is invented, there will be a long line of rail photographers jostling to punch such numbers as 1, 9, 0, and 0 into the Tardis, in order to sit line-side with a camera under the rocky outcrops and mountains, blissfully recording the passing parade in inspirational settings.

Of great interest to me was the description of the never-fulfilled plan for electrification to Wallerawang, linked to a massive expansion of coal mining in the district. Expansion of the export market was the goal, a huge loco depot was planned, but it failed to eventuate. One side effect of this was that many BCH hoppers, ordered in

anticipation, were converted to BWH for wheat traffic.

Ray's exploration takes us further up the natural wonderland of the Capertee Valley, with an account of the loco depot at Mudgee, then into more open country, and the out-depots of Dunedoo and Coolah.

As always, Ray leavens the facts and figures with amusing anecdotes about the characters forged in this challenging environment. One such was 'Cove' Fowler, who sired a large

family of railway employees, one of whom became the well-known driver and enthusiast, Harold Fowler. A priceless anecdote is the one about the horse, a ripper in more ways than one, and a fine example of the classic dry humour of the bush.

Naturally the text is accompanied by a marvellous collection of photographs of the area's stalwarts, the Baldwins, and the 30T, 32, and Standard Goods engines. A favourite for this reviewer is that of 2304 on p110, taken by Wal Jack at Craboon in 1945, the final days of the O class. It is a lovely portrait taken with a good camera.

The second essay, by Stephen Halgren, is about renowned engineer, author and photographer Ken Groves, yet another man of steam with a Mudgee connection. Ken's railway career took him to many parts of NSW and also southern Queensland. That he kept detailed records of the engines and men he worked with has provided a rich vein of stories for Stephen to call upon. Many will devour those concerning Ken's time at Valley Heights and his experiences on the 'big engines', the name of the book he wrote about the 57 and 58 classes. He also had interesting experiences with the 'new' motive power, early diesels and the 'effortless power' of the 46 class electrics, right through to the 81 and 86 classes.

The third photo-essay, *An Eye for an I*, a clever play on words, is about the chunky 26 class saddle tanks, a favourite of author Ian

Wallace. As with the other stories in this collection, there is an easy-reading style, plenty of anecdotes, not overly technical, but ample information about allotments and alterations. This reviewer was rather surprised to learn that through their long careers (1892 until the 1960s), 26 class allotments ranged far and wide, and included Blayney, Orange, Eskbank, Wellington, Hornsby, Hamilton, Port Waratah, Murrurundi, Goulburn, Junee, Harden, Cootamundra, Werris Creek, Penrith, Picton, Waterfall, Eveleigh, Thirroul and Enfield.

Of particular interest to this reviewer were I class stories from the single track Illawarra days with its notorious Otford tunnel; also of Waterfall depot and Metropolitan Colliery working, PWD shunting at Port Kembla and private ownership at Portland Cement.

The final essay, *Out of Goulburn*, is an adaptation by Bob Gallagher and Ray Love of the unpublished *My Railway Life* by Bob's uncle, Keith Brown. Being one of the great railway towns of NSW, there is a rich resource of photographs to draw upon from noted lens-men of the steam era. There is a great deal of information about the loco depot and of the various personnel, their job descriptions and tasks.

In conclusion, to read a Byways book is to step into a world of the past, one some of us love to re-create in miniature. Ownership of this book will provide endless information about train-working, safe-working, social history etc. and has an additional benefit – in between using it as a reference source, you can use it as gym equipment – it is big!

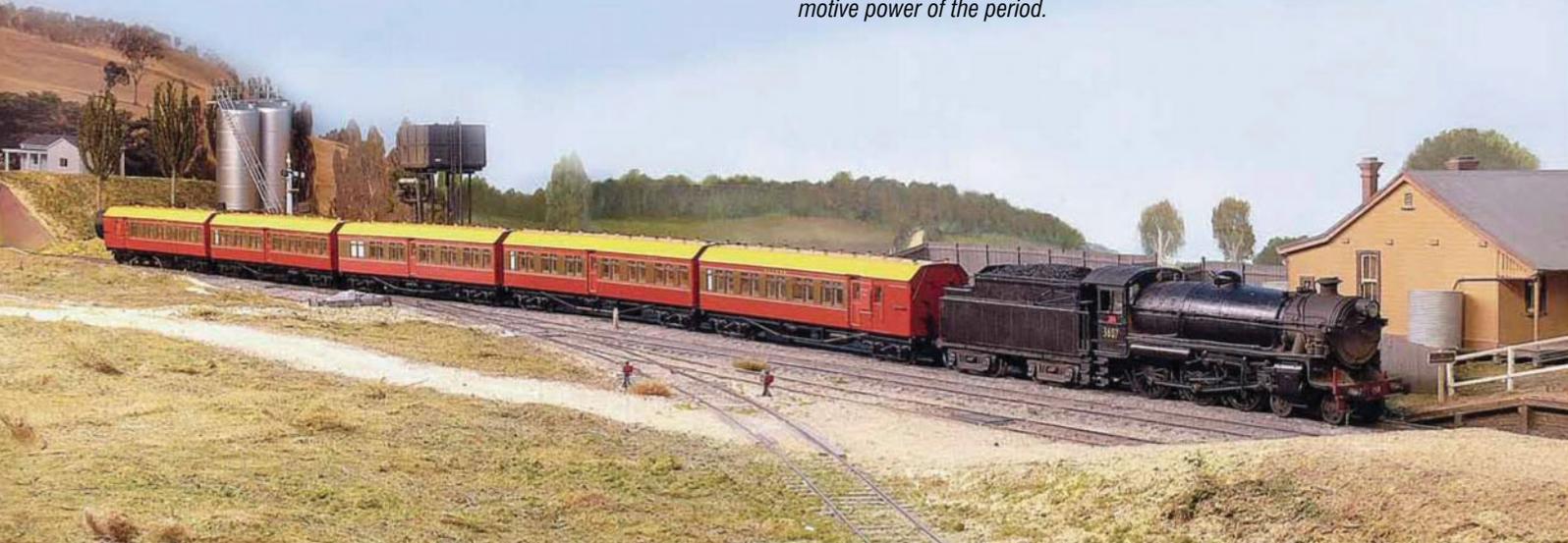
Chris Sim

REVIEWS

The products covered in the Review pages have been supplied or made available by the manufacturer, producer, importer or retailer listed in each product heading. AMRM welcomes access to new product lines for inclusion in the Review pages and requests items be addressed to the Editor at Australian Model Railway Magazine, PO Box 345, Matraville 2036. Readers are reminded that the prices quoted in the reviews are those applicable at the time of going to press. Those using the prices as a guide to purchasing products by mail order should always add extra for postage, or contact the supplier for the additional cost for mail order.

Editor

The five-car version of set 108, resplendent in the Tuscan and russet it carried from 1948 until 1956, rolls into Lambing Flat behind appropriate motive power of the period.



NSWGR R Car SUB Set 108, r-t-r in HO scale by Casula Hobbies, PO Box 3206, Liverpool 2170. Shop address: 62 Moore St, Liverpool 2170. Ph: 02 9602 8640. Email: sales@casulahobbies.com.au. Prices: Five-car set – \$675.00; seven-car set – \$925.00; three-car set – \$405.00; four-car set – \$540.00 and independent (individual) FR and BR cars – \$125.00 each.

Casula Hobbies has released a ready-to-run NSWGR R series passenger car set. This is SUB Set 108 and it is available in three liveries; the *Caves Express* set in Oxford blue and cream, a set in Tuscan and russet and a set in the later deep Indian red. The version reviewed was painted in the Tuscan and russet colour scheme. Although not specifically reviewed here, one three-car set (SIB 120 in deep Indian red), two four-car sets (SIB 121 and SIB 122 in Tuscan and russet and deep Indian red) and two additional cars (FR and BR in blue and cream, Tuscan and russet and deep Indian red) are also available and are comprised of substantially the same vehicles as the specific set described in this review.

Prototype

The R series light corridor cars came about due to the need for more modern, side corridor passenger vehicles, so a rebuilding programme was undertaken, utilising major components of older 'Express Lavatory' (dogbox) car-

riages during the 1930s and 1940s. The bogies, underframes and (modified) roofs were used, with new sides, ends and interiors. The windows, arranged in pairs, were standard with those utilised on the mainline 72'6" carriages. The interior layout conformed to the standard for corridor carriages of the time; compartments coming off side corridors which swapped sides of the vehicle at the central entrance vestibule.

In standard form, R-series cars rode on 5'9" wheelbase 2SB bogies, were fitted with Mansard roofs, tongue and groove siding as built (later replaced by Masonite or plywood from the mid-1950s on most cars) and pairs of windows with individual crown lights. The crown lights were removed from many cars from the 1960s onwards.

SUB Set 108 entered service in December 1936 as the *Caves Express*, serving Mt Victoria on the Main West line over the Blue Mountains. Seven cars were initially provided: HR1400, BR1362, RBR1049, BR1042, FR1238, FR1345 and HR1354. It could be made up as a five-car, six-car or seven-car train, as the Parramatta end of the RBR and the Sydney end of FR1345 had long diaphragms and standard couplings and BR1042 and FR1238 were independent cars. Unlike the earlier sets, the Set 108 HR cars were converted from LFX second class carriages and so were 49'3" long and, uniquely to this set, had five

passenger compartments and a very short luggage compartment.

The set was painted Oxford blue and cream upon its introduction, though there is evidence that it was repainted into a lighter shade, garter blue, in 1938. It was repainted Tuscan and russet in October 1948 and then Indian red in 1956. The *Caves Express* name was dropped from the timetable in 1943, but the set remained on the Mt Victoria service until 1959, when it moved to the Illawarra (trains 105/236 to Kiama), with FR996 replacing BR1042. The cars retained their crown lights until withdrawal. The set saw out its final days on Wollongong services, with BR1362 replaced by an FR, and another two FR plus a BL added.

Most of the R series cars were condemned in the early 1980s, following the electrification of the Richmond, Newcastle and Wollongong services. A number of R series cars have been preserved.

The above prototype information was sourced from a presentation on the NSWGR R cars given by Ian Dunn at the 2017 *Modelling the Railways of NSW – 34* convention.

Model

The set reviewed was the five-car version of SUB Set 108, consisting of HR1354, FR1345, RBR1049, BR1362 and HR1400, painted in the Tuscan and russet colour scheme the set carried from 1948 to 1956. The models come well packaged in an attractive blue cardboard box that has been

designed to hold both the five-car and seven-car sets, so extra packing is used to hold the five-car set in place.

The carriages are highly detailed, with extensive undercar equipment depicted, such as brake gear, brake rodding and pipework. The floor boards are portrayed and the various fittings such as the battery boxes are suspended from the floor as per the prototype. There are very nice 'narrow' 2SB bogies, with spoked wheels and blackened metal rims, that sit well inside the chassis and body of the car. The bogies are narrow; NMRA RP25-88 profile wheels have been used instead of more common RP25-110 profile wheels, as the wider 110 wheels would have resulted in a much more overscale width bogie.

The bodies of the car are also very nicely done with fine tongue and groove cladding, window glass at two levels (main windows and crown lights) and interior detail consisting of compartments and seats, the seats being appropriately coloured for 1st class (green) and 2nd class (brown). The door handrails are brass and the handrails on the ends of the car are black as per the prototype. The buff lining is very fine on the belt rail, above the windows and around the panels on the doors, neatly replicating the 5/8" lining of the prototype. The *FIRST*, *SECOND* and *BUFFET* lettering is superb with the red 'shadowing' that gives the 3D effect being beautifully done (a magnifying glass

HR1354, showing the only major departure from prototypical fidelity necessary on the model, the end anchor points of the truss rods. On the prototype they anchor to the mid-point of the bogie pivots (above the centre of the bogies), but if that had been done on the model the bogies would not have been able to turn to accommodate the tight curves found on many layouts, so they have been moved towards the centre of the vehicles to clear the bogies.



RBR1049 and FR1238.

needs to be used to fully appreciate this level of detail).

The Tuscan and russet Set 108 has a mustard yellow roof colour, replicating the appearance of a 'straight out of shops', newly 'navy dressed' canvas roof. ('Navy dressing' was the term used to describe the waterproofing coating that was applied to canvas covered timber roofs). One car, the RBR buffet, had a roof that was slightly different in colour; only noticeable when closely examined. The russet looks a little brown for newly painted russet (as one would infer from the newly-painted roof). New russet had a distinct green tinge, but the prototype colour did fade to a brown hue with time. Applying suitable weathering to the vehicles would soon 'harmonise' their appearance again.

The only other item that I could find that was incorrect in my mind was that the toilet windows had been painted on the outside of the window moulding, rather than 'frosted' on the inside of the glass as per the prototype. The colour of the toilet windows is an off white, whereas the prototype toilet windows I have observed were more of a very pale light grey. This is an extremely minor point though, in what is a truly fine set of models.

The vestibule connections and buffing plates on the cars are nicely modelled and those between RBR1049 and FR1345 are the extended versions as per the prototype. The vestibule connections and buffing plates are sprung by very thin metal plates inboard of



The other end of the set, HR1400 and BR1362.

the solebars and are centrally pivoted. Very usefully, there are three screw mounting holes for the Kadee couplers so that the couplers can be mounted to suit the minimum radius curves on the layout they are operating on. The three mounting holes are visible once the mounted coupler has been removed. If combined with different shank length Kadee couplers it should be possible to find the optimum car spacing for the minimum curve radius of a layout.

Overall, the models in the set are very good representations of the prototype. The livery and num-

bering are well executed and match the prototype well. The models are available over the counter from the Casula Hobbies shop and via mail order from the Casula Hobbies web

site: www.casulahobbies.com.au (or by ringing the shop and providing your credit card number).

Ray Pilgrim



RFR781 from four-car 'Daylight' SET122 in the lined Indian red (with 'weathered' roof) this set carried from around 1955.



FR1345 from SET108 in the 'Caves Express' blue and cream this set carried from introduction in 1936 until repainting in Tuscan and russet in 1948.

North Coast Engineering (NCE) D16MTC and D13J Decoders. Available from the Model Railroad Craftsman, Shop 2, Level 1, 64-70 Main St, Blacktown 2148. Ph: (02) 9831 8217. Fax: (02) 8678 0276. Website: www.mrrc.com.au. Prices in text.

The D16MTC decoder is an eight-function decoder with dimensions 23mm x 16mm x 4.7mm, fitted with a NMRA 21-pin MTC (NEM651) socket. MRRRC price is \$43.00.

The D13J decoder is a four-function decoder with dimensions 26mm x 16.5mm x 4.7mm, fitted with a NMRA 9-pin socket and it is supplied with a matching plug with approximately 200mm long colour coded wires. MRRRC price \$29.00.

The features of these decoders are:

- 'Silent Running' motor drive.
- Torque Compensation for ultra-smooth, low speed performance.
- Programmable Start, Mid and Maximum speed that works for all speed modes.
- Motor rating 0.75A continuous, 1.2A stall.
- D16MTC - Eight function outputs, support for both EU (logic) and US (full power) functions on outputs 5 – 8.
- D13J - Four function outputs.
- Each of the function outputs can be programmed for independent control of 15 different lighting effects (On/Off, Ditch, Mars, strobes, beacons, flicker, etc.).
- Lighting outputs can be mapped to different functions.
- Full support for LED lighting (no on-board resistors, just a CV adjustment).
- Decoder programming lock mechanism.

It should be noted that these decoders are rated at 0.75A continuous, but only 1.2A at stall, so consideration will need to be given to the current draw of the model locomotive that it is installed in. NCE advise testing the decoder installation on a programming track before being placed on full DCC track power. The decoder is also Analog DC capable.

European Compatibility

The decoder can be configured for EU logic level outputs on F3, F4, F5 and F6 by setting CV115 to a value of 1. The decoder is set to US full power on these function outputs by default.

EFX Functions

The 15 special lighting effect (EFX) configuration variable (CV) values for the lighting outputs can be found in a table in the supplied decoder manual.

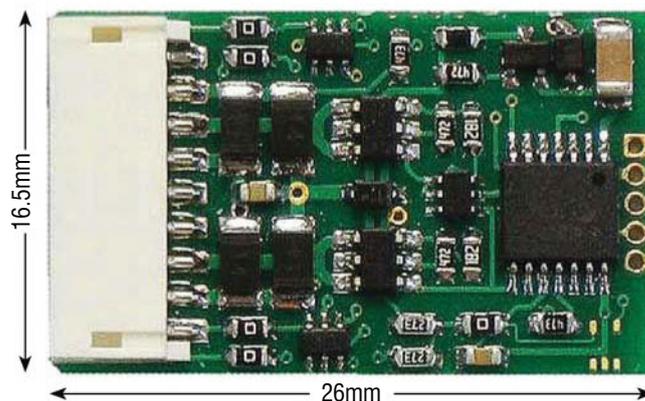
The function outputs are nominally at track voltage and dropping resistors of 1kΩ – 3.9kΩ must be used with LEDs along with the need to add 128 to the appropriate lighting CV.

Torque Compensation

Torque compensation, which is off by default, is controlled by two CVs:

- CV116 Torque kick rate. This is for setting how frequently the motor is 'kicked' with a voltage pulse at slow speed. The manual states that a typical adjustment is from one to four. The smaller the number, the more often the motor gets a brief voltage 'kick'. The factory default is zero (off). A value of one applies the kicks continuously and the maximum practical value is about eight.
- CV117 Torque kick strength. This is for setting how much voltage is used to kick the motor at slow speeds. The strength of these kicks reduces to zero as speed is increased providing a smooth transition to normal motor operation. The supplied decoder manual states that a typical adjustment is from four to thirty two and that the larger the number,

D13J Decoder



the more voltage is applied in each 'kick'. The factory default is zero (off) and it has a useable range from zero to fifty.

I found that both decoders worked quite well on the default setting (CV116 and CV117 turned off), but it may need to be adjusted for your particular locomotive.

Decoder Programming Lock

This is a useful feature as it enables the decoder to be locked so that it can only be changed when a code is entered. The locking/unlocking code (like a pin number) is entered into CV16 and to

unlock the decoder the same code is entered into CV15. CV15 remains accessible at all times. This feature means that a locked decoder cannot be accidentally (or purposely) reprogrammed such as when being operated by someone else. If you have set up the locomotive the way you want it then you don't want someone else changing it.

Reverse Trim

Reverse trim (CV95) allows the locomotive to be adjusted so that forward and reverse will both start at the first speed step. This is a very useful feature, as some locomotives run better one way than the other.

Conclusions

Overall, I have found that these decoders will definitely give satisfaction. I installed the 21-pin D16MTC in an Auscision NSWGR 43 class diesel locomotive. The install was very easy and involved just the removal of the existing small circuit board that was plugged into the main board of the model and insertion of the decoder into the 21-pin socket on the main board. The socket has a 'pin' socket blanked at one end and this aligns with a missing pin on the decoder, so correct insertion is easy provided that there is no part of the model chassis that would physically interfere with the decoder.

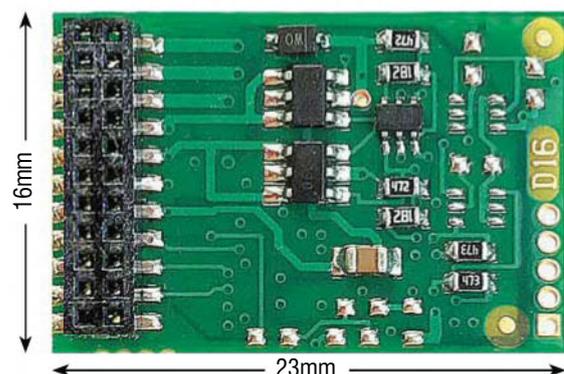
The locomotive moved away smoothly and silently on the first of 128 speed steps. The control was very good without any adjustment of the decoder's CVs.

The D13J decoder with the usual 9-pin JST socket and accompanying 9-pin plug wiring harness was hard wired in another locomotive that performed equally well, as this decoder has the same operating software as the D16MTC decoder. Adjustments may be required for a difficult locomotive, but that is always a possibility when fitting any decoder.

Once again it must be stated that both decoders are reasonably low current decoders with 0.75A continuous and 1.2A stall current. Care should be taken to check the current draw of any locomotive. If you own an NCE PowerCab then it has a built-in Amp meter available on the display.

Ray Pilgrim

D16MTC Decoder



North Coast Engineering (NCE) RC Filter (Snubber). Available from the Model Railroad Craftsman, Shop 2, Level 1, 64-70 Main St, Blacktown 2148. Ph: (02) 9831 8217. Fax: (02) 8678 0276. Website: www.mrrc.com.au. Price: \$18.00.

The NCE RC Filter (Resistor-Capacitor Filter or 'Snubber') pack contains two RC Filter 'snubbers'. An RC Filter (aka 'snubber') is a small circuit that preserves the DCC wave form by reducing or eliminating voltage spikes on long runs of DCC track bus wiring. NCE state that this is particularly important for any DCC track bus wire 12m or longer.

The snubber also solves temporary loss of control or runaway problems and can protect decoders from potentially damaging inductive voltage spikes.

The snubber is installed, using the screw terminals, across both track bus wires at the farthest end of the track bus from the command station/booster. A snubber should be installed at the far end of every track bus wiring run, including the ends of a 'Y' configuration. NCE advise that for sys-



those familiar with electronics who wish to fine tune the snubber action by adding capacitor(s) and/or resistor(s) in parallel with the existing capacitor and resistors.

My layout has two track bus runs that would be of the length that the snubber was designed for. After I connected the two snubbers I didn't see any obvious changes to operational reliability of locomotives on the layout. However, that is a good thing and, given the price, the snubbers are still good insurance against any future DCC track bus signal issues.

Ray Pilgrim

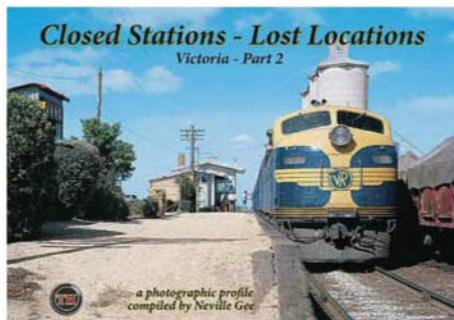
Closed Stations – Lost Locations Victoria – Part 2 compiled by Neville Gee. Published by Train Hobby Publications, LPO Box 5123, Pinewood 3149. Ph: 03 9499 9194. Price: \$42.00.

One of the more notable features of Australian railways is the individual architectural styles found in each State. Victoria had a huge variety of wooden station buildings, appropriately designed to suit the size of the community and operational requirements, as well as grand structures built from bluestone or brick from the riches of the gold era, as well as the more modern brick structures that have evolved over time.

Train Hobby Publications have sourced an amazing collection of colour photographs of Victorian railway stations and their latest publication *Closed Stations – Lost Locations Victoria – Part 2* is another high quality gem to add to your collection.

The team of Neville Gee (production and the source of the majority of photos) and Richard Barrack (design and page-setting) have compiled 58 pages of outstanding A4 landscape photos of country stations throughout the state. In the opinion of this reviewer, this publication has excelled in highlighting the differences in station structures, as well as revealing some very rare images of long lost locations. The first 45 pages show photos throughout the state and the last pages are devoted to the Gippsland region.

Portraits that have captured my imagination and interests include the Mallee stations of Buckrabanyule, with its classic portable building and van goods shed, Carwarp, with a small portable building and well-tended garden, Cope Cope, showing its large station building (for operational requirements) despite there being no township, and the isolated locations of Curyo, Lake Charm, Nandaly and Nullawil. The 1910-style station building of Ultima was destroyed by



fire two years after a delightful portrait of its features was taken in 1970. Most of those locations were off main highways and were not common photo subjects. There are two rare photos of Ravenswood on the Bendigo line, with its wooden platforms and buildings. Again, there was no township, but in earlier years Ravenswood was a popular destination for picnic trains.

Other rarely photographed locations illustrated are Warring, the branch line terminus station of Picola, both in the Goulburn Valley, and Woorinen, in pristine condition, on the Swan Hill line. Of special note is the inclusion of two scenes showing activity on the McDougall Company private siding at Broadford.

A classic image of Charlton with its footbridge and platform detail is my personal favourite, but then it was difficult to compete with the amazing photo showing Tallangatta's 1910-style station building being lifted, for removal to another site, when the Cudgewa line was deviated for expansion of the Hume reservoir, or the view of Serviceton from the silo roof.

In the Gippsland section, the original location of the dead-end Sale station is featured in two elevated vantage point photos. The publishers have sourced, from a private collection, some wonderful 1957 images showing rail activity at

Buln Buln, Rokeby, with ballast wagons awaiting loading, and Neerim South.

The Train Hobby books collection is an amazing resource for modellers wishing to represent the Victorian Railways on their layouts, particularly in the days before branch closures and station rationalisation. Without any doubt in my mind, Part 2 of 'Closed Stations - Lost Locations' is recommended as an essential addition for your collection, either as a photo album or reference for your modelling aspirations.

Bruce McLean

Single Deckers From Newcastle – The Cars Built At Walsh Island Dockyard – Volume 2 – The Power Cars C 3251–3300 by Roy Howarth and Glenn Ryan. Published by Bow River Publishing, 95 Allawah Road, Dungowan 2340. Ph: 0431 701 169. Website: www.bowriverpublishing.com.au. Price: \$60.00 (posted anywhere in Australia)

Modern Sydney suburban electric trains are quiet, powerful, fast, efficient and air-conditioned. They tear up 1 in 40 grades as if they are not there. Yet the homogeneity of their appearance causes some folks to reflect nostalgically about a time when no two Sydney electric sets were quite the same. In the era of the single deckers there were different styles from various manufacturers and few had power-operated doors. Adventurous youths would hang out of the open vestibules and use the standee stanchion poles as 'monkey bars'.

There has been an upsurge in the commercial availability of these vehicles in HO scale in recent times, principally from Berg's Hobbies, although we can also peer through the looking glass at the ancient Tri-ang 'HO' models of the original S sets. Evidence of the increased interest in modelling this subject can be seen in the advent of several new exhibition layouts in recent years,

Yendys, *Electric Car Sheds* (based on the now closed electric train sheds at Punchbowl), *Brunswick Park* (based on North Strathfield) to name just a few.

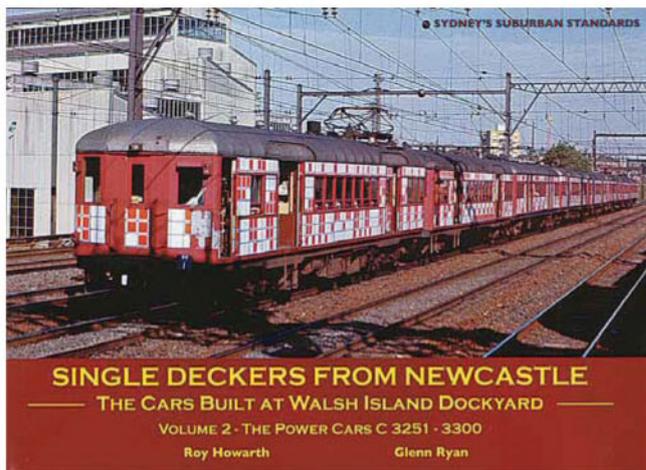
Roy Howarth and Glenn Ryan have produced a series of photographic albums in recent times, describing the many variations of Sydney's single deck suburban EMU stock. The latest volume addresses the power cars in the C3251-3300 series built at the Walsh Island Dockyard, Newcastle, in the 1920s. The island has since been renamed in accordance with its original indigenous name, Kooragang, and now has a bridged rail connection for the coal-handling facility. However, back then, each new vehicle was transported to the 'mainland' by barge; it had principally been a ship-building facility prior to the suburban carriage contract.

Roy and Glenn's photographic album, replete with detailed captions, illustrates the endless possibilities in train compositions. Several variations in the exterior and interior designs of these Walsh Island cars are detailed, in addition to a myriad of individual alterations, car by car, in the number grouping of the title. Almost every carriage in the series is illustrated, with just a couple missing.

The modeller can contemplate the different colour schemes, from the early lined red, later shades of red, PTC blue and white, and special schemes applied for promotions, such as the opening of the Opera House. There is a good record of the different styles of windows fitted through the years and other modernisation efforts, such as the interiors (removal of luggage racks for instance) and improved bogie types.

An eight car set, when this reviewer was a callow youth, would typically comprise 'Bradfield', wooden trailer, 'standard' and Tulloch cars, their non-homogeneity still further delineated by the degrees of weathering evident from car to car. Sets were not overhauled 'en bloc'; cars were moved around from set to set. The time elapsed since each individual car was overhauled was very evident in the roofs alone, some silver, others browned by the elements and the copper deposits caused by the interaction of the pantographs and the overhead wires. This book provides a good record of these details and also of the evolution of overhead stanchions through the decades. Additionally, much extinct infrastructure to do with safeworking/signalling can be seen, in particular the distinctive, once ubiquitous, bonded asbestos fibre signal cable troughing.

If you are among the growing list of modellers replicating the Sydney suburban scene, this is the book for you. It will provide you with endless ideas of how to detail, weather and vary the consists of your single decker sets. Additionally, there are



numerous photographs of red sets which include the original Tulloch double deck trailers, the vehicles that replaced the life-expired wooden trailers (models of the Tulloch double deck trailers have been supplied by both Berg's and Casula Hobbies).

One of the authors, Roy Howarth, I consider to be a leader in the individualising and weathering of Sydney suburban electrics; some of his work can be examined in the Gallery article *State Rail in the 1980s* in AMRM Issue 296 (October 2012).

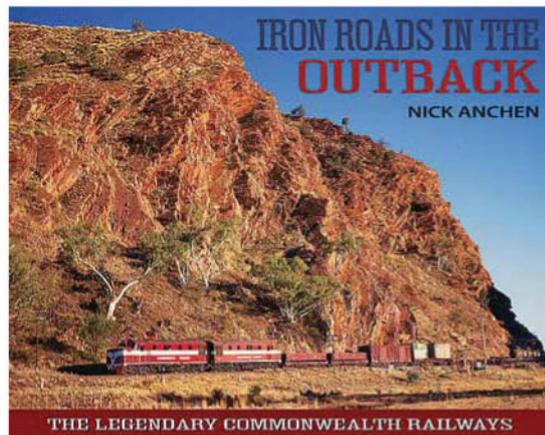
Many photographs in this volume come from the collection of the late Bruce Cook, a somewhat idiosyncratic character well known around the traps, who had a knack for capturing on film the unusual train movements that most others missed, oddball transfer movements and 'occasional' workings, such as race trains to Warwick Farm, Rosehill and Canterbury. His collection is a valued historical resource and the book is dedicated to his memory.

The book is available via mail order direct from the publishers and from selected specialist book shops, such as those run by the ARHS.

Chris Sim

***Iron Roads in the Outback* by Nick Anchen. Published by Sierra Publishing, PO Box 8137, Ferntree Gully 3156. Ph: 0417 250 166. Website: www.sierraaustralia.com. Price: \$65.00 (plus \$13.00 postage in Australia).**

I'll make a disclaimer right here at the beginning of this review; I love Nick Anchen's books. His



combination of interesting social history stories, plus a bit of 'classic' history and the magnificent photographs he manages to dig up, make for a brilliant book and his latest volume, *Iron Roads in the Outback* is no exception.

Covering the three 'divisions' of the old Commonwealth Railways, the Trans Australian standard gauge, plus the narrow gauge Central Australian Railway and North Australian Railway, as well as the occasional excursion into sometimes only vaguely railway-related 'outback stories', this book sticks to the formula and delivers yet another volume of fascinating reading.

The photographs are, as usual, superb in both reproduction and content and are worth the price of the book, even if you never read a word! For the modeller of the Commonwealth Railways it is a priceless resource and a fitting reminder of the glories that once existed when administrations took their jobs of serving the public seriously.

The narrow gauge sections of the CR deserve far more attention from modellers than they receive and there are many photos in this book that could serve as inspiration for some very fine modelling efforts.

The text is equally inspiring and tells some fascinating stories of outback life, and not just from the perspective of the enginemen. The stories told by the wives of the workers also give a fascinating insight into the trials, and triumphs, of life 'along the line'.

While the book is ostensibly about the Commonwealth Railways, it does stray past the end of that administration and into the Australian National Railways era with many of the stories (and justifiably so, particularly with the section on the final days of the CAR narrow gauge line from Maree to Alice Springs). However, the photos stick to recording the glories of the CR's maroon and silver colours and, I am glad to say, completely ignore the AN green and gold era! There is also a chapter on the valiant efforts of the Pichi Richi Railway to preserve the last remnants of the CR's narrow gauge glory.

All in all, this is a worthy addition to Nick's series of volumes, having something for everyone from the most avid modeller, through those interested in the history of one of our most iconic railway systems and also catering to those whose interests encompass the 'great outback' and the characters that inhabit it. Now that I am inspired, I wonder how I can incorporate some Commonwealth Railways presence on *Lambing Flat*...

James McInerney

Electronics for Railway Modellers by David Crosby. Sample supplied by J & K Hobbies (Trackrite), PO Box 28, Albury 2640. Ph: 02 6041 4098; Email: jkhobbies@dragnet.com.au. Price: \$40.00 (plus postage).

Electronics are everywhere these days, but how much do you know or understand about them? Do you know your diodes from your relays? Your LEDs from your transistors? Even if you aren't into the black art of DCC, electronics are still a major factor to

be considered with model railways, with the simplest forms being the variable resistor in your controller as well as the diode in your locomotive that controls the directional headlight.

Electronics for Railway Modellers is a neatly contained A5 size book that covers more than just the basics of applying two wires to a device and seeing what happens. Within its chapters you will learn about electricity itself, as well as different types of electronic devices, how they work and how to make them work. Each chapter includes a description of the device and how it works as well as many diagrams showing how they are connected in a circuit to be of use.

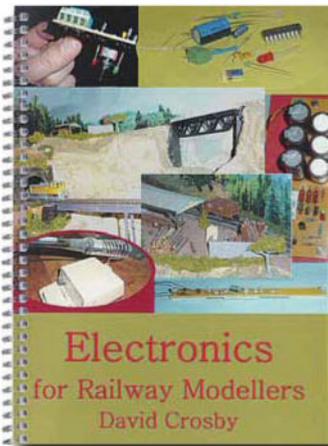
When reading this book from cover to cover, something I think you should do in the first place, don't be too bewildered by some sections of it, just keep it handy as a reference book when you aren't sure of something. I found some of the chapters to be disjointed, seeming to go down one track and then stopping short, while some information is duplicated in following chapters. I am not sure if this is an oversight by the author or a deliberate refresher before you get into some of the more advanced descriptions.

The real value in this book comes not from the explanations of the device, but how they work, including the mathematical formulae so you can use the device without letting the magic smoke out. Need to calculate the value of a ballast resistor so your LED headlight doesn't turn into a mini supernova? Don't know what a ballast resistor is? All is explained on page 29!

Between the covers you will find descriptions of most of the electronic devices you are likely to encounter in model railways, as well as some guidance on how to create your own electronic circuit to fulfil that desire to have something unique on your layout. Want to build your own level crossing flasher circuit with track detection? You will find the how-to within.

Even though this book is targeted towards people interested in learning about how to use electronics in model railway applications, it is a good primer on electronics in general, taking me back to my high school electronics class — of which I have forgotten most of the more advanced calculations beyond Ohm's Law. I now have them in a handy easy-to-use booklet.

Ben O'Malley



Signals Branch have released a large number of new NSWGR infrastructure items in their 3D printed range available from their 'shop' on the Shapeways 3D printing site (full details under the 'Signals Branch' entries in the News section). Shown here is a completed sample of the 'Werris Creek' bracket signal and 3D renderings of the two types of standard NSWGR relay huts available.

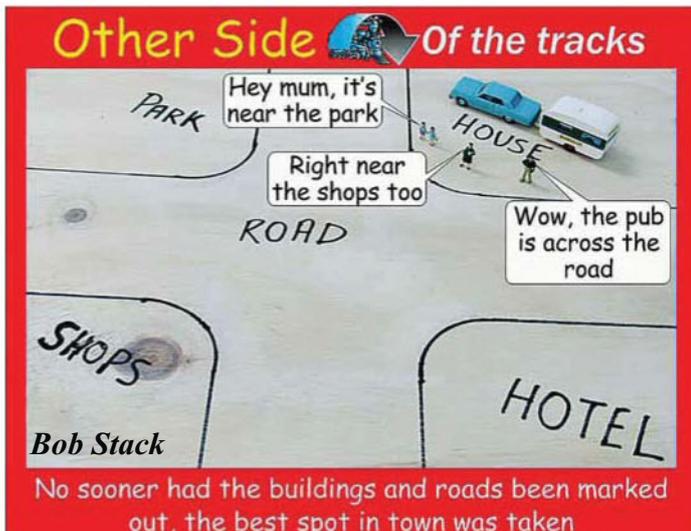


Aust-N-Rail have re-released their long unavailable HO scale moulded plastic VR tarpaulins. Designed for GY/IA open wagons, they will also fit vehicles of similar dimensions, such as NSWGR K and SAR OBF open wagons. They are available in four- and twelve-packs.



Comrailmodels have released two new models, the TC and TD classes of bogie water gins, in their HO scale range of 3D printed kits of Commonwealth Railways rolling stock.





Happy Retirement Brian Chester

Proprietor of kit manufacturer Broad Gauge Models, Brian Chester, retired from his full-time job with the Ford Motor Company in December 2017, after 54 years in the workforce. Brian informs us that he intends to now devote himself full-time to getting many of BGM's delayed projects up to speed, including a redesign and rerun of the HO scale SAR T class 4-8-0 and VR A² 4-6-0 steam loco-

motives, as well as new projects such as the SAR 400 class 4-8-2+2-8-4 Garratt and an On30 version of the SAR T class 4-8-0. Another area Brian also wishes to pursue is kits of more 19th century VR locomotives, such as the A^A class 4-4-0 and 'old R' 0-6-0 locomotives.

New Products

HO Scale
Auscision received factory-painted

Farewell and Thank You Jonathan and Margaret

There is no doubt that the growth and high publication standards of the *Australian Model Railway Magazine* have been due to the commitment and expertise of the voluntary contributors, as well as the staff. Since day one in 1964, volunteers have been, and still remain, an extremely important part of AMRM's production. With this issue we farewell the major contribution by volunteers Jonathan and Margaret Llewellyn.

Jonathan first volunteered in 2006 and for the past eleven years has been the principal illustrator and has, without any question, improved the quality of the drawings in the magazine, particularly the track diagrams that accompany the feature layout articles, which was his primary task. As just about every issue since 2006 has featured at least one of Jonathan's drawings, his ongoing commitment to preparing material to a high standard and on time was second to none. On numerous occasions Jonathan has had to burn the 'midnight oil', finalising drawings from material that had been supplied quite late in the production process, just to make his task that little bit more difficult. Jonathan not only prepared drawings for the magazine, but has materially assisted us with the process of getting to the fully digital production of the magazine that is now the norm. The style of presentation Jonathan has developed will be very difficult to replace, let alone emulate.

Shortly after Jonathan came on board, his wife, Margaret, volunteered to assist with the proofreading of the magazine, an onerous task that always has to be accomplished quickly to meet publication deadlines. Margaret always performed this essential task promptly and with excellent attention to detail.

We are truly grateful for the years of dedicated service by Jonathan and Margaret Llewellyn. On behalf of the AMRM staff and readers we thank you both and wish you well for the future.

Bob Gallagher and James McInerney

samples of the second run of their NSW 73 class B-B shunting locomotive in December. The production run of the model, which has been modified to be DCC-ready, is expected later in 2018.

The next painted samples expected are those of the NSW 85 class Co-Co electric locomotives and the 'Tri-Bo', 8650, which were expected to arrive in January 2018 and may well be here when you read this.

Also expected to have arrived by the time this issue appears is the first DCC-sound fitted sample of the NSW paybus. Expected soon after are the first tooling samples of the *Indian Pacific*, *The Ghan* and *Southern Spirit* passenger cars. Factory-painted final paint samples of the NSW RUB air-conditioned cars, Victorian VP vans and SCT PWWY well wagons are all expected to arrive early in the new year.

Currently in production are the NSW 'fish belly' underframed vehicles (MLV louvered vans, NCX/NCNX steel coil carrying wagons, PCT cement hoppers and the various departmental vehicles). All derivatives were expected to have been shipped from China towards the end of December and should be available around the time this issue appears, or shortly after.

The production run of the NSW 48/SA 830 class Co-Co diesels is expected to be completed in China before the Chinese New Year shutdown in February, with delivery in Australia expected in March/April 2018. Production of the NSW 442 class Co-Co diesels is expected to occur immediately after completion of the 48/830 run.

Also in production as this item was being prepared were the 48' 'high cube' and 46'6" refrigerated containers, with both runs expected to be completed just after Chinese New Year and delivery in Australia in April/May 2018.

Austrains report that their r-t-r NSW 30 class 4-6-4 tank locomotive is in production and the full production run should be available in Australia by mid-March 2018. The first air-freighted examples should be on sale at the Forestville exhibition on the first weekend in March.

The r-t-r VR FJ/FX four-wheeled flour hoppers are still on track for release at the AMRA (Vic) Caulfield exhibition in August 2018.

Broad Gauge Models have, at last,

received all the outstanding parts from their subcontractors for their SAR 500B 4-8-4 steam locomotive kit and expected to have the pre-ordered kits distributed before Christmas. Despite the eight years of frustration involved in getting this kit to market, BGM have resolved to maintain the originally advertised price, despite the greatly increased costs associated with the delays to the project.

Design work has begun, using AutoCAD Inventor, which should speed things up considerably on the next new SAR kit, the 620 class light Pacific, greatly helped by a memory stick with over 1000 detail photos received from one of their valued customers.

Eureka Models were, at the time this item was prepared, expecting delivery of their r-t-r NSWGR 72'6" MAL sleeping, AB dining and ACS composite sleeping cars to occur in early January, so they should be available by the time you read this.

Distribution of the NSWGR 40 class diesel locomotive should also be complete by the time you read this. If yours hasn't arrived, Eureka asks that you contact them asap. Sales of the 40 class have been very encouraging, to the extent that Eureka is negotiating with the factory for a second run, tentatively scheduled for late 2018. The second run will include the version operated in north western Western Australia by Robe River Iron Associates and new numbers for the NSWGR versions.

It is planned to start cutting metal for a new project in January, either the 59 class 2-8-2 steam locomotive or the 900 class (DEB sets) four-car diesel trains, though exactly which one will depend on discussions with the factory.

Mechanical Branch Models have added a NSWGR 40,000 gallon 'two-tier' overhead water tank to their range, along with an electric staff machine and locomotive oil cans (both round and square types).

On Track Models have received the production run of their Victorian *Sprinter* railcars and all varieties were available at the time this item was written (December 2017), though On Track have indicated that sales have been exceptionally encouraging and some versions were already in short supply even then. Negotiations are in progress with the factory for a rerun of the

NSW 82 class locomotives, though it is too early yet to even guess a delivery date.

Ozrail Model Trains plan another run of their SA bogie cattle wagons in early 2018. This run will consist of the grey SAR C cattle wagon, fitted with archbar bogies, plus ACAA in ANR red and the ACAY in AN green and gold.

Signals Branch continue to add to their range of 3D printed NSWGR infrastructure items (most available in multiple scales). Now available are two versions of the standard NSWGR two-bay signal relay hut in Frosted Ultra Detail (FUD). One version is sitting on a supporting frame and the other rests directly on the ground.

New in the signal detail range is a set of FUD parts for a single steel post signal with a 36" arm and also a set of extra post detail parts, with four of each part, but no signal bases. The detail parts have been designed so that they can be slid onto signal posts constructed from the Ngeengineering brand stainless steel telescopic tubing, allowing the purchaser to construct individualised signals. Also now available is the complete bracket signal that stood at the up end of the Werris Creek platform, comprising brass and FUD parts. Recently added to the range is a jig to assist with forming wire safety handrails for single post and left- and right-hand bracket signals. The jig can be used for the White Strong and Flexible (WSF) signals by cutting the printed handrails off and drilling holes at the cut locations with a 0.45mm drill bit in a pin vice. It can also be used to bend up the safety handrails for the Fine Detail FUD, as well as the brass versions of the lower quadrant signals.

New in the general FUD infrastructure range are the NSWGR standard sleeper take-off (for removing fettler's trikes from the line), and mile posts – old rail type: ¼ mile, ½ mile, ¾ mile and mile posts. The metric era is also covered with standard 1km and ½km posts – old rail type. Standard NSWGR speed boards (eight per pack) are also available.

For those wishing to detail the HO scale Southern Rail Models concrete panel signal box, a standard windowed signal box door is now available. The plain planked door of the SRM model is cut out and the new door slots straight in.

Signals Branch items are available only via the Signals Branch 'shop' on the Shapeways 3D printing internet site.

Southern Rail released the balance of the first run of their SMR 10 class 2-8-2T steam locomotive in November and have been very pleased with the reception from the buying public.

Also released were the modern era (introduced from August 2000) C35 bulk grain hopper wagons, which arrived in early December. All types – ATN Access and PN XGAY, AWB WGBY and WGSY, plus SSR BGSY, in all colour schemes - are now available from Southern Rail.

Tooling was expected to commence shortly on the r-t-r QR 2300/2400 class diesel locomotives. Some 12 versions will be produced over two production runs and the first run should arrive sometime late in 2018.

O Scale

Model O Kits advise that the NSWGR 59 class 2-8-2 steam locomotives have arrived and are now available in either kit or built-up (r-t-r) form. The NSW 442 Co-Co

Volunteer Needed – Draftsman

AMRM is in need of a volunteer draftsman. The main duty would be to produce a track plan for each issue's feature layout article, though there may be other drawings needed from time to time.

If you can produce a publication-ready drawing to a regular deadline, at least six times a year, then we would like to hear from you. The source material can range from an author-produced drawing that just needs to be modified to AMRM publication standards to a rough pencil sketch, some dimensions and some photos! Depending on the workload, the deadline for each drawing can range from a few weeks to a few months, so you won't be expected to produce a masterpiece overnight!

If this sounds like you, please contact the editor either by email: amrmjmes@tpg.com.au or by phone: 02 8812 2058.



More factory-painted colour samples of Auscision's r-t-r HO scale NSW/Silverton Tramway 48 class locomotives. If all goes to plan, the production run should be available in March/April 2018.



Ixion Model Railways have received the first factory samples of the next run of their HO scale r-t-r 'coloured' low-frame NSWGR 32 class locomotives. They have confirmed that this run will feature clear headlight glass and front injector piping that more closely represents the 'in service' appearance of the class (though the corrected pipes were not fitted to the samples). Attention has also been given to redesigning the tender pickups on the bogie tender, presumably to address the problems caused by having the pickups bear on the front faces of the wheels, rather than the more usual rear. Ixion are very pleased with the sample of 3264 in the lined black colour scheme applied for its display duties at the 1955 centenary of the NSWGR display at Sydney Terminal (illustrated). However, they are not so pleased with the samples of the green locomotives supplied; the factory saw fit to paint them a bright lime green that was definitely not part of the brief! Unfortunately, this will result in a delay in production, as Ixion are waiting to see corrected samples of the green locomotives before approving production. This next run is now expected to arrive early in 2018.

diesel locomotive kits are now expected to be available by February 2018. Also expected to be available by February are laser-cut kits for the NSWGR A4 station building, G3 goods shed and standard, skillion roof, weather-board-clad, platform level signal box.

The next steam locomotive will be the NSWGR 13 class 4-4-2T (Belpaire boiler version), to be produced in both kit and r-t-r form by DJH. Delivery is expected towards the end of 2018 and order forms are available on the Model O Kits website.

Model O Kits are now stocking an increased range of O scale

model railway supplies in their Yagoona (NSW) shop, including Peco track, Zap-A-Gap glues, Proses jigs, tools and rolling roads, Testors' paints, weathering materials, thinners and accessories, MIG weathering paints and materials, K&S metals, Evergreen styrene profiles, Noch and Faller scenery materials, as well as Badger air-brushes and a range of tools.

N Scale

Gopher Models expected to be able to release their r-t-r NSWGR 42, VR S and CR GM class Co-Co diesel locomotives in mid-January 2018. If the models cleared customs in time they should have been

available at the Warrnambool (Vic) model railway exhibition on the weekend of 13/14 January.

Multiple Scales

All Scale Scenics, a division of Ozrail Model Trains, have released a full range of scenery products, suitable for all scales, which are hand-made in Vietnam. The range encompasses all sorts of items, such as many types of trees from gums to Jacarandas, plus smaller items such as vegetables, flowering plants and foliage, as well as ballast. Visit the Ozrail Model Trains website for the full range available, which Ozrail can also supply to other outlets at wholesale prices.

Gwydir Valley Models have

secured a deal with Soundtraxx USA for the supply of UK loco sounds pre-loaded into Econami DCC decoders. Three formats will be available, ECO-100 (1A), ECO-200 (2A) and 21-pin. All three formats will be available loaded with either steam or diesel sound schemes.

Some of the diesel sounds available will include: Brush Traction, two types of English Electric, Alstom Class 66/67, EMD 710, and BR Derby 'Lightweight' DMU. Steam sounds include five unique UK specific exhaust chuffs that can be set to two cylinder, three cylinder and articulated.

With the use of English Electric locomotives in Australia, as well as British-built and influenced steam locomotives, especially for those modelling the 'early days', these decoders will have appeal to local modellers as well as those modelling the railways of Britain. These special decoders should be available from early 2018, at similar prices to the standard Soundtraxx Econami range.

Signals Branch have released two sizes of 3D printed NSWGR staffs, a small (82mm) replica and a larger (116mm) version. The larger version has a hole designed into the 'key' end of the staff to accommodate a 3mm stereo plug that can be wired in different ways to act as an electrical switch if required. They are designed to be used prototypically on single line sections, particularly on DCC-controlled lay-



A colour illustration of the HO scale MLV/MLK in development by Casula Hobbies for release towards mid-2018.



SDS Models have received factory-painted samples of their planned HO scale r-t-r range of WAGR WGX/WOAX bogie open wagons. SDS will also be producing the WGG (gypsum traffic) and WOSF (steel traffic) versions, as well as the modern era versions, ROAX (National Rail/PN ownership) and SOAX (Silverton). Further variations will be with or without end doors and in 'grime' colour schemes.



Steam Era Models are upgrading the underframe of their HO scale VR B van kit. The modifications include corrected springs on the axle boxes (the originals, which date from the original Broad Gauge Models days, were slightly oversize), new side sills, the addition of the brackets that go between the side sills and the body pillars, brake cylinder and brake shoe cavities for the underframe itself, while the brake shoes are now cored out to allow installation of pieces of wire to represent the brake beams. A new etching has been produced which includes the foundation brake rigging, shunter's steps, hand brake lever and ratchet. The revised kit will be released at the Sandown exhibition in March 2018.

outs, to encourage operators not to stage head-on collisions of expensive models!

The staffs have tabs along their length (as per the prototypes) that could be used, along with appropriately placed micro switches, in a scratchbuilt staff box to electrically 'unlock' the staff box. The tabs are in different places on each of the four different staffs.

Compiled by James McInerney



A sample of the r-t-r N scale single-deck Sydney suburban car sets produced by Meerkat Models from components supplied by BadgerBits. Meerkat Models products are available at selected exhibitions and via their Facebook page.

DIARY

SCMRA ACTIVITIES

For all activities contact Eastern Division representative
Graham Windmill on 9626 0351.

10 February	Running session at home of Tim Stewart, Berowra Heights. HO NSW layout based on Mudgee in operation.
10 March	Meeting and DCC layout operation at home of Marcus Ammann, 8 Myoora St, Pymble. 2pm-5pm.
14 April	SCMRA Seminar – <i>Rail Operations in Southern NSW</i> Epping Creative Centre, 26 Stanley Rd Epping. 8.30am-5.00pm Registration Essential by 2 April. Cost \$45. Send cheque and details to PO Box 345 Matraville 2036.
12 May	Meeting and running session on the layout of Doug Blunden, 210 Midson Road, Epping. 2pm-5pm
9-11 June	Stand at the Epping Model Railway Exhibition, Rosehill Gardens Grand Pavilion, off Grand Parade Rosehill.
14 July	Open Day by SCMRA and EMRCI at Epping Creative Centre, 26 Stanley Rd, Epping. 10am to 3.30pm. Layout operation. Getting Started clinic at 11.00am. Free sausage sizzle lunch. Details from Trevor Moore 9876 3522.

EXHIBITIONS

BELMONT – VIC. January 27-28, 2018. Corio Model Railway Club Exhibition. New Venue: South Barwon Civic Centre, Reynolds Road, Belmont. 10.00am-5.00pm (Sat), 10.00am-4.00pm (Sun). Adults \$10, Children \$5, Family \$20. Ray 041 932 9793.

ARARAT – VIC. February 17-18, 2018. Gum San Chinese Heritage Centre, 31-33 Lambert St (Western Hwy), Ararat. 10.00am-5.30pm (Sat), 10.00am-4.00pm (Sun). Colin 0428 056 121 Grampian Model Railroaders Inc. www.gmrinc.org.au

FORESTVILLE – NSW. March 3-4, 2018. NSRMA Forestville Exhibition, Forestville Memorial Halls, Cnr Warringah Rd & Starkey St, Forestville, NSW. 9.00am-5.00pm (Sat), 9.00am-4.00pm (Sun). Adult \$13, Child \$6, Concession \$10, Family \$32. Andrew King 0412 447 743. exhibition@nsrma.com.au www.nsrma.com.au

THIRLMERE – NSW. March 4, 2018. SHMR Inc Model Railway Exhibition in conjunction with Thirlmere Steam Festival. Thirlmere Public School Hall. 9.00am-5.00pm (Sun). Adults \$2, Children \$1, Family \$5.

KYNETON – VIC. March 10-12, 2018. Macedon Ranges MRC Annual Exhibition. Sacred Heart College, Cnr New and Beggs Street Kyneton. 10.00am-5.00pm (Sat & Sun), 10am-4pm (Mon). Brian 0427 047 411.

SPRINGVALE – VIC. March 10-12, 2018. Sandown Train & Hobby Show. Sandown Racecourse, 591-659 Princes Highway, Springvale. Adults \$15 (16+), Children \$5 (4-15). 10.00am-6.00pm (Sat), 10.00am-5.00pm (Sun), 10.00am-4.00pm (Mon). www.trainandhobbyshow.com.au or www.facebook.com/trainandhobby

BENDIGO – VIC. March 31-April 1, 2018. St Andrews Uniting Church Hall, Myers St, Bendigo. 10.00am-5.00pm (Sat), 10.00am-4.00pm (Sun). Adults \$10 Children \$3 Family \$25. Wayne 5446 1370 or Matt 0458 792 400. bendigomodelrailroaders@gmail.com

HORNSBY HEIGHTS – NSW. May 5-6, 2018. 31st Annual St. Luke's Railway Modellers' Exhibition. St Luke's Anglican Church, 157 Galston Road, Hornsby Heights. 9.00am-5.00pm (Sat), 12.00pm-4.00pm (Sun). modelrail@stlukeschurch.com.au

BRISBANE – QLD. May 12-13, 2018. The Brisbane Model Train Show, The Marquee, Brisbane Showgrounds, Bowen Hills. 9.00am-5.00pm (Sat), 9.00am-4.00pm (Sun). Adults \$15.00, Concession: \$10.00. Children under 16 free. AMRA Qld.

ALBURY – NSW. May 19-20, 2018. Model Railway Show, Mirambeena Community Centre, 19 Martha Mews, Lavington. Phone (03) 5728 2023, mrmshow@gmail.com, murrayrailwaymodellers.com. Murray Railway Modellers Inc.

RICHMOND VALE – NSW. May 19-20, 2018. The annual Model Exhibition at Richmond Vale Railway Museum, Leggetts Drive. 9.30am-4.00pm (Sat & Sun). All exhibitions will be confined to Richmond Main site. Entry fees will be still charged but have not been confirmed. Facebook or www.richmondvalerailwaymuseum.org

GLEN WAVERLEY – VIC. June 9-11, 2018. Waverley Model Railway Club Annual Exhibition, Brandon Park Community Centre, 654 Ferntree Gully Road, Glen Waverley. 10.00am-6.00pm (Sat) 10.00am-5.00pm (Sun) 10.00am-4.00pm (Mon). Adults \$10, Children \$6, Family \$25. exhibitions@waverleymrc.org.au

ROSEHILL – NSW. June 9-11 2018. Epping model Railway Exhibition. Rosehill Gardens Grand Pavilion, off Grand Parade Rosehill. 10.00am-5.00pm (Sat & Sun) 10.00am-4.00pm (Mon). Admission Adult \$15, Senior \$11, Child \$8, Family \$40. David Dalzell 0423 362 324. www.eppingmodelrailway.org.au contact@eppingmodelrailway.org.au

STAWELL – VIC. July 7-8, 2018. SES Hall Sloane St, Stawell Victoria. 9.00am-5.30pm (Sat), 9.30am-4.00pm (Sun). Colin 0428 056 121. Grampian Model Railroaders Inc. www.gmrinc.org.au

SEMINARS & CONVENTIONS

EPPING – NSW. April 14, 2018. SCMRA Seminar on *Rail Operations in Southern NSW*. 9.00am-5.00pm. Cost \$45 includes lunch. Registration is essential by 2 April 2018. Forms available from tgmoore@bigpond.net.au

LOFTUS – NSW. May 19, 2018. Modelling the Railway of NSW Convention 35 will be held at Loftus TAFE. Details info@mnrsw.org.au www.mnrsw.org.au and Facebook: Modelling the Railway of NSW Convention.

ADELAIDE – SA. September 1, 2018. Modelling the Railways of South Australia 23, Flinders Medical Centre lecture theatres, Bedford Park. 8.30am registration. 9.00am-5.00pm (Sat). Registration forms: MRSAC, PO Box 356, Parkholm SA 5043; www.mrsac.com; or selected hobby shops. Contact at the above address or email at convention@mrsac.com.

EXPOS

BUNDBERG – QLD. March 17-18, 2018. Bundaberg Model Train Expo, Civic Centre, Bourbong Street, Bundaberg. 9.00am to 5:00pm (Sat), 9.00am to 4:00pm (Sun). Adults \$8.00, Children 8-16 \$5.00, Family Pass \$20.00 (2 Adults & 3 Children over 8, Children under 8 free). Graham 0407 559 086.

KALEEN – ACT. March 24-25, 2018. Canberra Model Railway Expo. Canberra Model Railway Club Inc. Kaleen High School, 104 Baldwin Drive, Kaleen. 9.00am-5.00pm (Sat), 9.00am-4.00pm (Sun). Adults \$10, \$5, Conc. \$8, Fam \$25 (2 adults + 2 children). Chris 0400 116 016. www.cmrci.info cmrcexporeg@cmrci.info

DIAMOND CREEK – VIC. March 31 & April 1, 2018. Yarra Valley MRC Easter Train Expo 2018 Model Trains, Railway Memorabilia, Community Bank Stadium, 129-163 Main Rd Diamond Creek Vic 3089. 9.30am-5.00pm (Sat), 10.00am-4.00pm (Sun). Entry \$10 Adults, \$5 child, \$25 Family. Facebook @eastertrainexpo2018

TOOWOOMBA – QLD. June 2-3 2018 Toowoomba Model Trains, Craft & Hobby Expo, Toowoomba Showgrounds, Glenvale Road. 9.00am-5.00pm (Sat), 9.00am-

4.00pm (Sun). Adults, \$14, Concession \$10, accompanied children Free. Secretary 07 4638 0397. Toowoomba Model Railway Club Inc. Facebook: Toowoomba Model Railway Club Inc admin@toowoombamodelrailwayclub.com.au

OPEN DAYS

ARUNDEL – QLD. January 21, 2018 The Gold Coast Model Railway Club open day at 18 Kendor Street Arundel. Starting at 10.00am (Sun). A Buy n Sell will also be operating on these days.

BUNDBERG – QLD. March 10, 2018. In club rooms at the old show grounds, entrance from Kensington Street, Bundaberg. 9.00am-3.00pm. Free entry. 0414 685 653. cnpashley@icloud.com

BRISBANE – QLD. March 11 & September 9, 2018. 9.00am-2.00pm (Sun). Union Pacific Model Railroad Club welcomes visitors to view our large American model trains in operation at our Clubrooms, rear of Holland Park Sports and Community Club, 49 Abbotsleigh St, Holland Park. Table Sales available to non-members limited to six tables. For table space and other enquiries:

sec_upmrc@bigpond.com or 0439 435 366.

EPPING – NSW. July 14, 2018. SCMRA and Epping Model Railway Club at Epping Creative Centre, 26 Stanley Road, Epping. 10.00am-3.30pm. Layout operation, Clinic on *Getting Started in Model Railways* at 11.00am. BBQ sausage sizzle lunch. Trevor Moore 9876 3522 AH.

SALE DAY

NERANG – QLD. February, 25. Miniature Train Club-Gold Coast Inc Model Trains & Other Hobbies Monster Buy and Sell, Nerang Bicentennial Community Centre, Nerang Connection Road, Nerang. Sellers from 7.30am; Buyers 9.00am-3.00pm. (Sun) Booking required for sellers to Craig Thistlethwaite 0408 887 766

ctct@bigpond.com or

BRISBANE – QLD. March 20, & November 20, 2018. Buy and Sell Nights. Union Pacific Model Railroad Club Clubrooms, rear of Holland Park Sports and Community Club, 49 Abbotsleigh St, Holland Park. Registrations from 6.00pm (Tues). Sale commences 8pm. free entry. No bookings required for sellers. sec_upmrc@bigpond.com or 0439 435 366.

CALOUNDRA/GOLDEN BEACH. – QLD. April 14, 2018 Please note change of date. The Caloundra and District Model Railway Association, Arts Centre (North Street opposite the Oaks Oasis Resort). 8.30am-1.00pm (Sat) Items including locomotives and other rolling stock and scenery items. A Thomas layout for children to operate will be there as well as the Club's HO T-Trak modular layout will be running. Free Admission. Sale Table Bookings (07) 5491 9213, (07) 5479 0339.

Mailbag

Google Streetview

In response to Warren Miller's letter regarding Google Streetview in AMRM Issue 326 (October 2017), I have also used this method and it is really easy to make sure the scale is correct on scratchbuilt railway buildings. I am attempting to do an N scale diorama of just the yard of a Sydney North Shore line station, but using scaled printouts so that the rail that shows up in Google is printed exactly the same size as that of the Peco track I have.

The total length of the combined printout is over 7m long however, and there is not much happening outside the station between signals, so it is too realistic! The yard extends to the next station and nearly to the previous station, so there's lots of 1' (305mm) wide track corridor and nothing much else. I'm considering shortening the distance between signal sections.

However, on the up side, I can put exactly the correct size/type of embankments and buildings, like car parks. Trees and ground cover would be simpler and I can match the colours from Google.

I am a bit concerned about privacy issues, however. For example, if I used Google to model the actual house and garden of an owner who lives next to the railway corridor, would I be breaching the owner's privacy?

I was going to model the fences as they are seen from the street, and nothing else (especially not something like a school, given the concern many people have regarding photography around schools these days); i.e. the baseboard would be blank to the edge of the module behind the fence line, apart from perhaps an overhanging tree that is very distinctive. I wonder if this is okay?

MAILBAG

Australian MODEL RAILWAY Magazine welcomes letters on any pertinent model railway subject for inclusion in Mailbag. Letters should be sent to Mailbag, SCR Publications, PO Box 345, Matraville 2036, emailed to amrmagzn@tpg.com.au or faxed to (02) 9661 4323. All Mailbag contributions must include the writer's name, address and phone number to permit verification. Contributions without this information will not be considered for publication.

Editor

This is all part of the new world of digitally-designed model railways. I wonder if, (when?) Google Streetview becomes true 3D, modellers will be 3D printing the landscape directly to the baseboards including every rock and station garbage bin!

By the way, Bob Gallagher in his *Comment* in the October issue discussed different construction methods for layouts. Mine is modular, using aluminium struts from Bunnings, and I plan to use aluminium fly screen wire for the landscape profile.

Stephen Pardoe
Carlton 2218

Just to clear up any confusion about 'public area' photography, under Australian law any private, not for profit, photography undertaken in a public place is legal, no matter what or who you are photographing. Common sense does come into it though, and most sensible photographers do try not to be intrusive. This does not, of course, apply where taking a photograph would contravene another law, such as anti-stalking, anti-obscenity laws etc.

Permission to photograph on privately owned land (such as shopping centres, railway land etc.) is conditional on the policy of the individual landowner and should be enquired into before photography is attempted from private land. There is nothing to stop you taking photographs of private land, though, as long as you are on public land.

'For profit' photography on public land is usually licensed/approved by the appropriate governing body, such as councils, and is often illegal if the appropriate approvals are not held.

In the case of Stephen's example of modelling a house using photographs taken from public space, such as a road or satellite etc., you would not be breaking any law by doing so. The only time you would be in breach of the law is if you went onto private land without permission to take your photograph, whereupon you would be trespassing.

There is no law that prevents you from photographing potentially 'awkward' areas such as schools (or the children in them) from a public place, though you might attract unwanted attention from 'concerned' citizens, or even the constabulary, if you did so in a

'suspicious' manner (probably best to do any 'record' photography of schools out of school hours).

There is no law that prevents you from taking photographs of buildings (including people) and then using them as a backdrop on your model railway, even for an exhibition layout that can be viewed by anyone, as long as you do it from public land or have permission to be on private land.

This link: <http://tinyurl.com/ybb88ee5> sums up the situation quite well, though it is biased towards those who might be taking professional or semi-professional 'street' photographs—Editor.

Unexplained Initials

There has been a disturbing trend in the magazine to use initials (not yet acronyms) without explanations of their meanings.

In AMRM Issue 326 (October 2017) there was a whole article *SCT East Coast Operations* that used "SCT" throughout, without once explaining that SCT stands for 'Specialised Container Transport'. Surely the author could have made this clear in the first paragraph for the benefit of readers unfamiliar with the company?

In Issue 327 (December 2017)

the author of *Wet Wacol Under Wires* mentions EMU and SMU sets without explaining what he means by these terms. In my understanding of railway terminology EMU stands for Electric Multiple Unit, DMU stands for Diesel Multiple Unit and SMU stands for Steam Multiple Unit (not as common as the other two). But there is no evidence of an SMU in the article, in my understanding of this term. The reader can only assume that the terms EMU and SMU have different meanings in Queensland. An explanation would be nice.

Ross Stell
Kogarah 2217

As editor, I have to plead 'guilty' on this charge! Sometimes one forgets that not everyone is as familiar with railway terminology and overlooks making sure that basic terms are properly explained. I shall attempt to be more attentive in future! In the case of the usage of EMU and SMU in Queensland; EMU is 'Electric Multiple Unit' as per standard usage, whereas SMU (Suburban Multiple Unit) refers to the suburban EMU three-car sets introduced into service between 1994 and 2011 – Editor.

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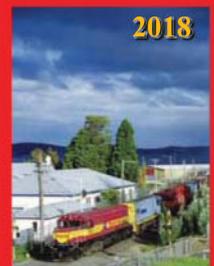
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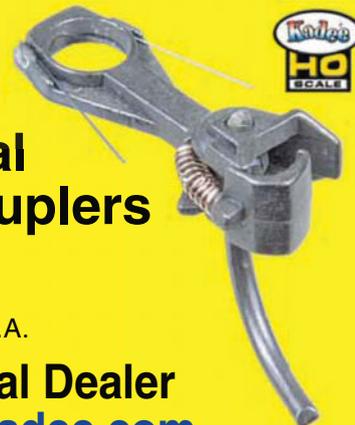
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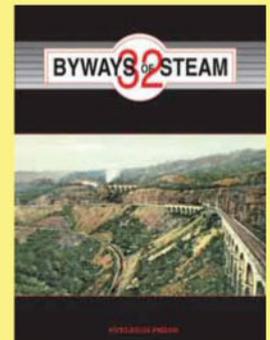
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BYWAYS OF STEAM 32

The next volume of *Byways of Steam* will include coverage of the Steam Locomotive Depots at Wallerawang, Mudgee, Eskbank, Dunedoo and Coolah as well as essays on Ken Groves, the 26 Class saddle-tank locomotives and Goulburn driver R K. Brown.

Byways of Steam 32 is scheduled for release in time for a December sale. This mammoth 232 page volume returns to the normal coverage of steam depots, locomotives and steam locomotive drivers.

- **Steam Locomotive Depots in NSW:** Wallerawang, Mudgee, Eskbank, Dunedoo and Coolah. In these essays, rail historian Ray Love covers the steam locomotive depot scene after the crossing of the Blue Mountains with the completion of the great Zig Zag into Lithgow. Commencing with the first depot opened, Wallerawang, Ray describes the history of the construction of the depot, the building of the infrastructure and the steam operations up until the time of closure. Interspersed throughout the detailed text are photographs and track diagrams.
- **Kenneth Thomas Groves.** Ken joined the Railways in 1943 and rose through the ranks of a steam engine crewman until he was a driver capable of handling the mighty 38, 57, 58 and AD60 classes. Stephen Halgren briefly describes Ken's career illustrating his work with photographs from Ken's collection.
- **An Eye for an 'I'.** Most rail historians have a favourite locomotive and author Ian Wallace unashamedly favours the Dübs-built, NSW I class, the 2-6-2 saddle tank engines, reclassified as the 26 class in 1924. Ian has dug deep in many photographic collections to cover this 20 strong class that saw sterling service in NSW.
- **Out Of Goulburn.** In 1954, a 24-year old Keith Brown commenced work on the NSW Railways at Goulburn depot. From his 'My Railway Life' story, the essay covers the many tasks performed in a large railway locomotive depot in the post WWII period, when steam was still king.



BYWAYS OF STEAM 32 is \$50.00 from your local stockists or mail order, plus postage, from

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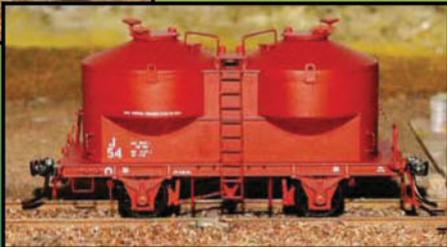
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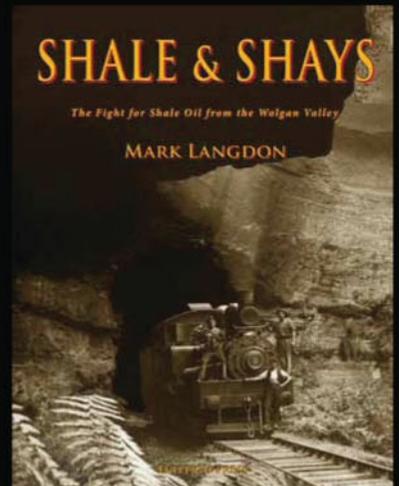
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Mark Langdon, an upper Blue Mountains resident and trained historian, presents a fresh look at the exhilarating shale-oil mining days of 1906–1932 in the Wolgan Valley in New South Wales. Researched from existing company and government documentation and newspaper reports of the day, the book begins with the story of the Commonwealth Oil Corporation's inception, financed and run from the London offices, continues through the building of the works at Newnes and the railway to Newnes Junction, and rounds out with the final days in the 1930s, when the fate of Newnes resided in the hands of the Commonwealth Government and National Oil Pty Ltd. The work includes the decline of the C.O.C. and John Fell's becoming the owner. The problems faced are covered in detail, as is the life of the miners and residents living in the valley.

Special attention has been given to the railway – locomotives and rolling stock – including exhaustive research detailing the building and use of the railway that carried the precious shale and oil to the main N.S.W.G.R. Western Line at Newnes Junction and then on to Torbane in the west and to the Sydney export seaboard. Each vehicle type built specifically for and purchased by the COC is covered, with a history and photos and a scale drawing of each vehicle type included. The work is rounded out with superb maps and a Phil Belbin painting.

The book is 279 x 215mm portrait, of 300 pages in size and includes three- and four-page fold-outs and gate-folds to best display the many pictorial images sourced. While most images are black and white, a number of available colour images have been used. Some of these images had been hand-coloured by the original photographer.

Now available, the rrp of *Shale & Shays* is \$78.00 plus post and handling (\$10.00)

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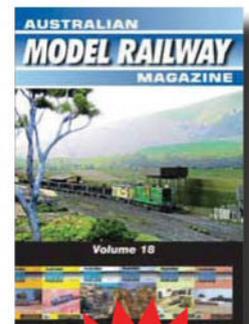
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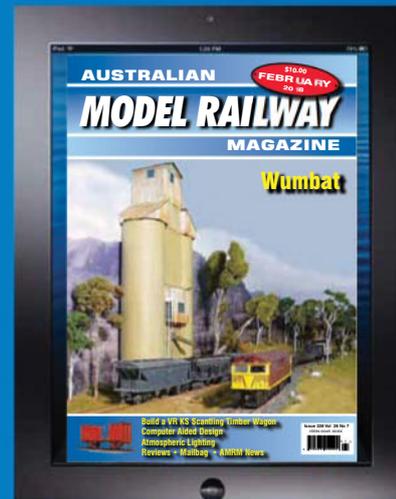
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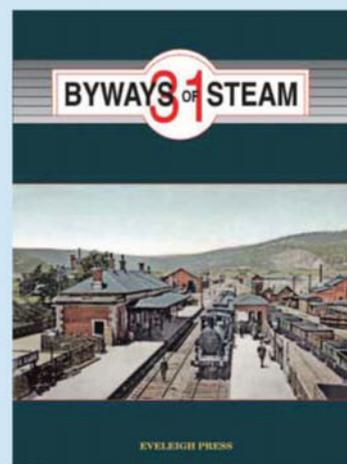
BYWAYS OF STEAM 31

Eveleigh Press, Australian MODEL RAILWAY Magazine's associate publisher, is releasing another book on railway operation. All AMRM retail outlets are invited to participate in the sale of the book that will offer modellers and prototype enthusiasts alike, an insight into the days of steam. Two well-known and highly respected authors are again involved in the publication. Although a book on prototype operation, all subject matter relates to modelling, especially the operation of a prototype based model railway layout.

Byways of Steam 31 is scheduled for release in late August and features 216 pages with two essays based on Lithgow, once seen as the Birmingham of NSW, the industries were so prominent.

The Industries and Railways of the Lithgow Valley. Mark Langdon, fresh from his coverage of the Wolgan Valley in *Shale and Shays*, has researched the rise of Lithgow as an industrial centre, including numerous mines and industries and the various rail links in the valley, west of the Blue Mountains. The expanded text is accompanied by many previously unpublished images of the period, including some wonderful panoramic photographs of the valley. These are accompanied by another superb Dean Oliver drawing showing the location of the industries and mines and the rail lines.

Steam Locomotive Depots in NSW: Lithgow. The feature essay in this volume is Ray Love's coverage of this steam locomotive depot, which was built in 1924, replacing the depot at Eskbank. The expanded facilities at Lithgow covered the locomotives which worked over the mountains, including the 'Big Engines' and those that worked to Bathurst and Mudgee, on the branch line. Interspersed throughout the expansive text are stories from railway enginemen, the result of many hours of recorded interviews by the author. Lithgow was an extremely important depot for the NSWGR; the task of transporting goods and minerals over the Blue Mountains being an onerous task and important one for the economy of the state of NSW.



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