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Realistic Aussie Scenery

Locomotive Rerailer

Sydney Central

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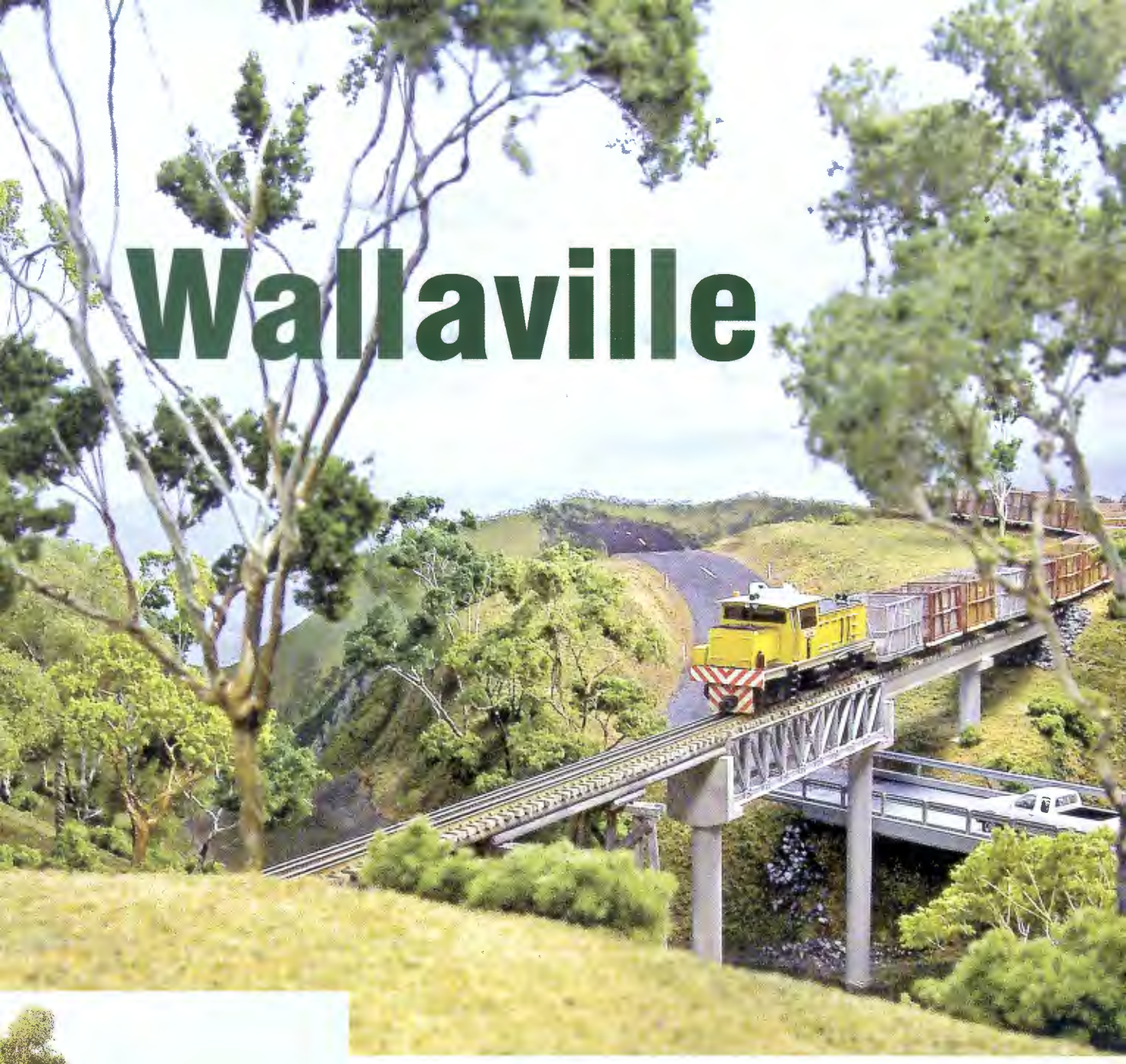
ON THE COVER: *EM Baldwin built diesel-hydraulic 'Oakwood' hauls a load of full sugar cane bins over the Currajong Creek bridge on Lincoln Driver's HOn2½ exhibition layout, 'Wallaville', modelled on that location on the Bingera sugar mill system. A description of this version of a Queensland 2ft gauge sugar line begins on p.17. Photo by John Dennis.*

Many modellers are now seeking to detail their layouts to match the high level of detail now expected on rolling stock. This has been made much easier by small producers, such as Uneek, producing what have now become large ranges of 'scenic' detailing parts. Even if the exact detail required by the modeller is not available commercially, the old skills of kit conversion and scratch-building can still be used to achieve the desired result. On 'Wallaville', this issue's feature layout, the builder wanted to re-create the typical lineside 'furniture' of a Queensland sugar cane line. This scene shows a speed board/control point marker and a typical Queensland 'kangaroo' point lever. The lever was modified from the Uneek NSW 'ball' lever and the speed board/control point board was made by glueing thin styrene punched out with a hollow punch to a strip styrene post, which was then painted and decaled with home made decals. Photo by John Dennis.

Wallaville



Above: *Small 0-6-0 diesel hydraulic, 'Invicta' is used for cane haulage from the smaller, lightly laid branches in the Wallaville area. Here it is seen bringing a loaded train off the St. Kilda line, running in a narrow gap between fields of cane in typical fashion.*

Top of page: *Bundaberg Foundry-built 'Booyan' hauls a Bingera mill empty train across the ex-QR Currajong Creek bridge, which crosses the Goondoon-Wallaville road bridge, on the approach to Wallaville.*

***Lincoln Driver** describes his HOn2½ exhibition layout set in the cane fields of south east Queensland. Photos by John Dennis.*

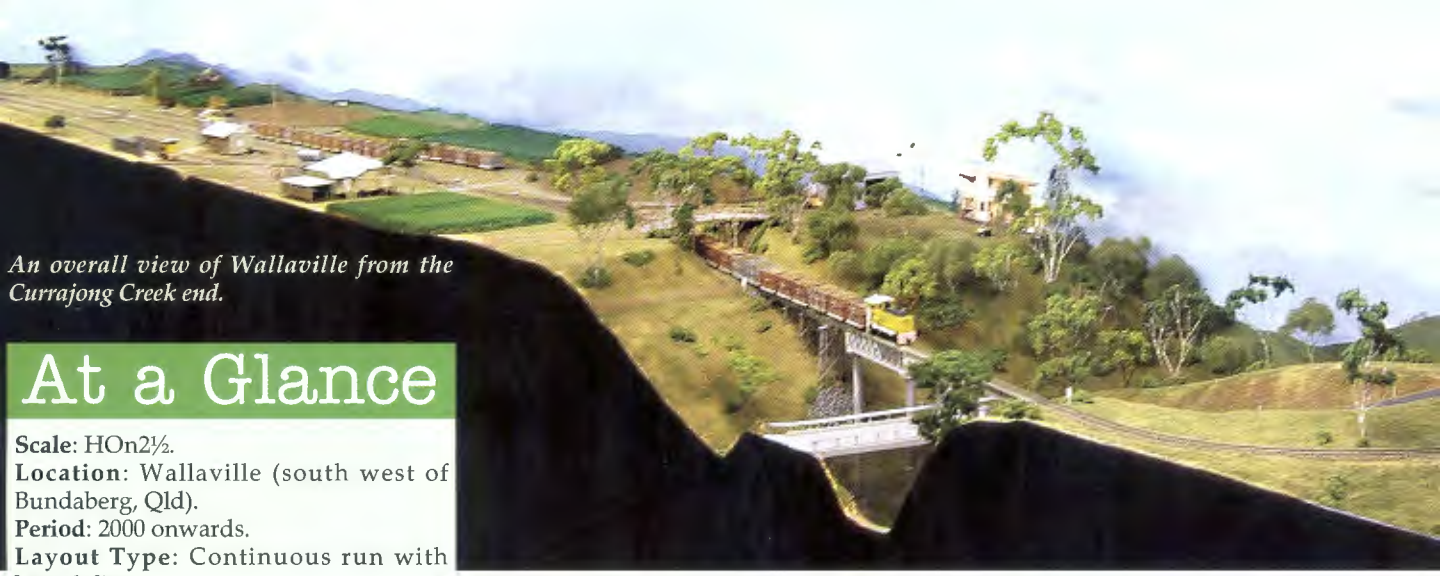
Introduction

This layout is an HOn2½ scale representation of the sugar cane railway marshalling yard that is situated 30 kilometres south west of the Bingera Sugar Mill in South Kolan, south west of the town of Bundaberg in south east Queensland. The area modelled represents the marshalling yard and the section of track that heads across the Currajong Creek Bridge towards the Bingera Sugar Mill. When I decided to build an exhibition layout there were two main criteria I wanted to meet, the layout had to be of high quality and it had to be based on an area within the Bundaberg district. Wallaville was an obvious choice as it presented an interesting layout operation opportunity.

My first involvement in building an exhibition layout was with the Bundaberg Model Railway Club's *Cordalba* layout (another HOn2½ cane layout) at age 16 in 1998, which gave me the motivation to build an exhibition layout of my own.

History

The Wallaville cane railway marshalling yard is owned and operated by Bundaberg Sugar and is a part of the Bingera Sugar Mill cane railway network. The marshalling yard at Wallaville occupies the site of the old 3ft 6in. gauge Queensland Government Railways station and yard. The old Gin Gin Sugar Mill, which was located a few hundred metres from the site of the current yards,



An overall view of Wallaville from the Currajong Creek end.

At a Glance

Scale: HOn2½.
Location: Wallaville (south west of Bundaberg, Qld).
Period: 2000 onwards.
Layout Type: Continuous run with branch line.
Layout Size: 6.3m x 1.5m.
Baseboard: Pine frame with MDF base, some L girder frame.
Track: Peco HOe (009) code 83 Crazy Track and N gauge concrete sleeper track, Peco points and motors.
Control: Standard DC with handheld throttles.
Scenery: Styrofoam, plaster, Woodland Scenics.
Rollingstock: Mostly scratchbuilt, some kits.

was bought out by the Bingera Sugar Mill in 1965. In 1973 the decision was made to close the Gin Gin mill at the end of the 1974 crush and transport all the cane to the Bingera Sugar Mill. The Gin Gin Mill had already converted nine miles of the closed twelve mile QGR Goondoon – Wallaville 3ft 6in. line to match the mill's two foot gauge network. The rest of the line was regauged as well as the Wallaville yard to allow the cane to be transported from Wallaville to Bingera. The 3ft 6in. line had been closed since 1964 and the formation was ideal for the mill's need to haul large trains quickly.

In 1974, some V12 high-geared E.M. Baldwin bogie locomotives were purchased for the specific task of hauling cane up and down the Wallaville line. All units were equipped with remote controlled slave equipment, the first of its kind for cane transportation. The three locomotives, *Oakwood, Givelda* and *Delan*, were delivered in 1975, but the slave train was not fully operational until 1977. Trains of up to 100 bins would be hauled, with one loco up front followed by 60 bins, the remote or slave loco and then a further 40 bins. When the line was re-gauged, the Wallaville yard layout was modified to marshal trains of this size in one big loop with a cross over in the middle of the loops. This allows easy placement of the slave loco in the middle of the rake of bins. When empty bins are brought from Bingera out to Wallaville the slave loco is placed at the rear of the train and is basically only used as a brake wagon (cane bins do not have air brakes fitted to them). Smaller 0-6-0 Comeng locos are based at Wallaville during the crushing to haul cane from the St Kilda and Gin Gin branch lines around the Wallaville area back to the yard. These locos then marshal the bins into suitably sized rakes for either slave trains or single loco hauled trains back to Bingera.

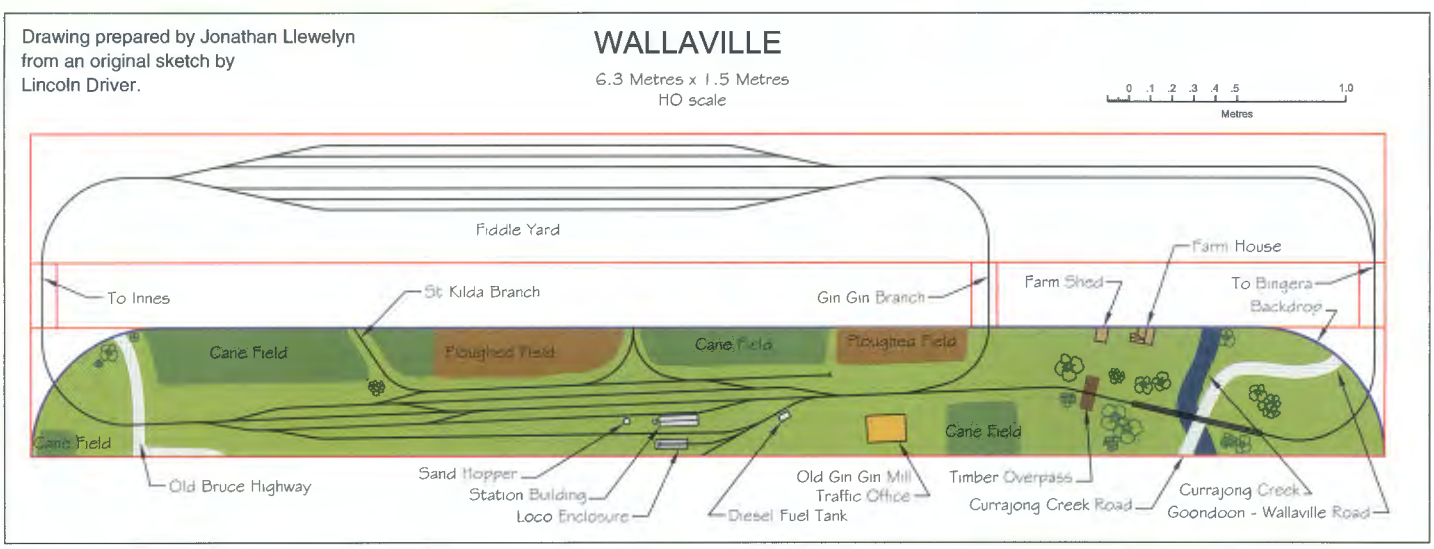
Top right: *EM Baldwin built 'Oakwood' works a load of full bins under the overbridge towards the Currajong Creek bridge.*

Bottom right: *EM Baldwin built B-B diesel hydraulic 'Calavos' crosses the old Bruce Highway with empties, bound for the cane fields beyond Wallaville. It looks like some members of the Ford car club are in town.*

Today, slave trains no longer run to Wallaville. This was a consequence of the de-regulation of the sugar industry in 2005, allowing farmers to choose which mill they want to send their cane to. At least 50% of farmers decided to send their cane to the Isis Central Sugar Mill. Subsequently there was no need for slave trains and only single loco hauled trains are used. Before de-regulation, two locos would work out of Wallaville, but now only one is used, with a second as a spare.

Planning and Construction

The idea for building the layout was conceived back in 2001, with construction on the layout starting in mid 2002. Progress was slow in the early stages of




CALAVOS

Above: *'Kolan', converted from a surplus ex-QR 3ft 6in. gauge DH class diesel hydraulic locomotive, arrives at Wallaville with 'fulls', while 'Booyan' stands in the yard on an empty train.*

Below: *The old QR station building is now used as a crew room. EM Baldwin 'Moorland' is standing adjacent on a train of 'fulls'. The mobile mechanic appears to be intensely interested in something on the other side of the crew room.*

construction and it wasn't until I set myself a deadline of May 2004 that progress sped up. The layout was completed in time for the 2004 Brisbane Miniature Train Show.

The layout dimensions are 21ft x 5ft (6.3m x 1.5m) and is divided into six modules (three front modules and three fiddle yard modules). The front and back modules are 2ft (600mm) wide and are joined via a 1ft (300mm) track insert. Track height off the ground measures 1.2m; however, the ground level drops below the track level as the line crosses the Currajong Creek Bridge.

The layout baseboards were built from 90mm x 19mm pine frame work, with 9mm MDF board on top and 3mm MDF board used for the roadbed.

The bridge module required 'L' girder frame work, which provides strength and rigidity. 25mm steel box section was used for module legs with a 16mm nut welded to the bottom. A 16mm bolt is then screwed in to the nut to give adjustable leg height to suit uneven surfaces. Cross braces were made from 25mm x 3mm flat steel bar and bolted between the legs. This makes a huge difference to the stability of the modules and is strongly recommended when building a portable layout. All of the steel work was done by my dad, who is a boilermaker by trade. The modules are bolted together with a sleeve arrangement, which contain a 12mm bolt. Each module join has two bolts holding them together. The backscene was made with 3mm MDF sheet and the ends of the back scene were curved from the back to the front of the layout to create a panoramic view with no visible corners. The back scene framework utilised 20mm box section bolted to the back of the layout. The backscene frame extends 600mm high and then extends forward to the front of the layout where a piece of 25mm x 3mm flat bar was welded to the front of the box section. A 6mm MDF valance board was then mounted on to this flat bar, this helps hide the layout lighting. Each module has a 1200mm and a 600mm fluorescent light fitting, mounted side by side on a 75mm x 9mm piece of pine which runs the full length of the module. The layout lighting is an integral part in the overall presentation of the layout and I feel good lighting is a 'must' for any layout. Black car carpet was glued onto the

EM Baldwin 0-6-0DH 'Rubyanna' heads out along the Gin Gin branch with more empties.

front of the valance board and the base board fascia. Once again this helps improve the aesthetics of the overall presentation of the layout. Heavy dark blue fabric was chosen for curtain material due to its less susceptibility to being blown around by large cooling fans at some exhibition sites, as well as the fact that you can not see through the material and see the layout legs and bracing. Thanks go to my mother for making the curtains.

Track work on *Wallaville* consists of Peco code 83 HOe (009) Crazy track for the yard, Gin Gin branch, St Kilda branch and the line towards Innes.

N gauge concrete sleeper track was used for the main line towards Bingera as per the prototype. Peco medium sized points were chosen for the main line turnouts and small sized points were used for the crossovers in the middle of the yard. Minimum radius curve on the main line is 450mm and 250mm on the Gin Gin branch line.

Scenery

The landscape on *Wallaville* was formed using the usual techniques of polystyrene foam covered with plaster. Earth coloured paints were mixed into the plaster before applying the plaster to the foam. This was done so that if it was damaged during transportation, the earth colour would show instead of white 'snow'.

Various Woodland Scenics grasses were used for ground cover. I mixed some dry coloured grass with some green coloured grass to cover most of the layout and found that this was the look I was after.

The majority of trees were made by Ian Shiels, a family friend and fellow railway modeller. The trees were made with copper wire twist formed, soldered and then painted with the appropriate colours. Foliage was then glued on to the branches.

At exhibitions, probably one of the most frequent questions we get asked is, "How did you make the cane fields?" A coir door mat, as can be purchased from a hardware store or a discount store is used for the cane fields. To replicate different sized cane fields I used two different styles of coir door mats, the first style of coir mat being a loosely woven high profile mat and the second being a tighter woven lower profile mat. The higher profile mat resembles a taller more mature cane, while the lower profile represents younger cane. The top halves of the mats were air brushed with various shades of green to represent the leafy part of the cane. The bottom half was air brushed with a light brown colour to represent the cane stalk.

The ploughed cane fields were accomplished using corrugated cardboard painted light brown and then covered with sifted dirt glued to the cardboard.

During the harvesting process any extraneous matter is blown out of the cane harvesters on to the fields. To model this I just added some fine cut millet straw broom to represent cane trash.

The water under the Currajong Creek Bridge was represented using a product called Envirotex. It is a two-part polymer resin that has no smell and can be applied in multiple layers without each layer being visible. Before applying the Envirotex, the bottom of the creek was painted a dark green, to resemble the coloured creek water. My tip when choosing a colour for the bottom of a creek is to do a trial run. I made a mock up creek with plaster in an ice cream container and painted several colours at the bottom and then poured some Envirotex over the top.

Buildings and Structures

All buildings on Wallaville, except for the farm shed, were scratchbuilt by me

The traffic office at Wallaville is the old station master's residence from QR days. Below we see 'Booyan' hauling a train of empties into Wallaville yard, while 'Kolan' passes the back of the house with 'fulls' on the right.

Above: *'Oakwood' crosses the Currajong Creek bridge with a train of loaded sugar cane bins.*

Left: *Cane is grown in paddocks adjacent to Wallaville yard, and here we see a harvester busy at work, dumping cane billets into the bin behind the tractor. When full, this bin will be dumped into an empty cane railway bin for transport to the mill.*

Left: *The cane has now been dumped into the last bin of the rake of empties, and shortly these vehicles will be attached to a loaded train to be taken to the Mill.*

from Evergreen styrene and North Eastern Scale lumber. The farm shed is a modified Walthers kit to suit the location on the layout. Two trips to Wallaville were made especially for the measuring of the station building, sand hopper, locomotive enclosure, diesel fuel tank, timber overpass and the old Gin Gin Mill Traffic office. I then proceeded to produce HO scale drawings for each of the structures. The diesel fuel tank was made with 20mm grey electrical conduit, the ends of which were filled with plastic and then placed in a lathe to turn the flat ends into curved ends. The sand hopper was made using 40mm diameter solid plastic and once again I used a lathe to turn down the tapered part of the hopper. Assorted types of sheet and strip plastics were used for the construction of the station building and the old Gin Gin Mill traffic office. Structural details from the Grandt Line range were used for

detailing of both buildings. The timber overpass was made using North Eastern Scale lumber and timber dowel from an art shop.

The Queenslander house adjacent to the farm shed is a photo of the actual house from Wallaville. My initial intention was to build a model of the house, however due to time constraints before the layout's debut at the Brisbane train show it was decided to use a photo to represent the house. The photo was taken with a digital camera, scaled down on a computer and printed on to photo quality paper.

The back scene was painted with acrylic paints by dad with help of photos of the area. Particular attention was paid to blending the back scene to the foreground to help create depth.

The Currajong Creek Bridge was built in a couple of stages; the first stage consisted of building the timber trestle section of the bridge. The trestles were built from 4mm timber dowel from an art shop. A jig was made for each of the trestles to help with the assembly. The second stage of construction involved making the concrete pylons and concrete spans. These were made from Evergreen plastic tubing and Plastruct 'I' beams. The centre truss span was a modified Peco bridge kit.

Electrical

A dual cab DC system, utilising handheld CDA throttles, is used to allow greater flexibility of operation during exhibitions; this allows two trains to be operated at the same time. Digital Command Control was never really an option when planning for the layout began, due to the physical size constraints of fitting decoders into the smaller cane locos.

The trains can be controlled from either end of the layout. However, the points control and power routing can only be controlled from the Innes end of the layout.

The Peco point motors are controlled via a push button route system. This is achieved by means of a diode matrix in conjunction with a capacitor discharge unit.

The flashing lights that protect the Old Bruce Highway crossing are modified Uneek flashing lights. These can be operated manually or used automatically by means of a Circuitron DT-2 Detection unit.

Comeng-built 0-6-0 DH 'Invicta' stands outside the loco enclosure at Wallaville, preparing to run a train. Inside the enclosure, EM Baldwin built, B-B 'Rubyanna' waits for its next rostered duty.

Clyde built 0-6-0DH 'Margam' stands in Wallaville yard on a ballast train, while a local farmer drags another load of cane to be dumped into bins waiting on the siding.

Bottom of page: *EM Baldwin built 'Calavos' works another trainload of empty bins over the old Bruce Highway level crossing*

Rollingstock and Farm Equipment

Due to the lack of commercially available cane locos, bins and maintenance wagons, there is no other choice but to make your own rollingstock. All locos operated on Walla-

Loco Name/No.	Wheel Arrangement	Builder
Kolan	B-B ex-QR DH class Walkers	Bundaberg Foundry
Elliott	B-B	Bundaberg Foundry
Booyan	B-B	Bundaberg Foundry
Oakwood	B-B	EM Baldwin
Givelda	B-B	EM Baldwin
Delan	B-B	EM Baldwin
Barolin	B-B	EM Baldwin
Calavos	B-B	EM Baldwin
Moorland	B-B	EM Baldwin
Burnett	0-6-0	Comeng
Invicta	0-6-0	Comeng
Rubyanna	0-6-0	EM Baldwin
Margam	0-6-0	Clyde
Beetle/Qunaba	0-4-2	EM Baldwin (ex mining loco)

ville, except one, were scratch built by myself; the exception being a Chivers Finelines 0-6-0 Clyde kit.

The current locomotive roster totals 14 diesel-hydraulic cane locos and is listed in the table above.

All the scratchbuilt locos were made from sheet and strip styrene. The bodies are built to fit American and British N scale loco mechanisms. Mechanisms used include LifeLike SW7 and SD7 diesel, plus 0-6-0 steam, Bachmann 2-6-2 steam and Graham Farish 0-6-0 diesel.

The cane bin fleet used on *Wallaville* comprises six tonne and five tonne two-axle bins. The cane bins were made using a polyurethane casting process that I learnt from John Dennis's and Peter Knife's *Dutton Bay Tramway* website: http://members.optushome.com.au/duttonbay/. The first step in this process involves building masters of the cane bin side, end and underframe. Moulding rubber is then poured over the master; polyurethane is then poured into the mould to produce the bin castings. The castings of the sides, ends and frame are glued together with superglue, painted red oxide, size 50 stainless steel mesh is fitted inside the bin, MicroTrains couplings and wheels are then fitted to the underframe. Bin numbers were printed on to yellow cardboard and glued to the side of the bin. Finally each bin is weathered with Floquil mud and rust colours using an airbrush. For full cane bins, a fine millet straw broom purchased from a discount store is cut up into 2-3mm lengths and glued into the bin with 50/50 water and PVA glue.

Carl Millington's model of Bundaberg Sugar's Plasser KMX 12T Tamper has made numerous appearances at exhibitions on Wallaville.

Several maintenance wagons were scratch built from sheet plastic; these include seven ballast bins, ballast reclaimer/plough, two bogie flat wagon, rail welding wagon (converted from a six tonne bin) and a bridge maintenance wagon (made from two five tonne bin frames).

Along with cane locos and cane bins, a cane railway layout can not be a cane layout without farm equipment; these include harvesters, tractors and haul out vehicles. A thanks goes to the following people; Tom Badger for use of his Toft 6000 Harvester, Peter Reinbott for use of his Toft 7000 Harvester and Carl Millington for his John Deere Tractors and associated farm equipment.

Acknowledgements

Builders and operators of *Wallaville* have included (in no particular order)

Carl Millington, Andrew Webb, Ian Shiels, Chris Pashley, Peter Reinbott and Geoff and Lincoln Driver

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