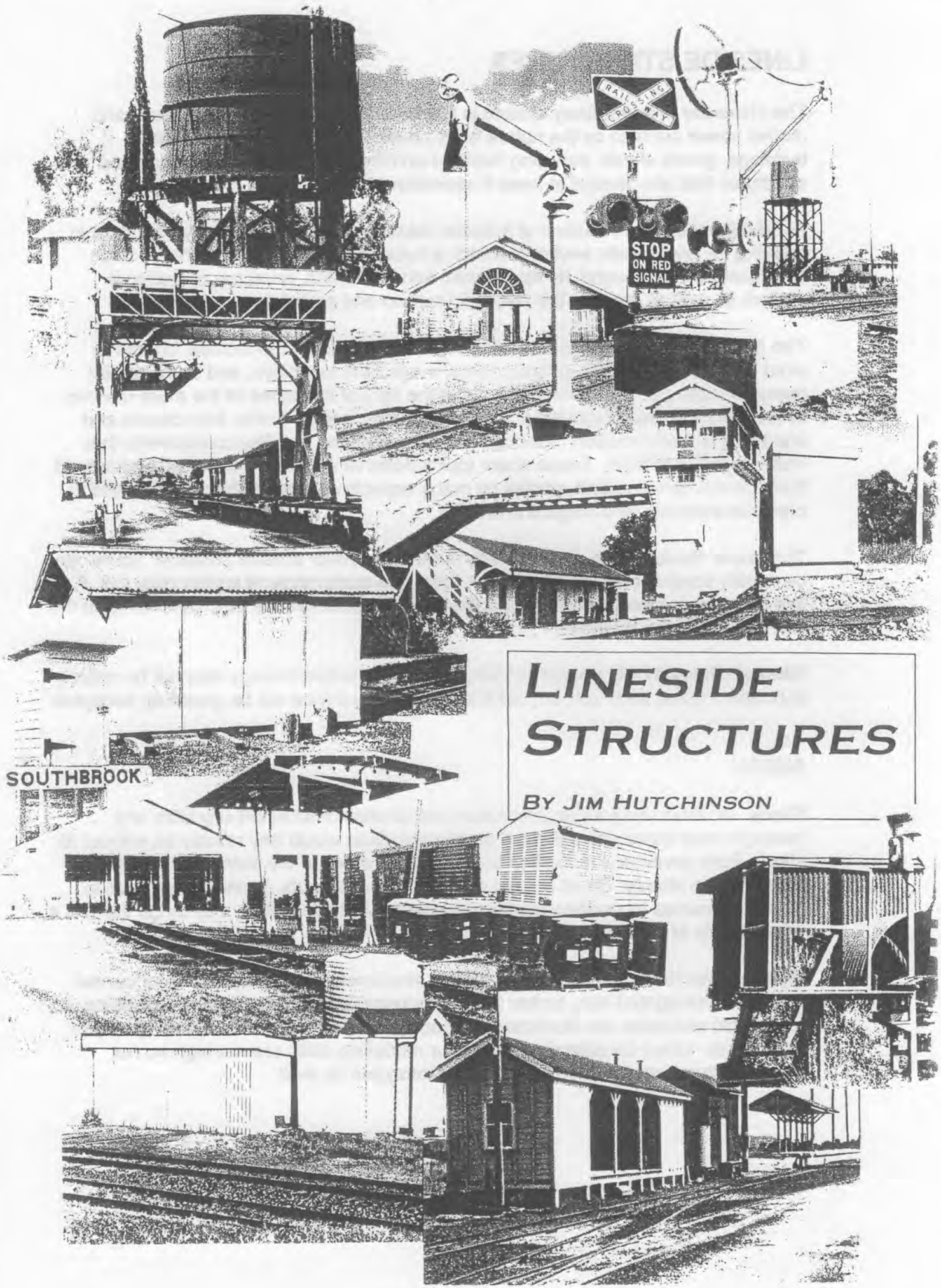


LINESIDE STRUCTURES

BY JIM HUTCHINSON

LINESIDE STRUCTURES

The character of any railway system is identified not only by its rolling stock and motive power but also by the nature of its physical infrastructure – station buildings, goods sheds, servicing facilities and the many other installations and structures that are needed to keep it operational.

For the modeller the inclusion of suitable lineside structures is equally important in creating an appropriate environment for a layout's theme, its *raison d'etre.* Such structures, when thoughtfully researched and presented, reinforce operational realism as well as defining the relevant location and period.

The greatest problem in a presentation like this is not what to include, but rather what to omit! The number of prototypical subjects is extensive, and there can be many variations of one basic entity, so in the light of this some of the more obvious structures have been bypassed. Station buildings, goods sheds, loco depots and signalling are not included (although there is reference to a few components that relate to their function). These major topics deserve separate treatment, and indeed there have been excellent articles on many aspects of these subjects presented in previous seminars and magazine articles.

This paper focuses on a range of less numerous and/or smaller subjects. Some can be readily scratch-built, and for others there is a good range of commercial kits. A few items may even be scratch-bashed from interstate outline kits, depending on the skill and will of the modeller.

Although the author is a keen modeller, some of the terminology may not be entirely accurate. Please bear with any such aberrations – advice will be gratefully accepted.

SHEDS

Sheds - a wonderfully all-encompassing description of what are arguably any railway's most basic and essential structures! What would any railway be without its *sheds*, from cavernous workshop buildings right down to the elementary lineside maintenance shanty. On all but the most extensive layouts, however, we have to restrict ourselves to small-to-medium structures, but even within this range there is a great variety of modelling possibilities.

Maintenance sheds were, and are, simple structures comprising skillion or curved roofs with corrugated-iron, timber battens or occasionally weatherboard cladding. A few typical examples are illustrated. It should be noted that the aesthetic quality of such sheds varied considerably, so if your modelling skills are not high do not despair – there were some pretty rough prototypes as well!

Even the most basic sheds can add to the presentation of a layout. These two structures stand in the yard approaching Ipswich Workshops. Their original purpose is unknown, but their very existence in the area contributes to its ambience.

Photo: Jim Hutchinson 2002

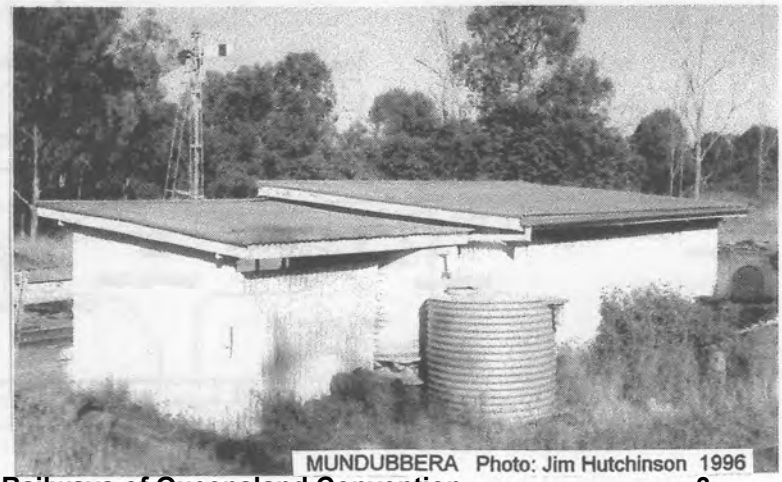
Maintenance sheds do not come much simpler than this example at Mt. Tyson. The collection of point levers, disused trolley wheels and discarded drums all contribute to its character.

Photo: Jim Hutchinson 1996

Trackside sheds do not necessarily have to present their 'front' facades – what happens at the back, away from the track, can be more interesting visually. Note also the curved roof, which is an alternative to the more usual skillion roofs.

COOROY Photo: Jim Hutchinson (1980's)

Water tanks were an essential accessory, especially in the more remote locations. They could be found alongside and/or behind the sheds. In this photo one tank is located under the roof between the sheds and another sits behind it.



MUNDUBBERA Photo: Jim Hutchinson 1996

The Brisbane Valley branch provided a wealth of inspiration for lineside structures. This photo of Harlin, taken about the time of closure, includes an open level crossing, interesting maintenance sheds in less-than-pristine condition, and a standard cream shed.

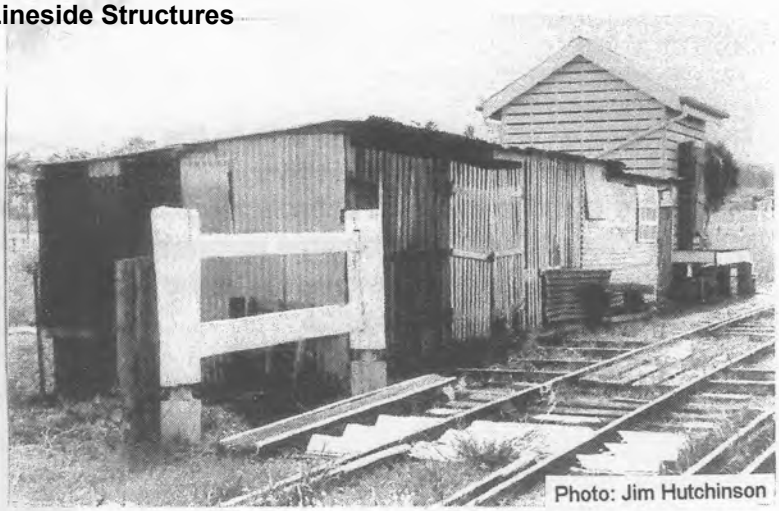
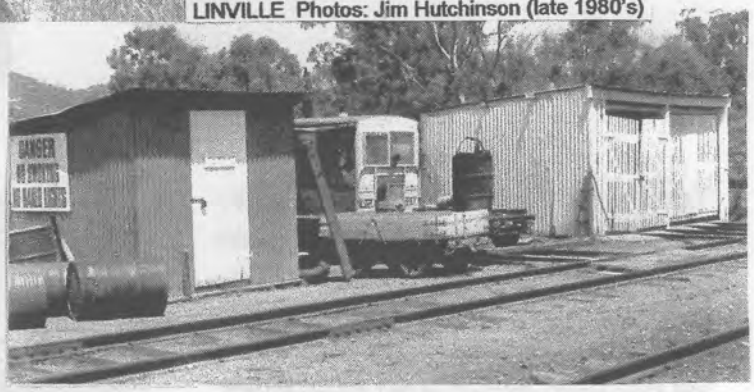


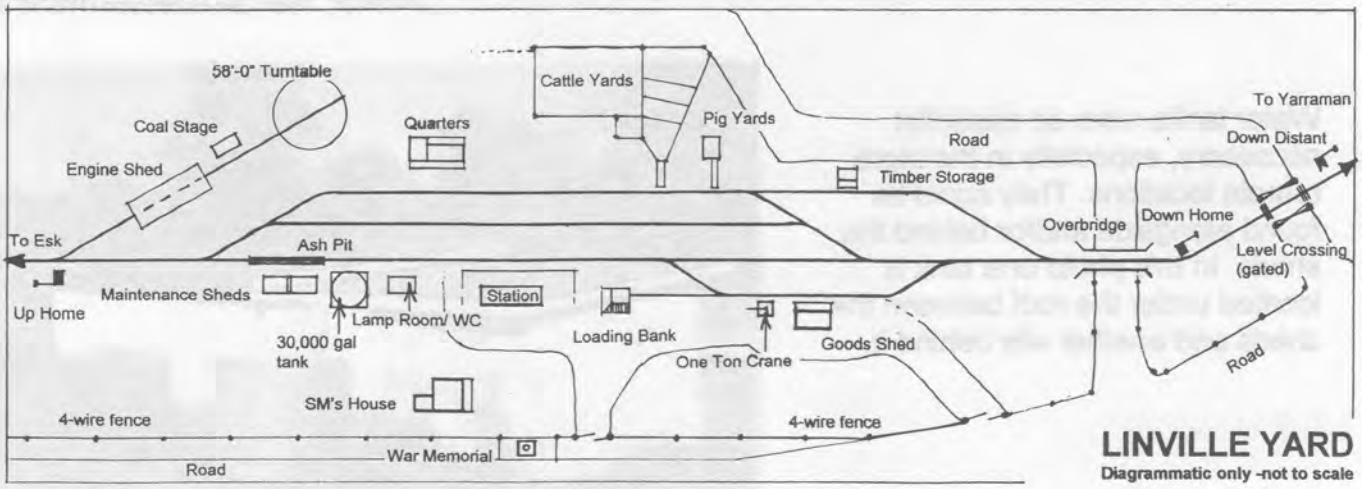
Photo: Jim Hutchinson

Linville was an important station on the Brisbane Valley Branch, for from here trains began their ascent of the Blackbutt Range heading towards Yarraman. At various times the yard facilities included a 58'-0" turntable (the pit is just visible in the lower left corner), a 30,000 gallon water tank, locomotive shed, ground level coal stage, goods shed and crane, cattle yards with loading ramp, as well as a comprehensive track maintenance facility. Crew quarters, a station master's residence and War Memorial in front of the station building completed the scene.

LINVILLE Photos: Jim Hutchinson (late 1980's)



For the modeller contemplating a typical / freelance layout, the facilities at Linville could provide a range of modelling opportunities. A diagrammatic yard layout, not to scale, is shown below.



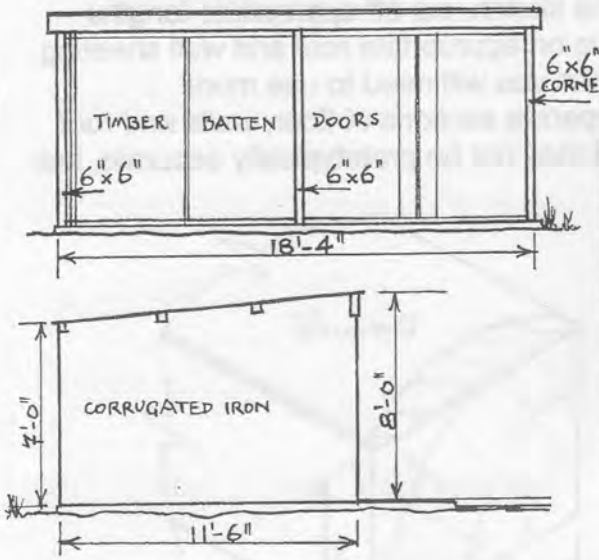



Photo: Jim Hutchinson 1995

LINVILLE TROLLEY SHED HO SCALE

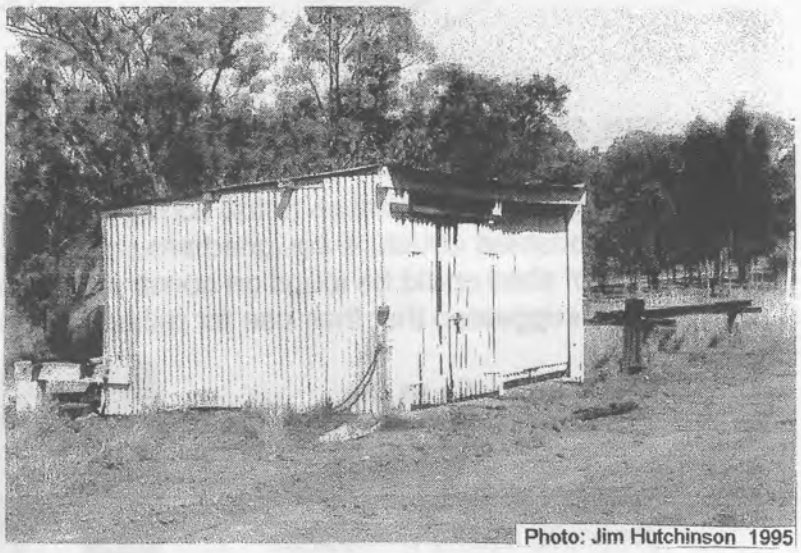


Photo: Jim Hutchinson 1995

Linville's trolley shed was typical of the maintenance structures that could be found alongside any section of track. Adjacent details like the rail rack alongside the shed add to its purpose.

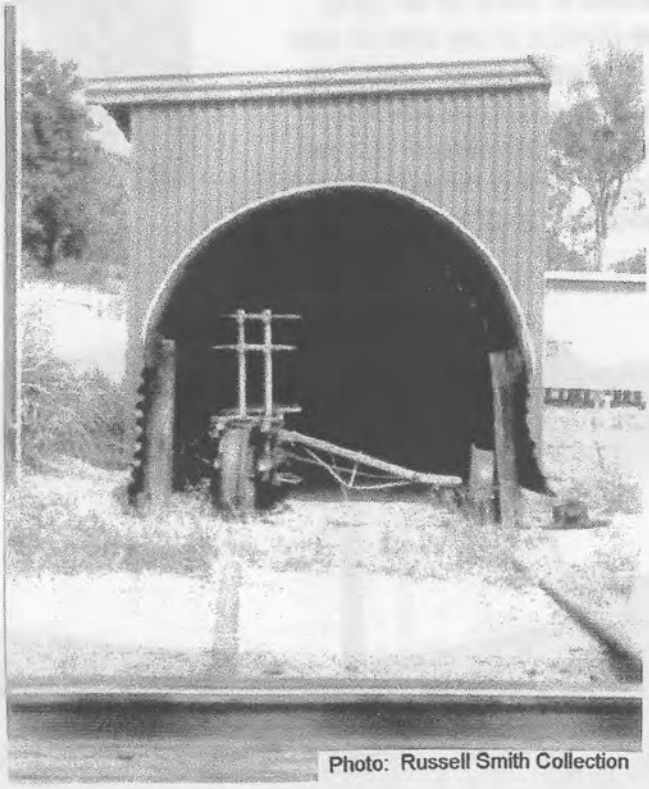
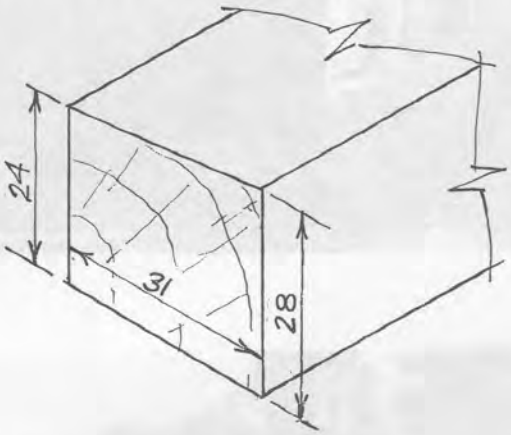
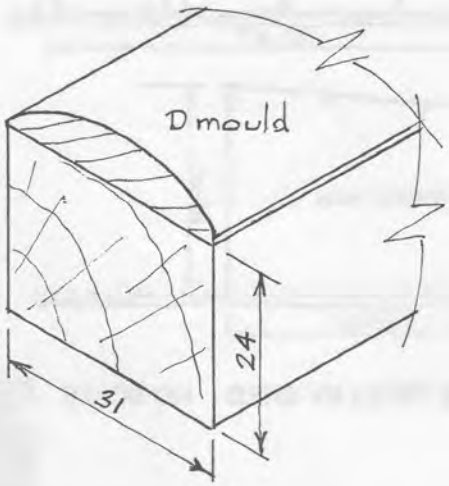


Photo: Russell Smith Collection

On the other hand the vaulted corrugated iron trike shed at Murphy's Creek provides an interestingly alternative approach to lineside detailing.

An easy way to produce a few track maintenance sheds (HO scale) is to shape a length of 31 mm square pine as shown in the sketch, cut off appropriate lengths – e.g. scale 8'-0", 12'-0", 16'-0", etc. – and glue on appropriate roof and wall sheeting. If you want your shed door(s) to be open, then you will need to use more sophisticated modelling techniques, with separate sections of floor, walls and roof. For a curved roof try a piece of D-mould – it may not be prototypically accurate, but for background sheds it should suffice.





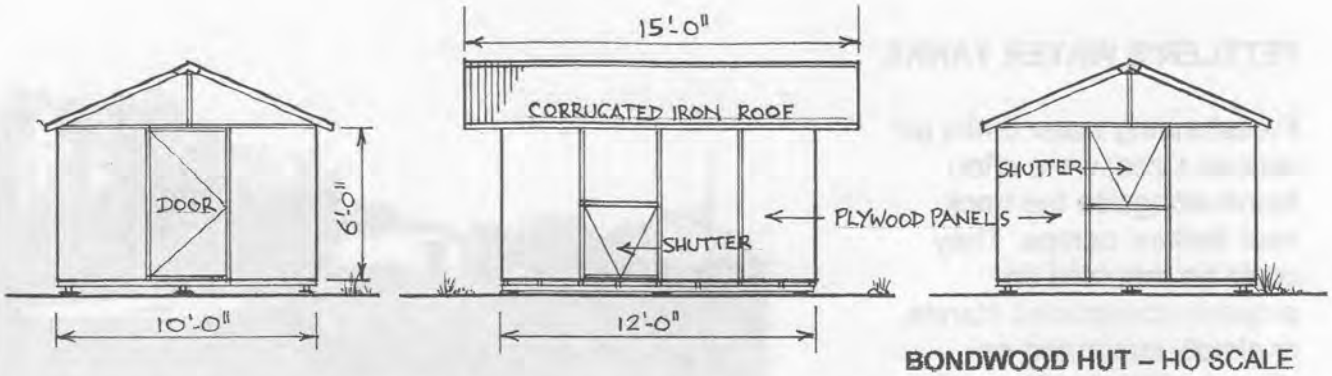
THE BONDWOOD HUT

An interesting alternative to the corrugated iron shed was the bondwood hut, a prefabricated structure designed around standard size sheets of ply. Although this type of shed could be found on construction sites throughout most of Australia, it has been suggested that their use for railway purposes was restricted to Queensland.

Known officially as the *Standard Portable Sectional Hut,* these structures could be adapted for all kinds of purposes. Being of modular design, they could be erected in various lengths. The photos show one in use as a storage shed, and the other as quarters which have incorporated a kitchen module sitting between two standard 12'-0" huts.

Photo: Arthur Hayes


Photo: Arthur Hayes

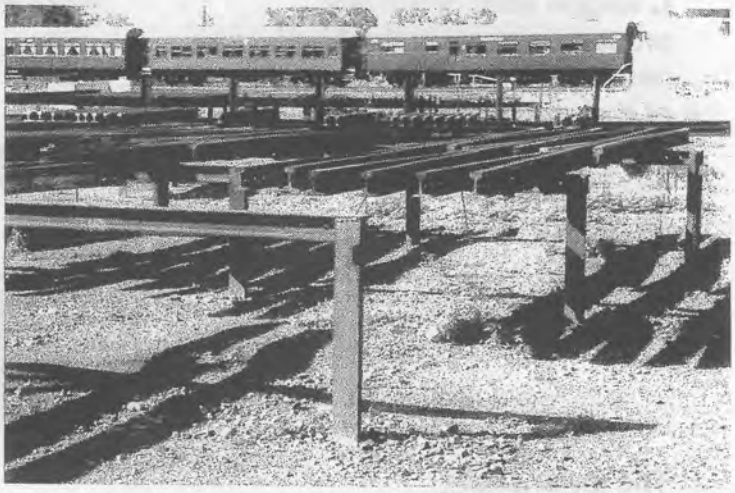


BONDWOOD HUT – HO SCALE

Bondwood huts were truly prefabricated demountable lineside structures. Each 12'-0' x 10'-0" unit comprised two side walls, two end walls with door or shutter, two floor sections and two roof panels, all of which were lightweight flat components that could be conveniently packaged for transportation to wherever they were needed. The walls were constructed from 3/8" (10 mm) exterior grade ply, and the roof was conventional corrugated galvanized iron. All components were bolted together on site, and the whole unit was supported on 'breeze-blocks', or some similar temporary footing. There were no windows provided, ventilation being afforded only via top-hinged plywood shutters as indicated in the drawing above. They were apparently used for a variety of purposes, although as crew accommodation the comfort conditions would have been highly questionable!

STORAGE RACKS

The lineside storage of long lengths of lineal materials such as rails is achieved by erecting frames, or racks, adjacent to the maintenance sheds. These racks are typically constructed of used rail, although any other suitable material may be employed. The extent of such storage depends on the size of the maintenance facility. The depot at Grandchester is relatively large and its rail storage installation (right) is extensive.



Photos: Jim Hutchinson 2002

Rails are not the only commodity stored above ground. The lower photo shows a collection of sleepers, bridge members and other timbers on racks at a depot to the west of Helidon.

FETTLER'S WATER TANKS

Freestanding water tanks (of various sizes) were often found alongside the track near fettlers' camps. They could be mounted on properly constructed stands, or simply supported on sleepers laid directly on the ground. This photo shows a typical collection at Kagaru on the standard gauge line.

Photo: Jim Hutchinson

RECYCLED WAGONS

It has been a long established practice to re-use condemned rolling stock as storage sheds. With wheels and bogies removed, they were supported on appropriate timber, steel or concrete bases, often with steps and landing added to facilitate access. They could be found in all situations from large goods yards to small country stations.

The photo to the right is of a C wagon sited on private property alongside the track near Rockhampton (a string of K wagons is just visible in the background). With a little imagination this could still be for railway use!

Photo: Peter Draper
Russell Smith Collection

The lower photo shows a camp wagon whose travelling days were over, but was still useful for yard storage. Photographer, date and location are not recorded, although it may have been at Wooloongabba.

Photo: Russell Smith Collection

As four wheel wagons were phased out of revenue service some were commandeered as lineside storage facilities. Of particular value were the metal bodied vans, many of which remain in good condition.

The top photo was taken at Emerald Loco Depot in 1996. The neatly arranged collection of drums around its base makes it even more interesting as a modelling subject.

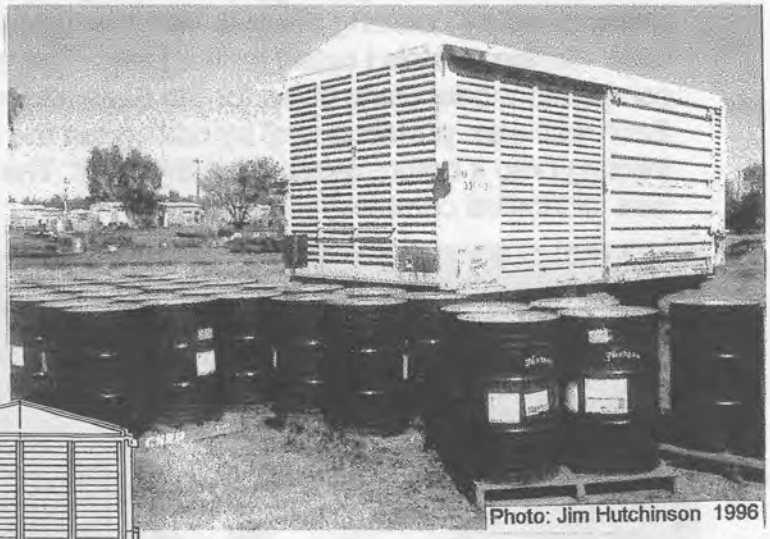
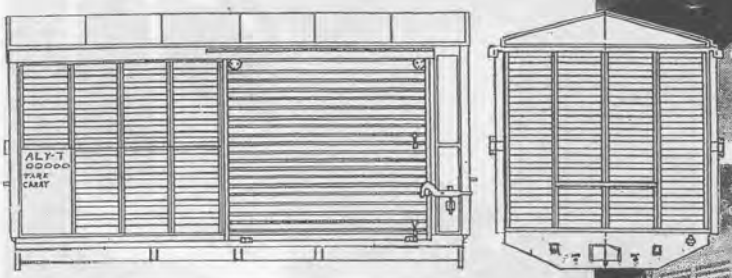


Photo: Jim Hutchinson 1996



At Gracemere, west of Rockhampton, three MALY-T vans (right) were placed end to end to provide a generous storage facility. The bodies were supported on a system of steel columns with the addition of a wide access platform and steps.

Photo: Jim Hutchinson 1996

WAITING SHEDS

Small waiting shed models are ideal for layouts where lineside space is at a premium. Prototypes were (and still are) found along main and branch lines, and although most do not see any passengers in the contemporary scene, some are still apparently utilised by train crews for safe-working procedures.

The facility at Ootann, between Mt. Surprise and Almaden, boasted two lever frames and the roof gutter at the rear suggests that there was once a water tank. Small details like the drum add further character.

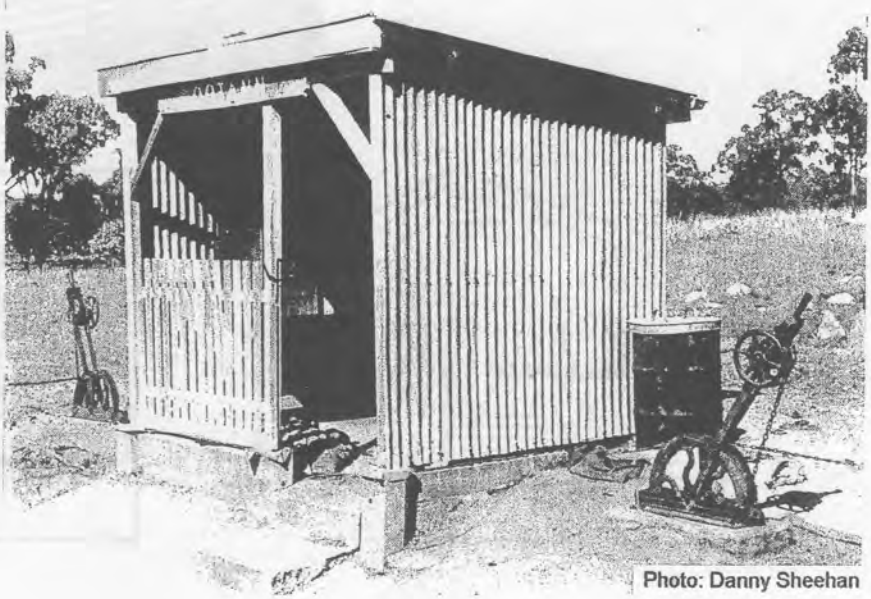
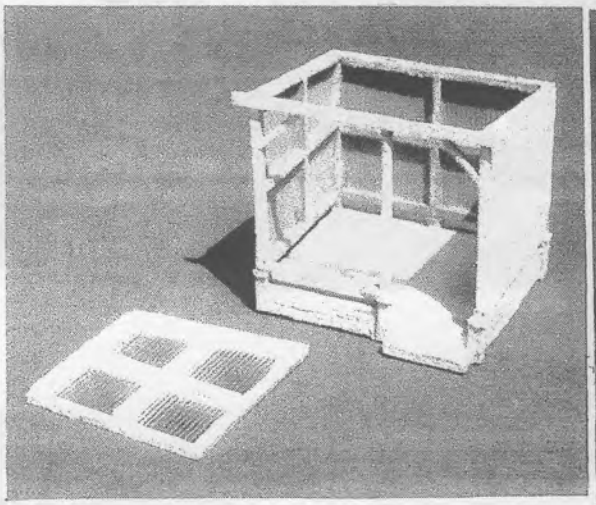
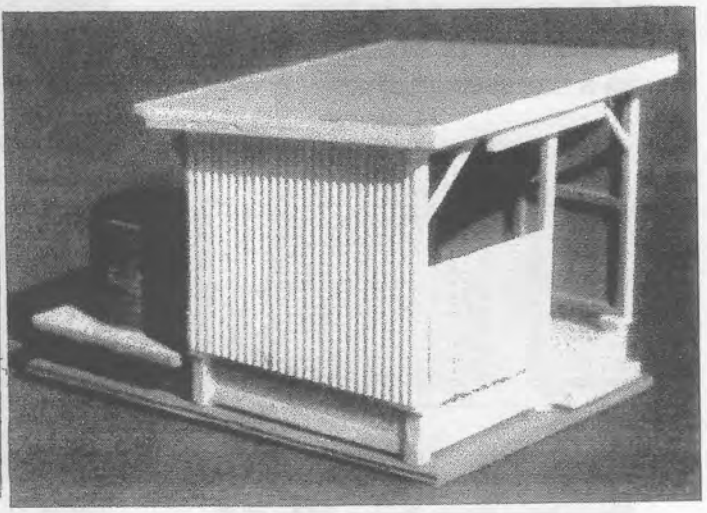


Photo: Danny Sheehan

This type of shed is easy to reproduce. The photos below show two models based on the Ootann prototype, which appears to be 8'-0" (2.44 m) deep (determined by counting the side-wall corrugations) and maybe eight or ten feet wide – in the models I opted for the latter. The left-hand photo shows a partially completed model using balsa for the base, stripwood and corrugated aluminium. Each wall was 'prefabricated' by cutting out the shape and then gluing the framing onto it before assembling the shell. The completed model on the right was fabricated completely from styrene.





A different type of outline is depicted by the little shelter at Traveston (right). Unlike the branch line shed above, which would have seen just a few trains each week, this structure sits right beside the main line to the north and is witness to many services daily.

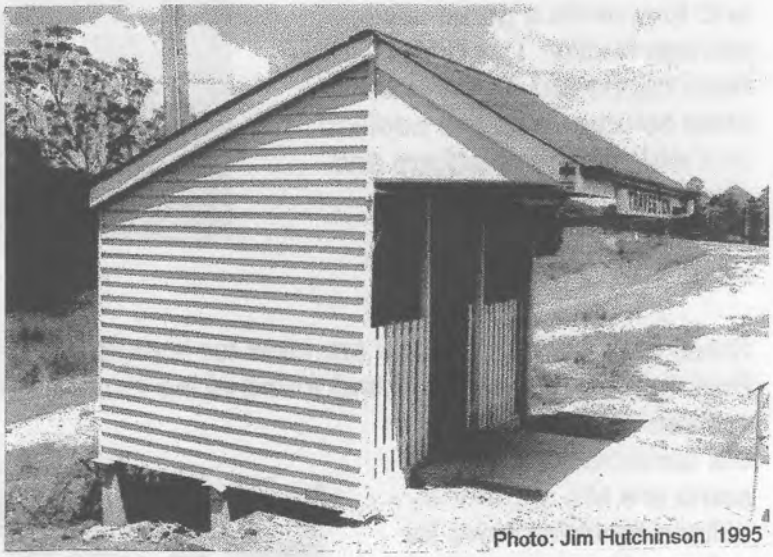
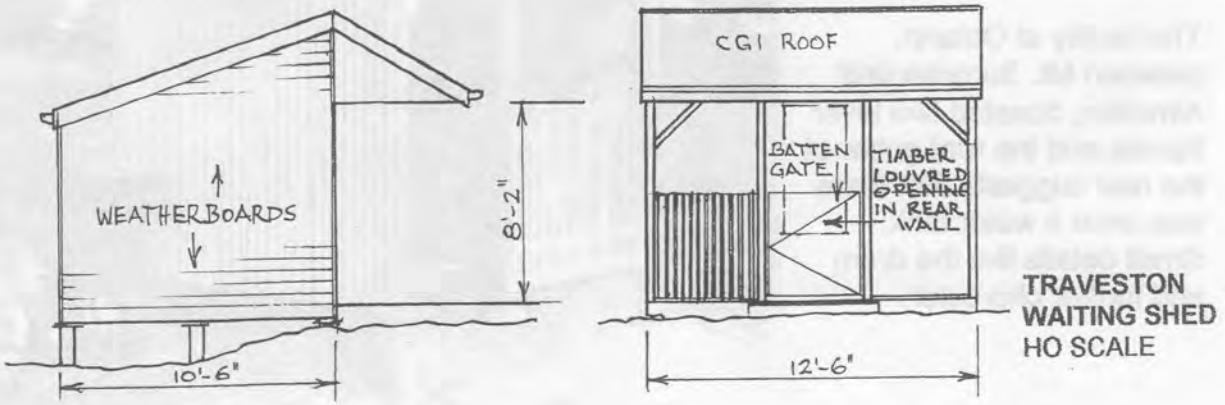


Photo: Jim Hutchinson 1995



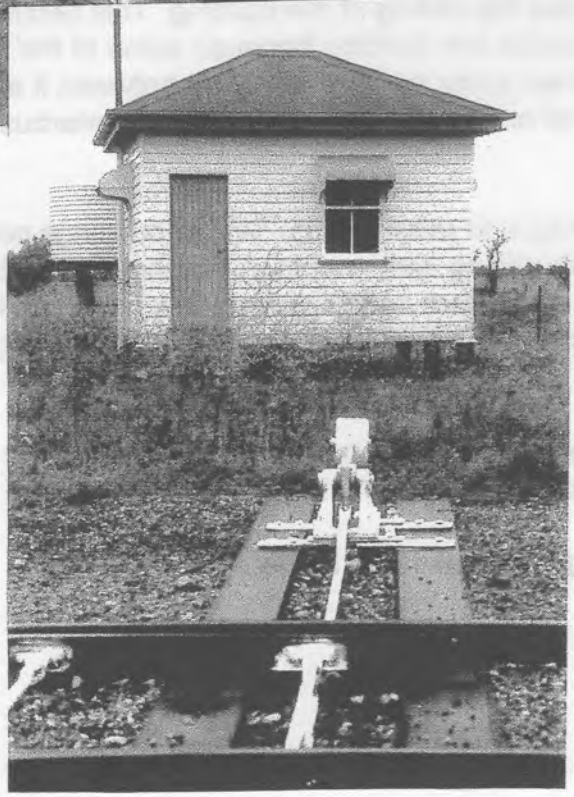
TRAVESTON WAITING SHED
HO SCALE

QUARTERS

Crew quarters could be found at most termini as well as at important changeover locations. They varied from small simple (primitive?) shelters to substantial barracks catering for large numbers. Unless one is modelling a specific major facility, the most appropriate type of accommodation would be some of the smaller units, a few of which are illustrated below.

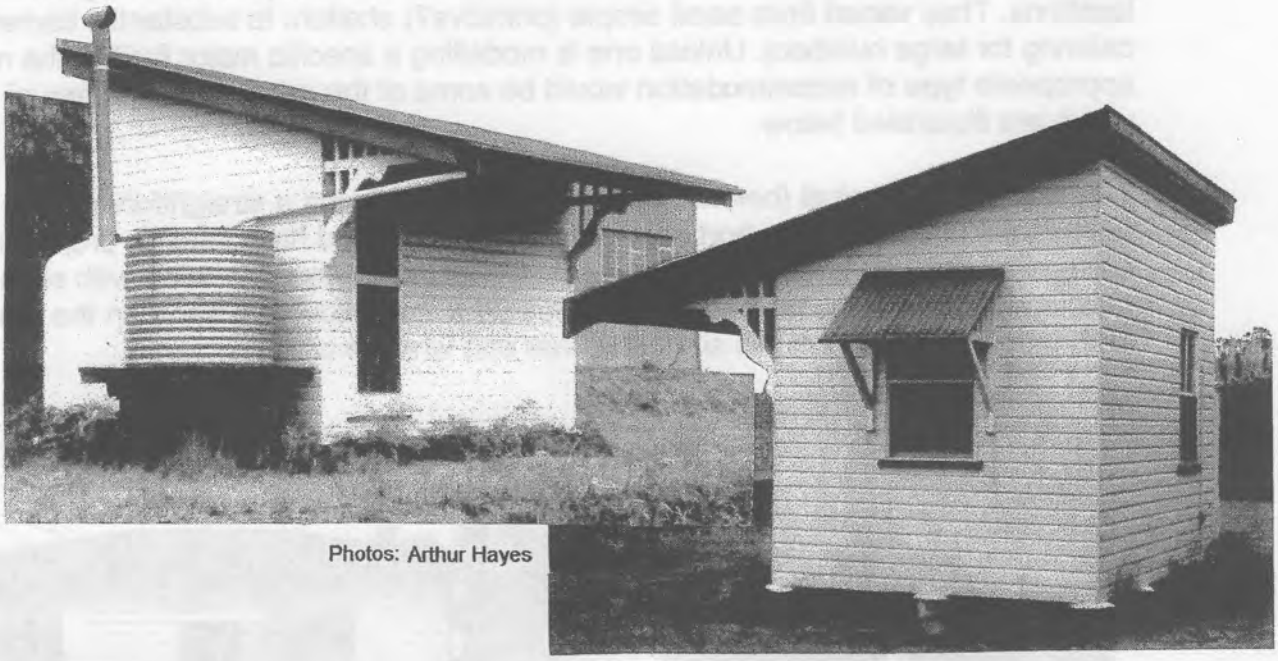
The quarters at Blackall (below) are a good example, being a straightforward hut rectangular in plan set on short stumps, with a low-pitched hip-roof. The projecting corrugated iron stove recess and tank are almost invariably associated with such buildings (although the tank obviously relies on a water source other than the roof). Modern concessions are the air-conditioner and wheelie-bins.

All Photos: Jim Hutchinson 1996



Another example, even smaller, was the Trainmens' Hut at Dirranbandi (left). A little cabin like this should be an easy modelling project.

While the Night Officer's quarters at Thulimbah (Southern Railway) obviously had its origins in the traditional form of a standard waiting or goods shed, it still exhibits the ubiquitous appendages of stove recess and water tank.



Photos: Arthur Hayes

'TENT' STRUCTURES

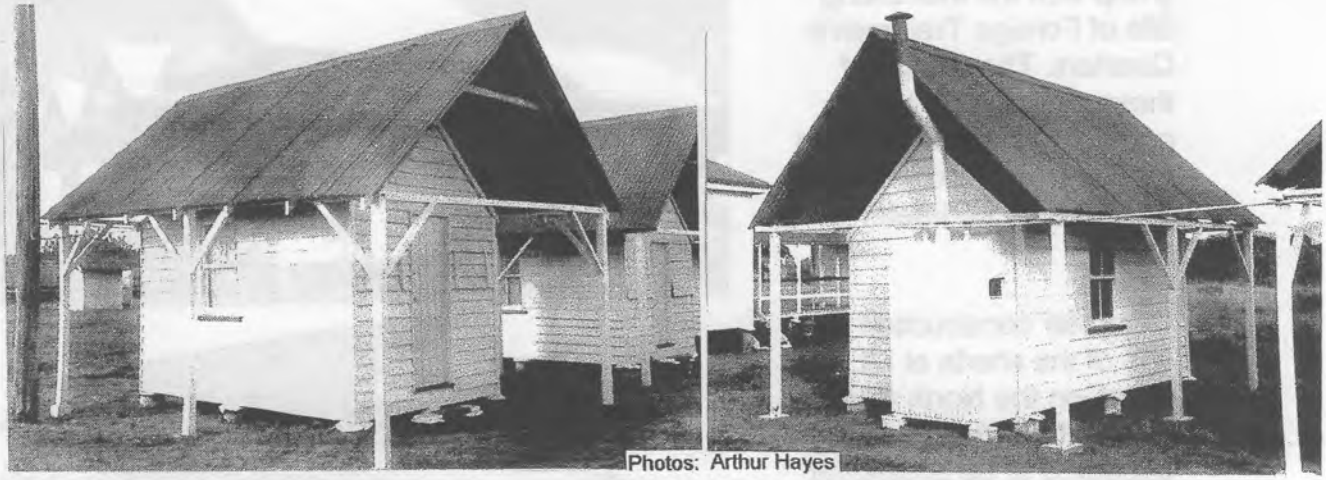
One of the more interesting forms of construction for lineside structures was the tent-roof house. It was of particular value in the hotter areas of the state, although examples could be found throughout the entire system.

The tent roof concept (also known as a 'parasol' roof) entailed the construction of a completely separate roof above the ceiling of the building. This second roof moderated the temperature inside the building because some of the heat transmitted through the top roof was carried away by the layer of air between it and the ceiling. To ensure an adequate rate of airflow there needed to be a generous gap between the two structures.

This building type was not unique to railway huts. Similar buildings could be found in other situations, particularly in mining settlements. A tent-house has been preserved in Mt. Isa as a heritage item. It appears that in general few have survived, although some railway examples, which were usually constructed to a fairly high standard, were still standing just a few years ago.

Improvements in insulation and the provision of air-conditioning have contributed to the phasing out of these unusual structures.

Some variations of this design are illustrated below.



Photos: Arthur Hayes

The crew accommodation at Yandina included the 'tent' structures shown above. In these photos the derivation of the name is obvious, with the oversailing separate roof resembling a fly suspended above the tent-like hut. Of interest also is the stove recess with its cranked flue.

The former Trainmen's Quarters at Forsayth (right) had the gable end sheeted with corrugated iron. This would have given extra protection from summer monsoon rains as well as additional shading from the hot tropical sun. The cross-bracing for the perimeter posts is also more substantial than the knee-bracing on the earlier examples.

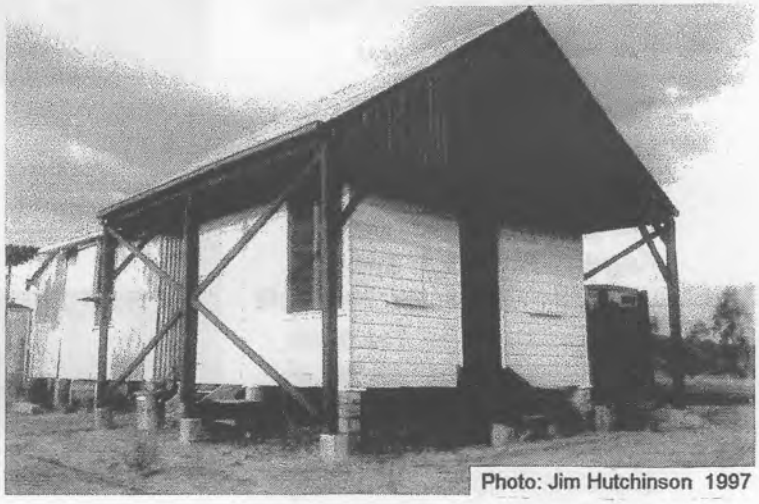


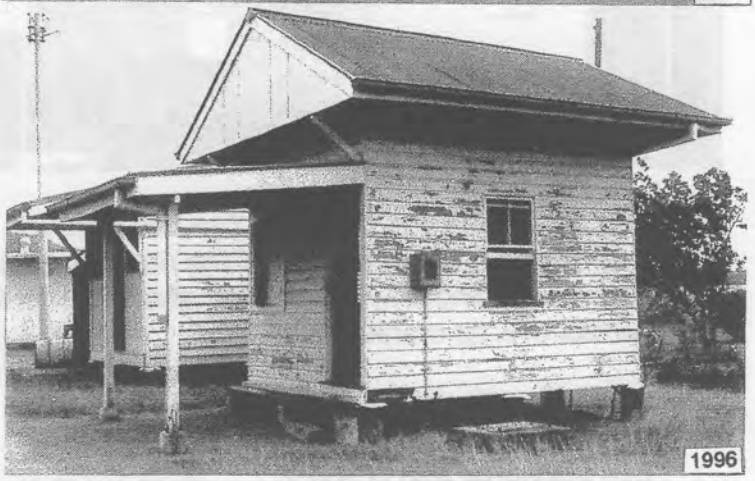
Photo: Jim Hutchinson 1997

St. Lawrence is an important crew interchange station and boasts an extensive collection of crew quarters. Amongst them is this extended version of the tent-roofed hut (right).

Photo: Jim Hutchinson 1996

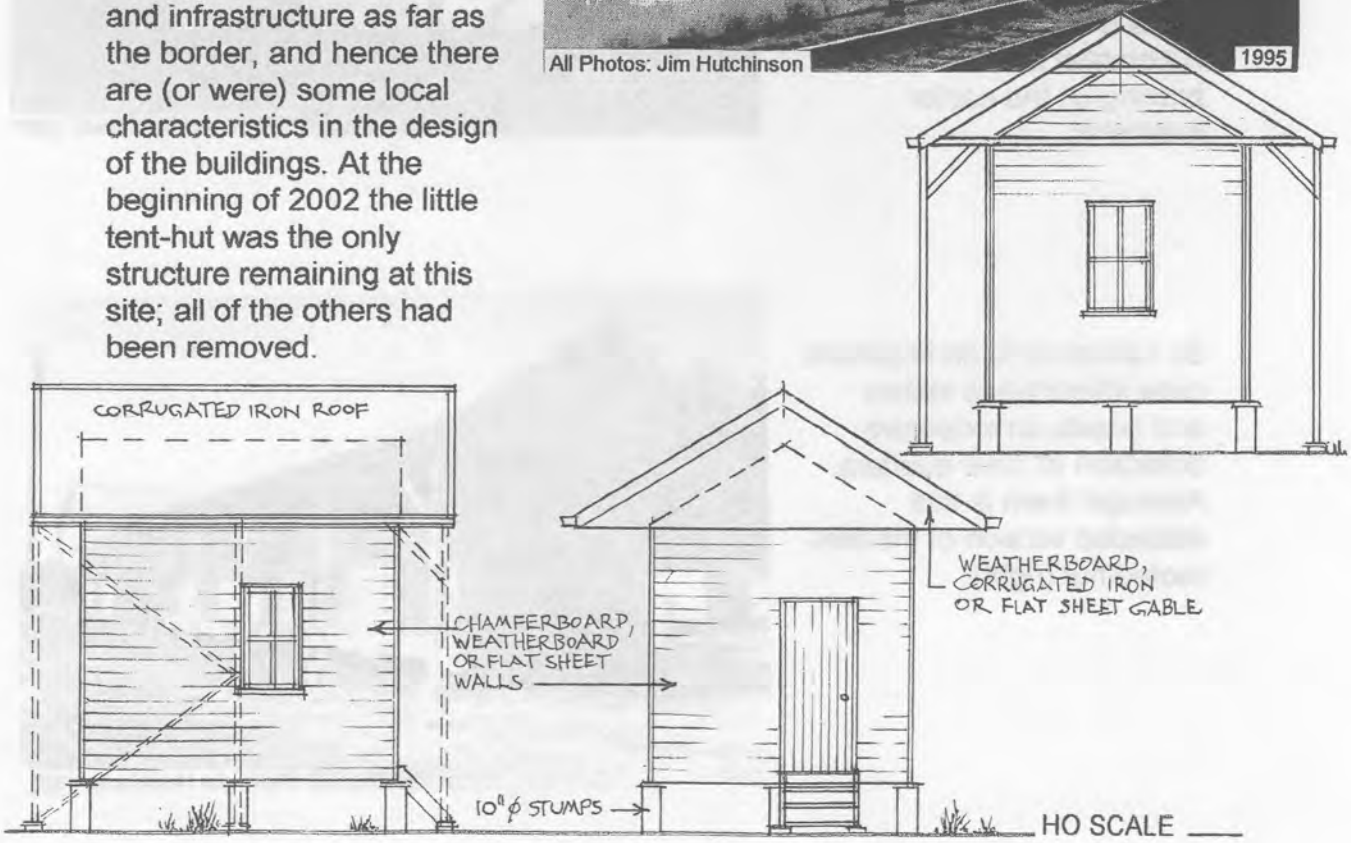
Also at St. Lawrence is this group with the interesting title of Foreign Trainmen's Quarters. The design of these differs in that the parasol roof is cantilevered off the main structure and there are no perimeter posts.

Of similar construction was one of the sheds at Mt. Ossa, on the North Coast Line. When photographed it appeared to be utilised for safeworking procedures, but its form is distinctly the same as the previous sleeping quarters, albeit with an additional awning attached to the front (facing the track).

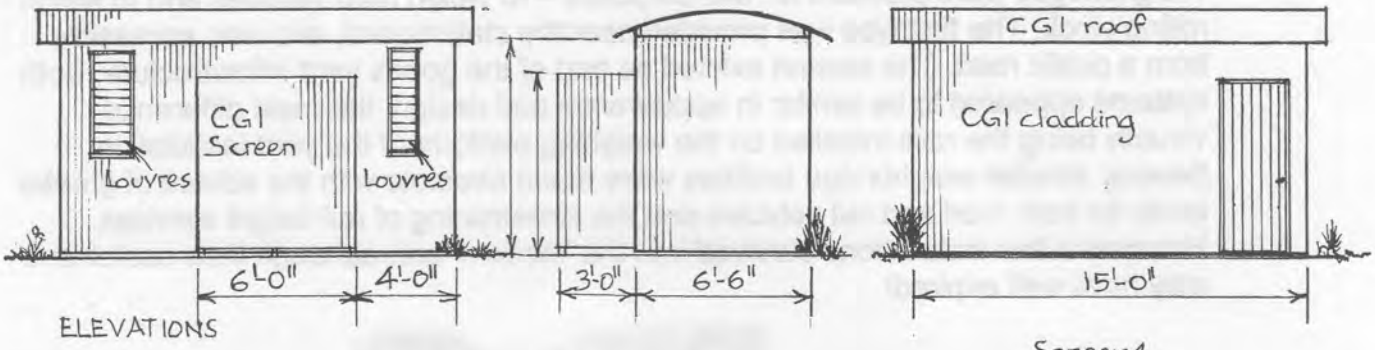


Tent-roof huts could be found in many parts of the state – one was included in the group of buildings at Kagaru. Although this is standard gauge territory, QR is responsible for the track and infrastructure as far as the border, and hence there are (or were) some local characteristics in the design of the buildings. At the beginning of 2002 the little tent-hut was the only structure remaining at this site; all of the others had been removed.

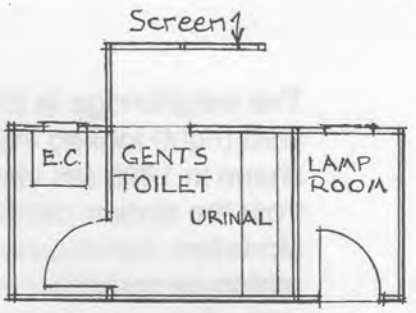
All Photos: Jim Hutchinson



LAMP ROOMS AND EARTH CLOSETS



ELEVATIONS



PLAN

HO SCALE

One of the more unusual combinations of functions under one roof was the integrated Lamp Room and Gent's Toilet facility. Segregation of the sexes had a high priority back in the 'good old days'. Ladies were accommodated within the station building – some station designs even allowed for a dedicated Ladies' Waiting Room.

However the fellas were obliged to wander down to a separate structure that was typically located towards one end of the platform. For whatever reason, it was often standard practice to combine the Gents' EC with the lamp room. One of these standard designs is shown above.

As technology improved earth closets were slowly phased out, but some of the little sheds continued in their lamp room role for the ensuing years. One such structure that survived until at least 1996 was at Gowrie (right).

Photo: Jim Hutchinson 1996

Some Gents' were sited even more remotely from the station building. Photographed in 1995 the convenience at Applethorpe made a definite but lonely statement. One hopes that the grass was kept well mown during the snake season.

Photo: Arthur Hayes

WEIGHBRIDGES

Weighbridges were provided for two purposes – to weigh road vehicles and to weigh rolling stock. The first type was provided near the station yard, and was accessible from a public road. The second existed as part of the goods yard infrastructure. Both systems appeared to be similar in appearance and design, the main difference visually being the rails installed on the weighing platform of the yard installation. Several smaller weighbridge facilities were made obsolete with the advent of greater loads for both road and rail vehicles and the streamlining of rail freight services. However a few installations survived into the 'modern' era, although their usefulness may have well expired!

The weighbridge in Emerald yard (right) looked in good shape in 1996 (as viewed from the station platfrom). Modellers conscious of prototype operation may take note of the warning notice that read '*Speed of engines over weighbridge must not exceed 16 km per hr.*'

Photo: Jim Hutchinson 1996

Closer to Brisbane the facility at Wacol was still standing as of April this year, although it appeared to have not been used for some time.

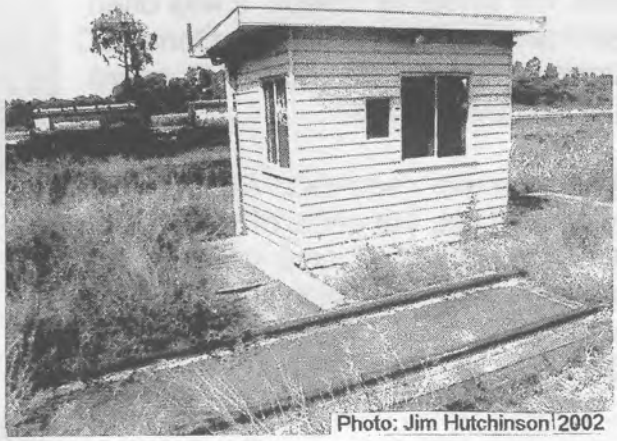


Photo: Jim Hutchinson 2002

Vehicular public weighbridges varied in their size. The small facility at Thangool had a 17'-0" long by 9'-0" wide platform that was complemented by a cabin just 8'-2" wide by 6'-2" deep.

Photo: Jim Hutchinson 1996

Newer installations catered for larger vehicles and loads, one example being that at Goomeri (right). The cabin, constructed in concrete blockwork with a 'flat' skillion roof, measures 4.06 m (13'-4") wide, 3.25 m (10'-8") deep by 2.44 m (8'-0") high.

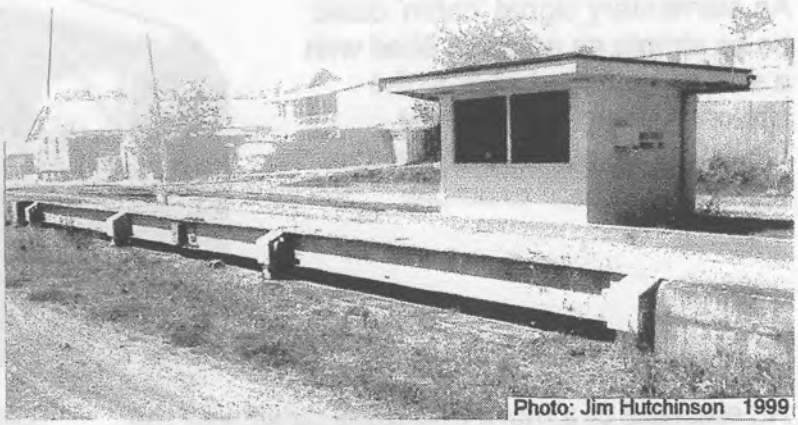


Photo: Jim Hutchinson 1999

The bridge is carried on four perimeter supports (photo right) at each side. Although it was not measured when the photo was taken, for modelling purposes a length of 12 metres (c 40'-0") or so would not be an unreasonable assumption.

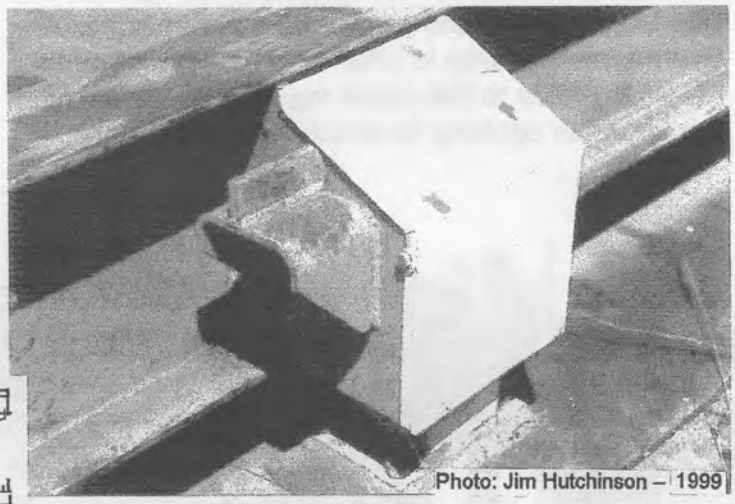
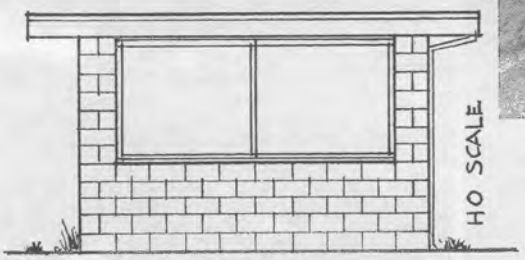


Photo: Jim Hutchinson – 1999



SIGNAL CABINS

Although signalling systems are not covered in this presentation, it is worthwhile making reference to signal cabins, which in earlier times were very identifiable lineside structures installed to control the safeworking of all manner of situations, from loops on single lines to complex yards and junctions.

Modern control systems have been responsible for the demise of almost all signal cabins in Queensland. However many modellers still have a preference for layouts that represent earlier (and arguably more interesting) periods, so the imagery of a signal cabin or two can still provide modelling enrichment.

Signal cabins were either freestanding or platform-mounted, with the latter being discrete structures or attached to the station building. They were generally constructed of timber or pre-cast concrete panels, although some of the larger installations, such as that still in use at Corinda, were brick or partly brick.

An elementary signal 'cabin' could be as simple as an open shed with a skillion roof sited near to the station building - the current facility on the platform at Helidon (right) is one such example.

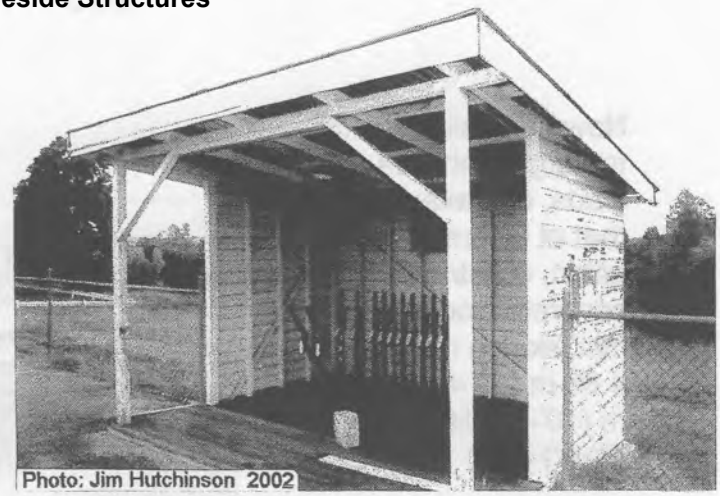


Photo: Jim Hutchinson 2002

An example of a more traditional cabin was the little building sited alongside the main building at Grantham. The way in which the points and signal rodding relates to the cabin may be of interest to the modeller seeking to provide greater detail.

Photo: Jim Hutchinson 1996

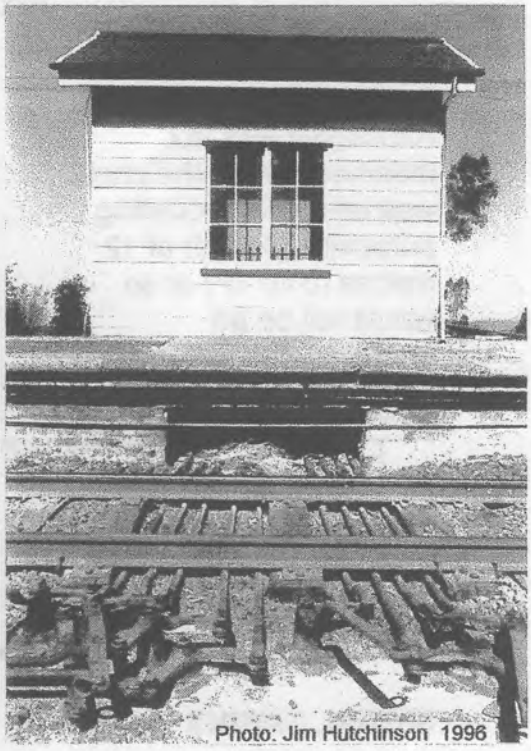
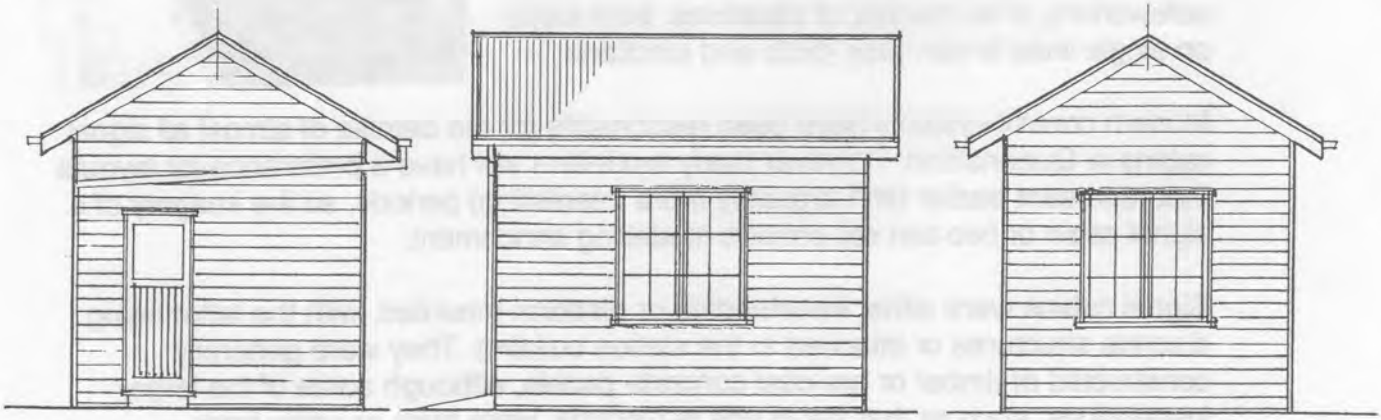


Photo: Jim Hutchinson 1996

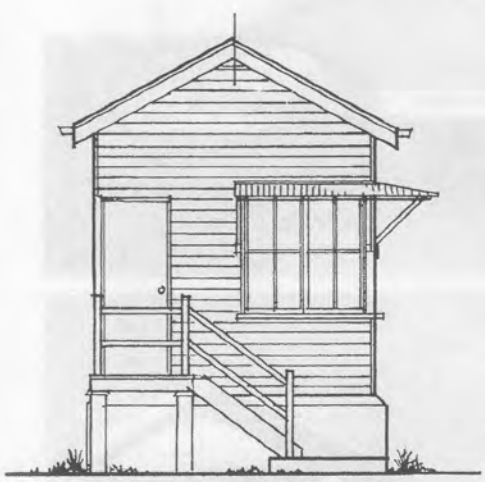


GRANTHAM SIGNAL CABIN – HO SCALE

If a visit to Bundaberg is being contemplated, an hour or two in the railway museum at North Bundaberg is time well spent. The signal cabin that forms part of this complex was originally located at Lowmead, and is representative of similar platform sited cabins that could be found throughout the system.

Photo: Jim Hutchinson 1999

One of the last surviving operational cabins was at Dalby, which continued to be used well into the 1990's. It was typical of a smaller type of freestanding unit.


SOUTH-EAST ELEVATION

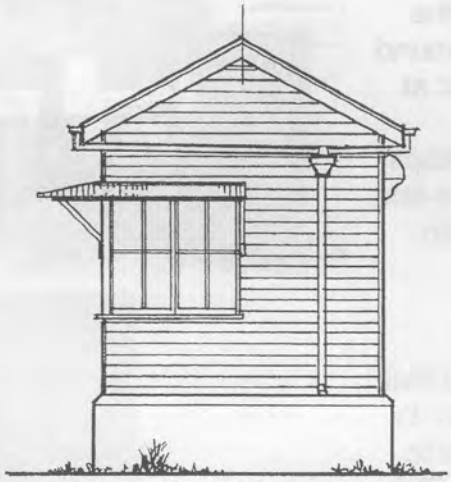
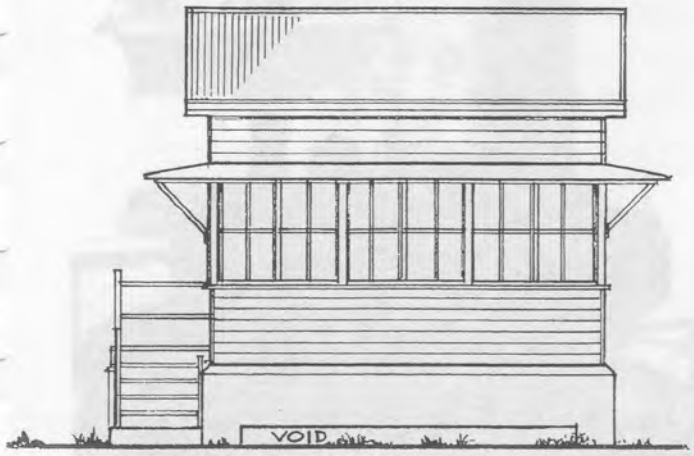
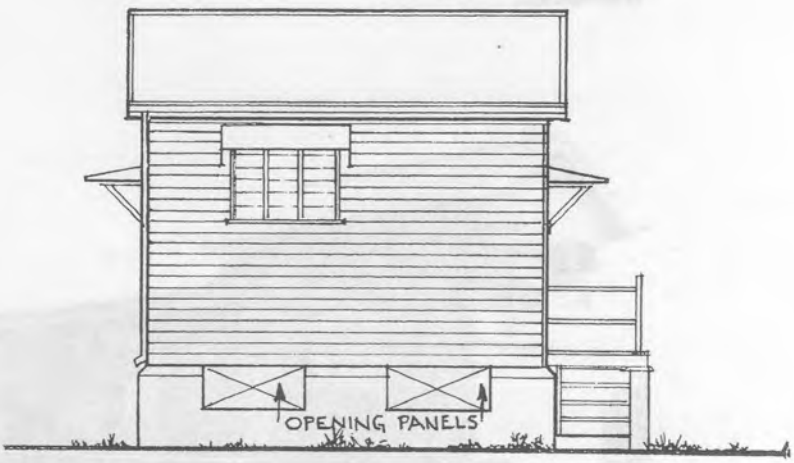

NORTH-WEST ELEVATION


Photo: Jim Hutchinson 1996



NORTH-EAST ELEVATION (FACING TRACK)



SOUTH-WEST ELEVATION

DALBY SIGNAL CABIN – HO SCALE

The siting of the Dalby cabin, close to a built-up area and with the hotel immediately behind it, may provide inspiration for a layout where a space is at a premium (isn't it always!) and there is a desire to include some relevant urban detail (suitably and selectively compressed, of course).

Photos: Jim Hutchinson 1996

A more modern version of a small signal cabin (right) was found and photographed at Hughenden in 1996.

Good visibility was an important requirement for signalmen, and to achieve this in a busy yard the height of the cabin above ground was critical. To control traffic at Ipswich, which included movements from the workshops as well as around the station and yard, a taller than usual cabin was provided (below right).

Wacol was also a busy yard that required a large signal cabin. In this instance it was attached to the station building (below). This particular structure has since been re-located to the Rosewood Museum.

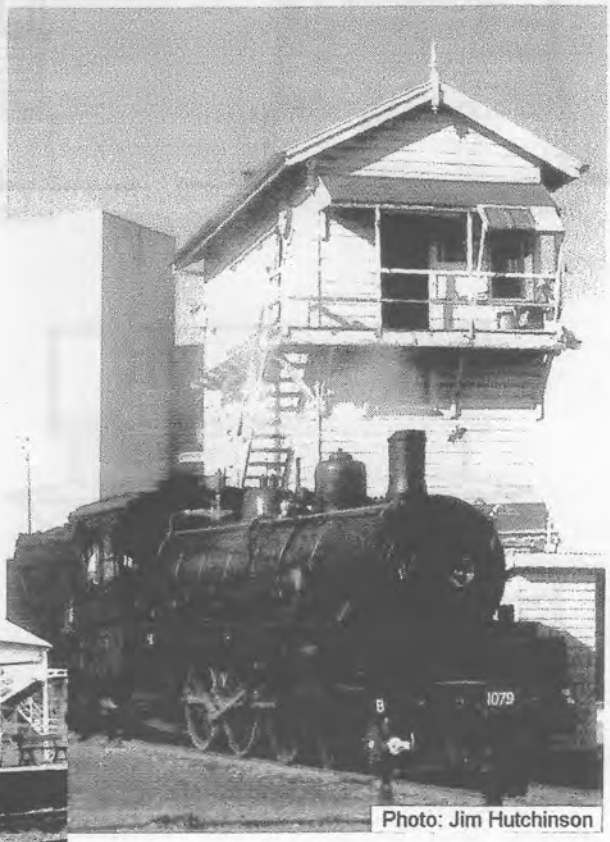


Photo: Jim Hutchinson

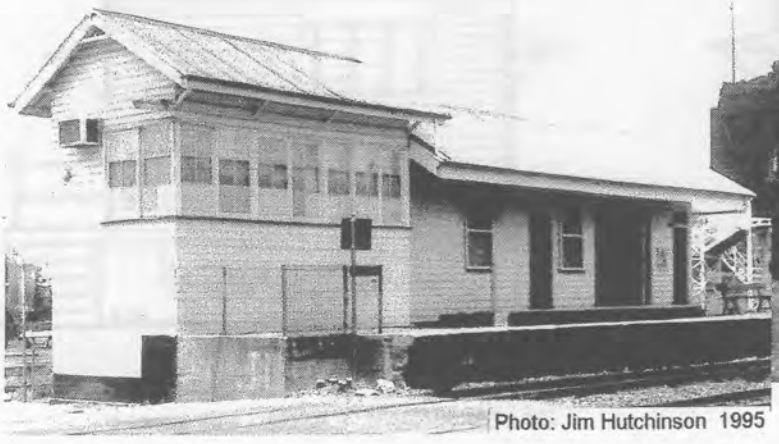


Photo: Jim Hutchinson 1995

OVER-BRIDGES

Few structures add to the three-dimensionality of a layout better than vehicular and pedestrian over-bridges, structures that trains pass *through* rather than pass *by*.

The simple timber trestles (or even simpler steel or concrete spans) of ***road*** over-bridges that straddle the track, however, require length and depth of landform for realistic road approaches that is not always available in the confined space of a layout. On the other hand ***pedestrian*** over-bridges, that are usually (but not always) erected in conjunction with a station, occupy less ground space but are far more complex to scratch-build. Either way there is a modelling challenge, but if achievable the effect is worth the effort.

Bridges for road and rail traffic are designed and constructed in much the same way, the main difference being in the loading (and therefore the spans and sizes of members) For modelling purposes there is usually very little difference visually.


Photo: Jim Hutchinson 1996

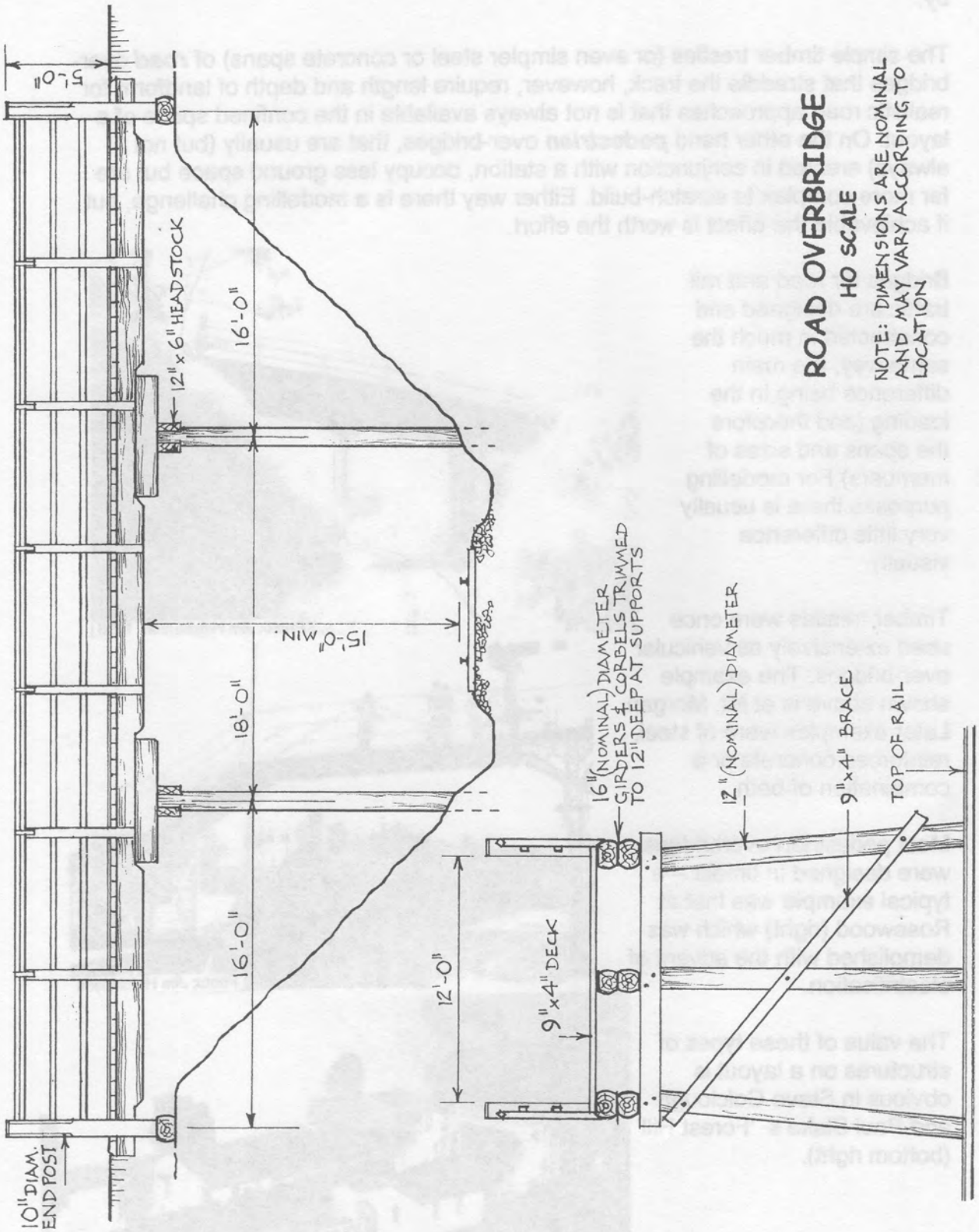
Timber trestles were once used extensively as vehicular over-bridges. The example shown above is at Mt. Morgan. Later examples were of steel, reinforced concrete or a combination of both.

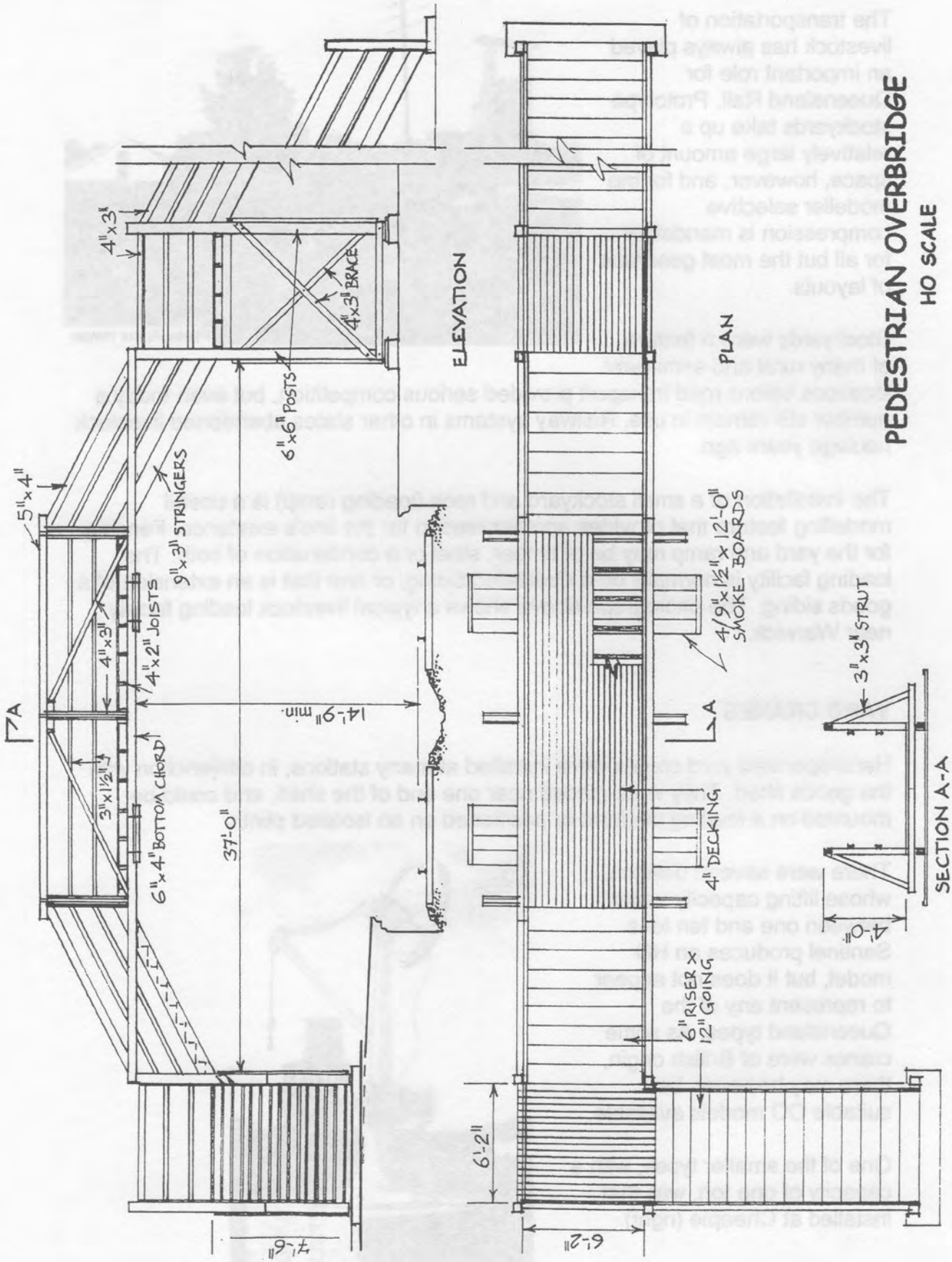

Photo: Jim Hutchinson

Most pedestrian overbridges were designed in timber – a typical example was that at Rosewood (right) which was demolished with the advent of electrification.

The value of these types of structures on a layout is obvious in Steve Colclough and Paul Blake's 'Forest Hill' (bottom right).


Photo: Jim Hutchinson 2000


5'-0"
12" x 6" HEADSTOCK
16'-0"
15'-0" MIN.
18'-0"
16'-0"
10" DIAM. END POST
12'-0"
9" x 4" DECK
16" (NOMINAL) DIAMETER GIRDERS & CORBELS TRIMMED TO 12" DEEP AT SUPPORTS
12" (NOMINAL) DIAMETER
9" x 4" BRACE
TOP OF RAIL
ROAD OVERBRIDGE
HO SCALE
NOTE: DIMENSIONS ARE NOMINAL AND MAY VARY ACCORDING TO LOCATION


PEDESTRIAN OVERBRIDGE
HO SCALE
ELEVATION
PLAN
SECTION A-A
4"x3"
4"x3" BRACE
6"x6" POSTS
9"x3" STRINGERS
5"x4"
4"x3"
4"x2" JOISTS
3"x1½"
6"x4" BOTTOM CHORD
37'-0"
14'-9" min.
7'-6"
A
A
4/9"x1½" x 12'-0" SMOKE BOARDS
4" DECKING
6" RISER x 12" GOING
6'-2"
6'-2"
3"x3" STRUT
4'-0"

STOCKYARDS

The transportation of livestock has always played an important role for Queensland Rail. Prototype stockyards take up a relatively large amount of space, however, and for the modeller selective compression is mandatory for all but the most generous of layouts.

Photo: Arthur Hayes

Stockyards were a feature of many rural and semi-rural locations before road transport provided serious competition, but even today a number still remain in use. Railway systems in other states abandoned livestock haulage years ago.

The installation of a small stockyard and race (loading ramp) is a useful modelling feature that provides another reason for the line's existence. Fencing for the yard and ramp may be of timber, steel or a combination of both. The loading facility is normally on a dedicated siding, or one that is an extension of a goods siding. The photograph above shows a typical livestock loading facility near Warwick.

YARD CRANES

Hand operated yard cranes were installed at many stations, in conjunction with the goods shed. They were placed near one end of the shed, and could be mounted on a loading platform or positioned on an isolated plinth.

There were several designs, whose lifting capacity varied between one and ten tons. Sentinel produces an HO model, but it does not appear to represent any of the Queensland types. As some cranes were of British origin, there may however be suitable OO models available.

One of the smaller types, with a capacity of one ton, was that installed at Cheepie (right).

Photo: Jim Hutchinson 1996

The same type of crane was part of the Toogoolawah yard (below) the major difference being its mounting on a free-standing timber platform instead of the simple concrete base of the previous example. Note the items around the goods shed that would add to the ambience of any modelling project.

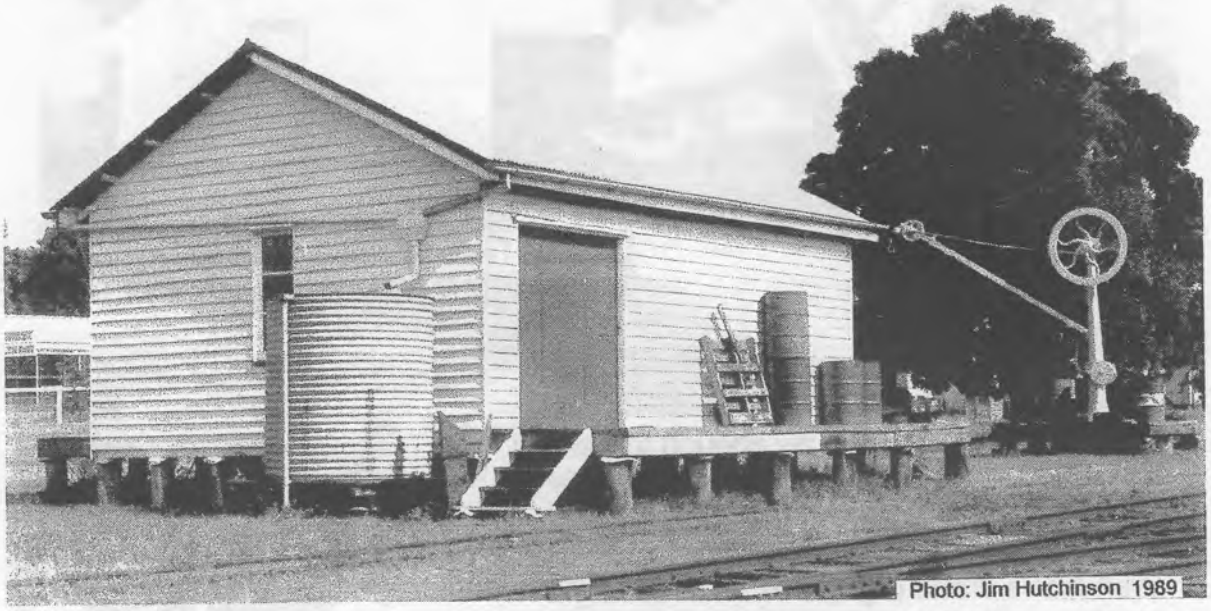


Photo: Jim Hutchinson 1989

The British engineering firm of Cowans, Sheldon & Co. supplied many of QR's cranes, and their 3-ton model could be found in yards throughout the state. The photo to the right shows the installation at Kilkivan, on the Kingaroy branch. Here the crane was placed on an extension of the timber framed goods shed platform. Also visible are miscellaneous details for the modeller seeking additional character.

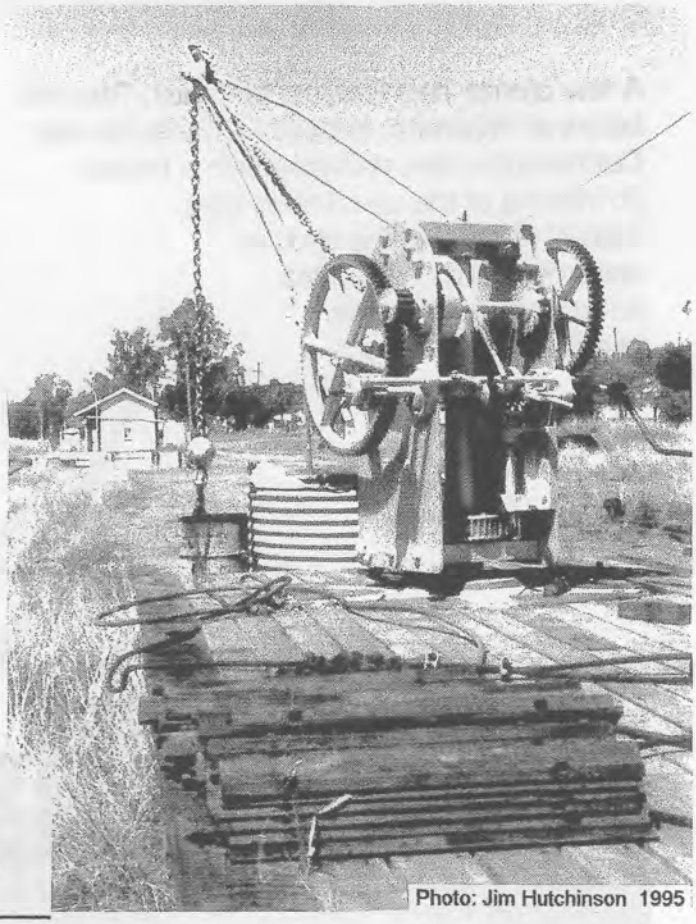
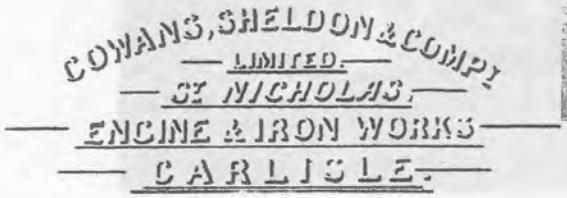


Photo: Jim Hutchinson 1995

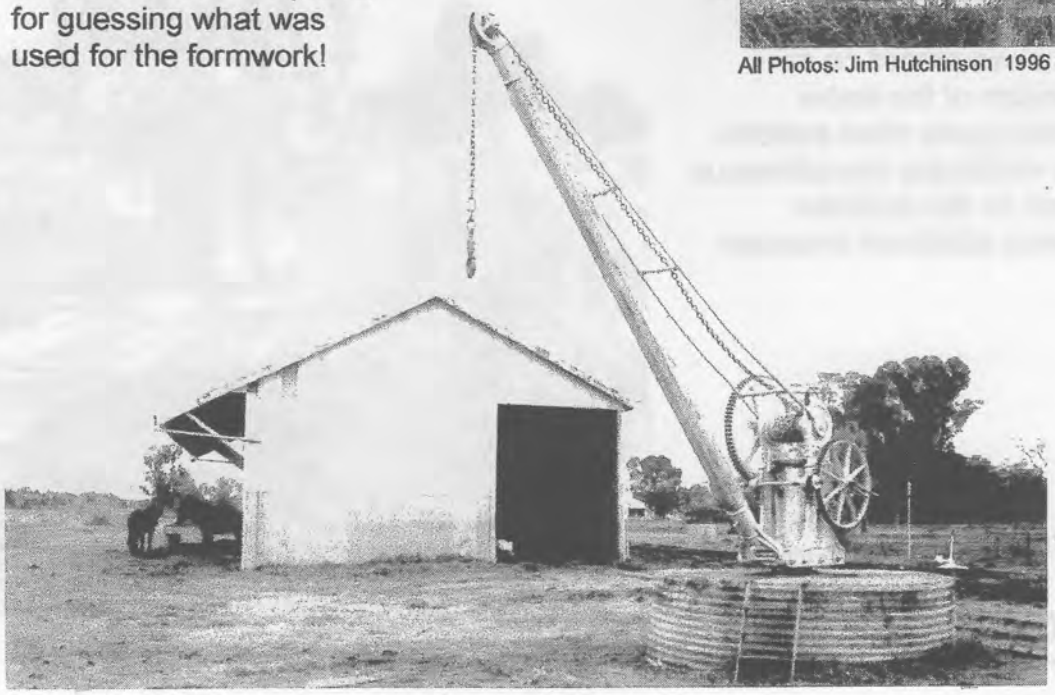


Gayndah (above) was busy enough to warrant a five ton model, which sat on a concrete faced loading platform adjoining the goods shed.

Wandoan's crane (right) was an even larger machine, with the ability to lift loads of up to ten tons.

A few cranes had unusual features. The unit below at Wyandra, between Charleville and Cunnamulla, was provided with a timber jib instead of the usual steel type. Also of interest is the circular concrete base – no prizes for guessing what was used for the formwork!

All Photos: Jim Hutchinson 1996



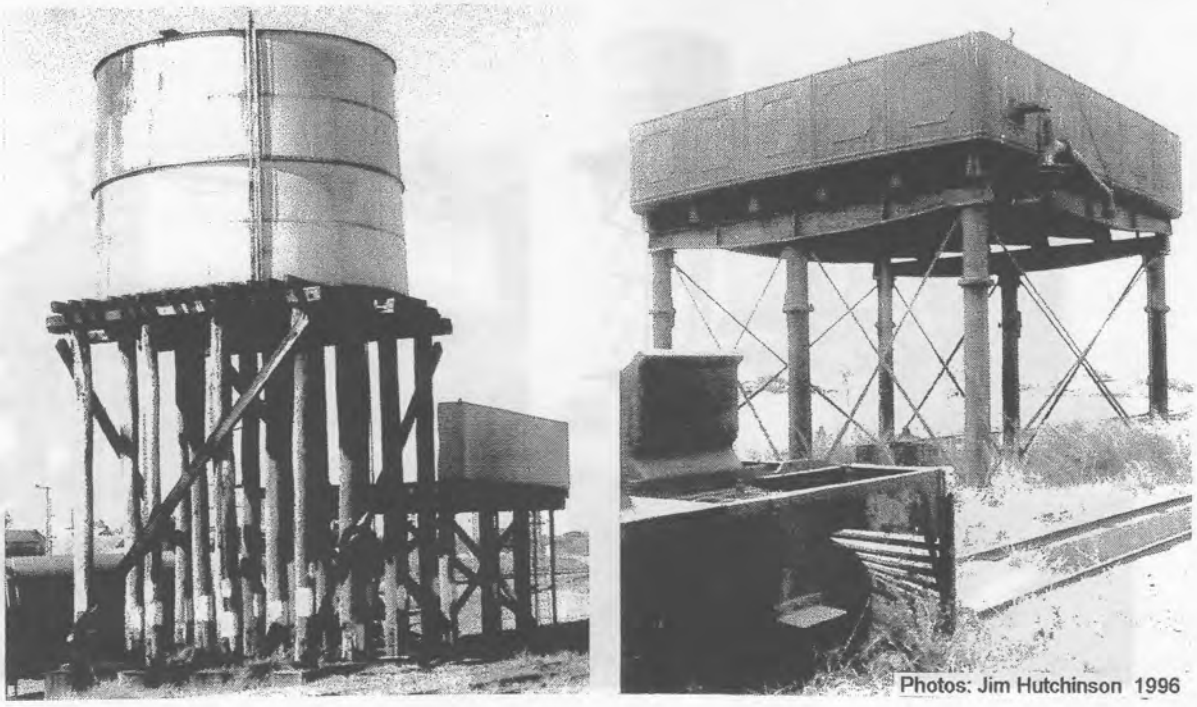
LOCOMOTIVE FACILITIES

Steam locos required to be serviced more frequently than their internal combustion successors, and in consequence the amount of lineside infrastructure in earlier days was much more in evidence. Modellers of the steam and transition eras will include the relevant structures as a matter of course, but the 'modern' image modeller may also legitimately include remnants of these facilities to add visual interest to the layout. Prototypical relics can still be found - some derelict, some recycled in-situ for alternative use, some relocated and refurbished for community use. A few facilities of steam age origin (e.g. sand bins or the occasional turntable) have continued to find employment in the age of dieselisation.

WATER TANKS:

Watering facilities were required at regular intervals. There was a variety of tank styles, both square and circular. The larger cylindrical designs, with a nominal capacity of 30,000 gallons (c 136 kilolitres) were distributed far and wide – they were covered in some detail in the article 'Tins into Tanks' in AMRM No 220 – February 2000. Square tanks were equally prevalent and came in a variety of sizes. Earlier examples comprised square cast iron panels that were bolted together, similar to their counterparts south of the border. This system allowed great flexibility in providing a tank of the 'right' capacity for any given locality. The configuration could be one or two panels high by any number between two and six wide and deep.

The type of tank erected at a particular location was arguably determined by chronology and availability, and doubtless some were relocated from other sites. The high-set tapered cylindrical tank and its lower square welded companion form an interesting duo in Rockhampton yard (below left). The tank at Normanton (below right) consists of five bolted panels on each side and is supported on a fairly unique system of cast iron columns and fish-belly beams.



Photos: Jim Hutchinson 1996

Two well-known tanks between Brisbane and Toowoomba are at Grandchester (below left) and Murphy's Creek (below right). Close inspection shows a top row of embossed panels and a bottom row of plain panels on the former, with a reversed order on the latter. The Silvermaz (Casula Hobbies) kit is a good starting point to produce models of these types of tanks. The sides can be cut down to any desired panel configuration, and if the construction of a framed base is too daunting, the Grandchester prototype can be copied.

Photo: Arthur Hayes 2002

Photo: Jim Hutchinson 1998

Some tanks, both circular and square, were roofed over, a feature clearly seen on the tank at Bogantungan (below left). From the modelling point of view, a roof obviates the need to fill the tank with any 'water'.

With changing technology some later tanks were rivetted or welded. At Many Peaks (Monto Loop) a distinctive pattern of rivets is visible (below right).

Photos: Jim Hutchinson 1996

A different set-up was in place at Glenapp, north of the border ranges on the interstate line. Instead of the usual lineside tank, the supply came from a circular concrete reservoir set partly into the hillside above the station (photos right) complete with associated pumping and treatment equipment.

Photo: Jim Hutchinson 2000

In a modelling application this approach would require some additional depth in the back-scene, but its inclusion would provide something a bit different to a conventional tank right beside the track.

Remote supply tanks were not unknown at large yards and loco depots, but they did require the installation of one or more water columns alongside the tracks.

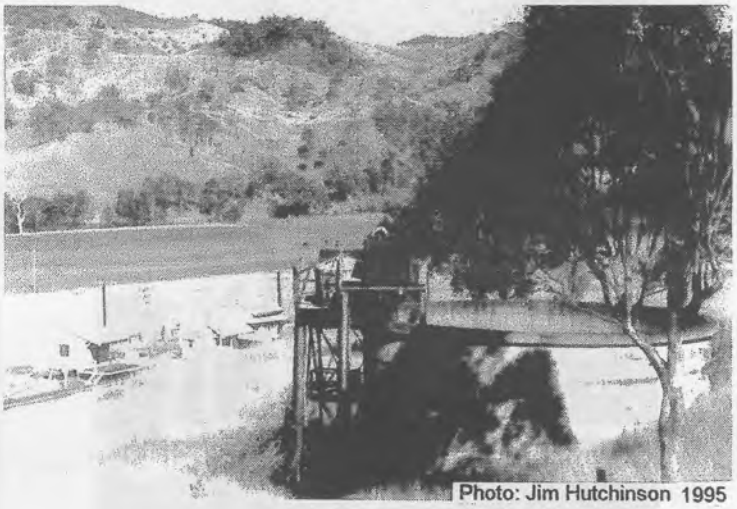


Photo: Jim Hutchinson 1995

WATER COLUMNS

Where it was not possible to water locos directly from the tank a water column (also known as a water crane) would be installed. Columns were also provided where it was necessary to service two tracks from the one point. They could be mounted independently in a yard or on the end of a station platform, depending on the track plan. It would not be unusual to find a number of columns placed at strategic points throughout a large yard or depot.

The column in Toowoomba goods yard (right) was still in position some thirty years after the last regular steam operations.

Photo: Jim Hutchinson 1996

The standard 9" column, a larger type than that shown before, was found in many locations around the state. It was usually erected with a ladder that was affixed to the rear or on one side. A few of these can still be seen, including the installation at Redbank (below left). The restored station at Mt. Morgan also contains a similar example (below right) that was relocated from Rockhampton

Chiver's Fineline caters for the QR modeller with a white-metal kit of this column in HO scale (but without the ladder).


Photo: David Mewes 2002


Photo: Jim Hutchinson 1996

SAND BINS

If water tanks ranked among the largest and more monumental of lineside structures, then the ubiquitous sand bin would be a strong contender for the least visually impressive item (as in the photo below taken in Quilpie yard).

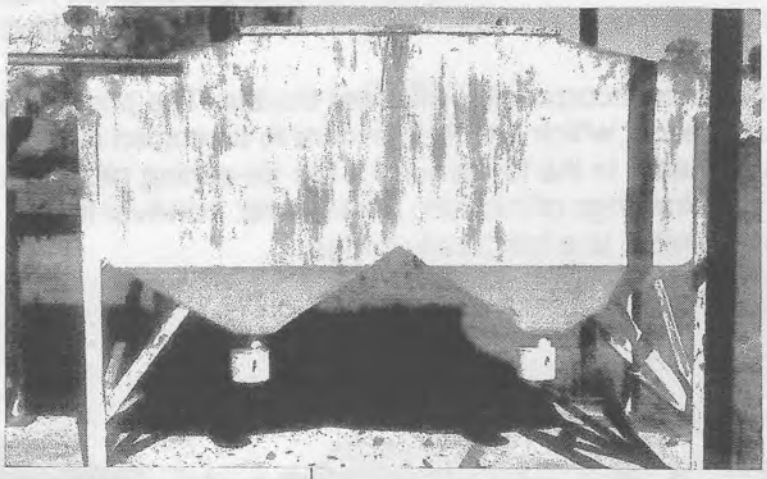
Yet arguably the functions of each were equally important. Heavy loads and demanding grades require a good supply of dry sand for all types of locomotives, and sanding facilities can still be found at strategic locations.

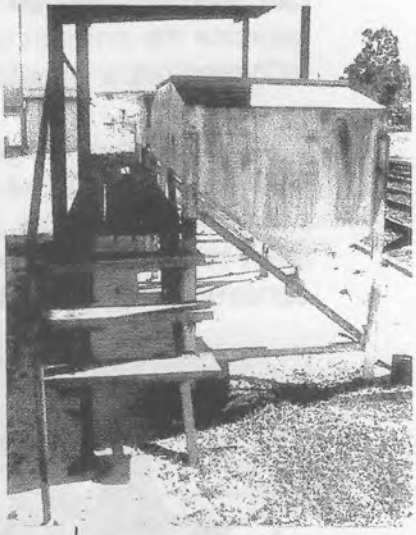
The traditional bin was a timber box with a hinged lid (right) but busy routes require containers with a greater storage capacity.

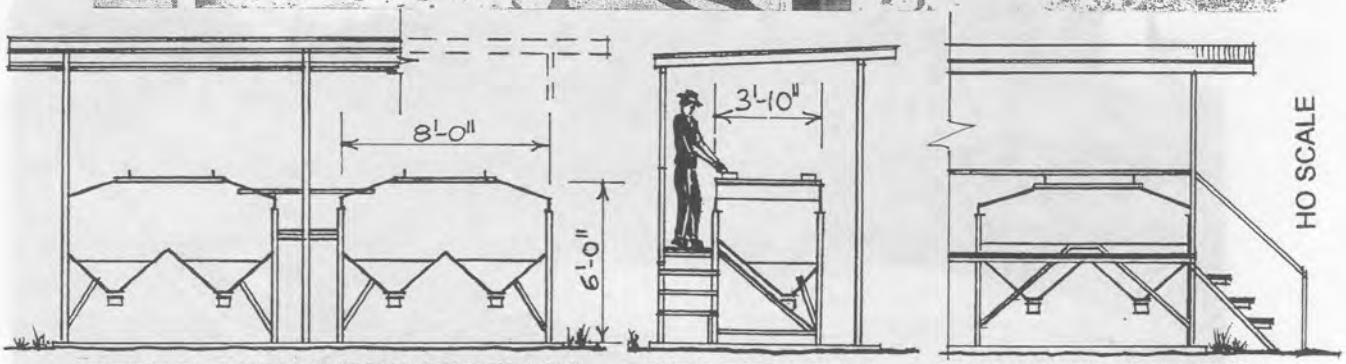

Photo: Jim Hutchinson 1996

Grandchester heralds the start of the climb up the Little Liverpool Range for trains heading west. At the western end of the station the generous array of covered metal sand bins gives some indication of what lies ahead for the crews and their locos. These receptacles are considerably larger than those found alongside less busy routes.

All Photos: Jim Hutchinson 2002







NORTH ELEVATION (TOWARDS TRACK) EAST ELEVATION PART SOUTH ELEVATION

LOCOMOTIVE SHEDS

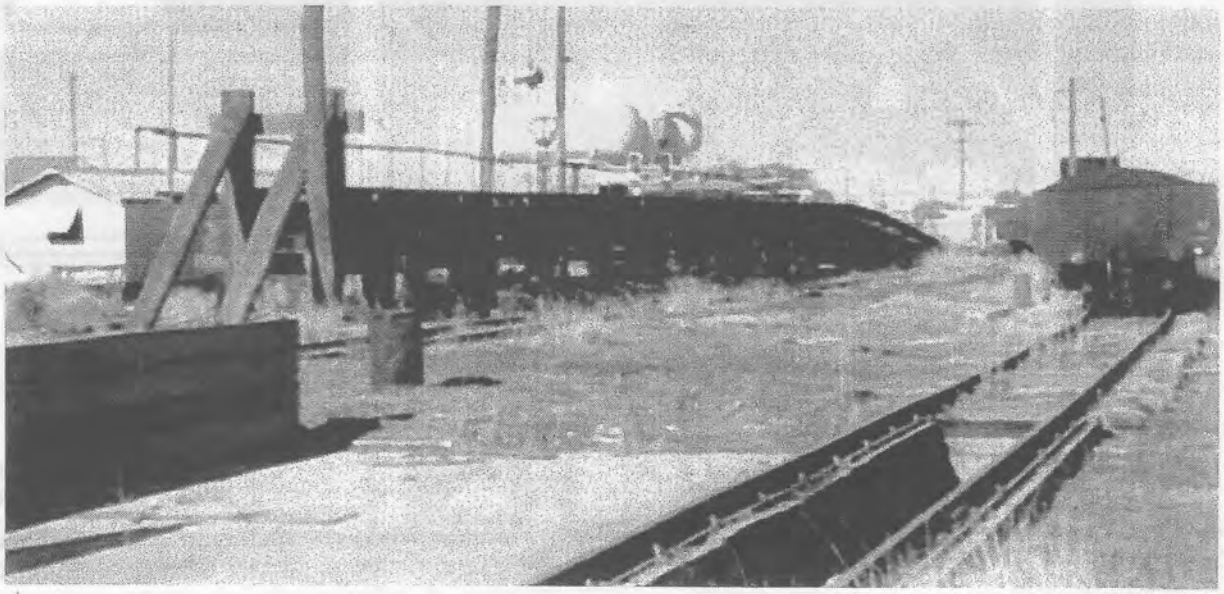
In steam days rudimentary locomotive stabling facilities were provided at branchline and suburban termini, as well as at selected intermediate stations where locos were assigned to standby tasks, such as assisting with heavy loads and/or on uphill grades. Too small to be considered to be a 'depot', these facilities often included a few basic features that were essential to locomotive working. Although this paper does not encompass loco depots as such, a few of the facilities that were an essential part of operations are worth mentioning.

A single stall loco shed could be dead-end or run-through, depending on the yard's configuration. It may have included a pit for minor inspections, although another pit for de-ashing would probably have been provided outside, possibly adjacent to the watering point. The drawing (next page) is based on an early type of shed that was roofed with asbestos cement (fibro) shingles. Doubtless some of these buildings would have been re-roofed with corrugated iron later in life, although a few sheds (e.g. Dirranbandi), retained their original roofs into the last days of steam during the 1960's.

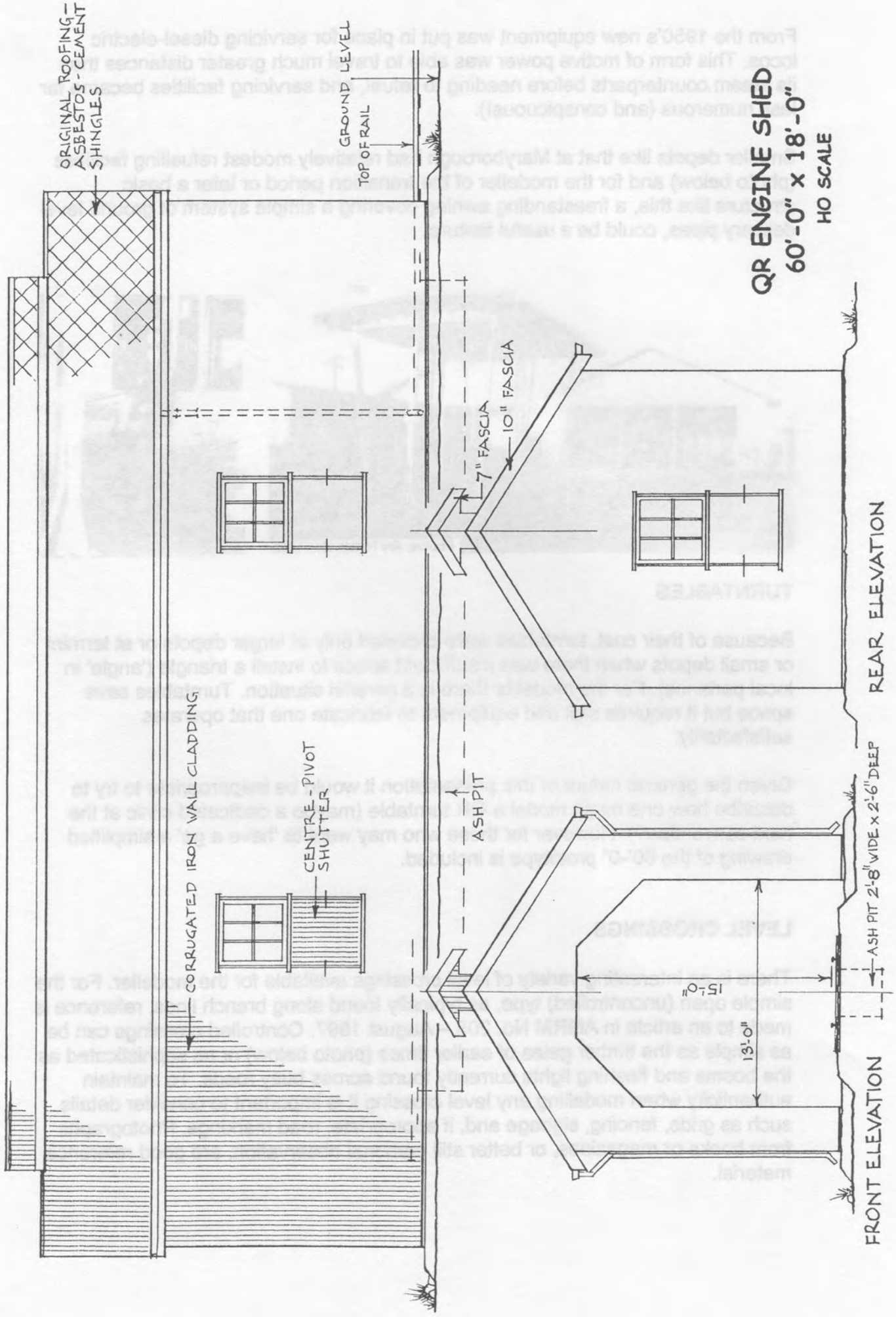
FUELLING FACILITIES

The elevated coal stage was a dominant feature at many of the larger steam depots. If you can model a timber trestle bridge, with more time and patience you can build an elevated coal bin, but although it is not a particularly difficult modelling exercise the amount of space needed for the approach ramp (at least 2.4 metres in HO) requires a sizeable layout. For those still interested a drawing is provided later.

A small low level stage could be incorporated with less trouble. The photos below illustrate the facility at Longreach, which enabled tenders to be coaled directly from wagons on the stage. Also visible in the foreground is the de-ashing pit. It has not been possible to locate any drawings of this type of structure; however its construction appears to be similar to a low trestle bridge.

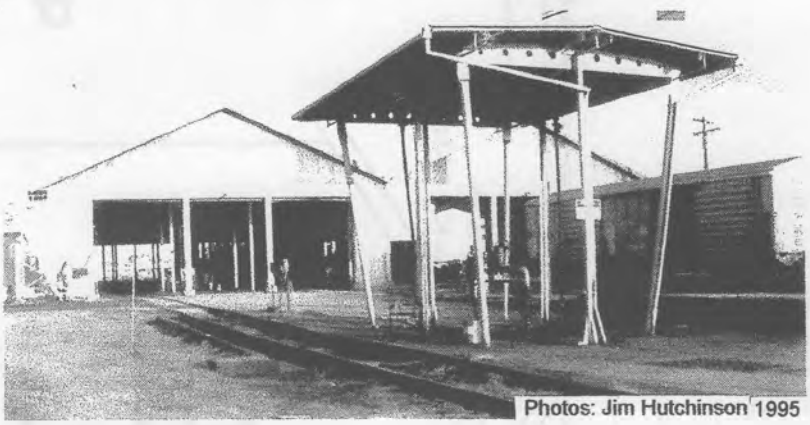


Photos: John Newell


QR ENGINE SHED
60'-0" × 18'-0"
HO SCALE
ORIGINAL ROOFING – ASBESTOS-CEMENT SHINGLES
GROUND LEVEL
TOP OF RAIL
7" FASCIA
10" FASCIA
REAR ELEVATION
CORRUGATED IRON WALL CLADDING
CENTRE-PIVOT SHUTTER
ASH PIT
ASH PIT 2'-8" WIDE × 2'-6" DEEP
15'-0"
13'-0"
FRONT ELEVATION

From the 1950's new equipment was put in place for servicing diesel-electric locos. This form of motive power was able to travel much greater distances than its steam counterparts before needing to refuel, and servicing facilities became far less numerous (and conspicuous!).

Smaller depots like that at Maryborough had relatively modest refuelling facilities (photo below) and for the modeller of the transition period or later a basic structure like this, a freestanding awning covering a simple system of ground level delivery pipes, could be a useful feature.



Photos: Jim Hutchinson 1995

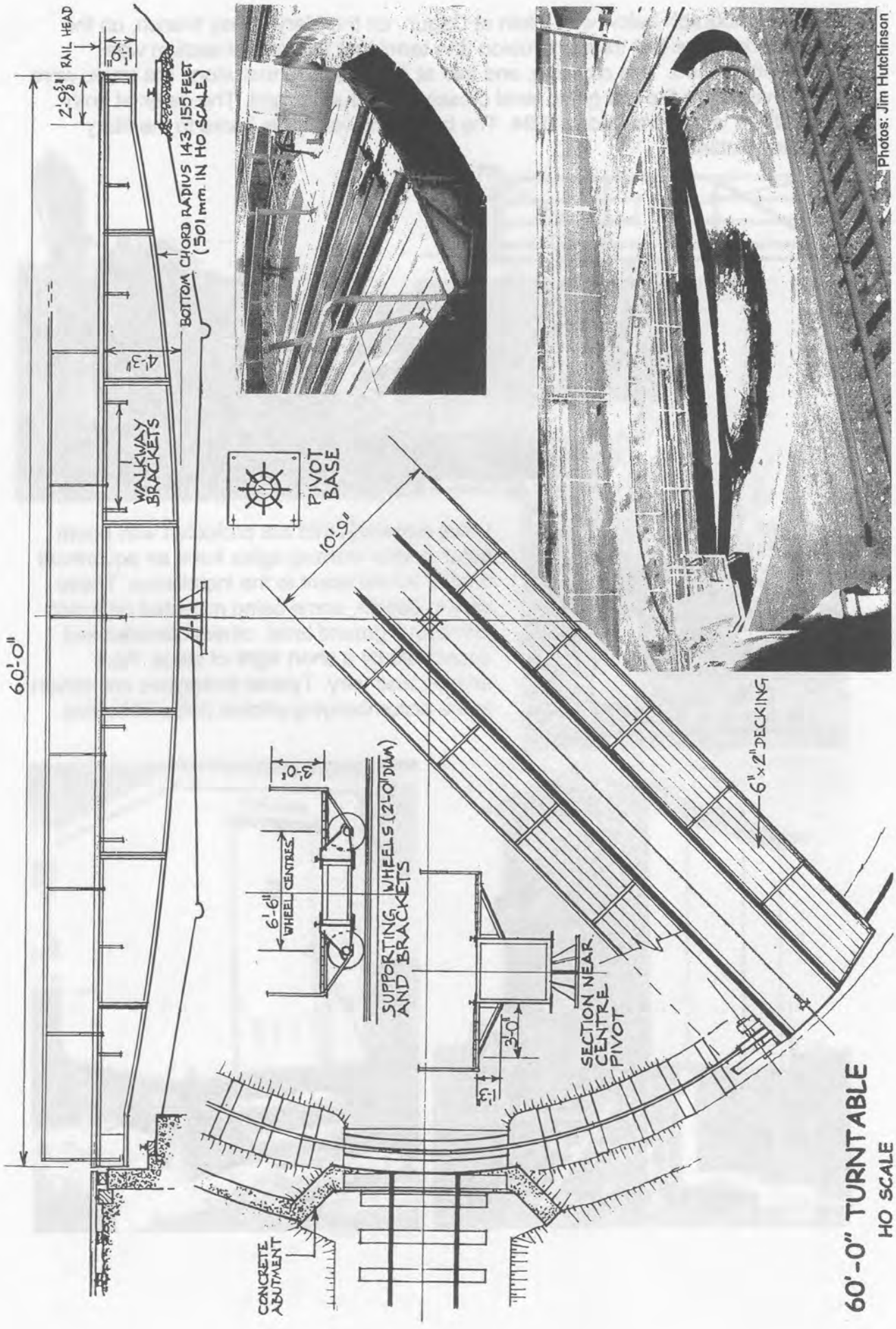
TURNTABLES

Because of their cost, turntables were provided only at larger depots or at termini or small depots when there was insufficient space to install a triangle ('angle' in local parlance). For the modeller there is a parallel situation. Turntables save space but it requires skill and equipment to fabricate one that operates satisfactorily.

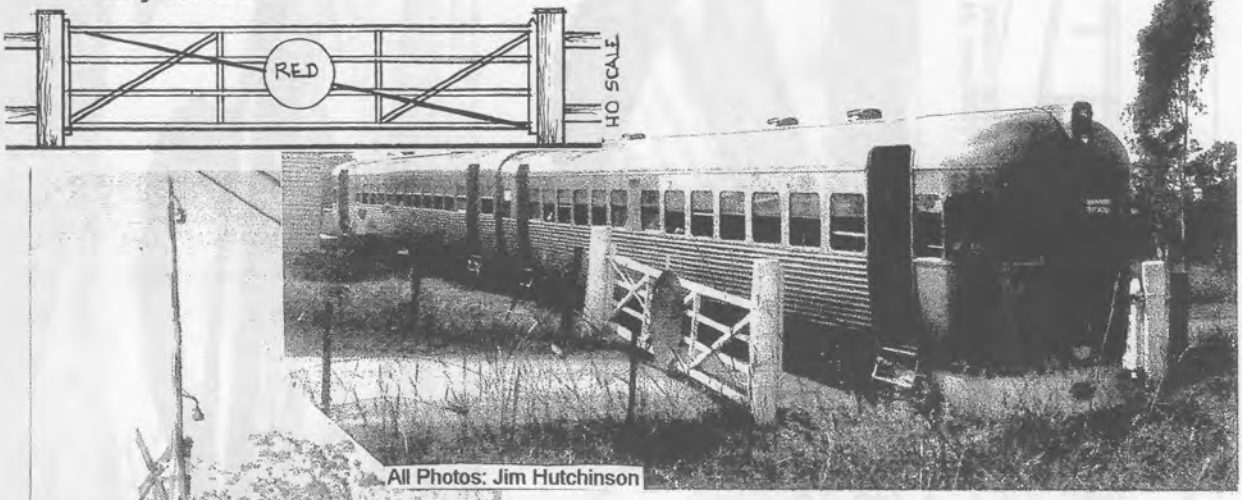
Given the general nature of this presentation it would be inappropriate to try to describe how one might model a QR turntable (maybe a dedicated clinic at the next convention?). However for those who may want to 'have a go' a simplified drawing of the 60'-0" prototype is included.

LEVEL CROSSINGS

There is an interesting variety of level crossings available for the modeller. For the simple open (uncontrolled) type, as typically found along branch lines, reference is made to an article in AMRM No. 205 – August 1997. Controlled crossings can be as simple as the timber gates of earlier times (photo below) or as sophisticated as the booms and flashing lights currently found across busy roads. To maintain authenticity when modelling any level crossing it is important to consider details such as grids, fencing, signage and, if appropriate, road markings. Photographs from books or magazines, or better still personal observation, are good reference material.


RAIL HEAD
2'-9⅛"
0'-4"
BOTTOM CHORD RADIUS 143·155 FEET
(501 mm. IN HO SCALE)
WALKWAY BRACKETS
4'-3"
60'-0"
PIVOT BASE
10'-0"
6'-6" WHEEL CENTRES
SUPPORTING WHEELS (2'-0" DIAM)
AND BRACKETS
0'-4"
1'-3"
3'-0"
SECTION NEAR CENTRE PIVOT
6"×2" DECKING
CONCRETE ABUTMENT
60'-0" TURNTABLE
HO SCALE
Photos: Jim Hutchinson

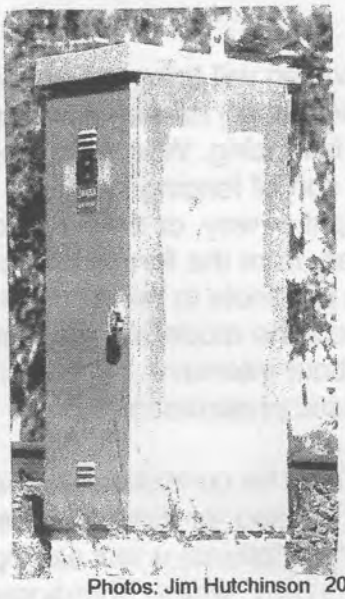
The photograph below was taken at Dagun, on the Mary Valley branch, on the occasion of the last train to Brooloo (the terminus) before that section was officially closed. This crossing, and that at Amamoor, further along the track, were believed to be the last gated level crossings in Queensland. The gates at both locations were removed in 1994. The branch nowadays is home to the Mary Valley Rattler!

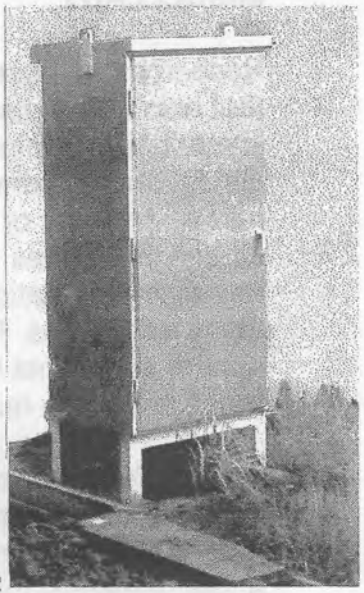


All Photos: Jim Hutchinson

Level crossings that are protected with boom gates and/or warning lights have an equipment control hut adjacent to the installation. These vary in design, some being mounted on a slab just above ground level, others elevated and accessible by a short flight of steps. Roof shapes also vary. Typical prototypes are shown in the accompanying photos (left and below).

EQUIPMENT CABINETS



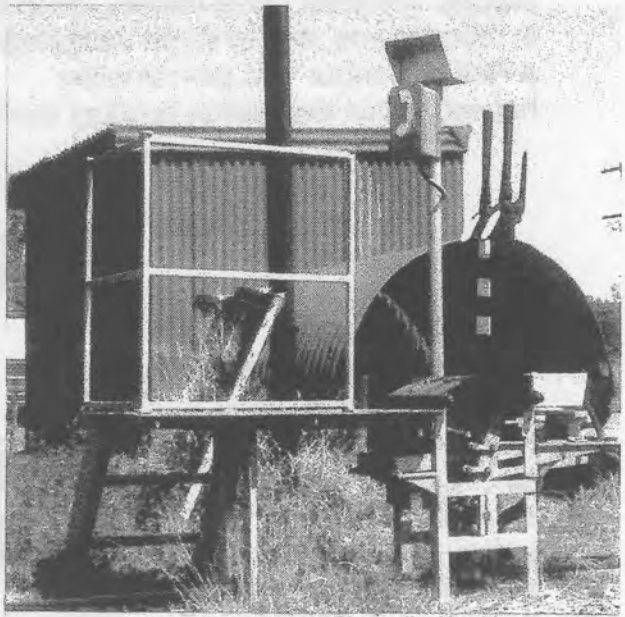


Photos: Jim Hutchinson 2002

As well as the larger level – crossing enclosures, smaller metal trackside cabinets containing equipment associated with signalling and communication systems can be seen at fairly frequent intervals. These vary in size and shape, the smaller types appearing to be about 600 mm (c 2'-0") square, with others up to 900 or 1200 mm (c 3'-0" or 4'-0") wide, and maybe 1.7 m (c 5'-6") high. Some stand directly on a concrete base, others are on short legs. The exact purpose of each type is something of a mystery to the author, but their frequency of installation seems to be commensurate with automated traffic control.

The freestanding telephone cabinet (below left) is another feature that is easy to model. Measuring about 900 mm (c 3'-0") square by 2.1 m (c 7'-0") high, they may be located on a platform or simply sited beside the track. At Grandchester there is an example of each kind. Trackside phones also exist in a far less conspicuous form, mounted on a steel pole and often found in conjunction with an elevated lever frame (below right). Herewith is a challenge for the modeller who is prepared to scratch-build a complete installation in such fine detail!

Photo: Jim Hutchinson 2002



MURPHYS CREEK Photo: Jim Hutchinson - 1996

MISCELLANY

Research and observation will bring to light other elements that are peripheral to (but also a very visual part of) railway infrastructure. One feature that comes immediately to mind is fencing. Whether alongside a main or branch line, there is almost always some sort of fencing involved. It may identify the boundary of railway property or right of way, or define adjacent private land ownership and utilisation. Fences vary from the formal timber paling or woven wire examples found around station precincts to the rough-hewn post and wire type found in so many rural areas. From the modelling point of view the fabrication of fencing may appear somewhat labour intensive, but the end result is well worth the effort in terms of a more realistic presentation.

Another feature that may be considered is the advertising hoarding, or billboard. Although not usually erected for the exclusive benefit of rail travellers (except maybe at or near some stations) a few examples can be found particularly where a road parallells the railway, where hoardings mounted at right angles to and between each corridor send their message to both road and rail users. Suitable material for model billboards can often be found in magazine advertisements.

An interesting facet of Australian culture is the close association of war memorials with the local railway precinct. It overtly reflected the importance attached to the railway, which in earlier days was often the major lifeline for many rural centres. It also was the point of departure for local volunteers on their way to serve their country. Soldiers' Memorials were erected adjacent to the railway reserve in many towns, and in some instances a Roll of Honour was permanently housed within the station building itself.

LINVILLE Photo: Jim Hutchinson – 1995

And as a parting gesture (tongue in cheek) who can deny the significance of the ubiquitous Railway Hotel? Not strictly a 'lineside' structure in the true sense, but arguably a memorable part of the railway tradition.

IMBIL Photo: Jim Hutchinson 1998

EPILOGUE

In preparing this presentation I had two options. One was to select a few subjects and deal with them in detail (as far as my somewhat limited expertise would allow). The other was to try to present a broad overview of trackside structures, with a little bit of detail where it fitted in, and of which I had some factual material conveniently to hand.

Rightly or wrongly I chose the latter, opting to offer a mainly visual presentation of relevant subjects that could be researched later in more detail by interested parties. The widely ranging choice of examples is obviously aimed more at the freelancer than the modeller who wishes to represent a particular location or time - the latter requires in-depth research that is beyond the scope of this paper.

It is also obvious that my preferences are biased towards the railway scene of a few decades ago, my excuse being that there was a greater variety and number of infrastructure elements to be found before the days of 'rationalisation' and full dieselisation. As a corollary many dimensions given are imperial as they related directly to the period of design and construction. Also from the modeller's point of view the conversions are easier in some scales!

If it is felt that the coverage of particular aspects should be done in more detail for future conventions, your suggestions at the end of to-day's activities will be welcome.

Jim Hutchinson - August 2002

Acknowledgments: Thanks are extended to Arthur Hayes, David Mewes, John Newell, Rusty Smith, Danny Sheehan and the staff of the Railway Historical Centre, Ipswich, for their generous help in providing information and photographs.

Addendum: Photographic inspiration for prototypical examples can be found in local publications such as 'Sunshine Express' and various books produced by ARHS Qld Division, as well as the 'Railways of Queensland' series and other publications of AMRA Qld Branch. Apart from those mentioned in the text, a few other modelling references are:

Queensland Signal Cabin – AMRM No 45, p 18

Ballandean Goods Shed – AMRM No 72, p 31

Petrie – AMRM No 80, p 26

Murphy's Creek – AMRM No 99, p 40

Queensland Railway Sheds – AMRM No 201, p 26

QR 50'-0" Carriage Shed – AMRM No 212, p 50

The Washout Shed at Alpha – AMRM No 225, p42

The Public Weighbridge – AMRM No 233, p36