

The planning of a model railway is quite as important as the construction itself, since the possibilities and restrictions of the final layout are made apparent in the planning stage, provided the layout plan is an accurate one.

Unfortunately, if the planning stage of a layout is rushed, defects may emerge in the layout during construction, and to alter a layout at this stage may entail the loss of much valuable time and equipment.

It is to avoid this expensive loss to the modeller, and to ensure that the investment in time and equipment is well spent, that Protofour Planning Templates have been produced.

The purpose of the Protofour Planning Templates is to determine the true size of the critical trackwork of the layout and its operational possibilities before actual construction commences. Through the addition of lineside features and structural overlays, a further function of the templates is to give a pictorial representation of the finished layout which cannot be achieved using the 'straight line' representation of track. The overlays also help to ensure that proper clearances are maintained between track and structures. A completely integrated plan is therefore possible covering not only the track formation but every other feature of the layout.

Of course it is possible to use actual Construction Templates on the baseboard for planning purposes, but this inevitably leads to damage or wastage of the template, and is often inconvenient; the baseboard may not have been built, and in any case it is difficult to plan the other features of the layout in this way.

The Planning Templates for track formations have been produced as quarter-size reductions of the 4mm/1ft Construction Templates, with the addition of plain line templates to complete the connections. They are printed on self-adhesive paper so that once the main form of the layout is determined, the protective backing may be peeled away and the unit fixed in position on the Planning Board. Should further alterations become necessary, the template may be peeled away from the board and relaid without damage. However, after a period the bonding becomes permanent and there is no tendency for the templates to peel from the surface. Some of the overlays, representing lineside and scenic features, are printed on the same self-adhesive paper as the track formations and are used in the same way. Others, such as water cranes and loading gauges, are printed on a transparent self-adhesive paper so that they may be added to the layout plan without obscuring the track or other features over which they are laid. Items on transparent paper should always be added after the features on opaque paper have been located in their permanent positions on the layout plan.

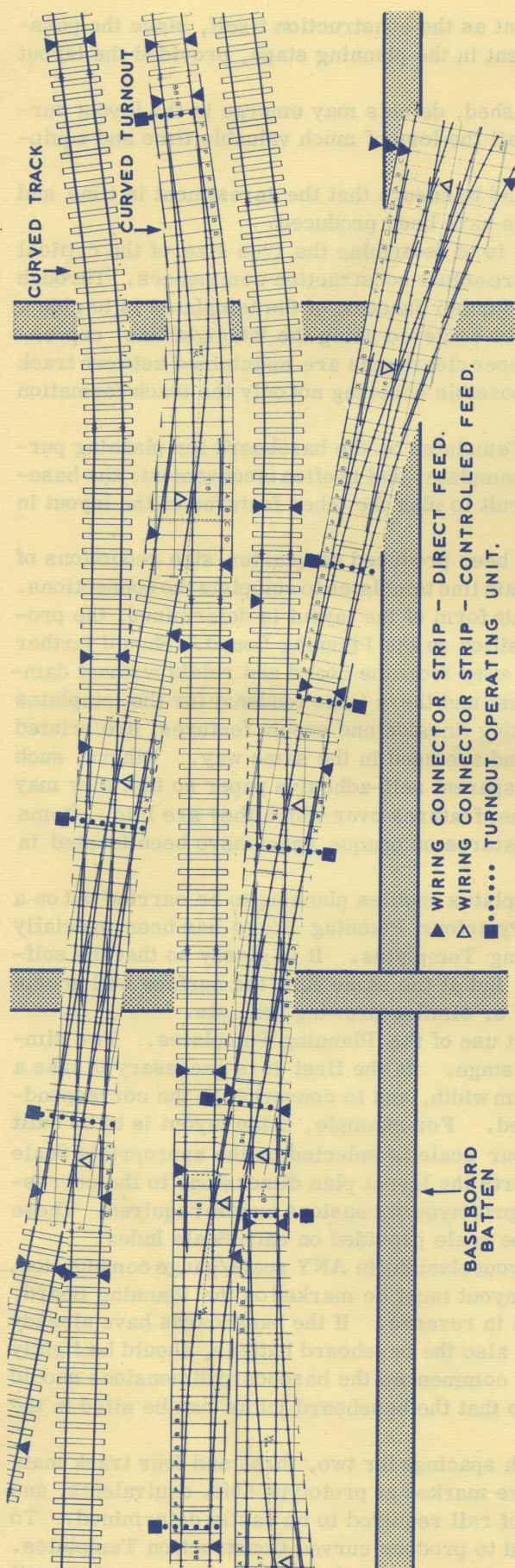
The 1mm/1ft scale (1:304.8) of the Planning Templates enables planning to be carried out on a convenient and easily transportable size of board. The Protofour Planning Board has been specially designed to give the ideal surface for use with the Planning Templates. It is glossy so that the self-adhesive templates may easily be removed and re-applied, but at the same time the surface will accept markings made with a felt pen, ball-point pen, a 'Graphos' or similar drawing pen, etc.

Protofour Scale Indexes are another aid to efficient use of the Planning Templates. Two dimensional conversions may be required during the planning stage. In the first it is necessary to take a given dimension on the 1mm/1ft plan, for example a platform width, and to convert it to the corresponding dimension on the actual layout which is to be constructed. For example, if the layout is to be built to Protofour Standards (4mm/1ft scale), then the Protofour scale is selected on the appropriate Scale Index. This scale, used on the 1mm/1ft layout plan, converts the layout plan dimensions to the corresponding 4mm/1ft dimensions. Secondly the corresponding prototype dimensions may be required. These dimensions, in feet or metres, are read from the Prototype scale provided on each Scale Index.

The Planning Templates are therefore suitable for layout planning in ANY scale/gauge combination.

In commencing planning the space available for the layout must be marked on the Planning Board, and for this operation the appropriate Scale Index can be used in reverse. If the baseboards have already been constructed the positions of the baseboard joints, and also the baseboard battens, should be lightly marked on the plan. Where baseboard construction has not commenced the baseboard dimensions should not be finally fixed until the track plan has taken shape, so that the baseboard joints can be sited in the most suitable places.

The straight track planning templates are drawn with spacings for two, three and four track main line, and for sidings adjacent to main line. Rail lengths are marked at prototype 60ft. equivalents, and the use of the appropriate Scale Index enables the amount of rail required to be easily determined. To produce curved track the procedure is identical with that used to produce curved Construction Templates. The straight track template is slit between the sleepers, and at right-angles to the running rails, until it can be 'fanned' to match the desired radius.



As a further aid to the planning of curved track a series of radii should be drawn on white card to 1mm/1ft scale, starting with the minimum radius that will be employed on the layout. In 4mm/1ft. scale if the minimum desired radius is 2ft 6in. then a minimum radius of $7\frac{1}{2}$ in. should be drawn for use on the 1mm/1ft. layout plan. The card should be marked to indicate the various radii, and cut to yield a series of curved forms which can be used for drawing and checking the required curves. The curved track template can then be matched to the curve drawn lightly on the layout plan.

The other track formations are used in the same way as their Construction Template counterparts. However, for ease of planning and to enhance the appearance of the completed plan, the PTS templates and other formations should be trimmed to the lines which denote the ends of the crossing timbers.

When completing the track plan the positions of Turnout Operating Units, point motors, Wiring Connector Strip feeds, signal operating devices, turntable mechanisms, and all other 'under baseboard' devices should be carefully marked. It is highly desirable that these components should not foul the baseboard battens. Particularly vital are the locations of baseboard joints, and joints running across other than plain tracks should be avoided if at all possible.

Care should be taken to check headshunt lengths, and bay and siding capacities, in relation to the rolling stock which is planned for the layout. The 1mm/1ft. equivalents of critical rolling stock lengths should be determined, and here again the Scale Index can be used to convert the prototype dimension directly to its 1mm/1ft. equivalent.

Scenic and lineside overlays should not be fixed in place until the track plan is complete, although they should be used with the protective backing still in place in conjunction with the track planning operation. As a final touch the layout plan can be suitably coloured with felt tip or other pens.

Perhaps the greatest advantage of the Planning Templates is their minimal cost. They may be cut, modified and adapted to test the feasibility of complex trackwork without the necessity of purchasing the equivalent Construction Templates and, should the layout prove impractical, the loss in time and money will be minimal.

This feature makes the planning of layouts a specialised form of the hobby, and is 'armchair modelling' at its best. For those building a layout the layout plan serves as a constant reference point, and a simple way of showing the friend or visitor the layout as it will eventually appear. Others who have no opportunity to install a working layout can work out the future design in every detail and are enabled to determine which track formations can be built in readiness for their proposed layout.