

NOTES FOR THE SPECIFICATION FOR INSTALLATION OF RAISED PAVEMENT MARKERS

These notes are for the guidance of supervising officers and are not to be included in the contract documents.

Where a section number is referred to this relates to the relevant section of TNZ P/14.

1. SCOPE (Clause 1)

The specification has been written so that it may be used for bulk installation of new sections of markers, replacement markers on resurfacing and urgent replacement of markers.

2. SET OUT AND TOLERANCES (Clause 3)

Three types of set out are envisaged:

- (a) Where markers are to be placed in addition to normal paint markings the Contractor shall set out markers from the paint markings.
- (b) Raised pavement markers used instead of paint markings (see *Manual of Traffic Signs and Markings*) with pilot marks provided by the Engineer. Where no paint markings are to be used this is the preferred method of providing setout information. Additional details may still need to be provided at intersections etc.
- (c) Raised pavement markers used instead of paint markings and all set out by the Contractor. In this situation full plans of the set out must be provided as it is unacceptable for the Contractor to make judgements on the alignment of the markers.

In all cases care must be exercised in checking set out both for location and that it appears reasonable. Accident investigations have shown that small changes in the location of road markings can decrease (or increase) accident rates significantly.

3. MATERIALS (Clause 4)

3.1 Marker Type (Clause 4.1)

The list of approved markers will be updated regularly as satisfactory testing of new types of marker is completed.

3.2 Marker Body Colour (Clause 4.2)

This section has been added to ensure consistency in marker body colour, where it is possible to vary this. It should be noted no body colour is specified for non-plastic markers, eg, aluminium.

3.3 Adhesive (Clause 4.3)

As the cost of epoxy adhesive can be a large proportion of the cost of an installed marker this section has been written to enable innovation in adhesive used.

The prime control on adhesive used is the maintenance period, but provision is made for the Engineer to enforce a change to an approved adhesive during the contract period.

3.4 Unsatisfactory Adhesive

The specification allows for rejection of an adhesive and the method of use at time of tender and during the contract.

Until we gain evidence to the contrary any reasonable adhesive should be used. Cases of doubt should be referred to the State Highway Management Division for information regarding adhesives (through the Regional State Highway Manager).

4. FIXING MARKERS TO ROAD SURFACE (Clause 8)

Generally markers with voids in the base of the marker are required to be filled with adhesive to assist with the structural strength. Should a marker manufacturer advise that filling the base is not necessary a close watch should be kept on the failure rate to confirm the advice.

The remaining requirements of Clause 8 are the result of experience with existing marker installations.

5. MAINTENANCE (Clause 10)

Clause 10 applies to maintenance of markers installed under the Contract. The requirements on maintenance are stringent to tie in with the generalised controls on the

adhesive. It is important that the Contractor is required to replace all defective markers as required, particularly where there are two consecutive markers with a major defect, as failure to supervise this aspect will encourage use of less satisfactory adhesives.

6. PERIODIC MAINTENANCE OF EXISTING MARKERS (Clause 12)

This clause applies to maintenance of markers not installed by the Contractor, or those for which the maintenance period has expired. For this situation the Engineer is required to define the markers requiring replacement, preferably by marking the pavement with a low durability paint.

The basis of payment (Clause 9) includes repair of the pavement affected by the marker. Normally repair of the pavement will not be required because in most situations three type A markers may be placed on the pavement at one general type A marker location. Where it is considered that payment for repair of the pavement should be a separate item the basis of payment may be amended for periodic maintenance of existing markers. Amendments shall be made prior to the contract being let.

7. CONTRACT DIARY (Clause 13)

It is important that the contract diary is filled out and retained on file, both to enable a ready check on numbers of markers and for analysis should problems occur with any type of marker or adhesive system.

8. NEW SURFACING (Clause 14)

8.1 Completion Time

All raised pavement markers shall be installed within 72 hours of completion of a new surfacing. Clause 14 provides the contractual means to ensure that this occurs.

Unless extenuating circumstances exist contracts are to be written so that both installation of raised pavement markers and paint road markings on new surfacing are the responsibility of the same Contractor.

SPECIMEN SCHEDULE

Abbreviations for colour of Type A Markers

WW	Bidirectional White
W	Monodirectional White
WY	Bidirectional White and Yellow
YY	Bidirectional Yellow
Y	Monodirectional Yellow

Item	Description	Unit	Quantity	Rate	Amount
1.	INSTALLATION OF RAISED PAVEMENT MARKERS				
1.1	Type A WW	ea			
1.2	Type A W	ea			
1.3	Type A WY	ea			
1.4	Type A YY	ea			
1.5	Type A Y	ea			
1.6	Type B	ea			
2.	TRAVEL	km			
3.	EXTRA PAYMENT FOR URGENT WORK	ea			