

| TNZ C20: 2003

## **SPECIFICATION FOR THE ERECTION AND MAINTENANCE OF TRAFFIC SIGNS, CHEVRONS, MARKERS AND SIGHT RAILS**

### **1 SCOPE**

This specification covers the erection, maintenance of traffic signs, chevron boards, sight rails, bridge end markers, obstruction markers and culvert markers due to accident damage, planned replacement or new installation. It also includes Stop and Give Way signs on intersecting roads with State Highways and scheduled finger board, bridge name, and seasonal signs. Cleaning of signs may be directed by the Engineer.

The specification does not cover construction of gantries and overhead signs.

| To achieve the long term maintenance objectives of Transit New Zealand (Transit), the following requirements shall apply:

- a. All permanent traffic signs, frames and fittings shall be obtained from a manufacturer that has in place a quality assurance system that has been certified by a Joint Accreditation System Australia and New Zealand (JAS-ANZ) accredited agency.

The approved quality assurance systems are either:

- NZS ISO 9001 : 1994 or NZS 9002 : 1994; or
- Transit New Zealand Quality Standard TQS1 : 1994

| The approved quality assurance system shall incorporate the technical requirements of a Transit approved method of compliance with TNZ P/24 eg *RSMA Compliance Standard for Traffic Signs*.

The system shall be in place prior to the award of the contract.

- b. The Contractor shall undertake an inspection of all hardware included in the Contract in order to programme all work required within the response times specified.
- c. The Contractor shall set up an effective communication system to ensure that emergency damage to regulatory signs can be attended to within the response times specified.
- d. The Engineer shall review the Contractor's programme, adjust for technical and budget restraints (if any) and return to the Contractor.
- e. The Contractor shall carry out all programmed work as reviewed by the Engineer, and all emergency work in accordance with this specification.
- f. Only work on the agreed programme or emergency work schedule will be paid for.

## 2 RESPONSE TIMES

The response time to carry out the various types of work specified in Clause 1 of this specification shall be as scheduled by the Engineer in the Contract documents.

## 3 MATERIALS

### 3.1 Traffic Signs

Traffic signs, posts, frames and fittings shall comply with the *Manual of Traffic Signs and Marking: Part I Traffic Signs* and *TNZ P/24 Performance Based Specification for Traffic Signs* (TNZ P/24).

### 3.2 Chevron Boards, Bridge End Markers, Obstruction Markers

Chevron Boards, Bridge End markers and Obstruction markers shall comply with the *Manual of Traffic Signs and Markings: Part II Markings* and *RSMA Compliance Standard for Traffic Signs*.

Where applicable, chevron boards shall include the recommended speed value for the curve.

### 3.3 Sight Rails

Timber sight rails and posts shall comply with TNZ P/24.

The timber sight rail shall be rectangular with call dimensions, as defined in NZS 3601, of 200 mm x 25 mm.

Galvanised fittings shall be used.

Some sections of W Section Steel guardrails acting as sight rails may be scheduled by the Engineer and will require maintenance painting.

## 4 POSITION, HEIGHT AND ORIENTATION

New signs, chevrons and sight rails shall be located in accordance with the *Manual of Traffic Signs and Markings* or as otherwise directed by the Engineer.

Replacement signs, chevrons and sight rails shall be located in the same position and height as the previous item. Where applicable, the alignment and level of replacement items shall tie in with existing items and shall appear by eye to be straight or a true curve, as appropriate.

All items shall be firmly installed in a vertical position and securely attached to posts.

## **5 INSPECTION, EMERGENCY WORK AND MAINTENANCE OF EXISTING ITEMS**

### **5.1 Inspection**

The Contractor shall carry out regular inspections of the items covered by this specification and shall submit inspection reports to the Engineer. Inspection reports shall cover missing, damaged or ineffective items, or signs that require straightening.

### **5.2 Emergency Work**

Emergency work will arise due to accident damage to signs, chevrons, sight rails and hazard markers. The Contractor shall undertake repair work to meet the response times required, but shall also report to the Engineer any emergency work planned. It is important that close liaison is maintained with the Engineer to ensure that both safety requirements and budget restraints are met.

Where the Engineer requires work to be undertaken in advance of normal programmed maintenance the Engineer may pay an establishment cost in addition to the scheduled rate.

### **5.3 Maintenance and New Installation**

The Contractor shall maintain existing signs, chevrons and sight rails etc. the Contractor's programme for routine maintenance shall be submitted to the Engineer for approval before any work is undertaken.

Maintenance shall include the removal of graffiti and advertising signs attached to the Transit sign. The Engineer will advise of requirements for new installation work.

## **6 MINIMUM STOCKHOLDINGS**

The Contractor shall maintain sufficient quantities of materials to be able to meet the response times specified above.

The Engineer may direct the Contractor to hold a minimum stockholding of signs and the Contractor shall schedule the minimum requirement (if any).

Costs for the storage of materials under cover are to be included in the cost of repair work and recovered at the time of the repair.

## 7 PERFORMANCE CRITERIA

The performance criteria of the Contractor during the Contract period will be measured by the following criteria:

- a. That all work is carried out in accordance with this specification.
- b. The adequate reports of inspections and work undertaken are submitted to the Engineer.
- c. That posts remain firmly embedded and signs remain fixed to the posts.
- d. That sight rail repairs are completed and painted in a professional way.
- e. That all signs comply with TNZ P/24.

## 8 TEMPORARY TRAFFIC MANAGEMENT

At all times during the work or activities included in this specification the Contractor shall take responsibility to ensure all temporary traffic management is carried out in accordance with the *Code of Practice for Temporary Traffic Management* (COPTTM).

## 9 BASIS OF PAYMENT

The following items shall include allowance for traffic management, establishment on site, all miscellaneous items, board, supervision, contingencies, conveyance of equipment and incidental work, allowance for carrying stocks, plus general overhead and administration.

In support of claims for payments, the Contractor shall supply to the Engineer each month details on the number and location of signs, chevrons and sight rails repaired or replaced.

### **Item 1: Inspection and Maintenance of Existing Signs, Chevrons and Sight Rails and Markers**

This lump sum shall cover the regular inspection and straightening of all items.

Payment will be made in equal monthly instalments throughout the Contract period.

### **Item 2.1: Supply New or Replacement Signs, Chevrons and Markers (Prime Cost Sum)**

This item is a prime cost sum in full compensation for the net invoiced costs for manufacture and supply of the above items as authorised by the Engineer, including posts.

### **Item 2.2: Percentage On-cost on Item 2.1**

Percentage addition to net invoiced cost of materials under preceding item to cover all overhead charges and profit for item 2.1 hereof.

**Item 3: Install New or Replacement Post**

Payment will be made for each new or replacement post installed as specified. The unit rate shall include painting and erection of posts.

**Item 4: Erect on Posts**

Payment will be made for each sign or for each metre of sight rail erected on posts as specified.

**Item 5: Paint Existing Sight Rail**

Payment will be made for each metre of existing sight rail (including posts) painted as specified.

**Item 6: Cleaning of Signs and Chevrons**

Payment will be made for work as directed by the Engineer on a per sign basis.