

TRANSPORT FOR NSW (TfNSW)

QA SPECIFICATION 3421

ILLUMINATED FLASHING “STOP CHILDREN CROSSING” BAT

NOTICE

This document is a Transport for NSW QA Specification. It has been developed for use with roadworks and bridgeworks contracts let by Transport for NSW or by local councils in NSW. It is not suitable for any other purpose and must not be used for any other purpose or in any other context.

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REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 1/Rev 0		First issue.	GM, RNIC	04.08.99
Ed 2/Rev 0	“Notice” Foreword Global 8.1 Annex C Annex M	RTA PO Box and Fax numbers updated Foreword, incorporating copyright clause, added Text revised to direct imperative style. “shall” replaced by “must”. Clauses rearranged and renumbered. Clauses rewritten to clarify intent. “Children’s Crossing Supervisor” changed to “School Crossing Supervisor”. Previous Annex 1, “R3-202” sign details, deleted and referred to website. Previous Annex 2, List of approved materials for retroreflective sheeting deleted and referred to website. New annexure “Schedule of Hold Points and Identified Records” added. References updated. Annexure 3421/2 replaced by TDT 2007/02.	GM, IC	11.08.09
Ed 3/Rev 0	Global 1 2.2, Annex C 3 5.2	Clauses rearranged and reworded to improve clarity. Responsibilities of Supplier in relation to manufacturer clarified. Scope updated. “Schedule of Identified Records” deleted. Definition of “Product” added. Definition of “Hold Point” deleted. Product functional requirements amended.	GM, CPS	12.12.13

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 3/Rev 0 (cont'd)	6	Product element requirements amended. Link to Technical Direction updated.		
	7	Entire clause including “Hold Point” for commencement of production deleted.		
	Annex C	Annex C changed to “Not Used”.		
	Annex M	Reference Documents updated.		
Ed 3/Rev 1	Global	References to “Roads and Maritime Services” or “RMS” changed to “Transport for NSW” or “TfNSW” respectively.	DCS	22.06.20

GUIDE NOTES

(Not Part of Contract Document)

Using Specification 3421

Specification 3421 has been prepared on the basis that it will be used as a stand alone specification not supported by other TfNSW technical specifications such as Specification Q.

The tender documenter must state in Annexure 3421/A of this Specification the name of the TfNSW Contact Officer, who is referred to elsewhere in this Specification.

If Specification 3421 is to be used together with the TfNSW standard form contract conditions, the term “TfNSW Contact Officer” must be deleted and replaced with “Principal”.



ILLUMINATED FLASHING “STOP CHILDREN CROSSING” BAT

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VERSION FOR: DATE:

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FOREWORD

TfNSW COPYRIGHT AND USE OF THIS DOCUMENT

Copyright in this document belongs to Transport for NSW.

When this document forms part of a contract

This document should be read with all the documents forming the Contract.

When this document does not form part of a contract

This copy is not a controlled document. Observe the Notice that appears on the first page of the copy controlled by TfNSW. A full copy of the latest version of the document is available on the TfNSW Internet website: <http://www.rms.nsw.gov.au/business-industry/partners-suppliers/specifications/index.html>

REVISIONS TO PREVIOUS VERSION

This document has been revised from Specification TfNSW 3421 Edition 3 Revision 0.

All revisions to the previous version (other than minor editorial and project specific changes) are indicated by a vertical line in the margin as shown here, except when it is a new edition and the text has been extensively rewritten.

PROJECT SPECIFIC CHANGES

Any project specific changes are indicated in the following manner:

- (a) Text which is additional to the base document and which is included in the Specification is shown in bold italics e.g. ***Additional Text***.
- (b) Text which has been deleted from the base document and which is not included in the Specification is shown struck out e.g. ~~Deleted Text~~.

TfNSW QA SPECIFICATION 3421

ILLUMINATED FLASHING “STOP CHILDREN CROSSING” BAT

1 SCOPE

This Specification sets out the requirements for the design, manufacture, supply and maintenance of double sided illuminated flashing “STOP CHILDREN CROSSING” bats, for use by School Crossing Supervisors to control vehicle and pedestrian crossing manoeuvres at children’s crossings and pedestrian crossings in accordance with NSW Road Rules 80, 81 and 101.

The bat in use will be hand held in a vertical position and the sign faces of the bat must be clearly visible to vehicular traffic in both directions.

2 STRUCTURE OF THE SPECIFICATION

This Specification includes a series of annexures that detail additional requirements.

2.1 PROJECT SPECIFIC REQUIREMENTS

Project specific requirements are shown in Annexure 3421/A.

2.2 (NOT USED)

2.3 (NOT USED)

2.4 REFERENCED DOCUMENTS

Unless specified otherwise, the applicable issue of a referenced document, other than a TfNSW Specification, must be the issue current at the date one week before the closing date for tenders, or where no issue is current at that date, the most recent issue.

Standards, Specifications and test methods are referred to in abbreviated form (e.g. AS 1234). For convenience, the full titles are given in Annexure 3421/M.

3 DEFINITIONS

The term “the Supplier” means the supplier of the product covered by the scope of this Specification.

“Product” refers to a double sided illuminated flashing “STOP CHILDREN CROSSING” bat, support pole and battery charging system.

“TfNSW” refers to Transport for NSW.

The TfNSW Contact Officer is the person stated in Annexure 3421/A.

4 SUPPLIER’S QUALITY MANAGEMENT SYSTEM

The Supplier must establish and maintain a Quality Management System in conformity with AS/NZS ISO 9001, as a means of ensuring that the signs and components conform to the requirements of the Specification.

Where materials required in the manufacture are imported, the Supplier must demonstrate that an equivalent Quality Management System is in operation at the overseas manufacturing source.

The TfNSW Contact Officer may conduct audits or inspections on the Supplier’s procedures and processes during or on completion of manufacture.

5 PRODUCT DESIGN

5.1 PRODUCT CONFIGURATION

The Product comprises four (4) elements which must be designed to comply with Clause 6:

- (a) bat with signs on both faces;
- (b) support post;
- (c) illumination and flashing system;
- (d) battery charging system.

5.2 PRODUCT FUNCTIONAL REQUIREMENTS

The Product must comply with the following criteria:

- (a) double sided illuminated flashing bat.
- (b) lightweight construction with the total weight not exceeding three (3) kilograms, excluding the charging system.
- (c) overall height must not exceed 2100 mm.
- (d) power source that can sustain continuous operation for at least five (5) hours.
- (e) power source must be contained within the bat or support post and not be a separate component.
- (f) bat must be attached firmly to a rigid support post and remain rigid under reasonably expected windy conditions and air turbulence from passing traffic.
- (g) must be shock proof, so that the illumination element of the sign is protected against damage from impact or accidental dropping.
- (h) must be water resistant and comply with AS 60529 “Degrees of protection provided by enclosures (IP Code)” with an International Protection Code rating of IP54.
- (i) hand controls for the illumination and flashing system must be at arms height, easy to reach and operate.
- (j) illumination and flashing system must use commonly available electronic components.
- (k) both sides of the sign face must be clearly visible to vehicular traffic in both directions from a distance of fifty (50) metres in both cloudy and sunny conditions.
- (l) quick and easy access provided to all consumable components for maintenance of the Product.

6 PRODUCT ELEMENT REQUIREMENTS

6.1 DOUBLE SIDED SIGN FACE BAT

6.1.1 Retroreflective Material for Background and Legend

The retroreflective materials used in the background or legend of the double sided sign must be Class 1 materials complying with AS/NZS 1906.1.

The double sided sign must be in accordance with Regulatory Sign R3-202, but amended as follows:

- (a) The bat must be octagonal in shape;
- (b) The overall dimension of the bat must not exceed 470 mm, unless approved otherwise in writing by the TfNSW Contact Officer, to accommodate the illumination and flashing system and any protective material fitted to the outside edges of the sign.;
- (c) The outer red section of the sign face must include a white border of Class 1 retroreflective material approximately 10 mm wide.

All other dimensions and details shown must be unchanged.

Details of Regulatory Sign R3-202 may be obtained from the TfNSW website at:

<http://www.rms.nsw.gov.au/trafficinformation/trafficfacilities/trafficsigns/pdf/r3-202.pdf>

The materials approved for use by TfNSW for retroreflective sheeting are listed in TfNSW Technical Direction TDT 2013/08. This document is available for downloading from the TfNSW website at:

<http://www.rms.nsw.gov.au/trafficinformation/downloads/td13-08.pdf>

6.1.2 Sign Blanks

The Supplier must ensure that:

- (a) the sign blank material is suitable and is approved by the retroreflective material supplier for the application of their product;
- (b) the manufacturer of the bat has complied with the application procedure for applying the retroreflective material to the sign blank material.

Sign blanks must be free of cracks, tears and other surface blemishes and the edges must be true and smooth. The finished sign must be flat within a maximum allowable bow of .005(D) in any direction where (D) is the maximum dimension of the sign blank in any direction.

6.2 SUPPORT POST

The method of attachment of the double sided sign bat to the support post must allow its easy removal and replacement.

The bottom of the support post must include a rubberised foot to ensure stability of the bat when held upright and resting on smooth or wet surfaces.

6.3 ILLUMINATION AND FLASHING SYSTEM

The Product must operate in one (1) illuminated flashing mode and incorporate the on/off switch in the hand control.

The illumination sources must be light emitting diodes (LEDs) or another illumination sources that will make the sign face visible from a distance of fifty (50) metres in both cloudy and sunny conditions.

The LEDs used must be **white** ultrabright 10 mm diameter with a flashing untinted clear lens. The rated luminance must be a minimum of 3000 mcd with a viewing angle of thirty (30) degrees. Alternative illumination sources such as smaller diameter surface mounted CREE style LEDs must provide equivalent performance.

The illumination sources must be positioned in such a way to outline the perimeter of the sign’s octagonal shape on both sides of the bat. The illumination sources must not appear within the “STOP” lettering on the bat.

The flash rate must be 55 to 65 flashes per minute.

The flash duty cycle must be either:

- (a) 50% on and 50% off or
- (b) 40% on and 60% off.

6.4 BATTERY CHARGING SYSTEM

The Product must be battery powered. Other power sources may be acceptable provided that it is rechargeable and can sustain continuous operation for at least five (5) hours. The power source must be protected against the ingress of moisture and dust.

The design must allow quick and easy access to enable prompt replacement or repair of the power system.

The Supplier must provide, as part of the operating instructions accompanying the Product, full details on the care and operation of the power system.

The Supplier must also provide a battery charger suitable for connection to a 240 volt 50 hertz mains outlet and a lead (approximately 1.5 m in length) to connect to a mains outlet.

The method of connecting the Product to the charger must not involve the use of any tools.

7 PRODUCT IDENTIFICATION

Each individual Product must have the following information in letters not greater than 10 mm high moulded, stamped or indelibly printed onto the support post:

- (a) serial number;
- (b) month and year of manufacture,
- (c) brand name and/or name of the;manufacturer or Supplier.

8 SUBMISSIONS FOR PRODUCT ASSESSMENT

Submit the following for approval by the TfNSW Contact Officer prior to the supply of the Product:

- (a) a complete working sample of the Product to be assessed;

- (b) documentation covering the operation of the Product;
- (c) supporting information that the Product complies with the requirements of this Specification.

The TfNSW Contact Officer may waive this requirement if the above submission has been provided previously to TfNSW by the Supplier.

9 FACTORY TESTING

The Supplier must subject each Product to factory testing before despatch to ensure that it will function properly and satisfactorily while in use.

The Supplier must identify by means of a self adhesive label or sticker that a Product has undergone and passed all factory testing procedures. Display such identification prominently on the support post of the Product.

10 PACKING AND DELIVERY

The Supplier must package each Product individually to prevent damage whilst being handled or in transit and display handling instructions clearly on the outside of the packing.

The finished Product must be handled, transported and stored so as to prevent damage to the sign face and other components.

The Supplier must show delivery instructions clearly on the outside of the packing.

11 PRODUCT DOCUMENTATION

One (1) copy of the Operating Instructions must accompany each Product and must be enclosed in a sealed and moisture-proof package. The instructions must be written in English and printed on an A4 size sheet.

The Supplier must include diagrams to show the location of the various components of the Product.

The minimum information to be included in the instructions is:

- (a) a warning that the Product can only be used by authorised School Crossing Supervisors;
- (b) details of the Supplier of the Product, including company name, address and contact details;
- (c) instructions on the operation, care and maintenance of the Product to ensure correct performance;
- (d) instructions on the operation, care and maintenance of the charging system;
- (e) instructions on the recommended practice for recharging the power source;
- (f) instructions on the replacement of the rechargeable power system; and
- (g) a list of company service outlets showing their delivery and mailing addresses, contact telephone number, website (if applicable), email addresses (if applicable) and facsimile number.

12 WARRANTY

The Supplier must provide a new product warranty of twelve (12) months from the date of the Product having been received by the TfNSW Contact Officer. The warranty must cover all elements of the Product except for any supplied rechargeable batteries.

The Supplier must also provide a service warranty of thirty (30) days covering all repair work performed on the Product. This period will commence from the date that the returned Product is received by the TfNSW Contact Officer.

13 SUPPORT SERVICES AND MAINTENANCE

The Supplier must provide support service for the Product during the product warranty period, which must include the following:

- (a) the forwarding of a faulty Product from any location within the state of New South Wales to the nominated Supplier’s service centre for inspection or repair as required;
- (b) the Supplier arranging for the return of the repaired Product to the nominated TfNSW location upon satisfactory completion of the repair work;
- (c) the Supplier providing TfNSW with a complete working replacement Product to cover the period that the repair work is being undertaken; and
- (d) the Supplier arranging for the pick up and return of the replacement Product upon the TfNSW Contact Officer taking receipt of the repaired Product.

Once the TfNSW Contact Officer notifies the Supplier of a problem or fault with a Product, the Supplier must respond within twenty four (24) hours of the notification.

The Supplier must provide to the TfNSW Contact Officer a written guarantee that the repair turn around time will not exceed more than ten (10) working days, unless approved otherwise in writing by the TfNSW Contact Officer. This period is measured from the date the TfNSW Contact Officer notifying the Supplier of a faulty or damaged Product to the date the fully repaired Product is returned to the TfNSW.

ANNEXURE 3421/A – CONTRACT SPECIFIC REQUIREMENTS

The TfNSW Contact Officer is: _____ (*insert name of responsible person*)

Insert below any other relevant contract specific requirements.

ANNEXURES 3421/B TO 3421/L – (NOT USED)

ANNEXURE 3421/M – REFERENCED DOCUMENTS

Refer to Clause 2.4.

Australian Standards

AS 60529	Degree of protection provided by enclosures (IP Code)
AS/NZS 1906.1	Retroreflective materials and devices for road traffic control purposes – Retroreflective sheeting
AS/NZS ISO 9001	Quality management systems – Requirements

TfNSW Traffic Technical Directions

TDT 2013/08	Approved retro-reflective sheeting materials for road signs
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