

TCS 046-2-2005



SPECIFICATION
FOR THE
INSTALLATION OF MICRO CELLS
ON
VICROADS TRAFFIC SIGNAL POLES

Issued
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PREFACE

A. GENERAL


This specification has been developed by the VicRoads. It is one of a number of technical specifications, and associated standard drawings, which set out the requirements for “on-road” ITS devices, traffic signal equipment and other electrical equipment and associated devices and control systems.

This specification, and associated standard drawings, is intended for use in all relevant works undertaken by or on behalf of VicRoads.

B. ELECTROMAGNETIC COMPATIBILITY (EMC)

All equipment covered by this specification shall comply with all relevant requirements of the Australian Communications Authority (ACA) for EMC. Such equipment shall comply with the requirements of AS4251.1 Electromagnetic compatibility – Generic emission standard – Part 1: Residential, commercial and light industry.

For equipment complying with the ACA’s ‘Level 1’ category a copy of a ‘Declaration of Conformity’ shall be supplied to VicRoads.

For equipment complying with the ACA’s ‘Levels 2 and 3’ categories, a copy of a test report (from a NATA approved testing facility) showing compliance shall be supplied to VicRoads. Equipment falling into either of these two categories (*i.e.* Level 2 and 3) shall be labelled with a conforming ‘C-Tick’. 

C. TELECOMMUNICATIONS EQUIPMENT

All telecommunications equipment shall comply with relevant requirements of the Australian Communications Authority (ACA). Such equipment shall be labelled with an ACA issued

‘A-Tick’ .

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Contents

SECTION 1 – SCOPE AND GENERAL	7
1.1 SCOPE.....	7
1.1 GENERAL.....	7
1.3 RELATED SPECIFICATIONS AND DRAWINGS.....	7
1.4 VICROADS APPROVAL.....	7
SECTION 2 – INSTALLATION REQUIREMENTS	8
2.1 GENERAL.....	8
2.2 TRAFFIC SIGNAL POLE.....	8
2.3 ANTENNA.....	8
2.4 CONTROL EQUIPMENT.....	9
SECTION 3 – DOCUMENTATION	10
3.1 GENERAL.....	10
APPENDIX A	11
GUIDELINES FOR VICROADS OFFICERS.....	11

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SECTION 1 – SCOPE AND GENERAL

1.1 SCOPE

This document covers the requirements for the installation of microcell aerials onto VicRoads Traffic Signal poles within the State of Victoria.

1.1 GENERAL

Microcells are part of the Digital Mobile Telephone Network and are installed by Communications Providers to increase the capacity and coverage of their Network.

All costs associated with the installation of microcells shall be borne by the Communications Provider.

No works shall commence prior to VicRoads approval and payment of all costs and/or fees.

1.3 RELATED SPECIFICATIONS AND DRAWINGS

The fabrication and supply of all components for the installation of microcells shall conform with all relevant Australian Standards or, in the absence of same, appropriate international standards.

All installation works shall conform to the relevant VicRoads specifications and related specifications and standards as indicated throughout this document.

1.4 VICROADS APPROVAL

The installation of all microcell aerial units onto VicRoads traffic signal poles shall be in a manner approved by VicRoads.

The type and location of traffic signal pole the Communications Provider proposes to use shall be approved by VicRoads and subject to the provision of a VicRoads licensing agreement prior to any works commencing.

No works shall be commenced until VicRoads approval has been given. This approval shall be sought by the Communications Provider for each individual installation. Detailed drawings and appropriate engineering calculations shall be provided with each application.

SECTION 2 – INSTALLATION REQUIREMENTS

2.1 GENERAL

Only the aerial, aerial cable, associated conduits and/or other protective coverings and a ladder rack shall be installed onto a VicRoads traffic signal pole.

All equipment, cables, conduit, brackets etc. that are mounted onto traffic signal poles shall be mounted on the external surface of the pole using non intrusive means.

A ladder rack may be installed above the traffic signal hardware to assist in access to the Communications Providers equipment.

2.2 TRAFFIC SIGNAL POLE

Where the proposed pole is a 2A or 2B pedestal it shall be replaced by an “extended 2B” pedestal. Extended 2B pedestals shall be 5300mm in length and shall be manufactured in accordance with VicRoads drawing TC-1200 Traffic Signal Posts Type 2A, 2B and 3.

Where the proposed pedestal is a Joint Use Pole, Mast Arm or Joint Use Mast Arm the equipment shall be mounted onto the existing pole.

Before any equipment is mounted on any pole, VicRoads may require the provider to supply their engineering calculations to a VicRoads approved consultant for proof engineering. A copy of the results of the proof engineering shall then be provided to VicRoads. The above shall demonstrate that the pole is capable of carrying the extra, proposed load.

Any works associated with replacing an existing traffic signal pole, or any other traffic signal related equipment, shall be undertaken by a contractor that holds appropriate pre-qualification under VicRoads contractor pre-qualification scheme.

2.3 AERIAL

The aerial shall be mounted on the top of the pole to provide a safe working clearance from the top of any traffic signal hardware. At all times a minimum of 200mm clearance from VicRoads traffic signal hardware shall be maintained.

The aerial cables shall be run on the outside of the pole and protected in a conduit or other suitable means.

NOTE: Under no circumstances shall any cables be installed inside VicRoads traffic signal pole.

All emissions from the aerial shall be shown to be safe for traffic signal technicians to work on traffic signal hardware. The provider shall provide a report from an independent NATA approved laboratory showing evidence of this.

A sticker/sign shall be mounted above the traffic signal hardware indicating the safe working distance from the aerial.

2.4 CONTROL EQUIPMENT

For the purpose of electrical safety, and to ensure compliance with all relevant OH&S requirements, a separate 240Vac supply will not be permitted to be installed onto a traffic signal pole. Under no circumstances shall the Communications Provider install any equipment that requires 240Vac onto a VicRoads pole.

Therefore, all associated control equipment shall be mounted within a suitable cabinet, located at an approved position adjacent to the traffic signal pole. Power for the control equipment shall be sourced from a separate 'Point of Supply' negotiated directly between the Provider and the Power Supply Company.

NOTE: In accordance with the requirements of the Electricity Distribution Code (See clauses 3.2.2 and 12.5), VicRoads is prohibited from providing power to a third party from VicRoads traffic signal installation.

SECTION 3 – DOCUMENTATION

3.1 GENERAL

The following documentation shall be supplied with the Communications Provider's request for approval for a microcell installation:

- (i) A drawing showing the type and location of the proposed pole;
- (ii) Detailed drawings showing the proposed installation of all equipment on the proposed pole;
- (iii) The proposed cabinet design and location in relation to the pole;
- (iv) Where required, independent proof engineering certification showing that VicRoads pole is capable of carrying the proposed equipment;
- (v) Evidence of safe working distances from the aerial; and
- (vi) Declaration that 240Vac will not be installed onto VicRoads pole.

APPENDIX A
GUIDELINES FOR VICROADS OFFICERS
INFORMATIVE

A1. DETAILS TO BE CONSIDERED WHEN CONSIDERING AN APPLICATION FOR THE INSTALLATION OF A MICROCELL

When considering an application for the installation of a microcell on a VicRoads pole, the following details should be considered:

- The type of pole involved and whether an extended 2B pedestal is required;
- The size and location of the proposed control cabinet
- Ensure that there is no proposal to install a 240Vac power source onto VicRoads traffic signal pole;
- Local council approval for the proposed installation;
- Evidence that a safe working distance from the aerial to the traffic signal hardware has been maintained.

If there are any doubts regarding the technical compliance with a proposed microcell installation, VicRoads' ITS Group can assist.