

# TRANSPORT FOR NSW SERVICES BRIDGE TECHNICAL DIRECTION MANUAL

## 1. INTRODUCTION

### 1.1 Purpose

The purpose of Transport for NSW (TfNSW) Bridge Technical Direction Manual is to provide a broad based set of TfNSW policies and guidelines on technical issues related to bridgeworks. By complying with the Manual, any planning and design of new bridges, as well as rehabilitation, maintenance and/or widening of existing bridges, carried out for TfNSW will have consistency in terms of quality, aesthetics or efficient use of resources, as required by Bridge and Structural Engineering, TfNSW.

### 1.2 Scope

This Manual sets TfNSW policy and provides guidelines on bridge related technical issues for all new, rehabilitation and other designs and related matters for TfNSW funded bridges and those that will become property of the TfNSW. It does not contain any comprehensive detailed design procedures.

### 1.3 Who is it for

This Manual is designed for use by all personnel carrying out work for TfNSW bridges, or for bridges that will become property of TfNSW, who are responsible for either design or administering design as well as documentation and construction of new bridges and rehabilitation, maintenance or widening of existing bridges.

### 1.4 What it contains

This Manual contains a collection of all current Bridge Technical Directions including still current Bridge Policy Circulars, Chief Bridge Engineer Circulars and Bridge Design Instructions issued to date. The associated Register specifies which current Bridge Technical Directions and Circulars comprise the TfNSW Bridge Technical Direction Manual.

### 1.5 Amendments to the Manual

All new Bridge Technical Directions and revisions arising from changes in technology, knowledge or process to any existing Bridge Technical Direction or Circular, together with the updated Register, are issued to maintain currency of the Manual.

### 1.6 Contact Details

For further information regarding the Bridge Technical Direction Manual, please contact:

Director Engineering Bridges and Structures  
TfNSW Advanced Technical Services  
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## 2. REGISTER OF CURRENT BRIDGE TECHNICAL DIRECTIONS

The following bridge technical directions constitute the TfNSW Bridge Technical Direction Manual. These bridge technical directions are available on the Internet and TfNSW Intranet.

No.		Subject	Date of Approval
BTD	2019/01	Provision for electrical continuity of steel in concrete structures	24/9/2019
BTD	2018/01	Bridge Bearings	1/2/2018
BTD	2017/02	Implementation of AS 5100:2017 - Bridge Design	28/6/2017
BTD	2017/01	Standard Bridge Drawings	21/6/2017
BTD	2014/03 Rev1	Release of Secure Bridge Plans	<del>13/8/2014</del> 19/12/2014
BTD	2014/02	Durability Plan for Bridgeworks and Other Structures	31/3/2014
BTD	2014/01	Traffic Loading for Bridges	7/02/2014
BTD	2013/01	Design of Precast Reinforced Concrete Box Culverts	26/03/2013
BTD	2012/01	Provision of Safety Screens on Bridges	12/07/2012
BTD	2011/08	Testing of Cast-in-Place Concrete Piles	25/10/2011
BTD	2011/07	TfNSW (RMS/RTA) Interim Code for Concrete Design	3/05/2011
BTD	2011/06 Rev1	Provisions for the Design of Super-T Girder Bridges	<del>4/04/2011</del> 24/9/2019
BTD	2011/05 Rev1	Minimum Restraint Requirements for Superstructures	<del>25/03/2011</del> 7/11/2018
BTD	2011/03	Skid-Resistant Treatments for Bridge Deck Joints	25/03/2011
BTD	2011/02	Use of CFA Piles on Bridges	25/03/2011
BTD	2011/01	Use of Proprietary Precast Reinforced Concrete Modular Bridge Deck Systems	18/03/2011
BTD	2010/03	Pretensioned Bridge Members – Concrete Transfer Strength Requirements	8/10/2010
BTD	2009/02	Management of Bridge Rehabilitation Design Projects	14/07/2009
BTD	2009/01 Rev1	Design of Sign Structures	<del>22/06/2009</del> 26/03/2010
BTD	2008/15	Concrete Parapets on Pedestrian Overbridges	6/06/2008
BTD	2008/12	Provisions for Concrete Structures in Acid Sulfate Soils	14/05/2008
BTD	2008/11	Lists of TfNSW (RMS/RTA) Approved Bridge Components and Systems	5/05/2008
BTD	2008/10	Bridge Deck Joints	5/05/2008
BTD	2008/09	Link Slabs for Precast Pretensioned Concrete Girder Bridges	25/02/2008
BTD	2008/08	Provision of Conduits in Bridge Traffic Barriers	25/02/2008
BTD	2008/07	Design of Bridge Supports for Collision Load from Road Traffic	25/02/2008
BTD	2008/06	Joints in Precast Concrete Barrier Elements on a Grade	25/02/2008
BTD	2008/05	Splicing of Steel Girders Using Bolts	25/02/2008
BTD	2008/03	Use of Profiled Steel Sheeting in Bridges and Minor Structures	25/02/2008
BTD	2008/02	Access for Inspection, Monitoring and Repair or Replacement of Bridge Components	18/02/2008
BTD	2007/13	Durability of Steel Piles in Contact with Acid Sulfate Soils	17/12/2007

No.		Subject	Date of Approval
BTD	2007/11	Horizontal Reinforcement for Crack Control in Walls and Wall Type Piers	17/12/2007
BTD	2007/10	Restraint of Longitudinal Reinforcement in Columns	17/12/2007
BTD	2007/09	Soil-Arch Structures	17/12/2007
BTD	2007/08 Rev1	Design of Replacement Traffic Barriers on Existing Bridges	<del>27/09/2007</del> 18/11/2009
BPC	2007/07	Vertical Clearances on Bridges	6/08/2007
BPC	2007/06	TfNSW (RMS/RTA) Structural Drafting and Detailing Manual	9/07/2007
BPC	2007/05	Design of Integral Bridges	1/08/2007
BPC	2006/05	Pipes and Conduits for Bridgeworks	24/05/2006
BPC	2006/03	TfNSW (RMS/RTA) Approval of Proprietary Bridging Systems	24/05/2006
BPC	2005/09	Provision of Disabled Access for Pedestrian Bridges	11/11/2005
BPC	2005/08	Welding of Bridges	18/11/2005
BPC	2005/06	Bird Nesting in Bridge Abutments & Box Girders	3/11/2005
BPC	2005/05	Use of Steel Fibre Reinforced Reactive Powder Concrete ('Ductal') in TfNSW (RMS/RTA) Works	8/09/2005
BPC	2004/11	Strategies for Enhancing the Durability of Post-Tensioned Concrete Bridges	30/11/2004
BPC	2004/09	Policy Circulars Made Redundant by AS 5100:2004	16/09/2004
BPC	2004/08	Inspection of Modular Bridge Expansion Joints and Control of Noise	16/09/2004
BPC	2003/08	Bridge Screens	9/12/2003
BPC	2003/07	Bridge Maintenance Piling Works	9/12/2003
BPC	2003/04	Use of Proprietary Expanded Metal Construction Joints and Shear Keys	15/02/2003
BPC	2003/03	Bituminous Surfacing for Timber Bridge Decks	15/02/2003
BPC	2003/02 Rev1	Waterproofing Membranes for Concrete Bridge Decks	<del>19/02/2003</del> 27/04/2016
BPC	2002/05	Bridge Concept	21/03/2002
BPC	2002/03	Standard Connector – Thrie-Beam to Old Three Rail RHS Traffic Barrier	1/03/2002
BPC	2002/02	Maximum Concrete Strengths for Use in TfNSW (RMS/RTA) Works	1/03/2002
BPC	2001/01	Replacement of Chief Bridge Engineer's Circulars	15/08/2001
CBE	2000/08	Bar Shapes and Steel Lists for Precast Concrete Members	19/05/2000
CBE	2000/05	Compaction of Concrete in Solid and Non-circular Bridge Columns	11/05/2000
CBE	1998/12	Tech Culvert™	23/07/1998
CBE	1997/10	Use of Brand Names	20/08/1997
CBE	1997/01	Variability of Concrete Properties	9/04/1997
CBE	1996/04	Driven Piles	17/06/1996

No.		Subject	Date of Approval
CBE	1995/03	Information to be Shown on Drawings for Driven Piles	23/10/1995
CBE	1995/02	Stress Laminated Timber Bridges	25/01/1996
CBE	1994/07	Mass of Girders	16/06/1994
CBE	1994/05	Drainage of Voids in Bridge Deck	26/08/1994
CBE	1993/03	Socket Inserts for Precast Concrete Girders	25/02/1993
CBE	1991/11	Bridges over Roads. Horizontal Clearances and Visual Perceptions	28/10/1991
CBE	1991/06	Permanently Cased Piles - Driving Shoe Details	10/07/1991
CBE	1990/10	Reinforcement Detailing	27/06/1990
CBE	1990/09	Weld Category - Fabricated Steelwork	1/06/1990
CBE	1990/07	Cast-in Angle Details - Amendments to Sketch Number 89-D-1	29/03/1990
CBE	1989/10	Detailing Steel Members	22/08/1989
CBE	1988/08	Provision of Curtain Walls	27/07/1988
BDI	1986/02	Design for Continuous Superstructures	21/04/1986
BDI	1985/07	Anchor Bolts	20/09/1985
BDI	1985/06	Bent on Site Reinforcing Bars	5/09/1985
BDI	1984/06	Provision of Drainage on Bridge Kerb	22/10/1984
BDI	1980/11	Provision of Lifting Lugs on Steel Girders	4/06/1980

The following link goes to the register that contains details of all Bridge Technical Directions published to date, including withdrawn and superseded BTDs, for use by TfNSW staff. External parties will not be able to access this register:

<http://home.rms.nsw.gov.au/tools/techinfo/documents/resources/bridge/btdmanstregister.xls>