

Bridge Descriptive System Guideline

Part A

Descriptive Guide



Version 1 April 2006

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Introduction to the BDS Descriptive Guide

Introduction	The purpose of this guideline is to provide all users of the Bridge Descriptive System (BDS) details of how to operate the application. It also defines the role each party plays in ensuring the database is kept up to date.		
Audience	 The information in this document is for the users listed below. Some of the topics in this document are for specific types of users only: Transit Users Regional Bridge Consultants Network Management Consultants Transit Information Systems Staff BDS System Administrator 		
Document Online	This document is held on-line and may be viewed by opening the application and selecting the User Guide button on the menu bar at the left hand side of the screen.		

Introduction to the System

Introduction	 The BDS is a Transit New Zealand database designed to assist with the effective management of bridge and culvert structures on the State Highway network, and contains all: bridges large culverts (those with a cross sectional area greater than or equal to 3.4m²) 		
Factors for Success	 The success of the BDS as a management tool is dependent on the following factors: the completeness of the data the quality of the data the usefulness of the data the contemporary nature of the data 		
Structure Identification	 Each structure is uniquely identified by the following attributes: Bridge name State Highway number Location on the highway (RP) BSN Network Area Transit Region Structures over or adjacent to highways are included in the database and are identified by the following attribute: State Highway number of MIS (for miscellaneous structure) Also included in the BDS are structures that are managed by Transit but owned by others.		

Roles and Responsibilities

Data Management	 All parties referred to in this chapter are involved in the BDS. They include: Regional Bridge Consultants (RBC's) Transit Regional Offices Transit National Office Operations Division (OPS) The System Administrator Network Management Consultants (NMC's) 		
Access	Access for adding or updating the database is restricted to the System Administrator at Transit National Office to ensure database integrity. All other users have read-only access.		
General	RBC's and NMC's are responsible for advising Transit Regional Offices of changes to existing structures, commissioning of new structures or removal of structures from the SH network. RBC's have overall responsibility for supplying updated Descriptive and Structural data as a result of changes within the State Highway network.		
Changes to Existing Structures	Any updates to data held on existing structures shall be annotated on the relevant Detail and Structural Reports printed from the current BDS.		
New Structures	Any new bridge, bailey bridge, or culvert (having cross-sectional area 3.4m ² or more), added to the network shall be recorded on blank Detail and Structural Reports		
Changes to State Highway Network	Transit on occasions may assume responsibility for roads previously managed by local authorities. The RBC is responsible for providing Transit with data for structures added to the State Highway Network as a consequence, using annotated blank Detail and Structural Reports. RBC's are also required to advise System Administrator where structures should be removed when highways are revoked, are demolished or are no longer on the SH network due to realignments.		

Update sheets	The RBC's will forward all Descriptive Update information to the BDS System Administrator at Transit National Office. All Structural Update sheets go to Ken Way at Opus International Consultants in Wellington.	
	The updated Detail and Structural Reports will be returned to the RBC for verification.	
Field Descriptions	All field descriptions for BDS amendments are to be as per the Field Descriptions (page 18).	

Role of Transit Regional Offices

General	The Transit Regional Offices are responsible for advising their local RBC of any changes to structures within the network, and ensuring data updates are forwarded without delay.
Updates	When the updated Update sheets are returned after input the Transit regional representative will update the regional hardcopy of the inventory.

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Role of System Administrator and Transit National Office

Introduction	The two main groups involved with the BDS at Transit National Office are the Operations Division (OPS), and Information Systems (IS).		
People Involved	BDS Sponsor – Dave Bates BDS System Owner – Lynn Sleath (OPS) BDS System Administrator - Nick Dawe (OPS) Business Systems Manager – Barry Hutchinson (IS) Developer - Argonaut Ltd The System Administrator is responsible for all Descriptive data input, system administration and return of completed Descriptive updates to Regional Bridge Consultants.		
National Office Operations Division	 OPS is responsible for managing the BDS, including the following: ensuring the data held within the database is useful, correct, and up to date; and following up on and ensuring errors are fixed in a timely manner 		
National Office Information Systems	IS provide support to the System Administrator and are available for technical queries. The Helpdesk can be reached on (04) 496 6687 or at <u>helpdesk@transit.govt.nz</u>		
Internet Access	 The BDS can be accessed via the Internet using either a dial- up or permanent connection. A web browser is required to connect to the secure Transit New Zealand website when logging on. The browser should support JavaScript and have cookies enabled. The BDS is located at: https://www.transit.govt.nz/bds. 		
Administration	Documentation of changes to the BDS, correspondence, authorised user names, corresponding field description codes, and other relevant information can be found in the file labelled: IN7-0046 held at Transit National Office. Descriptive Updates are held on IN3 - 0002		

Accessing and Using the BDS

	This s	ection explains the following:	
Introduction	how to access the BDS via the Internet,how to use the application.		
Who can access	Only authorised users can access the BDS.		
	First time users should follow the steps outlined in the table below to access the BDS.		
	Step	Action	Result
Starting up	1	Contact the BDS System Administrator at Transit National Office to access the database.	The System Administrator will arrange for access with the Transit Helpdesk.
	2	Connect to the Internet and enter the address https://www.transit.govt.nz/ bds.	The login will be displayed.
	3	Enter username and password as prompted.	The introductory screen will appear.
Username and password	Contact the BDS System Administrator to obtain a username and password.		



The Search option is available for users to query the database.

An individual structure within the search result can also be clicked on, to produce a detailed view of that structure only.



Search

Action	Description	Comments
1	Select a field by clicking on the field name from the list.	
2	Select the appropriate symbol from the middle list.	For an explanation of how these symbols work, refer to Relational Operators on page 39.
3	Type in or select the search value as appropriate.	
4	Click the Add button to include the new Criteria in your search.	The criteria will be added to the search and displayed in the middle

5	Add more criteria, or click the Search button to run the search.	Any matching structures will be displayed in a list below the Search criteria.
6	Select the form in which the results will be shown. The options are: Detail Report Structural Report Summary Report Classification Report Download to Excel	To select one record, double-click the ID no. To select all chosen structures click the relevant report button.

The user may expand/refine the query further by repeating the six steps detailed above in the subsequent rows on the search form.



The 'x' removes your selection

	TEAST	
		Search
	Search	Bridge ID Add
	New	Bisplacement > Bidge Structure Number >= Bidge Structure Number >= Bidge Structure Number >=
	User Guide	Network Area
	Forms	Region' = D4 - Wanganui'
	Configuration	and "Network Area" = '4B - East Wanganui'
		and State Highway' = "In" 🛪 and "Reference Station" = 954 🗱
		Search
		4 matching structures found. Detail Structural Summary Classification Download All
		Id Region < <sh>> RS Disp BSN Name</sh>
		31811 04 - Wanganui 1N 954 10.19 9642 DUCK CREEK CULVERT Image: Colored and the c
		31813 04 - Wanganui 1N 954 11.72 9657 WHIROKINO TRESTLE BRIDGE Image: Comparison of the state of the
		31814 04 - Wanganui 1N 954 12.97 9670 MANAWATU RIVER (WHIROKINO) BRIDGE 🔀 🛱 🗊
Attachments	If there are	e attachments for viewing the following icons will be displayed
	beside the	e structure name:
	×	Descriptive data available
	\otimes	Structural data available
		Pictures available
		Documents available

Upon defining search criteria in the search form, users are given options as to how they wish to view the data. Search Bridge ID Add Name State Highway Reference Station Displacement Bridge Structure Number Misc Bridge ID Region Network Area Search < <= > >= Between User Guide Forms Road Contolling Authority -"Network Area' = "5B - Nelson" 🗙 and 'Reference Station' = 255 Search 11 matching structures found. Detail Structural Summary Classification Download All Id Region <<<SH>>> RS Disp BSN Name 33785 05 - Wellington 6 255 0.00 2550 O'SULLIVANS BRIDGE 🔀 🕅 🔐 33786 05 - Wellington 6 255 1.56 2566 WHALES CREEK BRIDGE 🛛 🔀 🕼 33787 05 - Wellington 6 255 4.20 2592 WHITES CREEK BRIDGE 🔀 🕸 🖉 33768 05 - Wellington 6 255 4.61 2596 BROWNS CREEK BRIDGE 🛛 🧩 🚱 33789 05 - Wellington 6 255 6.00 NEWTON RIVER BRIDGE EXTENSION 🔀 🛞 💓 33790 05 - Wellington 6 255 6.02 2610 NEWTON RIVER BRIDGE 33791 05 - Wellington 6 255 7.60 2626 BIG DEEP CREEK BRIDGE 📈 🛞 🗊 Reports 🔀 🛞 🖉 33792 05 - Wellington 6 255 8.65 2637 CARTERS CREEK BRIDGE 33793 05 - Wellington 6 255 9.00 OROURKES BRIDGE 🏁 🛞 🗊
 33736
 05 - Weilington 6
 255 9.43
 2644
 LITTLE DEEP CREEK BRIDGE
 Image: Comparison 6
 Image: Comparison 6 These options are given to help in providing data useful for the purpose for which the users query was intended. Options available are: Select Record (Click on Bridge ID number) • **Detail Report** • Structural Report Summary Report • **Classification Report** • Download All to Excel • This section gives a brief overview of the benefits of each of the above options.

This option displays the data in a tabbed form for any one particular structure selected from the search form results.

For quick reference to details of one structure this option is useful to view the data on screen.

A full report of the information held on all tabs may be viewed from this option by selecting the Detail or Structural button (whichever is appropriate).

Select Record

Detai

New ICALANY	Name	O'SULLIVANS BRI	DGE					
	BSN	2550	SH	6				
	Bridge Id	33785	RP	255 / 0.00				
	Region	05 - Wellington	Direction	1 - Two Way				
Search	Network Area	5B - Nelson	Misc Bridge ID					
Liber Guide	RCA		Start Location (N/E)	1				
User Oulde	Archived		End Location (N/E)	1				
Forms	Extension Type	Original Structure	Key: No Data	Data Available				
	General Str	ucture Geometry	Capacity Cal	s Deck TDe	ck Long	VLong	Trans	Inf Inter
	Date Amended	31/03/2003	Structure Own	er Transit				
	Function	SH over waterv	vay Year Construc	ted 1975				
	Combined Func	tion no	Drawings	WD037935, 5/55/5/750	14			
	Design Loading	H20_S16_T16	No. of drawing	IS 17				
	Cost \$	466000.00	Drawing held	at Opus Wellington				
	Commente							
	Comments							
	Detail	Structural						
	Attachments							
			No Extensions					
	Name	Size						
	006_255_1_0.jpg	86733						

This option displays the Descriptive data for one or more structures on a one page report. It can be printed from here, or saved as a PDF file.

	Date 18/03/2006	Bridge Descriptive System - Detail Report Page 1 of 1
	Name: NARROWS BRIDGE Bridge ID: 32709	E SH: 21 RP: 2 / 0.00 BSN: 20 Direction: 1 - Two Way Region: 02 - Bay of Plenty Network Area:2A - West Waikato
	GENERAL	Base Amended 24/09/1997
l Report	Function: Combined Function: Year Constructed: Design Loading: Drawings: Drawings: Drawings Held at: Cost: Ownership: Comments:	SH over waterway road and footway 1939 18/231 4 BBO 15032.00 Transit
	STRUCTURE AND MATERIALS	Base Amended 24/09/1997
	Structure Type: Cross Section of Superstructure: Long Section of Superstructure: Superstructure Material: Deck Material: Wearing Surface On Deck: Bearn Type: Bearing Type: Expansion Joint Type:	bridge beam and slab, comp arch, deok Conc. cast insitu reinforced reinforced concrete chip seal T beams superstructure monolithic with support none



	This report displays the bridge classification and po	osting data.
	Bridge Classification Report	
	Report run on 18/03/2006	
	Bridge ID Region SH RS Disp Name BSN Bridge Class DCF Crit. Span Crit. 33978 06 - Canterbury 6 626 0 WAIKUKUPA RIVER 6260 1.23 0.78 24.69 3 33979 06 - Canterbury 6 626 1.5 NO NAME 232900 06 - Canterbury 6 28 NO NAME	Moment Gross Limit Posted Speed 3282
	33962 06 - Canterbury 6 626 5.63 CLEARWATER CREEK 6312 1.39 1.00 19.81 4 33962 06 - Canterbury 6 626 5.63 CLEARWATER CREEK 6319 1.33 9.99 16.00 3	4412 3049
	33963 06 - Canterbury 6 02 6.88 CARLER CREEK 33965 06 - Canterbury 6 02 8.28 FOX RIVER BRIDGE 6343 0.94 0.88 7.32 33965 06 - Canterbury 6 02 9.5 THIRSTY CULVERT(STONY CREEK) 0.94 0.88 7.32	32 35000 30
Classification	33996 06 - Canterbury 6 626 11.23 RIBBONWOOD CREEK 33987 06 - Canterbury 6 639 0 COOK RIVER (WEHEKA) BRIDGE 6390 0.94 0.88 7.32	32 35000 30
Report	33968 06 - Canterbury 6 639 1.49 BULLOCK CREEK BRIDGE 6405 1.64 9.99 16.00 3	3749
Кероп	33999 06 - Canterbury 6 639 5.42 OHINE I AMATEA CREEK 6444 0.88 0.79 13.72 9 33990 06 - Canterbury 6 639 9.3 BLACK CREEK 6483 1.11 0.95 14.20 2	993 2121
	33991 06 - Canterbury 6 639 11.73 HAVELOCK CREEK BRIDGE 6507 1.33 9.99 16.00 3	3049
	33992 06 - Canterbury 6 639 15.55 SCOTTS BRIDGE (BORDER CREEK) 6546 1.16 9.99 8.05 9	907
	33994 06 - Canterbury 6 639 16.92 STONEY CREEK BRIDGE (SH 6) 6559 0.90 0.91 14.20 1 33995 06 - Canterbury 6 659 0 KARANGARIJA BI/CR BRIDGE 6590 1.01 0.88 3.66	1716 17 35000 30
	33996 06 - Canterbury 6 659 0.46 DUSTY MILLAR CREEK 6595 0.84 0.93 9.14	778
	33997 06 - Canterbury 6 659 0.85 MAIMAI CREEK BRIDGE 6599 0.74 1.00 10.67 6	566
	33998 06 - Canterbury 6 659 7.96 MANAKAJAUA RIVER BRIDGE 6670 0.74 1.00 12.19	701
	33999 06 - Canterbury 6 659 9.3 PITA CREEK CULVERI 34000 06 - Canterbury 6 670 0 JACOBS RIVER BRIDGE 6700 0.94 1.00 15.24 1	1243
	34001 06 - Canterbury 6 670 3.86 PAPAKERI CREEK BRIDGE 6739 0.74 1.00 10.67 5	566
	34003 06 - Canterbury 6 670 7.02 NO NAME CULVERT	
	34005 06 - Canterbury 6 670 10.16 NO NAME CULVERT	
	34006 06 - Canterbury 6 670 10.91 NO NAME COLVERT 34007 06 - Canterbury 6 670 11.43 MAKATATA STREAM BRIDGE 6814 1.06 0.93 8.10 8	837
	This option displays a comprehensive report of Des spreadsheet. The spreadsheet includes a heading and column headings.	criptive data as an Excel stating the search criteria,
	All normal Excel functions can be applied to the spr or refine the results.	readsheet to sort, analyse
	Reads of Sarry to Shipe Description Investory	
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Field Descriptions

	Field description options are shown in the table below classed by the two different types:
	Bridge StructuresCulvert Structures
Field Description options	When updating the Descriptive data, field descriptions are to be recorded on hard copies of Detail reports.
	When updating the Structural information, data is be recorded on Structural Update Sheets available from the Forms button on the BDS menu bar, or from the BDS Structural Guide, also available from the User Guide button on the menu bar.

	Bridge Structures						
Date <u>E</u>	Bridge Descrip	tive S	System- I	Detail R	eport	Page 1 of	
Name:	Direction	SH:	Desian	RP:	/	BSN:	
Dhuge ID.	Direction		Region.			Network Area.	
<u>GENERAL</u>							
Function: Combined Function: Design Loading: Cost: Bridge Owner: Year Constructed: Drawing Numbers: No. of Drawings: Drawings Held at:							
STRUCTURE AND	MATERIALS						
Structure Type: Cross Section of Supers Long Section of Supers Superstructure Material Deck Material: Wearing Surface On De Beam Type: Bearing Type: Expansion Joint Type: Pier Type: Maximum Pier Height: Equadeiance	Bridge structure: tructure: cck:			metres			
Foundations: Length Of Structure:	/l ongth In m);			metres			
GEOMETRICS & S	/Length In .m):						
Lanes Marked (Inc / De Handrails:	c):	/					
Height of Handrails: Width Between Handrai Curvature:	ls Tops:			metres metres			
Radius of Horizontal Cu K Value of Vertical Curv Gradient Of Deck: Guardrails:	rve: /e:			metres metres %			
Road Width Between Ko Kerb Or Guardrail Heigh Footway Or Kerb Width Vertical Clearance: Hazards: Traffic Control Devices: Lighting On Bridge: Utilities Carried:	erb or Guardrail: nt: (Left / Right):			metres metres metres			
LIVE LOAD CAPA Speed Limit: Axle Weight Limit: Stresses (Gross Limit / Restriction Date: Failure Mode: Condition: Action Recommended: Work Status: Alternative Route: Gross Weight Limit: Analysis Method:	CITY Axle Limit) :			(km/h)			
Name: Bridge ID:	Direction	SH:	Region:	RP:	/	BSN: Network Area:	

Field Name	Field Description
	The name signposted on the bridge (usually the river or stream name), or if not signposted, the name by which the bridge is known.
	If a signposted bridge is also known by an alternative name (if for instance the waterway and bridge have different names), this is shown additionally in brackets:
Name	INANGAHUA RIVER (REEFTON) BRIDGE
	For Miscellaneous bridges (those structures that are adjacent to or pass over the SH and within the road reserve) the name will include the adjacent state highway in brackets, e.g:
	HIKURANGI CULVERT NO.2 (ADJ. SH1N)
	McEWAN ROAD OVERBRIDGE (OVER SH15A)
	The relevant State Highway number.
State Highway	For bridges over or adjacent to State Highways, the highway is shown as MIS.
Route Position	The Route Position (Reference Station plus Displacement) where the bridge is located), taken at the first abutment in the Increasing direction. For miscellaneous bridges the Route Position is the adjacent position on the State Highway.
BSN	The BSN (Bridge Structure Number) is the signposted number assigned to the structure
Direction	 The direction of traffic using the bridge. This may be: in the direction of increasing Route Position - shown as Increasing (usually this occurs on a Dual carriageway) in the direction of Decreasing Route Position - shown as Decreasing (Dual carriageway) or both ways - shown as Two-way.

Region	 Transit region in which the bridge is situated: 1- Auckland 2- Hamilton 3 - Napier 4 - Wanganui 5 - Wellington 6 - Christchurch 7 - Dunedin The boundaries may be viewed in the Transit New Zealand State Highway Network Map Series.
Network Area	The Transit Network Area where the structure is located: 1A - Northland 1B - Auckland North 1C - Auckland South 2A - West Waikato 2B - East Waikato 2C - Bay Roads 2D - Tauranga District 2E - PSMC 001 2F - Central Waikato 2G - Rotorua 2H - Bay of Plenty 3A - Gisborne 3B - Napier 4A - West Wanganui 4B - East Wanganui 5A - Wellington 5B - Nelson 5C - Marlborough Roads 6A - West Coast 6B - North Canterbury 6C - South Canterbury 7A - Central Otago 7B - Coastal Otago 7C - Southland

GENERAL				
Function	 The function of the bridge relative to the state highway. The options being: SH over waterway SH over road SH over railway SH over comb. of strm, rd, rly or other Road over SH Railway over SH Footbridge over SH On/off ramp to/from SH Other over or adjacent to SH 			
Combined Function	 No Road and rail, same lane Road and rail, separate lanes Road and footway Road and separate cycleway 			
Year Constructed	Year original construction completed.			
Design Loading	 Traction engine Traction engine, modified H20 S16 H20 S16, modified H20 S16 T16 H20 T16 T44 HN HO 72 Other (describe) Other, modified (describe) Unknown 			
Drawing Numbers	All Drawing Numbers. Different drawing numbers must be separated with a comma (,)			
No. of Drawings	Total number of drawings			
Drawings held at	Location of drawings, eg, Consultant and location			
Cost	Original cost of the structure if known			

	Structure owner/manager, eg:
Ownership	 Transit New Zealand OnTrack Privately owned (give name) Local Authority (give name) Other (give name)

STRUCTURE				
Structure Type	 Will be one of the following: Bridge Bailey Other (describe) 			
Cross Section of Superstructure	 Show one of the following as appropriate: Beam and slab, composite Beam and slab, non composite Box girder Slab Truss, through Truss, deck Units with slab Units without slab Other (describe) 			
Long Section of Superstructure	 Show one of the following as appropriate: Arch, deck Arch, earth filled Arch, through Continuous spans Hinged spans Portal frame Simple spans Suspension Suspended spans Other (describe) 			
Superstructure Material	Show one of the following as appropriate: • • Conc. cast in situ reinforced • Conc. cast in situ prestressed • Conc. precast reinforced • Conc. precast pretensioned • Conc. precast post-tensioned • Masonry • Steel • Timber • Other (describe)			

Deck Material	 Show one of the following as appropriate: Prestressed concrete Steel Reinforced concrete Timber, transverse planks Timber, longitudinal planks Timber, diagonal planks Timber, glue laminated Timber, nail laminated Other (describe) 	
Wearing Surface on Deck	 Show one of the following as appropriate: Asphalt Chip Seal Concrete Gravel Timber, running planks Timber, deck planks Other (describe) 	
Beam Type	 Show one of the following as appropriate: Double core units I beams Inverted T beams Log beams Plate girders Single core units T beams U beams Other (describe) 	

Bearing Type	 Show one of the following as appropriate: Bronze or other non-ferrous sliding surf Concrete with or without mortar, fabric Rubber unreinforced Rubber + embedded metal plates Rubber + ptfe/stainless sliding surface Steel hinge + rollers Steel hinge with or without sliding plate Steel fixed or sliding plates or rockers Superstructure monolithic with support Other (describe) 	
Expansion Joint Type	 Show one of the following as appropriate: Air gap Bitumen filled gap None Rubber seal (solid) Rubber seals + vert. steel plates Rubber extrusion unreinforced Rubber extrusion + embedded steel plates Steel finger joint with or without rubber Steel sliding plate Other (describe) 	
Foundations	 Show one of the following as appropriate: Bored piles, steel shell cast in situ Cylinders, caissons by compressed air Cylinders, sunk by open excavation Driven piles, timber Driven piles, RC or PSC Driven piles, steel Driven piles, steel shell cast in situ Spread footings Other (describe) 	
Length of Structure (m)	Overall length along highway	

Pier Type	 Show one of the following as appropriate: Formed by foundations None Masonry RC wall or diaphragm RC single columns RC multiple columns RC inclined pier Steel Other (describe) 	
Maximum Pier Height (m)	Above bed-level or ground	
Span Arrangement	Groups of span lengths (in order of increasing route position and in direction if possible) e.g. if spans are 15m, 30m, 30m, 30m, 15m, 15m, describe as 1/15, 3/30, 2/15.	

GEOMETRY		
Lanes Marked (Inc/Dec)	 Number of lanes marked in direction of increasing route position and in direction of decreasing route position. If only the centreline is marked this is shown as 1/1 One lane, two-way bridges are shown as 0/0 	
Single Lane Bridge	If a single lane bridge write "yes."	
Passing Bays	Number of Passing bays on bridge	
Guardrails	 Show one of the following as appropriate: Cable None Steel channel Steel flexbeam unreinforced Steel flexbeam cable reinforced Nail laminated timber Glue laminated timber New jersey barrier Other (describe) 	
Kerb or Guardrail Height (m)	Height of kerb or guardrail, whichever defines the road width.	
Road Width between Kerb or Guardrail (m)	If the bridge has both kerb and guardrails, give the smaller width.	
Handrails	 Show one of the following as appropriate: Aluminium Concrete Concrete post and steel tube Concrete post and timber rails None Steel Steel post and timber rails Timber Timber post and steel tube Other (describe) 	

Height of Handrails (m)	Height above deck	
Width between Handrails Tops (m)	Minimum value	
Footway or Kerb Width (left/right) (m)	Left and right is with respect to the direction of increasing route position on single carriageways, and to traffic direction on dual carriageways.	
Vertical Clearance (m)	Vertical clearance for traffic on the bridge. If this varies over the width of the carriageways or length of the bridge, the smallest value is given. Blank indicates no height restriction.	
Curvature	 Show one of the following as appropriate: Comb horizontal & vert crest curve Comb horizontal & vert sag curve Horizontal curve Multiple horizontal curves Multiple vertical curves Straight Vertical crest curve Vertical sag curve 	
Radius of Horizontal Curve (m)	Blank if no horizontal curve	
K-Value of Vertical Curve	K-value without + or Blank if no vertical curve.	
Gradient of Deck	Expressed in percent or indicated as "variable".	
Hazards	 Show one of the following as appropriate: Abrupt change in carriageway width Combination of hazards Deceptive horizontal curve 	

	 Deceptive vert curve None Restricted sight distance Other (describe)
Traffic Control Devices	 Show one of the following as appropriate: Gates Light signals None Passing bays Other (describe)
Lighting on Bridge	 Show one of the following as appropriate: Decorative High mast Illuminated handrails None Simple overhead Other (describe)
Utilities Carried	 Show one or more of the following as appropriate: Emergency phones Flushing pipes Gas pipes Irrigation pipes Power wires/cables Phone Fibre Optic Cables Sign gantries Sewer pipes Water supply pipes Other utilities (describe) If a sign gantry (a frame over the carriageway to support traffic signs), is indicated there should be a corresponding vertical clearance restriction.

CAPACITY			
Speed Limit (km/h)	 The legal speed limit applying to heavy motor vehicles. This is: The speed value on a heavy vehicle bridge limit sign posted at the bridge; or The speed value entered on a highway bridge live load capacity report for the bridge if there is no posted limit. 		
Gross Weight Limit	 The legal gross weight limit applying to heavy vehicles. This is either: The value on a heavy vehicle bridge limit sign posted on the bridge, or The value entered on a highway bridge live load capacity report for the bridge Blank indicates that there is no gross weight limit, i.e. The bridge can carry 100% of class 1 loading 		
Axle Weight Limit	 The legal axle weight limit applying to heavy vehicles. This is either: The value on a heavy vehicle bridge limit sign posted on the bridge, or; The value entered on a highway bridge live load capacity report for the bridge Blank indicates that there is no axle weight limit i.e. that the bridge can carry class 1 axle loading 		
Stresses (Gross Limit/ Axle Limit)	The stresses used in calculating gross weight limit and axle weight limit for the highway bridge live load capacity report. Blank indicates not applicable.		
Restriction Date	Date of original legal load restriction only applies to bridges with posted heavy vehicle bridge limits.		

Failure Mode	 Show one of the following as appropriate: Ductile Non - Ductile Uncertain
Analysis Method	 Show one of the following as appropriate: Preliminary Not analysed Rigorous
Condition	 Show one of the following as appropriate: Deck deterioration Insufficient waterway Main member deterioration No deterioration or risk Scour risk Scour risk and structural deterioration
Action Recommende d	 Show one of the following as appropriate: Leave as is Monitor for scour Monitor for structural deterioration Post new speed limit Post new weight and speed limits Post new weight limit Replace Strengthen for live load Strengthen for scour
Work Status	 Show one of the following as appropriate: Need recognised by Transit Not programmed On 3 year programme - design complete On 3 year programme - design not complete On 5-10 year programme Replacement under construction Scheme plan approved

	A ford is only shown if it is usually passable by all traffic. Show one of the following as appropriate:				
Alternative	 Deviation 0 to 5km Deviation 5 to 15km				
Route	Deviation over 15km Immediately adjacent ford Immediately adjacent route None				

		C	ulvert Structu	res		
Date 29/10/2003	Bridge	Descri	ptive System - D	etai	I Report	Page 1 of
Name:		SH:	RP:	/	BSN:	
Bridge ID:	Direction:		Region:		Network Area:	
CENEDAL						
GENERAL						
Function: Combined Function: Design Loading: Cost:						
Bridge Owner: Year Constructed: Drawing Numbers: No. of Drawings:						
Drawings Held at:						
STRUCTURE AN	D MATERIALS					
Structure Type: (Culvert Type: Material: Invert Lining: Waterway Area: Depth of Covering Fill: Foundations: Length Of Structure:	Culvert		metres			
GEOMETRICS &	<u>SAFETY</u>					
Lanes Marked (Inc / D Handrails: Height of Handrails:	ec):	/	metres			
Width Between Handra Curvature:	ails Tops:		metres			
Radius of Horizontal C K Value of Vertical Cu	curve: rve:		metres metres			
Gradient Of Deck: Guardrails:			%			
Road Width Between I Kerb Or Guardrail Heig Footway Or Kerb Widt Vertical Clearance: Hazards: Traffic Control Devices Lighting On Bridge: Utilities Carried:	Kerb or Guardrail: ght: h (Left / Right): s:		metres metres metres metres			
LIVE LOAD CAPA Speed Limit: Axle Weight Limit: Stresses (Gross Limit Restriction Date: Failure Mode: Condition: Action Recommended Work Status: Alternative Route: Gross Weight Limit: Analysis Method:	ACITY / Axle Limit) : :		(km/h)			
Name: Bridge ID:	SH Direction:	ł:	RP: / Region:		BSN: Networ	k Area:

Field Name	Field Description			
Highway Route Position Direction Region Name	All field descriptions as for Bridge Structures.			
	GENERAL			
All field names and	ield descriptions as for Bridge Structures.			
	STRUCTURE			
Structure Type	 Culvert Pedestrian Subway Stock Underpass Other (Describe) 			
Culvert Type	 Show one of the following as appropriate: Arch Box Multiple box Multiple pipe Pipe Pipe-arch Stave Other (Describe) 			
Material	 Show one of the following as appropriate: Aluminium Armco, multiplate Armco, nestable Armco, superspan RC cast in situ RC precast Steel Timber 			

Invert Lining	 Show one of the following as appropriate: Aluminium Asphalt Concrete None Other (Describe) 		
Foundations	 Show one of the following as appropriate: Bored piles, steel shell cast in situ Cylinders, caissons by compressed air Cylinders, sunk by open excavation Driven piles, RC or PSC Driven piles, steel Driven piles, steel shell cast in situ Driven piles, timber Spread footings Other (Describe) 		
Waterway Area (m²)	Maximum cross-sectional area available for passage of water.		
Depth of Covering Fill (m)	Distance from top of pavement surface to top of culvert roof.		
Length of Structure (m)	Length between headwalls (if present). An average length is shown if the ends are skewed or sloping.		
GEOMETRY			
All field names and field descriptions as for Bridge Structures.			
CAPACITY			
All field names and field descriptions as for Bridge Structures.			

Using Relational Operators

Introduction	The BDS search form is structured to use the SQL query analyser tool to retrieve information from the database tables. Every time the user operates the search form, a relational operator is required.
Relational Operators	The table below gives a list of each of the relational operators given in the search form, and an explanation of their use.

RO	Comments
=	To request one specific field from the fourth column.
>	to request information above a stated value (must be numerical) e.g. year constructed > 1970
>=	to request information equal to and above a stated value (must be numerical)
<	to request information below a stated value (must be numerical)
<>	To request all information other than that stated. NB. When the '<>' symbol is selected the word 'and' and a fourth column will appear on the <i>search form</i> . To complete the query using the 'between' function, select one value in the third column then a value greater than that selected in column three in column four (must be numerical)
>=	to request information greater than or equal to the stated value (must be numerical)
<=	to request information less than or equal to the stated value (must be numerical)

like	When using the like operator, it is advisable to put the % symbol either side of the query. The whole bridge name is not required when using this operator. e.g. a report is required for a bridge, all information known is that the name contains the word bridge. Hence, the field in the third column should read bridge.
Between	To select information between two values

Blank Bridge and Culvert Detail Reports

Date 29/10/2003	Bridge Descriptive Inventory - Detail Report			Page 1 of
Name: Bridge ID: <u>GENERAL</u>	Direction:	SH: Region:	RP: / Network Area:	BSN:

Function: Combined Function: Design Loading: Cost: Bridge Owner: Year Constructed: Drawing Numbers: No. of Drawings: Drawings Held at:

STRUCTURE AND MATERIALS

Structure Type: Cross Section of Superstructu	Bridge re:	
Long Section of Superstructure	e:	
Superstructure Material:		
Deck Material:		
Wearing Surface On Deck:		
Beam Type:		
Bearing Type:		
Expansion Joint Type:		
Foundations:		
Length Of Structure:		metres
Pier Type:		
Maximum Pier Height:		metres
Span Arrangement (No./Lengt	:h ln .m):	

GEOMETRICS & SAFETY

/	
	metres
	metres
	metres
	metres
	%
	metres
	metres
	metres
	metres
	(km/h)
	()
	/

Restriction Date: Failure Mode: Condition: Action Recommended: Work Status: Alternative Route: Gross Weight Limit: Analysis Method:

Name:	SH:	RP:	/	BSN:
Bridge ID:	Direction:	Region:		Network Area:

Date 29/10/2003	Bridge Desc	riptive Inventory - De	<u>tail Repor</u> t	Page 1 of
Name: Bridge ID: GENERAL Function: Combined Function: Design Loading: Cost: Bridge Owner: Year Constructed: Drawing Numbers: No. of Drawings: Drawings Held at:	SH: Direction:	RP: / Region:	BSN: Network Area:	
STRUCTURE AN	ID MATERIALS			
Structure Type: Culvert Type: Material: Invert Lining: Waterway Area: Depth of Covering Fill Foundations: Length Of Structure:	Culvert I:	metres		
GEOMETRICS &				
Lanes Marked (Inc / E Handrails: Height of Handrails: Width Between Handra Curvature: Radius of Horizontal (C K Value of Vertical CL Gradient Of Deck: Guardrails: Road Width Between Kerb Or Guardrail He Footway Or Kerb Wid Vertical Clearance: Hazards: Traffic Control Device Lighting On Bridge: Utilities Carried:	Dec): / rails Tops: Curve: urve: Kerb or Guardrail: ight: th (Left / Right):	metres metres metres % metres metres metres metres		
LIVE LOAD CAP Speed Limit: Axle Weight Limit: Stresses (Gross Limit Restriction Date: Failure Mode: Condition: Action Recommended Work Status: Alternative Route: Gross Weight Limit: Analysis Method:	P <mark>ACITY</mark> : / Axle Limit) : d:	(km/h)		
Name: Bridge ID:	SH: Direction:	RP: / Region:	BSN: Network Area:	

Glossary

Term	Description
BDS	Bridge Descriptive System
IS	Information Services
RBC	Regional Bridge Consultant
NMC	Network Management Consultant
MIS	Miscellaneous
OPS	Operations Division
RP	Route Position
SQL	Structured Query Language

Getting Help

Introduction	The BDS has been designed to be easy to use. However, there may be times when assistance is required to use the system.
Where to find help	When you need assistance, you should contact Transit National Office and ask to speak to the Helpdesk on 04 496 6687.
Helpdesk	The Helpdesk is the first point of contact for users of the BDS with access issues.