

## Letter of instruction

## Information for users

The following document:

RT/CE/S/080  
Issue 1

has had changes made to it, most recently, with effect from **14 March 2014**.

## Instructions for use

It is essential that you first read and understand each letter of instruction pertaining to the standard before proceeding to use the standard. You must then apply the requirements of each letter to the standard.

|              |         |                       |                       |
|--------------|---------|-----------------------|-----------------------|
| NR/BS/LI/264 | Issue 1 | Expired 14 March 2014 | Proceed to letter ►   |
| RT/CE/S/080  | Issue 1 | 03 April 2004         | Proceed to standard ► |

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| Issue | I                    |
| Date  | April 2004           |

# Management of Existing Bridges and Culverts (formerly RT/CE/S/080)

**This temporary front sheet facilitates change to the new Network Rail Standards referencing nomenclature.**

**The Ref above will be formally allocated to this standard when it is next changed in the meantime the contents, date and issue number of this Network Rail Standard are UNCHANGED and with immediate effect it should be referred to as “(new ref) formerly (old ref)”.**

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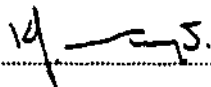
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# Business Process Document

## Specification Volume EX(A) I Management of Existing Bridges & Culverts

### Endorsement & Authorisation

Endorsed by:



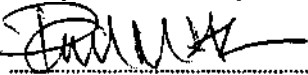
K. Teager, Professional Head of Structures Engineering

Authorised by:



A. McNaughton, Chief Engineer

Accepted for issue by:



P. McAleer, Head of Business Standards

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| Issue: | I                  |
| Date:  | April 2004         |

## Issue Record

| Issue   | Date       | Comments          |
|---------|------------|-------------------|
| Issue I | April 2004 | New Specification |

This Specification will be updated when necessary by distribution of a complete replacement. Amended or additional parts of revised pages will be marked by a vertical black line in the margin.

## Implementation

This Specification is mandatory and shall be implemented from 1st July 2004, with the exception of the requirements pertaining to Unique Bridges in Clauses 7.1.2 and 8.3 which shall be implemented from 1st July 2006.

## Compliance

This Specification shall be complied with by persons responsible for the management of Bridges and Culverts.

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## I Purpose

The purpose of this Specification is to define the requirements for the management of existing Bridges and Culverts on, over or under Network Rail's infrastructure such that there is no unacceptable risk to safety as a result of their condition, use or location.

This Specification contains requirements supplementary to Network Rail Company Standard [RT/CE/P/032](#) - "Managing Existing Structures", in respect of the scope of this Specification. Compliance with this Specification, and with other documents referenced herein, will ensure compliance with [RT/CE/P/032](#) and the Railway Group Standards as listed in Appendix A in respect of the management of structures in the scope of this Specification.

## 2 Scope

This Specification applies to all Network Rail owned or managed, Shared or Outside Party Bridges, Culverts and other structures that have been assigned Structure Category A in accordance with [RT/CE/P/032](#), and to those appointed by Network Rail to be responsible for the management of such structures.

Guidance on the assignment of an individual structure to Structure Category A is included in Appendix B. The word "structure" in this Specification means any structure that has been assigned Structure Category A.

The group of Network Rail Standards for the Management of Existing Structures is shown in Appendix B of [RT/CE/P/032](#). Within this Specification, references to Specifications within the group of Standards for the Management of Existing Structures are made in relation to the Structure Category i.e. EX(A) to (G) and the Volume number, as well as the Network Rail Standard number.

Health and safety requirements applicable to operational safety are not within the scope of this Specification.

This Specification does not define the organisational and commercial responsibilities for delivering the requirements of the Specification.

## 3 Reference Documentation

### Railway Group Standards

|                           |                                                                        |
|---------------------------|------------------------------------------------------------------------|
| <a href="#">GC/RT5100</a> | Safe Management of Structures                                          |
| <a href="#">GC/RT5143</a> | Scour and Flooding – Managing the Risk                                 |
| <a href="#">GC/RT5202</a> | Vegetation – Managing the Risk                                         |
| <a href="#">GI/RT7001</a> | Management of Safety Related Records of Elements of the Infrastructure |

## Network Rail Standards Forming the Group of Standards for Existing Structures

[RT/CE/P/032](#) “Managing Existing Structures”

### Section A – Specification for the Management of Bridges and Culverts

- [RT/CE/S/017](#) Volume EX(A) 2 - “Examination of Bridges and Culverts”
- [RT/CE/S/035](#) Volume EX(A) 3 - “Assessment of Structures”
- [RT/CE/S/142](#) Volume EX(A) 4 - “Management of Abnormal Road Loads”
- [RT/CE/S/076](#) Volume EX(A) 5 - “Management of Bridge Strikes from Road Vehicles and Waterborne Vessels”
- [RT/CE/S/047](#) Volume EX(A) 6 - “Standards of Competence for the Examination of Structures”
- [RT/CE/S/048](#) Volume EX(A) 7 - “Standards of Competence for Examination of a Bridge following a Bridge Strike”

### Other Network Rail Standards

- [RT/CE/P/018](#) “Requirements for the Operation of the Dynamic Track Stabiliser on or adjacent to Structures”
- [RT/CE/P/037](#) “Managing the Risk Arising from Mineral Extraction and Landfill”
- [RT/CE/P/044](#) “Managing Structure Works”
- [RT/CE/S/038](#) “Longitudinal Timbers – Design, Installation and Maintenance”

### The Stationery Office

Locomotive Act (1861)

The Construction and Use Regulations, and as subsequently amended (SI 1986 No. 1078)

## 4 Definitions

### Abnormal Road Load

Any road vehicle, which falls outside the Construction and Use Regulations because of its weight or weight distribution.

### Accommodation Bridge

A Bridge provided to maintain access to lands that were severed by the construction of the railway that can only legally be used by the successor to the original landowner whose land was severed. However, subsequent public footpath and bridle rights may have been acquired.

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### **Additional Examination**

An examination of a specific part of a structure in detail, or to monitor a particular defect, condition, movement or component of a structure following an incident or report, which is carried out in addition to Visual and Detailed Examinations.

### **Assessment**

The determination of the safe load carrying capacity of a structure taking into account the physical condition and location of the structure. The term includes site inspection with site measurements and the carrying out of any calculations and checks.

### **Bridge**

A structure of one or more spans greater than or equal to 1,800mm, whose prime purpose is usually to carry traffic or services over an obstruction or gap, but excluding Culverts.

### **Bridge Management Strategy**

A document that defines the specific management processes, competencies and timings that are required for the management of a particular Unique Bridge.

### **Bridge Strike**

An incident in which a road vehicle or its load, or a waterborne vessel or its load, impacts with the fabric of a Bridge.

### **Culvert**

A structure with a span or diameter greater than 450 mm and less than 1800 mm whose primary purpose is usually, but not exclusively, to permit water or services to pass under or adjacent to a railway, road or other Network Rail infrastructure. The term excludes Outside Party pipelines.

### **Detailed Examination**

A close examination of all accessible parts of a structure, generally within touching distance, of sufficient quality to produce a record that includes the condition of all parts of the structure, the uses to which the structure is being put, recommendations for remedial action, and any other relevant facts.

### **Evaluation**

The appraisal with regard to condition, use and location of all relevant information and circumstances relating to a structure to establish whether action is required to ensure that the level of safety and serviceability of the structure remains acceptable.

### **Failure**

The situation in which a structure is no longer capable of performing the function required of it.

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### **Longitudinal Timber**

A timber bearer parallel to and supporting a rail, baseplates and chairs.

### **Maintenance Work**

Any planned work requiring the reinstatement of the components of a structure without resulting in a permanent change to the general form of the structure, or any permanent reduction of the existing structure gauge or standards of safety.

The term includes:

- like-for-like repairs and replacement of components;
- repairs and replacement of components in similar or modern equivalent materials provided that such substitution does not affect the integrity or performance of the structure;
- “good housekeeping” activities such as cleaning, painting, removal of harmful vegetation from structures, clearing mud and silt from watercourses and the like.

### **Occupation Bridge**

A Bridge carrying a private road, that generally pre-existed the railway and which can only be used by authorised users, typically the successors of the original users of the road and their invitees. However, subsequent public footpath and bridle rights may have been acquired.

### **Outside Party**

An organisation or person other than Network Rail, that is an infrastructure owner or developer, or is a user or occupier of Network Rail’s infrastructure. The term includes Highway Authorities, Passenger Transport Executives, public or private developers, Train Operating Companies, etc.

### **Outside Party Bridge or Culvert**

A Bridge or Culvert situated over, under or on Network Rail owned infrastructure, owned by an Outside Party.

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### **Scour**

The removal of material from under or adjacent to structural supports, foundations or earthworks by the action of flowing water.

### **Sensitive Structure**

A structure which requires Detailed Examinations to be carried out at intervals less than the normal interval defined in Specification Volume EX(A) 2 – “Examination of Bridges and Culverts” ([RT/CE/S/017](#)), because the rate of deterioration is unpredictable or exceptionally rapid, or because of the loads carried, or because of the particular structure or site conditions.

### **Shared Bridge or Culvert**

A Bridge or Culvert of which the ownership and/or management is shared between Network Rail and an Outside Party.

### **Structure Category**

The category (A, B, C, D, E, F or G) to which a structure is assigned, in accordance with [RT/CE/P/032](#) – “Managing Existing Structures”, that defines which management processes are to be used to manage the structure.

### **Structures Works**

Physical intervention to a structure including strengthening, replacement (part or whole), structural temporary works, Maintenance Works and preventative maintenance, e.g. painting, re-pointing and waterproofing. It excludes routine maintenance works such as vegetation clearance, drain clearance and debris removal.

### **Underline Bridge or Culvert**

A Bridge or Culvert carrying one or more operational railway tracks. An Underline Bridge or Culvert usually carries the railway over a road or water.

### **Unique Bridge**

Any Bridge for which a Bridge Management Strategy is required because of location, design, construction or use, or because of any special techniques or competencies required to undertake examination, Assessment or maintenance.

### **Visual Examination**

An examination to identify changes in the condition of a structure carried out from a safe observation location, without using special access equipment but using permanent access ladders and walkways, binoculars and hand held lighting where necessary.

### **Watercourse**

Any river, stream, canal or other flowing water.

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## 5 Competencies, Roles and Responsibilities

Persons responsible for the management of Bridges and Culverts in accordance with this Specification shall have sufficient skill, knowledge and experience of the management of Bridges and Culverts, structural safety and the mechanisms of structural deterioration and Failure to manage Bridges and Culverts of the required type and complexity.

Such persons shall be competent in accordance with the requirements of Unit I of Specification Volume EX(A) 6 - "Standards of Competence for the Examination of Structures" ([RT/CE/S/047](#)).

## 6 Management Actions

Existing Bridges and Culverts shall be managed over their life cycle by the processes idealised in Figure I. This Specification and Network Rail Company Standard [RT/CE/P/044](#) "Managing Structures Works" together define the management process in Figure I for structures in Structure Category A.

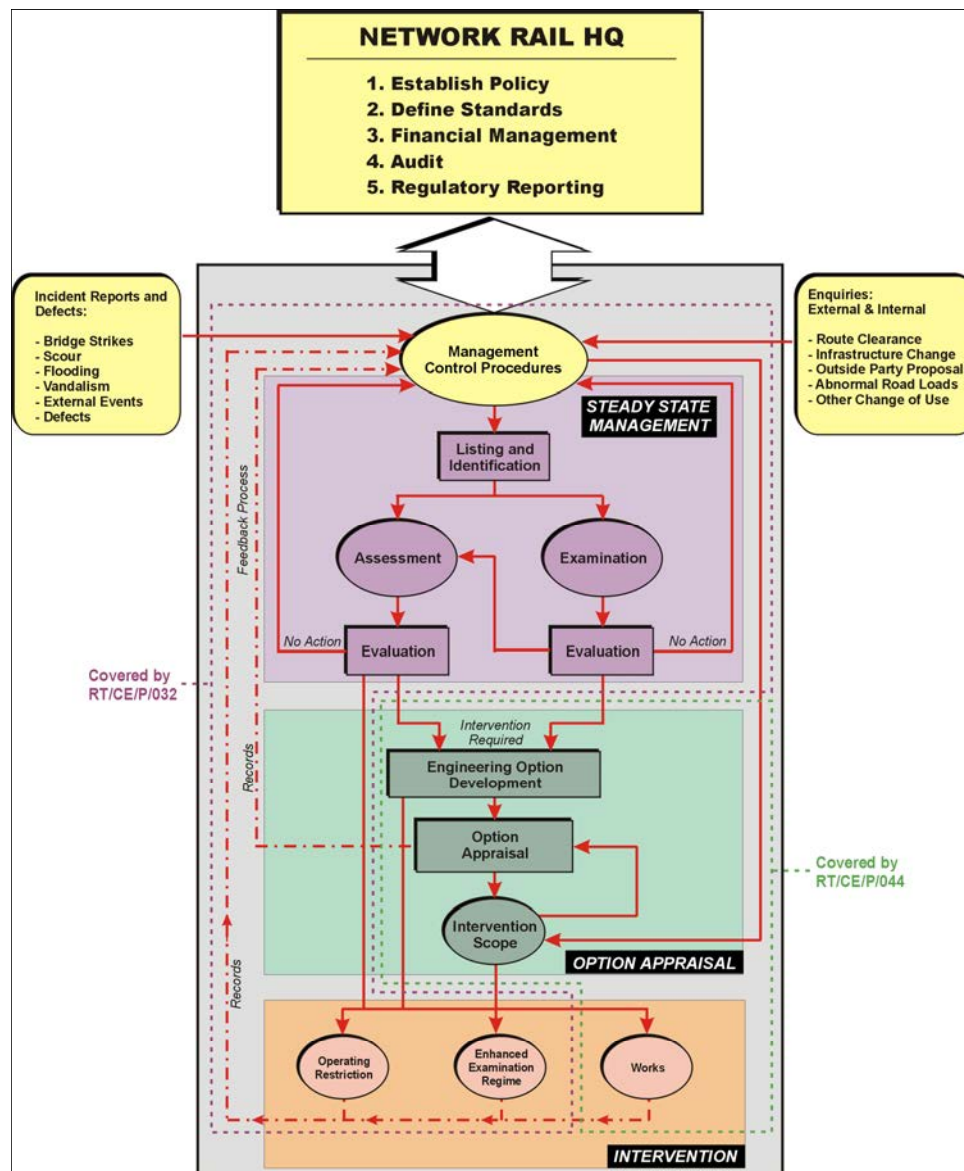


**Figure I**  
**The Structures Management Process for Structures Owned or Managed by Network Rail**

The management processes comprise:

- routine management processes;
- Structure Category specific management processes;
- particular management processes.

## 7 Routine Management Processes

### 7.1 Listing and Identification

#### 7.1.1 Structures Data to be Listed

The following data shall be listed for each Bridge and Culvert in a structures register:

- unique identity;
- safe load capacity (where applicable);
- ELR and mileage (or start and finish mileage) and Ordnance Survey grid reference;
- type and material of construction;
- type of structure;
- owner (and maintainer if different) and relevant emergency contact details, where they can reasonably be established;
- date of the last and next examination, by examination type;
- date of the last and next Assessment (where applicable).

#### 7.1.2 Identification of Specific Structure Type

The following specific types of Bridges and Culverts shall be clearly identified in the structures register:

- Unique Bridges, as endorsed by the Professional Head of Structures Engineering;
- Sensitive Structures;
- Bridges at risk of Bridge Strikes;
- structures crossing Watercourses, adjacent to flowing or tidal water, or at risk of flooding.

#### 7.1.3 Recording of Temporary Structures

Temporary Bridges and Culverts or significant temporary works attached to a structure shall be considered for inclusion in the register, taking into account their use, the risk of Failure and their expected life.

#### 7.1.4 Recording of Buried or Hidden Structures

Buried or hidden structures that are known to exist, or for which there is evidence of their likely existence, shall be included in the structures register. Action so far as is reasonably practicable shall be taken to confirm the existence of the structure.