AREMA
AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION

CHAPTER 7

TIMBER STRUCTURES[1]

FOREWORD

The material in this chapter is written with regard to typical North American Railroad Timber Trestles and other timber structures mentioned herein with

- Spans up to 16 feet,
- Standard Gage Track,
- Normal North American passenger and freight equipment, and
- Speeds of freight trains up to 80 mph and passenger trains up to 90 mph.

Special provisions for longer spans and/or higher train speeds should be added by the company as necessary.

This chapter is presented as a consensus document by a committee that comprises railroad engineers, engineers in private practice, engineers involved in research and teaching, and other industry professionals having substantial and broad-based experience designing, evaluating, and investigating timber structures used by railroads. The recommendations contained herein are based upon past successful usage and are periodically updated to ensure future successful usage. Therefore, as an ongoing concern, the recommendations printed herein are updated in response to changes in the operating environment, changes in the designations and availability of material and material systems, advances in design and maintenance practices, and advances in the state of knowledge overall. These recommendations have been developed and are intended for routine use and might not provide sufficient criteria for infrequently encountered conditions. Professional judgment must be exercised when applying the recommendations of this chapter as part of an overall solution to any particular problem.

In general, this chapter is revised and printed anew on a calendar-year basis. The latest printed revision of the chapter should be used, regardless of the age of an existing structure. For purposes of determining historical recommendations under which an existing structure may have been built and maintained, it can prove useful to examine previous printed editions of the chapter. However, when historical recommendations differ from the

[1] The material in this and other chapters in the AREMA *Manual for Railway Engineering* is published as recommended practice to railroads and others concerned with the engineering, design and construction of railroad fixed properties (except signals and communications), and allied services and facilities. For the purpose of this Manual, RECOMMENDED PRACTICE is defined as a material, device, design, plan, specification, principle or practice recommended to the railways for use as required, either exactly as presented or with such modifications as may be necessary or desirable to meet the needs of individual railways, but in either event, with a view to promoting efficiency and economy in the location, construction, operation or maintenance of railways. It is not intended to imply that other practices may not be equally acceptable.

recommendations contained in the latest printed revision of the chapter, the recommendations of the latest printed revision of the chapter should be used.

Buildings should be designed and constructed in accordance with the requirements of the authority having jurisdiction at the site of construction (Refer to Chapter 6, Buildings and Support Facilities).

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INTRODUCTION

The Chapters of the AREMA Manual are divided into numbered Parts, each comprised of related documents (specifications, recommended practices, plans, etc.). Individual Parts are divided into Sections by centered headings set in capital letters and identified by a Section number. These Sections are subdivided into Articles designated by numbered side headings.

Page Numbers – In the page numbering of the Manual (7-2-1, for example) the first numeral designates the Chapter number, the second denotes the Part number in the Chapter, and the third numeral designates the page number in the Part. Thus, 7-2-1 means Chapter 7, Part 2, page 1.

In the Glossary and References, the Part number is replaced by either a “G” for Glossary or “R” for References.

Document Dates – The bold type date (Document Date) at the beginning of each document (Part) applies to the document as a whole and designates the year in which revisions were last made somewhere in the document, unless an attached footnote indicates that the document was adopted, reapproved, or rewritten in that year.

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Annual Updates – New manuals, as well as revision sets, will be printed and issued yearly.