THE ELEMENTS OF SPECIFICATION WRITING: A TEXT-BOOK FOR STUDENTS IN CIVIL ENGINEERING

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649572380

The Elements of Specification Writing: A Text-book for Students in Civil Engineering by Richard Shelton Kirby

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd. Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

RICHARD SHELTON KIRBY

THE ELEMENTS OF SPECIFICATION WRITING: A TEXT-BOOK FOR STUDENTS IN CIVIL ENGINEERING

Trieste



.

Ē.

٠

•

ŝ

.

.

<u>30</u>

•

R. S. Kirby, Associate Professor of Engineering Drawing, Author of 'Fundamentals of Mechanical Drawing, 'The Elements of Specification Writing,' Exercises in Descriptive Geometry' and 'Lettering Tablet'

THE ELEMENTS OF SPECIFICATION WRITING

St - St

A TEXT-BOOK FOR STUDENTS IN CIVIL ENGINEERING

BY

43

RICHARD SHELTON KIRBY, C.E.

ASSISTANT PROFESSOR IN THE SHEFFIELD SCIENTIFIC SCHOOL OF YALE UNIVERSITY

SECOND EDITION REVISED

NEW YORK JOHN WILEY & SONS, INC. LONDON: CHAPMAN & HALL, LIMITED 1921

¢

•

20 10

SCHOOL OF LANDSCAPE ARCHITETARE NARVARD UNIVERSITY

 \mathbf{x}

2724 Cop.1

Copyright, 1913, 1921. By RICHARD SHELTON KIRBY

Printed in the U S. A.

2-21

Price \$1.50

•

.

PREFACE

THIS book is a text-book on the art of specification writing, not a collection of specifications. While intended primarily for the classroom, it should prove of value to the young engineer in practice. The book is the outgrowth of a series of lectures delivered by the author annually for the past six years before the senior class in Civil and Sanitary Engineering in the Sheffield Scientific School of Yale University.

The following features are worthy of note here:

(r) The fundamentals of a contract — particularly of a construction contract with its attendant plans and specifications are concisely brought out.

(2) A chapter is devoted to the Advertisement and one to the Proposal.

(3) The General Clauses (Chapters VI to XI inclusive) are given thorough exposition, from an Engineer's viewpoint. Many interesting cases illustrating their application to actual construction work are cited and discussed. Numerous and varied model clauses are quoted.

(4) Chapter XII contains practical suggestions touching the Specific (or technical) Clauses. Outlines of such clauses for nine simple construction projects (Chapter XIII) will assist the student as he essays for himself the composition of specifications. The outlines cover work with which the average student is more or less familiar — a manifest advantage to the beginner.

(5) The classified list of references (largely to recent articles in the more readily accessible technical journals) in the Appendix will furnish student and instructor a fund of commentary and illustration.

To secure the maximum of efficiency in the use of the book as a text it is suggested that the instructor gather — as he easily

iii

PREFACE

may — a large and carefully selected assortment of specifications for collateral use by the class. The student should prepare abstracts of these in connection with his study of Chapters VI to XI; he will also find in them suggestions as to the wording of the specific clauses outlined in Chapter XIII.

Professors S. E. Barney and J. C. Tracy of the Sheffield Scientific School have read the manuscript and furnished helpful criticism. The author wishes here to record his appreciation of their kindness.

RICHARD S. KIRBY.

GETTYSBURG, PA., May 5, 1913.

PREFACE TO THE SECOND EDITION.

This revision has been made with a threefold purpose:

1. To widen the field of usefulness of the book for those outside the Civil Engineering profession.

2. To emphasize the practical connection between the content and phrasing of specification clauses and their application to working conditions. The increased number of concrete illustrations and the Questions for Discussion following certain chapters may thus contribute to more effective teaching.

3. To bring the book up to date. Principles are unchanging, but their application varies; old organizations give place to new; references become obsolete. All this has been accentuated during the momentous years just past.

Much new material has been added. Chapters I and II have been largely rewritten.

R. S. K.

New Haven, Conn., February, 1920.

iv

CONTENTS

CHAPTER I.

INTRODUCTION.

33

| | INTRODUCTION. | |
|------|------------------------------|------|
| ART. | | PAGE |
| I. | Construction Work Classified | I |
| 2. | Contract Work | 4 / |
| 3. | Documents | . 5. |

CHAPTER II.

CONTRACT AND BOND.

| 4. | Definitions of a Contract | 7 |
|-----|---|----------|
| 5. | Classification of Contracts | 8 |
| 6. | Contract Essentials | 8 |
| 7. | Discharge of Contracts. | II |
| 8. | Design | 12 |
| Q. | Plan and Specifications; Specific and General Clauses | 13 16 |
| IO. | Construction Contract Forms | 16 |
| II. | Surety Bonds | 19 |
| | | |

CHAPTER III.

ADVERTISEMENT (OR NOTICE TO CONTRACTORS) AND INFORMATION FOR

BIDDERS.

| 12. | Necessity for Advertising | 21 |
|-----|--------------------------------|----|
| 13. | Essentials of an Advertisement | 22 |
| 14. | Information for Bidders | 27 |

CHAPTER IV.

PROPOSAL.

| 15. | Necessity for Form. | 32 |
|-----|--------------------------|----|
| 16. | Essentials of Proposal | 33 |
| 17. | Specimen Proposal | 35 |
| 18. | Presenting the Proposal. | 37 |
| 10. | Awarding the Contract | 38 |
| 20. | Lump Sum and Unit Prices | 38 |
| 21. | Unbalanced Bids | 40 |

CHAPTER V.

THE COMPOSITION OF SPECIFICATIONS.

| 43 |
|----|
| 43 |
| 44 |
| 47 |
| 47 |
| 2 |

CONTENTS

CHAPTER VI.

GENERAL CLAUSES - SPECIFICATIONS AND PLANS.

| ABT. | | PAGE |
|------|---|--------------|
| 27. | What the Plans and Specifications Include | . 50 |
| 28. | Definitions. | . 51 |
| 29. | Alterations | . 53 |
| 30. | Inconsistencies and Omissions | · 54 · 56 |
| 31. | Verification of Data | . 56 |
| 32. | Copies Kept on Work | . 58 |
| | Additional Illustrations | . 58 |

CHAPTER VII.

GENERAL CLAUSES - THE ENGINEER DURING CONSTRUCTION.

| | Decision of the Engineer |
|----|-------------------------------------|
| | Inspector |
| i. | Rejected Material |
| | Unnoticed Defects |
| | Reception of Engineer's Directions. |
| | Questions for Discussion |

CHAPTER VIII.

GENERAL CLAUSES - THE CONTRACTOR AND HIS WORKMEN.

| 38. | Sanitary Provisions | 73 |
|-----|------------------------|----|
| 39. | Sale of Intoxicants | 73 |
| 40. | Discharge of Employees | 74 |
| 41. | Legal Restrictions. | 75 |

CHAPTER IX.

GENERAL CLAUSES - THE CONTRACTOR'S MISCELLANEOUS RESPONSIBILITIES.

| 42. | Injury or Damage to Persons or Property | 79 |
|-----|---|----------|
| 43. | Unforeseen Difficulties | 79 81 |
| 44- | Local Ordinances, Permits, Licenses, etc | 83 |
| 45- | | 84 |
| 46. | Establishment and Preservation of Survey Points | 85 86 |
| 47. | | |
| 0 | Questions for Discussion | 86 |

CHAPTER X.

GENERAL CLAUSES - PROGRESS OF WORK.

| 48. | Certain Fixed Dates | 88 |
|-----|--------------------------------|-----|
| 49. | Work Prohibited When | 89 |
| 50. | Abandonment | 90 |
| SI. | Right to Suspend | 92 |
| | Extension of Time | 94 |
| 53- | Failure to Complete Punctually | 96 |
| | Questions for Discussion | 101 |

.