The Construction Specifications Institute

Project Delivery Practice Guide

- A starting point for understanding the core values of CSI
- An excellent introduction to the construction process for the new practitioner
- A ready reference for the experienced construction professional
The CSI Project Delivery Practice Guide
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Preface

Introduction to the Practice Guide Series

Beginning with the publication of the first *Manual of Practice* (MOP) in 1967 continuing through the publication of its successor document, the *Project Resource Manual* (PRM), it has been the intent of the Construction Specifications Institute (CSI) that these publications embody accepted standards for the preparation of construction specifications and project manuals, and a detailed source of information on quality documentation for the life cycle of a facility.

Through these publications, CSI has sought to aid owners, designers, specifiers, contract administrators, contractors, construction product representatives, and facility managers in the performance of their jobs.

In 2008, CSI began an effort to update the knowledge formerly contained in the MOP and PRM to present it anew and ensure its continued relevance. As with the earlier collections of this knowledge, the intent is to provide an authoritative resource on the organization, preparation, use, and interpretation of construction documents, encompassing the entire life cycle of a facility from conception through facility management.

To accomplish this update, CSI established the Practice Guides Task Team. One of the task team charges was to organize the presentation of this information into modules to support areas of practice where CSI currently offers certificates and certifications, such as Project Delivery addressed by the Construction Documents Technology (CDT) certification, Specifications, addressed by the Certified Construction Specifier (CCS) certification, Contract Administration addressed by the Certified Construction Contract Administrator (CCCA) certification, and Product Representation addressed by the Certified Construction Product Representative (CCPR) certification, as well as other areas of practice for which education and certification may be developed.

To keep current with changes in the industry, the Task Team also reviewed other CSI documents and standards, and updated references to them that appear in the Practice Guides. A similar effort was made to incorporate changes in contract documents produced by The American Institute of Architects (AIA) and the Engineers Joint Construction Documents Committee (EJCDC), and to introduce the new standard contract documents developed by the ConsensusDOCS Coalition.

The Task Team also recognized the growing impact of “green” or sustainable practices on the subject matter contained in the Practice Guides. Each Practice Guide now addresses the topic of sustainable practice to some degree while a more detailed examination of the topic is planned for a future Sustainable Practice Guide.

Two other topics that have had an impact on the Practice Guides are: Building Information Modeling (BIM) and Integrated Project Delivery (IPD). The growing impact of BIM on the practice of specification writing and its potential impact on quality documentation made a discussion of this topic imperative. Likewise IPD has grown in importance over the past several years and has had an impact on the way practitioners relate to the process of creating and interpreting construction documents.
The Practice Guide Series is not intended to be composed of static documents but to be a living set of guides with the capacity to change and be updated as the construction industry changes around them. The input of users of this Series will be critical to the future updating of the Series and the authors and reviewers welcome feedback from users.

**Description of the CSI Project Delivery Practice Guide**

*The CSI Project Delivery Practice Guide* is the introductory volume in the Practice Guide Series. This Guide presents an overview of the process needed to conceive, design, construct, and maintain the built environment. This Guide describes the many parts of that process and the inter-related role of the various participants in the process. It is intended to be a guide to the steps in the life cycle of a project that begins with an owner’s conception of the project, continues through the design and construction phases, and results in the successful operation and maintenance of the project after construction is complete. As the introductory volume in the Series, *The CSI Project Delivery Practice Guide* creates a foundation for the other, more specialized Practice Guides that follow. To those individuals seeking a more specialized knowledge of a particular topic such as construction specification writing or construction contract administration, this Practice Guide provides a starting point, one that is a key to understanding those more specialized topics. *The CSI Project Delivery Practice Guide* gives participants in the design and construction industry the tools that they need to effectively deliver a project.

Additional CSI publications that complement the Practice Guides are available for download to purchasers of the Practice Guides. The following documents can be obtained at [www.wiley.com/go/csipracticeguides](http://www.wiley.com/go/csipracticeguides):

- MasterFormat® numbers and titles
- UniFormat™
- SectionFormat™/PageFormat™
- Sample CSI Forms
- GreenFormat™ questionnaire
- Practice Guide Glossary

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Chapter 1
Introduction to The CSI Project Delivery Practice Guide

1.1 Introduction

Designing and constructing buildings, civil structures, industrial facilities, interior design projects, and other structures and facilities is one of humankind’s most difficult endeavors in spite of the fact that it is a common activity. All facilities start as a project that takes a journey through a sophisticated and complex process in order to come into being. Talented individuals with advanced education, specialized knowledge, well-developed decision-making abilities, and in some cases professional licenses are required to manage, direct, and monitor the process. All that talent and skill has to be marshaled and brought together to converge on a common goal of producing a project. Then a considerable amount of both time and money are required to accomplish the goal. Yet out of the need for shelter, protection, and comfort, we design and construct facilities to house the activities of our private and public lives, both individually and socially. We aspire to create facilities that are useful, functional, visually pleasing, and enjoyable to occupy.

This journey is called the project delivery process, and this practice guide presents the many pieces and parts that compose that process. While this practice guide is not about creating and designing facilities, it is about the logistics of project delivery from conception to occupancy. It provides insight into the vast array of activities that are either required or necessary in the delivery process. Not every concept presented in this practice guide will be necessary for every project. The information contained in the practice guide is useful to anyone, at any level, who owns, designs, engineers, constructs, installs, supplies, or manages a facility.

1.2 Understanding Project Delivery as Foundational Knowledge

The purpose of this practice guide is to educate individuals about project delivery from the global, or big picture, perspective. Project delivery is not specialized, like designing or constructing; it is generalized. Understanding the concepts of project delivery allows
stakeholders and participants to be able to provide more effective services no matter what delivery path the project takes. While there are six project delivery methods identified in this practice guide, the reality is that there are as many variations of these project delivery methods as there are individuals that make project decisions.

This practice guide is the foundation for all of the other practice guides developed and published by CSI. The ideas, concepts, and information presented in the other practice guides builds on this practice guide to present more specialized information about other topics. For example, developing a working understanding of The CSI Construction Specifications Practice Guide and The CSI Construction Contract Administration Practice Guide depends on first understanding the information of The CSI Project Delivery Practice Guide.

Every individual that is a stakeholder or participant in the design and construction of anything in the built environment should have a foundational understanding of how projects are delivered. An understanding of the information in this practice guide as an introduction to project delivery is important. Much of what design and construction professionals do is founded on the information presented in these chapters.

As will be seen, successful project delivery depends on the melding of the following aspects into a process with a specific purpose:

- An owner that has a defined plan for a facility
- Individuals, firms, and companies to produce the design and make the appropriate decisions
- Contracts that comprehensively and effectively establish and define the roles and responsibilities of the stakeholders and participants
- Well-developed and sufficient construction documentation
- Organized construction project management and scheduling
- Individuals and companies to provide and install the required materials

### 1.3 Magnitude of Design and Construction Information Available

Information that is available about the design and construction of projects and facilities has advanced light-years over the last several decades. For example, in the 1970s, when information was needed about a product, material, or construction technique—if it existed at all and could be found by telephone calls to possible sources—it was only as immediately available as waiting on the mail to be delivered. There were few books, few periodicals, and few resources, and the information that was available was not easily found.

Today, there is an enormous amount of design and construction information available instantly, and it is growing at an astonishing rate. Individuals are being flooded every day with an ocean of information from many sources. For those random instances when information is not immediately available, it can usually be generated in a short time and immediately made available to the one requesting the information. Essentially, there are numerous sources for everything anyone would want to know at any time.

There is a relatively small and exclusive class of inventions that has fundamentally changed society’s ability to communicate, which has revolutionized the nature of information, knowledge, and understanding. The printing press, electricity and the countless devices it powers, capturing and creating images (photography, television, recordings,
etc.), and wired and wireless communication capabilities are a few of the most significant inventions. A case could be made that information overload began with Gutenberg’s invention of the printing press. Now, the amount of information that is available through the Internet is staggering—it has forever changed the nature of knowledge. One of the reasons the Internet is significant is that information is now available to anyone, anywhere, anytime. The Internet has become the preferred method for accessing information about the design and construction of the built environment.

1.3.1 Books
Throughout human history, there have always been those that want to make their knowledge available to others. However, the opportunity to do so has been limited by the means of producing it for consumption by others. We know that the printing press fundamentally changed that. Today, the technology to publish books is widely available, and there is now a huge volume of books available on a limitless number of topics from many different sources. While the breadth of knowledge may not be as extensive as the Internet, there is nevertheless a massive amount of information available.

While books capture knowledge, one of their major limitations is that books only capture knowledge through a specific point in time (usually six months or so prior to publication because of prepublication production). It is not until a new edition is published that the knowledge contained in a book can be advanced, improved, updated, or expanded. Other limitations include the distribution and availability of books. Unless a book is purchased via the Internet, the availability of books still depends on shipping, stocking, and shelf display to be available to purchasers. Books face an uncertain future and will in all likelihood give way to Internet-based information.

1.3.2 Periodicals
There are a number of periodicals available for a vast range of specialized design and construction topics. In fact, a periodical can probably be found for just about any subject. Increasingly, they are available on the Internet as well as in printed editions. Unlike books, periodicals are published frequently and have the capability to be more current. An asset of periodicals is that they can be archived and thus accumulate a sizeable body of specialized knowledge. Many professional and trade associations publish periodicals for their members, and their periodicals are usually available to anyone who is interested.

1.3.3 Professional Associations, Societies, and Institutes
A profession is a vocation or occupation in which individuals obtain specialized, extensive, and advanced education or training for the purpose of supplying unbiased counsel or service to others for compensation. A license is frequently required, based on a competency examination that is administered by a governmental jurisdiction (usually a state), before an individual can be legally identified as a professional of a particular discipline. The same jurisdiction establishes and enforces licensing laws that regulate professional practice and conduct. Once licensed, a professional is legally obligated to practice in such a manner as to protect the public and to perform services within the scope of the