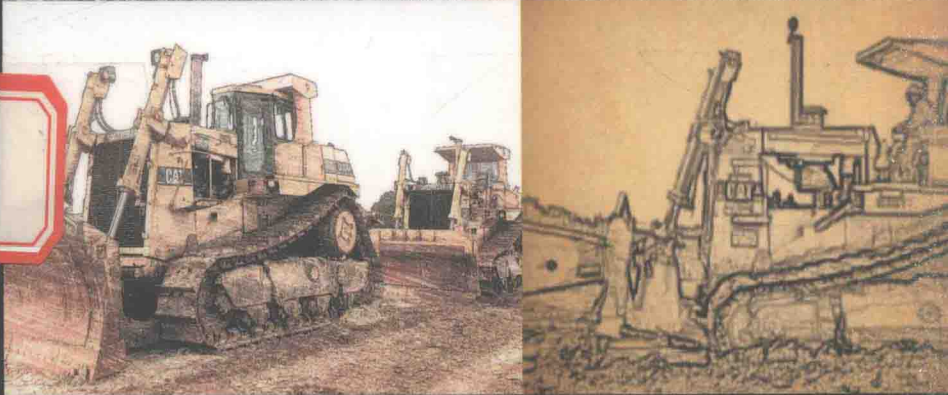


HIGHWAY CONSTRUCTION AND INSPECTION FIELDBOOK

Project Construction Management Book



ALBERTO MUNGUIA MIRELES

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HIGHWAY CONSTRUCTION AND INSPECTION FIELDBOOK PROJECT CONSTRUCTION MANAGEMENT BOOK

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Highway Construction and Inspection Fieldbook

Project Name: _____

City: _____

County: _____

Contractor: _____

Inspection Company: _____

Contact Information

Name: _____

Phone no.: _____

Book No. ____ of ____

Month-Year: _____

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A Note to the Reader

This fieldbook will help you to document daily activities and critical events properly on the job site. Its guidelines and key factors for writing effective daily reports are based on real-world results. The procedures were created by analyzing the most effective methods used by successful contractors and over fifty thousand hours of hard-won experience dealing with project management during initiating, planning, executing, monitoring, controlling, and closing groups during my twenty-four-year career of providing civil engineering services during the construction and inspection of infrastructure projects.

This fieldbook is a tested methodology that, if used well and daily, will provide consistent information to the user as well as to upper management. The information collected in this fieldbook will aid supervisors and upper management in tracking costs, monitoring and improving the uses of resources, and documenting how a project is developing in compliance with contractual documents.

This is not like a common project management book—intended to be read and then stored on a shelf. *It contains blank sheets to enter information on daily operations for a full month*, so it is intended to be carried out to the job site daily. But it is also a book. *It is a source of information and training about how to write effective daily reports.* It is, then, a *fieldbook* that includes procedures used by roadwork experts and improved by my abilities, competences, and experience, gained through years of doing this work.

You might wonder what led me to begin the endeavor of writing a book and providing related training on my website. Well, it is not a secret that the Texas Department of Transportation (TxDOT) has been adopting a different role in the construction of its state highway system. Nowadays, local governments are funding their projects through different types of programs that allow them to construct them earlier than they would through traditional programs.

Many private companies have emerged to take advantage of these new opportunities, but they are facing a tremendous shortage of capable and well-trained inspectors and project managers that possess the knowledge and experience to perform new projects at the level of detail and quality that TxDOT specifications demand. In my opinion, one of the reason for this is simple: TxDOT used to have training programs that allowed them to teach their personnel and to be able to supply inspectors—though often even that was not enough. This created a need for innovative thinking to transfer the experience of qualified people to less-experienced personnel.

This is where I fit in. I have created a series of fieldbooks, Excel programs, PDF documents, templates, videos, and web seminars with the intention of creating good content that will help less-experienced personnel to obtain some of the training they need to succeed. Company owners will benefit greatly from these pages, because employees can obtain real-world situations training that I am sure will help them to be more effective in delivering good-quality projects.

Please visit my web page at www.cs4highway.com. Register to receive free training on subjects related to highway construction as well as to keep updated as more information becomes available. This website is a work in progress, so please bear with me if you see new pages under construction

It is my mission to instruct young engineers, project managers, students, contractors, subcontractors, supervisors, and inspectors who are dedicated to the road construction industry on how to utilize available tools and techniques to provide consistency in professional inspection services and to document construction processes properly to ensure that each project provides the service for which it was undertaken.

It is my belief that, having adopted high standards of behavior and dedication to personal fulfillment and to helping others attain it, I am in a position to help advance our industry to continue the delivery of projects in conformance with specifications, balancing the constraints of quality, scope, budget, schedule, and stakeholders.

How to Use This Fieldbook

This fieldbook is designed for entering information on daily operations during one full month. The daily report for a given date is made up of four templates:

1. Tracking equipment on-site
2. Manpower and summary of work performed
3. Measurements and calculations
4. Design-construction narrative

The framework described in this fieldbook supports the four templates, which *you need to fill out* to ensure that every day during the life cycle of the project you collect essential information in the systematic way required to satisfy federal and states audits.

Please understand that this is only one of the important documents you are required to maintain, but many other factors also contribute to the project's success. I am giving you the formula that will help you succeed on your quest of writing effective daily reports. But you are going to have to demand more of yourself.

For now, understand that daily reports as well as other types of communications written by construction managers, inspectors, and contractors help us to ensure the timely and appropriate generation, collection, dissemination, storage, and deposition of project information.

This book is divided into seven lessons and two sections. In each lesson, you will learn important information on writing effective daily reports. The sections include blank templates you will fill out to create your daily reports for the month.

You will also find two real-world highway construction examples to give you a glimpse of the use of the fieldbook templates. You may access more examples, additional training videos, and resources at www.cs4highway.com when you subscribe to that site.

Example 1

How to Fill Out the Four Templates in a Daily Report

It's a normal ninety-five-degree summer day in Texas, and the contractor is performing excavation and embankment operations at different locations along seventeen miles of the road. Controlling earthmoving operations is not a simple activity. Many processes have to be monitored and controlled to keep the operations under control. The control forms listed below are used by roadwork experts, as is the template that I am about to explain. (Visit www.cs4highway.com to find more information and to download the forms.)

- Number of loads counted by the contractor in carrying vehicles
- Possible production predicted by inspection VS load counts by earthmoving contractor
- Worked days on cuts and fills
- 110-2001 roadway excavation or 132-2006 roadway embankment breakdown forms
- Work report for excavation or embankment
- Schedule performance index

Monitoring Earthwork Operations—An Inspector's Perspective

I am the dirt inspector on-site, and it is time for me to drive to the job and inspect it. Previously, from the contract documents, I have identified that these activities will meet the requirements stated on items 132-2006, 110-2001, and 160-2003. I have also read the requirements in the specification, general notes, and special provisions. I clearly understand what is required to be done. I take my sets of drawings and jump into my four-by-four truck. It is a wonderful day to give the best in me.