How Skilled Editors Can Save Your Company Money!

Introduction: Doublespeak Can Be Deadly

Clarity Must Be a Writer's Number One Goal:

Here is a dramatic example of how wordy and confusing language can have tragic consequences:

In 1986, the National Council of Teachers of English announced its winners of the "Doublespeak Awards" (for language that is confusing, deceptive, and evasive). First Place went to the National Aeronautics and Space Administration and two defense contractors for their explanations of the Space Shuttle Challenger disaster. (The shuttle exploded, killing all seven aboard, because small parts call O-rings failed in the unusually cold weather that morning.) Veteran *Los Angeles Times* columnist Jack Smith commented on that First Place Doublespeak Award:

> An official of the shuttle's main contractor explained how it had warned NASA against the launch: "***I felt that by telling them we did not have a sufficient data base and could not analyze the trajectory of the ice, I felt he understood that (we were) not giving a positive indication we were for the launch***."
>
> Evidently these people-have as much trouble communicating with each other as they do with the public. Why couldn't he simply have said, ***"Hey, we're worried about the O-rings icing up. You'd better not launch"***?

Jack Smith
LA Times, 12-2-86

Fortunately, doublespeak does not usually lead to disaster, but in the business world, poor communication ***can*** be very expensive. Please review my following article, which demonstrates how expert editing skills helped save one company both *time* and *money*.

Janet Gavin
Lake Forest, California

How Skilled Editors Can Save Your Company Money!

"Raymond," a senior-level employee in a large civil engineering firm, wrote guidelines to help his engineers during the excavation and drilling phases on a building site. His original draft of ***"Reviewing Soils Reports"*** is in the left column on the following pages. Raymond is highly respected in his field and has been in the business over 20 years. He knows his stuff. So it took him no time to pound out his main points; then he asked his administrative assistant to proofread the draft.

She checked the usual mechanics (spelling, usage, punctuation, capitalization, and grammar). Considering how quickly Raymond had finished the draft, she found relatively few mistakes—some punctuation oversights, a couple of spelling and usage slips, a few other typos and hiccups here and there, but the errors (highlighted in yellow) were all easy to correct.

Then why was the text still ineffective? Unfortunately, Raymond forgot that there are three critical skills used in the writing process: **drafting**, **revising**, and **proofreading**. He had skipped the **revision** stage and moved straight from drafting to proofreading. While revising, writers make sure that the text is clear and concise, the points are well developed and presented in a logical sequence, the style is consistent, and much more.

Raymond needed particular help with wordiness and style (examples below are highlighted in blue and green). Occasionally, he also forgot to consider his target audience and included points that were too obvious or elementary for engineers.

EXAMPLE:

"Most of the structures we are hired to build are supported by soil." (This is a fact that the company's engineers would already know, so reading this comment would be a waste of their time.)

In other cases, Raymond would insert obscure terms instead of relying on the standard ones used in the industry. Some of his word choices could especially confuse the engineers who came from abroad and spoke English as a second language.

Editing Sample:

Original:

"Many times soils engineers will stipulate that foundation components are required to be installed by subcontractors in a lens of subsurface soil strata called bedrock condition."

Revision:

"Soils engineers usually require subcontractors to install foundation components in a layer of bedrock."

Even native English speakers would prefer the **14-word Revision** above to the **26-word Original**, but new engineers from Kuwait or Taiwan, for example, might have particular difficulty understanding some of the unusual terminology in the original. They may not immediately recognize that, in this context, the word "**lens**" is a synonym for "**layer**," and a "**lens of subsurface soil strata called bedrock condition**" means exactly the same thing as a "**layer of bedrock**." Clear, concise writing saves the reader time and frustration, so skilled writers use the most common terms.

Please compare the original draft of ***Reviewing Soils Reports*** (**1,285 words**) with my revision in the right column (**921 words**), and note how I tightened and clarified Raymond's draft. I cut more than an **entire page** (**364 words**) *without cutting any information*—just repetition and wordiness. The time spent by engineers reading the text was reduced by **more than 28%**. (That does not include the time they saved because the text was ***easier*** to read—not just ***shorter***.)

Cutting one page from a four-page procedure may not sound particularly significant, but multiply that by **100 procedures**. Then consider a firm with **50 engineers:** You will see that, by eliminating 5,000 pages of unnecessary reading material, the ***company has saved an enormous number of very expensive man hours***.

And let's not forget the clients: We can't expect *THEM* to waste their time reading bloated and confusing materials!

Furthermore . . . . ***Pour Writting Leaves a Bad Empression.***

Please call on me if you would like help managing your corporate communications.

Janet Gavin

Please Compare the ORIGINAL Draft With the REVISED Version

4.05 – Reviewing Soils Reports
ORIGINAL Draft
(written by a senior-level manager in a civil engineering firm)

MANAGEMENT POLICY:

Most of the structures we are hired to build, are supported by soil. In order to establish the structural capacity of such earthen materials, soils engineers are commonly hired to provide their professional opinions. These recommendations are used by other specialty engineers and designers in the preparation of the designs.

In many instances, Soils Reports are NOT identified as a Contract Document. However, the information contained in these reports are often useful in providing us with a better understanding of the soil conditions and subsurface conditions we are likely to encounter.

HOW TO PERFORM:

The following topics identify the portions of a Soils Report to review in our role as civil engineers. These portions identify the minimum amounts, and further study of the report may be warranted, depending on the project and our involvement in the design.

4.05 – Reviewing Soils Reports
REVISED Version
(full-service editing by Janet Gavin)

MANAGEMENT POLICY:

Reports by soils engineers are critical in two major phases of the building process:

1. The Design and Planning Phase: Soils engineers provide their professional opinions on the structural capacity of the soil. Specialty engineers and designers use this information to plan their work.

2. The Construction Phase: We use Soils Reports to gain a better understanding of the soil and subsurface conditions we are likely to encounter.

HOW TO PERFORM:

As civil engineers, we must review the following sections of the Soils Report, but study of additional sections may also be necessary, depending on the project and our involvement in the design.

ORIGINAL

1. Boring / Sampling Log

In order for the soils engineer to evaluate the soils conditions of the site, samples are taken at various locations. These locations are typically recorded on what is commonly referred to as a "boring log." The boring log is a map identifying the location where each borings was taken. Each of these borings or samplings will typically be identified with a unique boring symbol that relates to the boring detailed description of the boring sample.

~~**2. Boring Samples**~~

Each boring or sampling (identified on the boring log) will have detailed records of the actual soil conditions encountered at various depths for each of the borings. These detailed boring records are commonly referred to as a "boring sample." The information contained on these boring samples, provide us with the best information of the types of soils conditions we are likely to encounter, as we excavate or drill on site. Many times these records will identify the presence of bedrock, ground water, and sand soil or caving conditions. Furthermore, it can also identify the location of the different planes of soil strata contained on the site. This information is crucial in our ability to plan an execute work.

2. Recommendations

From the information derived from the boring samples, the soils engineer will provide recommendations in his report. The type and form of these recommendations will vary from report to report. However, most Soils Reports will contain information pertaining to the following issues. We encourage that you review the report as it relates to these issues:

Original "1" & "2" combined in rewrite and renumbered **"1" "A" & "B."**

REVISION

1. Boring Samples and Logs

As we excavate or drill on a site, we need to know the following:

A. The types of soil and the composition of each layer in the soil strata (e.g., clay, sand, silt, bedrock).

B. The sub-surface conditions and materials we are likely to encounter at various depths (e.g., caving hazards, ground water).

Therefore, soils engineers take boring samples at various locations and produce detailed records on each one. This data is then recorded in a "Boring Log," which includes a map identifying the location where each sample was taken. This information is crucial for planning and executing our work.

2. Recommendations

The soils engineer will produce a report with recommendations based on the boring samples. Each project is different, of course, but most Soils Reports contain information pertaining to the issues discussed below:

ORIGINAL

A. Over-Excavation

Prior to the installation of foundations, we typically are required to remove and recompact the existing soil around the foundations. The location of over excavation is often described in the Soils Report (e.g., five feet beyond the footprint of the foundation system). However, conflicting information can also be identified in the technical specifications or in the structural drawings. Review all of these documents to establish the over excavation requirements.

~~**B. Recompaction**~~

As noted in the previous paragraph, the location of over-excavation and recompaction required for a project can be identified in conflicting terms. Similarly, the extent or amount of recompaction can also vary. The amount of water and compression applied to soil in its replacement will effect its structural performance. Declining percentages of the optimal design strength are typically used by soils engineers to define the qualitative levels of recompaction required for various site locations (e.g., 95% at foundations and roadway sections; 90% at pedestrian walkways; 85 % at planters). However, conflicting information can also be identified in the technical specifications or in the structural drawings. Review all of these documents to establish the over excavation requirements.

B. Pavement Sections

As noted in the previous paragraphs, conflicting design information sometimes exists in the over-excavation and recompaction requirements for a project. Many times this occurs in the paving sections for the project. Frequently these conflicts occur in differences between the Soils Report and the civil, architectural, or landscape design drawings. Review all of these documents to establish the over-excavation and recompaction requirements.

REVISION

A. Over-Excavation and Recompaction

Before installing foundations, we are usually required to over-excavate existing soil so that it can be recompacted to optimize its structural performance. However, the recommendations in the Soils Report may conflict with the information in the technical specifications and/or structural drawings. For example:

Original **"A"** & **"B"** combined in rewrite and renumbered **"A" "1"** & **"2."**

1) The Soils Report may suggest over-excavating five feet beyond the footprint of the foundation system, but the other documents will contradict this.

2) Similarly, there may be conflicts over the extent or amount of recompaction required: When soil is replaced, the amount of water and compression applied will affect its structural performance. Using 100% to express soil's maximum design strength, soils engineers will often recommend different recompaction levels in various site locations. For example, they may suggest 95% at foundations and roadway sections, 90% at pedestrian walkways, and 85% at planters, but the technical specifications and/or structural drawings may differ.

B. Pavement Sections

The Soils Report and the civil, architectural, or landscape design drawings may also give conflicting design information regarding the project's paving sections.

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ORIGINAL	REVISION
C. Sub-Slab Vapor Barriers Many times, soils engineers will recommend the installation of vapor and moisture barriers beneath slabs on grade. (e.g., sand and Visqueen beneath slabs on grade.) However, there are times in which this information is not contained in the design documents. Review all of these documents to establish the requirements for the installation of vapor and moisture barriers.	**C. Sub-Slab Vapor Barriers** Soils engineers may recommend installing vapor and moisture barriers (such as sand and Visqueen) beneath slabs on grade, but at the same time this information may not be given in the design specifications. Review all documents necessary to establish requirements for these barriers.
D. Drilled Piles and Caissons When designing drilled piles and caisson systems, soils engineers are relying on the locating these structural components in conjunction with certain subsurface soil planes. Many times soils engineers will stipulate that foundation components are required to be installed by subcontractors in a lens of subsurface soil strata called bedrock condition (e.g., caissons shall be installed two feet into bedrock condition). When such stipulations are identified in the Soils Report, care must be exercised. Many times subcontractors will identify predefined lengths for reinforcing steel cages that install in the drilled caisson assemblies. However, in such cases, the caisson length cannot be accurately defined until the soils inspector acknowledges the bedrock depth at each drilled caisson location. Review al such conditions with your Project Manager.	**D. Drilled Piles and Caissons** Rebar subcontractors cannot produce their reinforcing steel cages for drilled caisson assemblies without knowing each caisson's length. But the caisson's length cannot be determined until the soils engineer establishes the bedrock depth at each location. Be very cautious if rebar subcontractors try to define the cage sizes before caisson lengths are known.
E. Elevator Jacks Most hydraulic elevators require the installation of a jack into an excavated pit. These pit excavations are usually accomplished by drilling rigs, prior to the building foundations. Most agreements with these elevator contractors contain language excluding soils that: cave when drilled, contain rocks and/or cobbles, or contain groundwater. Review the specific requirements of these elevator agreements in conjunction with the Soils Report. Refer any conflicting requirements to the Project Manager.	**E. Elevator Jacks** Most hydraulic elevator jacks are installed in excavated pits before the foundation is in place. In agreements with elevator contractors, the pits cannot be drilled in soils that cave or contain rocks, cobbles, or groundwater. Review the specific requirements of elevator agreements along with the Soils Report. Refer any conflicts to the Project Manager.

ORIGINAL	REVISION
F. Soil Planes and Lenses Many times soils engineers make assumptions based upon the location of subsurface soil planes. However in practice, these planes of strata can vary significantly form what was indicated by the boring samples. Thoroughly review the Soils Report must be made to determine if the soils engineer is relying on excavating the soil to a identified sub-surface plane or lens. Should such notations exist in the Soils Report, vigilance must be maintained during the excavation process to monitor the actual conditions encountered; as such variations can result in significant cost disputes. Notify the Project Manager should such variations occur.	**F. Soil Planes / Layers** Soils engineers often make assumptions about subsurface layers of soil based on their boring samples, but in practice, the layers can vary significantly from the samples. Carefully review the Soils Report to determine if the soils engineer has been vague about the location of soil planes. For example, a Soils Report might say to the contractor, “Dig until you hit bedrock.” Clarify all such ambiguities because, if excavators need to go deeper than anticipated, the costs could be significant and lead to disputes. Be vigilant during the excavation process, monitor the actual conditions encountered, and immediately report any variations to your Project Manager.
G. Laybacks The degree of obliqueness in the cut of an earthen embankment is commonly referred to in our industry as the “layback.” These laybacks are generally related in ratios of the horizontal dimension verse the vertical dimension (e.g., one to one, two to one, etc.) These layback ratios are commonly identified in the recommendations section of the Soils Report and can be useful to allow for steeper cuts of slopes, than would otherwise be allowed by Cal OSHA.	**G. Laybacks** The degree of slope in an embankment is called the “layback” and is generally stated in a ratio of the horizontal versus the vertical dimension (e.g., one to one, two to one). Laybacks are usually found in the “Recommendations” section of the Soils Report. Cal OSHA has regulations on how steep a slope can be, but laybacks approved by a soils engineer can generally be steeper than Cal OSHA would otherwise allow.
H. Water Tables / Ground Water Subsurface aquifers exist in most vicinity that we work. The elevation of these water tables will vary depending generally on the time of year, and the levels of precipitation. However the Soils Report will often identify the approximate elevation of the water table and/or ground water. Depending on the extent and elevation, this can have a tremendous impact on our ability to prosecute our work. Report all conflicting details regarding the water table to your Project Manager.	**H. Water Tables / Ground Water** The depth and width of a water table can have significant impact on our ability to excavate or drill on a site. However, a Soils Report can give only the approximate level and location of ground water because these will vary depending on the time of year and amount of rainfall. Notify your Project Manager if you find discrepancies between the report and the actual conditions.

ORIGINAL	REVISION
I. Debris Removal Occasionally, boring logs will identify the existence of remnant building materials, debris, and trash below the surface. Such conditions can be an indicator of a much larger problem. Should such notations exist in the Soils Report, vigilance must be maintained during the excavation process to monitor the actual conditions encountered; as variations can result in significant cost disputes. Notify the Project Manager should such variations occur.	**I. Debris Removal** Occasionally, Boring Logs indicate that remnant building materials, debris, piping, and trash have been found below the surface, which could mean a much larger problem. Under these circumstances, be very vigilant during the excavation process and monitor the actual conditions encountered. Immediately notify the Project Manager of variations because these can result in significant cost disputes.
J. Hazardous Soils Occasionally, boring logs will identify the existence of hazardous materials (e.g., asbestos, petro-chemicals, PCB's, etc.). The processing of all such materials requires special handling. Notify the Project manager immediately should any hazardous materials be encountered.	**J. Hazardous Soils** Soils engineers occasionally discover hazardous materials on a site (e.g., asbestos, petro-chemicals, PCB's). These require special handling, so immediately notify your Project Manager if you find any. **Original** Word Count: 1,285 **Revision** Word Count: 921 **Number of extraneous words cut: 364**

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