# FLORIDA STATE COURTS SYSTEM

## DESIGNING WITH ACCESSIBILITY IN MIND, 2007



# CREATING ACCESSIBLE DOCUMENTS

# USING MICROSOFT WORD

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# MICROSOFT OFFICE DOCUMENTS

The good news where Microsoft Word files and accessibility are concerned is that it is very simple to make a document comply with Section 508 accessibility standards. In fact, there are only a few concerns that need to be addressed to meet the "letter of the law" concerns for accessibility. Each of them will be discussed in the Standards section below.

In addition, the document will discuss very important "best practices," that, while not specifically noted in the Section 508 language, make documents useable (which does not always follow when abiding *only* by Section 508 standards).

Furthermore, future revised standards and Section 508 language lean heavily towards creating a functional document. When creating documents (whether it is created from an Office product or other application) keep in mind the "spirit of the law". It is important to remember that everyone needs the ability to access ALL information contained in the document.

Both the standards and best practices (indicated below) should be addressed in the authoring application so that assistive technologies (like a screen reader) can effectively "translate" information. This is very important, because if a PDF document is the end product of the Word file, the heavy-lifting for making the file accessible is already done. Microsoft Office 2000 and later Microsoft applications have features that assist in optimizing files for greater accessibility.

(NOTE: **Although other applications can be used to create a PDF, all references made to creating PDF files throughout this document refer to the software application Adobe Acrobat.  Adobe Acrobat is the software chosen by the Court and the OSCA for creating PDF documents.** )

Currently, there are six Section 508 standards that can be included in most electronic documents:

1. Alternative Text
2. Tables
3. Multimedia
4. Audio
5. Flicker Rate
6. Forms

# THE STANDARDS

## 1. Alternative Text – Section 508 1194.22(a)

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A text equivalent for every non-text element shall be provided, e.g., via "alt", "longdesc", or in element content.

**What the Standard Means**

All non-text elements in a document MUST have alternative text. This includes images, graphs, charts, and others. For someone who is blind and requires the use of a screen reader, the alternative text provides a spoken description for something they could otherwise not understand or interpret. **Importantly, alternative text should provide the equivalent informational experience for someone with a sight disability as is provided someone who can see.**

Alternative text assists sighted web users as well. For example, by hovering over abstract graphic icons built into page navigation, the alternative text often describes what occurs if the icon is clicked. Alternative text can also be used to provide additional information about an image, graph or chart.

Writing alternative text is an art form. It should not be too short or too long. To write effective alternative text, follow these simple rules:

- Ask yourself what information is the image conveying
- For decorative images  (spacers, drop shadows, etc.) leave it blank by using double-quotes in the Alt Text field ""
- For charts and graphs, try to summarize the trend
- If text is part of your image, replicate the text in full

**How to perform this Section 508 standard in Word:**

**WORD '03**

Right-click the picture > Format Picutre > Web Tab > Alternative text

**WORD '07**

Same steps as in '03

## 2. Tables – Section 508 1194.22(g) & (h)

- Row and column headers shall be identified for data tables.
- Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.

**What the Standard Means**

As noted above, there are actually two Section 508 standards relating to tables, however, they both work in tandem in terms of accessibility.

The first standard says that a top row of descriptive headers must be provided that identify the data in respective columns.

The second standard says that these top-level, descriptive headers need to be marked up properly. Making tables accessible is important because tables can frequently be very data-intensive. As a result, there has to be a way that someone using a screen reader can cross-reference the information in both columns and rows so that an intersection is made. This is done by using coded markup on table header cells such that associated data below the header can be interpreted.

Word however, has limited functionality where this standard is concerned. If creating a PDF from an Office document, you may find that additional mark up is needed when in Adobe Acrobat.

**How to perform this Section 508 standard in Word:**

**WORD '03**

Table > Insert > Table.

Select the information in the top row of the table, and then got to table properties in the menu at the top of the page.

Select row tab, and check off the "Repeat As Header Row At The Top of Each Page.

**WORD '07**

Repeat the same steps as in '03, now found in the *Insert Tab >* Table Group.

## 3. Multimedia Presentations – Section 508 1194.22(b)

Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.

**What the Standard Means**

If a movie file or other multimedia presentation is built into a document, closed captioning *and* a text transcript must be made available for those individuals who may not be able to see or hear the presentation. Because this standard requires synchronization of media, captioning IS required.

**How to perform this Section 508 standard in Word:**

Meeting this standard is difficult, mostly from a financial point of view. Closed captioning is expensive, thus requiring expensive software or the costly services of an outside vendor. The text transcript, again, needs to be a precise text format of the audio presentation.

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**WORD '03**

Insert > Picture > Clip Art > Pull down All Media File Types to "movies".

**WORD '07**

*Insert Tab* > Text Group > Object drop-down > Object > Choose the correct object type.

[Right-Click on Image to format image and link to multi-media presentation.]

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## 4. Audio/Sound – Section 508 1194.22(k)

A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content)

**What the Standard Means**

If an audio file is built into a document, a text transcript must be made available for those individuals who are unable to hear the presentation.

**How to perform this Section 508 standard in Word:**

**WORD '03**

Insert > Picture > Clip Art>  Pull down All Media File Types to "sound".

**WORD '07**

*Insert Tab* > Text Group > Object drop-down > Object > Choose the Correct Object type.

[Right-Click on Image to format image and link to multi-media presentation.]

## 5. Flicker Rate  – Section 508 1194.22(j)

Pages shall be designed to avoid causing the screen to flicker with a frequency greater than Hz and lower than 55 Hz.

**What the Standard Means**

If there is text animation in your Word file, too-rapid flashing or pulsing, beyond a prescribed level, can trigger seizures in individuals who suffer from photo epilepsy.

**How to perform this Section 508 standard**

Since it is difficult to know what the rate of flicker is (or control it) on these effects, it is best to avoid the effect. Consider making the type bold or give it a style that is static.

**WORD '03**

Select Text > Right click > Text Effects Tab > Choose your option

[Options such as marching ants, shimmer, sparkle text, and blinking background.]

**WORD '07**

This option is not available in '07. However, if you open a document that has this feature included, it is available to edit in '07.

## 6. Electronic Forms – Section 508 1194.22(n)

When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

### What the Standard Means

Creating forms can be a tricky process. Thought should be given to determine what application is best to use to create the most accessible form. Web forms written in HTML are the best. However, before designing ANY form – whether it is in Word, HTML or Adobe Acrobat, please consult your Web Administrator or ISS for further details.

**How to perform this Section 508 standard**

Although forms can be created in Word there are some accessibility difficulties to consider when using this application.  As mentioned above, consult your Web Administrator or ISS for further discussions.

**Best Practices (in a nutshell) To Create a Useable Document and Ensure Compliance**

1. **Styles and Formatting:** Use Headings and Styles to create a properly formatted and structured document.

2. **Hyperlinks:** Position hyperlinks so that it is easy to get to the most important ones. Put the most important links first. Name hyperlinks sensibly. For example, do not use "to see more information check out this "Link" or "Click here."

3. **Tables:** Avoid using tables for basic layout purposes. Use them for data.

4. **Bulleted or Numbered Lists:** Use bulleted or numbered lists to break up dense paragraphs.

5. **Columns for Layout:** Use the Columns feature for layout when necessary and separate columns with a wide blank space.

6. **Table of Contents:** Use Headings (already established in Styles and Formatting) to create a Table of Contents. A table of contents leads to important bookmarks (and clickable links) if the document becomes a PDF.

7. **Accessible Fonts:** Use a reasonable font size. Minimum of 12 point.

8. **Color Contrast:** Use a high contrast color scheme. (Black text on a white background is ideal.) Never put two colors of similar contrast next to each other.

9. **Text Structure:** Avoid dense paragraphs of text. Use lots of white space. Avoid using ALL CAPS, *italicized words* and underlining in large quantities

10. **Use Short, Simple Sentences:** Use short, simple sentences for better understanding.

11. **Avoid 'Busy' Screens:** Space information appropriately so that too much is not crammed into a small area.

12. **Document Summary Information:** Indicate the document title in the document summary.

13. **Floating Objects and Text Boxes:** Avoid the use of floating objects such as drawing canvasses or text boxes that are not formatted in-line with the text.

14. **Keyboard Navigation:** Make sure your document is navigable by both keyboard and keyboard equivalents.

15. **Captions:** Add captions to non-text elements in your document.

16. **Headers/Footers** – Avoid placing important document information in the Header or Footer.

# BEST PRACTICES (IN GREATER DEPTH) TO CREATE A USEABLE DOCUMENT

## 1. Styles and Formatting

Using correct styles and formatting is probably the most important best practice for making a Word file accessible, and of course, by making adjustments in Word, resulting PDF documents are made accessible much easier as well. Also, future editing of your document is faster and much easier when styles and formatting are in place.

Using proper headings is crucial for creating an ordered and accessible document. Always be sure to use headings in the correct order (i.e. Heading 1, Heading 2, Heading 3, and so on). If this is done correctly, a table of contents or index can easily be added to any document, since both are based on the styles already created.

Click on the style desired in the styles and formatting list, and begin typing your text. If you've already typed your text, simply highlight it and then click the style you would like it to become.

Artificially creating "headings" by elevating font sizes and making titles bold or colored is not an acceptable method of creating a *true* heading. A screen reader will still read this sort of approach to a heading the same way it reads "normal" body text.

**WORD '03**

Format on the Menu Bar > Styles and Formatting >An informational pane will appear at the right of the open document.

[Right clicking on any one of the styles allows for modification of any style to suite desired document appearance.]

**WORD '07**

*Home Tab* > Styles Group [To open the Styles Window either click on the Dialog Box launcher (bottom right of panel) or Alt+Control+Shift+S.]

## 2. Hyperlinks

Position hyperlinks in a logical hierarchy, placing the most important ones first on the page.

There are several things to remember when making hyperlinks.

a) Never use the words "click here" or "link." - "Click here" implies that a mouse can be used (which should not be assumed). And, "link" is redundant—a screen reader already recognizes and tells the user that a link has been encountered when a URL is found.

b) Never use the URL address itself for the text of the hyperlink. Always indicate the correct URL in the address "Insert Hyperlink" window and test it to make sure it works.

c) Fill in the "screen tip" information here as well to provide additional information when the user mouses over the hyperlink

Finally, neither method indicates where the link is taking the user. The text chosen as a link needs to be an intuitive directive, such as "Click here to go to the Florida Courts home page."

Hyperlinks can be very useful in documents, but care must be given to make them succinct.

Hyperlinks can be created most easily by selecting the text chosen for the link, right-clicking on the selection, then choosing "hyperlink." In the "address" space at the bottom of the window, type in or paste in the URL destination. You can perform the same function by going to the insert menu at the top of the file or by going to the styles and formatting task pane.

**WORD '03**

Highlight text > Right-click > Hyperlink > add the address/screen tip

**WORD '07**

Same steps as in '03

**3. Tables**

Avoid using tables for layout purposes. Use them to display data. If you are performing simple layout, use column techniques to arrange information – even if the column is a single column - which will provide the same function and give good white space for readability purposes at the same time.

**Important steps to assure an accessible table in Word**

a) Begin by making every attempt to restrict tables to data - do not use tables for basic text and graphics layout.

b) Insert the table from the Word "Table" menu at the top of the document. Do not build a table as a result of a series of tabs and spaces.

c) Make certain that the column and row headings (identifying data) are distinctly different in appearance from the data that will appear in the data cells.

d) Select the "row" tab in the table properties window and be certain to "check" the "repeat as header row at top of each page" box at the center of the tab window.

e)  Make certain to apply a caption to a table so that it provides the user with a summary of the table contents.

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**WORD '03**

Table > Insert > Table

[In the latter window, the number of columns and rows can be determined.]

**WORD '07**

*Insert Tab* > Tables Group > Table

[Options are to select the number of columns and rows visually using your mouse or click on the option to Insert Table/Draw Table/or use the custom built-in feature under Quick Tables.]

## 4. Use Bulleted or Numbered Lists

Use bulleted and numbered lists to break up dense paragraphs of text. Use bulleted lists where appropriate and use headings or rules and borders if the document design permits.  Bullets and numbered lists are helpful for those with cognitive disabilities.

### Important steps to take in making bulleted or numbered lists

a) Begin by making certain that each list item is separated by a carriage return ("enter" key stroke) and not a "soft" return.

b) Select the entire list and use the menu bar to choose the desired list option (numbered, bulleted, etc.).

c) Do not make imitation lists by using numerals (or images), tabs and spacing.

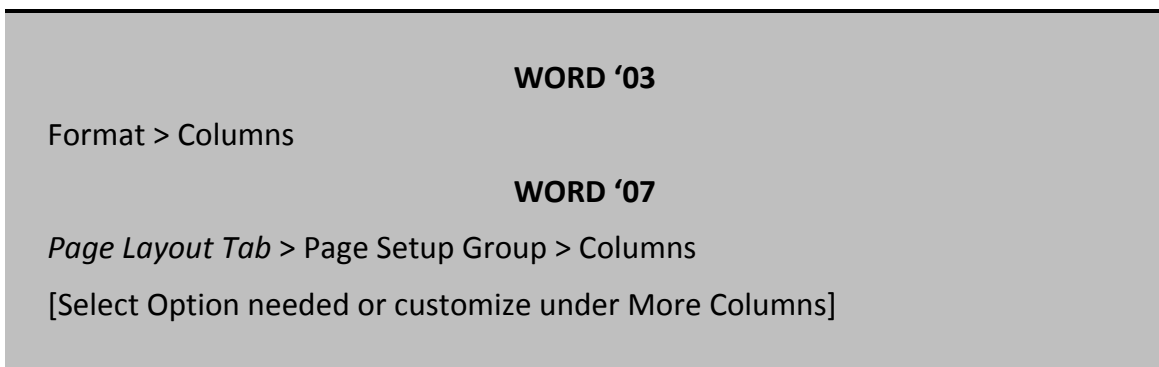**WORD '03**

Menu Bar > Bullet Icon

**WORD '07**

*Home Tab* > Paragraph Group > Bullet Icon

**5. Columns for Layout**

Use the columns feature for layout purposes instead of tables for design. Even a simple single column design should be used instead of a table.

**Important steps to take in using columns**

a) Select all text (and non-text elements) and format it by using the columns feature in Word to create the number of columns desired. Do not use tabs and spacing to simulate columns.

b) Make certain that any non-text elements are "Inline with Text."

**WORD '03**

Format > Columns

**WORD '07**

*Page Layout Tab* > Page Setup Group > Columns

[Select Option needed or customize under More Columns]

**6. Table of Contents**

Adding a table of contents is simple, and can improve the look of a document as well as make it easier to navigate.

**Important steps to take in making a structured table of contents**

a) Begin by making certain that styles and formatting have been used throughout the document. A table of contents can only be created if proper Heading levels exist in the document.

b) Make sure you place your cursor at the top left of your document and insert a new page.

c) In the Index and Tables window under the "Table of Contents" tab, be sure to check the "use hyperlinks instead of page numbers" box.

**WORD '03**

Insert menu > Reference > Index and Tables > Table of Contents Tab

[Make sure the Outlining tools are on the toolbar - right click toolbar and make sure Outlining is checked]

**WORD '07**

*References Tab* > Table of Contents Group > Table of Contents

[The options are to use a custom built-in or click on Insert Table of Contents to create your own.]

## 7. Accessible Fonts

- Never make fonts smaller than 12 pt. – It gets too small to read at 9 pt. and below.

- When making a print out, make a few extra copies with a larger font for someone who may have low vision.

- Sans Serif Fonts such as Verdana and Tahoma are easier to read on the screen, but for print purposes, Serif fonts (such as Times New Roman) are preferred.

- Avoid making large amounts of text underlined, italicized or ALL CAPS. The latter two are difficult to read and underlining will be confused with links. Consider using **bold** text instead.

- Always make sure text is left aligned and not justified. Justified text, particularly in narrow margin areas, is very difficult to read. Justified text is confusing to someone with a sight disability

**8. Color Contrast**

Be logical and intuitive about color contrast. If you use dark text against a dark background, the text will not be easily read. If you have doubts about how much contrast exists between the two, the color scheme probably needs to be revised. Black type against a white background is an extreme, but excellent example of good color contrast. The contrast should exist in a ration of five-to-one, dark-to-light, and is actually a measurable ratio.

A free color contrast verification tool from Juicy Studio can be found online.

**9. Text Structure**

a) Avoid dense paragraphs of text. Individuals who have cognitive disabilities cannot comprehend complex blocks of information well. Instead break up the text on a page by using columns or multiple, short paragraphs.

b) Avoid using many text transformation techniques such as ALL CAPS, *italics*, and underlining. This can cause confusion or those with cognitive disabilities and those with low vision.  Using **bold** to emphasize text is the best technique.

**10. Use Short, Simple Sentences**

1. Short, succinct sentences are often good, promoting the concept of Governor Crist's "plain language" initiative.

**11. Avoid "Busy" Screens**

Consider your page layout carefully and avoid packing too many graphics or too much text into small regions of a page, thus creating a "busy" and cluttered-looking page. If you have doubt about the page becoming too busy, err on the side of white space and open up the design so that the information breathes.

## 12. Document Summary Information

Document summary information is important for people using a screen reader, because they can quickly listen to the document title and other important information captured as metadata. At a minimum, providing a document title is necessary.

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**WORD '03**

To access this information, click on File and select Properties. In the summary tab, a variety of information can be filled in.


**WORD '07**

Office Button > Prepare > Properties

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## 13. Floating Objects and Text Boxes

Be careful using floating elements and text boxes. Screen readers do not recognize these page objects as in-line with text and will be read out of reading order if you do not make necessary formatting changes. If your photo or graphic element (when selected) shows an extended green handle, it is "floating."


For text boxes, use the "borders and shading" option under the format menu pull down above if text needs to be bounded by a box or vertical line. If text is desired adjacent to a non-text element, consider using column formatting to accomplish the "text-wrap".


To avoid any floating objects in a document, follow the steps below.

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**WORD '03**

Right-click the image > Format picture > Layout Tab > In-line positioning

**WORD '07**

Insert Tab > Text Grouping > Text Box or Word Art

[Word '07 automatically includes the text typed into the text box in the Alternative Text Field. Change the Layout option to be "in line" in order for it not to be a floating element.]

## 14. Keyboard Navigation

Individuals who use screen readers rely on being able to use keystrokes to navigate a page. Documents must have a logical reading order, and complex layouts, sidebars and other ornamentation confuse the reading order when assistive technologies are employed.  If complex layout is necessary, the TAB order needs to be correct so that the meaning is not lost in assistive technology translation.

## 15. Captions

When inserting images, it may be appropriate to insert a caption as well; making sure that each image is referenced.

**WORD '03**

Right-click the graphic file > choose the "Caption" option

[In the box labeled Caption: type in your description for the graphic in question.]

[You can click on "Update TOC" in the Outlining toolbar after making alterations to your document, and the table of contents will automatically update either page numbers, text, or both.]

**WORD '07**

Right-click on image > Insert Caption

## 16. Headers/Footers

Avoid placing important document information in the Header or Footer. Screen readers do not read information contained in these regions.

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